

**DICOM Conformance Statement for  
Hitachi F37**

Company Name : Hitachi, Ltd.

Product Name : Diagnostic Ultrasound System Hitachi F37

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## 1. CONFORMANCE STATEMENT OVERVIEW

Hitachi F37 implements the necessary DICOM services to download worklists from an information system, save acquired Ultrasound and Ultrasound Multi-frame images to a network storage device or storage media, print Ultrasound images to a networked hardcopy device and inform the information system about the work actually done.

Table1-1 provides an overview of the network services supported by Hitachi F37.

**Table 1-1 NETWORK SERVICES**

| SOP Classes                                   | User of Service (SCU) | Provider of Service (SCP) |
|---|-----------------------|---------------------------|
| <b>Transfer</b>                               |                       |                           |
| Ultrasound Image Storage                      | Yes                   | No                        |
| Ultrasound Multi-frame Image Storage          | Yes                   | No                        |
| <i>Ultrasound Line Data Storage (Private)</i> | Yes                   | No                        |
| Comprehensive SR <sup>1</sup>                 | Yes                   | No                        |
| <b>Workflow Management</b>                    |                       |                           |
| Modality Worklist                             | Yes                   | No                        |
| Modality Performed Procedure Step             | Yes                   | No                        |
| Storage Commitment Push Model                 | Yes                   | No                        |
| Verification                                  | Yes                   | Yes                       |
| <b>Print Management</b>                       |                       |                           |
| Basic Grayscale Print Management Meta         | Yes                   | No                        |
| Basic Color Print Management Meta             | Yes                   | No                        |

Note : 1. Optional SR feature needs installed.

Table 1-2 provides an overview of the Media Storage Application Profiles supported by Hitachi F37.

**Table 1-2 Media Services**

| Media Storage Application Profile                 | Write Files (FSC or FSU) | Read Files (FSR) <sup>1</sup> |
|---|--------------------------|-------------------------------|
| <b>DVD-RAM &amp; Compact Disk – Recordable</b>    |                          |                               |
| Ultrasound Image Display                          | Yes                      | Yes                           |
| Ultrasound Image Spatial Calibration              | Yes                      | Yes                           |
| Ultrasound Image Combined Calibration             | Yes                      | Yes                           |
| Ultrasound Multi-frame Image Display              | Yes                      | Yes                           |
| Ultrasound Multi-frame Image Spatial Calibration  | Yes                      | Yes                           |
| Ultrasound Multi-frame Image Combined Calibration | No                       | Yes                           |

Note : 1. Structured Reports cannot be imported.

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### 3 INTRODUCTION

#### 3.1 REVISION HISTORY

| Document Version | Date of Issue |
|------------------|---------------|
| 1. 0             | Jan 05, 2012  |
| 1. 1             | May 25, 2012  |
| 2. 0             | Oct 03, 2012  |
| 3. 0             | May 20, 2013  |
| 3. 0. 1          | Apr 01, 2016  |

#### 3.2 AUDIENCE

This document is intended for hospital staff, health system integrators, software designers or implementers. It is assumed that the reader has a working understanding of DICOM.

#### 3.3 REMARKS

DICOM, by itself, does not guarantee interoperability. However, the Conformance Statement facilitates a first-level validation for interoperability between different applications supporting the same DICOM functionality.

This Conformance Statement is not intended to replace validation with other DICOM equipment to ensure proper exchange of information intended.

The scope of this Conformance Statement is to facilitate communication with Hitachi F37 and other vendors' Medical equipment. The Conformance Statement should be read and understood in conjunction with the DICOM Standard [DICOM]. However, by itself it is not guaranteed to ensure the desired interoperability and a successful interconnectivity.

The user should be aware of the following important issues :

- The comparison of different conformance statements is the first step towards assessing interconnectivity between the equipments produced by different manufacturers.
- Test procedures should be defined to validate the desired level of connectivity.
- The DICOM standard will evolve to meet the users' future requirements. Hitachi, Ltd. reserves the right to make changes to its products or to discontinue its delivery.

#### 3.4 DEFINITIONS, TERMS AND ABBREVIATIONS

Definitions, terms and abbreviations used in this document are defined within the different parts of the DICOM standard.

Abbreviations and terms are as follows :

AE            DICOM Application Entity

|         |  |
|---------|--|
| AET     | Application Entity Title                                 |
| ACSE    | Association Control Service Element                      |
| CD-R    | Compact Disk Recordable                                  |
| CSE     | Customer Service Engineer                                |
| DVD     | A trademark of the DVD Forum that is not an abbreviation |
| DVD-RAM | DVD Random Access Memory                                 |
| FSC     | File-Set Creator   |
| FSU     | File-Set Updater   |
| FSR     | File-Set Reader  |
| GUI     | Graphical User Interface                                 |
| HDD     | Hard Disk Drive  |
| IOD     | (DICOM) Information Object Definition                    |
| ISO     | International Standard Organization                      |
| MPPS    | Modality Performed Procedure Step                        |
| MSPS    | Modality Scheduled Procedure Step                        |
| R       | Required Key Attribute                                   |
| O       | Optional Key Attribute                                   |
| PDU     | DICOM Protocol Data Unit                                 |
| PHI     | Protected Health Information                             |
| SCU     | DICOM Service Class User (DICOM client)                  |
| SCP     | DICOM Service Class Provider (DICOM server)              |
| SOP     | DICOM Service-Object Pair                                |
| SR      | Structured Reporting                                     |
| U       | Unique Key Attribute                                     |
| USB     | Universal Serial Bus                                     |
| NTP     | Network Time Protocol                                    |

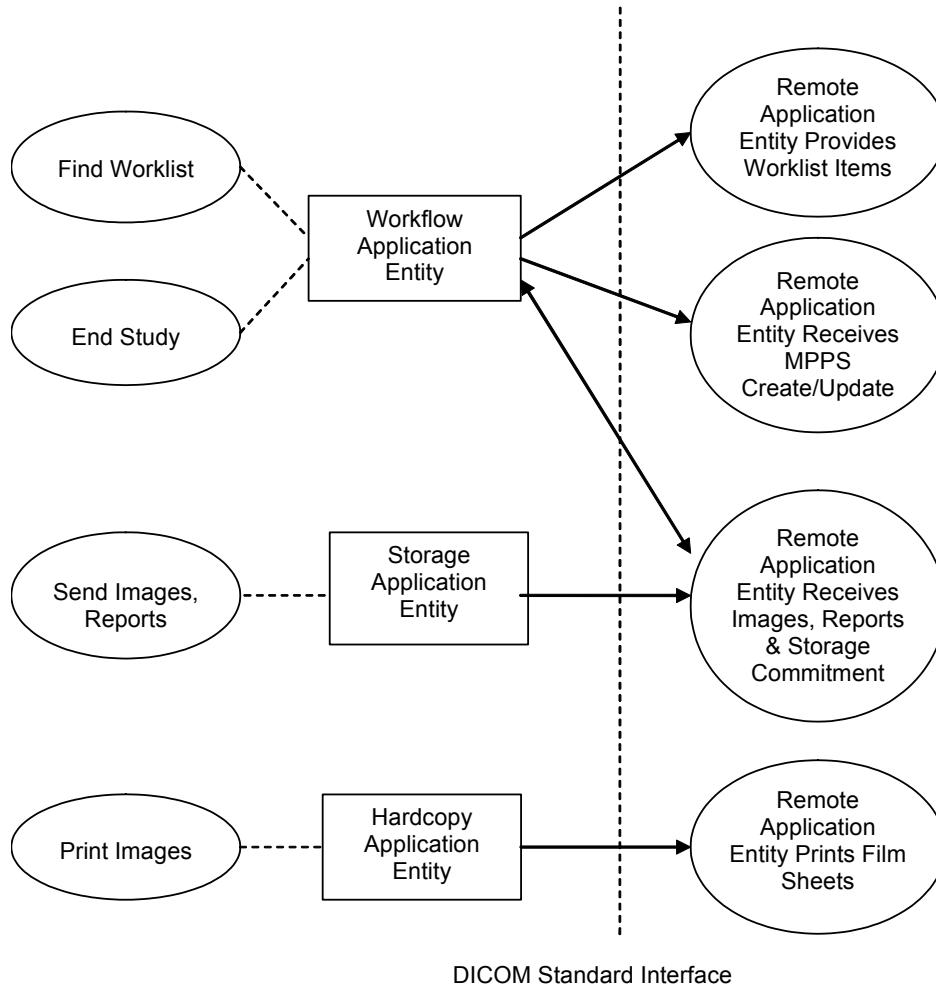
### 3.5 REFERENCES

[DICOM]Digital Imaging and Communications in Medicine (DICOM) , NEMA PS 3. 1-3. 18, 2009

## 4 NETWORKING

### 4.1 IMPLEMENTATION MODEL

#### 4.1.1 Application Data Flow



**Figure 4. 1-1 APPLICATION DATA FLOW DIAGRAM**

- The Workflow Application Entity receives Worklist information from and sends MPPS information to a remote AE. It is associated with the local real-world activities “Find Worklist” and “End Study”. When the “Find Worklist” local real-world activity is requested by an operator the Workflow Application Entity queries a remote AE for worklist items and provides the set of worklist items matching the query request. When “Acquire Images” local real-world activity is performed on the selected patient for the first time, the Workflow Application Entity automatically creates Modality Performed Procedure Step instance managed by a remote AE. When “End Study” local real-world activity is requested by the operator, the MPPS Completed or Discontinued updates the MPPS instance managed by the remote AE. If the remote AE is configured as an archive device the Workflow AE will request Storage Commitment and if a commitment is successfully obtained the Workflow AE will record this information in the local database.
- The Storage Application Entity stores Ultrasound and/or Ultrasound Multi-frames images, and Structured Reports to a remote AE. It is associated with the local real-world activity “Send Images” and “Send Structured Reports”, respectively. An ultrasound modality displays image in real-time, and the operator acquires it by pressing the freeze button. A “Frozen” image may be sent to a remote AE



or may be stored in the local HDD, CD-R Buffer, DVD-RAM or USB storage devices for review and batch send. "Send Images" is performed upon user request for each study completed or for specific images selected. "Sending Structured Reports" is performed automatically at "End Study" local real-world activity.

- The Hardcopy Application Entity prints images on a remote AE (Printer) . It is associated with the local real-world activity "Print Images". "Print Images" creates a print-session within the print queue containing one or more virtual film sheets composed from images selected by the user.

#### **4. 1. 2 Functional Definition of AEs**

##### **4. 1. 2. 1 Functional Definition of Workflow Application Entity**

The "Find Worklist" local activity is provided in the New Patient Registration GUI initiated by pressing the "NEW PATIENT" button on the console. The Patient ID, Patient Name, Accession Number and/or Requested Procedure ID may optionally be supplied before clicking the "Find" button in the GUI. Other default keys are the Modality (US) , Scheduled Station AE Title (local AET) , and Scheduled Procedure Step Start Date (Date of the day) . When the "Find" button is clicked, the Workflow AE tries to open an association to a remote AE. If the Workflow AE establishes an association to a remote AE, it will transfer all worklist items via the open Association. During receiving the worklist response, the Workflow AE counts items and cancels the query processing, if the built-in limit of items (500) is reached. The results will be displayed in a separate list, which will be cleared with the next "Find Worklist" activity.

The Workflow AE automatically creates MPPS Instance when an image is sent to remote AE or stored in local drive for the first time in an examination. Further updates on the MPPS data can be performed from the "End Study" user interface. The MPPS "Completed" or "Discontinued" states can only be set by the operator interaction. After a successful update of the MPPS Completed, the Workflow AE will issue a Storage Commitment request on images and Structured Reports already sent in the examination.

##### **4. 1. 2. 2 Functional Definition of Storage Application Entity**

The Storage Application Entity can be requested in two modes. After the proper Worklist Item is selected or the patient identification is supplied by the operator, pressing the "STORE" button will directly send an image to the remote storage AE when it is configured to send to network. Or when it is configured to store the image in the local drive, the image is written in the drive for later reference. By pressing the "REVIEW" button, the images are displayed in icons. By clicking the icon the operator may select or deselect images to send to the remote storage AE.

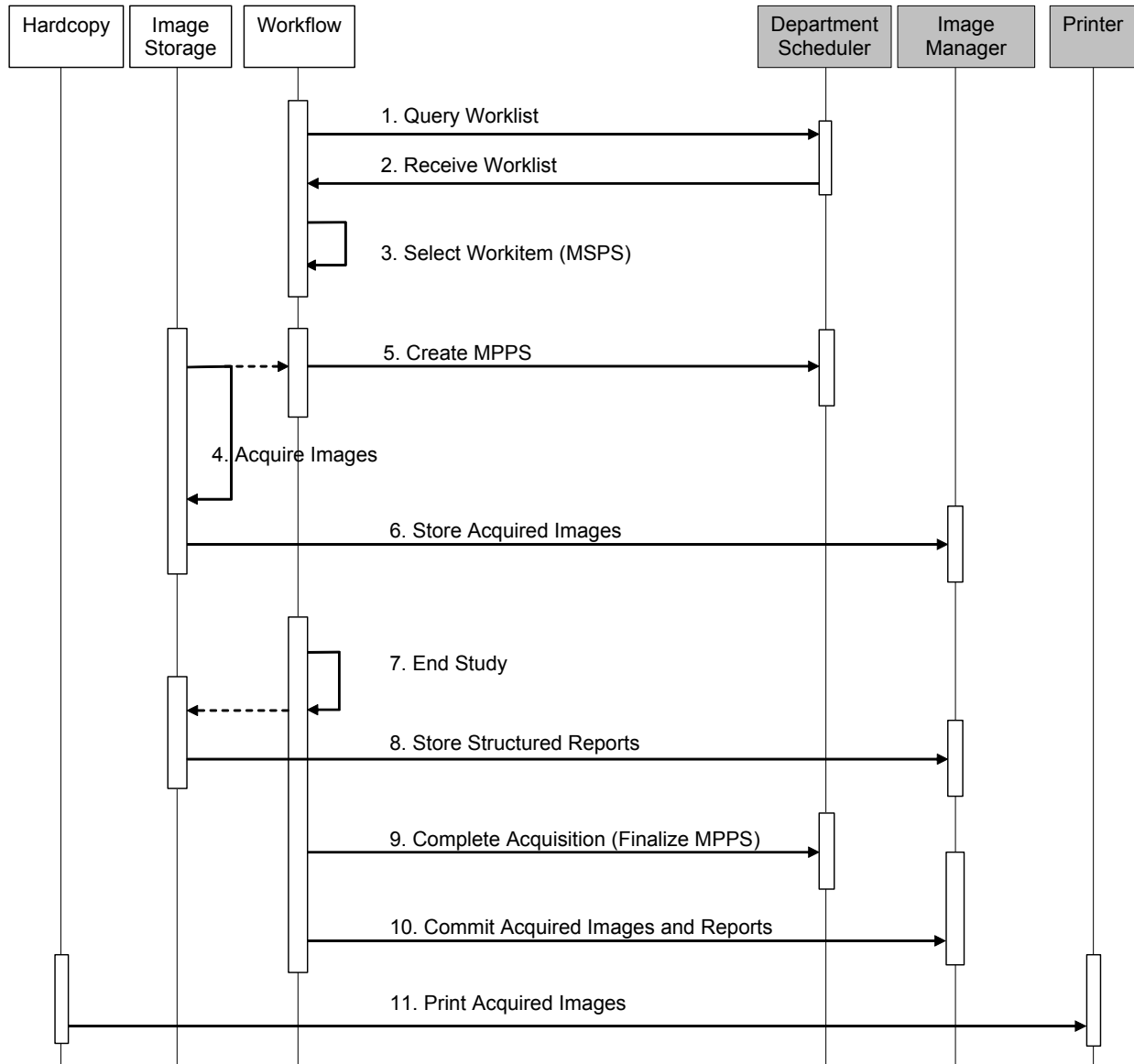
A storage association for sending Structured Reports will be automatically initiated at the end of an examination if reports have been created in the examination. When measurements are performed under specific applications, Structured Reports will be created automatically at the end of the examination. Structured Reports can also be created manually by the operator.

The color of I-mark overlaid on an image icon or that of R-mark overlaid on a report icon indicates the status of the image or report, respectively : **Green** - original, **Light Blue** - stored to media, **Orange** - sent to an Image Archive, and **Blue** - storage committed.

##### **4. 1. 2. 3 Functional Definition of Hardcopy Application Entity**

The Hardcopy Application Entity also locates in the "REVIEW" GUI displayed by pressing the "REVIEW" button. By clicking the icon the operator may select or deselect images to be printed by the remote AE. A print association will be initiated by clicking the "DICOM" - "DICOM Printer" After an association is established with the printer, its status is determined. If the printer is operating normally, the film sheets composed of selected images will be printed. If the printer is not operating normally, or the print returns a failure status during the association, the error is reported to the user.

**4. 1. 3 Sequencing of Real-World Activities**



**Figure 4. 1-2 SEQUENCING CONSTRAINTS**

Under normal scheduled workflow conditions the sequencing constraints illustrated in Figure 4. 1-2 apply :

1. Query Worklist
2. Receive Worklist of Modality Scheduled Procedure Steps (MSPS)
3. Select Workitem (MSPS) from Worklist
4. Acquire Images
5. Create MPPS at the first Image Acquisition
6. Store acquired image instances
7. Select Complete or Discontinue in "End Study" user interface

8. Create and store Structured Report instances (depends on conditions)
9. Complete acquisition and finalize MPPS
10. The Workflow AE will request Storage Commitment for the image instances, if the Image Manager is configured as an archive device.
11. Print acquired images (optional step)

Other workflow situations (e. g. unscheduled procedure steps) will have other sequencing constraints. Printing could equally take place after the acquired images have been stored. Printing could be omitted completely if no printer is connected or hardcopies are not required.

## 4. 2 AE SPECIFICATIONS

### 4. 2. 1 Workflow Application Entity Specification

#### 4. 2. 1. 1 SOP Classes

This product provides Standard Conformance to the following SOP Classes :

**Table 4. 2-1 SOP CLASSES FOR AE WORKFLOW**

| SOP Class Name                             | SOP Class UID                   | SCU | SCP |
|--|---------------------------------|-----|-----|
| Modality Worklist Information Model – FIND | 1. 2. 840. 10008. 5. 1. 4. 31   | Yes | No  |
| Modality Performed Procedure Step          | 1. 2. 840. 10008. 3. 1. 2. 3. 3 | Yes | No  |
| Storage Commitment Push Model              | 1. 2. 840. 10008. 1. 20. 1      | Yes | No  |
| Verification                               | 1. 2. 840. 10008. 1. 1          | Yes | Yes |

#### 4. 2. 1. 2 Association Policies

##### 4. 2. 1. 2. 1 General

The DICOM standard application context name for DICOM 3. 0 is always proposed :

**Table 4. 2-2 DICOM APPLICATION CONTEXT FOR AE WORKFLOW**

|                          |                              |
|--------------------------|------------------------------|
| Application Context Name | 1. 2. 840. 10008. 3. 1. 1. 1 |
|--------------------------|------------------------------|

##### 4. 2. 1. 2. 2 Number of Associations

This product initiates one Association at a time for a Workflow requests.

**Table 4. 2-3 NUMBER OF ASSOCIATIONS INITIATED FOR AE WORKFLOW**

|   |   |
|---|---|
| Maximum number of simultaneous Associations | 1 |
|---|---|

##### 4. 2. 1. 2. 3 Asynchronous Nature

This product does not support asynchronous communication (multiple outstanding transactions over a single Association) .

**Table 4. 2-4 ASYNCHRONOUS NATURE AS A SCU FOR AE WORKFLOW**

|   |   |
|---|---|
| Maximum number of outstanding asynchronous transactions | 1 |
|---|---|

**4. 2. 1. 2. 4 Implementation Identifying Information**

The implementation information for this Application Entity is :

**Table 4. 2-5 DICOM IMPLEMENTATION CLASS AND VERSION FOR AE WORKFLOW**

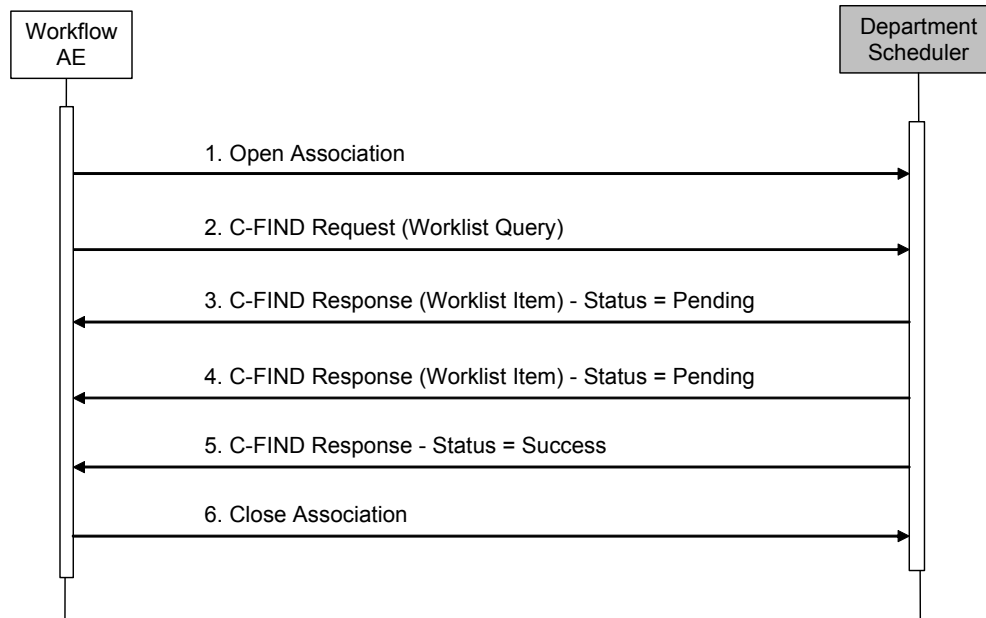
|                             |  |
|-----------------------------|--|
| Implementation Class UID    | 1. 2. 392. 200039. 110                               |
| Implementation Version Name | ADLib 20120427<br>(subject to change without notice) |

**4. 2. 1. 3 Association Initiation Policy****4. 2. 1. 3. 1 Activity – Find Worklist****4. 2. 1. 3. 1. 1 Description and Sequencing of Activities**

An interactive query for Worklist is initiated by pressing the "Find" button in the "NEW PATIENT" Registration GUI. The built-in query keys are the Modality (US) , Scheduled Procedure Step Start Date (actual date) . The Scheduled Station AE Title may be excluded by the configuration. Additional "Patient-based" query keys, Patient's ID, Patient Name, Accession Number, and/or Requested Procedure ID, may be supplied in the dialog by the operator.

Upon initiation of the request, this product will build an Identifier for the C-FIND request, will initiate an Association to send the request and will wait for Worklist responses. After retrieval of all responses, this product will access the local database to update patient demographic data. To protect the system from overflow, this product will limit the number of processed worklist responses to 500. During receiving the worklist response items are counted and the query processing is canceled by issuing a C-FIND-CANCEL if the limit of items is reached. The results will be displayed in a separate list.

The retrieved Worklist items are stored locally during the day, which will be cleared with the next worklist update. If the list is a latest and additional examination is to be performed on a patient, or the equipment is disconnected for mobile examination, the stored worklist items may be referenced by pressing "Worklist" button in the "NEW PATIENT" Registration GUI. The additional examination using the same MSPS generates a second series of images coping with the Append Case among the IHE use cases.



**Figure 4. 2-1 SEQUENCING OF ACTIVITY – WORKLIST QUERY**

A possible sequence of interactions between the Workflow AE and a Departmental Scheduler (e. g. a device such as a RIS or HIS which supports the Modality Worklist SOP Class as an SCP) is illustrated in the Figure above :

1. The Workflow AE opens an association with the Department Scheduler.
2. The Workflow AE sends a C-FIND request to the Department Scheduler containing the Worklist Query attributes.
3. The Department Scheduler returns a C-FIND response containing the requested attributes of the first matching Worklist Item.
4. The Department Scheduler returns another C-FIND response containing the requested attributes of the second matching Worklist Item.
5. The Department Scheduler returns another C-FIND response with status Success indicating that no further matching Worklist Items exist. This example assumes that only 2 Worklist items match the Worklist Query.
6. The Workflow AE closes the association with the Department Scheduler.
7. The user selects a Worklist Item from the Worklist database and prepares to acquire images.

#### **4. 2. 1. 3. 1. 2 Proposed Presentation Contexts**

This product will propose Presentation Contexts as shown in the following table :

**Table 4. 2-6 PROPOSED PRESENTATION CONTEXTS FOR ACTIVITY WORKLIST QUERY**

| Presentation Context Table                 |                                  |  |   |      |           |
|--|----------------------------------|--|---|------|-----------|
| Abstract Syntax                            |                                  | Transfer Syntax  |   | Role | Ext. Neg. |
| Name                                       | UID                              | Name List  | UID List  |      |           |
| Modality Worklist Information Model – FIND | 1. 2. 840. 10008. 5.<br>1. 4. 31 | Implicit VR Little Endian<br>Explicit VR Little Endian | 1. 2. 840. 10008. 1.<br>2<br>1. 2. 840. 10008. 1.<br>2. 1 | SCU  | None      |
| Verification                               | 1. 2. 840. 10008. 1.<br>1        | Implicit VR Little Endian<br>Explicit VR Little Endian | 1. 2. 840. 10008. 1.<br>2<br>1. 2. 840. 10008. 1.<br>2. 1 | SCU  | None      |

**4. 2. 1. 3. 1. 3 SOP Specific Conformance for Modality Worklist**

The behavior of this product when encountering status codes in a Modality Worklist C-FIND response is summarized in the Table below. If any other SCP response status than "Success" or "Pending" is received by this product, a Worklist Error Message will appear on the user interface.

**Table 4. 2-7 MODALITY WORKLIST C-FIND RESPONSE STATUS HANDLING BEHAVIOR**

| Service Status | Further Meaning  | Error Code             | Behavior  |
|----------------|--|------------------------|---|
| Success        | Matching is complete   | 0000                   | The SCP has completed the matches. Worklist items are available for display or further processing.  |
| Refused        | Out of Resources   | A700                   | The Association is aborted using A-ABORT and the worklist query is failed.  |
| Failed         | Identifier does not match SOP Class  | A900                   | The Association is aborted using A-ABORT and the worklist query is failed.  |
| Failed         | Unable to Process  | C000 – CFFF            | The Association is aborted using A-ABORT and the worklist query is failed.  |
| Cancel         | Matching terminated due to Cancel request  | FE00                   | If the query was cancelled due to too many worklist items then the SCP has completed the matches. Worklist items are available for display or further processing. Otherwise, the Association is aborted using A-ABORT and the worklist query is failed. |
| Pending        | Matches are continuing   | FF00                   | The worklist item contained in the Identifier is collected for later display or further processing.   |
| Pending        | Matches are continuing – Warning that one or more Optional Keys were not supported | FF01                   | The worklist item contained in the Identifier is collected for later display or further processing.   |
| *              | *  | Any other status code. | The Association is aborted using A-ABORT and the worklist is failed.  |

The behavior of this product during communication failure is summarized in the Table below.

**Table 4. 2-8 MODALITY WORKLIST COMMUNICATION FAILURE BEHAVIOR**

| Exception  | Behavior   |
|--|--|
| Timeout  | The Association is aborted using A-ABORT and the worklist query is failed. A Worklist Error is reported to the user. |
| Association aborted by the SCP or network layers | The worklist query is failed. A Worklist Error is reported to the user.  |

Acquired images will always use the Study Instance UID specified for the Scheduled Procedure Step (if available) . If an acquisition is unscheduled, a Study Instance UID will be generated locally.

The Table below provides a description of the Worklist Request Identifier of this product and specifies the attributes that are copied into the images. Unexpected attributes returned in a C-FIND response are ignored.

Requested return attributes not supported by the SCP are set to have no value. Non-matching responses returned by the SCP due to unsupported optional matching keys are ignored. No attempt is made it filter out possible duplicate entries.

**Table 4. 2-9 WORKLIST REQUEST IDENTIFIERS**

| Module Name<br>Attribute Name                                 | Tag          | VR | M   | R | Q | D | IOD |
|---|--------------|----|-----|---|---|---|-----|
| SOP Common<br>Specific Character Set                          | (0008, 0005) | CS |     | x |   |   | x   |
| Scheduled Procedure Step<br>Scheduled Procedure Step Sequence | (0040, 0100) | SQ |     | x |   |   |     |
| > Modality  | (0008, 0060) | CS | (S) | x |   | x | x   |
| > Requested Contrast Agent                                    | (0032, 1070) | LO |     | x |   | x |     |
| > Scheduled Station AET                                       | (0040, 0001) | AE | (S) | x |   |   |     |
| > Scheduled Procedure Step Start Date                         | (0040, 0002) | DA | R   | x |   | x | x   |
| > Scheduled Procedure Step Start Time                         | (0040, 0003) | TM |     | x |   | x | x   |
| > Scheduled Procedure Step Description                        | (0040, 0007) | LO |     | x |   | x | x   |
| > Scheduled Protocol Code Sequence                            | (0040, 0008) | SQ |     | x |   | x | x   |
| > Scheduled Procedure Step ID                                 | (0040, 0009) | SH |     | x |   | x | x   |
| Requested Procedure<br>Referenced Study Sequence              | (0008, 1110) | SQ |     | x |   |   | x   |
| Study Instance UID  | (0020, 000D) | UI |     | x |   |   | x   |
| Requested Procedure Description                               | (0032, 1060) | LO |     | x |   | x | x   |
| Requested Procedure Code Sequence                             | (0032, 1064) | SQ |     | x |   | x | x   |
| Requested Procedure ID  | (0040, 1001) | SH |     | x | x | x | x   |
| Imaging Service Request<br>Accession Number                   | (0008, 0050) | SH |     | x | x | x | x   |
| Referring Physician's Name                                    | (0008, 0090) | PN |     | x |   | x | x   |
| Requesting Physician  | (0032, 1032) | PN |     | x |   |   | x   |
| Patient Identification<br>Patient Name                        | (0010, 0010) | PN |     | x | x | x | x   |
| Patient ID  | (0010, 0020) | LO |     | x | x | x | x   |

|                      |              |    |  |   |  |   |   |
|----------------------|--------------|----|--|---|--|---|---|
| Patient Demographic  |              |    |  |   |  |   |   |
| Patient's Birth Date | (0010, 0030) | DA |  | x |  | x | x |
| Patient's Sex        | (0010, 0040) | CS |  | x |  | x | x |
| Patient's Size       | (0010, 1020) | DS |  | x |  | x | x |
| Patient's Weight     | (0010, 1030) | DS |  | x |  | x | x |
| Occupation           | (0010, 2180) | SH |  | x |  | x | x |
| Patient Medical      |              |    |  |   |  |   |   |
| Medical Alerts       | (0010, 2000) | LO |  | x |  | x | x |
| Contrast Allergies   | (0010, 2110) | LO |  | x |  | x | x |
| Pregnancy Status     | (0010, 21C0) | US |  | x |  | x |   |
| Last Menstrual Date  | (0010, 21D0) | DA |  | x |  | x | x |
| Special Needs        | (0038, 0050) | LO |  | x |  | x |   |

The above table should be read as follows :

Module Name : The name of the associated module for supported worklist attributes.

Attribute Name : Attributes supported to build a Worklist Request Identifier of this product.

Tag : DICOM tag for this attribute.

VR : DICOM VR for this attribute.

M : Matching keys for Worklist Query. An "S" will indicate that this product will supply an attribute value for Single Value Matching, an "(S)" will indicate that keys are configurable either Single Value Matching or Universal Matching, an "R" will indicate Range Matching, and an "\*" will denote wildcard matching. .

R : Return keys. An "x" will indicate that this product will supply this attribute as Return Key with zero length for Universal Matching.

Q : Interactive Query Key. An "x" will indicate that this product will supply this attribute as matching key, if entered in the New Patient dialog. For example, the Patient Name can be entered thereby restricting Worklist responses to Procedure Steps scheduled for the patient.

D : Displayed keys. An "x" indicates that this worklist attribute is displayed to the user during a patient registration dialog. For example, Patient Name will be displayed when registering the patient prior to an examination.

IOD : An "x" indicates that this Worklist attribute is included into all Object Instances created during performance of the related Procedure Step.

The Modality (0008, 0060) matching key is configurable to "US" or zero length (Universal matching) , the Scheduled Station AET (0040, 0001) key is configurable to the local AET (ex. "F37") or zero length, and the Scheduled Procedure Start Date (0040, 0002) key is configurable to a date, date range, or zero length.

#### 4. 2. 1. 3. 2 Activity – End Study

##### 4. 2. 1. 3. 2. 1 Description and Sequencing of Activities

After the "NEW PATIENT" Registration, this product is awaiting local image storage or image transmission to remote Archive. The trigger to create a MPPS SOP Instance is derived from this event. An Association to the configured MPPS SCP system is established immediately and the related MPPS SOP Instance will be created.

The MPPS user interface is initiated by pressing the "END STUDY" button on the console. Only a manual update can be performed by the operator where is it possible to set the final state of the MPPS to

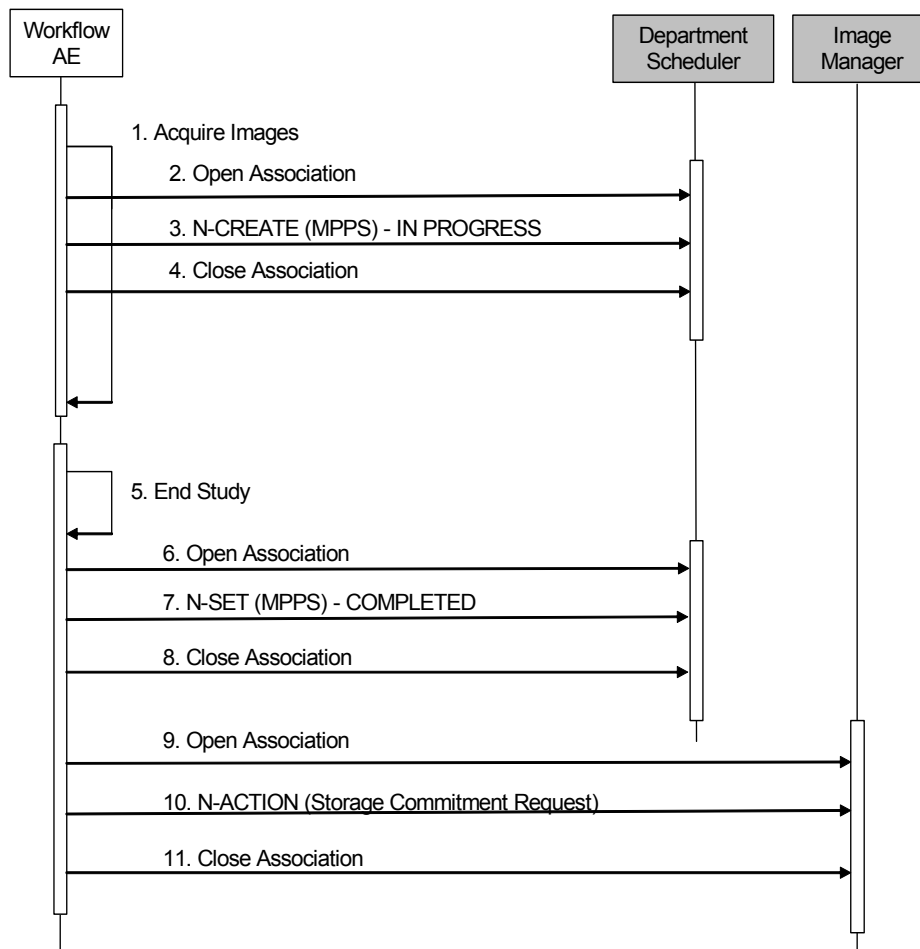


“COMPLETED” or “DISCONTINUED”. In the “Discontinued” case the user can also select the discontinuation reason from a pick list corresponding to Context Group 9300. An MPPS Instance that has been sent with a state of “COMPLETED” or “DISCONTINUED” can no longer be updated.

This product will support creation of “unscheduled cases” by allowing MPPS Instances to be communicated for locally registered Patients. This product only supports a 0-to-1 relationship between Scheduled and Performed Procedure Steps.

This product will initiate an Association to issue an :

- N-CREATE request according to the CREATE Modality Performed Procedure Step SOP Instance operation or a
- N-SET request to update the contents and state of the MPPS according to the SET Modality Performed Procedure Step Information operation.



**Figure 4. 2-2 SEQUENCING OF ACTIVITY – ACQUIRE IMAGES AND END STUDY**

A possible sequence of interactions between the Workflow AE and a Department Scheduler (e. g. a device such as a RIS or HIS which supports the MPPS SOP Class as an SCP) is illustrated in Figure 4. 2-2 :

1. First image is acquired for the MSPS.
2. The Workflow AE opens an association with the Department Scheduler.

3. The Workflow AE sends an N-CREATE request to the Department Scheduler to create an MPPS instance with status of "IN PROGRESS" and create all necessary attributes. The Department Scheduler acknowledges the MPPS creation with an N-CREATE response (status success) .
4. The Workflow AE closes the association with the Department Scheduler.
5. After all images are sent to Image Archive or stored in the local database, the operator requests "End Study" and closes database the examination. At this time Structured Reports, if created, are sent to Image Archive automatically.
6. The Workflow AE opens a second association with the Department Scheduler.
7. The Workflow AE sends an N-SET request to the Department Scheduler to update the MPPS instance with status of "COMPLETED" and set all necessary attributes. The Department Scheduler acknowledges the MPPS update with an N-SET response (status success) .
8. The Workflow AE closes the association with the Department Scheduler.
9. If the images/reports associated with the examination have been sent to the Image Manager, the Workflow AE opens independent association with the Image Manager.
10. The Workflow AE sends an N-ACTION request to the Image Manager to request the Images/ reports be storage-committed. The Image Manager acknowledges the Storage Commitment Request with an N-ACTION response (status success) .
11. The Workflow AE closes the association with the Image Manager.

**4. 2. 1. 3. 2. 2 Proposed Presentation Contexts**

This product will propose Presentation Contexts as shown in the following table :

**Table 4. 2-10 PROPOSED PRESENTATION CONTEXTS FOR REAL-WORLD ACTIVITY**

| Presentation Context Table        |                                 |  |   |      |           |
|-----------------------------------|---------------------------------|--|---|------|-----------|
| Abstract Syntax                   |                                 | Transfer Syntax  |   | Role | Ext. Neg. |
| Name                              | UID                             | Name List  | UID List  |      |           |
| Modality Performed Procedure Step | 1. 2. 840. 10008. 3. 1. 2. 3. 3 | Implicit VR Little Endian<br>Explicit VR Little Endian | 1. 2. 840. 10008. 1. 2<br>1. 2. 840. 10008. 1. 2. 1 | SCU  | None      |
| Verification                      | 1. 2. 840. 10008. 1. 1          | Implicit VR Little Endian<br>Explicit VR Little Endian | 1. 2. 840. 10008. 1. 2<br>1. 2. 840. 10008. 1. 2. 1 | SCU  | None      |

**4. 2. 1. 3. 2. 3 SOP Specific Conformance for MPPS**

The behavior of this product when encountering status codes in an MPPS N-CREATE or N-SET response is summarized in Table 4. 2-11. If any other SCP response status than "Success" is received by this product, a message "Network communication error" will appear on the user interface.

**Table 4. 2-11 MPPS N-CREATE / N-SET RESPONSE STATUS HANDLING BEHAVIOR**

| Service Status | Further Meaning   | Error Code             | Behavior   |
|----------------|---|------------------------|--|
| Success        | Success   | 0000                   | The SCP has completed the operation successfully.                                    |
| Failure        | Processing Failure – Performed Procedure Step Object may no longer be updated | 0110                   | The Association is closed using A-RELEASE. The error status is reported to the user. |
| Warning        | Attribute Value Out of Range  | 0116H                  | The Association is closed using A-RELEASE. The error status is reported to the user. |
| *              | *   | Any other status code. | The Association is closed using A-RELEASE. The error status is reported to the user. |

The behavior of this product during communication failure is summarized in the Table below :

**Table 4. 2-12 MPPS COMMUNICATION FAILURE BEHAVIOR**

| Exception  | Behavior   |
|--|--|
| Timeout  | The Association is aborted using A-ABORT and the timeout status is reported to the user. |
| Association aborted by the SCP or network layers | The MPPS is failed and the status is reported to the user.                               |

Table 4. 2-13 provides a description of the MPPS N-CREATE and N-SET request identifiers sent by this product. Empty cells in the N-CREATE and N-SET columns indicate that the attribute is not sent. An “x” indicates that an appropriate value will be sent. A “Zero length” attribute will be sent with zero length.

**Table 4. 2-13 MPPS N-CREATE / N-SET REQUEST IDENTIFIER**

| Attribute Name              | Tag          | VR | N-CREATE   | N-SET |
|-----------------------------|--------------|----|--|-------|
| Specific Character Set      | (0008, 0005) | CS | ISO_IR 100   | -     |
| Referenced Patient Sequence | (0008, 1120) | SQ | Zero length  | -     |
| Patient's Name              | (0010, 0010) | PN | From Modality Worklist or user input. The user can modify values provided via Modality Worklist. | -     |
| Patient ID                  | (0010, 0020) | LO | From Modality Worklist or user input. The user can modify values provided via Modality Worklist. | -     |
| Patient's Birth Date        | (0010, 0030) | DA | From Modality Worklist or user input. The user can modify values provided via Modality Worklist. | -     |
| Patient's Sex               | (0010, 0040) | CS | From Modality Worklist or user input. The user can   | -     |

|  |              |    |  |                           |
|--|--------------|----|--|---------------------------|
|  |              |    | modify values provided via Modality Worklist.  |                           |
| Scheduled Step Attributes Sequence     | (0040, 0270) | SQ | If the procedure step creates an SOP Instance  | -                         |
| > Accession Number                     | (0008, 0050) | SH | From Modality Worklist or user input. The user can modify values provided via Modality Worklist. | -                         |
| > Referenced Study Sequence            | (0008, 1110) | SQ | From Modality Worklist   | -                         |
| >> Referenced SOP Class UID            | (0008, 1150) | UI | From Modality Worklist   | -                         |
| >> Referenced SOP Instance UID         | (0008, 1155) | UI | From Modality Worklist   | -                         |
| > Study Instance UID                   | (0020, 000D) | UI | From Modality Worklist or internally generated   | -                         |
| > Requested Procedure Description      | (0032, 1060) | LO | From Modality Worklist   | -                         |
| > Scheduled Procedure Step Description | (0040, 0007) | LO | From Modality Worklist   | -                         |
| > Scheduled Protocol Code Sequence     | (0040, 0008) | SQ | From Modality Worklist   | -                         |
| > Scheduled Procedure Step ID          | (0040, 0009) | SH | From Modality Worklist   | -                         |
| > Requested Procedure ID               | (0040, 1001) | SH | From Modality Worklist   | -                         |
| Procedure Code Sequence                | (0008, 1032) | SQ | From Modality Worklist, mapped from Requested Procedure Code Sequence (0032, 1064)               | -                         |
| Performed Station AE Title             | (0040, 0241) | AE | AE Title of the Equipment  | -                         |
| Performed Station Name                 | (0040, 0242) | SH | Station Name of the Equipment  | -                         |
| Performed Location                     | (0040, 0243) | SH | Zero length  | -                         |
| Performed Procedure Step Start Date    | (0040, 0244) | DA | Actual start date  | -                         |
| Performed Procedure Step Start Time    | (0040, 0245) | TM | Actual start time  | -                         |
| Performed Procedure Step End Date      | (0040, 0250) | DA | Zero length  | Actual end date           |
| Performed Procedure Step End Time      | (0040, 0251) | TM | Zero length  | Actual end time           |
| Performed Procedure Step Status        | (0040, 0252) | CS | IN PROGRESS  | COMPLETED or DISCONTINUED |
| Performed Procedure Step ID            | (0040, 0253) | SH | Automatically created.   | -                         |

|   |              |    |  |  |
|---|--------------|----|--|--|
| Performed Procedure Step Description                          | (0040, 0254) | LO | Input by the user at "Reason for Study" in New Patient Registration.   | -  |
| Performed Procedure Type Description                          | (0040, 0255) | LO | Zero length  | -  |
| Performed Procedure Step Discontinuation Reason Code Sequence | (0040, 0281) | SQ | Zero length  | If Performed Procedure Step Status (0040, 0252) is "DISCONTINUED" and a discontinuation reason is selected by the user, then a single item will be present containing a user-selected entry drawn from Context Group 9300. |
| Modality  | (0008, 0060) | CS | US   | -  |
| Study ID  | (0020, 0010) | SH | Copied from Requested Procedure ID (0040, 1001) in MWL. The user can modify values provided via Modality Worklist. | -  |
| Performed Protocol Code Sequence                              | (0040, 0260) | SQ | Zero length  | Zero or more items   |
| Performed Series Sequence                                     | (0040, 0340) | SQ | Zero length  | One or more items  |
| > Retrieve AE Title   | (0008, 0054) | AE |  | Zero length  |
| > Series Description  | (0008, 103E) | LO |  | x  |
| > Performing Physician's Name                                 | (0008, 1050) | PN |  | x  |
| > Operator's Name   | (0008, 1070) | PN |  | x  |
| > Referenced Image Sequence                                   | (0008, 1140) | SQ |  | Zero or more items   |
| >> Referenced SOP Class UID                                   | (0008, 1150) | UI |  | x  |
| >> Referenced SOP Instance UID                                | (0008, 1155) | UI |  | x  |
| > Protocol Name   | (0018, 1030) | LO |  | x  |
| > Series Instance UID   | (0020, 000E) | UI |  | x  |
| > Referenced Non-image Composite SOP Instance Sequence        | (0040, 0220) | SQ |  | Zero or more items   |
| >> Referenced SOP Class UID                                   | (0008, 1150) | UI |  | x  |
| >> Referenced SOP Instance UID                                | (0008, 1155) | UI |  | x  |

**4. 2. 1. 3. 2. 4 SOP Specific Conformance for Storage Commitment SOP Class**

**4. 2. 1. 3. 2. 4. 1 Storage Commitment Operations (N-ACTION)**

The Workflow AE will request storage commitment for instances of the Ultrasound Image, Ultrasound Multi-frame Image and Structured Report Storage Classes, if the remote AE is configured as an Archive Device and a presentation context for the Storage Commitment Push Model has been accepted.

The Workflow AE will consider Storage Commitment failed if no N-EVENT-REPORT is received for a Transaction UID within a configurable time period after receiving a successful N-ACTION response (duration of applicability for a Transaction UID) .

The Workflow AE does not send the optional Storage Media File Set ID & UID Attributes or the Referenced Performed Procedure Step Sequence Attribute in the N-ACTION.

The behavior of Storage AE when encountering status codes in an N-ACTION response is summarized in the Table below :

**Table 4. 2-14 STORAGE COMMITMENT N-ACTION RESPONSE STATUS HANDLING BEHAVIOR**

| <b>Service Status</b> | <b>Further Meaning</b> | <b>Error Code</b>      | <b>Behavior</b>   |
|-----------------------|------------------------|------------------------|---|
| Success               | Success                | 0000                   | The request for storage commitment is considered successfully sent. A timer is started which will expire if no N-EVENT-REPORT for the Transaction UID is received within a configurable timeout period. |
| *                     | *                      | Any other status code. | The Association is closed using A-RELEASE and the failure is reported to the user.  |

The behavior of Workflow AE during communication failure is summarized in the Table below :

**Table 4. 2-15 STORAGE COMMITMENT COMMUNICATION FAILURE BEHAVIOR**

| <b>Exception</b>                                 | <b>Behavior</b>   |
|--|---|
| Timeout  | The Association is aborted using A-ABORT and the timeout error is reported to the user. |
| Association aborted by the SCP or network layers | The association failure is reported to the user.  |

**4. 2. 1. 3. 2. 4. 2 Storage Commitment Notifications (N-EVENT-REPORT)**

The Workflow AE is capable of receiving an N-EVENT-REPORT notification if it has successfully negotiated a Presentation Context for the Storage Commitment Push Model (i. e. only associations established with archive devices) .

Upon receipt of an N-EVENT-REPORT the timer associated with the Transaction UID will be canceled.

The behavior of Workflow AE when receiving Event Types within the N-EVENT-REPORT is summarized in the Table below.

**Table 4. 2-16 STORAGE COMMITMENT N-EVENT-REPORT BEHAVIOUR**

| Event Type Name                                      | Event Type ID | Behavior  |
|--|---------------|---|
| Storage Commitment Request Successful                | 1             | The Referenced SOP Instances under Referenced SOP Sequence (0008, 1199) are marked within the database as committed. Successfully committed SOP Instances are candidates for deletion from the local database. The least recently accessed SOP Instances are deleted first. |
| Storage Commitment Request Complete – Failures Exist | 2             | The Referenced SOP Instances under Referenced SOP Sequence (0008, 1199) are treated in the same way as in the success case (Event Type 1) . The Referenced SOP Instances under Failed SOP Sequence (0008, 1198) are not marked as committed within the database.            |

The reasons for returning specific status codes in an N-EVENT-REPORT response are summarized in the Table below.

**Table 4. 2-17 STORAGE COMMITMENT N-EVENT-REPORT RESPONSE STATUS REASONS**

| Service Status | Further Meaning        | Error Code | Reasons   |
|----------------|------------------------|------------|---|
| Success        | Success                | 0000       | The storage commitment result has been successfully received.   |
| Failure        | Unrecognized Operation | 0211H      | The Transaction UID in the N-EVENT-REPORT request is not recognized (was never issued within an N-ACTION request) .   |
| Failure        | Resource Limitation    | 0213H      | The Transaction UID in the N-EVENT-REPORT request has expired (no N-EVENT-REPORT was received within a configurable time limit) .   |
| Failure        | No Such Event Type     | 0113H      | An invalid Event Type ID was supplied in the N-EVENT-REPORT request.  |
| Failure        | Processing Failure     | 0110H      | An internal error occurred during processing of the N-EVENT-REPORT. A short description of the error will be returned in Error Comment (0000, 0902) .   |
| Failure        | Invalid Argument Value | 0115H      | One or more SOP Instance UIDs with the Referenced SOP Sequence (0008, 1199) or Failed SOP Sequence (0008, 1198) was not included in the Storage Commitment Request associated with this Transaction UID. The unrecognized SOP Instance UIDs will be returned within the Event Information of the N-EVENT-REPORT response. |

#### 4. 2. 1. 4 Association Acceptance Policy

This product accepts Associations to receive N-EVENT-REPORT notifications for the Storage Commitment Push Model SOP Class.

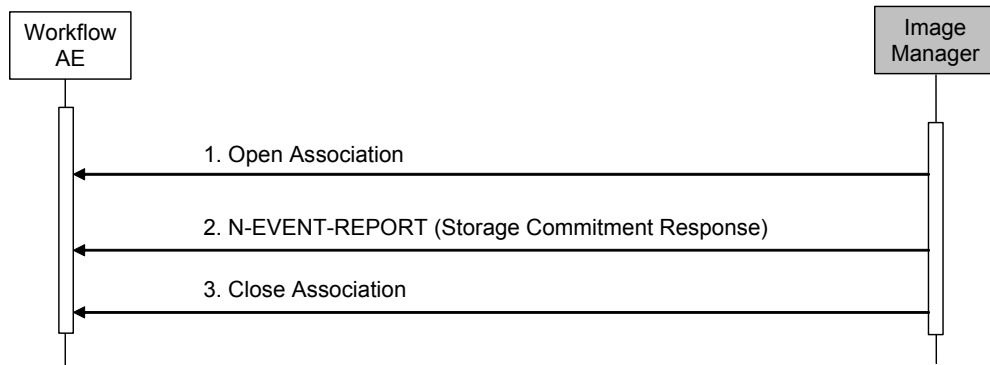
**Table 4. 2-18 NUMBER OF ASSOCIATIONS ACCEPTED FOR WORKFLOW AE**

|  |   |
|--|---|
| Maximum number of simultaneous Associations accepted | 1 |
|--|---|

**4. 2. 1. 4. 1 Activity – Receive Storage Commitment Response**

**4. 2. 1. 4. 1. 1 Description and Sequencing of Activities**

The Workflow AE will accept associations in order to receive responses to a Storage Commitment N-EVENT-REPORT Request.



**Figure 4. 2-3 SEQUENCING OF ACTIVITY - RECEIVE STORAGE COMMITMENT RESPONSE**

A possible sequence of interactions between the Workflow AE and an Image Manager (e. g. a storage or archive device supporting Storage Commitment SOP Classes as an SCP) is illustrated in the Figure above :

1. The Image Manager opens a new association with the Workflow AE.
2. The Image Manager sends an N-EVENT-REPORT request notifying the Workflow AE of the status of a previous Storage Commitment Request. The Workflow AE replies with an N-EVENT-REPORT response confirming receipt.
3. The Image Manager closes the association with the Workflow AE.

The Workflow AE may reject association attempts as shown in the Table below. The Result, Source and Reason/Diag columns represent the values returned in the appropriate fields of an ASSOCIATE-RJ PDU (see PS 3. 8, Section 9. 3. 4) . The contents of the Source column is abbreviated to save space and the meaning of the abbreviations are :

- a) 1 – DICOM UL service-user
- b) 2 – DICOM UL service-provider (ASCE related function)
- c) 3 – DICOM UL service-provider (Presentation related function)

**Table 4. 2-19 ASSOCIATION REJECTION REASONS**

| Result                 | Source | Reason/Diag                   | Explanation  |
|------------------------|--------|-------------------------------|--|
| 2 – rejected-transient | c      | 2 – local-limit-exceeded      | The maximum number of simultaneous associations has been reached. An association request with the same parameters may succeed at a later time.   |
| 2 – rejected-transient | c      | 1 – temporary-congestion      | No associations can be accepted at this time because insufficient resources are available (e. g. memory, processes, or threads) . An association request with the same parameters may succeed at a later time. |
| 1 – rejected-          | a      | 2 – application-context-name- | The association request contained an unsupported Application Context Name. An association request with the   |



|                        |   |                                     |  |
|------------------------|---|-------------------------------------|--|
| permanent              |   | not-supported                       | same parameters will not succeed at a later time.  |
| 1 – rejected-permanent | a | 7 – called-AE-title-not-recognized  | The association request contained an unrecognized Called AE Title. An association request with the same parameters will not succeed at a later time unless configuration changes are made. This rejection reason normally occurs when the association initiator is incorrectly configured and attempts to address the association acceptor using the wrong AE Title. |
| 1 – rejected-permanent | a | 3 – calling-AE-title-not-recognized | The association request contained an unrecognized Calling AE Title. An association request with the same parameters will not succeed at a later time unless configuration changes are made. This rejection reason normally occurs when the association acceptor has not been configured to recognize the AE Title of the association initiator.                      |
| 1 – rejected-permanent | b | 1 – no-reason-given                 | The association request could not be parsed. An association request with the same format will not succeed at a later time.   |

#### 4. 2. 1. 4. 1. 2 Accepted Presentation Contexts

The Workflow AE will accept Presentation Contexts as shown in the Table below.

**Table 4. 2-20 ACCEPTABLE PRESENTATION CONTEXTS  
FOR ACTIVITY RECEIVE STORAGE COMMITMENT RESPONSE**

| Presentation Context Table    |                            |  |   |      |           |
|-------------------------------|----------------------------|--|---|------|-----------|
| Abstract Syntax               |                            | Transfer Syntax  |   | Role | Ext. Neg. |
| Name                          | UID                        | Name List  | UID List  |      |           |
| Storage Commitment Push Model | 1. 2. 840. 10008. 1. 20. 1 | Implicit VR Little Endian<br>Explicit VR Little Endian | 1. 2. 840. 10008. 1. 2<br>1. 2. 840. 10008. 1. 2. 1 | SCU  | None      |
| Verification                  | 1. 2. 840. 10008. 1. 1     | Implicit VR Little Endian<br>Explicit VR Little Endian | 1. 2. 840. 10008. 1. 2<br>1. 2. 840. 10008. 1. 2. 1 | SCP  | None      |

The Workflow AE will prefer to select the Explicit VR Little Endian Transfer Syntax if multiple transfer syntaxes are offered. The Workflow AE will only accept the SCU role (which must be proposed via SCP/SCU Role Selection Negotiation) within a Presentation Context for the Storage Commitment Push Model SOP Class.

#### 4. 2. 1. 4. 1. 3 SOP Specific Conformance for Storage Commitment SOP Class

##### 4. 2. 1. 4. 1. 3. 1 Storage Commitment Notifications (N-EVENT-REPORT)

Upon receipt of an N-EVENT-REPORT the timer associated with the Transaction UID will be canceled.

The behavior of Workflow AE when receiving Event Types within the N-EVENT-REPORT is summarized in Table 4. 2-16.

The reasons for returning specific status codes in an N-EVENT-REPORT response are summarized in Table 4. 2-17.

**4. 2. 1. 4. 1. 4 SOP Specific Conformance for Verification SOP Class**

The Workflow AE provides standard conformance to the Verification SOP Class as an SCP. If the C-ECHO request was successfully received, a 0000 (Success) status code will be returned in the C-ECHO response. Otherwise, the Association is aborted by A-ABORT by the Verification SCP.

**4. 2. 2 Storage Application Entity Specification**

**4. 2. 2. 1 SOP Classes**

This product provides the following Conformance to the SOP Classes listed below. The private Ultrasound Line Data Storage SOP Class is not normally presented, but may be included by the CSE :

**Table 4. 2-21 SOP CLASSES FOR AE STORAGE**

| SOP Class Name                       | SOP Class UID                           | Conformance       | SCU | SCP |
|--------------------------------------|---|-------------------|-----|-----|
| Ultrasound Image Storage             | 1. 2. 840. 10008. 5. 1. 4. 1. 1. 6. 1   | Standard Extended | Yes | No  |
| Ultrasound Multi-frame Image Storage | 1. 2. 840. 10008. 5. 1. 4. 1. 1. 3. 1   | Standard Extended | Yes | No  |
| Ultrasound Line Data Storage         | 1. 2. 392. 200039. 110. 9. 2            | Private           | Yes | No  |
| Comprehensive SR                     | 1. 2. 840. 10008. 5. 1. 4. 1. 1. 88. 33 | Standard          | Yes | No  |
| Verification                         | 1. 2. 840. 10008. 1. 1                  | Standard          | Yes | No  |

**4. 2. 2. 2 Association Policies**

**4. 2. 2. 2. 1 General**

The DICOM standard application context name for DICOM 3. 0 is always proposed :

**Table 4. 2-22 DICOM APPLICATION CONTEXT FOR AE STORAGE**

|                          |                              |
|--------------------------|------------------------------|
| Application Context Name | 1. 2. 840. 10008. 3. 1. 1. 1 |
|--------------------------|------------------------------|

**4. 2. 2. 2. 2 Number of Associations**

This product initiates one Association at a time for the destination to which a transfer request is being processed. It does not automatically request associations to multiple destinations.

**Table 4. 2-23 NUMBER OF ASSOCIATIONS INITIATED FOR AE STORAGE**

|   |   |
|---|---|
| Maximum number of simultaneous Associations initiated | 1 |
|---|---|

Note : However, the AEs for image storage and Structured Report storage are independent. Therefore two associations for image storage and report storage may be initiated simultaneously.

**4. 2. 2. 2. 3 Asynchronous Nature**

This product does not support asynchronous communication (multiple outstanding transactions over a single Association) .

**Table 4. 2-24 ASYNCHRONOUS NATURE AS A SCU FOR AE STORAGE**

|   |   |
|---|---|
| Maximum number of outstanding asynchronous transactions | 1 |
|---|---|

#### 4. 2. 2. 2. 4 Implementation Identifying Information

The implementation information for this Application Entity is :

**Table 4. 2-25 DICOM IMPLEMENTATION CLASS AND VERSION FOR AE STORAGE**

|                             |  |
|-----------------------------|--|
| Implementation Class UID    | 1. 2. 392. 200039. 110                               |
| Implementation Version Name | ADLib 20120427<br>(subject to change without notice) |

#### 4. 2. 2. 3 Association Initiation Policy

##### 4. 2. 2. 3. 1 Activity – Send Images and Structured Reports

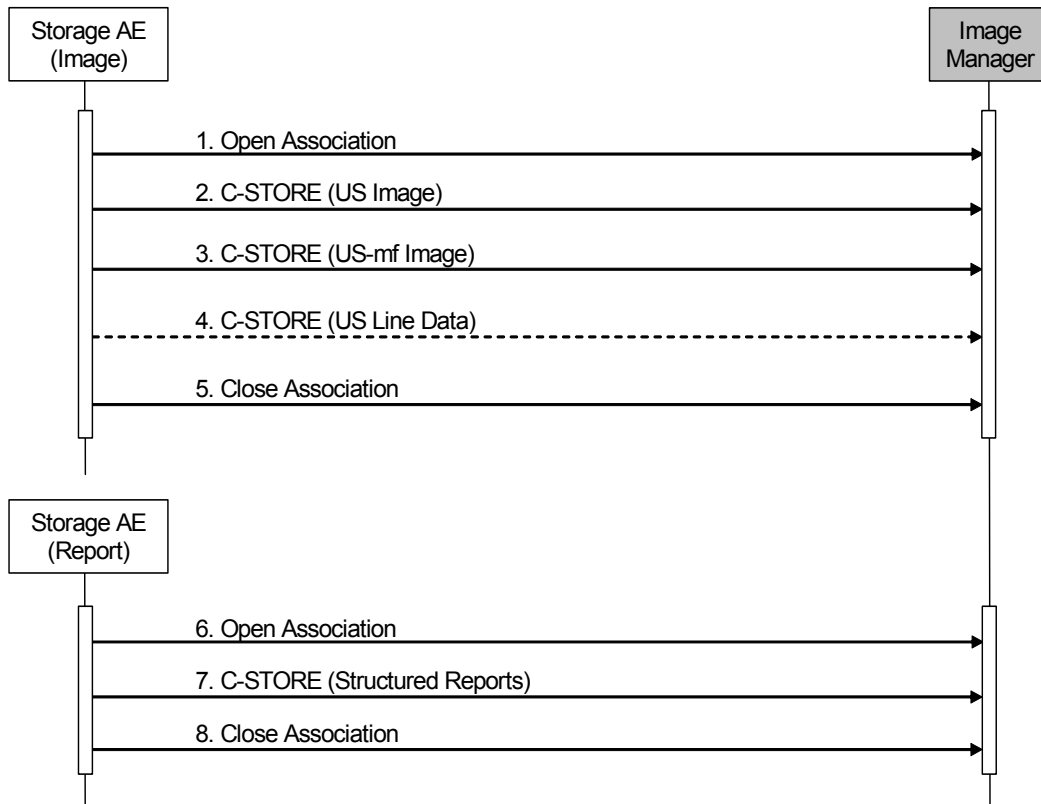
##### 4. 2. 2. 3. 1. 1 Description and Sequencing of Activities

The Storage AE for sending images may be invoked in two ways. After the New Patient registration is completed selecting the worklist MSPS or by manual entry, ultrasound image is displayed in real-time. When the operator presses the "FREEZE" button on the console, the image is frozen and ready to send the image to remote storage AE or to store in a local drive. The "STORE" button may be configured for either "NET (DICOM) ", HDD, DVD-RAM, CD-R buffer or USB storage devices.

When it is configured for "NET (DICOM) " storage, pressing the "STORE" button will open an association to the remote Storage SCP. If the association is accepted by the SCP, local Storage AE will send a single Image Instance to the SCP, and if the SCP responds with a success status the association is closed normally. If the association is rejected or it is not responded within the configured time interval, or the Storage AE receives failure status, the association is aborted and the failure is reported to the user. The Storage AE will retain a copy of the Image Instance sent directly from the "STORE" button.

When the "STORE" button is configured for HDD storage, an Image Instance will be stored in the local HDD each time it is pressed. The Image Instances are review by pressing the "REVIEW" button on the console. After the user selects more than one image in the Review GUI, clicking the "DICOM" – "Server" will open a storage association to the remote Archive. If the association is accepted, the Storage AE will send the all instances of the selected images to the remote Storage SCP within the single association. Each Instance successfully stored is indicated by an **orange** I-mark on the icon, and the storage-committed Instance is indicated by a **blue** I-mark. If an Image Instance is not responded by the successful status, or the Storage SCP does not respond within the configured interval, the association is aborted and the status is reported to the user. The Storage AE can be configured to retry automatically.

Structured Reports are sent to remote storage AE over a separate association from image storage.



**Figure 4. 2-4 SEQUENCING OF ACTIVITY – SEND IMAGES AND REPORTS**

A possible sequence of interactions between the Storage AE and an Image Manager (e. g. a storage or archive device supporting the Storage SOP Classes as an SCP) is illustrated in Figure 4. 2-4 :

1. The Storage AE opens an association with the Image Manager
2. An acquired US image is transmitted to the Image Manager using a C-STORE request and the Image Manager replies with a C-STORE response (status success) .
3. Another acquired US Multi-frame image is transmitted to the Image Manager using a C-STORE request and the Image Manager replies with a C-STORE response (status success) .
4. Optional acquired US Line data may be transmitted to the Image Manager using a C-STORE request and the Image Manager replies with a C-STORE response (status success) , if it supports the private SOP Class.
5. The Storage AE closes the association with the Image Manager.
6. The Storage AE opens another association with the Image Manager.
7. Structured Reports are transmitted to the Image Manager using C-STORE request and the Image Manager replies with a C-STORE response (status success) .
8. The Storage AE closes the association with the Image Manager.

#### 4. 2. 2. 3. 1. 2 Proposed Presentation Contexts

This product is capable of proposing the Presentation Contexts shown in the following table :

**Table 4. 2-26 PROPOSED PRESENTATION CONTEXTS FOR ACTIVITY SEND IMAGES / REPORTS**

| Send Image Presentation Context Table  |   |   |   |      |           |
|--|---|---|---|------|-----------|
| Abstract Syntax                        |   | Transfer Syntax   |   | Role | Ext. Neg. |
| Name                                   | UID                                     | Name List   | UID List  |      |           |
| Ultrasound Image Storage               | 1. 2. 840. 10008. 5. 1. 4. 1. 1. 6. 1   | Implicit VR Little Endian<br>Explicit VR Little Endian<br>JPEG Baseline Compression<br>RLE Lossless Compression | 1. 2. 840. 10008. 1. 2<br>1. 2. 840. 10008. 1. 2. 1<br>1. 2. 840. 10008. 1. 2. 4. 50<br>1. 2. 840. 10008. 1. 2. 5 | SCU  | None      |
| Ultrasound Multi-frame Image Storage   | 1. 2. 840. 10008. 5. 1. 4. 1. 1. 3. 1   | Implicit VR Little Endian<br>Explicit VR Little Endian<br>JPEG Baseline Compression<br>RLE Lossless Compression | 1. 2. 840. 10008. 1. 2<br>1. 2. 840. 10008. 1. 2. 1<br>1. 2. 840. 10008. 1. 2. 4. 50<br>1. 2. 840. 10008. 1. 2. 5 | SCU  | None      |
| Ultrasound Line Data Storage           | 1. 2. 392. 200039. 110. 9. 2            | Explicit VR Little Endian   | 1. 2. 840. 10008. 1. 2. 1   | SCU  | None      |
| Verification                           | 1. 2. 840. 10008. 1. 1                  | Implicit VR Little Endian<br>Explicit VR Little Endian  | 1. 2. 840. 10008. 1. 2<br>1. 2. 840. 10008. 1. 2. 1   | SCU  | None      |
| Send Report Presentation Context Table |   |   |   |      |           |
| Abstract Syntax                        |   | Transfer Syntax   |   | Role | Ext. Neg. |
| Name                                   | UID                                     | Name List   | UID List  |      |           |
| Comprehensive SR                       | 1. 2. 840. 10008. 5. 1. 4. 1. 1. 88. 33 | Implicit VR Little Endian<br>Explicit VR Little Endian  | 1. 2. 840. 10008. 1. 2<br>1. 2. 840. 10008. 1. 2. 1   | SCU  | None      |
| Enhanced SR                            | 1. 2. 840. 10008. 5. 1. 4. 1. 1. 88. 22 | Implicit VR Little Endian<br>Explicit VR Little Endian  | 1. 2. 840. 10008. 1. 2<br>1. 2. 840. 10008. 1. 2. 1   | SCU  | None      |
| Verification                           | 1. 2. 840. 10008. 1. 1                  | Implicit VR Little Endian<br>Explicit VR Little Endian  | 1. 2. 840. 10008. 1. 2<br>1. 2. 840. 10008. 1. 2. 1   | SCU  | None      |

Presentation Contexts for Ultrasound Image Storage, Ultrasound Multi-frame Image Storage, and Verification will always be proposed. Presentation Contexts for Ultrasound Line Data Storage may be included by the CSE. An error message will be issued at sending the SOP Instance of the Presentation Context of which Abstract Syntax has been rejected by the remote AE.

Presentation Contexts for Comprehensive SR Storage, Enhanced SR Storage, and Verification will always be proposed. When the remote AE accepts Comprehensive SR the reports will be sent as the original SOP Class (Comprehensive SR) , or if the remote AE rejects Comprehensive SR the reports may be sent as Enhanced SR with the value for Original Specialized SOP Class (0008, 001B) set to Comprehensive SR.

#### 4. 2. 2. 3. 1. 3 SOP Specific Conformance for Image and Report Storage SOP Classes

All Image and Structured Report Storage SOP Classes supported by the Storage AE exhibit the same behavior, except where stated, and are described together in this section.

If Ultrasound Multi-frame Image Storage SOP Instances are included in the Send Job and a corresponding Presentation Context is not accepted then the Association is aborted using A-ABORT and the send job is marked as failed. The job failure is reported to the user via the dialog window. The remaining Ultrasound (single frame) Image Storage SOP Instances should be selected and retried by the operator.

**Table 4. 2-27 STORAGE C-STORE RESPONSE STATUS HANDLING BEHAVIOR**

| Service Status       | Further Meaning                   | Error Code             | Behavior   |
|----------------------|-----------------------------------|------------------------|--|
| Success              | Success                           | 0000                   | The SCP has successfully stored the SOP Instance.  |
| Refused              | Out of Resources                  | A700-A7FF              | The Association is aborted using A-ABORT and the failure is reported to the user. This is a transient failure. |
| Error                | Data Set does not match SOP Class | A900-A9FF              | The Association is aborted using A-ABORT and the failure is reported to the user.                              |
| Error                | Cannot Understand                 | C000-CFFF              | The Association is aborted using A-ABORT and the failure is reported to the user.                              |
| Warning              | Coercion of Data Elements         | B000                   | Image transmission is considered successful therefore the warning is not reported to the user.                 |
| Warning              | Data Set does not match SOP Class | B007                   | Image transmission is considered successful therefore the warning is not reported to the user.                 |
| Warning              | Elements Discarded                | B006                   | Image transmission is considered successful therefore the warning is not reported to the user.                 |
| Warning <sup>1</sup> | Attribute list error              | 0107                   | Object instance transmission is considered successful therefore the warning is not reported to the user.       |
| Warning <sup>1</sup> | Attribute Value Out of Range      | 0116                   | Object instance transmission is considered successful therefore the warning is not reported to the user.       |
| *                    | *                                 | Any other status code. | The Association is aborted using A-ABORT and the failure is reported to the user.                              |

Note : 1. Image storage excepted.

The behavior of Storage AE during communication failure is summarized in the Table below :

**Table 4. 2-28 STORAGE COMMUNICATION FAILURE BEHAVIOR**

| Exception  | Behavior  |
|--|---|
| Timeout  | The Association is aborted using A-ABORT and the timeout error is reported to the user. |
| Association aborted by the SCP or network layers | The association failure is reported to the user.  |

A failed storage association may automatically be restarted if so configured.

#### 4. 2. 3 Hardcopy Application Entity Specification

##### 4. 2. 3. 1 SOP Classes

This product provides Standard Conformance to the following SOP Classes :

**Table 4. 2-29 SOP CLASSES FOR AE HARDCOPY**

| SOP Class Name                        | SOP Class UID                 | SCU | SCP |
|---------------------------------------|-------------------------------|-----|-----|
| Basic Grayscale Print Management Meta | 1. 2. 840. 10008. 5. 1. 1. 9  | Yes | No  |
| Basic Color Print Management Meta     | 1. 2. 840. 10008. 5. 1. 1. 18 | Yes | No  |
| Verification                          | 1. 2. 840. 10008. 1. 1        | Yes | No  |

##### 4. 2. 3. 2 Association Policies

###### 4. 2. 3. 2. 1 General

The DICOM standard application context name for DICOM 3. 0 is always proposed :

**Table 4. 2-30 DICOM APPLICATION CONTEXT FOR AE HARDCOPY**

|                          |                              |
|--------------------------|------------------------------|
| Application Context Name | 1. 2. 840. 10008. 3. 1. 1. 1 |
|--------------------------|------------------------------|

###### 4. 2. 3. 2. 2 Number of Associations

This product initiates one Association at a time for each configured hardcopy device.

**Table 4. 2-31 NUMBER OF ASSOCIATIONS INITIATED FOR AE HARDCOPY**

|   |   |
|---|---|
| Maximum number of simultaneous Associations | 1 |
|---|---|

###### 4. 2. 3. 2. 3 Asynchronous Nature

This product does not support asynchronous communication (multiple outstanding transactions over a single Association) .

**Table 4. 2-32 ASYNCHRONOUS NATURE AS A SCU FOR AE HARDCOPY**

|   |   |
|---|---|
| Maximum number of outstanding asynchronous transactions | 1 |
|---|---|

###### 4. 2. 3. 2. 4 Implementation Identifying Information

The implementation information for this Application Entity is :

**Table 4. 2-33 DICOM IMPLEMENTATION CLASS AND VERSION FOR AE HARDCOPY**

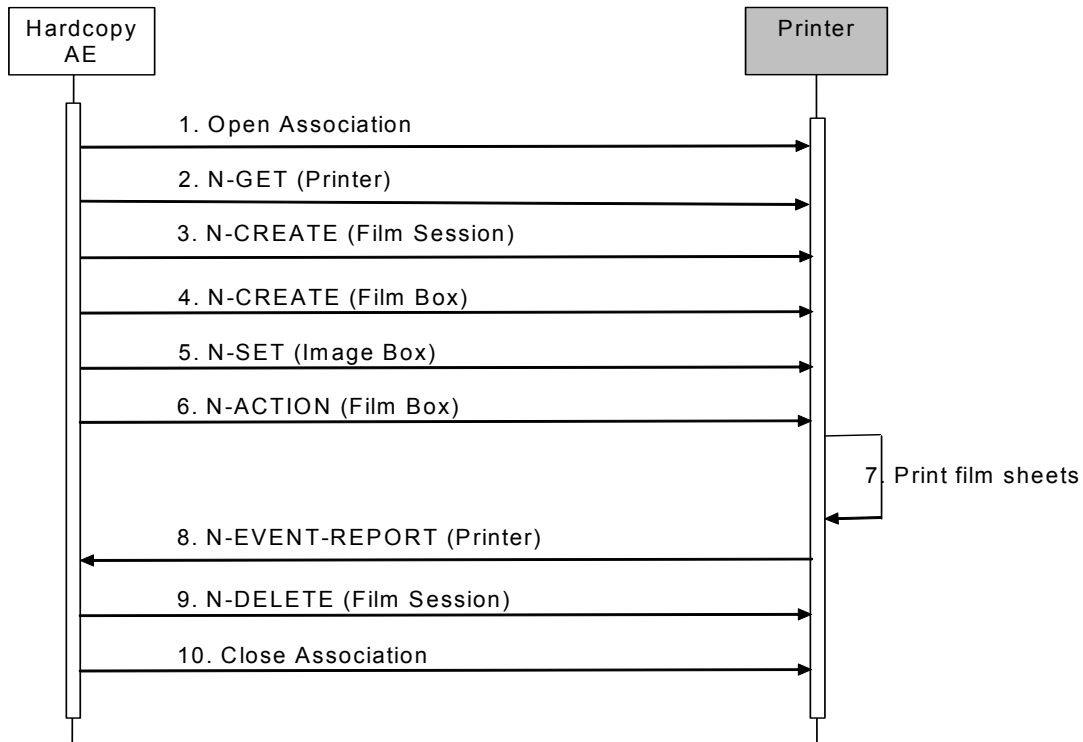
|                             |  |
|-----------------------------|--|
| Implementation Class UID    | 1. 2. 392. 200039. 110                               |
| Implementation Version Name | ADLib 20120427<br>(subject to change without notice) |

### 4. 2. 3. 3 Association Initiation Policy

#### 4. 2. 3. 3. 1 Activity – Print Images

##### 4. 2. 3. 3. 1. 1 Description and Sequencing of Activities

When a user selects images and requests to print them in the "REVIEW" GUI, the images are sent to the PRINTER\_QUEUE folder. The virtual film sheets are composed according to the pre-defined film format. The film sheets are requests to be sent to a specific hardcopy device. The user can select the desired film format, number of copies, and other printing conditions in the Print Property GUI.



**Figure 4. 2-5 SEQUENCING OF ACTIVITY – FILM IMAGES**

A typical sequence of DIMSE messages sent over an association between Hardcopy AE and a Printer is illustrated in Figure 4. 2-5 :

1. Hardcopy AE opens an association with the Printer
2. N-GET on the Printer SOP Class is used to obtain current printer status information. If the Printer reports a status of FAILURE, the print-job is switched to a failed state and the user informed.
3. N-CREATE on the Film Session SOP Class creates a Film Session.
4. N-CREATE on the Film Box SOP Class creates a Film Box linked to the Film Session. Pre-configured number of Image Boxes will be created as the result of this operation.
5. Each N-SET on Image Box SOP Class transfers the requested image to the printer at the successive position on the film sheet. The Hardcopy does not support the Presentation LUT SOP Class.
6. N-ACTION on the Film Box SOP Class instructs the printer to print the Film Box



7. The printer prints the requested number of film sheets. The sequence 4 through 6 may be repeated when the single film sheet is not enough to contain the requested images.
8. The Printer asynchronously reports its status via N-EVENT-REPORT notification (Printer SOP Class). The printer can send this message at any time. Hardcopy AE does not require the N-EVENT-REPORT to be sent. Hardcopy AE is capable of receiving an N-EVENT-REPORT notification at any time during an association. If the Printer reports a status of FAILURE, the Print Session is terminated and the user informed.
9. N-DELETE on the Film Session SOP Class deletes the complete Film Session SOP Instance hierarchy.
10. Hardcopy AE closes the association with the Printer.

If any Response from the remote Application contains a status other than Success or Warning, the Association is aborted and the related Film Session is terminated and the status is user informed.

#### 4. 2. 3. 3. 1. 2 Proposed Presentation Contexts

This product is capable of proposing the Presentation Contexts shown in the Table below :

**Table 4. 2-34 PROPOSED PRESENTATION CONTEXTS FOR ACTIVITY PRINT IMAGES**

| Presentation Context Table            |                               |  |   |      |           |
|---------------------------------------|-------------------------------|--|---|------|-----------|
| Abstract Syntax                       |                               | Transfer Syntax  |   | Role | Ext. Neg. |
| Name                                  | UID                           | Name List  | UID List  |      |           |
| Basic Grayscale Print Management Meta | 1. 2. 840. 10008. 5. 1. 1. 9  | Implicit VR Little Endian<br>Explicit VR Little Endian | 1. 2. 840. 10008. 1. 2<br>1. 2. 840. 10008. 1. 2. 1 | SCU  | None      |
| Basic Color Print Management Meta     | 1. 2. 840. 10008. 5. 1. 1. 18 | Implicit VR Little Endian<br>Explicit VR Little Endian | 1. 2. 840. 10008. 1. 2<br>1. 2. 840. 10008. 1. 2. 1 | SCU  | None      |
| Verification                          | 1. 2. 840. 10008. 1. 1        | Implicit VR Little Endian<br>Explicit VR Little Endian | 1. 2. 840. 10008. 1. 2<br>1. 2. 840. 10008. 1. 2. 1 | SCU  | None      |

#### 4. 2. 3. 3. 1. 3 Common SOP Specific Conformance for all Print SOP Classes

The general behavior of Hardcopy AE during communication failure is summarized in the Table below. This behavior is common for all SOP Classes supported by Hardcopy AE.

**Table 4. 2-35 HARDCOPY COMMUNICATION FAILURE BEHAVIOR**

| Exception  | Behavior  |
|--|---|
| Timeout  | The Association is aborted using A-ABORT and the print-job is terminated. The reason is reported to the user. |
| Association aborted by the SCP or network layers | The print-job is terminated and the print-job is terminated. The reason is reported to the user.              |

**4. 2. 3. 3. 1. 4 SOP Specific Conformance for the Printer SOP Class**

Hardcopy AE supports the following DIMSE operations and notifications for the Printer SOP Class :

- N-GET
- N-EVENT-REPORT

Details of the supported attributes and status handling behavior are described in the following subsections.

**4. 2. 3. 3. 1. 4. 1 Printer SOP Class Operations (N-GET)**

Hardcopy AE uses the Printer SOP Class N-GET operation to obtain information about the current printer status. The attributes obtained via N-GET are listed in the Table below :

**Table 4. 2-36 PRINTER SOP CLASS N-GET REQUEST ATTRIBUTES**

| Attribute Name            | Tag          | VR | Value               | Presence of Value | Source  |
|---------------------------|--------------|----|---------------------|-------------------|---------|
| Manufacturer              | (0008, 0070) | LO | Provided by Printer | ANAP              | Printer |
| Manufacturer's Model Name | (0008, 1090) | LO | Provided by Printer | ANAP              | Printer |
| Device Serial Number      | (0018, 1000) | LO | Provided by Printer | ANAP              | Printer |
| Software Versions         | (0018, 1020) | LO | Provided by Printer | ANAP              | Printer |
| Printer Status            | (2110, 0010) | CS | Provided by Printer | ALWAYS            | Printer |
| Printer Status Info       | (2110, 0020) | CS | Provided by Printer | ALWAYS            | Printer |
| Printer Name              | (2110, 0030) | LO | Provided by Printer | ANAP              | Printer |

The Printer Status information is evaluated as follows :

1. If Printer status (2110, 0010) is FAILURE, the Hardcopy AE is terminated and status is user informed.
2. If Printer status (2110, 0010) is NORMAL or WARNING, the Hardcopy AE continues to print.

The behavior of Hardcopy AE when encountering status codes in a N-GET response is summarized in the Table below :

**Table 4. 2-37 PRINTER SOP CLASS N-GET RESPONSE STATUS HANDLING BEHAVIOR**

| Service Status | Further Meaning | Error Code             | Behavior  |
|----------------|-----------------|------------------------|---|
| Success        | Success         | 0000                   | The request to get printer status information was success.  |
| *              | *               | Any other status code. | The Association is aborted using A-ABORT and the print-job is terminated. The status is reported to the user. |

**4. 2. 3. 3. 1. 4. 2 Printer SOP Class Notifications (N-EVENT-REPORT)**

Hardcopy AE is capable of receiving an N-EVENT-REPORT request at any time during an association.

The behavior of Hardcopy AE when receiving Event Types within the N-EVENT-REPORT is summarized in the Table below :

**Table 4. 2-38 PRINTER SOP CLASS N-EVENT-REPORT BEHAVIOUR**

| Event Type Name | Event Type ID | Behavior   |
|-----------------|---------------|--|
| Normal          | 1             | The print session continues to be printed.   |
| Warning         | 2             | The print session continues to be printed. The Warning status is not reported to user. |
| Failure         | 3             | The print session is terminated. The Failure is reported to user.                      |
| *               | *             | The print session is terminated. The Failure is reported to user.                      |

The reasons for returning specific status codes in an N-EVENT-REPORT response are summarized in the Table below :

**Table 4. 2-39 PRINTER SOP CLASS N-EVENT-REPORT RESPONSE STATUS REASONS**

| Service Status | Further Meaning    | Error Code | Reasons   |
|----------------|--------------------|------------|---|
| Success        | Success            | 0000       | The notification event has been successfully received.  |
| Failure        | No Such Event Type | 0113H      | An invalid Event Type ID was supplied in the N-EVENT-REPORT request.  |
| Failure        | Processing Failure | 0110H      | An internal error occurred during processing of the N-EVENT-REPORT. A short description of the error will be returned in Error Comment (0000, 0902) . |

#### 4. 2. 3. 3. 1. 5 SOP Specific Conformance for the Film Session SOP Class

Hardcopy AE supports the following DIMSE operations for the Film Session SOP Class :

- N-CREATE
- N-DELETE

Details of the supported attributes and status handling behavior are described in the following subsections.

##### 4. 2. 3. 3. 1. 5. 1 Film Session SOP Class Operations (N-CREATE)

The attributes supplied in an N-CREATE Request are listed in the Table below. The values are typical and may be configured by the CSE :

**Table 4. 2-40 FILM SESSION SOP CLASS N-CREATE REQUEST ATTRIBUTES**

| Attribute Name   | Tag          | VR | Value                           | Presence of Value | Source |
|------------------|--------------|----|---------------------------------|-------------------|--------|
| Number of Copies | (2000, 0010) | IS | 1 . . 9                         | ALWAYS            | CONFIG |
| Print Priority   | (2000, 0020) | CS | HIGH, MED, or LOW               | ALWAYS            | CONFIG |
| Medium Type      | (2000, 0030) | CS | BLUE FILM, CLEAR FILM, or PAPER | ALWAYS            | CONFIG |
| Film Destination | (2000, 0040) | CS | MAGAZINE or PROCESSOR           | ALWAYS            | CONFIG |

|                   |                 |    |  |      |        |
|-------------------|-----------------|----|--|------|--------|
| Memory Allocation | (2000,<br>0060) | IS |  | ANAP | CONFIG |
|-------------------|-----------------|----|--|------|--------|

The behavior of Hardcopy AE when encountering status codes in an N-CREATE response is summarized in the Table below :

**Table 4. 2-41 FILM SESSION SOP CLASS N-CREATE RESPONSE STATUS HANDLING BEHAVIOR**

| Service Status | Further Meaning              | Error Code             | Behavior  |
|----------------|------------------------------|------------------------|---|
| Success        | Success                      | 0000                   | The SCP has completed the operation successfully.   |
| Warning        | Attribute Value Out of Range | 0116H                  | The N-CREATE operation is considered successful and the status is not reported to the user.                       |
| Warning        | Attribute List Error         | 0107H                  | The N-CREATE operation is considered successful and the status is not reported to the user.                       |
| *              | *                            | Any other status code. | The Association is aborted using A-ABORT and the print session is terminated. The status is reported to the user. |

#### 4. 2. 3. 3. 1. 5. 2 Film Session SOP Class Operations (N-DELETE)

The behavior of Hardcopy AE when encountering status codes in an N-DELETE response is summarized in the Table below :

**Table 4. 2-42 FILM SESSION SOP CLASS N-DELETE RESPONSE STATUS HANDLING BEHAVIOR**

| Service Status | Further Meaning | Error Code             | Behavior  |
|----------------|-----------------|------------------------|---|
| Success        | Success         | 0000                   | The SCP has completed the operation successfully.                             |
| *              | *               | Any other status code. | The Association is aborted using A-ABORT and the print session is terminated. |

#### 4. 2. 3. 3. 1. 6 SOP Specific Conformance for the Film Box SOP Class

Hardcopy AE supports the following DIMSE operations for the Film Box SOP Class :

- N-CREATE
- N-ACTION

Details of the supported attributes and status handling behavior are described in the following subsections.

##### 4. 2. 3. 3. 1. 6. 1 Film Box SOP Class Operations (N-CREATE)

The attributes supplied in an N-CREATE Request are listed in the Table below. The values are typical and may be configured by the CSE :

**Table 4. 2-43 FILM BOX SOP CLASS N-CREATE REQUEST ATTRIBUTES**

| Attribute Name       | Tag             | VR | Value                 | Presence of Value | Source |
|----------------------|-----------------|----|-----------------------|-------------------|--------|
| Image Display Format | (2010,<br>0010) | ST | STANDARD\m, n         | ALWAYS            | CONFIG |
| Film Orientation     | (2010,<br>0040) | CS | PORTRAIT or LANDSCAPE | ALWAYS            | CONFIG |

|                                  |              |    |  |        |        |
|----------------------------------|--------------|----|--|--------|--------|
| Film Size ID                     | (2010, 0050) | CS | 14INX17IN, 14INX14IN, 11INX14IN, 11INX11IN, 8_5INX11IN, 8INX10IN | ALWAYS | CONFIG |
| Magnification Type               | (2010, 0060) | CS | REPLICATE, BILINEAR, CUBIC or NONE                               | ALWAYS | CONFIG |
| Smoothing Type                   | (2010, 0080) | CS |  | ANAP   | CONFIG |
| Border Density                   | (2010, 0100) | CS | BLACK or WHITE   | ALWAYS | CONFIG |
| Empty Image Density              | (2010, 0110) | CS | BLACK or WHITE   | ALWAYS | CONFIG |
| Min Density                      | (2010, 0120) | US | 0 . . 329  | ALWAYS | CONFIG |
| Max Density                      | (2010, 0130) | US | 1 . . 330  | ALWAYS | CONFIG |
| Trim                             | (2010, 0140) | CS | YES or NO  | ANAP   | CONFIG |
| Configuration Information        | (2010, 0150) | ST | Set if requested by Printer                                      | ANAP   | CONFIG |
| Referenced Film Session Sequence | (2010, 0500) | SQ |  | ALWAYS | AUTO   |
| > Referenced SOP Class UID       | (0008, 1150) | UI | 1. 2. 840. 10008. 5. 1. 1. 1                                     | ALWAYS | AUTO   |
| > Referenced SOP Instance UID    | (0008, 1155) | UI | From created Film Session SOP Instance                           | ALWAYS | AUTO   |

The behavior of Hardcopy AE when encountering status codes in an N-CREATE response is summarized in the Table below :

**Table 4. 44 FILM BOX SOP CLASS N-CREATE RESPONSE STATUS HANDLING BEHAVIOR**

| Service Status | Further Meaning   | Error Code             | Behavior  |
|----------------|---|------------------------|---|
| Success        | Success   | 0000                   | The SCP has completed the operation successfully.   |
| Warning        | Requested Min Density or Max Density outside of printer's operating range | B605H                  | The N-CREATE operation is considered successful I and the status is not reported to the user.                 |
| *              | *   | Any other status code. | The Association is aborted using A-ABORT and the print-job is terminated. The status is reported to the user. |

#### 4. 2. 3. 3. 1. 6. 2 Film Box SOP Class Operations (N-ACTION)

An N-ACTION Request is issued to instruct the Print SCP to print the contents of the Film Box. The Action Reply argument in an N-ACTION response is not evaluated.

The behavior of Hardcopy AE when encountering status codes in an N-ACTION response is summarized in the Table below :

**Table 4. 2-45 FILM BOX SOP CLASS N-ACTION RESPONSE STATUS HANDLING BEHAVIOR**

| <b>Service Status</b> | <b>Further Meaning</b>  | <b>Error Code</b>      | <b>Behavior</b>   |
|-----------------------|---|------------------------|---|
| Success               | Success   | 0000                   | The SCP has completed the operation successfully. The film has been accepted for printing.                    |
| Warning               | Film Box SOP Instance hierarchy does not contain Image Box SOP Instances (empty page)   | B603H                  | The Association is aborted using A-ABORT and the print-job is terminated. The status is reported to the user. |
| Warning               | Image size is larger than Image Box size. The image has been demagnified.   | B604H                  | The N-ACTION operation is considered successful and the status is not reported to the user.                   |
| Warning               | Image size is larger than Image Box size. The image has been cropped to fit.  | B609H                  | The N-ACTION operation is considered successful and the status is not reported to the user.                   |
| Warning               | Image size or Combined Print Image Size is larger than Image Box size. The image or combined Print Image has been decimated to fit. | B60AH                  | The N-ACTION operation is considered successful and the status is not reported to the user.                   |
| Failure               | Unable to create Print Job SOP Instance ; print queue is full.  | C602                   | The Association is aborted using A-ABORT and the status is reported to the user.                              |
| Failure               | Image size is larger than Image Box size.   | C603                   | The Association is aborted using A-ABORT and the status is reported to the user.                              |
| Failure               | Combined Print Image Size is larger than Image Box size.  | C613                   | The Association is aborted using A-ABORT and the status is reported to the user.                              |
| *                     | *   | Any other status code. | The Association is aborted using A-ABORT and the status is reported to the user.                              |

#### **4. 2. 3. 3. 1. 7 SOP Specific Conformance for the Image Box SOP Class**

Hardcopy AE supports the following DIMSE operations for the Basic Grayscale and Basic Color Image Box SOP Classes :

— N-SET

Details of the supported attributes and status handling behavior are described in the following subsections.

##### **4. 2. 3. 3. 1. 7. 1 Basic Grayscale Image Box SOP Class Operations (N-SET)**

The attributes supplied in an N-SET Grayscale Image Box Request are listed in the Table below :

**Table 4. 2-46 BASIC GRAYSCALE IMAGE BOX SOP CLASS N-SET REQUEST ATTRIBUTES**

| Attribute Name                 | Tag          | VR | Value   | Presence of Value | Source |
|--------------------------------|--------------|----|---|-------------------|--------|
| Image Position                 | (2020, 0010) | US | 1 to maximum image position allowed for the Image Display Format (2010, 0010) | ALWAYS            | AUTO   |
| Polarity                       | (2020, 0020) | CS | NORMAL or REVERSE   | ALWAYS            | CONFIG |
| Basic Grayscale Image Sequence | (2020, 0110) | SQ |   | ALWAYS            | AUTO   |
| > Samples Per Pixel            | (0028, 0002) | US | 1   | ALWAYS            | AUTO   |
| > Photometric Interpretation   | (0028, 0004) | CS | MONOCHROME2   | ALWAYS            | AUTO   |
| > Rows                         | (0028, 0010) | US | Copied from source image  | ALWAYS            | AUTO   |
| > Columns                      | (0028, 0011) | US | Copied from source image  | ALWAYS            | AUTO   |
| > Pixel Aspect Ratio           | (0028, 0034) | IS | Copied from source image  | ANAP              | AUTO   |
| > Bits Allocated               | (0028, 0100) | US | 8   | ALWAYS            | AUTO   |
| > Bits Stored                  | (0028, 0101) | US | 8   | ALWAYS            | AUTO   |
| > High Bit                     | (0028, 0102) | US | 7   | ALWAYS            | AUTO   |
| > Pixel Representation         | (0028, 0103) | US | 0   | ALWAYS            | AUTO   |
| > Pixel Data                   | (7FE0, 0010) | OW | Pixels from source image  | ALWAYS            | AUTO   |

The behavior of Hardcopy AE when encountering status codes in an N-SET response is summarized in Table 4. 2-48.

#### 4. 2. 3. 3. 1. 7. 2 Basic Color Image Box SOP Class Operations (N-SET)

The attributes supplied in an N-SET Color Image Box Request are listed in the Table below :

**Table 4. 2-47 BASIC COLOR IMAGE BOX SOP CLASS N-SET REQUEST ATTRIBUTES**

| Attribute Name | Tag          | VR | Value   | Presence of Value | Source |
|----------------|--------------|----|---|-------------------|--------|
| Image Position | (2020, 0010) | US | 1 to maximum image position allowed for the Image Display Format (2010, 0010) | ALWAYS            | AUTO   |

|                                   |              |    |                              |        |                          |
|-----------------------------------|--------------|----|------------------------------|--------|--------------------------|
| Polarity                          | (2020, 0020) | CS | Printer may ignore the value | ALWAYS | AUTO                     |
| Preformatted Color Image Sequence | (2020, 0111) | SQ |                              | ALWAYS | AUTO                     |
| > Samples Per Pixel               | (0028, 0002) | US | 3                            | ALWAYS | AUTO                     |
| > Photometric Interpretation      | (0028, 0004) | CS | RGB                          | ALWAYS | AUTO                     |
| > Planar Configuration            | (0028, 0006) | US | 0 or 1 (default is 1)        | ALWAYS | CONFIG <sup>†</sup><br>1 |
| > Rows                            | (0028, 0010) | US | Copied from source image     | ALWAYS | AUTO                     |
| > Columns                         | (0028, 0011) | US | Copied from source image     | ALWAYS | AUTO                     |
| > Pixel Aspect Ratio              | (0028, 0034) | IS | Copied from source image     | ANAP   | AUTO                     |
| > Bits Allocated                  | (0028, 0100) | US | 8                            | ALWAYS | AUTO                     |
| > Bits Stored                     | (0028, 0101) | US | 8                            | ALWAYS | AUTO                     |
| > High Bit                        | (0028, 0102) | US | 7                            | ALWAYS | AUTO                     |
| > Pixel Representation            | (0028, 0103) | US | 0                            | ALWAYS | AUTO                     |
| > Pixel Data                      | (7FE0, 0010) | OW | Pixels from source image     | ALWAYS | AUTO                     |

<sup>†</sup> The Planar Configuration could be configured by the CSE referencing the DICOM Conformance Statement of the remote printer.

The behavior of Hardcopy AE when encountering status codes in an N-SET response is summarized in Table 4. 2-48.

**Table 4. 2-48 IMAGE BOX SOP CLASSES N-SET RESPONSE STATUS HANDLING BEHAVIOR**

| Service Status | Further Meaning  | Error Code | Behavior  |
|----------------|--|------------|---|
| Success        | Success  | 0000       | The SCP has completed the operation successfully. Image successfully stored in Image Box. |
| Warning        | Image size is larger than Image Box size. The image has been demagnified.  | B604       | The N-SET operation is considered successful and the status is not reported.              |
| Warning        | Requested Min Density or Max Density outside of printer's operating range.   | B605       | The N-SET operation is considered successful and the status is not reported.              |
| Warning        | Image size is larger than Image Box size. The image has been cropped to fit.   | B609       | The N-SET operation is considered successful and the status is not reported.              |
| Warning        | Image size or Combined Print Image Size is larger than Image Box size. The image or combined Print Image has been decimated to | B60A       | The N-SET operation is considered successful and the status is not reported.              |



|         |  |                        |  |
|---------|--|------------------------|--|
|         | fit.   |                        |  |
| Failure | Image size is larger than Image Box size.                | C603                   | The Association is aborted using A-ABORT and the status is reported to the user. |
| Failure | Insufficient memory in printer to store the image.       | C605                   | The Association is aborted using A-ABORT and the status is reported to the user. |
| Failure | Combined Print Image Size is larger than Image Box size. | C613                   | The Association is aborted using A-ABORT and the status is reported to the user. |
| *       | *  | Any other status code. | The Association is aborted using A-ABORT and the status is reported to the user. |

#### 4. 2. 3. 4 Association Acceptance Policy

The Hardcopy Application Entity does not accept Associations.

### 4. 3 NETWORK INTERFACES

#### 4. 3. 1 Physical Network Interface

This product supports a single network interface and the 100baseTX or 10base is automatically detected by the interface.

**Table 4. 3-1 SUPPORTED PHYSICAL NETWORK INTERFACES**

|   |
|---|
| Ethernet 100baseTX or 10baseT is automatically detected |
|---|

#### 4. 3. 2 Additional Protocols

This product may be configured to get the local configuration via the DHCP and to synchronize the system time with the NTP server. However it does not conform to other System Management Profiles as DNS nor LDAP.

#### 4. 3. 3 IPv4 and IPv6 Support

This product supports IPv4 connections only.

### 4. 4 CONFIGURATION

#### 4. 4. 1 AE Title/Presentation Address Mapping

##### 4. 4. 1. 1 Local AE Titles

All local applications share the same AE Titles and TCP/IP Address configured at the Local AET registry in the DICOM Store/Send GUI. The AE Title, Station Name, IP Address, and Port Number must be configured during installation, since no default values are provided and not automatically configured.

**Table 4. 4-1 AE TITLE CONFIGURATION TABLE**

| Application Entity | Default AE Title | Default TCP/IP Port |
|--------------------|------------------|---------------------|
| Storage            | No Default       | Not Applicable      |
| Workflow           | same as Storage  | 104                 |
| Hardcopy           | same as Storage  | Not Applicable      |

#### 4. 4. 1. 2 Remote AE Title/Presentation Address Mapping

The AE Titles, Station Names, IP Addresses, and Port numbers of remote applications are configured through the DICOM Store/Send, Printer, SR, and IHE GUI.

Some characters allowed for VR AE may not be used to represent the local and remote AE Titles as shown in the table below :

**Table 4. 4-2 FORBIDDEN CHARACTERS FOR AE TITLE**

|                                   |                     |
|-----------------------------------|---------------------|
| Forbidden characters for AE Title | ; : " < > * \   ? , |
|-----------------------------------|---------------------|

#### 4. 4. 1. 2. 1 Workflow

The Application Entity Title, Station Name, IP Address, and the Port Number of the remote Modality Worklist SCP are registered at the Worklist row of DICOM-Server GUI. Optionally the Application Entity Titles, Station Names, IP Addresses, and the Port numbers of remote MPPS server and Storage Commitment (Image Manager) should be registered in the IHE/Auto Delete GUI before each service is used.

Only one Storage Commitment server can be activated although the destinations of image storage and SR storage may be registered separately.

#### 4. 4. 1. 2. 2 Storage

The Application Entity Titles, Station Names, IP Addresses, and the Port Numbers of the remote Storage SCPs receiving images are registered at the Remote1 to Remote5 rows of DICOM-Server GUI. The Multiple storage destinations can be activated by pressing the "1" through "5" button in the GUI.

The Application Entity Titles, Station Names, IP Addresses, and the Port Numbers of the remote Storage SCPs receiving Structured Reports are registered at DICOM-SR GUI. The destinations of Structured Report storage may not be same as the destinations of image storage.

#### 4. 4. 1. 2. 3 Hardcopy

The Application Entity Titles, Station Names, IP Addresses, and the Port Numbers of the remote Hardcopy SCPs are registered in the DICOM Printer GUI. Although the Multiple Hardcopy destinations may be registered, only one destination must be activated by pressing the "1" through "5" button in the GUI. The same Application Entity may be registered to configure different Hardcopy settings for selections by the user's preference.

#### 4. 4. 2 Parameters

A large number of parameters related to acquisition and general operation can be configured using the DICOM configuration user interface. The Table below shows those configuration parameters relevant to DICOM communication.

**Table 4. 4-10 CONFIGURATION PARAMETERS TABLE**

| <b>Parameter</b>   | <b>Configurable<br/>(Yes/No)</b> | <b>Default Value</b>                                   |
|--|----------------------------------|--|
| <b>General Parameters</b>  |                                  |  |
| Max PDU Receive Size   | Yes : between<br>8K - 128K bytes | 28K bytes  |
| Max PDU Send Size<br>(larger PDUs will never be sent, even if the receiver supports a larger Max PDU Receive Size. If the receiver supports a smaller Max PDU Receive Size then the Max PDU Send Size will be reduced accordingly for the duration of the Association. Max PDU Receive Size information is exchanged during DICOM Association Negotiation in the Maximum Length Sub-Item of the A-ASSOCIATION-RQ and A-ASSOCIATE-AC) | No                               | 128K Bytes   |
| Time-out waiting for a acceptance or rejection response to an Association Request (Application Level Timeout)  | Yes                              | 30 s   |
| Time-out waiting for a response to an Association release request (Application Level Timeout)  | Yes                              | 30 s   |
| Time-out waiting for completion of a TCP/IP connect request (Low-level timeout)  | No                               | 20 s   |
| Time-out awaiting a Response to a DIMSE Request (Low-Level Timeout)  | Yes                              | 30 s   |
| Time-out for waiting for data between TCP/IP-packets (Low Level Timeout)   | Yes                              | 30 s   |
| <b>Modality Worklist Parameters</b>  |                                  |  |
| Modality Worklist SCU time-out waiting for the final response to a C-FIND-RQ   | Yes                              | 30 s   |
| Maximum number of Worklist Items   | No                               | 500  |
| Supported Transfer Syntaxes for Modality Worklist  | Yes                              | Implicit VR Little Endian<br>Explicit VR Little Endian |
| Query Worklist for specific Scheduled Station AE Title   | Yes                              | No default   |
| Query Worklist for specific Modality Value   | No                               | US   |
| <b>MPPS Parameters</b>   |                                  |  |
| MPPS SCU time-out waiting for a response to a N-CREATE-RQ  | Yes                              | 30 s   |
| MPPS SCU time-out waiting for a response to a N-SET-RQ   | Yes                              | 30 s   |
| Supported Transfer Syntaxes for MPPS   | Yes                              | Implicit VR Little Endian<br>Explicit VR Little Endian |
| <b>Storage Commitment Parameters</b>   |                                  |  |
| Timeout waiting for a Storage Commitment Notification (maximum duration of applicability for a Storage Commitment Transaction UID) .   | Yes                              | 1 hours  |
| Maximum number of simultaneously accepted Associations   | No                               | 1  |

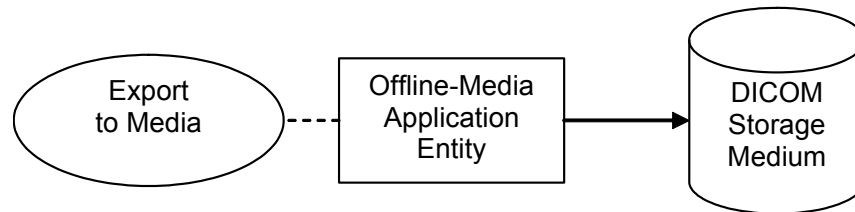
| Parameter   | Configurable<br>(Yes/No) | Default Value   |
|---|--------------------------|---|
| by the Storage AE   |                          |   |
| Delay association release after sending a Storage Commitment Request (wait for a Storage Commitment Notification over the same association) . | No                       | 5 s   |
| <b>Storage Parameters</b>   |                          |   |
| Storage SCU time-out waiting for a response to a C-STORE-RQ   | Yes                      | 30 s  |
| Maximum number of simultaneously initiated Associations by the Storage AE   | Yes                      | 1   |
| Supported Transfer Syntaxes<br>(separately configurable for each Presentation Context)  | Yes                      | Implicit VR Little Endian<br>Explicit VR Little Endian<br>RLE Lossless <sup>1</sup><br>JPEG Baseline <sup>1</sup> |
| <b>Print Parameters</b>   |                          |   |
| Print SCU time-out waiting for a response to a N-CREATE-RQ  | Yes                      | 30 s  |
| Print SCU time-out waiting for a response to a N-SET-RQ   | Yes                      | 30 s  |
| Print SCU time-out waiting for a response to a N-ACTION-RQ  | Yes                      | 30 s  |
| Supported Transfer Syntaxes   | Yes                      | Implicit VR Little Endian<br>Explicit VR Little Endian  |

Note : 1. RLE or JPEG is not used for Structured Report storage.

## 5 MEDIA INTERCHANGE

### 5.1 IMPLEMENTATION MODEL

#### 5.1.1 Application Data Flow



**Figure 5. 1-1 APPLICATION DATA FLOW DIAGRAM FOR MEDIA STORAGE**

- The Offline-Media Application Entity exports Ultrasound and Ultrasound Multi-frame images, and Structured Reports to some kinds of media. It is associated with the local real-world activity "STORE" button or "DICOM" button.

#### 5.1.2 Functional Definition of AEs

##### 5.1.2.1 Functional Definition of Offline-Media Application Entity

The Media Application Entity can be requested in two modes. After the patient identification is supplied by the operator, pressing the "STORE" button will directly pass an image to the Offline-Media Application Entity. Or when it is configured to store the image in the local drive, the image is buffered in the drive for later reference. By pressing the "DICOM" button in the "REVIEW" GUI, the images selected by the operator will be sent to the Offline-Media Application Entity. "CD-R" button will export the images to the CD-R media from CD-R Buffer.

#### 5.1.3 Sequencing of Real-World Activities

At least one object instance must exist and be selected before the Offline-Media Application Entity can be invoked. The operator can insert DVD-RAM, a new CD-R media, or a USB storage device at any time before or after invocation of the Offline-Media Application Entity. The Offline-Media Application Entity will wait indefinitely for a media to be inserted before starting to write to the CD-R device. If no CD-R media is available the export job can be canceled from the job queue.

#### 5.1.4 File Meta Information Options

The implementation information written to the File Meta Header in each file is :

**Table 5. 1-1 DICOM IMPLEMENTATION CLASS AND VERSION FOR MEDIA STORAGE**

|                          |                        |
|--------------------------|------------------------|
| Implementation Class UID | 1. 2. 392. 200039. 110 |
|--------------------------|------------------------|

|                             |   |
|-----------------------------|---|
| Implementation Version Name | ALOKA20120525<br>(subject to change without notice) |
|-----------------------------|---|

## 5.2 AE SPECIFICATIONS

### 5.2.1 Offline-Media Application Entity Specification

The Offline-Media Application Entity provides standard conformance to the DICOM Interchange Option of the Media Storage Service Class. The Application Profiles and roles are listed below :

**Table 5. 2-1 APPLICATION PROFILES AND ROLES FOR OFFLINE-MEDIA**

| Application Profiles Supported | Single Frame                                  | Multi-Frame                                   | Role |
|--------------------------------|---|---|------|
| Image Display                  | STD-US-ID-SF-<br>CDR/DVD-RAM/USB <sup>1</sup> | STD-US-ID-MF-<br>CDR/DVD-RAM/USB <sup>1</sup> | FSC  |
| Spatial Calibration            | STD-US-SC-SF-<br>CDR/DVD-RAM/USB <sup>1</sup> | STD-US-SC-MF-<br>CDR/DVD-RAM/USB <sup>1</sup> |      |
| Combined Calibration           | STD-US-CC-SF-<br>CDR/DVD-RAM/USB <sup>1</sup> | STD-US-CC-MF-<br>CDR/DVD-RAM/USB <sup>1</sup> |      |

Note : 1. USB is an extended media sub class.

#### 5.2.1.1 File Meta Information for the Application Entity

The Source Application Entity Title included in the File Meta Header is same that of local Storage AET.

#### 5.2.1.2 Real-World Activities

##### 5.2.1.2.1 Activity – Export to Media

The Offline-Media Application Entity acts as an FSC using the interchange option when requested to export SOP Instances from the local database to a DVD-RAM or CD-R media.

Object Instances can be added to a DVD-RAM medium and if it reaches full, the user will be prompted to replace to an empty medium. The DICOMDIR will be updated each time an object instance is successfully written to it.

When the object instance is exported to CD-R, the user will be prompted to insert an empty CD-R for each export. The contents of the export job will be written together with a corresponding DICOMDIR to a single-session CD-R. Writing in multi-session mode is not supported.

##### 5.2.1.2.1.1 Media Storage Application Profiles

The supported Offline-Media Application Profiles are listed in Table 5. 2-1.

##### 5.2.1.2.1.1.1 Options

The Offline-Media Application Entity supports the SOP Classes and Transfer Syntaxes listed in the Table below :

**Table 5. 2-2 IODS, SOP CLASSES AND TRANSFER SYNTAXES FOR OFFLINE MEDIA**

| <b>Information Object Definition</b> | <b>SOP Class UID</b>                    | <b>Transfer Syntax</b>  | <b>Transfer Syntax UID</b>  |
|--------------------------------------|---|---|---|
| Media Storage Directory Storage      | 1. 2. 840. 10008. 1. 3. 10              | Explicit VR Little Endian   | 1. 2. 840. 10008. 1. 2. 1   |
| Ultrasound Image Storage             | 1. 2. 840. 10008. 5. 1. 4. 1. 1. 6. 1   | Explicit VR Little Endian<br>Implicit VR Little Endian<br>JPEG Baseline Compression<br>RLE Lossless Compression | 1. 2. 840. 10008. 1. 2. 1<br>1. 2. 840. 10008. 1. 2. 4. 50<br>1. 2. 840. 10008. 1. 2. 5 |
| Ultrasound Multi-frame Image Storage | 1. 2. 840. 10008. 5. 1. 4. 1. 1. 3. 1   | Explicit VR Little Endian<br>Implicit VR Little Endian<br>JPEG Baseline Compression<br>RLE Lossless Compression | 1. 2. 840. 10008. 1. 2. 1<br>1. 2. 840. 10008. 1. 2. 4. 50<br>1. 2. 840. 10008. 1. 2. 5 |
| Ultrasound Line Data Storage         | 1. 2. 392. 200039. 110. 9. 2            | Explicit VR Little Endian   | 1. 2. 840. 10008. 1. 2. 1   |
| Comprehensive SR                     | 1. 2. 840. 10008. 5. 1. 4. 1. 1. 88. 33 | Explicit VR Little Endian   | 1. 2. 840. 10008. 1. 2. 1   |

### 5. 3 AUGMENTED AND PRIVATE APPLICATION PROFILES

This product may create Ultrasound Line Data Storage objects of Private SOP Class according to operator's instruction. The IODs in Table 5. 2-2 may be written to the USB storage devices.

### 5. 4 MEDIA CONFIGURATION

The Application Entity Title for Media Services is same that is configured for Storage Service :

**Table 5. 4-1 AE TITLE CONFIGURATION TABLE**

| <b>Application Entity</b> | <b>Default AE Title</b> |
|---------------------------|-------------------------|
| Offline-Media             | No default              |

## **6 SUPPORT OF CHARACTER SETS**

All DICOM applications of this product support the

ISO\_IR 100 (ISO 8859-1 : 1987 Latin Alphabet No. 1 supplementary set)



## 7 SECURITY

The product supports a limited security measures described below. It is still assumed that it is used within a secured environment.

- a. The software system can optionally be protected against the malware, such as worms, viruses, Trojans and buffer-overflow threats.
- b. Most TCP packets to ports other than the standard DICOM 104 are normally blocked.
- c. It is recommended that any communication with external hosts and services outside the locally secured environment use appropriate secure network channels (e. g. such as a Virtual Private Network (VPN) )

Other network security procedures such as automated intrusion detection may be appropriate in some environments. Additional security features may be established by the local security policy and are beyond the scope of this conformance statement.

## 8 ANNEXES

### 8.1 IOD CONTENTS

#### 8.1.1 Created SOP Instances

Table 8. 1-1 specifies the attributes of an Ultrasound and Ultrasound Multi-frame Image transmitted by the storage application of this product.

Table 8. 1-2 specifies the attributes of an Ultrasound Line Data transmitted by the storage application of this product.

Table 8. 1-3 specifies the attributes of a Structured Report transmitted by the storage application of this product.

The following tables use a number of abbreviations. The abbreviations used in the “Presence of ...” column are :

|        |  |
|--------|--|
| ALWAYS | Always Present   |
| ANAP   | Attribute Not Always Present   |
| VNAP   | Value Not Always Present (attribute sent zero length if no value is present) |
| EMPTY  | Attribute is sent without a value  |

The abbreviations used in the “Source” column :

|        |   |
|--------|---|
| MWL    | the attribute value source Modality Worklist                                      |
| USER   | the attribute value source is from User input                                     |
| AUTO   | the attribute value is generated automatically                                    |
| MPPS   | the attribute value is the same as that use for Modality Performed Procedure Step |
| CONFIG | the attribute value source is a configurable parameter                            |

Attributes in *Italic* are additions to the Standard Information Entity Modules.

#### 8.1.1.1 Ultrasound and Ultrasound Multi-frame Image IODs

**Table 8. 1-1 IOD OF ULTRASOUND AND ULTRASOUND MULTI-FRAME IMAGE SOP INSTANCES**

| IE      | Module                 | Reference    | Presence of Module |          |
|---------|------------------------|--------------|--------------------|----------|
|         |                        |              | US                 | US-mf    |
| Patient | Patient                | Table 8. 1-4 | ALWAYS             | ALWAYS   |
|         | Clinical Trial Subject | -            | Not used           | Not used |
| Study   | General Study          | Table 8. 1-5 | ALWAYS             | ALWAYS   |
|         | Patient Study          | Table 8. 1-6 | ALWAYS             | ALWAYS   |
|         | Clinical Trial Study   | -            | Not used           | Not used |
| Series  | General Series         | Table 8. 1-7 | ALWAYS             | ALWAYS   |

|                    |                            |               |  |  |
|--------------------|----------------------------|---------------|--|--|
|                    | Clinical Trial Series      | -             | Not used                                       | Not used                                       |
| Frame of Reference | Frame of Reference         | -             | Not used                                       | Not used                                       |
|                    | Synchronization            | -             | Not used                                       | Not used                                       |
| Equipment          | General Equipment          | Table 8. 1-8  | ALWAYS   | ALWAYS   |
| Image              | General Image              | Table 8. 1-9  | ALWAYS   | ALWAYS   |
|                    | Contrast/bolus             | Table 8. 1-10 | ANAP   | ANAP   |
|                    | Cine                       | Table 8. 1-11 | Not used                                       | ALWAYS   |
|                    | Frame Pointers             | Table 8. 1-12 | Not used                                       | ALWAYS   |
|                    | Multi-Frame                | Table 8. 1-13 | Not used                                       | ALWAYS   |
|                    | US Region Calibration      | Table 8. 1-18 | ANAP   | ANAP   |
|                    | US Image                   | Table 8. 1-19 | ALWAYS   | ALWAYS   |
|                    | Palette Color Lookup Table | Table 8. 1-14 | Only if (0028, 0004) equals to "PALETTE COLOR" | Only if (0028, 0004) equals to "PALETTE COLOR" |
|                    | Image Pixel                | Table 8. 1-15 | ALWAYS   | ALWAYS   |
|                    | Overlay Plane              | -             | Not used                                       | Not used                                       |
|                    | VOI LUT                    | Table 8. 1-16 | Only if (0028, 0004) equals to "MONOCHROME2"   | Only if (0028, 0004) equals to "MONOCHROME2"   |
|                    | SOP Common                 | Table 8. 1-17 | ALWAYS   | ALWAYS   |

### 8. 1. 1. 2 Ultrasound Line Data IOD

**Table 8. 1-2 IOD OF CREATED ULTRASOUND LINE DATA STORAGE SOP INSTANCES**

| IE        | Module                     | Reference           | Presence of Module |
|-----------|----------------------------|---------------------|--------------------|
| Patient   | Patient                    | Table 8. 1-4        | ALWAYS             |
| Study     | General Study              | Table 8. 1-5        | ALWAYS             |
|           | Patient Study              | Table 8. 1-6        | ALWAYS             |
| Series    | General Series             | Table 8. 1-7        | ALWAYS             |
| Equipment | General Equipment          | Table 8. 1-8        | ALWAYS             |
| Image     | General Image              | Table 8. 1-9        | ALWAYS             |
|           | Cine                       | Table 8. 1-11       | ALWAYS             |
|           | Frame Pointers             | Table 8. 1-12       | ALWAYS             |
|           | Multi-Frame                | Table 8. 1-13       | ALWAYS             |
|           | US Region Calibration      | Table 8. 1-18       | ANAP               |
|           | US Image                   | Table 8. 1-19       | ALWAYS             |
|           | Palette Color Lookup Table | Table 8. 1-14       | ALWAYS             |
|           | Image Pixel                | Table 8. 1-15       | ANAP               |
|           | <i>Private Application</i> | <i>Table 8. 2-1</i> | <i>ALWAYS</i>      |
|           |                            | SOP Common          | Table 8. 1-17      |

## 8. 1. 1. 3 Comprehensive SR IOD

Table 8. 1-3 IOD OF CREATED COMPREHENSIVE SR SOP INSTANCES

| IE                 | Module                  | Reference     | Presence of Module |
|--------------------|-------------------------|---------------|--------------------|
| Patient            | Patient                 | Table 8. 1-4  | ALWAYS             |
|                    | Specimen Identification | -             | Not used           |
|                    | Clinical Trial Subject  | -             | Not used           |
| Study              | General Study           | Table 8. 1-5  | ALWAYS             |
|                    | Patient Study           | Table 8. 1-6  | ALWAYS             |
|                    | Clinical Trial Study    | -             | Not used           |
| Series             | SR Document Series      | Table 8. 1-20 | ALWAYS             |
|                    | Clinical Trial Series   | -             | Not used           |
| Frame of Reference | Frame of Reference      | -             | Not used           |
|                    | Synchronization         | -             | Not used           |
| Equipment          | General Equipment       | Table 8. 1-8  | ALWAYS             |
| Document           | SR Document General     | Table 8. 1-21 | ALWAYS             |
|                    | SR Document Content     | Table 8. 1-22 | ALWAYS             |
|                    | SOP Common              | Table 8. 1-17 | ALWAYS             |

## 8. 1. 1. 4 Common Modules

Table 8. 1-4 PATIENT MODULE OF CREATED SOP INSTANCES

| Tag          | VR | Attribute Name       | Value   | Presence of Value | Source       |
|--------------|----|----------------------|---|-------------------|--------------|
| (0010, 0010) | PN | Patient's Name       | From Modality Worklist or input by user. Values supplied via Modality Worklist will be entered as received. Values supplied via user input will contain all 5 components (some possibly empty) . Maximum 64 characters. | VNAP              | MWL/<br>USER |
| (0010, 0020) | LO | Patient ID           | From Modality Worklist or input by user. Maximum 64 characters.   | ALWAYS            | MWL/<br>USER |
| (0010, 0030) | DA | Patient's Birth Date | From Modality Worklist or input by user   | VNAP              | MWL/<br>USER |
| (0010, 0040) | CS | Patient's Sex        | From Modality Worklist or input by user   | VNAP              | MWL/<br>USER |

Table 8. 1-5 GENERAL STUDY MODULE OF CREATED SOP INSTANCES

| Tag          | VR | Attribute Name   | Value                                   | Presence of Value | Source       |
|--------------|----|------------------|---|-------------------|--------------|
| (0008, 0020) | DA | Study Date       | "yyyymmdd"                              | ALWAYS            | AUTO         |
| (0008, 0030) | TM | Study Time       | "hhmmss"                                | ALWAYS            | AUTO         |
| (0008, 0050) | SH | Accession Number | From Modality Worklist or input by user | VNAP              | MWL/<br>USER |

|                                 |    |  |  |                         |                       |
|---------------------------------|----|--|--|-------------------------|-----------------------|
| (0008, 0090)                    | PN | Referring Physician's Name             | From Modality Worklist or Input by user  | VNAP                    | MWL/<br>USER          |
| (0008, 1030)                    | LO | Study Description                      | User input : Comment text box in study list. Maximum 64 bytes.<br><br>From Modality Worklist : Get from (0032, 1060) Requested Procedure Description (0040, 0007) or Scheduled Procedure Step Description. (This function works only when the setting is turned on in "ID Option". ) | ANAP                    | USER/<br>MWL          |
| (0008, 1032)                    | SQ | Procedure Code Sequence                | From Modality Worklist, mapped from Requested Procedure Code Sequence (0032, 1064)   | ANAP <sup>1</sup>       | MWL                   |
| > Include "Code Sequence Macro" |    |  |  |                         |                       |
| (0008, 1110)                    | SQ | Referenced Study Sequence              | From Modality Worklist   | ANAP <sup>1</sup>       | MWL                   |
| > (0008, 1150)                  | UI | Referenced SOP Class UID               | From Modality Worklist   | VNAP                    | MWL                   |
| > (0008, 1155)                  | UI | Referenced SOP Instance UID            | From Modality Worklist   | VNAP                    | MWL                   |
| (0008, 1060)                    | PN | Name of Physician (s) reading Study.   | Entered as "Reporting Phys" in the New Patient Registration  | ANAP <sup>1</sup>       | USER                  |
| (0020, 000D)                    | UI | Study Instance UID                     | From Modality Worklist or generated by device  | ALWAYS                  | MWL/<br>AUTO          |
| (0020, 0010)                    | SH | Study ID                               | Copied from Requested Procedure ID (0040, 1001) in Worklist or generated by device. User may modify the value.   | ALWAYS                  | MWL/<br>AUTO/<br>USER |
| (0032, 1060)                    | LO | <i>Requested Procedure Description</i> | <i>From Modality Worklist</i>  | <i>VNAP<sup>1</sup></i> | <i>MWL</i>            |

Note : 1. Attribute Not Present in Structured Report.

**Table 8. 1-6 PATIENT STUDY MODULE OF CREATED SOP INSTANCES**

| Tag          | VR | Attribute Name   | Value  | Presence of Value | Source       |
|--------------|----|------------------|--|-------------------|--------------|
| (0010, 1010) | AS | Patient's Age    | Calculated from DoB input on base of actual Date | ANAP              | AUTO         |
| (0010, 1020) | DS | Patient's Size   | From Modality Worklist or user input             | ANAP              | MWL/<br>USER |
| (0010, 1030) | DS | Patient's Weight | From Modality Worklist or user input             | ANAP              | MWL/<br>USER |

|              |    |                     |                                      |                   |              |
|--------------|----|---------------------|--------------------------------------|-------------------|--------------|
| (0010, 2000) | LO | Medical Alerts      | From Modality Worklist               | VNAP <sup>1</sup> | MWL          |
| (0010, 2110) | LO | Contrast Allergies  | From Modality Worklist               | VNAP <sup>1</sup> | MWL          |
| (0010, 2180) | SH | Occupation          | From Modality Worklist or User input | ANAP              | MWL/<br>USER |
| (0010, 21D0) | DA | Last Menstrual Date | From Modality Worklist or User input | ANAP <sup>1</sup> | MWL/<br>USER |
| (0038, 0050) | LO | Special Needs       | From Modality Worklist               | VNAP <sup>1</sup> | MWL          |

Note : 1. Attribute Not Present in Structured Report.

**Table 8. 1-7 GENERAL SERIES MODULE OF CREATED SOP INSTANCES**

| Tag            | VR | Attribute Name                               | Value  | Presence of Value | Source       |
|----------------|----|--|--|-------------------|--------------|
| (0008, 0021)   | DA | Series Date                                  | "yyyymmdd"<br>(updated if re-acquired from DICOM file)   | ALWAYS            | AUTO         |
| (0008, 0031)   | TM | Series Time                                  | "hhmmss"<br>(updated if re-acquired from DICOM file)   | ALWAYS            | AUTO         |
| (0008, 0060)   | CS | Modality                                     | "US"   | ALWAYS            | AUTO         |
| (0008, 103E)   | LO | Series Description                           | User input : Maximum 64 bytes.<br><br>From Modality Worklist :<br>Get from (0040, 0007) Scheduled Procedure Step Description or (0032, 1060) Requested Procedure Description.<br>(This function works only when the setting is turned on in "ID Option". ) | ANAP              | USER/<br>MWL |
| (0008, 1070)   | PN | Operator's Name                              | Operator field in Study list.<br>Maximum 64 characters.  | ANAP              | USER         |
| (0008, 1111)   | SQ | Referenced Performed Procedure Step Sequence | Identifies the MPPS SOP Instance to which this image is related<br>(absent if re-acquired from DICOM file)   | ANAP              | MPPS         |
| > (0008, 1150) | UI | Referenced SOP Class UID                     | MPPS SOP Class UID   | ALWAYS            | MPPS         |
| > (0008, 1155) | UI | Referenced SOP Instance UID                  | MPPS SOP Instance UID  | ALWAYS            | MPPS         |
| (0018, 0015)   | CS | Body Part Examined                           | Set by user from a pick list   | ANAP              | USER         |
| (0018, 1030)   | LO | Protocol Name                                | Application type selected by user  | ALWAYS            | AUTO         |
| (0020, 000E)   | UI | Series Instance UID                          | Generated by device<br>(updated if re-acquired from DICOM file)  | ALWAYS            | AUTO         |

|                                   |    |                                      |  |             |              |
|-----------------------------------|----|--------------------------------------|--|-------------|--------------|
| (0020, 0011)                      | IS | Series Number                        | Generated by device  | ALWAYS      | AUTO         |
| (0020, 0060)                      | CS | Laterality                           | Set by user from a pick list   | ANAP        | USER         |
| (0032, 1032)                      | PN | <i>Requesting Physician</i>          | <i>From Modality Worklist</i>  | <i>VNAP</i> | <i>MWL</i>   |
| (0040, 0244)                      | DA | Performed Procedure Step Start Date  | Same as Series Date (0008, 0021)<br>(absent if re-acquired from DICOM file)  | ALWAYS      | MPPS         |
| (0040, 0245)                      | TM | Performed Procedure Step Start Time  | Same as Series Time (0008, 0031)<br>(absent if re-acquired from DICOM file)  | ALWAYS      | MPPS         |
| (0040, 0253)                      | SH | Performed Procedure Step ID          | Sequence Number<br>(absent if re-acquired from DICOM file)   | ALWAYS      | AUTO         |
| (0040, 0254)                      | LO | Performed Procedure Step Description | Input by user Same as MPPS. From user input. Maximum 64 characters.<br>(absent if re-acquired from DICOM file)     | ANAP        | USER         |
| (0040, 0260)                      | SQ | Performed Protocol Code Sequence     | Derived from Scheduled Protocol Code Sequence. May be modified by user.<br>(absent if re-acquired from DICOM file) | ANAP        | AUTO<br>USER |
| > Include "Code Sequence Macro"   |    |                                      |  |             |              |
| (0040, 0275)                      | SQ | Request Attributes Sequence          | Zero or 1 item will be present   | ANAP        | AUTO         |
| > (0032, 1060)                    | LO | Requested Procedure Description      | From Modality Worklist   | ANAP        | MWL          |
| > (0040, 0007)                    | LO | Scheduled Procedure Step Description | From Modality Worklist   | ANAP        | MWL          |
| > (0040, 0008)                    | SQ | Scheduled Protocol Code Sequence     | From Modality Worklist   | ANAP        | MWL          |
| > > Include "Code Sequence Macro" |    |                                      |  |             |              |
| > (0040, 0009)                    | SH | Scheduled Procedure Step ID          | From Modality Worklist   | VNAP        | MWL          |
| > (0040, 1001)                    | SH | Requested Procedure ID               | From Modality Worklist or Input by user.   | VNAP        | MWL/<br>USER |

**Table 8. 1-8 GENERAL EQUIPMENT MODULE OF CREATED SOP INSTANCES**

| Tag          | VR | Attribute Name                | Value                       | Presence of Value | Source |
|--------------|----|-------------------------------|-----------------------------|-------------------|--------|
| (0008, 0070) | LO | Manufacturer                  | Hitachi Aloka Medical, Ltd. | ALWAYS            | AUTO   |
| (0008, 0080) | LO | Institution Name              | From Configuration          | VNAP              | CONFIG |
| (0008, 0081) | ST | Institution Address           | From Configuration          | ANAP              | CONFIG |
| (0008, 1010) | SH | Station Name                  | From Configuration          | ALWAYS            | CONFIG |
| (0008, 1040) | LO | Institutional Department Name | From Configuration          | ANAP              | CONFIG |
| (0008, 1090) | LO | Manufacturer's Model Name     | F37                         | ALWAYS            | AUTO   |
| (0018, 1000) | LO | Device Serial Number          | Built-in                    | ANAP              | AUTO   |
| (0018, 1020) | LO | Software Version (s)          | Built-in                    | ALWAYS            | AUTO   |

**Table 8. 1-9 GENERAL IMAGE MODULE OF CREATED SOP INSTANCES**

| Tag          | VR | Attribute Name          | Value   | Presence of Value | Source |
|--------------|----|-------------------------|---|-------------------|--------|
| (0008, 0008) | CS | Image Type              | ORIGINAL or DERIVED for value 1, PRIMARY or SECONDARY for value 2. See Table 8. 1-19 for value 3 and 4. | ALWAYS            | AUTO   |
| (0008, 0023) | DA | Content Date            | "yyyymmdd"  | ALWAYS            | AUTO   |
| (0008, 0033) | TM | Content Time            | "hhmmss"  | ALWAYS            | AUTO   |
| (0020, 0013) | IS | Instance Number         | Generated by device   | ALWAYS            | AUTO   |
| (0020, 0020) | CS | Patient Orientation     | From Pull Down Menu or Input by user.   | ANAP              | USER   |
| (0028, 2110) | CS | Lossy Image Compression | Generated by device   | ANAP              | AUTO   |
| (0088, 0200) | SQ | Icon Image Sequence     | If Private US Line Data Storage IOD Instance.   | ANAP              | AUTO   |

**Table 8. 1-10 CONTRAST/BOLUS MODULE OF CREATED SOP INSTANCES**

| Tag          | VR | Attribute Name            | Value                     | Presence of Value | Source       |
|--------------|----|---------------------------|---------------------------|-------------------|--------------|
| (0018, 0010) | LO | Contrast/Bolus Agent      | From MWL or Input by user | ANAP              | MWL/<br>USER |
| (0018, 1040) | LO | Contrast/Bolus Route      | May be input by user      | ANAP              | USER         |
| (0018, 1041) | DS | Contrast/Bolus Volume     | May be input by user      | ANAP              | USER         |
| (0018, 1042) | TM | Contrast/Bolus Start Time | Generated by device       | ANAP              | AUTO         |
| (0018, 1043) | TM | Contrast/Bolus Stop Time  | Generated by device       | ANAP              | AUTO         |
| (0018, 1044) | DS | Contrast/Bolus Total Dose | May be input by user      | ANAP              | USER         |



**Table 8. 1-11 CINE MODULE OF CREATED SOP INSTANCES**

| Tag          | VR | Attribute Name                 | Value  | Presence of Value | Source |
|--------------|----|--------------------------------|--|-------------------|--------|
| (0008, 2142) | IS | Start Trim                     | recommended loop start frame number  | ALWAYS            | AUTO   |
| (0008, 2143) | IS | Stop Trim                      | recommended loop stop frame number   | ALWAYS            | AUTO   |
| (0008, 2144) | IS | Recommended Display Frame Rate | frames per second [fps]  | ALWAYS            | AUTO   |
| (0018, 0040) | IS | Cine Rate                      | frames per second [fps]<br>(may change if re-acquired from DICOM file)                               | ALWAYS            | AUTO   |
| (0018, 0072) | DS | Effective Duration             | 0  | ALWAYS            | AUTO   |
| (0018, 1063) | DS | Frame Time                     | If Frame Increment Pointer (0028, 0009) is Frame Time<br>(may change if re-acquired from DICOM file) | ANAP              | AUTO   |
| (0018, 1065) | DS | Frame Time Vector              | If Frame Increment Pointer (0028, 0009) is Frame Time Vector   | ANAP              | AUTO   |
| (0018, 1066) | DS | Frame Delay                    | 0  | ALWAYS            | AUTO   |
| (0018, 1242) | IS | Actual Frame Duration          | (may change if re-acquired from DICOM file)  | ALWAYS            | AUTO   |
| (0018, 1244) | US | Preferred Playback Sequence    | 0=Loop   | ALWAYS            | AUTO   |
| (0028, 6040) | US | R Wave Pointer                 |  | ANAP              | AUTO   |

**Table 8. 1-12 FRAME POINTERS MODULE OF CREATED SOP INSTANCES**

| Tag          | VR | Attribute Name              | Value   | Presence of Value | Source |
|--------------|----|-----------------------------|---|-------------------|--------|
| (0028, 6010) | US | Representative Frame Number | May be used in multi-frame image<br>(may change if re-acquired from DICOM file) | ANAP              | AUTO   |

**Table 8. 1-13 MULTI-FRAME MODULE OF CREATED SOP INSTANCES**

| Tag          | VR | Attribute Name          | Value                        | Presence of Value | Source |
|--------------|----|-------------------------|------------------------------|-------------------|--------|
| (0028, 0008) | IS | Number of Frames        |                              | ALWAYS            | AUTO   |
| (0028, 0009) | AT | Frame Increment Pointer | (0018, 1063) or (0018, 1065) | ALWAYS            | AUTO   |

**Table 8. 1-14 PALETTE COLOR LOOKUP TABLE MODULE OF CREATED SOP INSTANCES**

| Tag          | VR | Attribute Name                                  | Value  | Presence of Value | Source |
|--------------|----|---|--|-------------------|--------|
| (0028, 1101) | US | Red Palette Color Lookup Table Descriptor       | Only if (0028, 0004) equals to "PALETTE COLOR" | ANAP              | AUTO   |
| (0028, 1102) | US | Green Palette Color Lookup Table Descriptor     | Only if (0028, 0004) equals to "PALETTE COLOR" | ANAP              | AUTO   |
| (0028, 1103) | US | Blue Palette Color Lookup Table Descriptor      | Only if (0028, 0004) equals to "PALETTE COLOR" | ANAP              | AUTO   |
| (0028, 1199) | UI | Palette Color Lookup Table UID                  | Only if (0028, 0004) equals to "PALETTE COLOR" | ANAP              | AUTO   |
| (0028, 1221) | OW | Segmented Red Palette Color Lookup Table Data   | Only if (0028, 0004) equals to "PALETTE COLOR" | ANAP              | AUTO   |
| (0028, 1222) | OW | Segmented Green Palette Color Lookup Table Data | Only if (0028, 0004) equals to "PALETTE COLOR" | ANAP              | AUTO   |
| (0028, 1223) | OW | Segmented Blue Palette Color Lookup Table Data  | Only if (0028, 0004) equals to "PALETTE COLOR" | ANAP              | AUTO   |

**Table 8. 1-15 IMAGE PIXEL MODULE OF CREATED SOP INSTANCES**

| Tag          | VR | Attribute Name             | Value   | Presence of Value | Source          |
|--------------|----|----------------------------|---|-------------------|-----------------|
| (0028, 0002) | US | Samples per Pixel          | 1=PALETTE COLOR,<br>MONOCHROME2,<br>3=RGB, YBR_FULL_422   | ALWAYS            | AUTO            |
| (0028, 0004) | CS | Photometric Interpretation | "PALETTE COLOR", "RGB",<br>"YBR_FULL_422",<br>"MONOCHROME2"<br>(MONOCHROME2 is not applicable to media storage. )   | ALWAYS            | AUTO/<br>CONFIG |
| (0028, 0006) | US | Planar Configuration       | 0=color-by-pixel for<br>YBR_FULL_422, RGB<br>1=color-by-plane for RGB<br>(0=color-by-pixel for RGB is not applicable to compression transfer syntax or media storage. ) | ANAP              | AUTO/<br>CONFIG |
| (0028, 0010) | US | Rows                       | 600   | ALWAYS            | AUTO            |
| (0028, 0011) | US | Columns                    | 800   | ALWAYS            | AUTO            |
| (0028, 0100) | US | Bits Allocated             | 8 for RGB,<br>YBR_FULL_422,<br>MONOCHROME2,<br>16 for PALETTE COLOR   | ALWAYS            | AUTO            |
| (0028, 0101) | US | Bits Stored                | 8 for RGB,<br>YBR_FULL_422,<br>MONOCHROME2,<br>16 for PALETTE COLOR   | ALWAYS            | AUTO            |
| (0028, 0102) | US | High Bits                  | 7 for RGB,  | ALWAYS            | AUTO            |

|              |           |                      |  |        |      |
|--------------|-----------|----------------------|--|--------|------|
|              |           |                      | YBR_FULL_422,<br>MONOCHROME2,<br>15 for PALETTE COLOR  |        |      |
| (0028, 0103) | US        | Pixel Representation | 0  | ALWAYS | AUTO |
| (7FE0, 0010) | OW<br>/OB | Pixel Data           | The Pixel Data contains<br>burned-in annotation<br>(Patient ID, Patient's Name,<br>Scale Mark etc. ) | ALWAYS | AUTO |

**Table 8. 1-16 VOI LUT MODULE OF CREATED SOP INSTANCES**

| Tag            | VR | Attribute Name   | Value       | Presence of Value | Source |
|----------------|----|------------------|-------------|-------------------|--------|
| (0028, 3010)   | SQ | VOI LUT Sequence | One item    | ANAP              | AUTO   |
| > (0028, 3002) | US | LUT Descriptor   | <256, 0, 8> | ALWAYS            | AUTO   |
| > (0028, 3006) | US | LUT Data         | LUT         | ALWAYS            | AUTO   |
| (0028, 1050)   | DS | Window Center    | 0-255       | ANAP              | USER   |
| (0028, 1051)   | DS | Window Width     | 1-256       | ANAP              | USER   |

**Table 8. 1-17 SOP COMMON MODULE OF CREATED SOP INSTANCES**

| Tag          | VR | Attribute Name                        | Value  | Presence of Value | Source       |
|--------------|----|---------------------------------------|--|-------------------|--------------|
| (0008, 0005) | CS | Specific Character Set                | From Modality Worklist or<br>ISO_IR 100  | ANAP              | MWL/<br>AUTO |
| (0008, 0012) | DA | Instance Creation Date                | Instance Date  | ANAP <sup>1</sup> | AUTO         |
| (0008, 0013) | TM | Instance Creation Time                | Instance Time  | ANAP <sup>1</sup> | AUTO         |
| (0008, 0014) | UI | Instance Creator UID                  | Built-in   | ANAP <sup>1</sup> | AUTO         |
| (0008, 0016) | UI | SOP Class UID                         | 1. 2. 840. 10008. 5. 1. 4. 1.<br>1. 6. 1<br>1. 2. 840. 10008. 5. 1. 4. 1.<br>1. 3. 1<br>1. 2. 840. 10008. 5. 1. 4. 1.<br>1. 88. 33 | ALWAYS            | AUTO         |
| (0008, 0018) | UI | SOP Instance UID                      | Generated by device<br>(updated if re-acquired from<br>DICOM file)   | ALWAYS            | AUTO         |
| (0008, 001B) | UI | Original Specialized SOP<br>Class UID | 1. 2. 840. 10008. 5. 1. 4. 1.<br>1. 88. 33<br><br>Only if SR is sent as<br>Enhanced SR, otherwise<br>attribute is not included.    | ANAP <sup>2</sup> | AUTO         |

Note : 1. Attribute Not Present in Structured Report.  
2. Attribute Not Present in image.

## 8. 1. 1. 5 Ultrasound Modules

Table 8. 1-18 US REGION CALIBRATION MODULE OF CREATED SOP INSTANCES

| Tag            | VR | Attribute Name                    | Value  | Presence of Value | Source |
|----------------|----|-----------------------------------|--|-------------------|--------|
| (0018, 6011)   | SQ | Sequence of Ultrasound Regions    | If Region Calibration is turned on<br>(attributes in item are updated if re-acquired from DICOM file ; may be absent if DICOM file from other product) | ANAP              | CONFIG |
| > (0018, 6012) | US | Region Spatial Format             | 0=none, 1=cross section, 2=M-mode, 3=spectral  | ALWAYS            | AUTO   |
| > (0018, 6014) | US | Region Data Type                  | 0=none, 1=tissue, 2=color flow velocity, 3=PW, 4=CW, D=Gray Scale, E=Color Scale   | ALWAYS            | AUTO   |
| > (0018, 6016) | UL | Region Flag                       | 1=transparent, 2=scale protected, 4=Doppler represented in frequency.  | ALWAYS            | AUTO   |
| > (0018, 6018) | UL | Region Location Min. x0           | X and Y coordinates of upper left corner of the region   | ALWAYS            | AUTO   |
| > (0018, 601A) | UL | Region Location Min. y0           |  | ALWAYS            | AUTO   |
| > (0018, 601C) | UL | Region Location Max. x1           | X and Y coordinates of lower right corner of the region  | ALWAYS            | AUTO   |
| > (0018, 601E) | UL | Region Location Max. y1           |  | ALWAYS            | AUTO   |
| > (0018, 6020) | SL | Referenced Pixel X0               | B : Transducer surface center, M : Transducer surface left, and D : Baseline left<br>(may be absent if re-acquired from DICOM file)                    | ANAP              | AUTO   |
| > (0018, 6022) | SL | Referenced Pixel Y0               |  | ANAP              | AUTO   |
| > (0018, 6024) | US | Physical Unit X Direction         | Physical units for X and Y directions  | ALWAYS            | AUTO   |
| > (0018, 6026) | US | Physical Unit Y Direction         |  | ALWAYS            | AUTO   |
| > (0018, 6028) | FD | Referenced Pixel Physical Value X | Reference pixel physical values in X and Y direction physical units, respectively<br>(may be absent if re-acquired from DICOM file)                    | ANAP              | AUTO   |
| > (0018, 602A) | FD | Referenced Pixel Physical Value Y |  | ANAP              | AUTO   |
| > (0018, 602C) | FD | Physical Delta X                  | Physical values in X and Y direction physical units, respectively  | ALWAYS            | AUTO   |
| > (0018, 602E) | FD | Physical Delta Y                  |  | ALWAYS            | AUTO   |
| > (0018, 6030) | UL | Transducer Frequency              | In [kHz]<br>(may be absent if re-acquired from DICOM file)   | ANAP              | AUTO   |
| > (0018, 6032) | UL | Pulse Repetition Frequency        | PRF in [kHz]<br>(may be absent if re-acquired from DICOM file)   | ANAP              | AUTO   |
| > (0018, 6034) | FD | Doppler Correction Angle          | Used if Doppler image [deg]<br>(may be absent if re-acquired   | ANAP              | AUTO   |

|                |    |                                    |  |      |      |
|----------------|----|------------------------------------|--|------|------|
|                |    |                                    | from DICOM file)   |      |      |
| > (0018, 6036) | FD | Steering Angle                     | Used if Color Flow image [deg]<br>(may be absent if re-acquired from DICOM file)                                   | ANAP | AUTO |
| > (0018, 6039) | SL | Doppler Sample Volume X Position   | Used in B-mode image, if PW Doppler region accompanies   | ANAP | AUTO |
| > (0018, 603B) | SL | Doppler Sample Volume Y Position   | (may be absent if re-acquired from DICOM file)   | ANAP | AUTO |
| > (0018, 603D) | SL | TM-Line Position X0                | Used in B-mode image, if M-mode or CW Doppler region accompanies<br>(may be absent if re-acquired from DICOM file) | ANAP | AUTO |
| > (0018, 603F) | SL | TM-Line Position Y0                |  | ANAP | AUTO |
| > (0018, 6041) | SL | TM-Line Position X1                |  | ANAP | AUTO |
| > (0018, 6043) | SL | TM-Line Position Y1                |  | ANAP | AUTO |
| > (0018, 6044) | US | Pixel Component Organization       | Only if Combined Calibration is requested and (0028, 0004) equals to "PALETTE COLOR".                              | ANAP | AUTO |
| > (0018, 6046) | UL | Pixel Component Mask               | Only if (0028, 0004) equals to "PALETTE COLOR".  | ANAP | AUTO |
| > (0018, 604C) | US | Pixel Component Physical Unit      | If (0018, 6044) is sent.   | ANAP | AUTO |
| > (0018, 604E) | US | Pixel Component Data Type          | If (0018, 6044) is sent.   | ANAP | AUTO |
| > (0018, 6050) | UL | Number of Table Break Points       | If (0018, 6044) is sent.   | ANAP | AUTO |
| > (0018, 6052) | UL | Table of X Break Points            | If (0018, 6044) is sent.   | ANAP | AUTO |
| > (0018, 6054) | FD | Table of Y Break Points            | If (0018, 6044) is sent.   | ANAP | AUTO |
| > (0019, 0010) | LO | <i>Private Identification Code</i> | ALOKA : 1. 2. 392. 200039. 110. 2<br><i>(private attributes are absent if re-acquired from DICOM file)</i>         | ANAP | AUTO |
| > (0019, 1008) | FD |                                    | <i>Private attribute without PHI</i>   | ANAP | AUTO |
| > (0019, 100C) | CS |                                    | <i>Private attribute without PHI</i>   | ANAP | AUTO |
| > (0019, 100E) | DS |                                    | <i>Private attribute without PHI</i>   | ANAP | AUTO |
| > (0019, 1018) | SL |                                    | <i>Private attribute without PHI</i>   | ANAP | AUTO |
| > (0019, 101A) | SL |                                    | <i>Private attribute without PHI</i>   | ANAP | AUTO |
| > (0019, 1040) | SS |                                    | <i>Private attribute without PHI</i>   | ANAP | AUTO |
| > (0019, 1046) | US |                                    | <i>Private attribute without PHI</i>   | ANAP | AUTO |
| > (0019, 1050) | SL |                                    | <i>Private attribute without PHI</i>   | ANAP | AUTO |
| > (0019, 1052) | DS |                                    | <i>Private attribute without PHI</i>   | ANAP | AUTO |
| > (0019, 1054) | DS |                                    | <i>Private attribute without PHI</i>   | ANAP | AUTO |
| > (0019, 1056) | FD |                                    | <i>Private attribute without PHI</i>   | ANAP | AUTO |
| > (0019, 1060) | US |                                    | <i>Private attribute without PHI</i>   | ANAP | AUTO |
| > (0019, 1061) | UL |                                    | <i>Private attribute without PHI</i>   | ANAP | AUTO |

|                |    |  |                               |      |      |
|----------------|----|--|-------------------------------|------|------|
| > (0019, 1062) | US |  | Private attribute without PHI | ANAP | AUTO |
| > (0019, 1064) | US |  | Private attribute without PHI | ANAP | AUTO |
| > (0019, 1066) | US |  | Private attribute without PHI | ANAP | AUTO |
| > (0019, 106C) | FD |  | Private attribute without PHI | ANAP | AUTO |
| > (0019, 106E) | FD |  | Private attribute without PHI | ANAP | AUTO |

**Table 8. 1-19 US IMAGE MODULE OF CREATED SOP INSTANCES**

| Tag          | VR | Attribute Name              | Value   | Presence of Value | Source |
|--------------|----|-----------------------------|---|-------------------|--------|
| (0008, 0008) | CS | Image Type                  | Value 3 is picked by the user from the Pull Down List, and Value 4 is set automatically.                | VNAP              | AUTO   |
| (0008, 2129) | IS | Number of Event Timers      | If multi-frame and ECG Sync (absent if re-acquired from DICOM file)                                     | ANAP              | AUTO   |
| (0008, 2130) | DS | Event Elapsed Time (s)      | (absent if re-acquired from DICOM file)   | ANAP              | AUTO   |
| (0008, 2132) | LO | Event Timer Name (s)        | (absent if re-acquired from DICOM file)   | ANAP              | AUTO   |
| (0009, 0010) | LO | Private Identification Code | ALOKA : 1. 2. 392. 200039. 110. 2<br><br>(private attributes are absent if re-acquired from DICOM file) | ANAP              | AUTO   |
| (0009, 1000) | SH |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 1004) | US |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 1006) | US |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 100A) | SH |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 1012) | US |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 1014) | FD |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 1020) | CS |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 1022) | CS |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 1024) | CS |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 1026) | IS |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 1028) | IS |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 102A) | DS |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 102C) | FD |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 102E) | FD |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 1030) | FD |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 1032) | DS |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 1034) | CS |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 1036) | FD |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 1038) | CS |                             | Private attribute without PHI   | ANAP              | AUTO   |
| (0009, 103A) | FD |                             | Private attribute without PHI   | ANAP              | AUTO   |

|              |    |                                  |  |        |                 |
|--------------|----|----------------------------------|--|--------|-----------------|
| (0009, 103C) | FD |                                  | <i>Private attribute without PHI</i>   | ANAP   | AUTO            |
| (0009, 103E) | FD |                                  | <i>Private attribute without PHI</i>   | ANAP   | AUTO            |
| (0009, 1040) | FD |                                  | <i>Private attribute without PHI</i>   | ANAP   | AUTO            |
| (0009, 1042) | FD |                                  | <i>Private attribute without PHI</i>   | ANAP   | AUTO            |
| (0009, 1044) | FD |                                  | <i>Private attribute without PHI</i>   | ANAP   | AUTO            |
| (0009, 1046) | US |                                  | <i>Private attribute without PHI</i>   | ANAP   | AUTO            |
| (0009, 1048) | FD |                                  | <i>Private attribute without PHI</i>   | ANAP   | AUTO            |
| (0009, 104A) | FD |                                  | <i>Private attribute without PHI</i>   | ANAP   | AUTO            |
| (0009, 104C) | FD |                                  | <i>Private attribute without PHI</i>   | ANAP   | AUTO            |
| (0009, 104E) | FD |                                  | <i>Private attribute without PHI</i>   | ANAP   | AUTO            |
| (0009, 1050) | US |                                  | <i>Private attribute without PHI</i>   | ANAP   | AUTO            |
| (0009, 1052) | US |                                  | <i>Private attribute without PHI</i>   | ANAP   | AUTO            |
| (0009, 1054) | LO |                                  | <i>Private attribute without PHI</i>   | ANAP   | AUTO            |
| (0009, 1058) | CS |                                  | <i>Private attribute without PHI</i>   | ANAP   | AUTO            |
| (0018, 1060) | DS | Trigger Time                     | If ECG is connected  | ANAP   | AUTO            |
| (0018, 1062) | IS | Nominal Interval                 | If ECG is connected  | ANAP   | AUTO            |
| (0018, 1088) | IS | Heart Rate                       | If ECG signal is input   | ANAP   | AUTO            |
| (0018, 5000) | SH | Output Power                     |  | ANAP   | AUTO            |
| (0018, 5010) | LO | Transducer Data                  |  | ALWAYS | AUTO            |
| (0018, 5022) | DS | Mechanical Index                 |  | ANAP   | AUTO            |
| (0018, 5024) | DS | Bone Thermal Index               |  | ANAP   | AUTO            |
| (0018, 5026) | DS | Cranial Thermal Index            |  | ANAP   | AUTO            |
| (0018, 5027) | DS | Soft Tissue Thermal Index        |  | ANAP   | AUTO            |
| (0018, 5050) | IS | Depth of Scan Field              |  | ANAP   | AUTO            |
| (0018, 6031) | CS | Transducer Type                  |  | ALWAYS | AUTO            |
| (0028, 0002) | US | Samples per Pixel                | 3= RGB, YBR_FULL_422<br>1= PALETTE COLOR,<br>MONOCHROME2   | ALWAYS | AUTO            |
| (0028, 0004) | CS | Photometric Interpretation       | PALETTE COLOR, RGB,<br>YBR_FULL_422,<br>MONOCHROME2<br>(MONOCHROME2 is not<br>applicable to media storage. ) | ALWAYS | AUTO/<br>CONFIG |
| (0028, 0014) | US | Ultrasound Color Data<br>Present | Only if color image acquired<br>(may be absent if re-acquired<br>from DICOM file)                            | ANAP   | AUTO            |
| (0028, 0100) | US | Bits Allocated                   | 8= RGB, YBR_FULL_422,<br>MONOCHROME2,<br>16= PALETTE COLOR   | ALWAYS | AUTO            |
| (0028, 0101) | US | Bits Stored                      | 8= RGB, YBR_FULL_422,<br>MONOCHROME2,<br>16= PALETTE COLOR   | ALWAYS | AUTO            |

|              |    |                                    |   |             |             |
|--------------|----|------------------------------------|---|-------------|-------------|
| (0028, 0102) | US | High Bit                           | 7= RGB, YBR_FULL_422,<br>MONOCHROME2,<br>15= PALETTE COLOR  | ALWAYS      | AUTO        |
| (0028, 0103) | US | Pixel Representation               | 0000H   | ALWAYS      | AUTO        |
| (0028, 2110) | CS | Lossy Image Compression            | If lossy image compression applied  | ANAP        | AUTO        |
| (0028, 6040) | US | R Wave Pointer                     | Only if multi-frame   | ANAP        | AUTO        |
| (53FF, 0010) | LO | <i>Private Identification Code</i> | <i>ALOKA : 1. 2. 392. 200039. 110. 2<br/>(private attributes are absent if re-acquired from DICOM file)</i> | <i>ANAP</i> | <i>AUTO</i> |
| (53FF, 1040) | LO |                                    | <i>Private attribute without PHI</i>  | <i>ANAP</i> | <i>AUTO</i> |
| (53FF, 1042) | UL |                                    | <i>Private attribute without PHI</i>  | <i>ANAP</i> | <i>AUTO</i> |
| (53FF, 104F) | OB |                                    | <i>Private attribute without PHI</i>  | <i>ANAP</i> | <i>AUTO</i> |
| (830F, 1000) | US |                                    | <i>Private attribute without PHI</i>  | <i>ANAP</i> | <i>AUTO</i> |
| (830F, 10FF) | OB |                                    | <i>Private attribute without PHI</i>  | <i>ANAP</i> | <i>AUTO</i> |
| (833D, 0010) | LO |                                    | <i>ALOKA : 1. 2. 392. 200039. 108. 2</i>  | <i>ANAP</i> | <i>AUTO</i> |
| (833D, 1040) | LO |                                    | <i>Private attribute without PHI</i>  | <i>ANAP</i> | <i>AUTO</i> |
| (833D, 1042) | UL |                                    | <i>Private attribute without PHI</i>  | <i>ANAP</i> | <i>AUTO</i> |
| (833D, 104F) | OB |                                    | <i>Private attribute without PHI</i>  | <i>ANAP</i> | <i>AUTO</i> |
| (833D, 105F) | OB |                                    | <i>Private attribute without PHI</i>  | <i>ANAP</i> | <i>AUTO</i> |
| (833D, 106F) | OB |                                    | <i>Private attribute without PHI</i>  | <i>ANAP</i> | <i>AUTO</i> |

#### 8. 1. 1. 6 SR Document Modules

**Table 8. 1-20 SR DOCUMENT SERIES MODULE OF CREATED SOP INSTANCES**

| Tag            | VR | Attribute Name                               | Value  | Presence of Value | Source |
|----------------|----|--|--|-------------------|--------|
| (0008, 0060)   | CS | Modality                                     | "SR"   | ALWAYS            | AUTO   |
| (0008, 1111)   | SQ | Referenced Performed Procedure Step Sequence | Identifies the MPPS SOP Instance to which this SOP instance is related | VNAP              | MPPS   |
| > (0008, 1150) | UI | Referenced SOP Class UID                     | MPPS SOP Class UID   | ALWAYS            | MPPS   |
| > (0008, 1155) | UI | Referenced SOP Instance UID                  | MPPS SOP Instance UID  | ALWAYS            | MPPS   |
| (0020, 000E)   | UI | Series Instance UID                          | Generated by device  | ALWAYS            | AUTO   |
| (0020, 0011)   | IS | Series Number                                | Generated by device  | ALWAYS            | AUTO   |

**Table 8. 1-21 SR DOCUMENT GENERAL MODULE OF CREATED SOP INSTANCES**

| Tag          | VR | Attribute Name | Value      | Presence of Value | Source |
|--------------|----|----------------|------------|-------------------|--------|
| (0008, 0023) | DA | Content Date   | "yyyymmdd" | ALWAYS            | AUTO   |



|                  |    |   |  |        |      |
|------------------|----|---|--|--------|------|
| (0008, 0033)     | TM | Content Time                                  | "hhmmss"   | ALWAYS | AUTO |
| (0020, 0013)     | IS | Instance Number                               | Generated by device  | ALWAYS | AUTO |
| (0040, A370)     | SQ | Referenced Request Sequence                   | From Modality Worklist, or absent if unscheduled case                              | ANAP   | AUTO |
| > (0008, 0050)   | SH | Accession Number                              | From Modality Worklist   | VNAP   | MWL  |
| > (0008, 1110)   | SQ | Referenced Study Sequence                     | From Modality Worklist   | VNAP   | MWL  |
| > > (0008, 1150) | UI | Referenced SOP Class UID                      | From Modality Worklist   | ALWAYS | MWL  |
| > > (0008, 1155) | UI | Referenced SOP Instance UID                   | From Modality Worklist   | ALWAYS | MWL  |
| > (0020, 000D)   | UI | Study Instance UID                            | From Modality Worklist   | ALWAYS | MWL  |
| > (0032, 1060)   | LO | Requested Procedure Description               | From Modality Worklist   | VNAP   | MWL  |
| > (0032, 1064)   | SQ | Requested Procedure Code Sequence             | From Modality Worklist   | VNAP   | MWL  |
| > (0040, 1001)   | SH | Requested Procedure ID                        | From Modality Worklist   | VNAP   | MWL  |
| > (0040, 2016)   | LO | Placer Order Number / Imaging Service Request | Zero length  | EMPTY  | AUTO |
| > (0040, 2017)   | LO | Filler Order Number / Imaging Service Request | Zero length  | EMPTY  | AUTO |
| (0040, A372)     | SQ | Performed Procedure Code Sequence             | From Modality Worklist, mapped from Requested Procedure Code Sequence (0032, 1064) | VNAP   | MWL  |
| (0040, A491)     | CS | Completion Flag                               | PARTIAL  | ALWAYS | AUTO |
| (0040, A493)     | CS | Verification Flag                             | UNVERIFIED   | ALWAYS | AUTO |

**Table 8. 1-22 SR DOCUMENT CONTENT MODULE OF CREATED SOP INSTANCES**

| Tag            | VR | Attribute Name             | Value   | Presence of Value | Source |
|----------------|----|----------------------------|---|-------------------|--------|
| (0040, A040)   | CS | Value Type                 | CONTAINER   | ALWAYS            | AUTO   |
| (0040, A043)   | SQ | Concept Name Code Sequence | Document Title  | ALWAYS            | AUTO   |
| > (0008, 0100) | SH | Code Value                 | 125000, 125100 or 125200  | ALWAYS            | AUTO   |
| > (0008, 0102) | SH | Coding Scheme Designator   | DCM   | ALWAYS            | AUTO   |
| > (0008, 0104) | LO | Code Meaning               | "OB-GYN Ultrasound Procedure Report", "Vascular Ultrasound Procedure Report" or "Adult Echocardiography Procedure Report" | ALWAYS            | AUTO   |
| (0040, A050)   | CS | Continuity of Content      | SEPARATE  | ALWAYS            | AUTO   |
| (0040, A504)   | SQ | Content Template Sequence  |   | ALWAYS            | AUTO   |

|                |    |                                       |  |        |      |
|----------------|----|---------------------------------------|--|--------|------|
| > (0008, 0105) | CS | Mapping Resource                      | DCMR   | ALWAYS | AUTO |
| > (0040, DB00) | CS | Template Identifier                   | 5000, 5100 or 5200   | ALWAYS | AUTO |
| (0040, A032)   | DT | Observation Date Time                 | "yyyymmddhhmmss"<br>Same as Study Date,<br>Study Time  | ALWAYS | AUTO |
| (0040, A730)   | SQ | Content Sequence                      |  | ALWAYS | AUTO |
| > (0040, A010) | CS | Relationship Type                     | See TID 5000 OB-GYN<br>Ultrasound Procedure<br>Report, TID 5100 Vascular<br>Ultrasound Report and TID<br>5200 Echocardiography<br>Procedure Report | ALWAYS | AUTO |
| > . . .        |    | Document Relationship<br>Macro        | See TID 5000 OB-GYN<br>Ultrasound Procedure<br>Report, TID 5100 Vascular<br>Ultrasound Report and TID<br>5200 Echocardiography<br>Procedure Report | ALWAYS | AUTO |
| > . . .        |    | Document Content Macro                | See TID 5000 OB-GYN<br>Ultrasound Procedure<br>Report, TID 5100 Vascular<br>Ultrasound Report and TID<br>5200 Echocardiography<br>Procedure Report | ALWAYS | AUTO |
| > (0040, DB73) | UL | Referenced Content Item<br>Identifier | Not used   | -      | -    |

### 8. 1. 2 Used Fields in received IOD by application

The storage application of this product does not receive SOP Instances. The usage of attributes received via Modality Worklist is described in section 4. 2. 1. 3. 1. 3.

### 8. 1. 3 Attribute mapping

The relationships between attributes received via Modality Worklist, stored in acquired images and communicated via MPPS are summarized in Table 8. 1-23.

**Table 8. 1-23 ATTRIBUTE MAPPING BETWEEN MODALITY WORKLIST, IMAGE AND MPPS**

| <b>Modality Worklist</b>             | <b>Image IOD</b>                             | <b>MPPS IOD</b>                        |
|--------------------------------------|--|--|
| Patient Name                         | Patient Name                                 | Patient Name                           |
| Patient ID                           | Patient ID                                   | Patient ID                             |
| Patient's Birth Date                 | Patient's Birth Date                         | Patient's Birth Date                   |
| Patient's Sex                        | Patient's Sex                                | Patient's Sex                          |
| Patient's Weight                     | Patient's Weight                             |  |
| Referring Physician's Name           | Referring Physician's Name                   |  |
| ----                                 | ----   | Scheduled Step Attributes Sequence     |
| Study Instance UID                   | Study Instance UID                           | > Study Instance UID                   |
| Referenced Study Sequence            | Referenced Study Sequence                    | > Referenced Study Sequence            |
| Accession Number                     | Accession Number                             | > Accession Number                     |
| ----                                 | Request Attributes Sequence                  | ----                                   |
| Requested Procedure ID               | > Requested Procedure ID                     | > Requested Procedure ID               |
| Requested Procedure Description      | > Requested Procedure Description            | > Requested Procedure Description      |
| Scheduled Procedure Step ID          | > Scheduled Procedure Step ID                | > Scheduled Procedure Step ID          |
| Scheduled Procedure Step Description | > Scheduled Procedure Step Description       | > Scheduled Procedure Step Description |
| Scheduled Protocol Code Sequence     | > Scheduled Protocol Code Sequence           | > Scheduled Protocol Code Sequence     |
| ----                                 | Performed Protocol Code Sequence             | Performed Protocol Code Sequence       |
| ----                                 | Study ID                                     | Study ID                               |
| ----                                 | Performed Procedure Step ID                  | Performed Procedure Step ID            |
| ----                                 | Performed Procedure Step Start Date          | Performed Procedure Step Start Date    |
| ----                                 | Performed Procedure Step Start Time          | Performed Procedure Step Start Time    |
| ----                                 | Performed Procedure Step Description         | Performed Procedure Step Description   |
| ----                                 | ----   | Performed Series Sequence              |
| ----                                 | Name of Physician's Reading Study            | > Performing Physician's Name          |
| Requested Procedure Code Sequence    | Procedure Code Sequence                      | Procedure Code Sequence                |
| ----                                 | Referenced Performed Procedure Step Sequence | ----                                   |
| ----                                 | > Referenced SOP Class UID                   | SOP Class UID                          |
| ----                                 | > Referenced SOP Instance UID                | SOP Instance UID                       |
| ----                                 | Protocol Name                                | Protocol Name                          |

**8. 1. 4 Coerced/Modified Fields**

The Modality Worklist AE will truncate attribute values received in the response to a Modality Worklist Query if the value length is longer than the maximum length permitted by the attribute's VR.

**8. 2 DATA DICTIONARY OF PRIVATE ATTRIBUTES**

The Private Attributes added to create SOP Instances are listed in the Table below. This product reserves blocks of private attributes in groups 0009, 0019 and 53FF. Further details on usage of these private attributes are contained in Section 8. 1.

**Table 8. 2-1 DATA DICTIONARY OF PRIVATE ATTRIBUTES**

| <b>Tag</b>   | <b>VR</b> | <b>VM</b> | <b>Attribute Name</b> |
|--------------|-----------|-----------|-----------------------|
| (0009, 0010) | LO        | 1         |                       |
| (0009, 1000) | SH        | 1         |                       |
| (0009, 100A) | SH        | 1         |                       |
| (0009, 1012) | US        | 1         |                       |
| (0009, 1014) | FD        | 1         |                       |
| (0019, 0010) | LO        | 1         |                       |
| (0019, 1008) | FD        | 1         |                       |
| (0019, 100C) | CS        | 1         |                       |
| (0019, 100E) | DS        | 1         |                       |
| (0019, 1018) | SL        | 1         |                       |
| (0019, 101A) | SL        | 1         |                       |
| (0019, 1040) | SS        | 1         |                       |
| (0019, 1046) | US        | 1         |                       |
| (0019, 1050) | SL        | 1         |                       |
| (0019, 1052) | DS        | 1         |                       |
| (0019, 1054) | DS        | 1         |                       |
| (0019, 1056) | FD        | 1         |                       |
| (0019, 1060) | US        | 1         |                       |
| (0019, 1061) | UL        | 1         |                       |
| (0019, 1062) | US        | 1         |                       |
| (0019, 1064) | US        | 1         |                       |
| (0019, 1066) | US        | 1         |                       |
| (0019, 106C) | FD        | 1         |                       |
| (0019, 106E) | FD        | 1         |                       |
| (53FF,       | LO        | 1         |                       |

| Tag          | VR | VM  | Attribute Name |
|--------------|----|-----|----------------|
| 0010)        |    |     |                |
| (53FF, 1000) | US | 1   |                |
| (53FF, 1002) | SH | 1   |                |
| (53FF, 1004) | TM | 1-n |                |
| (53FF, 1010) | SQ | 1   |                |
| (53FF, 1011) | OB | 1   |                |
| (53FF, 101D) | OB | 1   |                |
| (53FF, 101E) | SH | 1   |                |
| (53FF, 1020) | SQ | 1   |                |
| (53FF, 1021) | OB | 1   |                |
| (53FF, 102F) | UL | 1-n |                |

### 8.3 CODED TERMINOLOGY AND TEMPLATES

The contents of Performed Procedure Step Discontinuation Reason Code Sequence (0040, 0281) for a discontinued MPPS will be filled with a code selected by the user from a fixed list corresponding to Context Group 9300.

The Structured Reports use the Standard Templates and Context Groups supplied by DCMR (DICOM Content Mapping Resource). In the extension of Context Groups, 99ALOKA (Hitachi Aloka Medical private definition) is used. There are no private Context Groups, extensions to Standard Templates or private Templates that are used. See section 8.6 for details.

### 8.4 STANDARD EXTENDED / SPECIALIZED / PRIVATE SOP CLASSES

The Ultrasound Line Data Storage SOP Class is an optional private SOP Class. It is not normally presented and should be activated by CSE upon the customers purchase. Since it is a Private SOP Class, a dedicated storage server is necessary to receive and browse the image.

#### 8.4.1 Ultrasound and Ultrasound Multi-frame Image Storage SOP Class

The Ultrasound and Ultrasound Multi-frame Image Storage SOP Classes are extended to create a Standard Extended SOP Classes by addition of standard and private attributes to the created SOP Instances as documented in section 8.1.

#### 8. 4. 2            **Ultrasound Line Data Storage SOP Class**

The Ultrasound Line Data Storage SOP Class is a Private SOP Class by addition of standard and private attributes to the created SOP Instances as documented in section 8. 1.

#### 8. 5                **PRIVATE TRANSFER SYNTAXES**

No Private Transfer Syntaxes are supported.

#### 8. 6                **STRUCTURED REPORTS**

The equipment supports Standard Templates TID 5000 OB-GYN, TID 5100 Vascular and TID 5200 Echocardiography. TIDs are described in DICOM Part 16.

##### 8. 6. 1            **Applications and Generated Templates**

| <b>Application</b> | <b>Template ID</b>   | <b>Template Name</b>               |
|--------------------|----------------------|------------------------------------|
| OB                 | 5000                 | OB-GYN Ultrasound Procedure Report |
| GYN                | 5000                 | OB-GYN Ultrasound Procedure Report |
| Vascular           | 5100                 | Vascular Ultrasound Report         |
| Abdomen            | 5100                 | Vascular Ultrasound Report         |
| Cardio             | 5200                 | Echocardiography Procedure Report  |
| other applications | SR is not generated. | -                                  |

OB application generates an OB-GYN Ultrasound Procedure Report for OB measurements, GYN application generates an OB-GYN Ultrasound Procedure Report for GYN measurements. Vascular application generates a Vascular Ultrasound Report for peripheral vascular measurements, Abdomen application generates a Vascular Ultrasound Report for abdominal vascular measurements. Cardio application generates an Echocardiography Procedure Report. No SR is generated for any other applications.

Note that DICOM Standard provides TID 5200 for an "Adult" Echocardiography Procedure Report, however Cardio application will generate TID 5200 Adult Echocardiography Procedure Report regardless of patient's age or the Preset Application like "P. HEART" (Pediatric Heart) .

Some user-defined measurement items or user-defined tables/equations are not included in SR.

## 8. 6. 2 Templates

### 8. 6. 2. 1 TID 5000 OB-GYN Ultrasound Procedure Report

TID 5000 row 3 - TID 1001 Observation Context

| Label        | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) | Mapping  |
|--------------|---------------------------------------|-------------------------|---------------------------|--|
| Patient Name | DCM                                   | 121029                  | Subject Name              | TID 1001 row 3 -<br>TID 1006 row 2 -<br>TID 1007 row 2 |

TID 5000 row 4 - TID 5001 OB-GYN Ultrasound Procedure Report

| Label  | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) | Mapping        |
|--------|---------------------------------------|-------------------------|---------------------------|----------------|
| Height | LN                                    | 8302-2                  | Patient Height            | TID 5001 row 3 |
| Weight | LN                                    | 29463-7                 | Patient Weight            | TID 5001 row 4 |
| GRAV   | LN                                    | 11996-6                 | Gravida                   | TID 5001 row 5 |
| PARA   | LN                                    | 11977-6                 | Para                      | TID 5001 row 6 |
| AB     | LN                                    | 11612-9                 | Aborta                    | TID 5001 row 7 |
| ECTO   | LN                                    | 33065-4                 | Ectopic Pregnancies       | TID 5001 row 8 |

TID 5000 row 7 - TID 5002 OB-GYN Procedure Summary Section

| Label                         | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)       | Mapping                            |
|-------------------------------|---------------------------------------|-------------------------|---------------------------------|------------------------------------|
| LMP                           | LN                                    | 11955-2                 | LMP                             | TID 5002 row 2                     |
| BBT                           | LN                                    | 11976-8                 | Ovulation date                  | TID 5002 row 2                     |
| LMP-EDC                       | LN                                    | 11779-6                 | EDD from LMP                    | TID 5002 row 2                     |
| BBT-EDC                       | LN                                    | 11780-4                 | EDD from ovulation date         | TID 5002 row 2                     |
| Composite US-EDC <sup>1</sup> | LN                                    | 11781-2                 | EDD from average ultrasound age | TID 5002 row 2                     |
| -                             | LN                                    | 11878-6                 | Number of Fetuses               | TID 5002 row 3                     |
| Comments                      | DCM                                   | 121106                  | Comment                         | TID 5002 row 4                     |
| LMP-GA                        | LN                                    | 11885-1                 | Gestational Age by LMP          | TID 5002 row 6 -<br>TID 5003 row 5 |

| <b>Label</b>    | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> | <b>Mapping</b>                     |
|-----------------|--|--------------------------------|----------------------------------|------------------------------------|
| Composite US-GA | LN   | 11888-5                        | Composite Ultrasound Age         | TID 5002 row 6 -<br>TID 5003 row 5 |

Note : 1. The earliest Composite US-EDC is included when more than one fetus are observed.

OB measurements :

TID 5000 row 7 - TID 5002 row 6 - TID 5003 OB-GYN Fetus Summary  
TID 5000 row 8 - TID 5004 Fetal Biometry Ratio Section  
TID 5000 row 9 - TID 5005 Fetal Biometry Section  
TID 5000 row 10 - TID 5006 Fetal Long Bones Section  
TID 5000 row 11 - TID 5007 Fetal Cranium Section  
TID 5000 row 12 - TID 5009 Fetal Biophysical Profile Section  
TID 5000 row 13 - TID 5011 Early Gestation Section  
TID 5000 row 14 - TID 5010 Amniotic Sac Section  
TID 5000 row 15 - TID 5015 Pelvis and Uterus Section  
TID 5000 row 21 - TID 5025 OB-GYN Fetal Vascular Ultrasound Measurement Group  
TID 5000 row 24 - TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group  
TID 5000 row 25 (Extension) - TID ALOKA-5001 OB-GYN Original Measurement Section  
TID 5000 row 26 (Extension) - TID ALOKA-5000 OB Original Fetal Measurement Section  
TID 5000 row 27 (Extension) - TID ALOKA-5000 OB Original Fetal Measurement Section  
TID 5000 row 28 (Extension) - TID ALOKA-5002 OB User Defined Equation Section

| <b>Label</b>                             | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>                     | <b>Mapping</b> |
|--|--|--------------------------------|--|----------------|
| FHR                                      | LN   | 11948-7                        | Fetal Heart Rate                                     | TID 5003 row 5 |
| PreHR (Amnio)                            | 99ALOKA                                      | A12019-001                     | Fetal Heart Rate before Biopsy                       | TID 5003 row 5 |
| PstHR (Amnio)                            | 99ALOKA                                      | A12019-002                     | Fetal Heart Rate after Biopsy                        | TID 5003 row 5 |
| FW<br>(up to 5 items)                    | LN   | 11727-5                        | Estimated Weight                                     | TID 5003 row 5 |
| - (FW %ile rank by Doubilet)             | LN   | 11767-1                        | EFW percentile rank                                  | TID 5003 row 5 |
|  |  |                                |  |                |
| CI (BPD/OFD)                             | LN   | 11823-2                        | Cephalic Index                                       | TID 5004 row 3 |
| CI (BPD <sub>o</sub> /OFD <sub>o</sub> ) | 99ALOKA                                      | A12004-001                     | Cephalic Index (BPD <sub>o</sub> /OFD <sub>o</sub> ) | TID 5004 row 3 |
| FL/AC                                    | LN   | 11871-1                        | FL/AC  | TID 5004 row 3 |
| FL/BPD                                   | LN   | 11872-9                        | FL/BPD   | TID 5004 row 3 |
| FL/HC                                    | LN   | 11873-7                        | FL/HC  | TID 5004 row 3 |



| <b>Label</b>     | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>      | <b>Mapping</b> |
|------------------|--|--------------------------------|---------------------------------------|----------------|
| HC/AC            | LN   | 11947-9                        | HC/AC                                 | TID 5004 row 3 |
| LVW/HW           | 99ALOKA                                      | A12004-002                     | LVW/HW                                | TID 5004 row 3 |
|                  |  |                                |                                       |                |
| AC               | LN   | 11979-2                        | Abdominal Circumference               | TID 5005 row 3 |
| AD               | 99ALOKA                                      | A12005-006                     | Abdominal Diameter                    | TID 5005 row 3 |
| AF Pocket        | 99ALOKA                                      | A12005-009                     | Amniotic Fluid Volume                 | TID 5005 row 3 |
| AFV              | 99ALOKA                                      | A12005-009                     | Amniotic Fluid Volume                 | TID 5005 row 3 |
| APD              | LN   | 11818-2                        | Anterior-Posterior Abdominal Diameter | TID 5005 row 3 |
| APTD             | LN   | 11818-2                        | Anterior-Posterior Abdominal Diameter | TID 5005 row 3 |
| AXT              | LN   | 33191-8                        | APAD * TAD                            | TID 5005 row 3 |
| BD               | 99ALOKA                                      | A12005-001                     | Binocular Distance                    | TID 5005 row 3 |
| BPD              | LN   | 11820-8                        | Biparietal Diameter                   | TID 5005 row 3 |
| BPD <sub>o</sub> | 99ALOKA                                      | A12005-002                     | Biparietal Diameter outer-to-outer    | TID 5005 row 3 |
| CD               | LN   | 11863-8                        | Trans Cerebellar Diameter             | TID 5007 row 3 |
| CRL              | LN   | 11957-8                        | Crown Rump Length                     | TID 5011 row 3 |
| EES              | 99ALOKA                                      | A12009-001                     | Early Embryonic Size                  | TID 5011 row 3 |
| FIB              | LN   | 11964-4                        | Fibula length                         | TID 5006 row 3 |
| FL               | LN   | 11963-6                        | Femur Length                          | TID 5006 row 3 |
| FTA              | 99ALOKA                                      | A12005-003                     | Fetal Trunk Cross Sectional Area      | TID 5005 row 3 |
| GS               | LN   | 11850-5                        | Gestational Sac Diameter              | TID 5011 row 3 |
| HC               | LN   | 11984-2                        | Head Circumference                    | TID 5005 row 3 |
| HC2              | 99ALOKA                                      | A12005-008                     | Head Circumference for Merz, Hansmann | TID 5005 row 3 |
| HL               | LN   | 11966-9                        | Humerus length                        | TID 5006 row 3 |
| HW               | LN   | 12170-7                        | Width of Hemisphere                   | TID 5007 row 3 |
| IOD              | LN   | 33070-4                        | Inner Orbital Diameter                | TID 5007 row 3 |
| LV               | 99ALOKA                                      | A12005-004                     | Length of Vertebrae                   | TID 5005 row 3 |
| LVW              | LN   | 12171-5                        | Lateral Ventricular width             | TID 5007 row 3 |
| mGS, D1          | 99ALOKA                                      | A12009-002                     | Gestational Sac Diameter 1            | TID 5011 row 3 |
| mGS, D2          | 99ALOKA                                      | A12009-003                     | Gestational Sac Diameter 2            | TID 5011 row 3 |
| mGS, D3          | 99ALOKA                                      | A12009-004                     | Gestational Sac Diameter 3            | TID 5011 row 3 |

| <b>Label</b>          | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>          | <b>Mapping</b> |
|-----------------------|--|--------------------------------|---|----------------|
| mGS, mGS              | 99ALOKA                                      | A12009-005                     | Mean Gestational Sac Diameter             | TID 5011 row 3 |
| NBL                   | 99ALOKA                                      | A12006-001                     | Nasal Bone Length                         | TID 5006 row 3 |
| NT                    | LN   | 33069-6                        | Nuchal Translucency                       | TID 5011 row 3 |
| OFD                   | LN   | 11851-3                        | Occipital-Frontal Diameter                | TID 5005 row 3 |
| OFDo                  | 99ALOKA                                      | A12005-005                     | Occipital-Frontal Diameter outer-to-outer | TID 5005 row 3 |
| OOD                   | LN   | 11629-3                        | Outer Orbital Diameter                    | TID 5007 row 3 |
| RAD                   | LN   | 11967-7                        | Radius length                             | TID 5006 row 3 |
| TAD                   | LN   | 11862-0                        | Tranverse Abdominal Diameter              | TID 5005 row 3 |
| TC                    | LN   | 11988-3                        | Thoracic Circumference                    | TID 5005 row 3 |
| TIB                   | LN   | 11968-5                        | Tibia length                              | TID 5006 row 3 |
| TL                    | 99ALOKA                                      | A12005-007                     | Thoracic Length                           | TID 5005 row 3 |
| TTD                   | LN   | 11862-0                        | Tranverse Abdominal Diameter              | TID 5005 row 3 |
| ULNA                  | LN   | 11969-3                        | Ulna length                               | TID 5006 row 3 |
|                       |  |                                |   |                |
| BPP, Breathing        | LN   | 11632-7                        | Fetal Breathing                           | TID 5009 row 4 |
| BPP, Movement         | LN   | 11631-9                        | Gross Body Movement                       | TID 5009 row 3 |
| BPP, Tone             | LN   | 11635-0                        | Fetal Tone                                | TID 5009 row 5 |
| BPP, Fluid            | LN   | 11630-1                        | Amniotic Fluid Volume                     | TID 5009 row 7 |
| BPP, Non-Stress Test  | LN   | 11635-5                        | Fetal Heart Reactivity                    | TID 5009 row 6 |
| BPP, Total Score      | LN   | 11634-3                        | Biophysical Profile Sum Score             | TID 5009 row 8 |
|                       |  |                                |   |                |
| AFI, AFI <sup>1</sup> | LN   | 11627-7                        | Amniotic Fluid Index                      | TID 5010 row 3 |
| AFI, Q1               | LN   | 11624-4                        | First Quadrant Diameter                   | TID 5010 row 4 |
| AFI, Q2               | LN   | 11626-9                        | Second Quadrant Diameter                  | TID 5010 row 4 |
| AFI, Q3               | LN   | 11625-1                        | Third Quadrant Diameter                   | TID 5010 row 4 |
| AFI, Q4               | LN   | 11623-6                        | Fourth Quadrant Diameter                  | TID 5010 row 4 |
|                       |  |                                |   |                |
| Cervix                | LN   | 11961-0                        | Cervix Length                             | TID 5015 row 3 |
|                       |  |                                |   |                |
| MCA                   | SRT  | T-45600                        | Middle Cerebral Artery                    | TID 5025 row 1 |
| MCA, PI               | LN   | 12008-9                        | Pulsatility Index                         | TID 5025 row 4 |
| MCA, RI               | LN   | 12023-8                        | Resistivity Index                         | TID 5025 row 4 |

| <b>Label</b>     | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>     | <b>Mapping</b>  |
|------------------|--|--------------------------------|--------------------------------------|---|
| MCA, S/D         | LN   | 12144-2                        | Systolic to Diastolic Velocity Ratio | TID 5025 row 4  |
| MCA, PSV         | LN   | 11726-7                        | Peak Systolic Velocity               | TID 5025 row 4  |
| MCA, EDV         | LN   | 11653-3                        | End Diastolic Velocity               | TID 5025 row 4  |
| MCA, MnV         | LN   | 11692-1                        | Time averaged peak velocity          | TID 5025 row 4  |
| UmA <sup>1</sup> | SRT  | T-F1810                        | Umbilical Artery                     | TID 5026 row 1,<br>TID ALOKA-5000 row3 - TID ALOKA-300 row1 |
| UmA, PI          | LN   | 12008-9                        | Pulsatility Index                    | TID 5026 row 4,<br>TID ALOKA-300 row3                       |
| UmA, RI          | LN   | 12023-8                        | Resistivity Index                    | TID 5026 row 4,<br>TID ALOKA-300 row3                       |
| UmA, S/D         | LN   | 12144-2                        | Systolic to Diastolic Velocity Ratio | TID 5026 row 4,<br>TID ALOKA-300 row3                       |
| UmA, PSV         | LN   | 11726-7                        | Peak Systolic Velocity               | TID 5026 row 4,<br>TID ALOKA-300 row3                       |
| UmA, EDV         | LN   | 11653-3                        | End Diastolic Velocity               | TID 5026 row 4,<br>TID ALOKA-300 row3                       |
| UmA, MnV         | LN   | 11692-1                        | Time averaged peak velocity          | TID 5026 row 4,<br>TID ALOKA-300 row3                       |
| Rt. UtA          | SRT  | T-46820                        | Uterine Artery                       | TID ALOKA-5001 row2 -TID ALOKA-300 row1                     |
| Rt. UtA, PI      | LN   | 12008-9                        | Pulsatility Index                    | TID ALOKA-300 row3  |
| Rt. UtA, RI      | LN   | 12023-8                        | Resistivity Index                    | TID ALOKA-300 row3  |
| Rt. UtA, S/D     | LN   | 12144-2                        | Systolic to Diastolic Velocity Ratio | TID ALOKA-300 row3  |
| Rt. UtA, PSV     | LN   | 11726-7                        | Peak Systolic Velocity               | TID ALOKA-300 row3  |
| Rt. UtA, EDV     | LN   | 11653-3                        | End Diastolic Velocity               | TID ALOKA-300 row3  |
| Rt. UtA, MnV     | LN   | 11692-1                        | Time averaged peak velocity          | TID ALOKA-300 row3  |
| Lt. UtA          | SRT  | T-46820                        | Uterine Artery                       | TID ALOKA-5001 row2 -TID ALOKA-300 row1                     |
| Lt. UtA, PI      | LN   | 12008-9                        | Pulsatility Index                    | TID ALOKA-300 row3  |
| Lt. UtA, RI      | LN   | 12023-8                        | Resistivity Index                    | TID ALOKA-300 row3  |
| Lt. UtA, S/D     | LN   | 12144-2                        | Systolic to Diastolic Velocity Ratio | TID ALOKA-300 row3  |

| <b>Label</b> | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>     | <b>Mapping</b>                          |
|--------------|--|--------------------------------|--------------------------------------|---|
| Lt. UtA, PSV | LN   | 11726-7                        | Peak Systolic Velocity               | TID ALOKA-300 row3                      |
| Lt. UtA, EDV | LN   | 11653-3                        | End Diastolic Velocity               | TID ALOKA-300 row3                      |
| Lt. UtA, MnV | LN   | 11692-1                        | Time averaged peak velocity          | TID ALOKA-300 row3                      |
| D-Ao         | SRT  | T-D0765                        | Descending Aorta                     | TID 5025 row 1                          |
| D-Ao, PI     | LN   | 12008-9                        | Pulsatility Index                    | TID 5025 row 4                          |
| D-Ao, RI     | LN   | 12023-8                        | Resistivity Index                    | TID 5025 row 4                          |
| D-Ao, S/D    | LN   | 12144-2                        | Systolic to Diastolic Velocity Ratio | TID 5025 row 4                          |
| D-Ao, PSV    | LN   | 11726-7                        | Peak Systolic Velocity               | TID 5025 row 4                          |
| D-Ao, EDV    | LN   | 11653-3                        | End Diastolic Velocity               | TID 5025 row 4                          |
| D-Ao, MnV    | LN   | 11692-1                        | Time averaged peak velocity          | TID 5025 row 4                          |
| OB Dop1      | 99ALOKA                                      | ALOKA_001-001                  | OB User Definition Doppler1          | TID ALOKA-5000 row3 -TID ALOKA-300 row1 |
| OB Dop1, PI  | LN   | 12008-9                        | Pulsatility Index                    | TID ALOKA-300 row3                      |
| OB Dop1, RI  | LN   | 12023-8                        | Resistivity Index                    | TID ALOKA-300 row3                      |
| OB Dop1, S/D | LN   | 12144-2                        | Systolic to Diastolic Velocity Ratio | TID ALOKA-300 row3                      |
| OB Dop1, PSV | LN   | 11726-7                        | Peak Systolic Velocity               | TID ALOKA-300 row3                      |
| OB Dop1, EDV | LN   | 11653-3                        | End Diastolic Velocity               | TID ALOKA-300 row3                      |
| OB Dop1, MnV | LN   | 11692-1                        | Time averaged peak velocity          | TID ALOKA-300 row3                      |
| OB Dop2      | 99ALOKA                                      | ALOKA_001-002                  | OB User Definition Doppler2          | TID ALOKA-5000 row3 -TID ALOKA-300 row1 |
| OB Dop2, PI  | LN   | 12008-9                        | Pulsatility Index                    | TID ALOKA-300 row3                      |
| OB Dop2, RI  | LN   | 12023-8                        | Resistivity Index                    | TID ALOKA-300 row3                      |
| OB Dop2, S/D | LN   | 12144-2                        | Systolic to Diastolic Velocity Ratio | TID ALOKA-300 row3                      |
| OB Dop2, PSV | LN   | 11726-7                        | Peak Systolic Velocity               | TID ALOKA-300 row3                      |
| OB Dop2, EDV | LN   | 11653-3                        | End Diastolic Velocity               | TID ALOKA-300 row3                      |
| OB Dop2, MnV | LN   | 11692-1                        | Time averaged peak velocity          | TID ALOKA-300 row3                      |
| OB Dop3      | 99ALOKA                                      | ALOKA_001-003                  | OB User Definition Doppler3          | TID ALOKA-5000 row3 -TID ALOKA-300 row1 |
| OB Dop3, PI  | LN   | 12008-9                        | Pulsatility Index                    | TID ALOKA-300 row3                      |
| OB Dop3, RI  | LN   | 12023-8                        | Resistivity Index                    | TID ALOKA-300 row3                      |

| Label                                  | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)            | Mapping   |
|--|---------------------------------------|-------------------------|--------------------------------------|---|
| OB Dop3, S/D                           | LN                                    | 12144-2                 | Systolic to Diastolic Velocity Ratio | TID ALOKA-300 row3  |
| OB Dop3, PSV                           | LN                                    | 11726-7                 | Peak Systolic Velocity               | TID ALOKA-300 row3  |
| OB Dop3, EDV                           | LN                                    | 11653-3                 | End Diastolic Velocity               | TID ALOKA-300 row3  |
| OB Dop3, MnV                           | LN                                    | 11692-1                 | Time averaged peak velocity          | TID ALOKA-300 row3  |
| User-defined Equation Result Parameter | 99ALOKA                               | ALOKA_002-001           | Calculated result.                   | TID ALOKA-5002 row2 -TID ALOKA-301 row4 -TID ALOKA-302 row1 |
| User-defined Equation Parameter        | 99ALOKA                               | ALOKA_002-002           | Equation parameter                   | TID ALOKA-5002 row2 -TID ALOKA-301 row4 -TID ALOKA-302 row1 |

Note : UmA is included in both TID 5026 (not TID 5025) and TID ALOKA-5000.

When UmA is measured on multiple fetuses, the precedence to be included in TID 5026 is Fetus a, b, then c. TID ALOKA-5000 includes UmA measured on each fetus. .

#### TID 1008 Subject Context, Fetus

| Label       | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) | Mapping        |
|-------------|---------------------------------------|-------------------------|---------------------------|----------------|
| Fetus a/b/c | LN                                    | 11951-1                 | Fetus ID                  | TID 1008 row 4 |

Note : Fetus ID is included in Structured Report as "A", "B", "C". When singleton fetus, Fetus ID is always "A".

#### GYN measurements :

TID 5000 row 15 - TID 5015 Pelvis and Uterus Section

TID 5000 row 16 - TID 5012 Ovaries Section

TID 5000 row 17 - TID 5013 Follicles Section

TID 5000 row 18 - TID 5013 Follicles Section

TID 5000 row 29 (Extension) - TID ALOKA-301 User Defined Equation Section

| Label          | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) | Mapping                         |
|----------------|---------------------------------------|-------------------------|---------------------------|---------------------------------|
| Uterus, Length | LN                                    | 11842-2                 | Uterus Length             | TID 5015 row 2 - TID 5016 row 3 |

| <b>Label</b>        | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>            | <b>Mapping</b>                  |
|---------------------|--|--------------------------------|---|---------------------------------|
| Uterus, AP          | LN   | 11859-6                        | Uterus Height                               | TID 5015 row 2 - TID 5016 row 5 |
| Uterus, Width       | LN   | 11865-3                        | Uterus Width                                | TID 5015 row 2 - TID 5016 row 4 |
| Uterus, Volume      | LN   | 33192-6                        | Uterus Volume                               | TID 5015 row 2 - TID 5016 row 2 |
| Cervix, Length      | LN   | 11961-0                        | Cervix Length                               | TID 5015 row 3                  |
| Cervix, AP          | 99ALOKA                                      | A12011-002                     | Cervix Antero-Posterior Diameter            | TID 5015 row 3                  |
| Cervix, Width       | 99ALOKA                                      | A12011-001                     | Cervix Width                                | TID 5015 row 3                  |
| Endom-T             | LN   | 12145-9                        | Endometrium Thickness                       | TID 5015 row 3                  |
| Pre Bldrvol, Length | 99ALOKA                                      | A12011-003                     | Pre Void Bladder Length                     | TID 5015 row 3                  |
| Pre Bldrvol, AP     | 99ALOKA                                      | A12011-004                     | Pre Void Bladder Antero-Posterior Diameter  | TID 5015 row 3                  |
| Pre Bldrvol, Width  | 99ALOKA                                      | A12011-005                     | Pre Void Bladder Width                      | TID 5015 row 3                  |
| Pre Bldrvol, Volume | 99ALOKA                                      | A12011-006                     | Pre Void Bladder Volume                     | TID 5015 row 3                  |
| Pst Bldrvol, Length | 99ALOKA                                      | A12011-007                     | Post Void Bladder Length                    | TID 5015 row 3                  |
| Pst Bldrvol, AP     | 99ALOKA                                      | A12011-008                     | Post Void Bladder Antero-Posterior Diameter | TID 5015 row 3                  |
| Pst Bldrvol, Width  | 99ALOKA                                      | A12011-009                     | Post Void Bladder Width                     | TID 5015 row 3                  |
| Pst Bldrvol, Volume | 99ALOKA                                      | A12011-010                     | Post Void Bladder Volume                    | TID 5015 row 3                  |
| Void Volume         | 99ALOKA                                      | A12011-011                     | Bladder Void Volume                         | TID 5015 row 3                  |
|                     |  |                                |   |                                 |
| Left Ovary, Length  | LN   | 11840-6                        | Left Ovary Length                           | TID 5012 row 3 - TID 5016 row 3 |
| Left Ovary, AP      | LN   | 11857-0                        | Left Ovary Height                           | TID 5012 row 3 - TID 5016 row 5 |
| Left Ovary, Width   | LN   | 11829-9                        | Left Ovary Width                            | TID 5012 row 3 - TID 5016 row 4 |
| Left Ovary, Volume  | LN   | 12164-0                        | Left Ovary Volume                           | TID 5012 row 3 - TID 5016 row 2 |
| Right Ovary, Length | LN   | 11841-4                        | Right Ovary Length                          | TID 5012 row 4 - TID 5016 row 3 |
| Right Ovary, AP     | LN   | 11858-8                        | Right Ovary Height                          | TID 5012 row 4 - TID 5016 row 5 |
| Right Ovary, Width  | LN   | 11830-7                        | Right Ovary Width                           | TID 5012 row 4 - TID 5016 row 4 |
| Right Ovary, Volume | LN   | 12165-7                        | Right Ovary Volume                          | TID 5012 row 4 - TID 5016 row 2 |
|                     |  |                                |   |                                 |

| <b>Label</b>                      | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> | <b>Mapping</b>                  |
|-----------------------------------|--|--------------------------------|----------------------------------|---------------------------------|
| Follicles (up to 10 items)        | -  | -                              | -                                | -                               |
| Left Follicles, D1                | LN   | 11793-7                        | Follicle Diameter                | TID 5013 row 5 - TID 5014 row 4 |
| Left Follicles, D2                | LN   | 11793-7                        | Follicle Diameter                | TID 5013 row 5 - TID 5014 row 4 |
| Left Follicles, Average           | LN   | 11793-7                        | Follicle Diameter                | TID 5013 row 5 - TID 5014 row 4 |
| Left Follicles, Volume            | SRT  | G-D705                         | Volume                           | TID 5013 row 5 - TID 5014 row 3 |
| Right Follicles, D1               | LN   | 11793-7                        | Follicle Diameter                | TID 5013 row 5 - TID 5014 row 4 |
| Right Follicles, D2               | LN   | 11793-7                        | Follicle Diameter                | TID 5013 row 5 - TID 5014 row 4 |
| Right Follicles, Average          | LN   | 11793-7                        | Follicle Diameter                | TID 5013 row 5 - TID 5014 row 4 |
| Right Follicles, Volume           | SRT  | G-D705                         | Volume                           | TID 5013 row 5 - TID 5014 row 3 |
|                                   |  |                                |                                  |                                 |
| Follicles Volume (up to 10 items) | -  | -                              | -                                | -                               |
| Left Follicles, D1                | LN   | 11793-7                        | Follicle Diameter                | TID 5013 row 5 - TID 5014 row 4 |
| Left Follicles, D2                | LN   | 11793-7                        | Follicle Diameter                | TID 5013 row 5 - TID 5014 row 4 |
| Left Follicles, D3                | LN   | 11793-7                        | Follicle Diameter                | TID 5013 row 5 - TID 5014 row 4 |
| Left Follicles, Average           | LN   | 11793-7                        | Follicle Diameter                | TID 5013 row 5 - TID 5014 row 4 |
| Left Follicles, Volume            | SRT  | G-D705                         | Volume                           | TID 5013 row 5 - TID 5014 row 3 |
| Right Follicles, D1               | LN   | 11793-7                        | Follicle Diameter                | TID 5013 row 5 - TID 5014 row 4 |
| Right Follicles, D2               | LN   | 11793-7                        | Follicle Diameter                | TID 5013 row 5 - TID 5014 row 4 |
| Right Follicles, D3               | LN   | 11793-7                        | Follicle Diameter                | TID 5013 row 5 - TID 5014 row 4 |
| Right Follicles, Average          | LN   | 11793-7                        | Follicle Diameter                | TID 5013 row 5 - TID 5014 row 4 |
| Right Follicles, Volume           | SRT  | G-D705                         | Volume                           | TID 5013 row 5 - TID 5014 row 3 |

| <b>Label</b>                           | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> | <b>Mapping</b>                            |
|--|--|--------------------------------|----------------------------------|---|
| User-defined Equation Result Parameter | 99ALOKA                                      | ALOKA_002-001                  | Calculated result.               | TID ALOKA-301 row4<br>-TID ALOKA-302 row1 |
| User-defined Equation Parameter        | 99ALOKA                                      | ALOKA_002-002                  | Equation parameter               | TID ALOKA-301 row4<br>-TID ALOKA-302 row1 |

### 8. 6. 2. 2 TID 5100 Vascular Ultrasound Report

TID 5100 row 4 - TID 1001 Observation Context

| <b>Label</b> | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> | <b>Mapping</b>   |
|--------------|--|--------------------------------|----------------------------------|--|
| Patient Name | DCM  | 121029                         | Subject Name                     | TID 1001 row 3 -<br>TID 1006 row 2 -<br>TID 1007 row 2 |

TID 5100 row 5 - TID 5101 Vascular Patient Characteristics

| <b>Label</b> | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> | <b>Mapping</b> |
|--------------|--|--------------------------------|----------------------------------|----------------|
| Age          | DCM  | 121033                         | Subject Age                      | TID 5101 row 2 |
| Sex          | DCM  | 121032                         | Subject Sex                      | TID 5101 row 3 |

TID 5100 row 8 - TID 5102 Vascular Procedure Summary Section

| <b>Label</b> | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> | <b>Mapping</b> |
|--------------|--|--------------------------------|----------------------------------|----------------|
| Comments     | DCM  | 121106                         | Comment                          | TID 5102 row 2 |



## Vascular measurements :

TID 5100 row 9 - TID 5103 Vascular Ultrasound Section (Blood Vessel of Head, Left)  
 TID 5100 row 10 - TID 5103 Vascular Ultrasound Section (Blood Vessel of Head, Right)  
 TID 5100 row 11 - TID 5103 Vascular Ultrasound Section (Blood Vessel of Head, Unilateral)  
 TID 5100 row 12 - TID 5103 Vascular Ultrasound Section (Artery of neck, Left)  
 TID 5100 row 13 - TID 5103 Vascular Ultrasound Section (Artery of neck, Right)  
 TID 5100 row 14 - TID 5103 Vascular Ultrasound Section (Artery of Lower Extremity, Left)  
 TID 5100 row 15 - TID 5103 Vascular Ultrasound Section (Artery of Lower Extremity, Right)  
 TID 5100 row 16 - TID 5103 Vascular Ultrasound Section (Vein of Lower Extremity, Left)  
 TID 5100 row 17 - TID 5103 Vascular Ultrasound Section (Vein of Lower Extremity, Right)  
 TID 5100 row 18 - TID 5103 Vascular Ultrasound Section (Artery Of Upper Extremity, Left)  
 TID 5100 row 19 - TID 5103 Vascular Ultrasound Section (Artery Of Upper Extremity, Right)  
 TID 5100 row 20 - TID 5103 Vascular Ultrasound Section (Vein Of Upper Extremity, Left)  
 TID 5100 row 21 - TID 5103 Vascular Ultrasound Section (Vein Of Upper Extremity, Right)  
 TID 5100 row 31 (Extension) - TID ALOKA-301 User Defined Equation Section

| Label                       | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)            | Mapping                            |
|-----------------------------|---------------------------------------|-------------------------|--------------------------------------|------------------------------------|
| (Modifier) <sup>1</sup>     |                                       |                         |                                      |                                    |
| Left                        | SRT                                   | G-A101                  | Left                                 | TID 5103 row 3                     |
| Right                       | SRT                                   | G-A100                  | Right                                | TID 5103 row 3                     |
| -                           | SRT                                   | G-A103                  | Unilateral                           | TID 5103 row 3                     |
| - (prox)                    | SRT                                   | G-A118                  | Proximal                             | TID 5103 row 4 -<br>TID 5104 row 2 |
| - (mid)                     | SRT                                   | G-A188                  | Mid-longitudinal                     | TID 5103 row 4 -<br>TID 5104 row 2 |
| - (distal)                  | SRT                                   | G-A119                  | Distal                               | TID 5103 row 4 -<br>TID 5104 row 2 |
|                             |                                       |                         |                                      |                                    |
| (Measurements) <sup>2</sup> |                                       |                         |                                      |                                    |
| PSV<br>pV                   | LN                                    | 11726-7                 | Peak Systolic Velocity               | TID 5103 row 4 -<br>TID 5104 row 4 |
| EDV                         | LN                                    | 11653-3                 | End Diastolic Velocity               | TID 5103 row 4 -<br>TID 5104 row 4 |
| MnV                         | LN                                    | 11692-1                 | Time averaged peak velocity          | TID 5103 row 4 -<br>TID 5104 row 4 |
| PI                          | LN                                    | 12008-9                 | Pulsatility Index                    | TID 5103 row 4 -<br>TID 5104 row 4 |
| RI                          | LN                                    | 12023-8                 | Resistivity Index                    | TID 5103 row 4 -<br>TID 5104 row 4 |
| S/D                         | LN                                    | 12144-2                 | Systolic to Diastolic Velocity Ratio | TID 5103 row 4 -<br>TID 5104 row 4 |
|                             |                                       |                         |                                      |                                    |

| <b>Label</b>                             | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> | <b>Mapping</b>                     |
|--|--|--------------------------------|----------------------------------|------------------------------------|
| (Vessels)                                |  |                                |                                  |                                    |
| (row 9, 10)                              |  |                                |                                  |                                    |
| ACA                                      | SRT  | T-45540                        | Anterior Cerebral Artery         | TID 5103 row 4 -<br>TID 5104 row 1 |
| MCA                                      | SRT  | T-45600                        | Middle Cerebral Artery           | TID 5103 row 4 -<br>TID 5104 row 1 |
| PCA                                      | SRT  | T-45900                        | Posterior Cerebral Artery        | TID 5103 row 4 -<br>TID 5104 row 1 |
| PCoA                                     | SRT  | T-45320                        | Posterior Communicating Artery   | TID 5103 row 4 -<br>TID 5104 row 1 |
| TICA                                     | SRT  | R-102BD                        | Terminal internal carotid artery | TID 5103 row 4 -<br>TID 5104 row 1 |
| (row 11)                                 |  |                                |                                  |                                    |
| ACoA <sup>3</sup>                        | SRT  | T-45530                        | Anterior Communicating Artery    | TID 5103 row 4 -<br>TID 5104 row 1 |
| BA                                       | SRT  | T-45800                        | Basilar Artery                   | TID 5103 row 4 -<br>TID 5104 row 1 |
| (row 12, 13)                             |  |                                |                                  |                                    |
| BIFUR                                    | SRT  | T-45160                        | Carotid Bifurcation              | TID 5103 row 4 -<br>TID 5104 row 1 |
| CCA prox<br>CCA mid<br>CCA distal        | SRT  | T-45100                        | Common Carotid Artery            | TID 5103 row 4 -<br>TID 5104 row 1 |
| ECA                                      | SRT  | T-45200                        | External Carotid Artery          | TID 5103 row 4 -<br>TID 5104 row 1 |
| ICA<br>ICA prox<br>ICA mid<br>ICA distal | SRT  | T-45300                        | Internal Carotid Artery          | TID 5103 row 4 -<br>TID 5104 row 1 |
| VA <sup>4</sup><br>VERT                  | SRT  | T-45700                        | Vertebral Artery                 | TID 5103 row 4 -<br>TID 5104 row 1 |
| (row 14, 15)                             |  |                                |                                  |                                    |
| ATA                                      | SRT  | T-47700                        | Anterior Tibial Artery           | TID 5103 row 4 -<br>TID 5104 row 1 |
| CFA                                      | SRT  | T-47400                        | Common Femoral Artery            | TID 5103 row 4 -<br>TID 5104 row 1 |
| CIA                                      | SRT  | T-46710                        | Common Iliac Artery              | TID 5103 row 4 -<br>TID 5104 row 1 |
| DFA (Deep Femoral Artery)                | SRT  | T-47440                        | Profunda Femoris Artery          | TID 5103 row 4 -<br>TID 5104 row 1 |

| <b>Label</b>            | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> | <b>Mapping</b>                     |
|-------------------------|--|--------------------------------|----------------------------------|------------------------------------|
| DPA                     | SRT  | T-47741                        | Dorsalis Pedis Artery            | TID 5103 row 4 -<br>TID 5104 row 1 |
| EIA                     | SRT  | T-46910                        | External Iliac Artery            | TID 5103 row 4 -<br>TID 5104 row 1 |
| IIA                     | SRT  | T-46740                        | Internal Iliac Artery            | TID 5103 row 4 -<br>TID 5104 row 1 |
| PerA                    | SRT  | T-47630                        | Peroneal Artery                  | TID 5103 row 4 -<br>TID 5104 row 1 |
| PopA                    | SRT  | T-47500                        | Popliteal Artery                 | TID 5103 row 4 -<br>TID 5104 row 1 |
| PTA                     | SRT  | T-47600                        | Posterior Tibial Artery          | TID 5103 row 4 -<br>TID 5104 row 1 |
| SFA                     | SRT  | T-47403                        | Superficial Femoral Artery       | TID 5103 row 4 -<br>TID 5104 row 1 |
| (row 16, 17)            |  |                                |                                  |                                    |
| ATV                     | SRT  | T-49630                        | Anterior Tibial Vein             | TID 5103 row 4 -<br>TID 5104 row 1 |
| CFV                     | SRT  | G-035B                         | Common Femoral Vein              | TID 5103 row 4 -<br>TID 5104 row 1 |
| CIV                     | SRT  | T-48920                        | Common Iliac Vein                | TID 5103 row 4 -<br>TID 5104 row 1 |
| DFV (Deep Femoral Vein) | SRT  | T-49660                        | Profunda Femoris Vein            | TID 5103 row 4 -<br>TID 5104 row 1 |
| EIV                     | SRT  | T-48930                        | External Iliac Vein              | TID 5103 row 4 -<br>TID 5104 row 1 |
| GSV                     | SRT  | T-49530                        | Great Saphenous Vein             | TID 5103 row 4 -<br>TID 5104 row 1 |
| IIV                     | SRT  | T-48940                        | Internal iliac vein              | TID 5103 row 4 -<br>TID 5104 row 1 |
| LSV                     | SRT  | T-49550                        | Lesser Saphenous Vein            | TID 5103 row 4 -<br>TID 5104 row 1 |
| PerV                    | SRT  | T-49650                        | Peroneal Vein                    | TID 5103 row 4 -<br>TID 5104 row 1 |
| PopV                    | SRT  | T-49640                        | Popliteal Vein                   | TID 5103 row 4 -<br>TID 5104 row 1 |
| PTV                     | SRT  | T-49620                        | Posterior Tibial Vein            | TID 5103 row 4 -<br>TID 5104 row 1 |
| SFV                     | SRT  | G-035A                         | Superficial Femoral Vein         | TID 5103 row 4 -<br>TID 5104 row 1 |
| (row 18, 19)            |  |                                |                                  |                                    |
| AA                      | SRT  | T-47100                        | Axillary Artery                  | TID 5103 row 4 -<br>TID 5104 row 1 |

| Label                                  | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) | Mapping                                |
|--|---------------------------------------|-------------------------|---------------------------|--|
| BA                                     | SRT                                   | T-47160                 | Brachial Artery           | TID 5103 row 4 - TID 5104 row 1        |
| BasA                                   | 99ALOKA                               | A12107-002              | Basilic Artery            | TID 5103 row 4 - TID 5104 row 1        |
| DBA                                    | 99ALOKA                               | A12107-001              | Deep Brachial Artery      | TID 5103 row 4 - TID 5104 row 1        |
| RA                                     | SRT                                   | T-47300                 | Radial Artery             | TID 5103 row 4 - TID 5104 row 1        |
| ScA                                    | SRT                                   | T-46100                 | Subclavian Artery         | TID 5103 row 4 - TID 5104 row 1        |
| SPA                                    | SRT                                   | T-47240                 | Superficial Palmar Arch   | TID 5103 row 4 - TID 5104 row 1        |
| UA                                     | SRT                                   | T-47200                 | Ulnar Artery              | TID 5103 row 4 - TID 5104 row 1        |
| (row 20, 21)                           |                                       |                         |                           |  |
| AV                                     | SRT                                   | T-49110                 | Axillary vein             | TID 5103 row 4 - TID 5104 row 1        |
| BasV                                   | SRT                                   | T-48052                 | Basilic vein              | TID 5103 row 4 - TID 5104 row 1        |
| BV                                     | SRT                                   | T-49350                 | Brachial vein             | TID 5103 row 4 - TID 5104 row 1        |
| CV                                     | SRT                                   | T-49240                 | Cephalic vein             | TID 5103 row 4 - TID 5104 row 1        |
| DBV                                    | 99ALOKA                               | A12108-001              | Deep Brachial vein        | TID 5103 row 4 - TID 5104 row 1        |
| IJV                                    | SRT                                   | T-48170                 | Internal Jugular vein     | TID 5103 row 4 - TID 5104 row 1        |
| RV                                     | SRT                                   | T-49340                 | Radial vein               | TID 5103 row 4 - TID 5104 row 1        |
| ScV                                    | SRT                                   | T-48330                 | Subclavian vein           | TID 5103 row 4 - TID 5104 row 1        |
| UV                                     | SRT                                   | T-49330                 | Ulnar vein                | TID 5103 row 4 - TID 5104 row 1        |
| User-defined Equation Result Parameter | 99ALOKA                               | ALOKA_002-001           | Calculated result.        | TID ALOKA-301 row4 -TID ALOKA-302 row1 |
| User-defined Equation Parameter        | 99ALOKA                               | ALOKA_002-002           | Equation parameter        | TID ALOKA-301 row4 -TID ALOKA-302 row1 |

- Note :
1. Prox / mid / distal is included in Structured Report only for the measurements of CCA prox, CCA mid, CCA distal, ICA prox, ICA mid and ICA distal. Otherwise not included.
  2. PSV, EDV, MnV, PI, RI and S/D are included in Structured Report for the measurements of artery, pV for the measurements of vein.

3. Although DICOM Standard defines ACoA (Anterior Communicating Artery) in CID 12105, it has no laterality and is included in row 11 "Unilateral" section of TID 5100.
4. When both VA and VERT are measured, only VERT is included in Structured Report, not VA.

Abdomen measurements :

TID 5100 row 22 - TID 5103 Vascular Ultrasound Section (Vascular Structure Of Kidney, Left)  
 TID 5100 row 23 - TID 5103 Vascular Ultrasound Section (Vascular Structure Of Kidney, Right)  
 TID 5100 row 24 - TID 5103 Vascular Ultrasound Section (Artery of Abdomen, Left)  
 TID 5100 row 25 - TID 5103 Vascular Ultrasound Section (Artery of Abdomen, Right)  
 TID 5100 row 26 - TID 5103 Vascular Ultrasound Section (Artery of Abdomen, Unilateral)  
 TID 5100 row 29 - TID 5103 Vascular Ultrasound Section (Vein of Abdomen, Unilateral)  
 TID 5100 row 31 (Extension) - TID ALOKA-301 User Defined Equation Section

| Label                       | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)            | Mapping                            |
|-----------------------------|---------------------------------------|-------------------------|--------------------------------------|------------------------------------|
| (Modifier) <sup>1</sup>     |                                       |                         |                                      |                                    |
| Left                        | SRT                                   | G-A101                  | Left                                 | TID 5103 row 3                     |
| Right                       | SRT                                   | G-A100                  | Right                                | TID 5103 row 3                     |
| -                           | SRT                                   | G-A103                  | Unilateral                           | TID 5103 row 3                     |
| - (prox)                    | SRT                                   | G-A118                  | Proximal                             | TID 5103 row 4 -<br>TID 5104 row 2 |
| - (mid)                     | SRT                                   | G-A188                  | Mid-longitudinal                     | TID 5103 row 4 -<br>TID 5104 row 2 |
| - (distal)                  | SRT                                   | G-A119                  | Distal                               | TID 5103 row 4 -<br>TID 5104 row 2 |
| Pre Prandial                | 99ALOKA                               | A-001                   | Pre-prandial                         | TID 5103 row 4 -<br>TID 5104 row 6 |
| Post Prandial               | SRT                                   | G-A491                  | Post-prandial                        | TID 5103 row 4 -<br>TID 5104 row 6 |
|                             |                                       |                         |                                      |                                    |
| (Measurements) <sup>2</sup> |                                       |                         |                                      |                                    |
| PSV<br>pV                   | LN                                    | 11726-7                 | Peak Systolic Velocity               | TID 5103 row 4 -<br>TID 5104 row 4 |
| EDV                         | LN                                    | 11653-3                 | End Diastolic Velocity               | TID 5103 row 4 -<br>TID 5104 row 4 |
| MnV                         | LN                                    | 11692-1                 | Time averaged peak velocity          | TID 5103 row 4 -<br>TID 5104 row 4 |
| PI                          | LN                                    | 12008-9                 | Pulsatility Index                    | TID 5103 row 4 -<br>TID 5104 row 4 |
| RI                          | LN                                    | 12023-8                 | Resistivity Index                    | TID 5103 row 4 -<br>TID 5104 row 4 |
| S/D                         | LN                                    | 12144-2                 | Systolic to Diastolic Velocity Ratio | TID 5103 row 4 -<br>TID 5104 row 4 |

| <b>Label</b>        | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>     | <b>Mapping</b>                     |
|---------------------|--|--------------------------------|--------------------------------------|------------------------------------|
| AccT                | LN   | 20168-1                        | Acceleration Time                    | TID 5103 row 4 -<br>TID 5104 row 4 |
| ACC                 | LN   | 20167-3                        | Acceleration Index                   | TID 5103 row 4 -<br>TID 5104 row 4 |
| FlowT               | 99ALOKA                                      | A12122-001                     | Flow Time                            | TID 5103 row 4 -<br>TID 5104 row 4 |
| AccT/FlowT          | 99ALOKA                                      | A12121-001                     | Acceleration Time to Flow Time Ratio | TID 5103 row 4 -<br>TID 5104 row 4 |
| (Vessels)           |  |                                |                                      |                                    |
| (row 22, 23)        |  |                                |                                      |                                    |
| Renal-A             | SRT  | T-46600                        | Renal Artery                         | TID 5103 row 4 -<br>TID 5104 row 1 |
| (row 24, 25)        |  |                                |                                      |                                    |
| CIA <sup>3</sup>    | SRT  | T-46710                        | Common Iliac Artery                  | TID 5103 row 4 -<br>TID 5104 row 1 |
| (row 26)            |  |                                |                                      |                                    |
| A-Ao                | SRT  | T-42000                        | Aorta                                | TID 5103 row 4 -<br>TID 5104 row 1 |
| CA                  | SRT  | T-46400                        | Celiac Axis                          | TID 5103 row 4 -<br>TID 5104 row 1 |
| CHA                 | SRT  | T-46421                        | Common Hepatic Artery                | TID 5103 row 4 -<br>TID 5104 row 1 |
| SA                  | SRT  | T-46460                        | Splenic Artery                       | TID 5103 row 4 -<br>TID 5104 row 1 |
| SMA<br>Prandial SMA | SRT  | T-46510                        | Superior Mesenteric Artery           | TID 5103 row 4 -<br>TID 5104 row 1 |
| IMA                 | SRT  | T-46520                        | Inferior Mesenteric Artery           | TID 5103 row 4 -<br>TID 5104 row 1 |
| HA, Left            | SRT  | T-46427                        | Left Branch of Hepatic Artery        | TID 5103 row 4 -<br>TID 5104 row 1 |
| HA, Right           | SRT  | T-46423                        | Right Branch of Hepatic Artery       | TID 5103 row 4 -<br>TID 5104 row 1 |
| (row 29)            |  |                                |                                      |                                    |
| Main PV             | SRT  | T-48810                        | Portal Vein                          | TID 5103 row 4 -<br>TID 5104 row 1 |
| Lt. PV              | SRT  | T-4881F                        | Left Main Branch of Portal Vein      | TID 5103 row 4 -<br>TID 5104 row 1 |
| Rt. PV              | SRT  | T-4882A                        | Right Main Branch of Portal Vein     | TID 5103 row 4 -<br>TID 5104 row 1 |

| Label                                   | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)                     | Mapping                                   |
|---|---------------------------------------|-------------------------|---|---|
| Prox Shunt<br>Mid Shunt<br>Distal Shunt | SRT                                   | G-036C                  | Transjugular Intrahepatic Portosystemic Shunt | TID 5103 row 4 -<br>TID 5104 row 1        |
| User-defined Equation Result Parameter  | 99ALOKA                               | ALOKA_002-001           | Calculated result.                            | TID ALOKA-301 row4<br>-TID ALOKA-302 row1 |
| User-defined Equation Parameter         | 99ALOKA                               | ALOKA_002-002           | Equation parameter                            | TID ALOKA-301 row4<br>-TID ALOKA-302 row1 |

- Note :
1. Prox / mid / distal is included in Structured Report only for the measurements of Prox Shunt, Mid Shunt and Distal Shunt. Otherwise not included.  
Pre Prandial / Post Prandial is included only for the measurement of Prandial SMA. Otherwise not included.
  2. PSV, EDV, MnV, PI, RI, S/D, AccT, ACC, FlowT and AccT/FlowT are included in Structured Report for the measurements of renal artery (TID 5100 row 22, 23) .  
PSV, EDV, MnV, PI, RI, S/D, AccT and ACC are included for the measurements of Artery of Abdomen (TID 5100 row 24, 25, 26) .  
pV is included for the measurements of Vein of Abdomen (TID 5100 row 29) .
  3. Although DICOM Standard defines CIA (Common Iliac Artery) in CID 12112 (unilateral) , it has laterality and is included in row 24 "Left" and row 25 "Right" sections of TID 5100.

### 8. 6. 2. 3 TID 5200 Echocardiography Procedure Report

TID 5200 row 3 - TID 1001 Observation Context

| Label        | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) | Mapping  |
|--------------|---------------------------------------|-------------------------|---------------------------|--|
| Patient Name | DCM                                   | 121029                  | Subject Name              | TID 1001 row 3 -<br>TID 1006 row 2 -<br>TID 1007 row 2 |

TID 5200 row 4 - TID 5201 Echocardiography Patient Characteristics

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) | Mapping        |
|-------|---------------------------------------|-------------------------|---------------------------|----------------|
| Age   | DCM                                   | 121033                  | Subject Age               | TID 5201 row 2 |
| Sex   | DCM                                   | 121032                  | Subject Sex               | TID 5201 row 3 |
| BSA   | LN                                    | 8277-6                  | Body Surface Area         | TID 5201 row 7 |

| Label                  | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)                                      | Mapping        |
|------------------------|---------------------------------------|-------------------------|--|----------------|
| BSA Equation, DuBois   | DCM                                   | 122241                  | $BSA = 0.007184 * WT^{0.425} * HT^{0.725}$                     | TID 5201 row 8 |
| BSA Equation, Boyd     | 99ALOKA                               | A3663-001               | $BSA = 0.0003207 * WT^{(0.7285 - 0.0188 \log(WT))} * HT^{0.3}$ | TID 5201 row 8 |
| BSA Equation, Shintani | 99ALOKA                               | A3663-002               | $BSA = 0.007358 * HT^{0.725} * WT^{0.425}$                     | TID 5201 row 8 |

Cardio measurements :

TID 5200 row 7 - TID 5202 Echo Section (Left Ventricle)  
TID 5200 row 8 - TID 5202 Echo Section (Right Ventricle)  
TID 5200 row 9 - TID 5202 Echo Section (Left Atrium)  
TID 5200 row 10 - TID 5202 Echo Section (Right Atrium)  
TID 5200 row 11 - TID 5202 Echo Section (Aortic Valve)  
TID 5200 row 12 - TID 5202 Echo Section (Mitral Valve)  
TID 5200 row 13 - TID 5202 Echo Section (Pulmonic Valve)  
TID 5200 row 14 - TID 5202 Echo Section (Tricuspid Valve)  
TID 5200 row 15 - TID 5202 Echo Section (Aorta)  
TID 5200 row 17 - TID 5202 Echo Section (Vena Cava)  
TID 5200 row 18 - TID 5202 Echo Section (Pulmonary Venous Structure)  
TID 5200 row 19 - TID 5202 Echo Section (Cardiac Shunt Study)  
TID 5200 row 24 (Extension) - TID ALOKA-301 User Defined Equation Section

The rightmost column "row" denotes the row number of TID 5200. In the "Modifier" column, "Image Mode (Group)" means TID 5202 row 4, "Image Mode" means TID 5203 row 5.

| Label   | Concept Name   | Modifier   | row |
|---|--|--|-----|
| (Area-Length, BP-Ellipse, Bullet, M. Simpson) |  |  |     |
| LVLd  | (18077-8, LN, "Left Ventricle diastolic major axis") | Image Mode (Group) = (G-03A2, SRT, "2D mode"), Cardiac Cycle Point= (F-32011, SRT, "End Diastole"), Image Mode= (G-03A2, SRT, "2D mode") | 7   |
| LVLs  | (18076-0, LN, "Left Ventricle systolic major axis")  | Image Mode (Group) = (G-03A2, SRT, "2D mode"), Cardiac Cycle Point= (109070, DCM, "End Systole"), Image Mode= (G-03A2, SRT, "2D mode")   | 7   |
| (Simpson (Disc))                              |  |  |     |



| Label                      | Concept Name  | Modifier   | row |
|----------------------------|---|--|-----|
| LVL2d                      | (18077-8, LN, "Left Ventricle diastolic major axis")                        | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19B, SRT, "Apical two chamber")                               | 7   |
| LVL2s                      | (18076-0, LN, "Left Ventricle systolic major axis")                         | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19B, SRT, "Apical two chamber")                                 | 7   |
| LVL4d                      | (18077-8, LN, "Left Ventricle diastolic major axis")                        | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19C, SRT, "Apical four chamber")                              | 7   |
| LVL4s                      | (18076-0, LN, "Left Ventricle systolic major axis")                         | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19C, SRT, "Apical four chamber")                                | 7   |
| (Pombo, Teichholz, Gibson) |   |  |     |
| LVIDd                      | (29436-3, LN, "Left Ventricle Internal End Diastolic Dimension")            | Cardiac Cycle Point= (F-32011, SRT, "End Diastole")  | 7   |
| LVIDs                      | (29438-9, LN, "Left Ventricle Internal Systolic Dimension")                 | Cardiac Cycle Point= (109070, DCM, "End Systole")  | 7   |
| (BP-Ellipse)               |   |  |     |
| LVSLMVd                    | (A12201-001, 99ALOKA, "Left Ventricular Short Axis Length at Mitral Valve") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-039A, SRT, "Parasternal short axis at the Mitral Valve level") | 7   |
| LVSLMV s                   | (A12201-001, 99ALOKA, "Left Ventricular Short Axis Length at Mitral Valve") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-039A, SRT, "Parasternal short axis at the Mitral Valve level")   | 7   |
| (Area-Length, BP-Ellipse)  |   |  |     |
| LVLAd                      | (G-0375, SRT, "Left Ventricular Diastolic Area")                            | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125220, DCM, "Planimetry") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole") , Image Mode= (G-03A2, SRT, "2D mode")                               | 7   |

| Label                    | Concept Name                                     | Modifier   | row |
|--------------------------|--|--|-----|
| LVLAs                    | (G-0374, SRT, "Left Ventricular Systolic Area")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125220, DCM, "Planimetry") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode")   | 7   |
| (Simpson (Disc) )        |  |  |     |
| LVLA2d                   | (G-0375, SRT, "Left Ventricular Diastolic Area") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125220, DCM, "Planimetry") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19B, SRT, "Apical two chamber")                               | 7   |
| LVLA2s                   | (G-0374, SRT, "Left Ventricular Systolic Area")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125220, DCM, "Planimetry") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19B, SRT, "Apical two chamber")                                 | 7   |
| LVLA4d                   | (G-0375, SRT, "Left Ventricular Diastolic Area") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125220, DCM, "Planimetry") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19C, SRT, "Apical four chamber")                              | 7   |
| LVLA4s                   | (G-0374, SRT, "Left Ventricular Systolic Area")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125220, DCM, "Planimetry") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19C, SRT, "Apical four chamber")                                | 7   |
| (BP-Ellipse, M. Simpson) |  |  |     |
| LVSAMVd                  | (G-0375, SRT, "Left Ventricular Diastolic Area") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125220, DCM, "Planimetry") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-039A, SRT, "Parasternal short axis at the Mitral Valve level") | 7   |
| LVSAMVs                  | (G-0374, SRT, "Left Ventricular Systolic Area")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125220, DCM, "Planimetry") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-039A, SRT, "Parasternal short axis at the Mitral Valve level")   | 7   |
| (Bullet, M. Simpson)     |  |  |     |

| Label                 | Concept Name   | Modifier   | row |
|-----------------------|--|--|-----|
| LVSAPMd               | (G-0375, SRT, "Left Ventricular Diastolic Area")                         | Image Mode (Group) = (G-03A2, SRT, "2D mode"), Measurement Method= (125220, DCM, "Planimetry"), Cardiac Cycle Point= (F-32011, SRT, "End Diastole"), Image Mode= (G-03A2, SRT, "2D mode"), Image View= (G-039B, SRT, "Parasternal short axis at the Papillary Muscle level") | 7   |
| LVSAPMs               | (G-0374, SRT, "Left Ventricular Systolic Area")                          | Image Mode (Group) = (G-03A2, SRT, "2D mode"), Measurement Method= (125220, DCM, "Planimetry"), Cardiac Cycle Point= (109070, DCM, "End Systole"), Image Mode= (G-03A2, SRT, "2D mode"), Image View= (G-039B, SRT, "Parasternal short axis at the Papillary Muscle level")   | 7   |
| (LV Mass (AL) )       |  |  |     |
| Aepi                  | (G-0379, SRT, "Left Ventricle Epicardial Diastolic Area, psax pap view") | Image Mode (Group) = (G-03A2, SRT, "2D mode"), Measurement Method= (125220, DCM, "Planimetry"), Cardiac Cycle Point= (F-32011, SRT, "End Diastole"), Image Mode= (G-03A2, SRT, "2D mode"), Image View= (G-039B, SRT, "Parasternal short axis at the Papillary Muscle level") | 7   |
| Aend                  | (G-0375, SRT, "Left Ventricular Diastolic Area")                         | Image Mode (Group) = (G-03A2, SRT, "2D mode"), Measurement Method= (125220, DCM, "Planimetry"), Cardiac Cycle Point= (F-32011, SRT, "End Diastole"), Image Mode= (G-03A2, SRT, "2D mode"), Image View= (G-039B, SRT, "Parasternal short axis at the Papillary Muscle level") | 7   |
| thick                 | (A12201-002, 99ALOKA, "Mean Wall Thickness")                             | Image Mode (Group) = (G-03A2, SRT, "2D mode")  | 7   |
| LVM (AL)              | (18087-7, LN, "Left Ventricle Mass")                                     | Image Mode (Group) = (G-03A2, SRT, "2D mode"), Measurement Method= (A12232-001, 99ALOKA, "Left Ventricle Mass by Area Length")   | 7   |
| LVM (AL) /BSA         | (A12203-001, 99ALOKA, "Left Ventricular Mass Index")                     | Image Mode (Group) = (G-03A2, SRT, "2D mode")  | 7   |
| (LV Mass (Devereux) ) |  |  |     |
| LVM (Devereux)        | (18087-7, LN, "Left Ventricle Mass")                                     | Image Mode (Group) = (G-0394, SRT, "M mode"), Measurement Method= (A12232-002, 99ALOKA, "Left Ventricle Mass by Penn")   | 7   |
| LVM (Devereux) /BSA   | (A12203-001, 99ALOKA, "Left Ventricular Mass Index")                     | Image Mode (Group) = (G-0394, SRT, "M mode")   | 7   |
| (LV Mass (ASE) )      |  |  |     |
| LVM (ASE)             | (18087-7, LN, "Left Ventricle Mass")                                     | Image Mode (Group) = (G-0394, SRT, "M mode"), Measurement Method= (125221, DCM, "Left Ventricle Mass by M-mode"), Image Mode= (G-0394, SRT, "M mode")  | 7   |

| Label             | Concept Name   | Modifier   | row |
|-------------------|--|--|-----|
| LVM (ASE) /BSA    | (A12203-001, 99ALOKA, "Left Ventricular Mass Index")   | Image Mode (Group) = (G-0394, SRT, "M mode") , Image Mode= (G-0394, SRT, "M mode")   | 7   |
| (Simpson (Disc) ) |  |  |     |
| EDV               | (18026-5, LN, "Left Ventricular End Diastolic Volume") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125207, DCM, "Method of Disks, Biplane") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole")  | 7   |
| ESV               | (18148-7, LN, "Left Ventricular End Systolic Volume")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125207, DCM, "Method of Disks, Biplane") , Cardiac Cycle Point= (109070, DCM, "End Systole")  | 7   |
| SV                | (F-32120, SRT, "Stroke Volume")                        | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125207, DCM, "Method of Disks, Biplane")  | 7   |
| SVI               | (F-00078, SRT, "Stroke Index")                         | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125207, DCM, "Method of Disks, Biplane")  | 7   |
| CO                | (F-32100, SRT, "Cardiac Output")                       | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125207, DCM, "Method of Disks, Biplane")  | 7   |
| COI               | (F-32110, SRT, "Cardiac Index")                        | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125207, DCM, "Method of Disks, Biplane")  | 7   |
| EF                | (18043-0, LN, "Left Ventricular Ejection Fraction")    | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125207, DCM, "Method of Disks, Biplane")  | 7   |
| EDV (ap4C)        | (18026-5, LN, "Left Ventricular End Diastolic Volume") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125208, DCM, "Method of Disks, Single Plane") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole") , Image View= (G-A19C, SRT, "Apical four chamber")                                | 7   |
| ESV (ap4C)        | (18148-7, LN, "Left Ventricular End Systolic Volume")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125208, DCM, "Method of Disks, Single Plane") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image View= (G-A19C, SRT, "Apical four chamber")                                  | 7   |
| EDV (ap2C)        | (18026-5, LN, "Left Ventricular End Diastolic Volume") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-001, 99ALOKA, "Method of Disks, Single Plane with Apical two chamber") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole") , Image View= (G-A19B, SRT, "Apical two chamber") | 7   |

| Label      | Concept Name   | Modifier   | row |
|------------|--|--|-----|
| ESV (ap2C) | (18148-7, LN, "Left Ventricular End Systolic Volume")    | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-001, 99ALOKA, "Method of Disks, Single Plane with Apical two chamber") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image View= (G-A19B, SRT, "Apical two chamber") | 7   |
| SV (ap4C)  | (F-32120, SRT, "Stroke Volume")                          | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125208, DCM, "Method of Disks, Single Plane") , Image View= (G-A19C, SRT, "Apical four chamber")  | 7   |
| SVI (ap4C) | (F-00078, SRT, "Stroke Index")                           | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125208, DCM, "Method of Disks, Single Plane") , Image View= (G-A19C, SRT, "Apical four chamber")  | 7   |
| CO (ap4C)  | (F-32100, SRT, "Cardiac Output")                         | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125208, DCM, "Method of Disks, Single Plane") , Image View= (G-A19C, SRT, "Apical four chamber")  | 7   |
| COI (ap4C) | (F-32110, SRT, "Cardiac Index")                          | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125208, DCM, "Method of Disks, Single Plane") , Image View= (G-A19C, SRT, "Apical four chamber")  | 7   |
| EF (ap4C)  | (18043-0, LN, "Left Ventricular Ejection Fraction")      | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125208, DCM, "Method of Disks, Single Plane") , Image View= (G-A19C, SRT, "Apical four chamber")  | 7   |
| areaEF4    | (G-0376, SRT, "Left Ventricular Fractional Area Change") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125208, DCM, "Method of Disks, Single Plane") , Image View= (G-A19C, SRT, "Apical four chamber")  | 7   |
| SV (ap2C)  | (F-32120, SRT, "Stroke Volume")                          | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-001, 99ALOKA, "Method of Disks, Single Plane with Apical two chamber") , Image View= (G-A19B, SRT, "Apical two chamber")   | 7   |
| SVI (ap2C) | (F-00078, SRT, "Stroke Index")                           | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-001, 99ALOKA, "Method of Disks, Single Plane with Apical two chamber") , Image View= (G-A19B, SRT, "Apical two chamber")   | 7   |

| Label       | Concept Name  | Modifier   | row |
|-------------|---|--|-----|
| CO (ap2C)   | (F-32100, SRT, "Cardiac Output")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-001, 99ALOKA, "Method of Disks, Single Plane with Apical two chamber") , Image View= (G-A19B, SRT, "Apical two chamber") | 7   |
| COI (ap2C)  | (F-32110, SRT, "Cardiac Index")   | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-001, 99ALOKA, "Method of Disks, Single Plane with Apical two chamber") , Image View= (G-A19B, SRT, "Apical two chamber") | 7   |
| EF (ap2C)   | (18043-0, LN, "Left Ventricular Ejection Fraction")                                     | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-001, 99ALOKA, "Method of Disks, Single Plane with Apical two chamber") , Image View= (G-A19B, SRT, "Apical two chamber") | 7   |
| areaEF2     | (G-0376, SRT, "Left Ventricular Fractional Area Change")                                | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-001, 99ALOKA, "Method of Disks, Single Plane with Apical two chamber") , Image View= (G-A19B, SRT, "Apical two chamber") | 7   |
| %difD       | (A12203-003, 99ALOKA, "Long Axis (at End Diastole or End Systole) Length % Difference") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole")  | 7   |
| %difS       | (A12203-003, 99ALOKA, "Long Axis (at End Diastole or End Systole) Length % Difference") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Cardiac Cycle Point= (109070, DCM, "End Systole")  | 7   |
| (Teichholz) |   |  |     |
| EDV         | (18026-5, LN, "Left Ventricular End Diastolic Volume")                                  | Measurement Method= (125209, DCM, "Teichholz") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole")   | 7   |
| ESV         | (18148-7, LN, "Left Ventricular End Systolic Volume")                                   | Measurement Method= (125209, DCM, "Teichholz") , Cardiac Cycle Point= (109070, DCM, "End Systole")   | 7   |
| SV          | (F-32120, SRT, "Stroke Volume")   | Measurement Method= (125209, DCM, "Teichholz")   | 7   |
| SVI         | (F-00078, SRT, "Stroke Index")  | Measurement Method= (125209, DCM, "Teichholz")   | 7   |
| CO          | (F-32100, SRT, "Cardiac Output")  | Measurement Method= (125209, DCM, "Teichholz")   | 7   |
| COI         | (F-32110, SRT, "Cardiac Index")   | Measurement Method= (125209, DCM, "Teichholz")   | 7   |
| EF          | (18043-0, LN, "Left Ventricular Ejection Fraction")                                     | Measurement Method= (125209, DCM, "Teichholz")   | 7   |

| Label                      | Concept Name  | Modifier  | row |
|----------------------------|---|---|-----|
| (Pombo, Teichholz, Gibson) |   |   |     |
| FS                         | (18051-3, LN, "Left Ventricular Fractional Shortening") |   | 7   |
| mFS                        | (A12203-004, 99ALOKA, "Midwall Fractional Shortening")  |   | 7   |
| (Pombo)                    |   |   |     |
| EDV                        | (18026-5, LN, "Left Ventricular End Diastolic Volume")  | Measurement Method= (125206, DCM, "Cube Method") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole")  | 7   |
| ESV                        | (18148-7, LN, "Left Ventricular End Systolic Volume")   | Measurement Method= (125206, DCM, "Cube Method") , Cardiac Cycle Point= (109070, DCM, "End Systole")  | 7   |
| SV                         | (F-32120, SRT, "Stroke Volume")                         | Measurement Method= (125206, DCM, "Cube Method")  | 7   |
| SVI                        | (F-00078, SRT, "Stroke Index")                          | Measurement Method= (125206, DCM, "Cube Method")  | 7   |
| CO                         | (F-32100, SRT, "Cardiac Output")                        | Measurement Method= (125206, DCM, "Cube Method")  | 7   |
| COI                        | (F-32110, SRT, "Cardiac Index")                         | Measurement Method= (125206, DCM, "Cube Method")  | 7   |
| EF                         | (18043-0, LN, "Left Ventricular Ejection Fraction")     | Measurement Method= (125206, DCM, "Cube Method")  | 7   |
| (Gibson)                   |   |   |     |
| EDV                        | (18026-5, LN, "Left Ventricular End Diastolic Volume")  | Measurement Method= (A12228-002, 99ALOKA, "Gibson") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole")   | 7   |
| ESV                        | (18148-7, LN, "Left Ventricular End Systolic Volume")   | Measurement Method= (A12228-002, 99ALOKA, "Gibson") , Cardiac Cycle Point= (109070, DCM, "End Systole")   | 7   |
| SV                         | (F-32120, SRT, "Stroke Volume")                         | Measurement Method= (A12228-002, 99ALOKA, "Gibson")   | 7   |
| SVI                        | (F-00078, SRT, "Stroke Index")                          | Measurement Method= (A12228-002, 99ALOKA, "Gibson")   | 7   |
| CO                         | (F-32100, SRT, "Cardiac Output")                        | Measurement Method= (A12228-002, 99ALOKA, "Gibson")   | 7   |
| COI                        | (F-32110, SRT, "Cardiac Index")                         | Measurement Method= (A12228-002, 99ALOKA, "Gibson")   | 7   |
| EF                         | (18043-0, LN, "Left Ventricular Ejection Fraction")     | Measurement Method= (A12228-002, 99ALOKA, "Gibson")   | 7   |
| (Area-Length)              |   |   |     |
| EDV                        | (18026-5, LN, "Left Ventricular End Diastolic Volume")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125205, DCM, "Area-Length Single Plane") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole") | 7   |

| Label        | Concept Name  | Modifier  | row |
|--------------|---|---|-----|
| ESV          | (18148-7, LN, "Left Ventricular End Systolic Volume")             | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125205, DCM, "Area-Length Single Plane") , Cardiac Cycle Point= (109070, DCM, "End Systole") | 7   |
| SV           | (F-32120, SRT, "Stroke Volume")                                   | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125205, DCM, "Area-Length Single Plane")   | 7   |
| SVI          | (F-00078, SRT, "Stroke Index")                                    | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125205, DCM, "Area-Length Single Plane")   | 7   |
| CO           | (F-32100, SRT, "Cardiac Output")                                  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125205, DCM, "Area-Length Single Plane")   | 7   |
| COI          | (F-32110, SRT, "Cardiac Index")                                   | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125205, DCM, "Area-Length Single Plane")   | 7   |
| EF           | (18043-0, LN, "Left Ventricular Ejection Fraction")               | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125205, DCM, "Area-Length Single Plane")   | 7   |
| areaEF       | (G-0376, SRT, "Left Ventricular Fractional Area Change")          | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125205, DCM, "Area-Length Single Plane")   | 7   |
| (BP-Ellipse) |   |   |     |
| EDV          | (18026-5, LN, "Left Ventricular End Diastolic Volume")            | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125204, DCM, "Area-Length Biplane") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole")    | 7   |
| ESV          | (18148-7, LN, "Left Ventricular End Systolic Volume")             | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125204, DCM, "Area-Length Biplane") , Cardiac Cycle Point= (109070, DCM, "End Systole")      | 7   |
| SV           | (F-32120, SRT, "Stroke Volume")                                   | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125204, DCM, "Area-Length Biplane")  | 7   |
| SVI          | (F-00078, SRT, "Stroke Index")                                    | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125204, DCM, "Area-Length Biplane")  | 7   |
| CO           | (F-32100, SRT, "Cardiac Output")                                  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125204, DCM, "Area-Length Biplane")  | 7   |
| COI          | (F-32110, SRT, "Cardiac Index")                                   | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125204, DCM, "Area-Length Biplane")  | 7   |
| EF           | (18043-0, LN, "Left Ventricular Ejection Fraction")               | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125204, DCM, "Area-Length Biplane")  | 7   |
| areaEFix     | (A12203-005, 99ALOKA, "Area Ejection Fraction at Long Axis View") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125204, DCM, "Area-Length Biplane")  | 7   |



| Label        | Concept Name   | Modifier  | row |
|--------------|--|---|-----|
| areaEFsx     | (A12203-006, 99ALOKA, "Area Ejection Fraction at Short Axis View") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125204, DCM, "Area-Length Biplane")  | 7   |
| (M. Simpson) |  |   |     |
| EDV          | (18026-5, LN, "Left Ventricular End Diastolic Volume")             | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-003, 99ALOKA, "Modified Simpson's") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole")                               | 7   |
| ESV          | (18148-7, LN, "Left Ventricular End Systolic Volume")              | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-003, 99ALOKA, "Modified Simpson's") , Cardiac Cycle Point= (109070, DCM, "End Systole")                                 | 7   |
| SV           | (F-32120, SRT, "Stroke Volume")                                    | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-003, 99ALOKA, "Modified Simpson's")   | 7   |
| SVI          | (F-00078, SRT, "Stroke Index")                                     | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-003, 99ALOKA, "Modified Simpson's")   | 7   |
| CO           | (F-32100, SRT, "Cardiac Output")                                   | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-003, 99ALOKA, "Modified Simpson's")   | 7   |
| COI          | (F-32110, SRT, "Cardiac Index")                                    | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-003, 99ALOKA, "Modified Simpson's")   | 7   |
| EF           | (18043-0, LN, "Left Ventricular Ejection Fraction")                | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-003, 99ALOKA, "Modified Simpson's")   | 7   |
| areaEFmv     | (G-0376, SRT, "Left Ventricular Fractional Area Change")           | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-003, 99ALOKA, "Modified Simpson's") , Image View= (G-039A, SRT, "Parasternal short axis at the Mitral Valve level")     | 7   |
| areaEFpm     | (G-0376, SRT, "Left Ventricular Fractional Area Change")           | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-003, 99ALOKA, "Modified Simpson's") , Image View= (G-039B, SRT, "Parasternal short axis at the Papillary Muscle level") | 7   |
| (Bullet)     |  |   |     |
| EDV          | (18026-5, LN, "Left Ventricular End Diastolic Volume")             | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-004, 99ALOKA, "Bullet") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole")   | 7   |
| ESV          | (18148-7, LN, "Left Ventricular End Systolic Volume")              | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-004, 99ALOKA, "Bullet") , Cardiac Cycle Point= (109070, DCM, "End Systole")   | 7   |

| Label  | Concept Name   | Modifier  | row |
|--|--|---|-----|
| SV   | (F-32120, SRT, "Stroke Volume")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-004, 99ALOKA, "Bullet")   | 7   |
| SVI  | (F-00078, SRT, "Stroke Index")   | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-004, 99ALOKA, "Bullet")   | 7   |
| CO   | (F-32100, SRT, "Cardiac Output")   | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-004, 99ALOKA, "Bullet")   | 7   |
| COI  | (F-32110, SRT, "Cardiac Index")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-004, 99ALOKA, "Bullet")   | 7   |
| EF   | (18043-0, LN, "Left Ventricular Ejection Fraction")                        | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-004, 99ALOKA, "Bullet")   | 7   |
| areaEF   | (G-0376, SRT, "Left Ventricular Fractional Area Change")                   | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-004, 99ALOKA, "Bullet")   | 7   |
| (LV Volume, LV Function)                       |  |   |     |
| HR (LV Volume (Simpson (Disc) ) ) <sub>1</sub> | (8867-4, LN, "Heart rate")   |   | 7   |
| HR (LV Volume) <sub>1</sub>                    | (8867-4, LN, "Heart rate")   |   | 7   |
| HR (LV Function) <sub>1</sub>                  | (8867-4, LN, "Heart rate")   |   | 7   |
| (LV Function (Pombo, Teichholz, Gibson) )      |  |   |     |
| ET   | (18041-4, LN, "Aortic Valve Ejection Time")                                | Image Mode (Group) = (G-0394, SRT, "M mode")  | 11  |
| MVCF   | (A12203-009, 99ALOKA, "Mean Velocity of Circumferential Fiber Shortening") | Image Mode (Group) = (G-0394, SRT, "M mode")  | 7   |
| (MVA)  |  |   |     |
| MVA  | (G-038E, SRT, "Cardiovascular Orifice Area")                               | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125220, DCM, "Planimetry") , Flow Direction= (R-42047, SRT, "Antegrade Flow") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-039A, SRT, "Parasternal short axis at the Mitral Valve level") | 12  |
| (AVA)  |  |   |     |

| Label                             | Concept Name   | Modifier  | row |
|-----------------------------------|--|---|-----|
| AVA                               | (G-038E, SRT, "Cardiovascular Orifice Area")                               | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (125220, DCM, "Planimetry") , Flow Direction= (R-42047, SRT, "Antegrade Flow") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-0398, SRT, "Parasternal short axis at the aortic valve level") | 11  |
| (RVD, Pombo, Teichholz, Gibson)   |  |   |     |
| RVDd                              | (20304-2, LN, "Right Ventricular Internal Diastolic Dimension")            | Cardiac Cycle Point= (F-32011, SRT, "End Diastole")   | 8   |
| RVDs                              | (20305-9, LN, "Right Ventricular Internal Systolic Dimension")             | Cardiac Cycle Point= (109070, DCM, "End Systole")   | 8   |
| (Ratio, Pombo, Teichholz, Gibson) |  |   |     |
| IVSd                              | (18154-5, LN, "Interventricular Septum Diastolic Thickness")               | Cardiac Cycle Point= (F-32011, SRT, "End Diastole")   | 7   |
| IVSs                              | (18158-6, LN, "Interventricular Septum Systolic Thickness")                | Cardiac Cycle Point= (109070, DCM, "End Systole")   | 7   |
| %IVSTF                            | (18054-7, LN, "Interventricular Septum % Thickening")                      |   | 7   |
| LVPWd                             | (18152-9, LN, "Left Ventricle Posterior Wall Diastolic Thickness")         | Cardiac Cycle Point= (F-32011, SRT, "End Diastole")   | 7   |
| LVPWs                             | (18156-0, LN, "Left Ventricle Posterior Wall Systolic Thickness")          | Cardiac Cycle Point= (109070, DCM, "End Systole")   | 7   |
| %PWTF                             | (18053-9, LN, "Left Ventricle Posterior Wall % Thickening")                |   | 7   |
| IVS/LVPW                          | (18155-2, LN, "Interventricular Septum to Posterior Wall Thickness Ratio") |   | 7   |
| (LVOT Flow)                       |  |   |     |
| LVOT                              | (G-038F, SRT, "Cardiovascular Orifice Diameter")                           | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract")  | 7   |
| CSA (LVOT)                        | (G-038E, SRT, "Cardiovascular Orifice Area")                               | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract")  | 7   |
| (RVOT Flow)                       |  |   |     |

| Label      | Concept Name  | Modifier  | row |
|------------|---|---|-----|
| RVOT       | (G-038F, SRT, "Cardiovascular Orifice Diameter")                                | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract") , Image Mode= (G-03A2, SRT, "2D mode") | 8   |
| CSA (RVOT) | (G-038E, SRT, "Cardiovascular Orifice Area")                                    | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract")  | 8   |
| (RVD)      |   |   |     |
| RVAWd      | (18153-7, LN, "Right Ventricular Anterior Wall Diastolic Thickness")            | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Cardiac Cycle Point= (F-32011, SRT, "End Diastole")   | 8   |
| RVAWs      | (18157-8, LN, "Right Ventricular Anterior Wall Systolic Thickness")             | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Cardiac Cycle Point= (109070, DCM, "End Systole")   | 8   |
| (IVC)      |   |   |     |
| Insp       | (18006-7, LN, "Inferior Vena Cava Diameter")                                    | Respiratory Cycle Point= (F-20010, SRT, "During Inspiration")   | 17  |
| Exp        | (18006-7, LN, "Inferior Vena Cava Diameter")                                    | Respiratory Cycle Point= (F-20020, SRT, "During Expiration")  | 17  |
| %Collapse  | (18050-5, LN, "Inferior Vena Cava % Collapse")                                  |   | 17  |
| (LA/AO)    |   |   |     |
| LADd       | (A12205-001, 99ALOKA, "Left Atrium Antero-posterior Diastolic Dimension")       | Cardiac Cycle Point= (F-32011, SRT, "End Diastole")   | 9   |
| LADs       | (29469-4, LN, "Left Atrium Antero-posterior Systolic Dimension")                | Cardiac Cycle Point= (109070, DCM, "End Systole")   | 9   |
| AODd       | (18015-8, LN, "Aortic Root Diameter")   | Cardiac Cycle Point= (F-32011, SRT, "End Diastole")   | 15  |
| AODs       | (18015-8, LN, "Aortic Root Diameter")   | Cardiac Cycle Point= (109070, DCM, "End Systole")   | 15  |
| AVDs       | (G-038F, SRT, "Cardiovascular Orifice Diameter")                                | Finding Site= (T-35410, SRT, "Aortic Valve Ring") , Flow Direction= (R-42047, SRT, "Antegrade Flow") , Cardiac Cycle Point= (F-32020, SRT, "Systole") | 11  |
| LADs/AODd  | (17985-3, LN, "Left Atrium to Aortic Root Ratio")                               |   | 9   |
| (Mitral V) |   |   |     |
| C-Eamp     | (A12207-001, 99ALOKA, "Mitral Valve Dimension of C point to E point by M-Mode") | Image Mode (Group) = (G-0394, SRT, "M mode") , Image Mode= (G-0394, SRT, "M mode")  | 12  |
| C-Aamp     | (A12207-002, 99ALOKA, "Mitral Valve Dimension of C point to A point by M-Mode") | Image Mode (Group) = (G-0394, SRT, "M mode") , Image Mode= (G-0394, SRT, "M mode")  | 12  |

| Label         | Concept Name  | Modifier   | row |
|---------------|---|--|-----|
| EPSS          | (18036-4, LN, "Mitral Valve EPSS, E wave")  | Image Mode (Group) = (G-0394, SRT, "M mode") , Image Mode= (G-0394, SRT, "M mode") | 12  |
| E-Fslop       | (18040-6, LN, "Mitral Valve E-F Slope by M-Mode")                                       | Image Mode (Group) = (G-0394, SRT, "M mode") , Image Mode= (G-0394, SRT, "M mode") | 12  |
| A/E           | (A12207-003, 99ALOKA, "Mitral Valve C-A Dimension to C-E Dimension Ratio by M-Mode")    | Image Mode (Group) = (G-0394, SRT, "M mode")                                       | 12  |
| E/A           | (A12207-004, 99ALOKA, "Mitral Valve C-E Dimension to C-A Dimension Ratio by M-Mode")    | Image Mode (Group) = (G-0394, SRT, "M mode")                                       | 12  |
| (Tricuspid V) |   |  |     |
| C-Eamp        | (A12208-001, 99ALOKA, "Tricuspid Valve Dimension of C point to E point by M-Mode")      | Image Mode (Group) = (G-0394, SRT, "M mode") , Image Mode= (G-0394, SRT, "M mode") | 14  |
| C-Aamp        | (A12208-002, 99ALOKA, "Tricuspid Valve Dimension of C point to A point by M-Mode")      | Image Mode (Group) = (G-0394, SRT, "M mode") , Image Mode= (G-0394, SRT, "M mode") | 14  |
| D-Eamp        | (A12208-003, 99ALOKA, "Tricuspid Valve Dimension of D point to E point by M-Mode")      | Image Mode (Group) = (G-0394, SRT, "M mode") , Image Mode= (G-0394, SRT, "M mode") | 14  |
| E-Fslop       | (A12208-004, 99ALOKA, "Tricuspid Valve Velocity from E point to F point by M-Mode")     | Image Mode (Group) = (G-0394, SRT, "M mode") , Image Mode= (G-0394, SRT, "M mode") | 14  |
| D-Eslop       | (A12208-005, 99ALOKA, "Tricuspid Valve Velocity from D point to E point by M-Mode")     | Image Mode (Group) = (G-0394, SRT, "M mode") , Image Mode= (G-0394, SRT, "M mode") | 14  |
| A/E           | (A12208-006, 99ALOKA, "Tricuspid Valve C-A Dimension to C-E Dimension Ratio by M-Mode") | Image Mode (Group) = (G-0394, SRT, "M mode")                                       | 14  |
| E/A           | (A12208-007, 99ALOKA, "Tricuspid Valve C-E Dimension to C-A Dimension Ratio by M-Mode") | Image Mode (Group) = (G-0394, SRT, "M mode")                                       | 14  |
| (Pulmonary V) |   |  |     |
| A wave amp    | (A12209-001, 99ALOKA, "Pulmonic Valve Dimension of F point to A point by M-Mode")       | Image Mode (Group) = (G-0394, SRT, "M mode") , Image Mode= (G-0394, SRT, "M mode") | 13  |

| Label       | Concept Name   | Modifier   | row |
|-------------|--|--|-----|
| B-Camp      | (A12209-002, 99ALOKA, "Pulmonic Valve Dimension of B point to C point by M-Mode")  | Image Mode (Group) = (G-0394, SRT, "M mode") , Image Mode= (G-0394, SRT, "M mode")                                       | 13  |
| E-Fslop     | (A12209-003, 99ALOKA, "Pulmonic Valve Velocity from E point to F point by M-Mode") | Image Mode (Group) = (G-0394, SRT, "M mode") , Image Mode= (G-0394, SRT, "M mode")                                       | 13  |
| B-Cslop     | (A12209-004, 99ALOKA, "Pulmonic Valve Velocity from B point to C point by M-Mode") | Image Mode (Group) = (G-0394, SRT, "M mode") , Image Mode= (G-0394, SRT, "M mode")                                       | 13  |
| (LVOT Flow) |  |  |     |
| pV          | (11726-7, LN, "Peak Velocity")   | Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract")   | 7   |
| MnV         | (20352-1, LN, "Mean Velocity")   | Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract")   | 7   |
| MPG         | (20256-4, LN, "Mean Gradient")   | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract") | 7   |
| VTI         | (20354-7, LN, "Velocity Time Integral")  | Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract")   | 7   |
| AccT        | (20168-1, LN, "Acceleration Time")   | Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract")   | 7   |
| PEP         | (A12222-001, 99ALOKA, "Pre-Ejection Period")                                       | Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract")   | 7   |
| ET          | (18041-4, LN, "Aortic Valve Ejection Time")  | Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract")   | 11  |
| HR          | (8867-4, LN, "Heart rate")   | Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract")   | 7   |
| AccT/ET     | (G-0382, SRT, "Ratio of Aortic Valve Acceleration Time to Ejection Time")          | Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract")   | 11  |
| PG          | (20247-3, LN, "Peak Gradient")   | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract") | 7   |
| SV (LVOT)   | (F-32120, SRT, "Stroke Volume")  | Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract")   | 7   |
| CO (LVOT)   | (F-32100, SRT, "Cardiac Output")   | Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract")   | 7   |
| PEP/ET      | (A12222-002, 99ALOKA, "PEP/ET")  | Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract")   | 7   |
| SVI (LVOT)  | (F-00078, SRT, "Stroke Index")   | Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract")   | 7   |
| COI (LVOT)  | (F-32110, SRT, "Cardiac Index")  | Finding Site= (T-32650, SRT, "Left Ventricle Outflow Tract")   | 7   |
| (RVOT Flow) |  |  |     |

| Label          | Concept Name  | Modifier   | row |
|----------------|---|--|-----|
| pV             | (11726-7, LN, "Peak Velocity")  | Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract")   | 8   |
| MnV            | (20352-1, LN, "Mean Velocity")  | Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract")   | 8   |
| MPG            | (20256-4, LN, "Mean Gradient")  | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract") | 8   |
| VTI            | (20354-7, LN, "Velocity Time Integral")                                     | Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract")   | 8   |
| AccT           | (20168-1, LN, "Acceleration Time")  | Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract")   | 8   |
| PEP            | (A12222-001, 99ALOKA, "Pre-Ejection Period")                                | Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract")   | 8   |
| ET             | (18042-2, LN, "Pulmonic Valve Ejection Time")                               | Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract")   | 13  |
| HR             | (8867-4, LN, "Heart rate")  | Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract")   | 8   |
| AccT/ET        | (G-0388, SRT, "Ratio of Pulmonic Valve Acceleration Time to Ejection Time") | Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract")   | 13  |
| PG             | (20247-3, LN, "Peak Gradient")  | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract") | 8   |
| SV (RVOT)      | (F-32120, SRT, "Stroke Volume")   | Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract")   | 8   |
| CO (RVOT)      | (F-32100, SRT, "Cardiac Output")  | Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract")   | 8   |
| PEP/ET         | (A12222-002, 99ALOKA, "PEP/ET")   | Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract")   | 8   |
| Qp/Qs          | (29462-9, LN, "Pulmonary-to-Systemic Shunt Flow Ratio")                     |  | 19  |
| SVI (RVOT)     | (F-00078, SRT, "Stroke Index")  | Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract")   | 8   |
| COI (RVOT)     | (F-32110, SRT, "Cardiac Index")   | Finding Site= (T-32550, SNM3, "Right Ventricle Outflow Tract")   | 8   |
| (Trans M Flow) |   |  |     |
| eV             | (18037-2, LN, "Mitral Valve E-Wave Peak Velocity")                          |  | 12  |
| aV             | (17978-8, LN, "Mitral Valve A-Wave Peak Velocity")                          |  | 12  |
| MnV            | (20352-1, LN, "Mean Velocity")  | Image Mode (Group) = (R-409E4, SRT, "Doppler Pulsed") , Flow Direction= (R-42047, SRT, "Antegrade Flow")                   | 12  |

| Label       | Concept Name  | Modifier   | row |
|-------------|---|--|-----|
| MPG         | (20256-4, LN, "Mean Gradient")  | Image Mode (Group) = (R-409E4, SRT, "Doppler Pulsed") , Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42047, SRT, "Antegrade Flow")       | 12  |
| AccT        | (20168-1, LN, "Acceleration Time")  |  | 12  |
| P1/2T       | (20280-4, LN, "Pressure Half-Time")   | Image Mode (Group) = (R-409E4, SRT, "Doppler Pulsed") , Flow Direction= (R-42047, SRT, "Antegrade Flow")   | 12  |
| IRT         | (18071-1, LN, "Left Ventricular Isovolumic Relaxation Time")                              |  | 7   |
| DecT        | (G-0384, SRT, "Mitral Valve E-Wave Deceleration Time")                                    |  | 12  |
| Edur        | (A12207-005, 99ALOKA, "Mitral Valve E-Wave Duration")                                     | Flow Direction= (R-42047, SRT, "Antegrade Flow")   | 12  |
| Adur        | (G-0385, SRT, "Mitral Valve A-Wave Duration")   | Flow Direction= (R-42047, SRT, "Antegrade Flow")   | 12  |
| VTI         | (20354-7, LN, "Velocity Time Integral")   | Flow Direction= (R-42047, SRT, "Antegrade Flow")   | 12  |
| LVDFT       | (A12203-010, 99ALOKA, "Left Ventricle Diastole Filling Time")                             |  | 7   |
| RR          | (122182, DCM, "R-R interval")   |  | 7   |
| MVA (P1/2T) | (G-038E, SRT, "Cardiovascular Orifice Area")  | Image Mode (Group) = (R-409E4, SRT, "Doppler Pulsed") , Measurement Method= (125210, DCM, "Area by Pressure Half-Time") , Flow Direction= (R-42047, SRT, "Antegrade Flow") | 12  |
| E/A         | (18038-0, LN, "Mitral Valve E to A Ratio")  |  | 12  |
| A/E         | (A12207-006, 99ALOKA, "Mitral Valve A to E Ratio")  |  | 12  |
| EPG         | (A12207-007, 99ALOKA, "Mitral Valve E-wave Peak Pressure Gradient")                       | Measurement Method= (125218, DCM, "Simplified Bernoulli")  | 12  |
| APG         | (A12207-008, 99ALOKA, "Mitral Valve A-wave Peak Pressure Gradient")                       | Measurement Method= (125218, DCM, "Simplified Bernoulli")  | 12  |
| E/Em        | (A12203-011, 99ALOKA, "Ratio of MV E-Wave Peak Vel. to Early Diastolic Myocardium Vel. ") |  | 7   |



| Label       | Concept Name   | Modifier  | row |
|-------------|--|---|-----|
| PVAdur-Adur | (A12207-009, 99ALOKA, "Subtraction of A-wave Duration from PVA-wave Duration")         |   | 12  |
| LVDFTR/RR   | (A12203-012, 99ALOKA, "Ratio of Left Ventricle Diastole Filling Time to R-R interval") |   | 7   |
| (AS Flow)   |  |   |     |
| pV          | (11726-7, LN, "Peak Velocity")   | Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 11  |
| MnV         | (20352-1, LN, "Mean Velocity")   | Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 11  |
| MPG         | (20256-4, LN, "Mean Gradient")   | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 11  |
| VTI         | (20354-7, LN, "Velocity Time Integral")  | Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 11  |
| AVA         | (G-038E, SRT, "Cardiovascular Orifice Area")   | Measurement Method= (125215, DCM, "Continuity Equation by Velocity Time Integral") , Flow Direction= (R-42047, SRT, "Antegrade Flow")   | 11  |
| PG          | (20247-3, LN, "Peak Gradient")   | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 11  |
| (PS Flow)   |  |   |     |
| pV          | (11726-7, LN, "Peak Velocity")   | Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 13  |
| MnV         | (20352-1, LN, "Mean Velocity")   | Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 13  |
| MPG         | (20256-4, LN, "Mean Gradient")   | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 13  |
| PG          | (20247-3, LN, "Peak Gradient")   | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 13  |
| (MS Flow)   |  |   |     |
| pV          | (11726-7, LN, "Peak Velocity")   | Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 12  |
| MnV         | (20352-1, LN, "Mean Velocity")   | Image Mode (Group) = (R-409E3, SRT, "Doppler Continuous Wave") , Flow Direction= (R-42047, SRT, "Antegrade Flow")   | 12  |
| MPG         | (20256-4, LN, "Mean Gradient")   | Image Mode (Group) = (R-409E3, SRT, "Doppler Continuous Wave") , Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42047, SRT, "Antegrade Flow") | 12  |

| Label       | Concept Name                                 | Modifier  | row |
|-------------|--|---|-----|
| FlowT       | (A12222-003, 99ALOKA, "Flow Time")           | Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 12  |
| P1/2T       | (20280-4, LN, "Pressure Half-Time")          | Image Mode (Group) = (R-409E3, SRT, "Doppler Continuous Wave") , Flow Direction= (R-42047, SRT, "Antegrade Flow")   | 12  |
| PG          | (20247-3, LN, "Peak Gradient")               | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 12  |
| MVA (P1/2T) | (G-038E, SRT, "Cardiovascular Orifice Area") | Image Mode (Group) = (R-409E3, SRT, "Doppler Continuous Wave") , Measurement Method= (125210, DCM, "Area by Pressure Half-Time") , Flow Direction= (R-42047, SRT, "Antegrade Flow") | 12  |
| (TS Flow)   |  |   |     |
| pV          | (11726-7, LN, "Peak Velocity")               | Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 14  |
| MnV         | (20352-1, LN, "Mean Velocity")               | Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 14  |
| MPG         | (20256-4, LN, "Mean Gradient")               | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 14  |
| FlowT       | (A12222-003, 99ALOKA, "Flow Time")           | Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 14  |
| P1/2T       | (20280-4, LN, "Pressure Half-Time")          | Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 14  |
| PG          | (20247-3, LN, "Peak Gradient")               | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 14  |
| (AR Flow)   |  |   |     |
| pV          | (11726-7, LN, "Peak Velocity")               | Flow Direction= (R-42E61, SRT, "Regurgitant Flow")  | 11  |
| MnV         | (20352-1, LN, "Mean Velocity")               | Flow Direction= (R-42E61, SRT, "Regurgitant Flow")  | 11  |
| MPG         | (20256-4, LN, "Mean Gradient")               | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")  | 11  |
| P1/2T       | (20280-4, LN, "Pressure Half-Time")          | Flow Direction= (R-42E61, SRT, "Regurgitant Flow")  | 11  |
| PG          | (20247-3, LN, "Peak Gradient")               | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")  | 11  |
| (MR Flow)   |  |   |     |
| pV          | (11726-7, LN, "Peak Velocity")               | Flow Direction= (R-42E61, SRT, "Regurgitant Flow")  | 12  |
| MnV         | (20352-1, LN, "Mean Velocity")               | Flow Direction= (R-42E61, SRT, "Regurgitant Flow")  | 12  |

| Label     | Concept Name  | Modifier   | row |
|-----------|---|--|-----|
| MPG       | (20256-4, LN, "Mean Gradient")  | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow") | 12  |
| FlowT     | (A12222-003, 99ALOKA, "Flow Time")  | Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 12  |
| PG        | (20247-3, LN, "Peak Gradient")  | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow") | 12  |
| dP/dt     | (18035-6, LN, "Mitral Regurgitation dP/dt derived from Mitral Reg. velocity") |  | 12  |
| (TR Flow) |   |  |     |
| pV        | (11726-7, LN, "Peak Velocity")  | Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 14  |
| MnV       | (20352-1, LN, "Mean Velocity")  | Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 14  |
| MPG       | (20256-4, LN, "Mean Gradient")  | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow") | 14  |
| FlowT     | (A12222-003, 99ALOKA, "Flow Time")  | Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 14  |
| RAP       | (18070-3, LN, "Right Atrium Systolic Pressure")                               |  | 10  |
| PG        | (20247-3, LN, "Peak Gradient")  | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow") | 14  |
| RVSP      | (G-0380, SRT, "Right Ventricular Peak Systolic Pressure")                     | Cardiac Cycle Point= (F-32020, SRT, "Systole")   | 8   |
| dP/dt     | (18034-9, LN, "Tricuspid Regurgitation dP/dt")                                |  | 14  |
| (PR Flow) |   |  |     |
| pV        | (11726-7, LN, "Peak Velocity")  | Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 13  |
| MnV       | (20352-1, LN, "Mean Velocity")  | Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 13  |
| MPG       | (20256-4, LN, "Mean Gradient")  | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow") | 13  |
| PG        | (20247-3, LN, "Peak Gradient")  | Measurement Method= (125218, DCM, "Simplified Bernoulli") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow") | 13  |
| (PV Flow) |   |  |     |
| PVS       | (29450-4, LN, "Pulmonary Vein Systolic Peak Velocity")                        |  | 18  |
| PVD       | (29451-2, LN, "Pulmonary Vein Diastolic Peak Velocity")                       |  | 18  |

| Label           | Concept Name  | Modifier  | row |
|-----------------|---|---|-----|
| PVA             | (29453-8, LN, "Pulmonary Vein Atrial Contraction Reversal Peak Velocity")     |   | 18  |
| S-VTI           | (G-038C, SRT, "Pulmonary Vein S-Wave Velocity Time Integral")                 |   | 18  |
| D-VTI           | (G-038D, SRT, "Pulmonary Vein D-Wave Velocity Time Integral")                 |   | 18  |
| PVAdur          | (G-038B, SRT, "Pulmonary Vein A-Wave Duration")                               |   | 18  |
| DecT            | (A12214-001, 99ALOKA, "Deceleration Time of D-Wave Flow")                     |   | 18  |
| S/D             | (29452-0, LN, "Pulmonary Vein Systolic to Diastolic Ratio")                   |   | 18  |
| SF              | (A12214-002, 99ALOKA, "Systolic Fraction")                                    |   | 18  |
| (AR Vol. PISA)  |   |   |     |
| PISA Radius     | (A12222-004, 99ALOKA, "Radius of Flow Convergence")                           |   | 11  |
| AR Alias V (Vr) | (A12222-005, 99ALOKA, "Aliasing Velocity")                                    |   | 11  |
| Angle (PISA)    | (A12222-006, 99ALOKA, "Proximal Isovelocity Surface Area Angle")              |   | 11  |
| VTI (AR)        | (A12211-001, 99ALOKA, "Velocity Time Integral of Aortic Regurgitant Flow")    | Flow Direction= (R-42E61, SRT, "Regurgitant Flow")  | 11  |
| AR Vol          | (33878-0, LN, "Volume Flow")  | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Finding Site= (T-35410, SRT, "Aortic Valve Ring") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow") | 11  |
| AR EROA         | (G-038E, SRT, "Cardiovascular Orifice Area")                                  | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 11  |
| AR Flow Rt      | (34141-2, LN, "Peak Instantaneous Flow Rate")                                 | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 11  |
| AR PISA         | (A12211-003, 99ALOKA, "Aortic Regurgitant Proximal Isovelocity Surface Area") | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 11  |

| Label           | Concept Name  | Modifier   | row |
|-----------------|---|--|-----|
| AR RF           | (G-0390, SRT, "Regurgitant Fraction")   | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")  | 11  |
| (MR Vol. PISA)  |   |  |     |
| PISA Radius     | (A12222-004, 99ALOKA, "Radius of Flow Convergence")                           |  | 12  |
| MR Alias V (Vr) | (A12222-005, 99ALOKA, "Aliasing Velocity")                                    |  | 12  |
| Angle (PISA)    | (A12222-006, 99ALOKA, "Proximal Isovelocity Surface Area Angle")              |  | 12  |
| VTI (MR)        | (A12207-010, 99ALOKA, "Velocity Time Integral of Mitral Regurgitant Flow")    | Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 12  |
| MV Diam         | (G-038F, SRT, "Cardiovascular Orifice Diameter")                              | Finding Site= (T-35313, SRT, "Mitral Annulus") , Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 12  |
| VTI (MVannu)    | (20354-7, LN, "Velocity Time Integral")                                       | Finding Site= (T-35313, SRT, "Mitral Annulus") , Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 12  |
| MR Vol          | (33878-0, LN, "Volume Flow")  | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Finding Site= (T-35313, SRT, "Mitral Annulus") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow") | 12  |
| MR EROA         | (G-038E, SRT, "Cardiovascular Orifice Area")                                  | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")  | 12  |
| MR Flow Rt      | (34141-2, LN, "Peak Instantaneous Flow Rate")                                 | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")  | 12  |
| MR PISA         | (A12207-012, 99ALOKA, "Mitral Regurgitant Proximal Isovelocity Surface Area") | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")  | 12  |
| MR RF           | (G-0390, SRT, "Regurgitant Fraction")   | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")  | 12  |
| SV (MV)         | (A12207-013, 99ALOKA, "Flow Volume of Mitral Valve Annulus in Flow")          | Measurement Method= (125219, DCM, "Doppler Volume Flow")   | 12  |
| (TR Vol. PISA)  |   |  |     |

| Label           | Concept Name   | Modifier  | row |
|-----------------|--|---|-----|
| PISA Radius     | (A12222-004, 99ALOKA, "Radius of Flow Convergence")                              |   | 14  |
| TR Alias V (Vr) | (A12222-005, 99ALOKA, "Aliasing Velocity")                                       |   | 14  |
| Angle (PISA)    | (A12222-006, 99ALOKA, "Proximal Isovelocity Surface Area Angle")                 |   | 14  |
| VTI (TR)        | (A12208-008, 99ALOKA, "Velocity Time Integral of Tricuspid Regurgitant Flow")    | Flow Direction= (R-42E61, SRT, "Regurgitant Flow")  | 14  |
| TV Diam         | (G-038F, SRT, "Cardiovascular Orifice Diameter")                                 | Finding Site= (T-35111, SRT, "Tricuspid Annulus") , Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 14  |
| VTI (TVannu)    | (20354-7, LN, "Velocity Time Integral")  | Finding Site= (T-35111, SRT, "Tricuspid Annulus") , Flow Direction= (R-42047, SRT, "Antegrade Flow")  | 14  |
| TR Vol          | (33878-0, LN, "Volume Flow")   | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Finding Site= (T-35111, SRT, "Tricuspid Annulus") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow") | 14  |
| TR EROA         | (G-038E, SRT, "Cardiovascular Orifice Area")                                     | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 14  |
| TR Flow Rt      | (34141-2, LN, "Peak Instantaneous Flow Rate")                                    | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 14  |
| TR PISA         | (A12208-010, 99ALOKA, "Tricuspid Regurgitant Proximal Isovelocity Surface Area") | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 14  |
| TR RF           | (G-0390, SRT, "Regurgitant Fraction")  | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 14  |
| SV (TV)         | (A12208-011, 99ALOKA, "Flow Volume of Tricuspid Valve Annulus in Flow")          | Measurement Method= (125219, DCM, "Doppler Volume Flow")  | 14  |
| (PR Vol. PISA)  |  |   |     |
| PISA Radius     | (A12222-004, 99ALOKA, "Radius of Flow Convergence")                              |   | 13  |
| PR Alias V (Vr) | (A12222-005, 99ALOKA, "Aliasing Velocity")                                       |   | 13  |

| Label                       | Concept Name  | Modifier  | row |
|-----------------------------|---|---|-----|
| Angle (PISA)                | (A12222-006, 99ALOKA, "Proximal Isovelocity Surface Area Angle")                |   | 13  |
| VTI (PR)                    | (A12209-005, 99ALOKA, "Velocity Time Integral of Pulmonic Regurgitant Flow")    | Flow Direction= (R-42E61, SRT, "Regurgitant Flow")  | 13  |
| PR Vol                      | (33878-0, LN, "Volume Flow")  | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 13  |
| PR EROA                     | (G-038E, SRT, "Cardiovascular Orifice Area")                                    | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 13  |
| PR Flow Rt                  | (34141-2, LN, "Peak Instantaneous Flow Rate")                                   | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 13  |
| PR PISA                     | (A12209-007, 99ALOKA, "Pulmonic Regurgitant Proximal Isovelocity Surface Area") | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 13  |
| PR RF                       | (G-0390, SRT, "Regurgitant Fraction")   | Measurement Method= (125216, DCM, "Proximal Isovelocity Surface Area") , Flow Direction= (R-42E61, SRT, "Regurgitant Flow")   | 13  |
| (LA Volume Simpson (Disc) ) |   |   |     |
| LAL4s                       | (A12205-002, 99ALOKA, "Left Atrium systolic major axis")                        | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-005, 99ALOKA, "Method of Disks, Biplane of LA") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19C, SRT, "Apical four chamber") | 9   |
| LALA4s                      | (17977-0, LN, "Left Atrium Systolic Area")                                      | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-005, 99ALOKA, "Method of Disks, Biplane of LA") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19C, SRT, "Apical four chamber") | 9   |
| LAL2s                       | (A12205-002, 99ALOKA, "Left Atrium systolic major axis")                        | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-005, 99ALOKA, "Method of Disks, Biplane of LA") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19B, SRT, "Apical two chamber")  | 9   |

| Label                       | Concept Name   | Modifier   | row |
|-----------------------------|--|--|-----|
| LALA2s                      | (A12205-003, 99ALOKA, "Left Atrium Systolic Area by Apical two chamber")             | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-005, 99ALOKA, "Method of Disks, Biplane of LA") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19B, SRT, "Apical two chamber") | 9   |
| LA Volume (Bi-plane)        | (A12205-004, 99ALOKA, "Left Atrial Volume")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-005, 99ALOKA, "Method of Disks, Biplane of LA") , Cardiac Cycle Point= (109070, DCM, "End Systole")  | 9   |
| LA Volume/BSA (Bi-plane)    | (A12205-005, 99ALOKA, "Left Atrial Volume divided by Body Surface Area")             | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-005, 99ALOKA, "Method of Disks, Biplane of LA") , Cardiac Cycle Point= (109070, DCM, "End Systole")  | 9   |
| LA Volume (ap4C)            | (A12205-004, 99ALOKA, "Left Atrial Volume")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-006, 99ALOKA, "Method of Disks, Single Plane with Apical four chamber of LA") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image View= (G-A19C, SRT, "Apical four chamber")         | 9   |
| LA Volume/BSA (ap4C)        | (A12205-005, 99ALOKA, "Left Atrial Volume divided by Body Surface Area")             | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-006, 99ALOKA, "Method of Disks, Single Plane with Apical four chamber of LA") , Cardiac Cycle Point= (109070, DCM, "End Systole")  | 9   |
| LA Volume (ap2C)            | (A12205-004, 99ALOKA, "Left Atrial Volume")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-007, 99ALOKA, "Method of Disks, Single Plane with Apical two chamber of LA") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image View= (G-A19B, SRT, "Apical two chamber")           | 9   |
| LA Volume/BSA (ap2C)        | (A12205-005, 99ALOKA, "Left Atrial Volume divided by Body Surface Area")             | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-007, 99ALOKA, "Method of Disks, Single Plane with Apical two chamber of LA") , Cardiac Cycle Point= (109070, DCM, "End Systole")   | 9   |
| %difS                       | (A12205-006, 99ALOKA, "Long Axis at End Systole Length % Difference of Left Atrium") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-005, 99ALOKA, "Method of Disks, Biplane of LA") , Cardiac Cycle Point= (109070, DCM, "End Systole")  | 9   |
| (RA Volume Simpson (Disc) ) |  |  |     |



| Label                    | Concept Name  | Modifier  | row |
|--------------------------|---|---|-----|
| RAL4s                    | (A12206-001, 99ALOKA, "Right Atrium systolic major axis")                 | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-008, 99ALOKA, "Method of Disks, Biplane of RA") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19C, SRT, "Apical four chamber") | 10  |
| RALA4s                   | (17988-7, LN, "Right Atrium Systolic Area")                               | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-008, 99ALOKA, "Method of Disks, Biplane of RA") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19C, SRT, "Apical four chamber") | 10  |
| RAL2s                    | (A12206-001, 99ALOKA, "Right Atrium systolic major axis")                 | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-008, 99ALOKA, "Method of Disks, Biplane of RA") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19B, SRT, "Apical two chamber")  | 10  |
| RALA2s                   | (A12206-002, 99ALOKA, "Right Atrium Systolic Area by Apical two chamber") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-008, 99ALOKA, "Method of Disks, Biplane of RA") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19B, SRT, "Apical two chamber")  | 10  |
| RA Volume (Bi-plane)     | (A12206-003, 99ALOKA, "Right Atrial Volume")                              | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-008, 99ALOKA, "Method of Disks, Biplane of RA") , Cardiac Cycle Point= (109070, DCM, "End Systole")   | 10  |
| RA Volume/BSA (Bi-plane) | (A12206-004, 99ALOKA, "Right Atrial Volume divided by Body Surface Area") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-008, 99ALOKA, "Method of Disks, Biplane of RA") , Cardiac Cycle Point= (109070, DCM, "End Systole")   | 10  |
| RA Volume (ap4C)         | (A12206-003, 99ALOKA, "Right Atrial Volume")                              | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-009, 99ALOKA, "Method of Disks, Single Plane with Apical four chamber of RA") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image View= (G-A19C, SRT, "Apical four chamber")          | 10  |
| RA Volume/BSA (ap4C)     | (A12206-004, 99ALOKA, "Right Atrial Volume divided by Body Surface Area") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-009, 99ALOKA, "Method of Disks, Single Plane with Apical four chamber of RA") , Cardiac Cycle Point= (109070, DCM, "End Systole")   | 10  |

| Label                   | Concept Name  | Modifier  | row |
|-------------------------|---|---|-----|
| RA Volume (ap2C)        | (A12206-003, 99ALOKA, "Right Atrial Volume")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-010, 99ALOKA, "Method of Disks, Single Plane with Apical two chamber of RA") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image View= (G-A19B, SRT, "Apical two chamber")                | 10  |
| RA Volume/BSA (ap2C)    | (A12206-004, 99ALOKA, "Right Atrial Volume divided by Body Surface Area")             | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-010, 99ALOKA, "Method of Disks, Single Plane with Apical two chamber of RA") , Cardiac Cycle Point= (109070, DCM, "End Systole")  | 10  |
| %difS                   | (A12206-005, 99ALOKA, "Long Axis at End Systole Length % Difference of Right Atrium") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-008, 99ALOKA, "Method of Disks, Biplane of RA") , Cardiac Cycle Point= (109070, DCM, "End Systole")   | 10  |
| (LA Volume Area-Length) |   |   |     |
| LAL4s                   | (A12205-002, 99ALOKA, "Left Atrium systolic major axis")                              | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-011, 99ALOKA, "Area-Length Biplane of Left Atrium") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19C, SRT, "Apical four chamber") | 9   |
| LALA4s                  | (17977-0, LN, "Left Atrium Systolic Area")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-011, 99ALOKA, "Area-Length Biplane of Left Atrium") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19C, SRT, "Apical four chamber") | 9   |
| LAL2s                   | (A12205-002, 99ALOKA, "Left Atrium systolic major axis")                              | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-011, 99ALOKA, "Area-Length Biplane of Left Atrium") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19B, SRT, "Apical two chamber")  | 9   |
| LALA2s                  | (A12205-003, 99ALOKA, "Left Atrium Systolic Area by Apical two chamber")              | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-011, 99ALOKA, "Area-Length Biplane of Left Atrium") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19B, SRT, "Apical two chamber")  | 9   |

| Label                   | Concept Name   | Modifier   | row |
|-------------------------|--|--|-----|
| LA Volume               | (A12205-004, 99ALOKA, "Left Atrial Volume")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-011, 99ALOKA, "Area-Length Biplane of Left Atrium") , Cardiac Cycle Point= (109070, DCM, "End Systole")  | 9   |
| LA Volume/BSA           | (A12205-005, 99ALOKA, "Left Atrial Volume divided by Body Surface Area")             | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-011, 99ALOKA, "Area-Length Biplane of Left Atrium") , Cardiac Cycle Point= (109070, DCM, "End Systole")  | 9   |
| %difS                   | (A12205-006, 99ALOKA, "Long Axis at End Systole Length % Difference of Left Atrium") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-011, 99ALOKA, "Area-Length Biplane of Left Atrium") , Cardiac Cycle Point= (109070, DCM, "End Systole")  | 9   |
| (RA Volume Area-Length) |  |  |     |
| RAL4s                   | (A12206-001, 99ALOKA, "Right Atrium systolic major axis")                            | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-012, 99ALOKA, "Area-Length Biplane of Right Atrium") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19C, SRT, "Apical four chamber") | 10  |
| RALA4s                  | (17988-7, LN, "Right Atrium Systolic Area")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-012, 99ALOKA, "Area-Length Biplane of Right Atrium") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19C, SRT, "Apical four chamber") | 10  |
| RAL2s                   | (A12206-001, 99ALOKA, "Right Atrium systolic major axis")                            | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-012, 99ALOKA, "Area-Length Biplane of Right Atrium") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19B, SRT, "Apical two chamber")  | 10  |
| RALA2s                  | (A12206-002, 99ALOKA, "Right Atrium Systolic Area by Apical two chamber")            | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-012, 99ALOKA, "Area-Length Biplane of Right Atrium") , Cardiac Cycle Point= (109070, DCM, "End Systole") , Image Mode= (G-03A2, SRT, "2D mode") , Image View= (G-A19B, SRT, "Apical two chamber")  | 10  |

| Label         | Concept Name  | Modifier   | row |
|---------------|---|--|-----|
| RA Volume     | (A12206-003, 99ALOKA, "Right Atrial Volume")  | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-012, 99ALOKA, "Area-Length Biplane of Right Atrium") , Cardiac Cycle Point= (109070, DCM, "End Systole") | 10  |
| RA Volume/BSA | (A12206-004, 99ALOKA, "Right Atrial Volume divided by Body Surface Area")             | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-012, 99ALOKA, "Area-Length Biplane of Right Atrium") , Cardiac Cycle Point= (109070, DCM, "End Systole") | 10  |
| %difS         | (A12206-005, 99ALOKA, "Long Axis at End Systole Length % Difference of Right Atrium") | Image Mode (Group) = (G-03A2, SRT, "2D mode") , Measurement Method= (A12228-012, 99ALOKA, "Area-Length Biplane of Right Atrium") , Cardiac Cycle Point= (109070, DCM, "End Systole") | 10  |

Note : 1. When these HRs are measured at a time, only one HR is included in Structured Report. The precedence is LV Volume (Simpson (Disc) ) , LV Volume, then LV Function.

### 8. 6. 3 Context Groups

The Context Groups used in Structured Reports are shown below.

Terms in *Italic* are extensions to the Standard Context Groups. In the Context Group extension, the next attributes are always included besides CV/CSD/CM. (Attributes are not included for a term which is not an extension. )

#### Attributes used in Context Group Extension

| Tag          | VR | Attribute Name                      | Value  |
|--------------|----|-------------------------------------|--|
| (0008, 0105) | CS | Mapping Resource                    | "DCMR"   |
| (0008, 0106) | DT | Context Group Version               | Described in PS 3. 16                                      |
| (0008, 0107) | DT | Context Group Local Version         | "YYYYMMDD"<br>Described in each of<br>Context Groups below |
| (0008, 010B) | CS | Context Group Extension Flag        | "Y"  |
| (0008, 010D) | UI | Context Group Extension Creator UID | 1. 2. 392. 200039. 106                                     |
| (0008, 010F) | CS | Context Identifier                  | Identifies Context Group to<br>which a term is added       |

#### CID 42 Numeric Value Qualifier

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| -     | DCM                                   | 114007                  | Measurement not attempted |
| -     | DCM                                   | 114009                  | Value out of range        |

## CID 223 Normal Range Values

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| -     | SRT                                   | R-0038B                 | Normal Range Upper Limit  |
| -     | SRT                                   | R-10041                 | Normal Range Lower Limit  |

## CID 227 Sample Statistical Descriptors

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| -     | DCM                                   | 121416                  | Z-Score of measurement    |

## CID 228 Equation or Table

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| -     | DCM                                   | 121421                  | Equation Citation         |
| -     | DCM                                   | 121422                  | Table of Values Citation  |

## CID 244 Laterality

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| Right | SRT                                   | G-A100                  | Right                     |
| Left  | SRT                                   | G-A101                  | Left                      |

## CID 271 Observation Subject Class

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| -     | DCM                                   | 121025                  | Patient                   |

## CID 3627 Measurement Type

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| -     | SRT                                   | R-00317                 | Mean                      |
| -     | SRT                                   | R-41D2D                 | Calculated                |
| -     | SRT                                   | G-A437                  | Maximum                   |

| Label                         | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)                                      |
|-------------------------------|---------------------------------------|-------------------------|--|
| BSA Equation, DuBois          | DCM                                   | 122241                  | $BSA = 0.007184 * WT^{0.425} * HT^{0.725}$                     |
| <i>BSA Equation, Boyd</i>     | 99ALOKA                               | A3663-001               | $BSA = 0.0003207 * WT^{(0.7285 - 0.0188 \log(WT))} * HT^{0.3}$ |
| <i>BSA Equation, Shintani</i> | 99ALOKA                               | A3663-002               | $BSA = 0.007358 * HT^{0.725} * WT^{0.425}$                     |

## CID 7455 Sex

| Label  | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|--------|---------------------------------------|-------------------------|---------------------------|
| Male   | DCM                                   | M                       | Male                      |
| Female | DCM                                   | F                       | Female                    |
| Other  | DCM                                   | 121103                  | Undetermined sex          |

## CID 7456 Units of Measure for Age

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| - (Y) | UCUM                                  | a                       | year                      |
| - (M) | UCUM                                  | mo                      | month                     |
| - (W) | UCUM                                  | wk                      | week                      |
| - (D) | UCUM                                  | d                       | day                       |

## CID 12003 OB-GYN Dates

| Label            | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)       |
|------------------|---------------------------------------|-------------------------|---------------------------------|
| LMP-EDC          | LN                                    | 11779-6                 | EDD from LMP                    |
| Composite US-EDC | LN                                    | 11781-2                 | EDD from average ultrasound age |
| BBT-EDC          | LN                                    | 11780-4                 | EDD from ovulation date         |
| LMP              | LN                                    | 11955-2                 | LMP                             |
| BBT              | LN                                    | 11976-8                 | Ovulation date                  |

## CID 12004 Fetal Biometry Ratios

(Local Version : 20051202)

| Label                 | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)         |
|-----------------------|---------------------------------------|-------------------------|-----------------------------------|
| HC/AC                 | LN                                    | 11947-9                 | HC/AC                             |
| FL/AC                 | LN                                    | 11871-1                 | FL/AC                             |
| FL/BPD                | LN                                    | 11872-9                 | FL/BPD                            |
| CI (BPD/OFD)          | LN                                    | 11823-2                 | Cephalic Index                    |
| FL/HC                 | LN                                    | 11873-7                 | FL/HC                             |
| <i>CI (BPDo/OFDo)</i> | 99ALOKA                               | A12004-001              | <i>Cephalic Index (BPDo/OFDo)</i> |
| <i>LVW/HW</i>         | 99ALOKA                               | A12004-002              | <i>LVW/HW</i>                     |

## CID 12005 Fetal Biometry Measurements

(Local Version : 20051202)

| Label            | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)                        |
|------------------|---------------------------------------|-------------------------|--|
| AC               | LN                                    | 11979-2                 | Abdominal Circumference                          |
| APD              | LN                                    | 11818-2                 | Anterior-Posterior Abdominal Diameter            |
| APTD             | LN                                    | 11818-2                 | Anterior-Posterior Abdominal Diameter            |
| BPD              | LN                                    | 11820-8                 | Biparietal Diameter                              |
| HC               | LN                                    | 11984-2                 | Head Circumference                               |
| OFD              | LN                                    | 11851-3                 | Occipital-Frontal Diameter                       |
| TC               | LN                                    | 11988-3                 | Thoracic Circumference                           |
| TAD              | LN                                    | 11862-0                 | Transverse Abdominal Diameter                    |
| TTD              | LN                                    | 11862-0                 | Transverse Abdominal Diameter                    |
| AXT              | LN                                    | 33191-8                 | APAD * TAD                                       |
| <i>BD</i>        | 99ALOKA                               | A12005-001              | <i>Binocular Distance</i>                        |
| <i>BPDo</i>      | 99ALOKA                               | A12005-002              | <i>Biparietal Diameter outer-to-outer</i>        |
| <i>FTA</i>       | 99ALOKA                               | A12005-003              | <i>Fetal Trunk Cross Sectional Area</i>          |
| <i>LV</i>        | 99ALOKA                               | A12005-004              | <i>Length of Vertebrae</i>                       |
| <i>OFDo</i>      | 99ALOKA                               | A12005-005              | <i>Occipital-Frontal Diameter outer-to-outer</i> |
| <i>AD</i>        | 99ALOKA                               | A12005-006              | <i>Abdominal Diameter</i>                        |
| <i>TL</i>        | 99ALOKA                               | A12005-007              | <i>Thoracic Length</i>                           |
| <i>HC2</i>       | 99ALOKA                               | A12005-008              | <i>Head Circumference for Merz, Hansmann</i>     |
| <i>AF Pocket</i> | 99ALOKA                               | A12005-009              | <i>Amniotic Fluid Volume</i>                     |
| <i>AFV</i>       | 99ALOKA                               | A12005-009              | <i>Amniotic Fluid Volume</i>                     |

## CID 12006 Fetal Long Bones Biometry Measurements

(Local Version : 20051202)

| Label      | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|------------|---------------------------------------|-------------------------|---------------------------|
| HL         | LN                                    | 11966-9                 | Humerus length            |
| RAD        | LN                                    | 11967-7                 | Radius length             |
| ULNA       | LN                                    | 11969-3                 | Ulna length               |
| TIB        | LN                                    | 11968-5                 | Tibia length              |
| FIB        | LN                                    | 11964-4                 | Fibula length             |
| FL         | LN                                    | 11963-6                 | Femur Length              |
| <i>NBL</i> | <i>99ALOKA</i>                        | <i>A12006-001</i>       | <i>Nasal Bone Length</i>  |

## CID 12007 Fetal Cranium

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| LVW   | LN                                    | 12171-5                 | Lateral Ventricular width |
| IOD   | LN                                    | 33070-4                 | Inner Orbital Diameter    |
| OOD   | LN                                    | 11629-3                 | Outer Orbital Diameter    |
| CD    | LN                                    | 11863-8                 | Trans Cerebellar Diameter |
| HW    | LN                                    | 12170-7                 | Width of Hemisphere       |

## CID 12008 OB-GYN Amniotic Sac

| Label   | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|---------|---------------------------------------|-------------------------|---------------------------|
| AFI, Q1 | LN                                    | 11624-4                 | First Quadrant Diameter   |
| AFI, Q2 | LN                                    | 11626-9                 | Second Quadrant Diameter  |
| AFI, Q3 | LN                                    | 11625-1                 | Third Quadrant Diameter   |
| AFI, Q4 | LN                                    | 11623-6                 | Fourth Quadrant Diameter  |

## CID 12009 Early Gestation Biometry Measurements

(Local Version : 20051202)

| Label      | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)   |
|------------|---------------------------------------|-------------------------|-----------------------------|
| CRL        | LN                                    | 11957-8                 | Crown Rump Length           |
| GS         | LN                                    | 11850-5                 | Gestational Sac Diameter    |
| NT         | LN                                    | 33069-6                 | Nuchal Translucency         |
| <i>EES</i> | <i>99ALOKA</i>                        | <i>A12009-001</i>       | <i>Early Embryonic Size</i> |



| <b>Label</b>    | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>     |
|-----------------|--|--------------------------------|--------------------------------------|
| <i>mGS, D1</i>  | 99ALOKA                                      | A12009-002                     | <i>Gestational Sac Diameter 1</i>    |
| <i>mGS, D2</i>  | 99ALOKA                                      | A12009-003                     | <i>Gestational Sac Diameter 2</i>    |
| <i>mGS, D3</i>  | 99ALOKA                                      | A12009-004                     | <i>Gestational Sac Diameter 3</i>    |
| <i>mGS, mGS</i> | 99ALOKA                                      | A12009-005                     | <i>Mean Gestational Sac Diameter</i> |

CID 12011 Ultrasound Pelvis and Uterus

(Local Version : 20051202)

| <b>Label</b>               | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>                   |
|----------------------------|--|--------------------------------|--|
| Cervix                     | LN   | 11961-0                        | Cervix Length                                      |
| Cervix, Length             | LN   | 11961-0                        | Cervix Length                                      |
| Endom-T                    | LN   | 12145-9                        | Endometrium Thickness                              |
| <i>Cervix, Width</i>       | 99ALOKA                                      | A12011-001                     | <i>Cervix Width</i>                                |
| <i>Cervix, AP</i>          | 99ALOKA                                      | A12011-002                     | <i>Cervix Antero-Posterior Diameter</i>            |
| <i>Pre Bldrvol, Length</i> | 99ALOKA                                      | A12011-003                     | <i>Pre Void Bladder Length</i>                     |
| <i>Pre Bldrvol, AP</i>     | 99ALOKA                                      | A12011-004                     | <i>Pre Void Bladder Antero-Posterior Diameter</i>  |
| <i>Pre Bldrvol, Width</i>  | 99ALOKA                                      | A12011-005                     | <i>Pre Void Bladder Width</i>                      |
| <i>Pre Bldrvol, Volume</i> | 99ALOKA                                      | A12011-006                     | <i>Pre Void Bladder Volume</i>                     |
| <i>Pst Bldrvol, Length</i> | 99ALOKA                                      | A12011-007                     | <i>Post Void Bladder Length</i>                    |
| <i>Pst Bldrvol, AP</i>     | 99ALOKA                                      | A12011-008                     | <i>Post Void Bladder Antero-Posterior Diameter</i> |
| <i>Pst Bldrvol, Width</i>  | 99ALOKA                                      | A12011-009                     | <i>Post Void Bladder Width</i>                     |
| <i>Pst Bldrvol, Volume</i> | 99ALOKA                                      | A12011-010                     | <i>Post Void Bladder Volume</i>                    |
| <i>Void Volume</i>         | 99ALOKA                                      | A12011-011                     | <i>Bladder Void Volume</i>                         |

CID 12013 Gestational Age Equations and Tables

(Local Version : 20051202)

| <b>Label</b>    | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> |
|-----------------|--|--------------------------------|----------------------------------|
| AC (Had-90%)    | LN   | 11892-7                        | AC, Hadlock 1984                 |
| AC (Hadlock84)  | LN   | 11892-7                        | AC, Hadlock 1984                 |
| AC (Hansmann)   | LN   | 33073-8                        | AC, Hansmann1985                 |
| AC (Shinozuka)  | LN   | 33076-1                        | AC, Shinozuka 1996               |
| AXT (Shinozuka) | LN   | 33078-7                        | AxT, Shinozuka 1996              |

| <b>Label</b>    | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> |
|-----------------|--|--------------------------------|----------------------------------|
| BPD (Hadlock84) | LN   | 11902-4                        | BPD, Hadlock 1984                |
| BPD (Hansmann)  | LN   | 11903-2                        | BPD, Hansmann 1985               |
| BPD (Kurtz)     | LN   | 11906-5                        | BPD, Kurtz 1980                  |
| BPD (Rempen)    | LN   | 33083-7                        | BPD, Rempen 1991                 |
| BPD (Shinozuka) | LN   | 33084-5                        | BPD, Shinozuka 1996              |
| BPD (Tokyo U)   | LN   | 33085-2                        | BPD, Tokyo 1986                  |
| CRL (Daya)      | LN   | 33091-0                        | CRL, Daya 1993                   |
| CRL (Hadlock)   | LN   | 11910-7                        | CRL, Hadlock 1992                |
| CRL (Hansmann)  | LN   | 11911-5                        | CRL, Hansmann 1985               |
| CRL (Nelson)    | LN   | 11913-1                        | CRL, Nelson 1981                 |
| CRL (Rempen)    | LN   | 33094-4                        | CRL, Rempen 1991                 |
| CRL (Robinson)  | LN   | 11914-9                        | CRL, Robinson 1975               |
| FL (Had-90%)    | LN   | 11920-6                        | FL, Hadlock 1984                 |
| FL (Hadlock84)  | LN   | 11920-6                        | FL, Hadlock 1984                 |
| FL (Hansmann)   | LN   | 11921-4                        | FL, Hansmann 1985                |
| FL (Hohler)     | LN   | 11922-2                        | FL, Hohler 1982                  |
| FL (Jeanty)     | LN   | 11923-0                        | FL, Jeanty 1984                  |
| FL (Shinozuka)  | LN   | 33102-5                        | FL, Shinozuka 1996               |
| FL (Tokyo U)    | LN   | 33103-3                        | FL, Tokyo 1986                   |
| mGS (Hellman)   | LN   | 11928-9                        | GS, Hellman 1969                 |
| mGS (Rempen)    | LN   | 11929-7                        | GS, Rempen 1991                  |
| HC (Had-90%)    | LN   | 11932-1                        | HC, Hadlock 1984                 |
| HC (Hadlock84)  | LN   | 11932-1                        | HC, Hadlock 1984                 |
| HC2 (Hansmann)  | LN   | 33112-4                        | HC, Hansmann 1985                |
| HL (Jeanty)     | LN   | 11936-2                        | Humerus, Jeanty 1984             |
| LV (Tokyo U)    | LN   | 33118-1                        | Length of Vertebra, Tokyo 1986   |
| OFD (Hansmann)  | LN   | 33544-8                        | OFD, Hansmann 1985               |
| RAD (Jea-95%)   | LN   | 33126-4                        | Radius, Jeanty 1983              |
| TIB (Jeanty)    | LN   | 11941-2                        | Tibia, Jeanty 1984               |
| TC (Chitkara U) | LN   | 33131-4                        | ThC, Chitkara 1987               |
| CD (Goldstein)  | LN   | 33133-0                        | TCD, Goldstein 1987              |
| CD (Hill)       | LN   | 33134-8                        | TCD, Hill 1990                   |
| ULNA (Jeanty)   | LN   | 11944-6                        | Ulna, Jeanty 1984                |
| AC (Campbell)   | 99ALOKA                                      | A12013-001                     | AC, Campbell                     |

| <b>Label</b>    | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> |
|-----------------|--|--------------------------------|----------------------------------|
| AC (Chitty)     | 99ALOKA                                      | A12013-002                     | AC, Chitty 1994                  |
| AC (Hadlock)    | 99ALOKA                                      | A12013-003                     | AC, Hadlock 1982                 |
| AC (Merz)       | 99ALOKA                                      | A12013-005                     | AC, Merz 1996                    |
| APTD (Merz)     | 99ALOKA                                      | A12013-006                     | APAD, Merz 1996                  |
| AXT (Tokyo U)   | 99ALOKA                                      | A12013-007                     | AxT, Tokyo                       |
| BD (Jeanty)     | 99ALOKA                                      | A12013-008                     | BD, Jeanty 1984                  |
| BPD (Campbell)  | 99ALOKA                                      | A12013-009                     | BPD, Campbell                    |
| BPD (Chitty)    | 99ALOKA                                      | A12013-010                     | BPD-oi, Chitty 1994              |
| BPD (Hadlock)   | 99ALOKA                                      | A12013-011                     | BPD, Hadlock 1982                |
| BPD (Merz)      | 99ALOKA                                      | A12013-012                     | BPD, Merz 1996                   |
| BPD (Sabbagha)  | 99ALOKA                                      | A12013-013                     | BPD, Sabbagha 1976               |
| CRL (JSUM'03)   | 99ALOKA                                      | A12013-016                     | CRL, JSUM 2003                   |
| CRL (Tokyo U)   | 99ALOKA                                      | A12013-017                     | CRL, Tokyo                       |
| EES (Goldstein) | 99ALOKA                                      | A12013-018                     | EES, Goldstein 1994              |
| FIB (Merz)      | 99ALOKA                                      | A12013-019                     | FIB, Merz 1996                   |
| FL (Campbell)   | 99ALOKA                                      | A12013-020                     | FL, Campbell                     |
| FL (Chitty)     | 99ALOKA                                      | A12013-021                     | FL, Chitty 1994                  |
| FL (Hadlock)    | 99ALOKA                                      | A12013-022                     | FL, Hadlock 1982                 |
| FL (Jea-95%)    | 99ALOKA                                      | A12013-025                     | FL, Jeanty 95% 1983              |
| FL (Merz)       | 99ALOKA                                      | A12013-026                     | FL, Merz 1996                    |
| FL (Warda)      | 99ALOKA                                      | A12013-027                     | FL, Warda 1985                   |
| GS (Tokyo U)    | 99ALOKA                                      | A12013-028                     | GS, Tokyo                        |
| HC (Campbell)   | 99ALOKA                                      | A12013-029                     | HC, Campbell                     |
| HC (Chitty)     | 99ALOKA                                      | A12013-030                     | HC, Chitty 1994                  |
| HC (Hadlock)    | 99ALOKA                                      | A12013-031                     | HC, Hadlock 1982                 |
| HC2 (Merz)      | 99ALOKA                                      | A12013-033                     | HC, Merz 1996                    |
| HL (Hansmann)   | 99ALOKA                                      | A12013-034                     | Humerus, Hansmann 1985           |
| HL (Jea-95%)    | 99ALOKA                                      | A12013-035                     | Humerus, Jeanty 95% 1983         |
| HL (Merz)       | 99ALOKA                                      | A12013-036                     | Humerus, Merz 1996               |
| NBL (Sonek)     | 99ALOKA                                      | A12013-037                     | NBL, Sonek 2003                  |
| OFD (Merz)      | 99ALOKA                                      | A12013-038                     | OFD, Merz 1996                   |
| RAD (Merz)      | 99ALOKA                                      | A12013-039                     | Radius, Merz 1996                |
| TIB (Jea-95%)   | 99ALOKA                                      | A12013-040                     | Tibia, Jeanty 95% 1983           |
| TIB (Merz)      | 99ALOKA                                      | A12013-041                     | Tibia, Merz 1996                 |
| TL (Chitkara U) | 99ALOKA                                      | A12013-042                     | TL, Chitkara 1987                |
| TTD (Hansmann)  | 99ALOKA                                      | A12013-043                     | TAD, Hansmann 1985               |
| TTD (Merz)      | 99ALOKA                                      | A12013-044                     | TAD, Merz 1996                   |
| ULNA (Jea-95%)  | 99ALOKA                                      | A12013-045                     | Ulna, Jeanty 95% 1983            |

| <b>Label</b>         | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> |
|----------------------|--|--------------------------------|----------------------------------|
| <i>ULNA (Merz)</i>   | 99ALOKA                                      | A12013-046                     | <i>Ulna, Merz 1996</i>           |
| <i>AC (JSUM'03)</i>  | 99ALOKA                                      | A12013-047                     | <i>AC, JSUM 2003</i>             |
| <i>BPD (JSUM'03)</i> | 99ALOKA                                      | A12013-048                     | <i>BPD, JSUM 2003</i>            |
| <i>BPD (Osaka U)</i> | 99ALOKA                                      | A12013-049                     | <i>BPD, Osaka</i>                |
| <i>CRL (Osaka U)</i> | 99ALOKA                                      | A12013-050                     | <i>CRL, Osaka</i>                |
| <i>FL (JSUM'03)</i>  | 99ALOKA                                      | A12013-051                     | <i>FL, JSUM 2003</i>             |
| <i>FL (O'Brien)</i>  | 99ALOKA                                      | A12013-052                     | <i>FL, O'Brien 1981</i>          |
| <i>FL (Osaka U)</i>  | 99ALOKA                                      | A12013-053                     | <i>FL, Osaka</i>                 |
| <i>FTA (Osaka U)</i> | 99ALOKA                                      | A12013-054                     | <i>FTA, Osaka</i>                |
| <i>HL (Osaka U)</i>  | 99ALOKA                                      | A12013-055                     | <i>Humerus, Osaka</i>            |

CID 12014 OB Fetal Body Weight Equations and Tables

(Local Version : 20051202)

| <b>Label</b>                   | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>             |
|--------------------------------|--|--------------------------------|--|
| <i>FW Equation (Campbell)</i>  | LN   | 11756-4                        | <i>EFW by AC, Campbell 1975</i>              |
| <i>FW Equation (Hadlock5)</i>  | LN   | 11732-5                        | <i>EFW by AC, BPD, FL, HC, Hadlock 1985</i>  |
| <i>FW Equation (Hadlock1)</i>  | LN   | 11751-5                        | <i>EFW by AC, FL, Hadlock 1985</i>           |
| <i>FW Equation (Hadlock2)</i>  | LN   | 11746-5                        | <i>EFW by AC, FL, HC, Hadlock 1985</i>       |
| <i>FW Equation (Hadlock4)</i>  | LN   | 11754-9                        | <i>EFW by AC, HC Hadlock 1984</i>            |
| <i>FW Equation (Hansmann)</i>  | LN   | 33139-7                        | <i>EFW by BPD, TTD, Hansmann 1986</i>        |
| <i>FW Equation (Shepard)</i>   | LN   | 11739-0                        | <i>EFW by AC and BPD, Shepard 1982</i>       |
| <i>FW Equation (Shinozuka)</i> | LN   | 33142-1                        | <i>EFW2 by Shinozuka 1996</i>                |
| <i>FW Equation (Tokyo U)</i>   | LN   | 33144-7                        | <i>EFW by BPD, APAD, TAD, FL, Tokyo 1987</i> |
| <i>FW Equation (Hadlock3)</i>  | 99ALOKA                                      | A12014-001                     | <i>EFW by BPD, AC, FL, Hadlock</i>           |
| <i>FW Equation (JSUM'03)</i>   | 99ALOKA                                      | A12014-002                     | <i>EFW by BPD, AC, FL, JSUM 2003</i>         |
| <i>FW Equation (Osaka U)</i>   | 99ALOKA                                      | A12014-003                     | <i>EFW by BPD, FTA, FL, Osaka</i>            |
| <i>FW Equation (Warsof)</i>    | 99ALOKA                                      | A12014-004                     | <i>EFW by BPD, AC, Warsof 1977</i>           |

## CID 12015 Fetal Growth Equations and Tables

(Local Version : 20051202)

| Label  | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)          |
|--|---------------------------------------|-------------------------|------------------------------------|
| CI (BPD <sub>o</sub> /OFD <sub>o</sub> ) (Hadlock) | LN                                    | 33158-7                 | Cephalic Index by GA, Hadlock 1981 |
| HC/AC (Campbell)                                   | LN                                    | 33182-7                 | HC/AC by GA, Campbell 1977         |
| <i>FL/AC (Hadlock)</i>                             | 99ALOKA                               | <i>A12015-001</i>       | <i>FL/AC by GA, Hadlock 1983</i>   |
| <i>FL/HC (Hadlock)</i>                             | 99ALOKA                               | <i>A12015-002</i>       | <i>FL/HC by GA, Hadlock 1984</i>   |
| <i>FL/BPD (Hohler)</i>                             | 99ALOKA                               | <i>A12015-003</i>       | <i>FL/BPD by GA, Hohler 1981</i>   |
| <i>AFI (Jeng)</i>                                  | 99ALOKA                               | <i>A12015-004</i>       | <i>AFI by GA, Jeng et al.</i>      |
| <i>AFI (Moore)</i>                                 | 99ALOKA                               | <i>A12015-005</i>       | <i>AFI by GA, Moore et al.</i>     |
| <i>AFI (Phelan)</i>                                | 99ALOKA                               | <i>A12015-006</i>       | <i>AFI by GA, Phelan et al.</i>    |
| <i>AC (JSUM'03)</i>                                | 99ALOKA                               | <i>A12015-007</i>       | <i>AC by GA, JSUM 2003</i>         |
| <i>BPD (JSUM'03)</i>                               | 99ALOKA                               | <i>A12015-008</i>       | <i>BPD by GA, JSUM 2003</i>        |
| <i>BPD (Osaka U)</i>                               | 99ALOKA                               | <i>A12015-009</i>       | <i>BPD by GA, Osaka</i>            |
| <i>CRL (Osaka U)</i>                               | 99ALOKA                               | <i>A12015-010</i>       | <i>CRL by GA, Osaka</i>            |
| <i>FL (JSUM'03)</i>                                | 99ALOKA                               | <i>A12015-011</i>       | <i>FL by GA, JSUM 2003</i>         |
| <i>FL (O'Brien)</i>                                | 99ALOKA                               | <i>A12015-012</i>       | <i>FL by GA, O'Brien 1981</i>      |
| <i>FL (Osaka U)</i>                                | 99ALOKA                               | <i>A12015-013</i>       | <i>FL by GA, Osaka</i>             |
| <i>FTA (Osaka U)</i>                               | 99ALOKA                               | <i>A12015-014</i>       | <i>FTA by GA, Osaka</i>            |
| <i>HL (Osaka U)</i>                                | 99ALOKA                               | <i>A12015-015</i>       | <i>Humerus by GA, Osaka</i>        |

## CID 12016 Estimated Fetal Weight Percentile Equations and Tables

(Local Version : 20051202)

| Label                               | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)     |
|-------------------------------------|---------------------------------------|-------------------------|-------------------------------|
| FW Growth (Hadlock)                 | LN                                    | 33183-5                 | FWP by GA, Hadlock 1991       |
| FW Growth (Brenner)                 | LN                                    | 33189-2                 | FWP by GA, Brenner 1976       |
| <i>FW Growth (Doubilet)</i>         | 99ALOKA                               | <i>A12016-001</i>       | <i>FW, Doubilet 1997</i>      |
| <i>FW Growth (Yarkoni (Twins) )</i> | 99ALOKA                               | <i>A12016-005</i>       | <i>Twins FW, Yarkoni 1987</i> |

## CID 12017 Growth Distribution Rank

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| -     | DCM                                   | 125013                  | Growth Z-score            |

## CID 12018 OB-GYN Summary

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| -     | LN                                    | 11878-6                 | Number of Fetuses         |

## CID 12019 OB-GYN Fetus Summary

(Local Version : 20051202)

| Label                        | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)             |
|------------------------------|---------------------------------------|-------------------------|---------------------------------------|
| Composite US-GA              | LN                                    | 11888-5                 | Composite Ultrasound Age              |
| LMP-GA                       | LN                                    | 11885-1                 | Gestational Age by LMP                |
| FW                           | LN                                    | 11727-5                 | Estimated Weight                      |
| - (FW %ile rank by Doubilet) | LN                                    | 11767-1                 | EFW percentile rank                   |
| FHR                          | LN                                    | 11948-7                 | Fetal Heart Rate                      |
| <i>PreHR (Amnio)</i>         | <i>99ALOKA</i>                        | <i>A12019-001</i>       | <i>Fetal Heart Rate before Biopsy</i> |
| <i>PstHR (Amnio)</i>         | <i>99ALOKA</i>                        | <i>A12019-002</i>       | <i>Fetal Heart Rate after Biopsy</i>  |

## CID 12101 Vascular Summary

| Label    | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|----------|---------------------------------------|-------------------------|---------------------------|
| Comments | DCM                                   | 121106                  | Comment                   |

## CID 12104 Extracranial Arteries

| Label                                    | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|--|---------------------------------------|-------------------------|---------------------------|
| BIFUR                                    | SRT                                   | T-45160                 | Carotid Bifurcation       |
| CCA prox<br>CCA mid<br>CCA distal        | SRT                                   | T-45100                 | Common Carotid Artery     |
| ECA                                      | SRT                                   | T-45200                 | External Carotid Artery   |
| ICA<br>ICA prox<br>ICA mid<br>ICA distal | SRT                                   | T-45300                 | Internal Carotid Artery   |

| Label      | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|------------|---------------------------------------|-------------------------|---------------------------|
| VA<br>VERT | SRT                                   | T-45700                 | Vertebral Artery          |

## CID 12105 Intracranial Cerebral Vessels

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)        |
|-------|---------------------------------------|-------------------------|----------------------------------|
| ACA   | SRT                                   | T-45540                 | Anterior Cerebral Artery         |
| TICA  | SRT                                   | R-102BD                 | Terminal internal carotid artery |
| MCA   | SRT                                   | T-45600                 | Middle Cerebral Artery           |
| PCA   | SRT                                   | T-45900                 | Posterior Cerebral Artery        |
| PCoA  | SRT                                   | T-45320                 | Posterior Communicating Artery   |

## CID 12106 Intracranial Cerebral Vessels (unilateral)

(Local Version : 20060807)

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)     |
|-------|---------------------------------------|-------------------------|-------------------------------|
| BA    | SRT                                   | T-45800                 | Basilar Artery                |
| ACoA  | SRT                                   | T-45530                 | Anterior Communicating Artery |

## CID 12107 Upper Extremity Arteries

(Local Version : 20060807)

| Label      | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|------------|---------------------------------------|-------------------------|---------------------------|
| AA         | SRT                                   | T-47100                 | Axillary Artery           |
| BA         | SRT                                   | T-47160                 | Brachial Artery           |
| RA         | SRT                                   | T-47300                 | Radial Artery             |
| ScA        | SRT                                   | T-46100                 | Subclavian Artery         |
| SPA        | SRT                                   | T-47240                 | Superficial Palmar Arch   |
| UA         | SRT                                   | T-47200                 | Ulnar Artery              |
| DBA        | 99ALOKA                               | A12107-001              | Deep Brachial Artery      |
| BasA       | 99ALOKA                               | A12107-002              | Basilic Artery            |
| Upr Art. 1 | 99ALOKA                               | A12107-003              | User Definition Artery1   |
| Upr Art. 2 | 99ALOKA                               | A12107-004              | User Definition Artery2   |
| Upr Art. 3 | 99ALOKA                               | A12107-005              | User Definition Artery3   |
| Upr Art. 4 | 99ALOKA                               | A12107-006              | User Definition Artery4   |
| Upr Art. 5 | 99ALOKA                               | A12107-007              | User Definition Artery5   |
| Upr Art. 6 | 99ALOKA                               | A12107-008              | User Definition Artery6   |

| <b>Label</b>      | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> |
|-------------------|--|--------------------------------|----------------------------------|
| <i>Upr Art. 7</i> | 99ALOKA                                      | A12107-009                     | <i>User Definition Artery7</i>   |
| <i>Upr Art. 8</i> | 99ALOKA                                      | A12107-010                     | <i>User Definition Artery8</i>   |

## CID 12108 Upper Extremity Veins

(Local Version : 20060807)

| <b>Label</b>         | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> |
|----------------------|--|--------------------------------|----------------------------------|
| AV                   | SRT  | T-49110                        | Axillary vein                    |
| BasV                 | SRT  | T-48052                        | Basilic vein                     |
| BV                   | SRT  | T-49350                        | Brachial vein                    |
| CV                   | SRT  | T-49240                        | Cephalic vein                    |
| IJV                  | SRT  | T-48170                        | Internal Jugular vein            |
| RV                   | SRT  | T-49340                        | Radial vein                      |
| ScV                  | SRT  | T-48330                        | Subclavian vein                  |
| UV                   | SRT  | T-49330                        | Ulnar vein                       |
| <i>DBV</i>           | 99ALOKA                                      | A12108-001                     | <i>Deep Brachial vein</i>        |
| <i>Upr Vein. 1</i>   | 99ALOKA                                      | A12108-002                     | <i>User Definition Vein1</i>     |
| <i>Upr Vein. 2</i>   | 99ALOKA                                      | A12108-003                     | <i>User Definition Vein2</i>     |
| <i>Upr Vein. 3</i>   | 99ALOKA                                      | A12108-004                     | <i>User Definition Vein3</i>     |
| <i>Upr Vein. 4</i>   | 99ALOKA                                      | A12108-005                     | <i>User Definition Vein4</i>     |
| <i>Upr Vein. 5</i>   | 99ALOKA                                      | A12108-006                     | <i>User Definition Vein5</i>     |
| <i>Upr Vein. 6</i>   | 99ALOKA                                      | A12108-007                     | <i>User Definition Vein6</i>     |
| <i>Upr Vein. . 7</i> | 99ALOKA                                      | A12108-008                     | <i>User Definition Vein7</i>     |
| <i>Upr Vein. 8</i>   | 99ALOKA                                      | A12108-009                     | <i>User Definition Vein8</i>     |

## CID 12109 Lower Extremity Arteries

| <b>Label</b> | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> |
|--------------|--|--------------------------------|----------------------------------|
| CIA          | SRT  | T-46710                        | Common Iliac Artery              |
| ATA          | SRT  | T-47700                        | Anterior Tibial Artery           |
| CFA          | SRT  | T-47400                        | Common Femoral Artery            |
| DPA          | SRT  | T-47741                        | Dorsalis Pedis Artery            |
| EIA          | SRT  | T-46910                        | External Iliac Artery            |
| IIA          | SRT  | T-46740                        | Internal Iliac Artery            |
| PerA         | SRT  | T-47630                        | Peroneal Artery                  |
| PopA         | SRT  | T-47500                        | Popliteal Artery                 |
| PTA          | SRT  | T-47600                        | Posterior Tibial Artery          |



| <b>Label</b>              | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> |
|---------------------------|--|--------------------------------|----------------------------------|
| DFA (Deep Femoral Artery) | SRT  | T-47440                        | Profunda Femoris Artery          |
| SFA                       | SRT  | T-47403                        | Superficial Femoral Artery       |
| <i>Lwr Art. 1</i>         | 99ALOKA                                      | A12109-001                     | <i>User Definition Artery1</i>   |
| <i>Lwr Art. 2</i>         | 99ALOKA                                      | A12109-002                     | <i>User Definition Artery2</i>   |
| <i>Lwr Art. 3</i>         | 99ALOKA                                      | A12109-003                     | <i>User Definition Artery3</i>   |
| <i>Lwr Art. 4</i>         | 99ALOKA                                      | A12109-004                     | <i>User Definition Artery4</i>   |
| <i>Lwr Art. 5</i>         | 99ALOKA                                      | A12109-005                     | <i>User Definition Artery5</i>   |
| <i>Lwr Art. 6</i>         | 99ALOKA                                      | A12109-006                     | <i>User Definition Artery6</i>   |
| <i>Lwr Art. 7</i>         | 99ALOKA                                      | A12109-007                     | <i>User Definition Artery7</i>   |
| <i>Lwr Art. 8</i>         | 99ALOKA                                      | A12109-008                     | <i>User Definition Artery8</i>   |

## CID 12110 Lower Extremity Veins

| <b>Label</b>            | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> |
|-------------------------|--|--------------------------------|----------------------------------|
| ATV                     | SRT  | T-49630                        | Anterior Tibial Vein             |
| CFV                     | SRT  | G-035B                         | Common Femoral Vein              |
| CIV                     | SRT  | T-48920                        | Common Iliac Vein                |
| EIV                     | SRT  | T-48930                        | External Iliac Vein              |
| GSV                     | SRT  | T-49530                        | Great Saphenous Vein             |
| LSV                     | SRT  | T-49550                        | Lesser Saphenous Vein            |
| PerV                    | SRT  | T-49650                        | Peroneal Vein                    |
| PopV                    | SRT  | T-49640                        | Popliteal Vein                   |
| PTV                     | SRT  | T-49620                        | Posterior Tibial Vein            |
| DFV (Deep Femoral Vein) | SRT  | T-49660                        | Profunda Femoris Vein            |
| SFV                     | SRT  | G-035A                         | Superficial Femoral Vein         |
| IIV                     | SRT  | T-48940                        | Internal iliac vein              |
| <i>Lwr Vein. 1</i>      | 99ALOKA                                      | A12110-001                     | <i>User Definition Vein1</i>     |
| <i>Lwr Vein. 2</i>      | 99ALOKA                                      | A12110-002                     | <i>User Definition Vein2</i>     |
| <i>Lwr Vein. 3</i>      | 99ALOKA                                      | A12110-003                     | <i>User Definition Vein3</i>     |
| <i>Lwr Vein. 4</i>      | 99ALOKA                                      | A12110-004                     | <i>User Definition Vein4</i>     |
| <i>Lwr Vein. 5</i>      | 99ALOKA                                      | A12110-005                     | <i>User Definition Vein5</i>     |
| <i>Lwr Vein. 6</i>      | 99ALOKA                                      | A12110-006                     | <i>User Definition Vein6</i>     |
| <i>Lwr Vein. 7</i>      | 99ALOKA                                      | A12110-007                     | <i>User Definition Vein7</i>     |
| <i>Lwr Vein. 8</i>      | 99ALOKA                                      | A12110-008                     | <i>User Definition Vein8</i>     |

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| CIA   | SRT                                   | T-46710                 | Common Iliac Artery       |

## CID 12112 Abdominal Arteries (unilateral)

| Label               | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)      |
|---------------------|---------------------------------------|-------------------------|--------------------------------|
| A-Ao                | SRT                                   | T-42000                 | Aorta                          |
| CA                  | SRT                                   | T-46400                 | Celiac Axis                    |
| CHA                 | SRT                                   | T-46421                 | Common Hepatic Artery          |
| IMA                 | SRT                                   | T-46520                 | Inferior Mesenteric Artery     |
| HA, Right           | SRT                                   | T-46423                 | Right Branch of Hepatic Artery |
| HA, Left            | SRT                                   | T-46427                 | Left Branch of Hepatic Artery  |
| SA                  | SRT                                   | T-46460                 | Splenic Artery                 |
| SMA<br>Prandial SMA | SRT                                   | T-46510                 | Superior Mesenteric Artery     |

## CID 12114 Abdominal Veins (unilateral)

| Label                                   | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)                     |
|---|---------------------------------------|-------------------------|---|
| Main PV                                 | SRT                                   | T-48810                 | Portal Vein                                   |
| Lt. PV                                  | SRT                                   | T-4881F                 | Left Main Branch of Portal Vein               |
| Rt. PV                                  | SRT                                   | T-4882A                 | Right Main Branch of Portal Vein              |
| Prox Shunt<br>Mid Shunt<br>Distal Shunt | SRT                                   | G-036C                  | Transjugular Intrahepatic Portosystemic Shunt |
| Artery1                                 | 99ALOKA                               | A12112-001              | User Definition Artery1                       |
| Artery2                                 | 99ALOKA                               | A12112-002              | User Definition Artery2                       |
| Artery3                                 | 99ALOKA                               | A12112-003              | User Definition Artery3                       |

## CID 12115 Renal Vessels

| Label   | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|---------|---------------------------------------|-------------------------|---------------------------|
| Renal-A | SRT                                   | T-46600                 | Renal Artery              |

## CID 12116 Vessel Segment Modifiers

| Label      | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|------------|---------------------------------------|-------------------------|---------------------------|
| - (distal) | SRT                                   | G-A119                  | Distal                    |
| - (mid)    | SRT                                   | G-A188                  | Mid-longitudinal          |
| - (prox)   | SRT                                   | G-A118                  | Proximal                  |

## CID 12120 Blood Velocity Measurements

| Label     | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)   |
|-----------|---------------------------------------|-------------------------|-----------------------------|
| EDV       | LN                                    | 11653-3                 | End Diastolic Velocity      |
| PSV<br>pV | LN                                    | 11726-7                 | Peak Systolic Velocity      |
| MnV       | LN                                    | 11692-1                 | Time averaged peak velocity |

## CID 12121 Vascular Indices and Ratios

(Local Version : 20070424)

| Label             | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)                   |
|-------------------|---------------------------------------|-------------------------|---|
| ACC               | LN                                    | 20167-3                 | Acceleration Index                          |
| PI                | LN                                    | 12008-9                 | Pulsatility Index                           |
| RI                | LN                                    | 12023-8                 | Resistivity Index                           |
| S/D               | LN                                    | 12144-2                 | Systolic to Diastolic Velocity Ratio        |
| <i>AccT/FlowT</i> | <i>99ALOKA</i>                        | <i>A12121-001</i>       | <i>Acceleration Time to Flow Time Ratio</i> |

## CID 12122 Other Vascular Properties

(Local Version : 20070424)

| Label        | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|--------------|---------------------------------------|-------------------------|---------------------------|
| AccT         | LN                                    | 20168-1                 | Acceleration Time         |
| <i>FlowT</i> | <i>99ALOKA</i>                        | <i>A12122-001</i>       | <i>Flow Time</i>          |

## CID 12140 Pelvic Vasculature Anatomical Location

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| UmA   | SRT                                   | T-F1810                 | Umbilical Artery          |

## CID 12141 Fetal Vasculature Anatomical Location

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| MCA   | SRT                                   | T-45600                 | Middle Cerebral Artery    |
| D-Ao  | SRT                                   | T-D0765                 | Descending Aorta          |

## CID 12201 Left Ventricle Linear

(Local Version : 20060807)

| Label                          | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)                                 |
|--------------------------------|---------------------------------------|-------------------------|---|
| LVIDd                          | LN                                    | 29436-3                 | Left Ventricle Internal End Diastolic Dimension           |
| LVIDs                          | LN                                    | 29438-9                 | Left Ventricle Internal Systolic Dimension                |
| FS                             | LN                                    | 18051-3                 | Left Ventricular Fractional Shortening                    |
| IVSd                           | LN                                    | 18154-5                 | Interventricular Septum Diastolic Thickness               |
| IVS/LVPW                       | LN                                    | 18155-2                 | Interventricular Septum to Posterior Wall Thickness Ratio |
| %IVSTF                         | LN                                    | 18054-7                 | Interventricular Septum % Thickening                      |
| IVSs                           | LN                                    | 18158-6                 | Interventricular Septum Systolic Thickness                |
| %PWTF                          | LN                                    | 18053-9                 | Left Ventricle Posterior Wall % Thickening                |
| LVLd<br>LVL4d<br>LVL2d         | LN                                    | 18077-8                 | Left Ventricle diastolic major axis                       |
| LVLs<br>LVL4s<br>LVL2s         | LN                                    | 18076-0                 | Left Ventricle systolic major axis                        |
| LVPWs                          | LN                                    | 18156-0                 | Left Ventricle Posterior Wall Systolic Thickness          |
| LVPWd                          | LN                                    | 18152-9                 | Left Ventricle Posterior Wall Diastolic Thickness         |
| LVSLMVd<br>LVSLMV <sub>s</sub> | 99ALOKA                               | A12201-001              | Left Ventricular Short Axis Length at Mitral Valve        |
| <i>thick</i>                   | 99ALOKA                               | A12201-002              | <i>Mean Wall Thickness</i>                                |

## CID 12202 Left Ventricle Volume

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)             |
|-------|---------------------------------------|-------------------------|---------------------------------------|
| EDV   | LN                                    | 18026-5                 | Left Ventricular End Diastolic Volume |
| ESV   | LN                                    | 18148-7                 | Left Ventricular End Systolic Volume  |
| EF    | LN                                    | 18043-0                 | Left Ventricular Ejection Fraction    |

## CID 12203 Left Ventricle Other

(Local Version : 20060807)

| Label                 | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)                                       |
|-----------------------|---------------------------------------|-------------------------|---|
| LVM                   | LN                                    | 18087-7                 | Left Ventricle Mass   |
| IRT                   | LN                                    | 18071-1                 | Left Ventricular Isovolumic Relaxation Time                     |
| LVM/BSA               | 99ALOKA                               | A12203-001              | Left Ventricular Mass Index                                     |
| %difD<br>%difS        | 99ALOKA                               | A12203-003              | Long Axis (at End Diastole or End Systole) Length % Difference  |
| mFS                   | 99ALOKA                               | A12203-004              | Midwall Fractional Shortening                                   |
| areaEF <sub>lx</sub>  | 99ALOKA                               | A12203-005              | Area Ejection Fraction at Long Axis View                        |
| areaEF <sub>sx</sub>  | 99ALOKA                               | A12203-006              | Area Ejection Fraction at Short Axis View                       |
| MVCF                  | 99ALOKA                               | A12203-009              | Mean Velocity of Circumferential Fiber Shortening               |
| LVDF <sub>T</sub>     | 99ALOKA                               | A12203-010              | Left Ventricle Diastole Filling Time                            |
| E/Em                  | 99ALOKA                               | A12203-011              | Ratio of MV E-Wave Peak Vel. to Early Diastolic Myocardium Vel. |
| LVDF <sub>T</sub> /RR | 99ALOKA                               | A12203-012              | Ratio of Left Ventricle Diastole Filling Time to R-R interval   |

## CID 12204 Echocardiography Right Ventricle

| Label             | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)                           |
|-------------------|---------------------------------------|-------------------------|---|
| RVD <sub>d</sub>  | LN                                    | 20304-2                 | Right Ventricular Internal Diastolic Dimension      |
| RVD <sub>s</sub>  | LN                                    | 20305-9                 | Right Ventricular Internal Systolic Dimension       |
| RVSP              | SRT                                   | G-0380                  | Right Ventricular Peak Systolic Pressure            |
| RVAW <sub>d</sub> | LN                                    | 18153-7                 | Right Ventricular Anterior Wall Diastolic Thickness |
| RVAW <sub>s</sub> | LN                                    | 18157-8                 | Right Ventricular Anterior Wall Systolic Thickness  |

## CID 12205 Echocardiography Left Atrium

(Local Version : 20060807)

| Label                              | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)                       |
|------------------------------------|---------------------------------------|-------------------------|---|
| LAD <sub>s</sub>                   | LN                                    | 29469-4                 | Left Atrium Antero-posterior Systolic Dimension |
| LAD <sub>s</sub> /AOD <sub>d</sub> | LN                                    | 17985-3                 | Left Atrium to Aortic Root Ratio                |
| LALA <sub>4s</sub>                 | LN                                    | 17977-0                 | Left Atrium Systolic Area                       |

| <b>Label</b>   | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>                            |
|----------------|--|--------------------------------|---|
| LADd           | 99ALOKA                                      | A12205-001                     | Left Atrium Antero-posterior Diastolic Dimension            |
| LAL4s<br>LAL2s | 99ALOKA                                      | A12205-002                     | Left Atrium systolic major axis                             |
| LALA2s         | 99ALOKA                                      | A12205-003                     | Left Atrium Systolic Area by Apical two chamber             |
| LA Volume      | 99ALOKA                                      | A12205-004                     | Left Atrial Volume  |
| LA Volume/BSA  | 99ALOKA                                      | A12205-005                     | Left Atrial Volume divided by Body Surface Area             |
| %difS          | 99ALOKA                                      | A12205-006                     | Long Axis at End Systole Length % Difference of Left Atrium |

## CID 12206 Echocardiography Right Atrium

(Local Version : 20060807)

| <b>Label</b>   | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>                             |
|----------------|--|--------------------------------|--|
| RAP            | LN   | 18070-3                        | Right Atrium Systolic Pressure                               |
| RALA4s         | LN   | 17988-7                        | Right Atrium Systolic Area                                   |
| RAL4s<br>RAL2s | 99ALOKA                                      | A12206-001                     | Right Atrium systolic major axis                             |
| RALA2s         | 99ALOKA                                      | A12206-002                     | Right Atrium Systolic Area by Apical two chamber             |
| RA Volume      | 99ALOKA                                      | A12206-003                     | Right Atrial Volume  |
| RA Volume/BSA  | 99ALOKA                                      | A12206-004                     | Right Atrial Volume divided by Body Surface Area             |
| %difS          | 99ALOKA                                      | A12206-005                     | Long Axis at End Systole Length % Difference of Right Atrium |

## CID 12207 Echocardiography Mitral Valve

(Local Version : 20060807)

| <b>Label</b>  | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>      |
|---------------|--|--------------------------------|---------------------------------------|
| aV            | LN   | 17978-8                        | Mitral Valve A-Wave Peak Velocity     |
| eV            | LN   | 18037-2                        | Mitral Valve E-Wave Peak Velocity     |
| E/A (Doppler) | LN   | 18038-0                        | Mitral Valve E to A Ratio             |
| DecT          | SRT  | G-0384                         | Mitral Valve E-Wave Deceleration Time |
| E-Fslop       | LN   | 18040-6                        | Mitral Valve E-F Slope by M-Mode      |
| EPSS          | LN   | 18036-4                        | Mitral Valve EPSS, E wave             |
| Adur          | SRT  | G-0385                         | Mitral Valve A-Wave Duration          |

| <b>Label</b>  | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>                             |
|---------------|--|--------------------------------|--|
| dP/dt         | LN   | 18035-6                        | Mitral Regurgitation dP/dt derived from Mitral Reg. velocity |
| C-Eamp        | 99ALOKA                                      | A12207-001                     | Mitral Valve Dimension of C point to E point by M-Mode       |
| C-Aamp        | 99ALOKA                                      | A12207-002                     | Mitral Valve Dimension of C point to A point by M-Mode       |
| A/E           | 99ALOKA                                      | A12207-003                     | Mitral Valve C-A Dimension to C-E Dimension Ratio by M-Mode  |
| E/A           | 99ALOKA                                      | A12207-004                     | Mitral Valve C-E Dimension to C-A Dimension Ratio by M-Mode  |
| Edur          | 99ALOKA                                      | A12207-005                     | Mitral Valve E-Wave Duration                                 |
| A/E (Doppler) | 99ALOKA                                      | A12207-006                     | Mitral Valve A to E Ratio                                    |
| EPG           | 99ALOKA                                      | A12207-007                     | Mitral Valve E-wave Peak Pressure Gradient                   |
| APG           | 99ALOKA                                      | A12207-008                     | Mitral Valve A-wave Peak Pressure Gradient                   |
| PVAdur-Adur   | 99ALOKA                                      | A12207-009                     | Subtraction of A-wave Duration from PVA-wave Duration        |
| VTI (MR)      | 99ALOKA                                      | A12207-010                     | Velocity Time Integral of Mitral Regurgitant Flow            |
| MR PISA       | 99ALOKA                                      | A12207-012                     | Mitral Regurgitant Proximal Isovelocity Surface Area         |
| SV (MV)       | 99ALOKA                                      | A12207-013                     | Flow Volume of Mitral Valve Annulus in Flow                  |

CID 12208 Echocardiography Tricuspid Valve

(Local Version : 20060807)

| <b>Label</b> | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>                               |
|--------------|--|--------------------------------|--|
| dP/dt        | LN   | 18034-9                        | Tricuspid Regurgitation dP/dt                                  |
| C-Eamp       | 99ALOKA                                      | A12208-001                     | Tricuspid Valve Dimension of C point to E point by M-Mode      |
| C-Aamp       | 99ALOKA                                      | A12208-002                     | Tricuspid Valve Dimension of C point to A point by M-Mode      |
| D-Eamp       | 99ALOKA                                      | A12208-003                     | Tricuspid Valve Dimension of D point to E point by M-Mode      |
| E-Fslop      | 99ALOKA                                      | A12208-004                     | Tricuspid Valve Velocity from E point to F point by M-Mode     |
| D-Eslop      | 99ALOKA                                      | A12208-005                     | Tricuspid Valve Velocity from D point to E point by M-Mode     |
| A/E          | 99ALOKA                                      | A12208-006                     | Tricuspid Valve C-A Dimension to C-E Dimension Ratio by M-Mode |
| E/A          | 99ALOKA                                      | A12208-007                     | Tricuspid Valve C-E Dimension to C-A Dimension Ratio by M-Mode |
| VTI (TR)     | 99ALOKA                                      | A12208-008                     | Velocity Time Integral of Tricuspid Regurgitant Flow           |

| <b>Label</b> | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>                        |
|--------------|--|--------------------------------|---|
| TR PISA      | 99ALOKA                                      | A12208-010                     | Tricuspid Regurgitant Proximal Isovelocity Surface Area |
| SV (TV)      | 99ALOKA                                      | A12208-011                     | Flow Volume of Tricuspid Valve Annulus in Flow          |

## CID 12209 Echocardiography Pulmonic Valve

(Local Version : 20060807)

| <b>Label</b> | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>                           |
|--------------|--|--------------------------------|--|
| ET           | LN   | 18042-2                        | Pulmonic Valve Ejection Time                               |
| AccT/ET      | SRT  | G-0388                         | Ratio of Pulmonic Valve Acceleration Time to Ejection Time |
| A wave amp   | 99ALOKA                                      | A12209-001                     | Pulmonic Valve Dimension of F point to A point by M-Mode   |
| B-Camp       | 99ALOKA                                      | A12209-002                     | Pulmonic Valve Dimension of B point to C point by M-Mode   |
| E-Fslop      | 99ALOKA                                      | A12209-003                     | Pulmonic Valve Velocity from E point to F point by M-Mode  |
| B-Cslop      | 99ALOKA                                      | A12209-004                     | Pulmonic Valve Velocity from B point to C point by M-Mode  |
| VTI (PR)     | 99ALOKA                                      | A12209-005                     | Velocity Time Integral of Pulmonic Regurgitant Flow        |
| PR PISA      | 99ALOKA                                      | A12209-007                     | Pulmonic Regurgitant Proximal Isovelocity Surface Area     |

## CID 12211 Echocardiography Aortic Valve

(Local Version : 20060807)

| <b>Label</b> | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>                         |
|--------------|--|--------------------------------|--|
| ET           | LN   | 18041-4                        | Aortic Valve Ejection Time                               |
| AccT/ET      | SRT  | G-0382                         | Ratio of Aortic Valve Acceleration Time to Ejection Time |
| VTI (AR)     | 99ALOKA                                      | A12211-001                     | Velocity Time Integral of Aortic Regurgitant Flow        |
| AR PISA      | 99ALOKA                                      | A12211-003                     | Aortic Regurgitant Proximal Isovelocity Surface Area     |



## CID 12212 Echocardiography Aorta

| Label        | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|--------------|---------------------------------------|-------------------------|---------------------------|
| AODd<br>AODs | LN                                    | 18015-8                 | Aortic Root Diameter      |

## CID 12214 Echocardiography Pulmonary Veins

(Local Version : 20060807)

| Label       | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)                                |
|-------------|---------------------------------------|-------------------------|--|
| PVS         | LN                                    | 29450-4                 | Pulmonary Vein Systolic Peak Velocity                    |
| PVD         | LN                                    | 29451-2                 | Pulmonary Vein Diastolic Peak Velocity                   |
| S/D         | LN                                    | 29452-0                 | Pulmonary Vein Systolic to Diastolic Ratio               |
| PVA         | LN                                    | 29453-8                 | Pulmonary Vein Atrial Contraction Reversal Peak Velocity |
| PVAdur      | SRT                                   | G-038B                  | Pulmonary Vein A-Wave Duration                           |
| D-VTI       | SRT                                   | G-038D                  | Pulmonary Vein D-Wave Velocity Time Integral             |
| S-VTI       | SRT                                   | G-038C                  | Pulmonary Vein S-Wave Velocity Time Integral             |
| <i>DecT</i> | <i>99ALOKA</i>                        | <i>A12214-001</i>       | <i>Deceleration Time of D-Wave Flow</i>                  |
| <i>SF</i>   | <i>99ALOKA</i>                        | <i>A12214-002</i>       | <i>Systolic Fraction</i>                                 |

## CID 12215 Echocardiography Vena Cavae

| Label       | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)     |
|-------------|---------------------------------------|-------------------------|-------------------------------|
| Insp<br>Exp | LN                                    | 18006-7                 | Inferior Vena Cava Diameter   |
| %Collapse   | LN                                    | 18050-5                 | Inferior Vena Cava % Collapse |

## CID 12217 Echocardiography Cardiac Shunt

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)              |
|-------|---------------------------------------|-------------------------|--|
| Qp/Qs | LN                                    | 29462-9                 | Pulmonary-to-Systemic Shunt Flow Ratio |

## CID 12220 Echocardiography Common Measurements

(Local Version : 20060807)

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| HR    | LN                                    | 8867-4                  | Heart rate                |
| RR    | DCM                                   | 122182                  | R-R interval              |

## CID 12221 Flow Direction

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| -     | SRT                                   | R-42047                 | Antegrade Flow            |
| -     | SRT                                   | R-42E61                 | Regurgitant Flow          |

## CID 12222 Orifice Flow Properties

(Local Version : 20060807)

| Label   | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)       |
|---|---------------------------------------|-------------------------|---------------------------------|
| MR Vol<br>TR Vol<br>PR Vol<br>AR Vol  | LN                                    | 33878-0                 | Volume Flow                     |
| MR Flow Rt<br>TR Flow Rt<br>PR Flow Rt<br>AR Flow Rt  | LN                                    | 34141-2                 | Peak Instantaneous Flow Rate    |
| CSA (LVOT)<br>CSA (RVOT)<br>MVA<br>MVA (P1/2T)<br>AVA<br>MR EROA<br>TR EROA<br>PR EROA<br>AR EROA | SRT                                   | G-038E                  | Cardiovascular Orifice Area     |
| LVOT<br>RVOT<br>MV Diam<br>TV Diam<br>AVDs  | SRT                                   | G-038F                  | Cardiovascular Orifice Diameter |

| Label  | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)               |
|--|---------------------------------------|-------------------------|---|
| MR RF<br>TR RF<br>PR RF<br>AR RF   | SRT                                   | G-0390                  | Regurgitant Fraction                    |
| pV   | LN                                    | 11726-7                 | Peak Velocity                           |
| MnV  | LN                                    | 20352-1                 | Mean Velocity                           |
| PG   | LN                                    | 20247-3                 | Peak Gradient                           |
| MPG  | LN                                    | 20256-4                 | Mean Gradient                           |
| VTI<br>VTI (MVannu)<br>VTI (TVannu)                                      | LN                                    | 20354-7                 | Velocity Time Integral                  |
| P1/2T  | LN                                    | 20280-4                 | Pressure Half-Time                      |
| AccT   | LN                                    | 20168-1                 | Acceleration Time                       |
| PEP  | 99ALOKA                               | A12222-001              | Pre-Ejection Period                     |
| PEP/ET   | 99ALOKA                               | A12222-002              | PEP/ET                                  |
| FlowT  | 99ALOKA                               | A12222-003              | Flow Time                               |
| PISA Radius  | 99ALOKA                               | A12222-004              | Radius of Flow Convergence              |
| MR Alias V (Vr)<br>TR Alias V (Vr)<br>PR Alias V (Vr)<br>AR Alias V (Vr) | 99ALOKA                               | A12222-005              | Aliasing Velocity                       |
| Angle (PISA)   | 99ALOKA                               | A12222-006              | Proximal Isovelocity Surface Area Angle |

## CID 12223 Echocardiography Stroke Volume Origin

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)     |
|-------|---------------------------------------|-------------------------|-------------------------------|
| -     | SNM3 <sup>1</sup>                     | T-32650                 | Left Ventricle Outflow Tract  |
| -     | SNM3                                  | T-32550                 | Right Ventricle Outflow Tract |

Note : 1. Actually "SRT" described in CID 12243 is included in Structured Report, not "SNM3".

## CID 12224 Ultrasound Image Modes

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| -     | SRT                                   | G-03A2                  | 2D mode                   |
| -     | SRT                                   | G-0394                  | M mode                    |
| -     | SRT                                   | R-409E4                 | Doppler Pulsed            |

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| -     | SRT                                   | R-409E3                 | Doppler Continuous Wave   |

## CID 12226 Echocardiography Image View

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)                            |
|-------|---------------------------------------|-------------------------|--|
| -     | SRT                                   | G-A19B                  | Apical two chamber                                   |
| -     | SRT                                   | G-A19C                  | Apical four chamber                                  |
| -     | SRT                                   | G-0398                  | Parasternal short axis at the aortic valve level     |
| -     | SRT                                   | G-039A                  | Parasternal short axis at the Mitral Valve level     |
| -     | SRT                                   | G-039B                  | Parasternal short axis at the Papillary Muscle level |

## CID 12228 Volume Methods

(Local Version : 20060807)

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)   |
|-------|---------------------------------------|-------------------------|---|
| -     | DCM                                   | 125204                  | Area-Length Biplane   |
| -     | DCM                                   | 125205                  | Area-Length Single Plane  |
| -     | DCM                                   | 125206                  | Cube Method   |
| -     | DCM                                   | 125207                  | Method of Disks, Biplane  |
| -     | DCM                                   | 125208                  | Method of Disks, Single Plane                                       |
| -     | DCM                                   | 125209                  | Teichholz   |
| -     | 99ALOKA                               | A12228-001              | <i>Method of Disks, Single Plane with Apical two chamber</i>        |
| -     | 99ALOKA                               | A12228-002              | <i>Gibson</i>   |
| -     | 99ALOKA                               | A12228-003              | <i>Modified Simpson's</i>   |
| -     | 99ALOKA                               | A12228-004              | <i>Bullet</i>   |
| -     | 99ALOKA                               | A12228-005              | <i>Method of Disks, Biplane of LA</i>                               |
| -     | 99ALOKA                               | A12228-006              | <i>Method of Disks, Single Plane with Apical four chamber of LA</i> |
| -     | 99ALOKA                               | A12228-007              | <i>Method of Disks, Single Plane with Apical two chamber of LA</i>  |
| -     | 99ALOKA                               | A12228-008              | <i>Method of Disks, Biplane of RA</i>                               |
| -     | 99ALOKA                               | A12228-009              | <i>Method of Disks, Single Plane with Apical four chamber of RA</i> |
| -     | 99ALOKA                               | A12228-010              | <i>Method of Disks, Single Plane with Apical two chamber of RA</i>  |
| -     | 99ALOKA                               | A12228-011              | <i>Area-Length Biplane of Left Atrium</i>                           |

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)           |
|-------|---------------------------------------|-------------------------|-------------------------------------|
| -     | 99ALOKA                               | A12228-012              | Area-Length Biplane of Right Atrium |

## CID 12229 Area Methods

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)                     |
|-------|---------------------------------------|-------------------------|---|
| -     | DCM                                   | 125210                  | Area by Pressure Half-Time                    |
| -     | DCM                                   | 125215                  | Continuity Equation by Velocity Time Integral |
| -     | DCM                                   | 125216                  | Proximal Isovelocity Surface Area             |
| -     | DCM                                   | 125220                  | Planimetry                                    |

## CID 12230 Gradient Methods

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| -     | DCM                                   | 125218                  | Simplified Bernoulli      |

## CID 12231 Volume Flow Methods

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)         |
|-------|---------------------------------------|-------------------------|-----------------------------------|
| -     | DCM                                   | 125219                  | Doppler Volume Flow               |
| -     | DCM                                   | 125216                  | Proximal Isovelocity Surface Area |

## CID 12232 Myocardium Mass Methods

(Local Version : 20060807)

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)          |
|-------|---------------------------------------|-------------------------|------------------------------------|
| -     | DCM                                   | 125221                  | Left Ventricle Mass by M-mode      |
| -     | 99ALOKA                               | A12232-001              | Left Ventricle Mass by Area Length |
| -     | 99ALOKA                               | A12232-002              | Left Ventricle Mass by Penn        |

## CID 12233 Cardiac Phase

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| -     | SRT                                   | F-32020                 | Systole                   |

Hitachi F37

| <b>Label</b> | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> |
|--------------|--|--------------------------------|----------------------------------|
| -            | SRT  | F-32011                        | End Diastole                     |
| -            | DCM  | 109070                         | End Systole                      |

CID 12234 Respiration State

| <b>Label</b> | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> |
|--------------|--|--------------------------------|----------------------------------|
| -            | SRT  | F-20010                        | During Inspiration               |
| -            | SRT  | F-20020                        | During Expiration                |

CID 12235 Mitral Valve Anatomic Sites

| <b>Label</b> | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> |
|--------------|--|--------------------------------|----------------------------------|
| -            | SRT  | T-35313                        | Mitral Annulus                   |

CID 12239 Cardiac Output Properties

| <b>Label</b>                    | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> |
|---------------------------------|--|--------------------------------|----------------------------------|
| SV<br>SV (LVOT)<br>SV (RVOT)    | SRT  | F-32120                        | Stroke Volume                    |
| CO<br>CO (LVOT)<br>CO (RVOT)    | SRT  | F-32100                        | Cardiac Output                   |
| COI<br>COI (LVOT)<br>COI (RVOT) | SRT  | F-32110                        | Cardiac Index                    |
| SVI<br>SVI (LVOT)<br>SVI (RVOT) | SRT  | F-00078                        | Stroke Index                     |

## CID 12240 Left Ventricle Area

| Label   | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)                               |
|---|---------------------------------------|-------------------------|---|
| LVLAs<br>LVLA4s<br>LVLA2s<br>LVSAMVs<br>LVSAPMs         | SRT                                   | G-0374                  | Left Ventricular Systolic Area                          |
| LVLAd<br>LVLA4d<br>LVLA2d<br>LVSAMVd<br>LVSAPMd<br>Aend | SRT                                   | G-0375                  | Left Ventricular Diastolic Area                         |
| areaEF<br>areaEF4<br>areaEF2<br>areaEFmv<br>areaEFpm    | SRT                                   | G-0376                  | Left Ventricular Fractional Area Change                 |
| Aepi  | SRT                                   | G-0379                  | Left Ventricle Epicardial Diastolic Area, psax pap view |

## CID 12241 Tricuspid Valve Finding Sites

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| -     | SRT                                   | T-35111                 | Tricuspid Annulus         |

## CID 12242 Aortic Valve Finding Sites

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104) |
|-------|---------------------------------------|-------------------------|---------------------------|
| -     | SRT                                   | T-35410                 | Aortic Valve Ring         |

## CID 12243 Left Ventricle Finding Sites

| Label | Coding Scheme Designator (0008, 0102) | Code Value (0008, 0100) | Code Meaning (0008, 0104)    |
|-------|---------------------------------------|-------------------------|------------------------------|
| -     | SRT                                   | T-32650                 | Left Ventricle Outflow Tract |

*CID ALOKA\_001 OB Original Vascular Measurement Group*

This Context Group is private definition.

| <b>Label</b>   | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b>   |
|----------------|--|--------------------------------|------------------------------------|
| <i>OB Dop1</i> | 99ALOKA                                      | ALOKA_001-001                  | <i>OB User Definition Doppler1</i> |
| <i>OB Dop2</i> | 99ALOKA                                      | ALOKA_001-002                  | <i>OB User Definition Doppler2</i> |
| <i>OB Dop3</i> | 99ALOKA                                      | ALOKA_001-003                  | <i>OB User Definition Doppler3</i> |

*CID ALOKA\_002 User Defined Equation Group*

This Context Group is private definition.

| <b>Label</b>                                  | <b>Coding Scheme Designator (0008, 0102)</b> | <b>Code Value (0008, 0100)</b> | <b>Code Meaning (0008, 0104)</b> |
|---|--|--------------------------------|----------------------------------|
| <i>User defined equation result parameter</i> | 99ALOKA                                      | ALOKA_002-001                  | <i>Calculated result</i>         |
| <i>User defined equation parameter</i>        | 99ALOKA                                      | ALOKA_002-002                  | <i>Equation parameter</i>        |

**8. 6. 4 Private Code Definitions**

This section specifies the meanings of private codes used in Structured Reports.

**Private Code Definitions**  
**(Coding Scheme Designator : "99ALOKA", Coding Scheme Version : not specified)**

| <b>Code Value</b> | <b>Code Meaning</b>                 | <b>Definition</b>                    |
|-------------------|-------------------------------------|--------------------------------------|
| A-001             | Pre-prandial                        | Pre-prandial                         |
| A-002             | OB Original Fetal Measurement Group | Concept Name of TID ALOKA-5000 row1. |
| A-003             | OB-GYN Original Measurement Group   | Concept Name of TID ALOKA-5001 row1. |
| A-004             | User Defined Equation               | Concept Name of TID ALOKA-301 row1.  |
| A-005             | User Defined Equation Group Number  | Concept Name of TID ALOKA-301 row2.  |
| A-006             | User Defined Equation Group Name    | Concept Name of TID ALOKA-301 row3.  |
| A-007             | User Defined Parameter Number       | Concept Name of TID ALOKA-302 row2.  |
| A-008             | User Defined Parameter Name         | Concept Name of TID ALOKA-302 row3.  |



| Code Value | Code Meaning   | Definition  |
|------------|--|---|
| A-009      | User Defined Equation  | Concept Name of TID ALOKA-302 row4.   |
| A3663-001  | $BSA = 0.0003207 * WT^{(0.7285 - 0.0188 \log(WT))} * HT^{0.3}$ | $BSA = 0.0003207 * WT^{(0.7285 - 0.0188 \log(WT))} * HT^{0.3}$<br>Body Surface Area computed from patient height (HT) and weight (WT) . The formula is derived by Boyd :<br>$BSA = 0.0003207 * WT[g]^{(0.7285 - 0.0188 \log(WT[g]))} * HT[cm]^{0.3}$<br><br>Reference :<br>Boyd E. The growth of the surface area of the human body. Minneapolis : university of Minnesota Press, 1935. |
| A3663-002  | $BSA = 0.007358 * HT^{0.725} * WT^{0.425}$                     | $BSA = 0.007358 * HT^{0.725} * WT^{0.425}$<br>Body Surface Area computed from patient height (HT) and weight (WT) . The formula is derived by Shintani :<br>$BSA = 0.007358 * HT[cm]^{0.725} * WT[kg]^{0.425}$<br><br>Reference :<br>臨床検査法概要 29版, 金井泉 著, 金原出版   |
| A12004-001 | Cephalic Index (BPDo/OFDo)                                     | Cephalic Index = BPDo/OFDo  |
| A12004-002 | LVW/HW   | LVW/HW  |
| A12005-001 | Binocular Distance   | Binocular Distance  |
| A12005-002 | Biparietal Diameter outer-to-outer                             | Biparietal Diameter outer-to-outer  |
| A12005-003 | Fetal Trunk Cross Sectional Area                               | Fetal Trunk Cross Sectional Area  |
| A12005-004 | Length of Vertebrae  | Length of Vertebrae   |
| A12005-005 | Occipital-Frontal Diameter outer-to-outer                      | Occipital-Frontal Diameter outer-to-outer   |
| A12005-006 | Abdominal Diameter   | Abdominal Diameter  |
| A12005-007 | Thoracic Length  | Thoracic Length   |
| A12005-008 | Head Circumference for Merz, Hansmann                          | Head Circumference for Merz, Hansmann   |
| A12005-009 | Amniotic Fluid Volume  | Amniotic Fluid Volume   |
| A12006-001 | Nasal Bone Length  | Nasal Bone Length   |
| A12009-001 | Early Embryonic Size   | Early Embryonic Size  |
| A12009-002 | Gestational Sac Diameter 1                                     | Gestational Sac Diameter 1  |
| A12009-003 | Gestational Sac Diameter 2                                     | Gestational Sac Diameter 2  |
| A12009-004 | Gestational Sac Diameter 3                                     | Gestational Sac Diameter 3  |
| A12009-005 | Mean Gestational Sac Diameter                                  | Mean Gestational Sac Diameter   |
| A12011-001 | Cervix Width   | Cervix Width  |
| A12011-002 | Cervix Antero-Posterior Diameter                               | Cervix Antero-Posterior Diameter  |
| A12011-003 | Pre Void Bladder Length  | Pre Void Bladder Length   |

| Code Value | Code Meaning                                | Definition  |
|------------|---|---|
| A12011-004 | Pre Void Bladder Antero-Posterior Diameter  | Pre Void Bladder Antero-Posterior Diameter  |
| A12011-005 | Pre Void Bladder Width                      | Pre Void Bladder Width  |
| A12011-006 | Pre Void Bladder Volume                     | Pre Void Bladder Volume   |
| A12011-007 | Post Void Bladder Length                    | Post Void Bladder Length  |
| A12011-008 | Post Void Bladder Antero-Posterior Diameter | Post Void Bladder Antero-Posterior Diameter   |
| A12011-009 | Post Void Bladder Width                     | Post Void Bladder Width   |
| A12011-010 | Post Void Bladder Volume                    | Post Void Bladder Volume  |
| A12011-011 | Bladder Void Volume                         | Bladder Void Volume   |
| A12013-001 | AC, Campbell                                | Materials provided : Professor Campbell's Group at Harris Birthright Centre, King's College Hospital  |
| A12013-002 | AC, Chitty 1994                             | Charts of fetal size : 3. Abdominal measurements Lyn S Chitty. British Journal of Obstetrics and Gynaecology February 1994, Vol. 101, pp. 125-131 <Table 4>   |
| A12013-003 | AC, Hadlock 1982                            | Fetal Abdominal Circumference as a Predictor of Menstrual Age. Hadlock FP, Deter RL, Harrist RB, Park SK. AJR 139 : 367-370, August 1982  |
| A12013-005 | AC, Merz 1996                               | Das normale fetale Wachstumsprofil - ein einheitliches Modell zur Berechnung von Normkurven für die gängigen Kopf-und Abdomenparameter sowie die großen Extremitätenknochen. Ultraschall in Med. 17 (1996) , 153 - 162 Table Data : 95 percentile data form 《Growth format》 |
| A12013-006 | APAD, Merz 1996                             | Das normale fetale Wachstumsprofil - ein einheitliches Modell zur Berechnung von Normkurven für die gängigen Kopf-und Abdomenparameter sowie die großen Extremitätenknochen. Ultraschall in Med. 17 (1996) , 153 - 162 Table Data : 95 percentile data form 《Growth format》 |
| A12013-007 | AxT, Tokyo                                  | 胎児生理の総合的解析による新しい周産期管理へのアプローチ. 東京大学 岡井 崇他. 日本産婦人科学会雑誌 第38巻 第8号 別冊  |
| A12013-008 | BD, Jeanty 1984                             | Estimation of Gestational Age from Measurements of Fetal Long Bones. Jeanty P, Rodesch F, Delbeke D, Dumont JE. Journal of Ultrasound in Medicine 3 : 75-79, February 1984  |
| A12013-009 | BPD, Campbell                               | Materials provided : Professor Campbell's Group at Harris Birthright Centre, King's College Hospital  |
| A12013-010 | BPD-oi, Chitty 1994                         | Charts of fetal size : 2. Head measurements. Lyn S Chitty. British Journal of Obstetrics and Gynaecology February 1994, Vol. 101, pp. 35-43 <Table 4, 7>  |
| A12013-011 | BPD, Hadlock 1982                           | Fetal Biparietal Diameter : A Critical Re-evaluation of the Relation to Menstrual Age by means of Real-time Ultrasound. Hadlock FP, Deter RL, Harrist RB, Park SK : Journal of Ultrasound in Medicine 1 : 97, 97-104  |

| Code Value | Code Meaning        | Definition  |
|------------|---------------------|---|
| A12013-012 | BPD, Merz 1996      | Das normale fetale Wachstumsprofil - ein einheitliches Modell zur Berechnung von Normkurven für die gängigen Kopf-und Abdomenparameter sowie die großen Extremitätenknochen. Ultraschall in Med. 17 (1996) , 153 - 162 Table Data : 95 percentile data form 《Growth format》 |
| A12013-013 | BPD, Sabbagha 1976  | Sonar Biparietal Diameter : I. Analysis of Percentile Growth Differences in Two Normal Populations Using Same Methodology. Sabbagha RE, Barton FB, Barton BA. American Journal of Obstetrics and Gynecology 126 : 479-484, October 1976                                     |
| A12013-016 | CRL, JSUM 2003      | 超音波胎児計測の標準化と日本人の基準値の公示について. J Med Ultrasonics Vol. 30 No. 3 2003  |
| A12013-017 | CRL, Tokyo          | 胎児生理の総合的解析による新しい周産期管理へのアプローチ. 東京大学 岡井 崇他. 日本産婦人科学会雑誌 第38巻 第8号 別冊  |
| A12013-018 | EES, Goldstein 1994 | Endovaginal Ultrasonographic Measurement of Early Embryonic Size as a Means of Assessing Gestational Age. Steven R. Goldstein, MD, Robert Wolfson, MD, PhD. J. Ultrasound Med. 13 : 27-31, 1994. <Figure 3>   |
| A12013-019 | FIB, Merz 1996      | Das normale fetale Wachstumsprofil - ein einheitliches Modell zur Berechnung von Normkurven für die gängigen Kopf-und Abdomenparameter sowie die großen Extremitätenknochen. Ultraschall in Med. 17 (1996) , 153 - 162 Table Data : 95 percentile data form 《Growth format》 |
| A12013-020 | FL, Campbell        | Materials provided : Professor Campbell's Group at Harris Birthright Centre, King's College Hospital  |
| A12013-021 | FL, Chitty 1994     | Charts of fetal size : 4. Femur length. Lyn S Chitty. British Journal of Obstetrics and Gynaecology February 1994, Vol. 101, pp. 132-135 <Table 2>  |
| A12013-022 | FL, Hadlock 1982    | Fetal Femur Length as a Predictor of Menstrual Age : Sonographically Measured. Hadlock FP, Deter RL, Harrist RB, Park SK. AJR 138 : 875-878, May 1982   |
| A12013-025 | FL, Jeanty 95% 1983 | 『Fetal limb biometry』 Radiology 1983 ; 147 : 602. Table Data : 95 percentile data form 《Growth format》  |
| A12013-026 | FL, Merz 1996       | Das normale fetale Wachstumsprofil - ein einheitliches Modell zur Berechnung von Normkurven für die gängigen Kopf-und Abdomenparameter sowie die großen Extremitätenknochen. Ultraschall in Med. 17 (1996) , 153 - 162 Table Data : 95 percentile data form 《Growth format》 |
| A12013-027 | FL, Warda 1985      | Fetal Femur Length : A Critical Reevaluation of the Relationship to Menstrual Age. Warda AH, Deter RL, Rossavik IK, Carpenter RJ, Hadlock FP. American Journal of Obstetrics and Gynecology 66 (1) : 69-75, July 1985   |

| Code Value | Code Meaning             | Definition  |
|------------|--------------------------|---|
| A12013-028 | GS, Tokyo                | 胎児生理の総合的解析による新しい周産期管理へのアプローチ. 東京大学 岡井 崇他. 日本産婦人科学会雑誌 第38巻 第8号 別冊  |
| A12013-029 | HC, Campbell             | Materials provided : Professor Campbell's Group at Harris Birthright Centre, King's College Hospital  |
| A12013-030 | HC, Chitty 1994          | Charts of fetal size : 2. Head measurements. Lyn S Chitty. British Journal of Obstetrics and Gynaecology February 1994, Vol. 101, pp. 35-43 <Table 4, 7>  |
| A12013-031 | HC, Hadlock 1982         | Fetal Head Circumference : Relation to Menstrual Age. Hadlock FP, Deter RL, Harrist RB, Park SK. AJR 138 : 649-653, April 1982  |
| A12013-033 | HC, Merz 1996            | Das normale fetale Wachstumsprofil - ein einheitliches Modell zur Berechnung von Normkurven für die gängigen Kopf-und Abdomenparameter sowie die großen Extremitätenknochen. Ultraschall in Med. 17 (1996) , 153 - 162 Table Data : 95 percentile data form 《Growth format》 |
| A12013-034 | Humerus, Hansmann 1985   | Ultrasound Diagnosis in Obstetrics and Gynecology. Hansmann M. , Hackeloer B. J. and Staudach A. Springer-Verlag, Berlin, Heidelberg, New York, Tokyo 1985  |
| A12013-035 | Humerus, Jeanty 95% 1983 | 『Fetal limb biometry』 Radiology 1983 ; 147 : 602. Table Data : 95 percentile data form 《Growth format》  |
| A12013-036 | Humerus, Merz 1996       | Das normale fetale Wachstumsprofil - ein einheitliches Modell zur Berechnung von Normkurven für die gängigen Kopf-und Abdomenparameter sowie die großen Extremitätenknochen. Ultraschall in Med. 17 (1996) , 153 - 162 Table Data : 95 percentile data form 《Growth format》 |
| A12013-037 | NBL, Sonek 2003          | Nasal bone length throughout gestation : normal ranges based on 3537 fetal ultrasound measurements. J. D. SONEK. Ultrasound Obstet Gynecol 2003 ; 21 ; 152-155  |
| A12013-038 | OFD, Merz 1996           | Das normale fetale Wachstumsprofil - ein einheitliches Modell zur Berechnung von Normkurven für die gängigen Kopf-und Abdomenparameter sowie die großen Extremitätenknochen. Ultraschall in Med. 17 (1996) , 153 - 162 Table Data : 95 percentile data form 《Growth format》 |
| A12013-039 | Radius, Merz 1996        | Das normale fetale Wachstumsprofil - ein einheitliches Modell zur Berechnung von Normkurven für die gängigen Kopf-und Abdomenparameter sowie die großen Extremitätenknochen. Ultraschall in Med. 17 (1996) , 153 - 162 Table Data : 95 percentile data form 《Growth format》 |
| A12013-040 | Tibia, Jeanty 95% 1983   | 『Fetal limb biometry』 Radiology 1983 ; 147 : 602. Table Data : 95 percentile data form 《Growth format》  |

| Code Value | Code Meaning          | Definition   |
|------------|-----------------------|--|
| A12013-041 | Tibia, Merz 1996      | Das normale fetale Wachstumsprofil - ein einheitliches Modell zur Berechnung von Normkurven für die gängigen Kopf-und Abdomenparameter sowie die großen Extremitätenknochen. Ultraschall in Med. 17 (1996) , 153 - 162 Table Data : 95 percentile data form 《Growth format》  |
| A12013-042 | TL, Chitkara 1987     | Prenatal sonographic assessment of the fetal thorax : Normal values. Usha Chitkara, M. D. , Joanne Rosenberg, R. D. M. S. , Frank A. Chervenak, M. D. , Gertrud S. Berkowitz, Ph. D. , Rebecca Levine, M. A. , Richard M. Fagerstrom, Ph. D. , Barbara Walker, R. D. M. S. , and Richard L. Berkowitz, M. D. American Journal of Obstetrics and Gynecology, Volume 156, Number 5, May 1987, pp. 1069-1074. <Table 2> |
| A12013-043 | TAD, Hansmann 1985    | Ultrasound Diagnosis in Obstetrics and Gynecology. Hansmann M. , Hackeloer B. J. and Staudach A. Springer-Verlag, Berlin, Heidelberg, New York, Tokyo 1985   |
| A12013-044 | TAD, Merz 1996        | Das normale fetale Wachstumsprofil - ein einheitliches Modell zur Berechnung von Normkurven für die gängigen Kopf-und Abdomenparameter sowie die großen Extremitätenknochen. Ultraschall in Med. 17 (1996) , 153 - 162 Table Data : 95 percentile data form 《Growth format》  |
| A12013-045 | Ulna, Jeanty 95% 1983 | 『Fetal limb biometry』 Radiology 1983 ; 147 : 602. Table Data : 95 percentile data form 《Growth format》   |
| A12013-046 | Ulna, Merz 1996       | Das normale fetale Wachstumsprofil - ein einheitliches Modell zur Berechnung von Normkurven für die gängigen Kopf-und Abdomenparameter sowie die großen Extremitätenknochen. Ultraschall in Med. 17 (1996) , 153 - 162 Table Data : 95 percentile data form 《Growth format》  |
| A12013-047 | AC, JSUM 2003         | 超音波胎児計測の標準化と日本人の基準値の公示について. J Med Ultrasonics Vol. 30 No. 3 2003   |
| A12013-048 | BPD, JSUM 2003        | 超音波胎児計測の標準化と日本人の基準値の公示について. J Med Ultrasonics Vol. 30 No. 3 2003   |
| A12013-049 | BPD, Osaka            | 超音波胎児体格計測によるIUGR診断. 青木 嶺夫. Perinatal Care Vol. 9 No. 5, (407-422)  |
| A12013-050 | CRL, Osaka            | 超音波胎児体格計測によるIUGR診断. 青木 嶺夫. Perinatal Care Vol. 9 No. 5, (407-422)  |
| A12013-051 | FL, JSUM 2003         | 超音波胎児計測の標準化と日本人の基準値の公示について. J Med Ultrasonics Vol. 30 No. 3 2003   |
| A12013-052 | FL, O'Brien 1981      | Assessment of Gestational Age in the Second Trimester by Real-Time Ultrasound Measurement of the Femur Length. O'Brien GD, Queenan JT, Campbell S (American Journal of Obstetrics & Gynecology 139 : 540-545, Mar. 1981) Table Data : 《Growth format》  |

| Code Value | Code Meaning                  | Definition  |
|------------|-------------------------------|---|
| A12013-053 | FL, Osaka                     | 超音波胎児体格計測によるIUGR診断. 青木 嶺夫.<br>Perinatal Care Vol. 9 No. 5, (407-422)  |
| A12013-054 | FTA, Osaka                    | 超音波胎児体格計測によるIUGR診断. 青木 嶺夫.<br>Perinatal Care Vol. 9 No. 5, (407-422)  |
| A12013-055 | Humerus, Osaka                | 超音波胎児体格計測によるIUGR診断. 青木 嶺夫.<br>Perinatal Care Vol. 9 No. 5, (407-422)  |
| A12014-001 | EFW by BPD, AC, FL, Hadlock   | Estimation of fetal weight with the use of head, body, and femur measurement - A prospective study. Frank P. Hadlock, R. B. Harrist, Ralph S. Sharman, Russel L Deter, and Seung K. Park. Am J Obstet Gynecol : Volume151 Number3 : 333-337, February1, 1985.<br>Sonographic Estimation of Fetal weight. Frank P. Hadlock, R. B. Harrist, Robert J. Carpenter, Russel L Deter, Seung K. Park. Radiology Volume150 Number2 : 535-540 |
| A12014-002 | EFW by BPD, AC, FL, JSUM 2003 | 超音波胎児計測の標準化と日本人の基準値の公示について. J Med Ultrasonics Vol. 30 No. 3 2003  |
| A12014-003 | EFW by BPD, FTA, FL, Osaka    | 超音波胎児体格計測によるIUGR診断. 青木 嶺夫.<br>Perinatal Care Vol. 9 No. 5, (407-422)  |
| A12014-004 | EFW by BPD, AC, Warsof 1977   | The estimation of fetal weight by computer-assisted analysis. Steven L. Warsof, Parviz Gohari, Richard L. Berkowitz, John C. Hobbins. Am J Obstet Gynecol : Volume 128 Number 8 : 881-892, August 15, 1977  |
| A12015-001 | FL/AC by GA, Hadlock 1983     | A Date-Independent Predictor of Intrauterine Growth Retardation : Femur Length/Abdominal Circumference Ratio. Hadlock FP, Deter RL, Harrist RB, Roecker E, Park SK. American Journal of Roentgenology 141 : 979-984, November 1983  |
| A12015-002 | FL/HC by GA, Hadlock 1984     | The Femur Length/Head Circumference Relation in Obstetric Sonography. Frank P. Hadlock, MD, Ronald B. Harrist, PhD, Yogesh Shah, MD, Seung K. Park, MD. Journal of Ultrasound in Medicine, Volume 3, October 1984, pp. 439-442. <Table 1>   |
| A12015-003 | FL/BPD by GA, Hohler 1981     | Comparison of Ultrasound Femur Length and Biparietal Diameter in Late Pregnancy. Hohler CW, Quetel TA. American Journal of Obstetrics and Gynecology 141 : 759-762, December 1981   |
| A12015-004 | AFI by GA, Jeng et al.        | Amniotic Fluid Index Measurement with the Four-Quadrant Technique During Pregnancy. Cherng-Jye Jeng, M. D. , Tian-Jii Jou, M. D. , Kuo-Gon Wang, M. D. , Yuh-Cheng Yang, M. D. , Yi-Nan Lee, M. D. , Chung-Chi Lan, M. D. The Journal of Reproductive Medicine, Volume 35, Number 7, July 1990, pp. 674-677. <Table 1>  |
| A12015-005 | AFI by GA, Moore et al.       | The amniotic fluid index in normal human pregnancy. Thomas R. Moore, MD, and Jonathan E. Cayle, MD. American Journal of Obstetrics and Gynecology, Volume 162, Number 5, May 1990, pp. 1168-1173. <Table 6>   |

| Code Value | Code Meaning                   | Definition   |
|------------|--------------------------------|--|
| A12015-006 | AFI by GA, Phelan et al.       | Amniotic Fluid Volume Assessment with the Four-Quadrant Technique at 36-42 Weeks' Gestation. Jeffrey P. Phelan, M. D. , Carl Vernon Smith, M. D. , Paula Broussard, R. N. , Mary Small, M. D. The Journal of Reproductive Medicine, Volume 32, Number 7, July 1987, pp. 540-542. <Table 1>         |
| A12015-007 | AC by GA, JSUM 2003            | 超音波胎児計測の標準化と日本人の基準値の公示について. J Med Ultrasonics Vol. 30 No. 3 2003   |
| A12015-008 | BPD by GA, JSUM 2003           | 超音波胎児計測の標準化と日本人の基準値の公示について. J Med Ultrasonics Vol. 30 No. 3 2003   |
| A12015-009 | BPD by GA, Osaka               | 超音波胎児体格計測によるIUGR診断. 青木 嶺夫. Perinatal Care Vol. 9 No. 5, (407-422)  |
| A12015-010 | CRL by GA, Osaka               | 超音波胎児体格計測によるIUGR診断. 青木 嶺夫. Perinatal Care Vol. 9 No. 5, (407-422)  |
| A12015-011 | FL by GA, JSUM 2003            | 超音波胎児計測の標準化と日本人の基準値の公示について. J Med Ultrasonics Vol. 30 No. 3 2003   |
| A12015-012 | FL by GA, O'Brien 1981         | Assessment of Gestational Age in the Second Trimester by Real-Time Ultrasound Measurement of the Femur Length. O'Brien GD, Queenan JT, Campbell S (American Journal of Obstetrics & Gynecology 139 : 540-545, Mar. 1981) Table Data : 《Growth format》  |
| A12015-013 | FL by GA, Osaka                | 超音波胎児体格計測によるIUGR診断. 青木 嶺夫. Perinatal Care Vol. 9 No. 5, (407-422)  |
| A12015-014 | FTA by GA, Osaka               | 超音波胎児体格計測によるIUGR診断. 青木 嶺夫. Perinatal Care Vol. 9 No. 5, (407-422)  |
| A12015-015 | Humerus by GA, Osaka           | 超音波胎児体格計測によるIUGR診断. 青木 嶺夫. Perinatal Care Vol. 9 No. 5, (407-422)  |
| A12016-001 | FW, Doubilet 1997              | Improved Birth Weight Table for Neonates Developed from Gestations Dated by Early Ultrasonography : Doubilet PM et al ; J Ultrasound Med 16 ; 241-249, 1997  |
| A12016-005 | Twins FW, Yarkoni 1987         | Estimated Fetal Weight in the Evaluation of Growth in Twin Gestations : A Prospective Longitudinal Study. Shaul Yarkoni, MD, E. Albert Reece, MD, Theodore Holford, PhD, Theresa Z. O'Connor, MPH, And John C. Hobbins, MD. Obstetrics & Gynecology, Volume 69, Number 4, April 1987, pp. 636-639. |
| A12019-001 | Fetal Heart Rate before Biopsy | Fetal Heart Rate before Biopsy   |
| A12019-002 | Fetal Heart Rate after Biopsy  | Fetal Heart Rate after Biopsy  |
| A12107-001 | Deep Brachial Artery           | Deep Brachial Artery   |
| A12107-002 | Basilic Artery                 | Basilic Artery   |
| A12107-003 | User Definition Artery1        | Upr Art. 1 (User Definition Artery)  |
| A12107-004 | User Definition Artery2        | Upr Art. 2 (User Definition Artery)  |
| A12107-005 | User Definition Artery3        | Upr Art. 3 (User Definition Artery)  |
| A12107-006 | User Definition Artery4        | Upr Art. 4 (User Definition Artery)  |

| Code Value | Code Meaning   | Definition   |
|------------|--|--|
| A12107-007 | User Definition Artery5  | Upr Art. 5 (User Definition Artery)  |
| A12107-008 | User Definition Artery6  | Upr Art. 6 (User Definition Artery)  |
| A12107-009 | User Definition Artery7  | Upr Art. 7 (User Definition Artery)  |
| A12107-010 | User Definition Artery8  | Upr Art. 8 (User Definition Artery)  |
| A12108-001 | Deep Brachial vein   | Deep Brachial Vein   |
| A12108-002 | User Definition Vein1  | Upr Vein. 1 (User Definition Vein)   |
| A12108-003 | User Definition Vein2  | Upr Vein. 2 (User Definition Vein)   |
| A12108-004 | User Definition Vein3  | Upr Vein. 3 (User Definition Vein)   |
| A12108-005 | User Definition Vein4  | Upr Vein. 4 (User Definition Vein)   |
| A12108-006 | User Definition Vein5  | Upr Vein. 5 (User Definition Vein)   |
| A12108-007 | User Definition Vein6  | Upr Vein. 6 (User Definition Vein)   |
| A12108-008 | User Definition Vein7  | Upr Vein. 7 (User Definition Vein)   |
| A12108-009 | User Definition Vein8  | Upr Vein. 8 (User Definition Vein)   |
| A12109-001 | User Definition Artery1  | Lwr Art. 1 (User Definition Artery)  |
| A12109-002 | User Definition Artery2  | Lwr Art. 2 (User Definition Artery)  |
| A12109-003 | User Definition Artery3  | Lwr Art. 3 (User Definition Artery)  |
| A12109-004 | User Definition Artery4  | Lwr Art. 4 (User Definition Artery)  |
| A12109-005 | User Definition Artery5  | Lwr Art. 5 (User Definition Artery)  |
| A12109-006 | User Definition Artery6  | Lwr Art. 6 (User Definition Artery)  |
| A12109-007 | User Definition Artery7  | Lwr Art. 7 (User Definition Artery)  |
| A12109-008 | User Definition Artery8  | Lwr Art. 8 (User Definition Artery)  |
| A12110-001 | User Definition Vein1  | Lwr Vein. 1 (User Definition Vein)   |
| A12110-002 | User Definition Vein2  | Lwr Vein. 2 (User Definition Vein)   |
| A12110-003 | User Definition Vein3  | Lwr Vein. 3 (User Definition Vein)   |
| A12110-004 | User Definition Vein4  | Lwr Vein. 4 (User Definition Vein)   |
| A12110-005 | User Definition Vein5  | Lwr Vein. 5 (User Definition Vein)   |
| A12110-006 | User Definition Vein6  | Lwr Vein. 6 (User Definition Vein)   |
| A12110-007 | User Definition Vein7  | Lwr Vein. 7 (User Definition Vein)   |
| A12110-008 | User Definition Vein8  | Lwr Vein. 8 (User Definition Vein)   |
| A12121-001 | Acceleration Time to Flow Time Ratio                           | Acceleration Time to Flow Time Ratio   |
| A12122-001 | Flow Time  | Flow Time  |
| A12201-001 | Left Ventricular Short Axis Length at Mitral Valve             | Left Ventricular Short Axis Length at Mitral Valve   |
| A12201-002 | Mean Wall Thickness  | Mean Wall Thickness  |
| A12203-001 | Left Ventricular Mass Index                                    | Left Ventricular Mass Index (LVMI) .<br>LVMI = LVM / BSA<br>LVMI unit is g/m <sup>2</sup> , mass unit in gram and BSA unit in m <sup>2</sup> . |
| A12203-003 | Long Axis (at End Diastole or End Systole) Length % Difference | Long Axis (at End Diastole or End Systole) Length Percentage Difference. Length Percentage Difference unit is %.                               |



| Code Value | Code Meaning  | Definition  |
|------------|---|---|
| A12203-004 | Midwall Fractional Shortening                                   | Midwall Fractional Shortening (mFS)   |
| A12203-005 | Area Ejection Fraction at Long Axis View                        | Area Ejection Fraction at Long Axis View  |
| A12203-006 | Area Ejection Fraction at Short Axis View                       | Area Ejection Fraction at Short Axis View   |
| A12203-009 | Mean Velocity of Circumferential Fiber Shortening               | Mean Velocity of Circumferential Fiber Shortening                                 |
| A12203-010 | Left Ventricle Diastole Filling Time                            | Left Ventricle Diastole Filling Time  |
| A12203-011 | Ratio of MV E-Wave Peak Vel. to Early Diastolic Myocardium Vel. | Ratio of Mitral Valve E-Wave Peak Velocity to Early Diastolic Myocardium Velocity |
| A12203-012 | Ratio of Left Ventricle Diastole Filling Time to R-R interval   | Ratio of Left Ventricle Diastole Filling Time to R-R interval                     |
| A12205-001 | Left Atrium Antero-posterior Diastolic Dimension                | Left Atrium Antero-posterior Diastolic Dimension                                  |
| A12205-002 | Left Atrium systolic major axis                                 | Left Atrium systolic major axis   |
| A12205-003 | Left Atrium Systolic Area by Apical two chamber                 | Left Atrium Systolic Area by Apical two chamber                                   |
| A12205-004 | Left Atrial Volume  | Left Atrial Volume  |
| A12205-005 | Left Atrial Volume divided by Body Surface Area                 | Left Atrial Volume divided by Body Surface Area                                   |
| A12205-006 | Long Axis at End Systole Length % Difference of Left Atrium     | Long Axis at End Systole Length Percentage Difference of Left Atrium              |
| A12206-001 | Right Atrium systolic major axis                                | Right Atrium systolic major axis  |
| A12206-002 | Right Atrium Systolic Area by Apical two chamber                | Right Atrium Systolic Area by Apical two chamber                                  |
| A12206-003 | Right Atrial Volume   | Right Atrial Volume   |
| A12206-004 | Right Atrial Volume divided by Body Surface Area                | Right Atrial Volume divided by Body Surface Area                                  |
| A12206-005 | Long Axis at End Systole Length % Difference of Right Atrium    | Long Axis at End Systole Length Percentage Difference of Right Atrium             |
| A12207-001 | Mitral Valve Dimension of C point to E point by M-Mode          | Mitral Valve Dimension of C point to E point by M-Mode                            |
| A12207-002 | Mitral Valve Dimension of C point to A point by M-Mode          | Mitral Valve Dimension of C point to A point by M-Mode                            |
| A12207-003 | Mitral Valve C-A Dimension to C-E Dimension Ratio by M-Mode     | Mitral Valve C-A Dimension to C-E Dimension Ratio by M-Mode                       |

| <b>Code Value</b> | <b>Code Meaning</b>  | <b>Definition</b>  |
|-------------------|--|--|
| A12207-004        | Mitral Valve C-E Dimension to C-A Dimension Ratio by M-Mode    | Mitral Valve C-E Dimension to C-A Dimension Ratio by M-Mode                        |
| A12207-005        | Mitral Valve E-Wave Duration                                   | Mitral Valve E-Wave Duration   |
| A12207-006        | Mitral Valve A to E Ratio                                      | Mitral Valve A to E Ratio  |
| A12207-007        | Mitral Valve E-wave Peak Pressure Gradient                     | Mitral Valve E-wave Peak Pressure Gradient   |
| A12207-008        | Mitral Valve A-wave Peak Pressure Gradient                     | Mitral Valve A-wave Peak Pressure Gradient   |
| A12207-009        | Subtraction of A-wave Duration from PVA-wave Duration          | Subtraction of Mitral A-wave Duration from Pulmonary Vein Atrial Reversal Duration |
| A12207-010        | Velocity Time Integral of Mitral Regurgitant Flow              | Velocity Time Integral of Mitral Regurgitant Flow                                  |
| A12207-012        | Mitral Regurgitant Proximal Isovelocity Surface Area           | Mitral Regurgitant Proximal Isovelocity Surface Area                               |
| A12207-013        | Flow Volume of Mitral Valve Annulus in Flow                    | Flow Volume of Mitral Valve Annulus in Flow  |
| A12208-001        | Tricuspid Valve Dimension of C point to E point by M-Mode      | Tricuspid Valve Dimension of C point to E point by M-Mode                          |
| A12208-002        | Tricuspid Valve Dimension of C point to A point by M-Mode      | Tricuspid Valve Dimension of C point to A point by M-Mode                          |
| A12208-003        | Tricuspid Valve Dimension of D point to E point by M-Mode      | Tricuspid Valve Dimension of D point to E point by M-Mode                          |
| A12208-004        | Tricuspid Valve Velocity from E point to F point by M-Mode     | Tricuspid Valve Velocity from E point to F point by M-Mode                         |
| A12208-005        | Tricuspid Valve Velocity from D point to E point by M-Mode     | Tricuspid Valve Velocity from D point to E point by M-Mode                         |
| A12208-006        | Tricuspid Valve C-A Dimension to C-E Dimension Ratio by M-Mode | Tricuspid Valve C-A Dimension to C-E Dimension Ratio by M-Mode                     |
| A12208-007        | Tricuspid Valve C-E Dimension to C-A Dimension Ratio by M-Mode | Tricuspid Valve C-E Dimension to C-A Dimension Ratio by M-Mode                     |
| A12208-008        | Velocity Time Integral of Tricuspid Regurgitant Flow           | Velocity Time Integral of Tricuspid Regurgitant Flow                               |
| A12208-010        | Tricuspid Regurgitant Proximal Isovelocity Surface Area        | Tricuspid Regurgitant Proximal Isovelocity Surface Area                            |
| A12208-011        | Flow Volume of Tricuspid Valve Annulus in Flow                 | Flow Volume of Tricuspid Valve Annulus in Flow                                     |

| Code Value | Code Meaning  | Definition  |
|------------|---|---|
| A12209-001 | Pulmonic Valve Dimension of F point to A point by M-Mode  | Pulmonic Valve Dimension of F point to A point by M-Mode  |
| A12209-002 | Pulmonic Valve Dimension of B point to C point by M-Mode  | Pulmonic Valve Dimension of B point to C point by M-Mode  |
| A12209-003 | Pulmonic Valve Velocity from E point to F point by M-Mode | Pulmonic Valve Velocity from E point to F point by M-Mode   |
| A12209-004 | Pulmonic Valve Velocity from B point to C point by M-Mode | Pulmonic Valve Velocity from B point to C point by M-Mode   |
| A12209-005 | Velocity Time Integral of Pulmonic Regurgitant Flow       | Velocity Time Integral of Pulmonic Regurgitant Flow   |
| A12209-007 | Pulmonic Regurgitant Proximal Isovelocity Surface Area    | Pulmonic Regurgitant Proximal Isovelocity Surface Area  |
| A12211-001 | Velocity Time Integral of Aortic Regurgitant Flow         | Velocity Time Integral of Aortic Regurgitant Flow   |
| A12211-003 | Aortic Regurgitant Proximal Isovelocity Surface Area      | Aortic Regurgitant Proximal Isovelocity Surface Area  |
| A12214-001 | Deceleration Time of D-Wave Flow                          | Deceleration Time of D-Wave Flow  |
| A12214-002 | Systolic Fraction   | Systolic Fraction = $[S-VTI / (S-VTI + D-VTI)] * 100$ . Unit is %.  |
| A12222-001 | Pre-Ejection Period                                       | Pre-Ejection Period   |
| A12222-002 | PEP/ET  | Ratio of Pre-Ejection Period to Ejection Time   |
| A12222-003 | Flow Time   | Flow Time   |
| A12222-004 | Radius of Flow Convergence                                | Radius of Flow Convergence  |
| A12222-005 | Aliasing Velocity   | Aliasing Velocity   |
| A12222-006 | Proximal Isovelocity Surface Area Angle                   | Proximal Isovelocity Surface Area Angle   |
| A12228-001 | Method of Disks, Single Plane with Apical two chamber     | Method of Disks, Single Plane with Apical two chamber   |
| A12228-002 | Gibson  | EDV and ESV are calculated as follows.<br>$EDV = \pi / 6 * LVIDd^2 * (0.98 * LVIDd + 5.90)$<br>$ESV = \pi / 6 * LVIDs^2 * (1.14 * LVIDs + 4.18)$<br>Volume unit is milliliter and length in cm.<br><br>Reference :<br>Gibson, D. G. Measurement of left ventricular volumes in man by echocardiography – comparison with biplane angiographs. Br. Heart J. 1971 ; 33 : 614. |

| Code Value | Code Meaning   | Definition   |
|------------|--|--|
| A12228-003 | Modified Simpson's   | <p>Volume = <math>(LVL / 9) * (4 * LVSAMV + 2 * LVSAPM + (LVSAMV * LVSAPM) ^ (1 / 2) )</math><br/>           Volume unit is milliliter, length in cm and area in cm<sup>2</sup>.</p> <p>References :<br/>           Folland, ED, et al. Assessment of Left Ventricular Ejection Fraction and Volumes by Real-Time, Two-Dimensional Echocardiography. Circulation, 1979 ; 60 : 760-766.</p> <p>A. F. Parisi, MD et al. Approaches to Determination of Left Ventricular Volume and Ejection Fraction by Real-Time Two-Dimensional Echocardiography. Clin. Cardiol. 2, 257-263 (1979) .</p> |
| A12228-004 | Bullet   | <p>Volume = <math>(5 * LVSAPM * LVL) / 6</math><br/>           Volume unit is milliliter, length in cm and area in cm<sup>2</sup>.</p>   |
| A12228-005 | Method of Disks, Biplane of LA                               | Method of Disks, Biplane of Left Atrium  |
| A12228-006 | Method of Disks, Single Plane with Apical four chamber of LA | Method of Disks, Single Plane with Apical four chamber of Left Atrium  |
| A12228-007 | Method of Disks, Single Plane with Apical two chamber of LA  | Method of Disks, Single Plane with Apical two chamber of Left Atrium   |
| A12228-008 | Method of Disks, Biplane of RA                               | Method of Disks, Biplane of Right Atrium   |
| A12228-009 | Method of Disks, Single Plane with Apical four chamber of RA | Method of Disks, Single Plane with Apical four chamber of Right Atrium   |
| A12228-010 | Method of Disks, Single Plane with Apical two chamber of RA  | Method of Disks, Single Plane with Apical two chamber of Right Atrium  |
| A12228-011 | Area-Length Biplane of Left Atrium                           | Area-Length Biplane of Left Atrium   |
| A12228-012 | Area-Length Biplane of Right Atrium                          | Area-Length Biplane of Right Atrium  |

| Code Value    | Code Meaning                       | Definition   |
|---------------|------------------------------------|--|
| A12232-001    | Left Ventricle Mass by Area Length | $\text{Mass} = 1.05 * (5 * \text{Aepi} * (\text{LVLd} + \text{thick}) / 6) - (5 * \text{Aend} * \text{LVLd} / 6)$ $\text{thick} = (\text{Aepi} / \Pi)^{(1/2)} - (\text{Aend} / \Pi)^{(1/2)}$ <p>References :</p> <p>Nelson B. Schiller, MD, et al. Recommendations for Quantitation of the Left Ventricle by Two-Dimensional Echocardiography. American Society of Echocardiography Committee on Standards, Subcommittee on Quantitation of Two-Dimensional Echocardiograms. Journal of the American Society of Echocardiography Vol. 2, No. 5 September-October 1989. 358-367.</p> <p>Nelson B. Schiller, MD, et al. Two-Dimensional Echocardiographic Determination of Left Ventricular Volume, Systolic Function, and Mass : Summary and Discussion of the 1989 Recommendations of the American Society of Echocardiography. Circulation Vol. 84, No. 3 1991 ; 84 [Suppl I] : I -280- I -287.</p> |
| A12232-002    | Left Ventricle Mass by Penn        | $\text{Mass} = 1.04 * ( (\text{IVSd} + \text{LVIDd} + \text{LVPWd})^3 - \text{LVIDd}^3 ) - 13.6$ <p>Mass unit is grams and length in cm.</p> <p>References :</p> <p>Richard B. Devereux. Detection of Left Ventricular Hypertrophy by M-Mode Echocardiography. Anatomic Validation, Standardization, and Comparison to Other Methods. Hypertension 9 [Suppl II] ; II - 19 - 26, 1987.</p> <p>Donald C. Wallerson and Richard B. Devereux. Reproducibility of Echocardiographic Left Ventricular Measurements. Hypertension 9 [Suppl II] ; II - 6 - 18, 1987.</p> <p>American Society of Echocardiography Committee on Standards, Subcommittee on Quantitation of Two-Dimensional Echocardiograms. Recommendations for Quantitation of the Left Ventricle by Two-Dimensional Echocardiography. Journal of the American Society of Echocardiography Volume 2 Number 5 September-October 1989.</p>      |
| ALOKA_001-001 | OB User Definition Doppler1        | User Definition Doppler Measurement for OB Application.  |
| ALOKA_001-002 | OB User Definition Doppler2        | User Definition Doppler Measurement for OB Application.  |
| ALOKA_001-003 | OB User Definition Doppler3        | User Definition Doppler Measurement for OB Application.  |
| ALOKA_002-001 | Calculated result                  | Result Parameter of User Definition Equation Measurement for "User's calculation function".  |
| ALOKA_002-002 | Equation parameter                 | Parameter of User Definition Equation Measurement for "User's calculation function".   |

**8. 6. 5 Standard Extended and Private Template Definitions**

This section defines the Standard Extended template and Private templates.

**Extended Template Definitions  
TID 5000 OB-GYN Ultrasound Procedure Report**

|    | NL | Rel with Parent | VT        | Concept Name  | VM  | Req Type | Condition | Value set Constraint  |
|----|----|-----------------|-----------|---|-----|----------|-----------|---|
| 1  |    |                 | CONTAINER | EV (12500, DCM, "OB-GYN Ultrasound Procedure Report") | 1-n | M        |           |   |
| 2  | >  | HAS CONCEPT MOD | INCLUDE   | DTID (1204)   | 1   | U        |           |   |
| 3  | >  | HAS OBS CONTEXT | INCLUDE   | DTID (1001)   | 1   | M        |           |   |
| 4  | >  | CONTAINS        | INCLUDE   | DTID (5001)   | 1   | U        |           |   |
| 5  | >  | CONTAINS        | CONTAINER | DT (111028, DCM, "Image Library")                     | 1   | U        |           |   |
| 6  | >> | CONTAINS        | IMAGE     | No purpose of reference                               | 1-n | M        |           |   |
| 7  | >  | CONTAINS        | INCLUDE   | DTID (5002)   | 1   | U        |           |   |
| 8  | >  | CONTAINS        | INCLUDE   | DTID (5004)   | 1-n | U        |           |   |
| 9  | >  | CONTAINS        | INCLUDE   | DTID (5005)   | 1-n | U        |           |   |
| 10 | >  | CONTAINS        | INCLUDE   | DTID (5006)   | 1-n | U        |           |   |
| 11 | >  | CONTAINS        | INCLUDE   | DTID (5007)   | 1-n | U        |           |   |
| 12 | >  | CONTAINS        | INCLUDE   | DTID (5009)   | 1-n | U        |           |   |
| 13 | >  | CONTAINS        | INCLUDE   | DTID (5011)   | 1-n | U        |           |   |
| 14 | >  | CONTAINS        | INCLUDE   | DTID (5010)   | 1   | U        |           |   |
| 15 | >  | CONTAINS        | INCLUDE   | DTID (5015)   | 1   | U        |           |   |
| 16 | >  | CONTAINS        | INCLUDE   | DTID (5012)   | 1   | U        |           |   |
| 17 | >  | CONTAINS        | INCLUDE   | DTID (5013)   | 1   | U        |           | \$Laterality = EV (G-A101, SRT, "Left")<br>\$Number = EV (11879-4, LN, "Number of follicles in left ovary")   |
| 18 | >  | CONTAINS        | INCLUDE   | DTID (5013)   | 1   | U        |           | \$Laterality = EV (G-A100, SRT, "Right")<br>\$Number = EV (11880-2, LN, "Number of follicles in right ovary") |

|    | NL | Rel with Parent | VT        | Concept Name                                       | VM  | Req Type | Condition | Value set Constraint                                  |
|----|----|-----------------|-----------|--|-----|----------|-----------|---|
| 19 | >  | CONTAINS        | CONTAINER | EV (121070, DCM, "Finding Site")                   | 1   | U        |           |   |
| 20 | >> | HAS CONCEPT MOD | CODE      | EV (G-C0E3, SRT, "Finding Site")                   | 1   | M        |           | EV (T-F6800, SRT, "Embryonic Vascular Structure")     |
| 21 | >> | CONTAINS        | INCLUDE   | DTID (5025)  | 1   | M        |           | \$AnatomyGroup= DCID (12141)                          |
| 22 | >  | CONTAINS        | CONTAINER | EV (121070, DCM, "Findings" )                      | 1   | U        |           |   |
| 23 | >> | HAS CONCEPT MOD | CODE      | EV (G-C0E3, SRT, "Finding Site")                   | 1   | M        |           | EV (T-D6007, SRT, "Pelvic Vascular Structure")        |
| 24 | >> | CONTAINS        | INCLUDE   | DTID (5026)  | 1   | M        |           | \$AnatomyGroup= DCID (12140)                          |
| 25 | >  | CONTAINS        | INCLUDE   | DTID (ALOKA-5001)                                  | 1   | U        |           | \$Anatomy = DCID (12140)<br>\$Meas = DCID (12119)     |
| 26 | >  | CONTAINS        | INCLUDE   | DTID (ALOKA-5000)                                  | 1-n | U        |           | \$Anatomy = DCID (12140)<br>\$Meas = DCID (12119)     |
| 27 | >  | CONTAINS        | INCLUDE   | DTID (ALOKA-5000)                                  | 1-n | U        |           | \$Anatomy = DCID (ALOKA_001)<br>\$Meas = DCID (12119) |
| 28 | >  | CONTAINS        | INCLUDE   | DTID (ALOKA-5002) OB User Defined Equation Section | 1-n | U        |           |   |
| 29 | >  | CONTAINS        | INCLUDE   | DTID (ALOKA-301) User Defined Equation Section     | 1-n | U        |           |   |

**Extended Template Definitions  
TID 5100 Vascular Ultrasound Procedure Report**

|   | NL | Rel with Parent | VT        | Concept Name  | VM  | Req Type | Condition | Value set Constraint   |
|---|----|-----------------|-----------|---|-----|----------|-----------|--|
| 1 |    |                 | CONTAINER | EV (12510, DCM, "Vascular Ultrasound Procedure Report")     | 1   | M        |           |  |
| 2 | >  | HAS OBS CONTEXT | CODE      | EV (R-40FB8, SRT, "Temporal periods Relating to Procedure") | 1   | U        |           | DCID (12102) Temporal Periods Relating To Procedure or Therapy   |
| 3 | >  | HAS CONCEPT MOD | INCLUDE   | DTID (1204) Language of Content Item and Descendants        | 1   | U        |           |  |
| 4 | >  | HAS OBS CONTEXT | INCLUDE   | DTID (1001) Observation Context                             | 1   | M        |           |  |
| 5 | >  | CONTAINS        | INCLUDE   | DTID (5101) Vascular Patient Characteristics                | 1   | U        |           |  |
| 6 | >  | CONTAINS        |           | EV (111028, DCM, "Image Library")                           | 1   | U        |           |  |
| 7 | >> | CONTAINS        |           | No purpose of reference                                     | 1-n | M        |           |  |
| 8 | >  | CONTAINS        | INCLUDE   | DTID (5102) Vascular Procedure Summary Section              | 1   | U        |           |  |
| 9 | >  | CONTAINS        | INCLUDE   | DTID (5103) Vascular Ultrasound Section                     | 1   | U        |           | \$SectionScope = DT (T-40501, SRT, "Blood Vessel of Head")<br>\$SectionLaterality = EV (G-A101, SRT, "Left")<br>\$Anatomy = DCID (12105) Intracranial Cerebral Vessels |



|    | NL | Rel with Parent | VT      | Concept Name                                     | VM | Req Type | Condition | Value set Constraint  |
|----|----|-----------------|---------|--|----|----------|-----------|---|
| 10 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-40501,<br>SRT, "Blood<br>Vessel of Head")<br>\$SectionLaterality =<br>EV (G-A100, SRT,<br>"Right")<br>\$Anatomy = DCID<br>(12105) Intracranial<br>Cerebral Vessels  |
| 11 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-40501,<br>SRT, "Blood<br>Vessel of Head")<br>\$SectionLaterality =<br>EV (G-A103, SRT,<br>"Unilateral")<br>\$Anatomy = DCID<br>(12106) Intracranial<br>Cerebral Vessels<br>(unilateral)                   |
| 12 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-45005, SRT,<br>"Artery of neck")<br>\$SectionLaterality =<br>EV (G-A101, SRT,<br>"Left")<br>\$Anatomy = DCID<br>(12104)<br>Extracranial<br>Arteries<br>\$AnatomyRatio =<br>DCID (12123)<br>Carotid Ratios |
| 13 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-45005, SRT,<br>"Artery of neck")<br>\$SectionLaterality =<br>EV (G-A100, SRT,<br>"Right")<br>\$Anatomy = DCID<br>(12104) xtracranial<br>Arteries<br>\$AnatomyRatio =<br>DCID (12123)<br>Carotid Ratios    |

|    | NL | Rel with Parent | VT      | Concept Name                                     | VM | Req Type | Condition | Value set Constraint   |
|----|----|-----------------|---------|--|----|----------|-----------|--|
| 14 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-47040, SRT,<br>"Artery of Lower<br>Extremity")<br>\$SectionLaterality =<br>EV (G-A101, SRT,<br>"Left")<br>\$Anatomy = DCID<br>(12109) Lower<br>Extremity Arteries  |
| 15 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-47040, SRT,<br>"Artery of Lower<br>Extremity")<br>\$SectionLaterality =<br>EV (G-A100, SRT,<br>"Right")<br>\$Anatomy = DCID<br>(12109) Lower<br>Extremity Arteries |
| 16 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-49403, SRT,<br>"Vein of Lower<br>Extremity")<br>\$SectionLaterality =<br>EV (G-A101, SRT,<br>"Left")<br>\$Anatomy = DCID<br>(12110) Lower<br>Extremity Veins       |
| 17 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-49403, SRT,<br>"Vein of Lower<br>Extremity")<br>\$SectionLaterality =<br>EV (G-A100, SRT,<br>"Right")<br>\$Anatomy = DCID<br>(12110) Lower<br>Extremity Veins      |

|    | NL | Rel with Parent | VT      | Concept Name                                     | VM | Req Type | Condition | Value set Constraint   |
|----|----|-----------------|---------|--|----|----------|-----------|--|
| 18 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-47020, SRT,<br>"Artery Of Upper<br>Extremity")<br>\$SectionLaterality =<br>EV (G-A101, SRT,<br>"Left")<br>\$Anatomy = DCID<br>(12107) Upper<br>Extremity Arteries  |
| 19 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-47020, SRT,<br>"Artery Of Upper<br>Extremity")<br>\$SectionLaterality =<br>EV (G-A100, SRT,<br>"Right")<br>\$Anatomy = DCID<br>(12107) Upper<br>Extremity Arteries |
| 20 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-49103, SRT,<br>"Vein Of Upper<br>Extremity")<br>\$SectionLaterality =<br>EV (G-A101, SRT,<br>"Left")<br>\$Anatomy = DCID<br>(12108) Upper<br>Extremity Veins       |
| 21 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-49103, SRT,<br>"Vein Of Upper<br>Extremity")<br>\$SectionLaterality =<br>EV (G-A100, SRT,<br>"Right")<br>\$Anatomy = DCID<br>(12108) Upper<br>Extremity Veins      |

|    | NL | Rel with Parent | VT      | Concept Name                                     | VM | Req Type | Condition | Value set Constraint   |
|----|----|-----------------|---------|--|----|----------|-----------|--|
| 22 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-71019, SRT,<br>"Vascular Structure<br>Of Kidney")<br>\$SectionLaterality =<br>EV (G-A101, SRT,<br>"Left")<br>\$Anatomy = DCID<br>(12115) Renal<br>Vessels<br>\$AnatomyRatio =<br>DCID (12124)<br>Renal Ratios  |
| 23 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-71019, SRT,<br>"Vascular Structure<br>Of Kidney")<br>\$SectionLaterality =<br>EV (G-A100, SRT,<br>"Right")<br>\$Anatomy = DCID<br>(12115) Renal<br>Vessels<br>\$AnatomyRatio =<br>DCID (12124)<br>Renal Ratios |
| 24 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-46002,<br>SRT, "Artery<br>of Abdomen")<br>\$SectionLaterality =<br>EV (G-A101, SRT,<br>"Left")<br>\$Anatomy = DCID<br>(12111) Abdominal<br>Arteries (lateral)  |
| 25 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section | 1  | U        |           | \$SectionScope =<br>DT (T-46002,<br>SRT, "Artery of<br>Abdomen")<br>\$SectionLaterality =<br>EV (G-A100, SRT,<br>"Right")<br>\$Anatomy = DCID<br>(12111) Abdominal<br>Arteries (lateral)   |

|    | NL | Rel with Parent | VT      | Concept Name   | VM  | Req Type | Condition | Value set Constraint   |
|----|----|-----------------|---------|--|-----|----------|-----------|--|
| 26 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section         | 1   | U        |           | \$SectionScope =<br>DT (T-46002,<br>SRT, "Artery of<br>Abdomen")<br><br>\$SectionLaterality =<br>EV (G-A103, SRT,<br>"Unilateral")<br><br>\$Anatomy = DCID<br>(12112) Abdominal<br>Arteries (unilateral) |
| 27 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section         | 1   | U        |           | \$SectionScope =<br>DT (T-487A0,<br>SRT, "Vein of<br>Abdomen")<br><br>\$SectionLaterality =<br>EV (G-A101, SRT,<br>"Left")<br><br>\$Anatomy = DCID<br>(12113) Abdominal<br>Veins (lateral)               |
| 28 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section         | 1   | U        |           | \$SectionScope =<br>DT (T-487A0,<br>SRT, "Vein of<br>Abdomen")<br><br>\$SectionLaterality =<br>EV (G-A100, SRT,<br>"Right")<br><br>\$Anatomy = DCID<br>(12113) Abdominal<br>Veins (lateral)              |
| 29 | >  | CONTAINS        | INCLUDE | DTID (5103)<br>Vascular<br>Ultrasound<br>Section         | 1   | U        |           | \$SectionScope =<br>DT (T-487A0,<br>SRT, " Vein of<br>Abdomen")<br><br>\$SectionLaterality =<br>EV (G-A103, SRT,<br>"Unilateral")<br><br>\$Anatomy = DCID<br>(12114) Abdominal<br>Veins (unilateral)     |
| 30 | >  | CONTAINS        | INCLUDE | DTID (5105)<br>Ultrasound Graft<br>Section               | 1   | U        |           |  |
| 31 | >  | CONTAINS        | INCLUDE | DTID (ALOKA-<br>301) User<br>Defined Equation<br>Section | 1-n | U        |           |  |

**Extended Template Definitions  
TID 5200 Echocardiography Ultrasound Procedure Report**

|    | NL | Rel with Parent | VT        | Concept Name  | VM  | Req Type | Condition | Value set Constraint   |
|----|----|-----------------|-----------|---|-----|----------|-----------|--|
| 1  |    |                 | CONTAINER | EV (125200, DCM, "Adult Echocardiography Procedure Report") | 1   | M        |           |  |
| 2  | >  | HAS CONCEPT MOD | INCLUDE   | DTID (1204) Language of Content Item and Descendants        | 1   | U        |           |  |
| 3  | >  | HAS OBS CONTEXT | INCLUDE   | DTID (1001) Observation Context                             | 1   | M        |           |  |
| 4  | >  | CONTAINS        | CONTAINER | DT (121064, DCM, "Current Procedure Descriptions")          | 1   | U        |           |  |
| 5  | >> | CONTAINS        | CODE      | DT (125203, DCM, "Acquisition Protocol")                    | 1-n | M        |           | BCID (12001) Ultrasound Protocol Types   |
| 6  | >  | CONTAINS        | INCLUDE   | DTID (5201) Echocardiography Patient Characteristics        | 1   | U        |           |  |
| 7  | >  | CONTAINS        | CONTAINER | (111028, DCM, "Image Library")                              | 1   | U        |           |  |
| 8  | >> | CONTAINS        | IMAGE     | No purpose of reference                                     | 1-n | M        |           |  |
| 9  | >  | CONTAINS        | INCLUDE   | DTID (5202) Echo Section                                    | 1   | U        |           | \$SectionSubject = EV (T-32600, SRT, "Left Ventricle")<br>\$MeasType = DCID (12200)<br>Echocardiography Left Ventricle   |
| 10 | >  | CONTAINS        | INCLUDE   | DTID (5202) Echo Section                                    | 1   | U        |           | \$SectionSubject = EV (T-32500, SRT, "Right Ventricle")<br>\$MeasType = DCID (12204)<br>Echocardiography Right Ventricle |

|    | NL | Rel with Parent | VT      | Concept Name                | VM | Req Type | Condition | Value set Constraint   |
|----|----|-----------------|---------|-----------------------------|----|----------|-----------|--|
| 11 | >  | CONTAINS        | INCLUDE | DTID (5202)<br>Echo Section | 1  | U        |           | \$SectionSubject =<br>EV (T-32300, SRT,<br>"Left Atrium")<br>\$MeasType = DCID<br>(12205)<br>Echocardiography<br>Left Atrium         |
| 12 | >  | CONTAINS        | INCLUDE | DTID (5202)<br>Echo Section | 1  | U        |           | \$SectionSubject =<br>EV (T-32200, SRT,<br>"Right Atrium")<br>\$MeasType = DCID<br>(12206)<br>Echocardiography<br>Right Atrium       |
| 13 | >  | CONTAINS        | INCLUDE | DTID (5202)<br>Echo Section | 1  | U        |           | \$SectionSubject =<br>EV (T-35400, SRT,<br>"Aortic Valve")<br>\$MeasType = DCID<br>(12211)<br>Echocardiography<br>Aortic Valve       |
| 14 | >  | CONTAINS        | INCLUDE | DTID (5202)<br>Echo Section | 1  | U        |           | \$SectionSubject =<br>EV (T-35300, SRT,<br>"Mitral Valve")<br>\$MeasType = DCID<br>(12207)<br>Echocardiography<br>Mitral Valve       |
| 15 | >  | CONTAINS        | INCLUDE | DTID (5202)<br>Echo Section | 1  | U        |           | \$SectionSubject =<br>EV (T-35200, SRT,<br>"Pulmonic Valve")<br>\$MeasType = DCID<br>(12209)<br>Echocardiography<br>Pulmonic Valve   |
| 16 | >  | CONTAINS        | INCLUDE | DTID (5202)<br>Echo Section | 1  | U        |           | \$SectionSubject =<br>EV (T-35100, SRT,<br>"Tricuspid Valve")<br>\$MeasType = DCID<br>(12208)<br>Echocardiography<br>Tricuspid Valve |

|    | NL | Rel with Parent | VT      | Concept Name                | VM | Req Type | Condition | Value set Constraint  |
|----|----|-----------------|---------|-----------------------------|----|----------|-----------|---|
| 17 | >  | CONTAINS        | INCLUDE | DTID (5202)<br>Echo Section | 1  | U        |           | \$SectionSubject =<br>EV (T-42000, SRT,<br>"Aorta")<br>\$MeasType= DCID<br>(12212)<br>Echocardiography<br>Aorta   |
| 18 | >  | CONTAINS        | INCLUDE | DTID (5202)<br>Echo Section | 1  | U        |           | \$SectionSubject =<br>EV (T-44000, SRT,<br>"Pulmonary artery")<br>\$MeasType DCID<br>(12210) =<br>Echocardiography<br>Pulmonary Artery                                |
| 19 | >  | CONTAINS        | INCLUDE | DTID (5202)<br>Echo Section | 1  | U        |           | \$SectionSubject =<br>EV (T-48600, SRT,<br>"Vena Cava")<br>\$MeasType = DCID<br>(12215)<br>Echocardiography<br>Vena Cavae   |
| 20 | >  | CONTAINS        | INCLUDE | DTID (5202)<br>Echo Section | 1  | U        |           | \$SectionSubject =<br>EV (T-48581, SRT,<br>"Pulmonary Venous<br>Structure")<br>\$MeasType = DCID<br>(12214)<br>Echocardiography<br>Pulmonary Veins                    |
| 21 | >  | CONTAINS        | INCLUDE | DTID (5202)<br>Echo Section | 1  | U        |           | \$SectionSubject =<br>EV (P5-30031,<br>SRT, "Cardiac<br>Shunt Study")<br>\$MeasType = DCID<br>(12217)<br>Echocardiography<br>Cardiac Shunt                            |
| 22 | >  | CONTAINS        | INCLUDE | DTID (5202)<br>Echo Section | 1  | U        |           | \$SectionSubject =<br>EV (D4-30000,<br>SRT, "Congenital<br>Anomaly of<br>Cardiovascular<br>System")<br>\$MeasType = DCID<br>(12218)<br>Echocardiography<br>Congenital |



|    | NL | Rel with Parent | VT      | Concept Name                                   | VM  | Req Type | Condition | Value set Constraint   |
|----|----|-----------------|---------|--|-----|----------|-----------|--|
| 23 | >  | CONTAINS        | INCLUDE | DTID (5204)<br>Wall Motion Analysis            | 1-n | U        |           | \$Procedure = DT (P5-B3121, SRT, "Echocardiography for Determining Ventricular Contraction") |
| 24 | >  | CONTAINS        | INCLUDE | DTID (ALOKA-301) User Defined Equation Section | 1-n | U        |           |  |

**Private Template Definitions**  
**TID ALOKA-300 Common Original Measurement Section**

|   | NL | Rel with Parent | VT        | Concept Name                   | VM  | Req Type | Condition | Value set Constraint                                      |
|---|----|-----------------|-----------|--------------------------------|-----|----------|-----------|---|
| 1 |    |                 | CONTAINER | \$AnatomyGroup                 | 1   | M        |           |   |
| 2 | >  | HAS CONCEPT MOD | CODE      | EV (G-C171, SRT, "Laterality") | 1   | U        |           | \$SectionLaterality                                       |
| 3 | >  | CONTAINS        | INCLUDE   | DTID (300)                     | 1-n | M        |           | \$Measurement = \$ MeasType<br>\$Derivation = DCID (3627) |

**Private Template Definitions  
TID ALOKA-301 User Defined Equation Section**

|   | NL | Rel with Parent | VT        | Concept Name  | VM  | Req Type | Condition | Value set Constraint |
|---|----|-----------------|-----------|---|-----|----------|-----------|----------------------|
| 1 |    |                 | CONTAINER | EV (A-004, 99ALOKA, "User Defined Equation")              | 1   | M        |           |                      |
| 2 | >  | CONTAINS        | TEXT      | EV (A-005, 99ALOKA, "User Defined Equation Group Number") | 1   | U        |           |                      |
| 3 | >  | CONTAINS        | TEXT      | EV (A-006, 99ALOKA, "User Defined Equation Group Name")   | 1   | M        |           |                      |
| 4 | >> | HAS PROPERTIES  | INCLUDE   | DTID (ALOKA-302) User Defined Equation Items Section      | 1-n | M        |           |                      |

**Private Template Definitions  
TID ALOKA-302 User Defined Equation Items Section**

|   | NL | Rel with Parent | VT      | Concept Name   | VM | Req Type | Condition | Value set Constraint  |
|---|----|-----------------|---------|--|----|----------|-----------|---|
| 1 |    |                 | INCLUDE | DTID (300) Measurement                               | 1  | M        |           | \$Measurement = DCID (ALOKA_002) User Defined Equation Group<br>\$Derivation = DCID (3627) Measurement Type |
| 2 | >  | INFERRED FROM   | TEXT    | EV (A-007, 99ALOKA, "User Defined Parameter Number") | 1  | U        |           |   |
| 3 | >  | INFERRED FROM   | TEXT    | EV (A-008, 99ALOKA, "User Defined Parameter Name")   | 1  | U        |           |   |

|   |   |               |      |  |   |   |  |  |
|---|---|---------------|------|--|---|---|--|--|
| 4 | > | INFERRED FROM | TEXT | EV (A-009, 99ALOKA, "User Defined Equation") | 1 | U |  |  |
|---|---|---------------|------|--|---|---|--|--|

**Private Template Definitions  
TID ALOKA-5000 OB Original Fetal Measurement Section**

|   | NL | Rel with Parent | VT        | Concept Name   | VM  | Req Type | Condition  | Value set Constraint  |
|---|----|-----------------|-----------|--|-----|----------|--|---|
| 1 |    |                 | CONTAINER | EV (A-002, 99ALOKA, "OB Original Fetal Measurement Group") | 1   | M        |  |   |
| 2 | >  | HAS OBS CONTEXT | INCLUDE   | DTID (1008)  | 1   | MC       | If this template is invoked more than once to describe more than one fetus |   |
| 3 | >  | CONTAINS        | INCLUDE   | DTID (ALOKA-300)   | 1-n | M        |  | \$AnatomyGroup = \$Anatomy<br>\$MeasType = \$Meas<br>\$SectionLaterality = DCID (244) |

**Private Template Definitions  
TID ALOKA-5001 OB-GYN Original Measurement Section**

|   | NL | Rel with Parent | VT        | Concept Name   | VM  | Req Type | Condition | Value set Constraint  |
|---|----|-----------------|-----------|--|-----|----------|-----------|---|
| 1 |    |                 | CONTAINER | EV (A-002, 99ALOKA, "OB Original Fetal Measurement Group") | 1   | M        |           |   |
| 2 | >  | CONTAINS        | INCLUDE   | DTID (ALOKA-300)   | 1-n | M        |           | \$AnatomyGroup = \$Anatomy<br>\$MeasType = \$Meas<br>\$SectionLaterality = DCID (244) |

**Private Template Definitions**  
**TID ALOKA-5002 OB User Defined Equation Section**

|   | NL | Rel with Parent | VT      | Concept Name                                   | VM  | Req Type | Condition                                      | Value set Constraint |
|---|----|-----------------|---------|--|-----|----------|--|----------------------|
| 1 |    |                 | INCLUDE | DTID (1008)<br>Subject Context,<br>Fetus       | 1   | MC       | IFF this template is invoked to describe fetus |                      |
| 2 | >  | CONTAINS        | INCLUDE | DTID (ALOKA-301) User Defined Equation Section | 1-n | M        |  |                      |