HITACHI
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DICOM Conformance Statement

Noblus

Special Notes to Operators and Maintenance Managers

★ Before using this system, be sure to thoroughly read this DICOM Conformance Statement and make yourself familiar with this system.
★ After reading this DICOM Conformance Statement, keep it in an easily accessible place close to the system.

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E1E-EZ1641-4

Cautions on exportation:

When exporting this equipment, be sure to check the Foreign Exchange and Foreign Trade Control Law and the regulations related to export control in the United States of America, and perform the necessary procedures.

Contact Hitachi or an authorized representative if you have further inquiries.

Revision history:

First edition: June 2012

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CONFORMANCE STATEMENT OVERVIEW

The Noblus system implements the necessary DICOM services to download work lists from an information system, save acquired US images to a network storage device, USB memory, USB HDD or network folder, save acquired Structured Reports to a network storage device, print to a networked hardcopy device and inform the information system about the work actually done. Following Table provides an overview of the network services.

Table 1 NETWORK SERVICES

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
Transfer		
Ultrasound Image Storage	Yes (Note 1)	No
Ultrasound Image Storage (Retired)	Yes (Note 1)	No
Ultrasound Multiframe Image Storage	Yes (Note 1)	No
Ultrasound Multiframe Image Storage (Retired)	Yes (Note 1)	No
Comprehensive SR	Yes (Note 1)	No
Storage Commitment Push Model	Yes (Note 1)	No
Workflow Management		
Modality Worklist	Yes (Note 2)	No
Modality Performed Procedure Step	Yes (Note 2)	No
Print Management		
Basic Grayscale Print Management	Yes (Note 3)	No
Basic Color Print Management	Yes (Note 3)	No
Query/Retrieve		
Study Root Information Model FIND	Yes (Note 4)	No
Study Root Information Model MOVE	Yes (Note 4)	No
Ultrasound Image Storage	No	Yes (Note 4)
Ultrasound Image Storage (Retired)	No	Yes (Note 4)
Ultrasound Multiframe Image Storage	No	Yes (Note 4)
Ultrasound Multiframe Image Storage (Retired)	No	Yes (Note 4)
CT Image Storage	No	Yes (Note 4)
MR Image Storage	No	Yes (Note 4)
Secondary Capture Image Storage	No	Yes (Note 4)

NOTE 1: Separately licensable option DICOM Software (Transfer and Media Storage) EZU-FC13.

NOTE 2: Separately licensable option DICOM Software (Worklist) EZU-FC13W.

NOTE 3: Separately licensable option DICOM Software (Printer) EZU-FC13P.

NOTE 4: Separately licensable option DICOM Software (Query/Retrieve) EZU-FC13Q.

TABLE OF CONTENTS

Chapter 1 - INTRODUCTION

1.1 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.

1.2 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 this system and other DICOM systems. 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 this system and other DICOM systems.
- Test procedures should be defined to validate the desired level of connectivity.

1.3 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 **Application Entity**

DICOM **Digital Imaging and Communication in Medicine**

IOD **Information Object Definition**

MPPS **Modality Performed Procedure Step**

MWL **Modality Worklist**

PDU **Protocol Data Unit**

SCU **Service Class User (DICOM client)**

SCP **Service Class Provider (DICOM server)**

SOP	**Service-Object Pair**
SR	**Structured Report**
TCP/IP	**Transmission Control Protocol / Internet Protocol**
TID	**Identifier of Template**
UID	**Unique Identifier**
VR	**Value Representation**

Chapter 2 - NETWORKING

2.1 IMPLEMENTATION MODEL

2.1.1 Application Data Flow

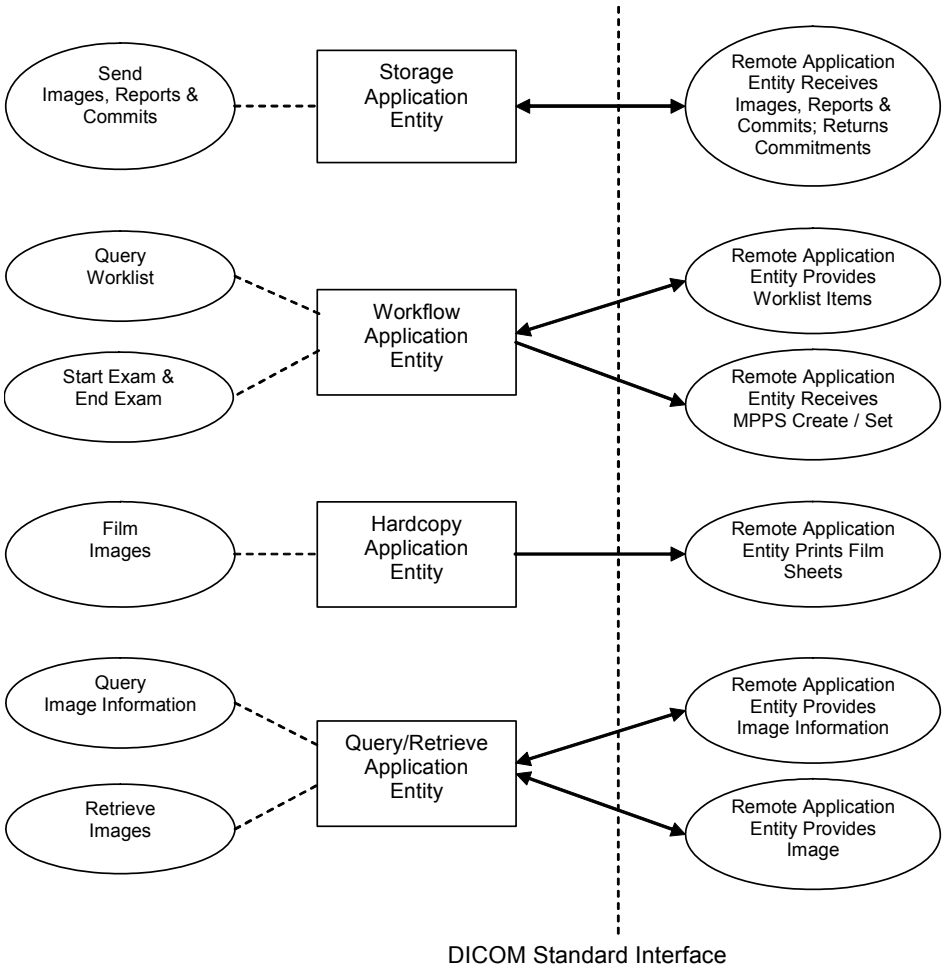

Figure 2.1-1 Application Data Flow Diagram

2.1.2 Sequencing of Real-World Activities

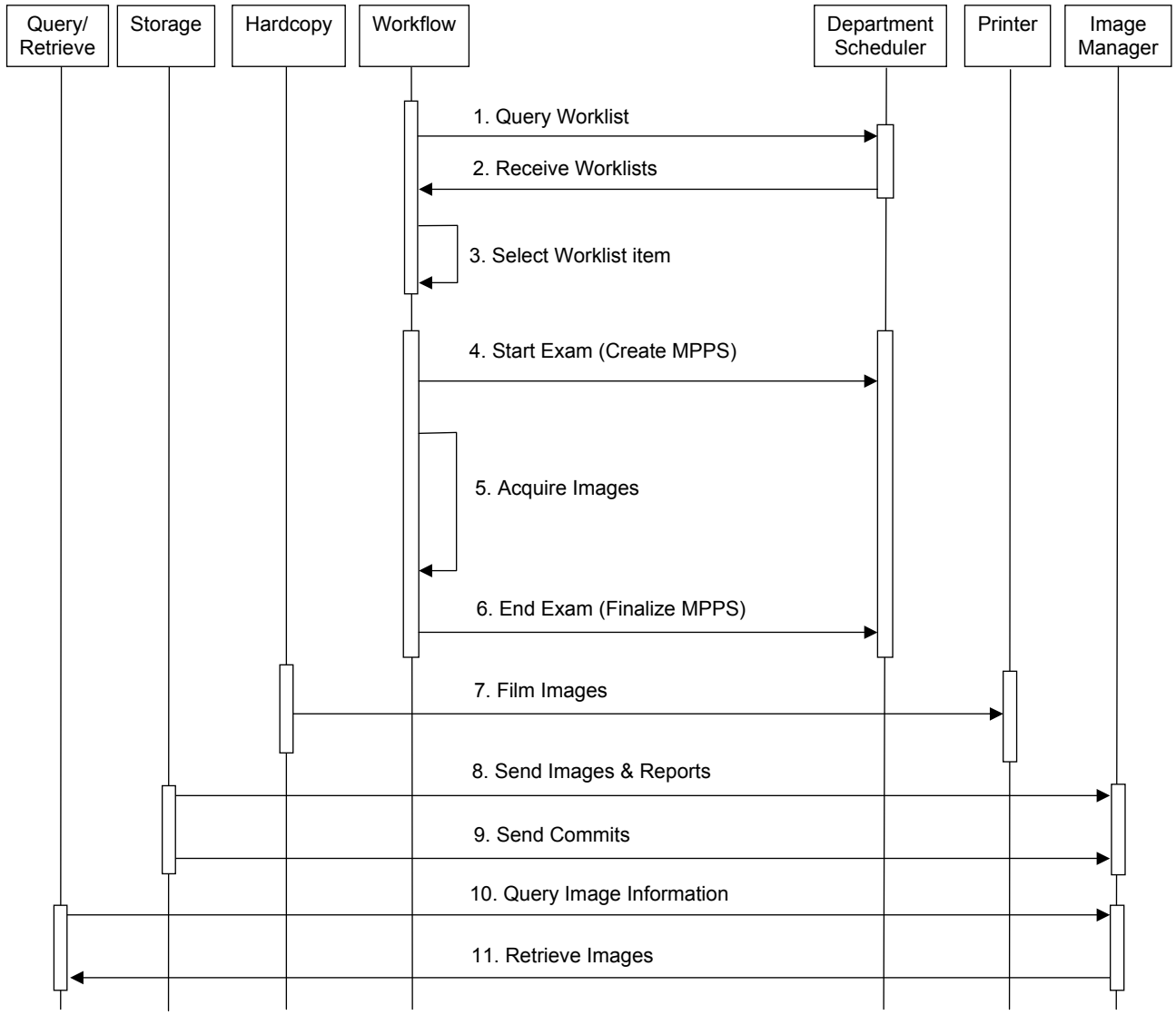

Figure 2.1-2 Sequencing Constraints

2.2 AE SPECIFICATIONS

2.2.1 Storage Application Entity Specification

(1) SOP Classes

Storage AE provides Standard Conformance to the following SOP Classes:

Table 2.2-1 SOP Classes for AE Storage

SOP Class Name	SOP Class UID	SCU	SCP
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	Yes	No
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	Yes	No
Ultrasound Multiframe Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Yes	No
Ultrasound Multiframe Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	Yes	No
Comprehensive SR	1.2.840.10008.5.1.4.1.1.88.33	Yes	No
Storage Commitment Push Model	1.2.840.10008.1.20.1	Yes	No
Verification	1.2.840.10008.1.1	Yes	No

(2) Association Establishment Policies

[1] General

The DICOM standard application context name is always proposed:

Table 2.2-2 DICOM APPLICATION CONTEXT FOR AE STORAGE

Application Context Name	1.2.840.10008.3.1.1.1

[2] Number of Associations

Storage AE initiates one Association at a time.

Table 2.2-3 NUMBER OF ASSOCIATIONS INITIATED FOR AE STORAGE

Maximum number of simultaneous Associations	1

[3] Asynchronous Nature

Storage AE does not support asynchronous communication.

Table 2.2-4 ASYNCHRONOUS NATURE AS A SCU FOR AE STORAGE

Maximum number of outstanding asynchronous transactions	1

[4] Implementation Identifying Information

The implementation information for Storage AE is:

Table 2.2-5 DICOM IMPLEMENTATION CLASS AND VERSION FOR AE STORAGE

Implementation Class UID	1.2.392.200036.9123.100.14.15
Implementation Version Name	HMC14.15

(3) Association Initiation Policy

[1] Activity – Send Images, Reports and Commits

[1-1] Sequencing of Activities

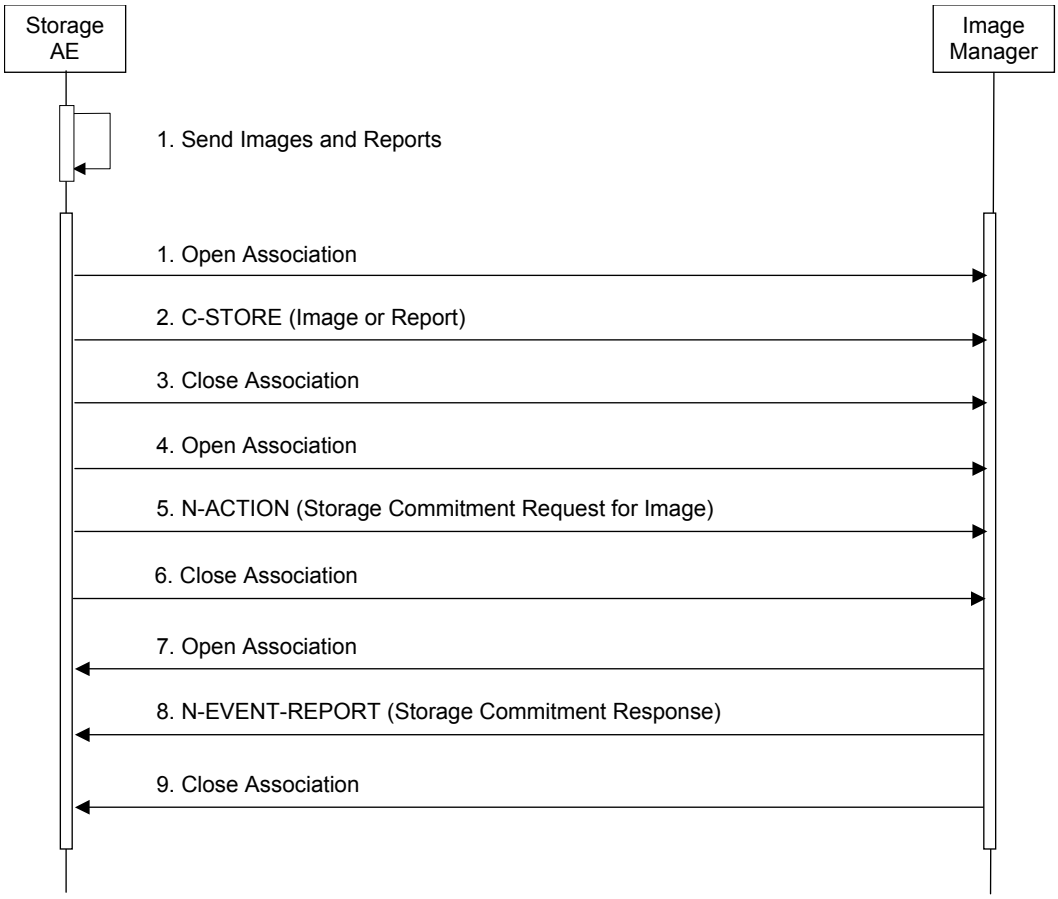

Figure 2.2-1 SEQUENCING OF ACTIVITY – SEND IMAGES, REPORTS AND COMMITS

The sequence of interactions between the Storage AE and an Image Manager is illustrated in Figure above. Note that commits can only be sent for images. Reports are not supported.

[1-2] Proposed Presentation Contexts

Storage AE will propose the Presentation Contexts shown in the following table.

Table 2.2-6 Proposed Presentation Contexts for Real-World Activity Send Images, REPORTS AND COMMITS

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 JPEG Lossy Baseline	1.2.840.10008.1.2 1.2.840.10008.1.2.4.50	SCU	None
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6				
Ultrasound Multiframe Image Storage	1.2.840.10008.5.1.4.1.1.3.1				
Ultrasound Multiframe Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3				
Comprehensive SR	1.2.840.10008.5.1.4.1.1.88.33	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
Storage Commitment Push Model	1.2.840.10008.1.20.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

[1-3] SOP Specific Conformance for Image and SR SOP Class

All Image and Structured Report SOP Classes supported by the Storage AE exhibit the same behavior.

The behavior of Storage AE when encountering status codes in a C-STORE response is summarized in the table below:

Table 2.2-7 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.

Service Status	Further Meaning	Error Code	Behavior
*	*	Any Other status code.	The Association is aborted using A-ABORT.

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

Table 2.2-8 Storage Communication Failure Behavior

Exception	Behavior
Timeout	The Association is aborted using A-ABORT.
Association aborted by the SCP or network layers	The Association is aborted using A-ABORT.

[1-4] SOP Specific Conformance for Storage Commitment SOP Class
[1-4-1] Storage Commitment Operations (N-ACTION)
The behavior of Storage AE when encountering status codes in an N-ACTION response is summarized in the table below:

Table 2.2-9 STORAGE COMMITMENT N-ACTION RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Error Code	Behavior
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 aborted using A-ABORT and the request for storage commitment is marked as failed.

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

Table 2.2-10 STORAGE COMMITMENT COMMUNICATION FAILURE BEHAVIOR

Exception	Behavior
Timeout	The Association is aborted using A-ABORT.
Association aborted by the SCP or network layers	The send job is marked as failed.

[1-4-2] Storage Commitment Notifications (N-EVENT-REPORT)
The Storage AE is capable of receiving an N-EVENT-REPORT notification if it has successfully negotiated a Presentation Context for the Storage Commitment Push Model.
The reasons for returning specific status codes in an N-EVENT-REPORT response are summarized in the table below.

Table 2.2-11 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.

[1-5] SOP Specific Conformance for Verification SOP Class
The Storage 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, a C000 (Error – Cannot Understand) status code will be returned in the C-ECHO response.

2.2.2 Workflow Application Entity Specification

(1) SOP Classes

Workflow AE provides Standard Conformance to the following SOP Classes:

Table 2.2-12 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

(2) Association Establishment Policies

[1] General

The DICOM standard application context name is always proposed:

Table 2.2-13 DICOM APPLICATION CONTEXT FOR AE WORKFLOW

Application Context Name	1.2.840.10008.3.1.1.1

[2] Number of Associations

Workflow AE initiates one Association at a time.

Table 2.2-14 NUMBER OF ASSOCIATIONS INITIATED FOR AE WORKFLOW

Maximum number of simultaneous Associations	1

[3] Asynchronous Nature

Workflow AE does not support asynchronous communication.

Table 2.2-15 ASYNCHRONOUS NATURE AS A SCU FOR AE WORKFLOW

Maximum number of outstanding asynchronous transactions	1

[4] Implementation Identifying Information

The implementation information for Workflow AE is:

Table 2.2-16 DICOM IMPLEMENTATION CLASS AND VERSION FOR AE WORKFLOW

Implementation Class UID	1.2.392.200036.9123.100.14.15
Implementation Version Name	HMC14.15

(3) Association Initiation Policy

[1] Activity –Query Worklist

[1-1] Sequencing of Activities

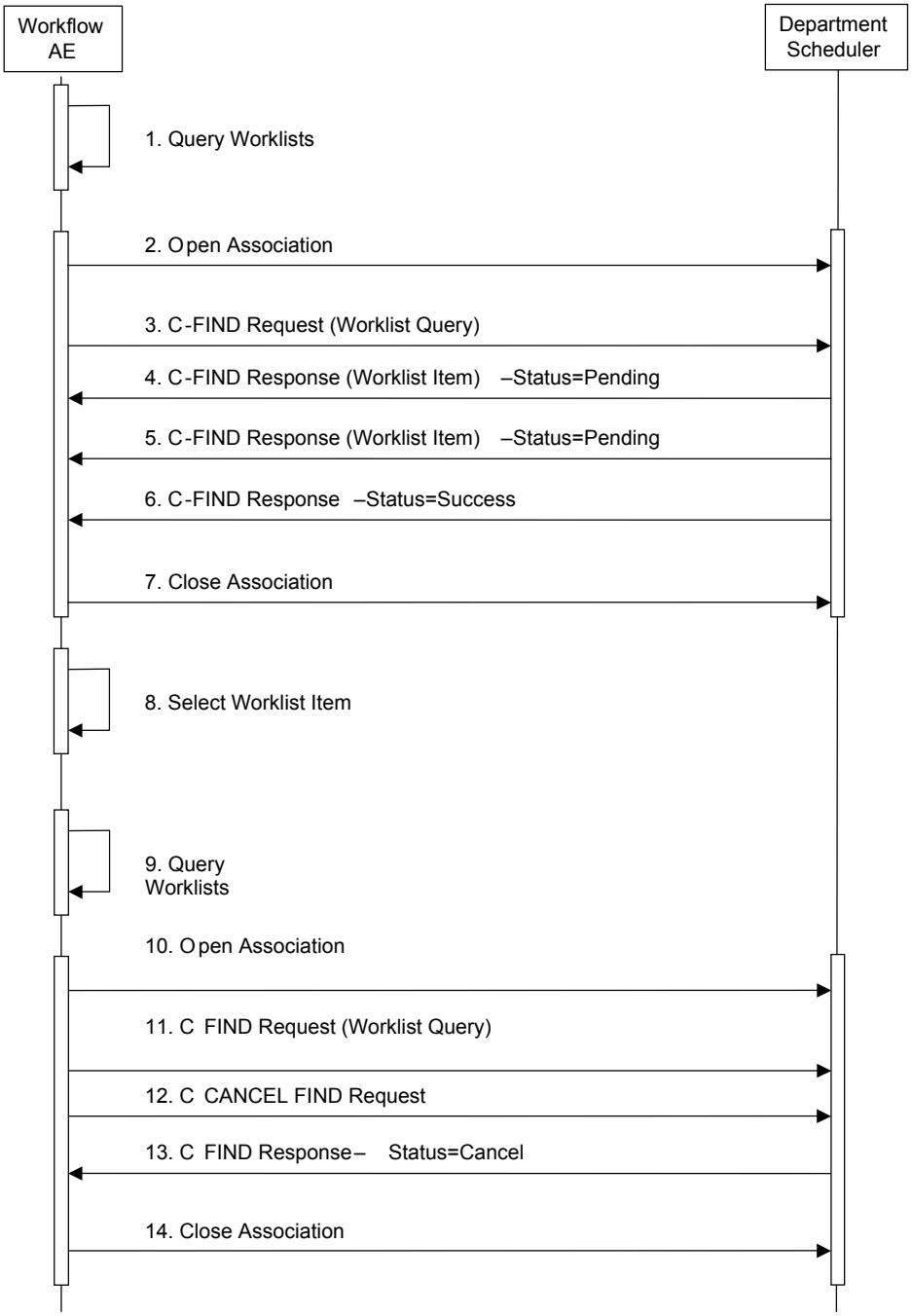

Figure 2.2-2 Sequencing of Activity –Query Worklist

The sequence of interactions between the Workflow AE and a Departmental Scheduler is illustrated in the Figure above.

[1-2] Proposed Presentation Contexts
Workflow AE will propose Presentation Contexts as shown in the following table:

Table 2.2-17 PROPOSED PRESENTATION CONTEXTS FOR REAL-WORLD ACTIVITY QUERY WORKLIST

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
Name	**UID**	**Name List**	**UID List**		
Modality Worklist Information Model – FIND	1.2.840.10008.5.1.4.31	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

[1-3] SOP Specific Conformance for Modality Worklist SOP Class
The behavior of Workflow AE when encountering status codes in a Modality Worklist C-FIND response is summarized in the table below.

Table 2.2-18 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. The status meaning is logged. Any additional error information in the Response will be logged.
Failed	Identifier does not match SOP Class	A900	The Association is aborted using A-ABORT. The status meaning is logged. Any additional error information in the Response will be logged.

Service Status	Further Meaning	Error Code	Behavior
Failed	Unable to Process	C000 – CFFF	The Association is aborted using A-ABORT. The status meaning is logged. Any additional error information in the Response will be logged.
Cancel	Matching terminated due to Cancel request	FE00	If the query was cancelled due to too may 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 marked as failed. The status meaning is logged.
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. The status meaning is logged.
*	*	Any other status code.	The Association is aborted using A-ABORT. The status meaning is logged. Any additional error information in the Response will be logged.

The behavior of Workflow AE during communication failure is summarized in the table below.

Table 2.2-19 MODALITY WORKLIST COMMUNICATION FAILURE BEHAVIOR

Exception	Behavior
Timeout	The Association is aborted using A-ABORT and the worklist query marked as failed. The reason is logged.
Association aborted by the SCP or network layers	The error message is displayed. The reason is logged.

Acquired images will use the Study Instance UID specified for the Scheduled Procedure Step. If Scheduled Procedure Step has no Study Instance UID or an acquisition is unscheduled, a Study Instance UID will be generated by the system. The table below provides a description of the Worklist Matching Keys and specifies the attributes that are copied into the images. Unexpected attributes returned in a C-FIND response are ignored. Non-matching responses returned by the SCP due to unsupported optional matching keys are ignored.

Table 2.2-20 WORKLIST MATCHING KEYS

Module Name Attribute Name	Tag	VR	MK	RK	WS	IS	AS	DK	IOD
SOP Common									
Specific Character Set	(0008,0005)	CS		x					
Scheduled Procedure Step									
Scheduled Procedure Step Sequence	(0040,0100)	SQ		x				x	
> Scheduled Station AET	(0040,0001)	AE	R	x	S		S	x	
> Scheduled Procedure Step Start Date	(0040,0002)	DA	R	x	S/ RV	S	RV	x	
> Scheduled Procedure Step Start Time	(0040,0003)	TM	R	x			RV	x	
> Modality	(0008,0060)	CS	R	x	S		S	x	
> Scheduled Performing Physician's Name	(0040,0006)	PN	R	x		W	W	x	
> Scheduled Procedure Step Description	(0040,0007)	LO		x				x	x
> Scheduled Station Name	(0040,0010)	SH		x				x	
> Scheduled Procedure Step Location	(0040,0011)	SH		x				x	
> Scheduled Protocol Code Sequence	(0040,0008)	SQ		x				x	x
> Pre-Medication	(0040,0012)	LO		x				x	
> Scheduled Procedure Step ID	(0040,0009)	SH		x				x	x

Module Name Attribute Name	Tag	VR	MK	RK	WS	IS	AS	DK	IOD
> Requested Contrast Agent	(0032,1070)	LO		x				x	
Requested Procedure									
Requested Procedure ID	(0040,1001)	SH		x		S	S	x	x
Requested Procedure Description	(0032,1060)	LO		x				x	x
Requested Procedure Code Sequence	(0032,1064)	SQ		x				x	x
Study Instance UID	(0020,000D)	UI		x				x	x
Referenced Study Sequence	(0008,1110)	SQ		x				x	x
Requested Procedure Priority	(0040,1003)	SH		x				x	
Patient Transport Arrangements	(0040,1004)	LO		x				x	
Name of Intended Recipients of Results	(0040,1010)	PN		x				x	x
Imaging Service Request									
Accession Number	(0008,0050)	SH		x		S	S	x	x
Requesting Physician	(0032,1032)	PN		x				x	x
Referring Physician's Name	(0008,0090)	PN		x				x	x
Requesting Service	(0032,1033)	LO		x				x	x
Visit Identification									
Admission ID	(0038,0010)	LO		x				x	x
Visit Status									
Current Patient Location	(0038,0300)	LO		x				x	
Visit Relationship									
Referenced Patient Sequence	(0008,1120)	SQ		x				x	x

Module Name Attribute Name	Tag	VR	MK	RK	WS	IS	AS	DK	IOD
Patient Identification									
Patient's Name	(0010,0010)	PN	R	x		W	W	x	x
Patient ID	(0010,0020)	LO	R	x		S	S	x	x
Other Patient IDs	(0010,1000)	LO		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 Weight	(0010,1030)	DS		x				x	x
Confidentiality constraint on patient data	(0040,3001)	LO		x				x	
Patient's Size	(0010,1020)	DS		x				x	x
Ethnic Group	(0010,2160)	SH		x				x	x
Patient Comments	(0010,4000)	LT		x				x	x
Patient's Age	(0010,1010)	AS		x				x	x
Patient Medical									
Patient State	(0038,0500)	LO		x				x	x
Pregnancy Status	(0010,21C0)	US		x				x	x
Medical Alerts	(0010,2000)	LO		x				x	x
Contrast Allergies	(0010,2110)	LO		x				x	x
Special Needs	(0038,0050)	LO		x				x	x
Additional Patient History	(0010,21B0)	LT		x				x	x
Last Menstrual Date	(0010,21D0)	DA		x				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 Matching Keys.

Tag: DICOM tag for this attribute.

VR: DICOM VR for this attribute.

S:	DICOM Single value matching.
RV:	DICOM Range value matching.
W:	DICOM Wild card matching. "*" or "?" can be set.
MK:	Matching keys for Query Worklist. An "R" will indicate that Workflow AE will supply an attribute value for Required Matching key. This is set as a matching key by default in the Matching Key window.
RK:	Return keys. An "x" will indicate that Workflow AE will supply this attribute as Return Key with zero length for Universal Matching.
WS:	Worklist query setting. An "S" or "RV" will indicate that Workflow AE will supply this attribute as matching key, if set in the Worklist query setting window. This is for the Broad Queries. For example, the combination of Scheduled Date, Modality and AE Title can be entered thereby restricting Worklist responses.
IS:	Interactive Search. An "S" or "W" will indicate that Workflow AE will supply this attribute as matching key, if entered in the Search item in the Worklist tab on a Patient Information window. For example, the Patient Name can be entered thereby restricting Worklist responses.
AS:	Advanced Search. An "S", "RV" or "W" will indicate that Workflow AE will supply this attribute as matching key, if entered in the Advanced Search window. For example, the Combination of Patient ID and Patient Name can be entered thereby restricting Worklist responses.
DK:	Displayed keys. An "x" indicates that this Return Key attribute is displayed to the user during a Detail Information window.
IOD:	An "x" indicates that this Worklist attribute is included into all Object Instances created during performance of the related Procedure Step.

[2] Activity – Start Exam and End Exam

[2-1] Sequencing of Activities

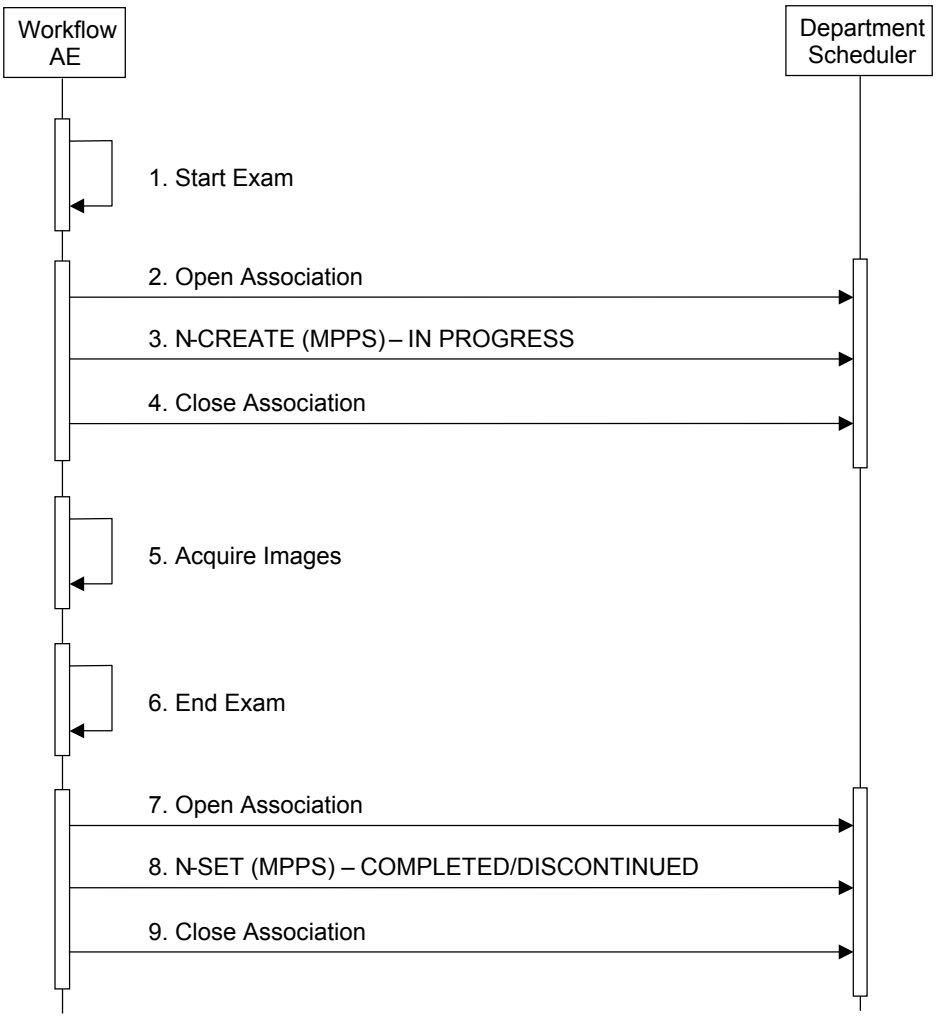

Figure 2.2-3 Sequencing of Activity – Start Exam and End Exam

The sequence of interactions between the Workflow AE and a Departmental Scheduler is illustrated in the Figure above.

[2-2] Proposed Presentation Contexts
Workflow AE will propose Presentation Contexts as shown in the following table:

Table 2.2-21 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	1.2.840.10008.1.2	SCU	None

[2-3] SOP Specific Conformance for MPPS SOP Class
The behavior of Workflow AE when encountering status codes in an MPPS N-CREATE or N–SET response is summarized in table below.

Table 2.2-22 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.
*	*	Any other status code.	The SCP has completed the operation successfully.

The behavior of Workflow AE during communication failure is summarized in the table below.

Table 2.2-23 MPPS COMMUNICATION FAILURE BEHAVIOR

Exception	**Behavior**
Timeout	The Association is aborted using A-ABORT. The reason is logged.
Association aborted by the SCP or network layers	The Association is aborted using A-ABORT. The reason is logged.

Table below provides a description of the MPPS N-CREATE and N-SET request identifiers. "X" will indicate that the attribute is not sent in the N-CREATE and N-SET columns.

Table 2.2-24 MPPS N-CREATE / N-SET REQUEST IDENTIFIER

Attribute Name	Tag	VR	N-CREATE	N-SET
Specific Character Set	(0008,0005)	CS	AUTO generated.	X
Scheduled Step Attributes Sequence	(0040,0270)	SQ	From MWL.	X
> Study Instance UID	(0020,000D)	UI	From MWL or AUTO generated.	X
> Referenced Study Sequence	(0008,1110)	SQ	From MWL.	X
>> Referenced SOP Class UID	(0008,1150)	UI	From MWL.	X
>> Referenced SOP Instance UID	(0008,1155)	UI	From MWL.	X
> Accession Number	(0008,0050)	SH	From MWL or USER input on the Patient Information window. The user can modify values provided via Modality Worklist.	X
> Requested Procedure ID	(0040,1001)	SH	From MWL.	X
> Requested Procedure Description	(0032,1060)	LO	From MWL.	X
> Scheduled Procedure Step ID	(0040,0009)	SH	From MWL.	X

Attribute Name	Tag	VR	N-CREATE	N-SET
> Scheduled Procedure Step Description	(0040,0007)	LO	From MWL.	X
> Scheduled Protocol Code Sequence	(0040,0008)	SQ	From MWL.	X
>> Code Value	(0008,0100)	SH	From MWL.	X
>> Coding Scheme Designator	(0008.0102)	SH	From MWL.	X
>> Coding Scheme Version	(0008,0103)	SH	From MWL.	X
>> Code Meaning	(0008,0104)	LO	From MWL.	X
Patient's Name	(0010,0010)	PN	From MWL or user input on the Patient Information window. The user can modify values provided via Modality Worklist.	X
Patient ID	(0010,0020)	LO	From MWL, user input on the Patient Information window or auto generated. The user can modify values provided via Modality Worklist.	X
Patient's Birth Date	(0010,0030)	DA	From MWL or user input on the Patient Information window. The user can modify values provided via Modality Worklist.	X

Attribute Name	Tag	VR	N-CREATE	N-SET
Patient's Sex	(0010,0040)	CS	From MWL or user input on the Patient Information window. The user can modify values provided via Modality Worklist.	X
Admission ID	(0038,0010)	LO	From MWL.	X
Referenced Patient Sequence	(0008,1120)	SQ	From MWL.	X
> Referenced SOP Class UID	(0008,1150)	UI	From MWL.	X
> Referenced SOP Class UID	(0008,1155)	UI	From MWL.	X
Performed Procedure Step ID	(0040,0253)	SH	AUTO generated.	X
Performed Station AE Title	(0040,0241)	AE	USER input "AE Title" on the Setup Filing window.	X
Performed Station Name	(0040,0242)	SH	User input "Computer Name" on the System Settings window.	X
Performed Location	(0040,0243)	SH	USER input "Hospital Name" on the System Settings window.	X
Performed Procedure Step Start Date	(0040,0244)	DA	AUTO generated.	X
Performed Procedure Step Start Time	(0040,0245)	TM	AUTO generated.	X
Performed Procedure Step Status	(0040,0252)	CS	"IN PROGRESS"	"DISCONTINUED" or "COMPLETED"

Attribute Name	Tag	VR	N-CREATE	N-SET
Performed Procedure Step Description	(0040,0254)	LO	From MWL Scheduled Procedure Step Description (0040,0007) or USER input from Study Description (0008,1030).	From MWL Scheduled Procedure Step Description (0040,0007) or USER input from Study Description (0008,1030).
Performed Procedure Type Description	(0040,0255)	LO	Zero length.	X
Procedure Code Sequence	(0008,1032)	SQ	From MWL Requested Procedure Code Sequence (0032,1064).	From MWL Requested Procedure Code Sequence (0032,1064).
> Code Value	(0008,0100)	SH	From MWL Requested Procedure Code Sequence (0032,1064).	From MWL Requested Procedure Code Sequence (0032,1064).
> Coding Scheme Designator	(0008.0102)	SH	From MWL Requested Procedure Code Sequence (0032,1064).	From MWL Requested Procedure Code Sequence (0032,1064).
> Coding Scheme Version	(0008,0103)	SH	From MWL Requested Procedure Code Sequence (0032,1064).	From MWL Requested Procedure Code Sequence (0032,1064).
> Code Meaning	(0008,0104)	LO	From MWL Requested Procedure Code Sequence (0032,1064).	From MWL Requested Procedure Code Sequence (0032,1064.
Performed Procedure Step End Date	(0040,0250)	DA	Zero length.	AUTO generated.
Performed Procedure Step End Time	(0040,0251)	TM	Zero length.	AUTO generated.
Modality	(0008,0060)	CS	US	X
Study ID	(0020,0010)	SH	AUTO generated.	X

Attribute Name	Tag	VR	N-CREATE	N-SET
Performed Protocol Code Sequence	(0040,0260)	SQ	Zero length.	X
Performed Series Sequence	(0040,0340)	SQ	Zero length.	AUTO generated.
> Performing Physician's Name	(0008,1050)	PN	X	Zero length.
> Protocol Name	(0018,1030)	LO	X	AUTO generated.
> Operator's Name	(0008,1070)	PN	X	USER input "Examined by" on the Patient Information window.
> Series Instance UID	(0020,000E)	UI	X	AUTO generated.
> Series Description	(0008,103E)	LO	X	Zero length.
> Retrieve AE Title	(0008,0054)	AE	X	USER input "AE Title" on the Setup Filing window.
> Referenced Image Sequence	(0008,1140)	SQ	X	AUTO generated.
>> Referenced SOP Class UID	(0008,1150)	UI	X	AUTO generated.
>> Referenced SOP Instance UID	(0008,1155)	UI	X	AUTO generated.
> Referenced Non-Image Composite SOP Instance Sequence	(0040,0220)	SQ	X	Zero length.

(4) Association Acceptance Policy

The Workflow AE does not accept Associations.

2.2.3 Hardcopy Application Entity Specification

(1) SOP Classes

Hardcopy AE provides Standard Conformance to the following SOP Classes:

Table 2.2-25 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

(2) Association Establishment Policies

[1] General

The DICOM standard application context name is always proposed:

Table 2.2-26 DICOM APPLICATION CONTEXT FOR AE HARDCOPY

Application Context Name	1.2.840.10008.3.1.1.1

[2] Number of Associations

Hardcopy AE initiates one Association at a time.

Table 2.2-27 NUMBER OF ASSOCIATIONS INITIATED FOR AE HARDCOPY

Maximum number of simultaneous Associations	(number of configured hardcopy devices)

[3] Asynchronous Nature

Hardcopy AE does not support asynchronous communication.

Table 2.2-28 ASYNCHRONOUS NATURE AS A SCU FOR AE HARDCOPY

Maximum number of outstanding asynchronous transactions	1

[4] Implementation Identifying Information

The implementation information for this Application Entity is:

Table 2.2-29 DICOM IMPLEMENTATION CLASS AND VERSION FOR AE HARDCOPY

Implementation Class UID	1.2.392.200036.9123.100.14.15
Implementation Version Name	HMC14.15

(3) Association Initiation Policy

[1] Activity – Film Images

[1-1] Sequencing of Activities

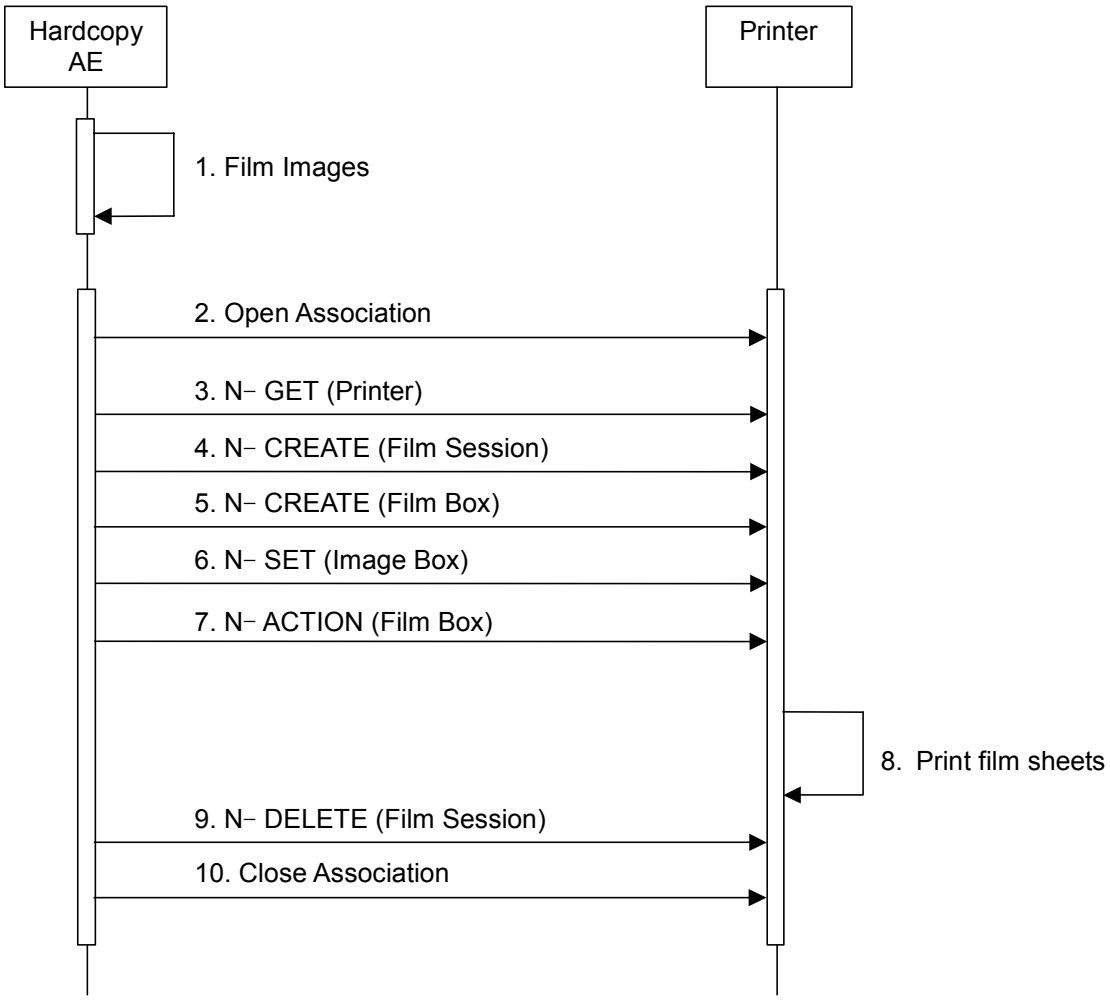

Figure 2.2-4 SEQUENCING OF ACTIVITY – FILM IMAGES

The sequence of interactions between the Hardcopy AE and a Printer is illustrated in Figure above:

[1-2] Proposed Presentation Contexts
Hardcopy AE will propose the Presentation Contexts shown in the following table.

Table 2.2-30 PROPOSED PRESENTATION CONTEXTS FOR REAL-WORLD ACTIVITY FILM 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	1.2.840.10008.1.2	SCU	None
Basic Color Print Management Meta	1.2.840.10008.5.1.1.18	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

[1-3] Common SOP Specific Conformance for all Print SOP Classes
The 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 2.2-31 HARDCOPY COMMUNICATION FAILURE BEHAVIOR

Exception	**Behavior**
Timeout	The Association is aborted using A-ABORT.
Association aborted by the SCP or network layers	The Association is aborted using A-ABORT.

[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.

[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 2.2-32 PRINTER SOP CLASS N-GET REQUEST ATTRIBUTES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Printer Status	(2110,0010)	CS	Provided by Printer	ALWAYS	Printer
Printer Status Info	(2110,0020)	CS	Provided by Printer	ALWAYS	Printer

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

Table 2.2-33 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.

[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 2.2-34 PRINTER SOP CLASS N-EVENT-REPORT BEHAVIOUR

Event Type Name	Event Type ID	Behavior
Normal	1	The print-job continues to be printed.
Warning	2	The print-job continues to be printed. The contents of Printer Status Info (2110,0020) is logged.
Failure	3	The print-job is marked as failed. The contents of Printer Status Info (2110,0020) is logged.
*	*	An invalid Event Type ID will cause a status code of 0113H to be returned in a N-EVENT-REPORT response.

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

Table 2.2-35 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).

[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.

[1-5-1] Film Session SOP Class Operations (N-CREATE)
The attributes supplied in an N-CREATE Request are listed in the table below:

Table 2.2-36 FILM SESSION SOP CLASS N-CREATE REQUEST ATTRIBUTES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Number of Copies	(2000,0010)	IS	"1" .. "10"	ALWAYS	USER
Print Property	(2000,0020)	CS	"MED"	ALWAYS	AUTO
Medium Type	(2000,0030)	CS	"BLUE FILM", "CLEAR FILM" or "PAPER"	ALWAYS	USER
Film Destination	(2000,0040)	CS	"MAGAZINE", "PROCESSOR" or "BIN_1" .. "BIN_10"	ALWAYS	USER

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

Table 2.2-37 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.
Warning	Attribute List Error	0107H	The N-CREATE operation is considered successful.
*	*	Any other status code.	The Association is aborted using A-ABORT.

[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 2.2-38 PRINTER 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.

[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.

[1-6-1] Film Box SOP Class Operations (N-CREATE)
The attributes supplied in an N-CREATE Request are listed in the table below:

Table 2.2-39 FILM BOX SOP CLASS N-CREATE REQUEST ATTRIBUTES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Image Display Format	(2010,0010)	CS	"STANDARD\C,R"	ALWAYS	USER
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
Film Orientation	(2010,0040)	CS	"PORTRAIT" or "LANDSCAPE"	ALWAYS	USER
Film Size ID	(2010,0050)	CS	"8INX10IN", "8_5INX11IN", "10INX12IN", "10INX14IN", "11INX14IN", "11INX17IN", "14INX14IN", "14INX17IN", "24CMX24CM", "24CMX30CM", "A4", "A3"	ALWAYS	USER
Magnification Type	(2010,0060)	CS	"REPLICATE", "BILINEAR", "CUBIC" or "NONE"	ANAP	USER
Border Density	(2010,0100)	CS	"BLACK" or "WHITE"	ANAP	USER
Empty Image Density	(2010,0110)	CS	"BLACK" or "WHITE"	ANAP	USER
Max Density	(2010,0130)	US	"0.1" .. "3.0"	ANAP	USER
Min Density	(2010,0120)	US	"0.0" .. "2.9"	ANAP	USER
Trim	(2010,0130)	CS	"YES" or "NO"	ANAP	USER

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

Table 2.2-40 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.
*	*	Any other status code.	The Association is aborted using A-ABORT.

[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 2.2-41 FILM BOX SOP CLASS N-ACTION RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Error Code	Behavior
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.
Warning	Image size is larger than Image Box size. The image has been demagnified.	B604H	The N-ACTION operation is considered successful.
Warning	Image size is larger than Image Box size. The image has been cropped to fit.	B609H	The N-ACTION operation is considered successful.

Service Status	Further Meaning	Error Code	Behavior
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.
Failure	Unable to create Print Job SOP Instance; print queue is full.	C602	The Association is aborted using A-ABORT.
Failure	Image size is larger than Image Box size.	C603	The Association is aborted using A-ABORT.
Failure	Combined Print Image Size is larger than Image Box size.	C613	The Association is aborted using A-ABORT.
*	*	Any other status code.	The Association is aborted using A-ABORT.

[1-7] SOP Specific Conformance for the Image Box SOP Class
Hardcopy AE supports the following DIMSE operations for the Image Box SOP Class:
– N-SET

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

[1-7-1] Image Box SOP Class Operations (N-SET)
The attributes supplied in an N-SET Request are listed in the table below:

Table 2.2-42 IMAGE BOX SOP CLASS N-SET REQUEST ATTRIBUTES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Image Position	(2020,0010)	US		ALWAYS	AUTO
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	Depends on image.	ALWAYS	AUTO

Attribute Name	Tag	VR	Value	Presence of Value	Source
>Columns	(0028,0011)	US	Depends on image.	ALWAYS	AUTO
>Pixel Aspect Ratio	(0028,0034)	IS	Depends on image.	ALWAYS	AUTO
>Bits Allocated	(0028,0100)	US	Depends on image.	ALWAYS	AUTO
>Bits Stored	(0028,0101)	US	Depends on image.	ALWAYS	AUTO
>High Bit	(0028,0102)	US	Depends on image.	ALWAYS	AUTO
>Pixel Representation	(0028,0103)	US	Depends on image.	ALWAYS	AUTO
>Pixel Data	(7FE0,0010)	OB	Depends on image.	ALWAYS	AUTO
Basic 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)	CS	"0"	ALWAYS	AUTO
>Rows	(0028,0010)	US	Depends on image.	ALWAYS	AUTO
>Columns	(0028,0011)	US	Depends on image.	ALWAYS	AUTO
>Pixel Aspect Ratio	(0028,0034)	IS	Depends on image.	ALWAYS	AUTO
>Bits Allocated	(0028,0100)	US	Depends on image.	ALWAYS	AUTO
>Bits Stored	(0028,0101)	US	Depends on image.	ALWAYS	AUTO
>High Bit	(0028,0102)	US	Depends on image.	ALWAYS	AUTO
>Pixel Representation	(0028,0103)	US	Depends on image.	ALWAYS	AUTO
>Pixel Data	(7FE0,0010)	OB	Depends on image.	ALWAYS	AUTO

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

Table 2.2-43 IMAGE BOX SOP CLASS 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.	B604H	The N-SET operation is considered successful.
Warning	Requested Min Density or Max Density outside of printer's operating range.	B605H	The N-SET operation is considered successful.
Warning	Image size is larger than Image Box size. The image has been cropped to fit.	B609H	The N-SET operation is considered successful.
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-SET operation is considered successful.
Failure	Image size is larger than Image Box size.	C603	The Association is aborted using A-ABORT.
Failure	Insufficient memory in printer to store the image.	C605	The Association is aborted using A-ABORT.
Failure	Combined Print Image Size is larger than Image Box size.	C613	The Association is aborted using A-ABORT.
*	*	Any other status code.	The Association is aborted using A-ABORT.

2.2.4 Query/Retrieve Application Entity Specification

(1) SOP Classes

Query/Retrieve AE provides Standard Conformance to the following SOP Classes:

Table 2.2-44 SOP CLASSES FOR AE QUERY/RETRIEVE

SOP Class Name	SOP Class UID	SCU	SCP
Study Root Information Model FIND	1.2.840.10008.5.1.4.1.2.2.1	Yes	No
Study Root Information Model MOVE	1.2.840.10008.5.1.4.1.2.2.2	Yes	No
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	No	Yes
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	No	Yes
Ultrasound Multiframe Image Storage	1.2.840.10008.5.1.4.1.1.3.1	No	Yes
Ultrasound Multiframe Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	No	Yes
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	No	Yes
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	No	Yes
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	No	Yes

(2) Association Establishment Policies

[1] General

The DICOM standard application context name is always proposed:

Table 2.2-45 DICOM APPLICATION CONTEXT FOR AE QUERY/RETRIEVE

Application Context Name	1.2.840.10008.3.1.1.1

[2] Number of Associations

Query/Retrieve AE initiates one Association at a time.

Table 2.2-46 NUMBER OF ASSOCIATIONS INITIATED FOR AE QUERY/RETRIEVE

Maximum number of simultaneous Associations	1

[3] Asynchronous Nature

Query/Retrieve AE does not support asynchronous communication.

Table 2.2-47 ASYNCHRONOUS NATURE AS A SCU FOR AE QUERY/RETRIEVE

Maximum number of outstanding asynchronous transactions	1

[4] Implementation Identifying Information

The implementation information for this Application Entity is:

Table 2.2-48 DICOM IMPLEMENTATION CLASS AND VERSION FOR AE QUERY/RETRIEVE

Implementation Class UID	1.2.392.200036.9123.100.14.15
Implementation Version Name	HMC14.15

(3) Association Initiation Policy

[1] Activity – Query Image Information and Retrieve Images

[1-1] Sequencing of Activities

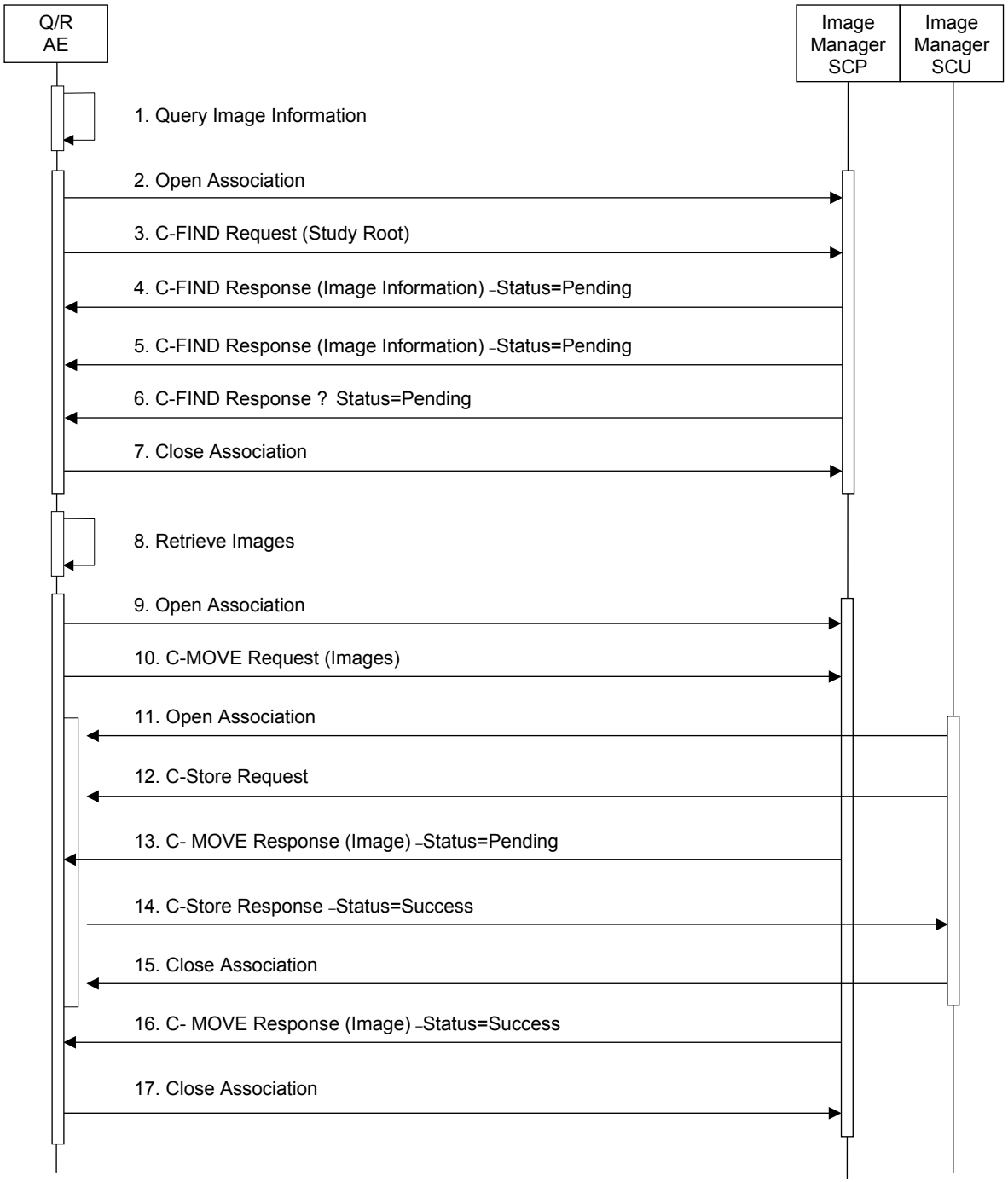

Figure 2.2-5 SEQUENCING OF ACTIVITY – QUERY IMAGE INFORMATION AND RETRIEVE IMAGES

The sequence of interactions between the Query/Retrieve AE and an Image Manager is illustrated in Figure above.

[1-2] Proposed Presentation Contexts
Query/Retrieve AE will propose the Presentation Contexts shown in the following table.

Table 2.2-49 Proposed Presentation Contexts for Real-World Activity Query Image Information

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
Name	**UID**	**Name List**	**UID List**		
Study Root Information Model FIND	1.2.840.10008.5.1.4.1.2.2.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
Study Root Information Model MOVE	1.2.840.10008.5.1.4.1.2.2.2				

Table 2.2-50 Proposed Presentation Contexts for Real-World Activity Retrieve Images

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 Explicit VR Little Endian JPEG Lossy Baseline	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.5	SCP	None
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6				
Ultrasound Multiframe Image Storage	1.2.840.10008.5.1.4.1.1.3.1				

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
Name	**UID**	**Name List**	**UID List**		
Ultrasound Multiframe Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	RLE Lossless			
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	Implicit VR Little Endian Explicit VR Little Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1	SCP	None
MR Image Storage	1.2.840.10008.5.1.4.1.1.4				
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7				

[1-3] SOP Specific Conformance for Query/Retrieve SOP Class
The behavior of Query/Retrieve AE when encountering status codes in a Query Image Information C-FIND response is summarized in the table below.

Table 2.2-51 QUERY IMAGE INFORMATION 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.
*	*	Any other status code.	The Association is aborted using A-ABORT.

The behavior of Query/Retrieve AE during communication failure is summarized in the table below:

Table 2.2-52 QUERY/RETRIEVE COMMUNICATION FAILURE BEHAVIOR

Exception	Behavior
Timeout	The Association is aborted using A-ABORT.
Association aborted by the SCP or network layers	The Association is aborted using A-ABORT.

The table below provides a description of the Study Root Query/Retrieve Information Model. Unexpected attributes returned in a C-FIND response are ignored. Non-matching responses returned by the SCP due to unsupported optional matching keys are ignored.

Table 2.2-53 STUDY ROOT QUERY/RETRIEVE INFORMATION MODEL

Query/Retrieve Level Attribute Name	Tag	VR	MK	RK	IS	DK
Study Level Keys						
Study Date	(0008,0020)	DA	R	x	S	x
Study Time	(0008,0030)	TM	R	x		x
Accession Number	(0008,0050)	SH	R	x	R	x
Patient's Name	(0010,0010)	PN		x	W	x
Patient ID	(0010,0020)	LO		x	S	x
Study ID	(0020,0010)	SH	R	x		x
Study Instance UID	(0020,000D)	UI		x		
Modalities in Study	(0008,0061)	CS		x	S	x
Referring Physician's Name	(0008,0090)	PN		x		x
Study Description	(0008,1030)	LO		x		x
Patient's Birth Date	(0010,0030)	DA		x		x
Patient's Sex	(0010,0040)	CS		x		x
Series Level Keys						
Modality	(0008,0060)	CS	R	x	S	x
Series Number	(0020,0011)	IS	R	x		x
Series Instance UID	(0020,000E)	UI		x	L	
Body Part Examined	(0018,0015)	CS		x		x
Series Description	(0008,103E)	LO		x		x

Query/Retrieve Level Attribute Name	Tag	VR	MK	RK	IS	DK
Image Level Keys						
Instance Number	(0020,0013)	IS	R	x		x
SOP Instance UID	(0008,0018)	UI		x	L	
SOP Class UID	(0008,0016)	UI		x		
Number of Frames	(0028,0008)	IS		x		x
Rows	(0028,0010)	US		x		
Columns	(0028,0011)	US		x		
Bits Allocated	(0028,0100)	US		x		

The above table should be read as follows:

Query/Retrieve level: The level of the associated Query/Retrieve.

Attribute Name: Attributes supported to build a Matching Keys.

Tag: DICOM tag for this attribute.

VR: DICOM VR for this attribute.

S: DICOM Single value matching.

W: DICOM Wild card matching. "*" or "?" can be set.

L: DICOM List of UID matching.

MK: Matching keys for Query Image Information. An "R" will indicate that Query/Retrieve AE will supply an attribute value for Required Matching key.

RK: Return keys. An "x" will indicate that Query/Retrieve AE will supply this attribute as Return Key with zero length for Universal Matching.

IS: Interactive Search. An "S" or "W" will indicate that Query/Retrieve AE will supply this attribute as matching key, if entered in the Search item on a Query dialog box. An "L" will indicate that Query/Retrieve AE will supply this attribute as matching key of the list of UID matching, if selected Study list, Series list or Image list on a Query dialog box.

DK: Displayed keys. An "x" indicates that this Return Key attribute is displayed to the user during a Query dialog box.

2.3 NETWORK INTERFACES

2.3.1 Physical Network Interface

This system supports a following network interface.:

Table 2.3-1 SUPPORTED PHYSICAL NETWORK INTERFACES

Ethernet 100baseT
Ethernet 10baseT

2.3.2 IPv4 and IPv6 Support

This system only supports IPv4 connections.

2.4 CONFIGURATION

2.4.1 AE Title

(1) Local AE Titles

Storage AE, Workflow AE and Hardcopy AE use the same AE Title and TCP/IP Port. No Default AE Title is provided. The AE Titles must be configured during system installation.

Query/Retrieve AE use different AE Titles and TCP/IP Ports. Default AE Title is "QRViewer".

2.4.2 Parameters

A large number of parameters related to acquisition and general operation can be configured. The table below only shows those configuration parameters relevant to DICOM communication.

Table 2.4-1 CONFIGURATION PARAMETERS TABLE

Parameter	**Configurable (Yes/No)**	**Default Value**
General Parameters		
Max PDU Receive/Send Size Max size of Protocol Data Units that can be received and sent.	Yes	16384 Bytes (16 kB)
Work Buffer Size Buffer size used when streaming in or out messages/files.	Yes	28672 Bytes (28kB)

Parameter	Configurable (Yes/No)	Default Value
Request Timeout The number of seconds to use as a time out waiting for an association request or waiting for the peer to shut down an association.	Yes	30 s
Release Reply Timeout The number of seconds to wait for a reply to an associate release.	Yes	15 s
Request Reply Timeout The number of seconds to wait for a reply to an associate request.	Yes	15 s
Network Write Timeout The number of seconds to wait for a network writes to be accepted.	Yes	15 s
Network Connect Timeout The number of seconds to wait for a network connects to be accepted.	Yes	15 s
Inactivity Timeout The number of seconds to wait in between packets of data received over the network after the initial packet of data in a message is received.	Yes	15 s

Chapter 3 - MEDIA INTERCHANGE

3.1 IMPLEMENTATION MODEL

3.1.1 Application Data Flow

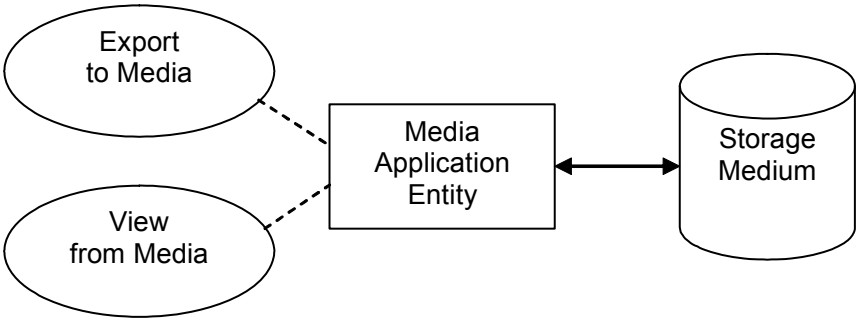

Figure 3.1-1 Application Data Flow Diagram

3.1.2 File Meta Information Options

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

Table 3.1-1 DICOM IMPLEMENTATION CLASS AND VERSION FOR MEDIA STORAGE

Implementation Class UID	1.2.392.200036.9123.100.14.15
Implementation Version Name	HMC14.15

3.2 AE SPECIFICATIONS

3.2.1 Media Application Entity Specification

The Media AE provides standard conformance to the Media Storage Service Class.

(1) File Meta Information for the Media AE

The File-Set Identifier included in the File Meta Header is "EUBDICOM".

(2) Real-World Activities

[1] Options

The Media AE supports the SOP Classes and Transfer Syntaxes listed in the table below:

Table 3.2-1 IODS, SOP CLASSES AND TRANSFER SYNTAXES FOR AE MEDIA

Information Object Definition	**SOP Class UID**	**Transfer Syntax**	**Transfer Syntax UID**
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 JPEG Lossy Baseline	1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50
Ultrasound Multiframe Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Explicit VR Little Endian JPEG Lossy Baseline	1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50

Chapter 4 - SUPPORT OF CHARACTER SETS

DICOM applications support the

ISO_IR 100 (ISO 8859:Latin alphabet No.1)

ISO 2022 IR 100 (ISO 8859:Latin alphabet No.1)

ISO 2022 IR 87 (JIS X 0208:Japanese Kanji)

Chapter 5 - SECURITY

No DICOM security is supported.

Chapter 6 - ANNEXES

6.1 IOD CONTENTS

6.1.1 Created SOP Instances

Table 6.1-1 specifies the attributes of an Ultrasound Image or Ultrasound Multi-Frame Image transmitted by the Storage AE.

Table 6.1-2 specifies the attributes of a Comprehensive Structured Report transmitted by the Storage AE.

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

VNAP Value Not Always Present. (attribute sent zero length if no value is present.)

ANAP Attribute Not Always Present.

ALWAYS Attribute and Value are Always Present.

EMPTY Attribute is sent with zero length.

The abbreviations used in the "Source" column:

MWL The attribute value source is from Modality Worklist.

USER The attribute value source is from User input.

AUTO The attribute value is generated automatically by the system.

MPPS The attribute value is the same as the Modality Performed Procedure Step.

(1) US Image or US Multi-Frame Image IOD

Table 6.1-1 IOD OF CREATED US IMAGE OR US MULTI-FRAME SOP INSTANCES

IE	Module	Reference	Presence of Module
Patient	Patient	Table 6.1-3	ALWAYS
Study	Patient Medical *	Table 6.1-4	ALWAYS
	General Study	Table 6.1-5	ALWAYS
	Patient Study	Table 6.1-6	ALWAYS
Series	General Series	Table 6.1-7	ALWAYS

IE	Module	Reference	Presence of Module
Equipment	General Equipment	Table 6.1-8	ALWAYS
Image	General Image	Table 6.1-10	ALWAYS
	Image Pixel	Table 6.1-11	ALWAYS
	Cine	Table 6.1-12	Only if Multi-frame
	Multi-Frame	Table 6.1-13	Only if Multi-frame
	US Region Calibration	Table 6.1-14	ALWAYS
	US Image	Table 6.1-15	ALWAYS
	VOI LUT	Table 6.1-16	ALWAYS
	SOP Common	Table 6.1-9	ALWAYS

*NOTE: These modules extended the standard US Image and US Multi-Frame Image IODs.

(2) Comprehensive Structured Report IOD

Table 6.1-2 IOD OF CREATED COMPREHENSIVE STRUCTURED REPORT SOP INSTANCES

IE	Module	Reference	Presence of Module
Patient	Patient	Table 6.1-3	ALWAYS
Study	Patient Medical *	Table 6.1-4	ALWAYS
	General Study	Table 6.1-5	ALWAYS
	Patient Study	Table 6.1-6	ALWAYS
Series	General Series *	Table 6.1-7	ALWAYS
Equipment	General Equipment	Table 6.1-8	ALWAYS
Document	SR Document General	Table 6.1-17	ALWAYS
	SR Document Content	Table 6.1-18	ALWAYS
	SOP Common	Table 6.1-9	ALWAYS

*NOTE: These modules extended the standard Comprehensive Structured Report IODs.

(3) Common Modules

Table 6.1-3 PATIENT MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Patient's Name	(0010,0010)	PN	From MWL or USER input.	VNAP	MWL/ USER
Patient ID	(0010,0020)	LO	From MWL, USER input or AUTO generated.	ALWAYS	MWL/ USER/ AUTO
Patient's Birth Date	(0010,0030)	DA	From MWL or USER input.	VNAP	MWL/ USER
Patient's Sex	(0010,0040)	CS	From MWL or USER input.	VNAP	MWL/ USER
Referenced Patient Sequence	(0008,1120)	SQ	From MWL.	ANAP	MWL
>Referenced SOP Class UID	(0008,1150)	UI	From MWL.	ANAP	MWL
>Referenced SOP Instance UID	(0008,1155)	UI	From MWL.	ANAP	MWL
Other Patient IDs	(0010,1000)	LO	From MWL or USER input.	ANAP	MWL/ USER
Ethnic Group	(0010,2160)	SH	From MWL.	ANAP	MWL
Patient Comments	(0010,4000)	LT	From MWL or USER input.	ANAP	MWL/ USER

Table 6.1-4 PATIENT MEDICAL MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Medical Alerts	(0010,2000)	LO	From MWL.	ANAP	MWL
Contrast Allergies	(0010,2110)	LO	From MWL.	ANAP	MWL
Additional Patient History	(0010,21B0)	LT	From MWL or USER input.	ANAP	MWL/ USER
Pregnancy Status	(0010,21C0)	US	From MWL or USER input.	ANAP	MWL/ USER

Attribute Name	Tag	VR	Value	Presence of Value	Source
Last Menstrual Date	(0010,21D0)	DA	From MWL or USER input.	ANAP	MWL/ USER
Special Needs	(0038,0050)	LO	From MWL.	ANAP	MWL
Patient State	(0038,0500)	LO	From MWL.	ANAP	MWL

Table 6.1-5 GENERAL STUDY MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Study Instance UID	(0020,000D)	UI	From MWL or AUTO generated.	ALWAYS	MWL/ AUTO
Study Date	(0008,0020)	DA	AUTO generated.	ALWAYS	AUTO
Study Time	(0008,0030)	TM	AUTO generated.	ALWAYS	AUTO
Referring Physician's Name	(0008,0090)	PN	From MWL Referring Physician's Name (0008,0090), from MWL Requesting Physician (0032,1032) or USER input.	VNAP	MWL/ USER
Study ID	(0020,0010)	SH	AUTO generated.	ALWAYS	AUTO
Accession Number	(0008,0050)	SH	From MWL or USER input.	VNAP	MWL/ USER
Study Description	(0008,1030)	LO	From MWL Scheduled Procedure Step Description (0040,0007) or USER input.	ANAP	MWL/ USER
Physician(s) of Record	(0008,1048)	PN	From MWL Names of Intended Recipients of Results (0040,1010) or from MWL Requesting Physician (0032,1032).	ANAP	MWL
Referenced Study Sequence	(0008,1110)	SQ	From MWL.	ANAP	MWL
>Referenced SOP Class UID	(0008,1150)	UI	From MWL.	ANAP	MWL
>Referenced SOP Instance UID	(0008,1155)	UI	From MWL.	ANAP	MWL

Attribute Name	Tag	VR	Value	Presence of Value	Source
Procedure Code Sequence	(0008,1032)	SQ	From MWL Requested Procedure Code Sequence (0032,1064).	ANAP	MWL
>Code Value	(0008,0100)	SH	From MWL Requested Procedure Code Sequence (0032,1064).	ANAP	MWL
>Coding Scheme Designator	(0008,0102)	SH	From MWL Requested Procedure Code Sequence (0032,1064).	ANAP	MWL
>Coding Scheme Version	(0008,1003)	SH	From MWL Requested Procedure Code Sequence (0032,1064).	ANAP	MWL
>Code Meaning	(0008.1004)	LO	From MWL Requested Procedure Code Sequence (0032,1064).	ANAP	MWL

Table 6.1-6 PATIENT STUDY MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Patient’s Age	(0010,1010)	AS	From MWL, USER input or AUTO generated.	ANAP	MWL/ USER/ AUTO
Patient's Size	(0010,1020)	DS	From MWL or USER input.	ANAP	MWL/ USER
Patient’s Weight	(0010,1030)	DS	From MWL or USER input.	ANAP	MWL/ USER
Admission ID	(0038,0010)	LO	From MWL.	ANAP	MWL

Table 6.1-7 GENERAL SERIES MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Modality	(0008,0060)	CS	"US" or "SR"	ALWAYS	AUTO
Series Instance UID	(0020,000E)	UI	AUTO generated.	ALWAYS	AUTO
Series Number	(0020,0011)	IS	AUTO generated.	ALWAYS	AUTO

Attribute Name	Tag	VR	Value	Presence of Value	Source
Series Date	(0008,0021)	DA	AUTO generated.	ALWAYS	AUTO
Series Time	(0008,0031)	TM	AUTO generated.	ALWAYS	AUTO
Protocol Name	(0018,1030)	LO	AUTO generated.	ALWAYS	AUTO
Operator's Name	(0008,1070)	PN	USER input.	ANAP	USER
Referenced Performed Procedure Step Sequence	(0008,1111)	SQ	Only If MPPS is sent, from MPPS.	ANAP	MPPS/ AUTO
>Referenced SOP Class UID	(0008,1150)	UI	Only If MPPS is sent, from MPPS.	ANAP	MPPS
>Referenced SOP Instance UID	(0008,1155)	UI	Only If MPPS is sent, from MPPS.	ANAP	MPPS
Body Part Examined	(0018,0015)	CS	USER input.	ANAP	USER
Patient Position	(0018,5100)	CS	Zero length.	EMPTY	-
Request Attributes Sequence	(0040,0275)	SQ	From MWL.	ANAP	MWL
>Requested Procedure ID	(0040,1001)	SH	From MWL.	ANAP	MWL
>Study Instance UID	(0020,000D)	UI	From MWL.	ANAP	MWL
>Scheduled Procedure Step ID	(0040,0009)	SH	From MWL.	ANAP	MWL
>Scheduled Procedure Step Description	(0040,0007)	LO	From MWL.	ANAP	MWL
>Scheduled Protocol Code Sequence	(0040,0008)	SQ	From MWL.	ANAP	MWL
>>Code Value	(0008,0100)	SH	From MWL.	ANAP	MWL
>>Coding Scheme Designator	(0008,0102)	SH	From MWL.	ANAP	MWL
>>Coding Scheme Version	(0008,0103)	SH	From MWL.	ANAP	MWL
>>Code Meaning	(0008,0104)	LO	From MWL.	ANAP	MWL
Performed Procedure Step ID	(0040,0253)	SH	Only If MPPS is sent, from MPPS.	ANAP	MPPS

Attribute Name	Tag	VR	Value	Presence of Value	Source
Performed Procedure Step Start Date	(0040,0244)	DA	Only If MPPS is sent, from MPPS.	ANAP	MPPS
Performed Procedure Step Start Time	(0040,0245)	TM	Only If MPPS is sent, from MPPS.	ANAP	MPPS
Performed Procedure Step Description	(0040,0254)	LO	Only If MPPS is sent, from MPPS.	ANAP	MPPS

Table 6.1-8 GENERAL EQUIPMENT MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Manufacturer	(0008,0070)	LO	AUTO generated.	ALWAYS	AUTO
Institution Name	(0008,0080)	LO	USER input.	ANAP	USER
Station Name	(0008,1010)	SH	USER input.	ALWAYS	USER
Institutional Department Name	(0008,1040)	LO	USERMWL Requesting Service (0032,1033).	ANAP	MWL
Manufacturer's Model Name	(0008,1090)	LO	AUTO generated.	ALWAYS	AUTO
Software Version	(0018,1020)	LO	AUTO generated.	ALWAYS	AUTO

Table 6.1-9 SOP COMMON MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
SOP Class UID	(0008,0016)	UI	AUTO generated.	ALWAYS	AUTO
SOP Instance UID	(0008,0018)	UI	AUTO generated.	ALWAYS	AUTO
Specific Character Set	(0008,0005)	CS	AUTO generated.	ALWAYS	AUTO
Instance Creation Date	(0008,0012)	DA	AUTO generated.	ALWAYS	AUTO
Instance Creation Time	(0008,0013)	TM	AUTO generated.	ALWAYS	AUTO
Instance Number	(0020,0013)	IS	AUTO generated.	ALWAYS	AUTO

(4) US Image or US Multi-Frame Image Modules

Table 6.1-10 GENERAL IMAGE MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Instance Number	(0020,0013)	IS	AUTO generated.	ALWAYS	AUTO
Patient Orientation	(0020,0020)	CS	Zero length.	EMPTY	-
Content Date	(0008,0023)	DA	AUTO generated.	ALWAYS	AUTO
Content Time	(0008,0033)	TM	AUTO generated.	ALWAYS	AUTO
Image Type	(0008,0008)	CS	AUTO generated Value 1 and 2. USER input Value 3.	ALWAYS	AUTO/ USER
Burned In Annotation	(0028,0301)	CS	"YES"	ALWAYS	AUTO
Lossy Image Compression	(0028,2110)	CS	AUTO generated.	ALWAYS	AUTO

Table 6.1-11 IMAGE PIXEL MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Samples per Pixel	(0028,0002)	US	AUTO generated.	ALWAYS	AUTO
Photometric Interpretation	(0028,0004)	CS	AUTO generated.	ALWAYS	AUTO
Rows	(0028,0010)	US	AUTO generated.	ALWAYS	AUTO
Columns	(0028,0011)	US	AUTO generated.	ALWAYS	AUTO
Bits Allocated	(0028,0100)	US	AUTO generated.	ALWAYS	AUTO
Bits Stored	(0028,0101)	US	AUTO generated.	ALWAYS	AUTO
High Bit	(0028,0102)	US	AUTO generated.	ALWAYS	AUTO
Pixel Representation	(0028,0103)	US	AUTO generated.	ALWAYS	AUTO
Pixel Data	(7FE0,0010)	OB	AUTO generated.	ALWAYS	AUTO
Planar Configuration	(0028,0006)	US	AUTO generated.	ANAP	AUTO

Table 6.1-12 CINE MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Frame Time	(0018,1063)	DS	Only if multi-frame, AUTO generated.	ANAP	AUTO

Table 6.1-13 MULTI-FRAME MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Number of Frames	(0028,0008)	IS	Only if multi-frame, AUTO generated.	ANAP	AUTO
Frame Increment Pointer	(0028,0009)	AT	Only if multi-frame, AUTO generated.	ANAP	AUTO

Table 6.1-14 US REGION CALIBRATION MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Sequence of Ultrasound Regions	(0018,6011)	SQ	AUTO generated.	VNAP	AUTO
>Region Location Min x0	(0018,6018)	UL	AUTO generated.	ALWAYS	AUTO
>Region Location Min y0	(0018,601A)	UL	AUTO generated.	ALWAYS	AUTO
>Region Location Max x_1	(0018,601C)	UL	AUTO generated.	ALWAYS	AUTO
>Region Location Max y_1	(0018,601E)	UL	AUTO generated.	ALWAYS	AUTO
>Physical Units X Direction	(0018,6024)	US	AUTO generated.	ALWAYS	AUTO
>Physical Units Y Direction	(0018,6026)	US	AUTO generated.	ALWAYS	AUTO
>Physical Delta X	(0018,602C)	FD	AUTO generated.	ALWAYS	AUTO
>Physical Delta Y	(0018,602E)	FD	AUTO generated.	ALWAYS	AUTO
>Reference Pixel x_0	(0018,6020)	SL	AUTO generated.	ANAP	AUTO
>Reference Pixel y_0	(0018,6022)	SL	AUTO generated.	ANAP	AUTO

Attribute Name	Tag	VR	Value	Presence of Value	Source
>Region Spatial Format	(0018,6012)	US	AUTO generated.	ALWAYS	AUTO
>Region Data Type	(0018,6014)	US	AUTO generated.	ALWAYS	AUTO
>Region Flags	(0018,6016)	US	AUTO generated.	ALWAYS	AUTO

Table 6.1-15 US IMAGE MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Samples per Pixel	(0028,0002)	US	AUTO generated.	ALWAYS	AUTO
Photometric Interpretation	(0028,0004)	CS	AUTO generated.	ALWAYS	AUTO
Bits Allocated	(0028,0100)	US	AUTO generated.	ALWAYS	AUTO
Bits Stored	(0028,0101)	US	AUTO generated.	ALWAYS	AUTO
High Bit	(0028,0102)	US	AUTO generated.	ALWAYS	AUTO
Planar Configuration	(0028,0006)	US	AUTO generated.	ANAP	AUTO
Pixel Representation	(0028,0103)	US	AUTO generated.	ALWAYS	AUTO
Frame Increment Pointer	(0028,0009)	AT	Only if multi-frame, AUTO generated.	ANAP	AUTO
Image Type	(0008,0008)	CS	AUTO generated Value 1 and 2. USER input Value 3.	ALWAYS	AUTO/ USER
Lossy Image Compression	(0028,2110)	CS	AUTO generated.	ALWAYS	AUTO

Table 6.1-16 VOI LUT MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Window Center	(0028,1050)	DS	"128"	ALWAYS	AUTO
Window Width	(0028,1051)	DS	"256"	ALWAYS	AUTO

(5) Comprehensive Structured Report Modules

Table 6.1-17 SR DOCUMENT GENERAL MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Instance Number	(0020,0013)	IS	AUTO generated.	ALWAYS	AUTO
Completion Flag	(0040,A491)	CS	"COMPLETE"	ALWAYS	AUTO
Verification Flag	(0040,A493)	CS	"UNVERIFIED"	ALWAYS	AUTO
Content Date	(0008,0023)	DA	AUTO generated.	ALWAYS	AUTO
Content Time	(0008,0033)	TM	AUTO generated.	ALWAYS	AUTO
Performed Procedure Code Sequence	(0040,A372)	SQ	Zero length.	EMPTY	-

Table 6.1-18 SR DOCUMENT CONTENT MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Value Type	(0040,A040)	CS	AUTO generated.	ALWAYS	AUTO
Concept Name Code Sequence	(0040,A043)	SQ	AUTO generated.	ALWAYS	AUTO
>Code Value	(0008,0100)	SH	AUTO generated.	ALWAYS	AUTO
>Coding Scheme Designator	(0008,0102)	SH	AUTO generated.	ALWAYS	AUTO
>Code Meaning	(0008.1004)	LO	AUTO generated.	ALWAYS	AUTO
Continuity of Content	(0040,A050)	CS	AUTO generated.	ALWAYS	AUTO
Content Template Sequence	(0040,A504)	SQ	AUTO generated.	ALWAYS	AUTO
>Mapping Resource	(0008,0105)	CS	"DCMR"	ALWAYS	AUTO
>Template Identifier	(0040,DB00)	CS	AUTO generated.	ALWAYS	AUTO

6.1.2 Attribute mapping

The relationships between attributes received via Modality Worklist, stored in acquired images and communicated via MPPS are summarized in the table below.

Table 6.1-19 ATTRIBUTE MAPPING BETWEEN MODALITY WORKLIST, IMAGE AND MPPS

Modality Worklist	Image IOD	MPPS IOD
Patient's Name	Patient's Name	Patient's 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
Referenced Patient Sequence	Referenced Patient Sequence	Referenced Patient Sequence
Other Patient IDs	Other Patient IDs	-
Ethnic Group	Ethnic Group	-
Patient Comments	Patient Comments	-
Medical Alerts	Medical Alerts	-
Contrast Allergies	Contrast Allergies	-
Additional Patient History	Additional Patient History	-
Pregnancy Status	Pregnancy Status	-
Last Menstrual Date	Last Menstrual Date	-
Special Needs	Special Needs	-
Patient State	Patient State	-
Study Instance UID	Study Instance UID	Scheduled Step Attribute Sequence >Study Instance UID
-	Study Date	Performed Procedure Step Start Date
	Performed Procedure Step Start Date	
-	Study Time	Performed Procedure Step Start Time
	Performed Procedure Step Start Time	

Modality Worklist	Image IOD	MPPS IOD
Referring Physician's Name	Referring Physician's Name	-
Requesting Physician		
	Physician(s) of Record	
Names of Intended Recipients of Results		
-	Study ID	Study ID
Accession Number	Accession Number	Scheduled Step Attribute Sequence >Accession Number
Scheduled Procedure Step Sequence >Scheduled Procedure Step Description	Request Attributes Sequence >Scheduled Procedure Step Description	Scheduled Step Attribute Sequence >Scheduled Procedure Step Description
	Study Description	Performed Procedure Step Description
	Performed Procedure Step Description	
Referenced Study Sequence	Referenced Study Sequence	Scheduled Step Attribute Sequence >Referenced Study Sequence
Requested Procedure Code Sequence	Procedure Code Sequence	Procedure Code Sequence
PatientAge	PatientAge	-
Patient's Size	Patient's Size	-
Patient’s Weight	Patient’s Weight	-
Admission ID	Admission ID	Admission ID
-	Modality	Modality
-	Series Instance UID	Performed Series Sequence >Series Instance UID
-	Protocol Name	Performed Series Sequence >Protocol Name

Modality Worklist	Image IOD	MPPS IOD
-	Operators' Name	Performed Series Sequence >Operators' Name
-	Referenced Performed Procedure Step Sequence > Referenced SOP Class UID	SOP Class UID
-	Referenced Performed Procedure Step Sequence >Referenced SOP Instance UID	SOP Instance UID
Requested Procedure ID	Request Attributes Sequence >Requested Procedure ID	Scheduled Step Attribute Sequence >Requested Procedure ID
Requested Procedure Description	-	Scheduled Step Attribute Sequence >Requested Procedure Description
Scheduled Procedure Step Sequence >Scheduled Procedure Step ID	Request Attributes Sequence >Scheduled Procedure Step ID	Scheduled Step Attribute Sequence >Scheduled Procedure Step ID
Scheduled Procedure Step Sequence >Scheduled Protocol Code Sequence	Request Attributes Sequence >Scheduled Protocol Code Sequence	Scheduled Step Attribute Sequence >Scheduled Protocol Code Sequence
-	Performed Procedure Step ID	Performed Procedure Step ID
-	Station Name	Performed Station Name
Requesting Service	Institutional Department Name	-
-	SOP Class UID	Performed Series Sequence >Referenced Image Sequence >>Referenced SOP Class UID
-	SOP Instance UID	Performed Series Sequence >Referenced Image Sequence >>Referenced SOP Instance UID

6.1.3 Coerced/Modified Fields

The Workflow AE will not truncate attribute values received in the response to a Worklist Query if the value length is longer than the maximum length permitted by the attribute's VR.

6.2 DATA DICTIONARY OF PRIVATE ATTRIBUTES

No Private Attributes are supported.

6.3 CODED TERMINOLOGY AND TEMPLATES

The Storage AE is capable of supporting specific Templates for SR document content module. The Content Template Sequence (0040,A504) and Template Identifier (0040,DB00) will be mapped to supported various Templates.

6.3.1 OB-GYN REPORT TEMPLATES (OB_SR_II)

TID 5000 is the template for the root the content tree for the OB-GYN ultrasound procedure report.

This root template includes following measurements.

(1) Patient Characteristics

Table 6.3.1-1 Patient Characteristics

Label	Measurement			Modifier
Patient Characteristics	DCM	121118	Patient Characteristics	-
GRAV	LN	11996-6	Gravida	-
PARA	LN	11977-6	Para	-
AB	LN	11612-9	Aborta	-
Weight	LN	29463-7	Patient Weight	-
Height	LN	8302-2	Patient Height	-

(2) Fetal_Vasc Measurement

Table 6.3.1-2 Fetal_Vasc

Label	Measurement			Modifier
Fetal_Vasc	SRT	T-F6800	Embryonic Vascular Structure	-
Umbil.A. Measurement				
Umbil.A.	SRT	T-F1810	Umbilical Artery	-
Vs	LN	11726-7	Peak Systolic Velocity	-
Vd	LN	11653-3	End Diastolic Velocity	-
Vmin	LN	11665-7	Minimum Diastolic Velocity	-
Vm	LN	11692-1	Time averaged peak velocity	-
Vmm	LN	20352-1	Time averaged mean velocity	-
S/D	LN	12144-2	Systolic to Diastolic Velocity Ratio	-

Label	Measurement			Modifier
UmA_RI	LN	12023-8	Resistivity Index	-
UmA_PI	LN	12008-9	Pulsatility Index	-
VTI	LN	20354-7	Velocity Time Integral	-
VTIm	99HITACHI	H12120-001	Time averaged Velocity Time Integral	-
Acc	LN	20167-3	Acceleration Index	-
AcT	LN	20168-1	Acceleration Time	-
DcT	LN	20217-6	Deceleration Time	-
ET	LN	20222-6	Ejection Time	-
AcT/ET	99HITACHI	H12121-001	Ratio of Acceleration Time to Ejection Time	-
HR	LN	11948-7	Fetal Heart Rate	-
CSA	SRT	G-038E	Cardiovascular Orifice Area	-
SV	SRT	F-32120	Stroke Volume	-
FV	LN	33878-0	Volume flow	-
SVm	99HITACHI	H12122-001	Mean Stroke Volume	-
FVm	99HITACHI	H12122-002	Mean Volume flow	-
MCA Measurement				
MCA	SRT	T-45600	Middle Cerebral Artery	-
Vs	LN	11726-7	Peak Systolic Velocity	-
Vd	LN	11653-3	End Diastolic Velocity	-
Vmin	LN	11665-7	Minimum Diastolic Velocity	-
Vm	LN	11692-1	Time averaged peak velocity	-
Vmm	LN	20352-1	Time averaged mean velocity	-
S/D	LN	12144-2	Systolic to Diastolic Velocity Ratio	-
MCA_RI	LN	12023-8	Resistivity Index	-
MCA_PI	LN	12008-9	Pulsatility Index	-
VTI	LN	20354-7	Velocity Time Integral	-
VTIm	99HITACHI	H12120-001	Time averaged Velocity Time Integral	-
Acc	LN	20167-3	Acceleration Index	-
AcT	LN	20168-1	Acceleration Time	-
DcT	LN	20217-6	Deceleration Time	-
ET	LN	20222-6	Ejection Time	-
AcT/ET	99HITACHI	H12121-001	Ratio of Acceleration Time to Ejection Time	-
HR	LN	11948-7	Fetal Heart Rate	-
CSA	SRT	G-038E	Cardiovascular Orifice Area	-
SV	SRT	F-32120	Stroke Volume	-
FV	LN	33878-0	Volume flow	-

Label	Measurement			Modifier
SVm	99HITACHI	H12122-001	Mean Stroke Volume	-
FVm	99HITACHI	H12122-002	Mean Volume flow	-
OB-DV Measurement				
OB-DV	LN	T-F6806	Ductus venosus	-
S	99HITACHI	H12120-002	S-Wave Velocity	-
D	99HITACHI	H12120-003	D-Wave Velocity	-
A	99HITACHI	H12120-004	A-Wave Velocity	-
Vs	LN	11726-7	Peak Systolic Velocity	-
Vd	LN	11653-3	End Diastolic Velocity	-
Vmin	LN	11665-7	Minimum Diastolic Velocity	-
Vm	LN	11692-1	Time averaged peak velocity	-
Vmm	LN	20352-1	Time averaged mean velocity	-
Vs/Vd	LN	12144-2	Systolic to Diastolic Velocity Ratio	-
RI	LN	12023-8	Resistivity Index	-
PI	LN	12008-9	Pulsatility Index	-
VTI	LN	20354-7	Velocity Time Integral	-
PGp	LN	20247-3	Peak Gradient	-
PGm	LN	20256-4	Mean Gradient	-
Acc	LN	20167-3	Acceleration Index	-
AcT	LN	20168-1	Acceleration Time	-
DcT	LN	20217-6	Deceleration Time	-
ET	LN	20222-6	Ejection Time	-
AcT/ET	99HITACHI	H12121-001	Ratio of Acceleration Time to Ejection Time	-
PLI	99HITACHI	H12121-002	Ratio of A-Wave to S-Wave	-
S/A	99HITACHI	H12121-003	Ratio of S-Wave to A-Wave	-
HR	LN	11948-7	Fetal Heart Rate	-
OB-IVC Measurement				
OB-IVC	SRT	T-48710	Inferior Vena Cava	-
S	99HITACHI	H12120-002	S-Wave Velocity	-
D	99HITACHI	H12120-003	D-Wave Velocity	-
A	99HITACHI	H12120-004	A-Wave Velocity	-
Vs	LN	11726-7	Peak Systolic Velocity	-
Vd	LN	11653-3	End Diastolic Velocity	-
Vmin	LN	11665-7	Minimum Diastolic Velocity	-
Vm	LN	11692-1	Time averaged peak velocity	-
Vmm	LN	20352-1	Time averaged mean velocity	-
Vs/Vd	LN	12144-2	Systolic to Diastolic Velocity Ratio	-

Label	Measurement			Modifier
RI	LN	12023-8	Resistivity Index	-
PI	LN	12008-9	Pulsatility Index	-
VTI	LN	20354-7	Velocity Time Integral	-
PGp	LN	20247-3	Peak Gradient	-
PGm	LN	20256-4	Mean Gradient	-
Acc	LN	20167-3	Acceleration Index	-
AcT	LN	20168-1	Acceleration Time	-
DcT	LN	20217-6	Deceleration Time	-
ET	LN	20222-6	Ejection Time	-
AcT/ET	99HITACHI	H12121-001	Ratio of Acceleration Time to Ejection Time	-
PLI	99HITACHI	H12121-002	Ratio of A-Wave to S-Wave	-
S/A	99HITACHI	H12121-003	Ratio of S-Wave to A-Wave	-
HR	LN	11948-7	Fetal Heart Rate	-
OB-DAorta Measurement				
OB-DAorta	SRT	T-D0765	Descending Aorta	-
Vs	LN	11726-7	Peak Systolic Velocity	-
Vd	LN	11653-3	End Diastolic Velocity	-
Vmin	LN	11665-7	Minimum Diastolic Velocity	-
Vm	LN	11692-1	Time averaged peak velocity	-
Vmm	LN	20352-1	Time averaged mean velocity	-
S/D	LN	12144-2	Systolic to Diastolic Velocity Ratio	-
RI	LN	12023-8	Resistivity Index	-
PI	LN	12008-9	Pulsatility Index	-
VTI	LN	20354-7	Velocity Time Integral	-
VTIm	99HITACHI	H12120-001	Time averaged Velocity Time Integral	-
PGp	LN	20247-3	Peak Gradient	-
PGm	LN	20256-4	Mean Gradient	-
Acc	LN	20167-3	Acceleration Index	-
AcT	LN	20168-1	Acceleration Time	-
DcT	LN	20217-6	Deceleration Time	-
ET	LN	20222-6	Ejection Time	-
AcT/ET	99HITACHI	H12121-001	Ratio of Acceleration Time to Ejection Time	-
HR	LN	11948-7	Fetal Heart Rate	-
CSA	SRT	G-038E	Cardiovascular Orifice Area	-
SV	SRT	F-32120	Stroke Volume	-
FV	LN	33878-0	Volume flow	-

Label	Measurement			Modifier
SVm	99HITACHI	H12122-001	Mean Stroke Volume	-
FVm	99HITACHI	H12122-002	Mean Volume flow	-
OB-Aorta Measurement				
OB-Aorta	SRT	T-42000	Aorta	-
Vs	LN	11726-7	Peak Systolic Velocity	-
Vd	LN	11653-3	End Diastolic Velocity	-
Vmin	LN	11665-7	Minimum Diastolic Velocity	-
Vm	LN	11692-1	Time averaged peak velocity	-
Vmm	LN	20352-1	Time averaged mean velocity	-
S/D	LN	12144-2	Systolic to Diastolic Velocity Ratio	-
RI	LN	12023-8	Resistivity Index	-
PI	LN	12008-9	Pulsatility Index	-
VTI	LN	20354-7	Velocity Time Integral	-
VTIm	99HITACHI	H12120-001	Time averaged Velocity Time Integral	-
PGp	LN	20247-3	Peak Gradient	-
PGm	LN	20256-4	Mean Gradient	-
Acc	LN	20167-3	Acceleration Index	-
AcT	LN	20168-1	Acceleration Time	-
DcT	LN	20217-6	Deceleration Time	-
ET	LN	20222-6	Ejection Time	-
AcT/ET	99HITACHI	H12121-001	Ratio of Acceleration Time to Ejection Time	-
HR	LN	11948-7	Fetal Heart Rate	-
CSA	SRT	G-038E	Cardiovascular Orifice Area	-
SV	SRT	F-32120	Stroke Volume	-
FV	LN	33878-0	Volume flow	-
SVm	99HITACHI	H12122-001	Mean Stroke Volume	-
FVm	99HITACHI	H12122-002	Mean Volume flow	-
OB-PA Measurement				
OB-PA	SRT	T-44000	Pulmonary Artery	-
Vs	LN	11726-7	Peak Systolic Velocity	-
Vd	LN	11653-3	End Diastolic Velocity	-
Vmin	LN	11665-7	Minimum Diastolic Velocity	-
Vm	LN	11692-1	Time averaged peak velocity	-
Vmm	LN	20352-1	Time averaged mean velocity	-
AcT	LN	20168-1	Acceleration Time	-
DcT	LN	20217-6	Deceleration Time	-
ET	LN	20222-6	Ejection Time	-

Label	Measurement			Modifier
AcT/ET	99HITACHI	H12121-001	Ratio of Acceleration Time to Ejection Time	-
PGp	LN	20247-3	Peak Gradient	-
PGm	LN	20256-4	Mean Gradient	-
Acc	LN	20167-3	Acceleration Index	-
VTI	LN	20354-7	Velocity Time Integral	-
VTIm	99HITACHI	H12120-001	Time averaged Velocity Time Integral	-
RI	LN	12023-8	Resistivity Index	-
PI	LN	12008-9	Pulsatility Index	-
S/D	LN	12144-2	Systolic to Diastolic Velocity Ratio	-
HR	LN	11948-7	Fetal Heart Rate	-
CSA	SRT	G-038E	Cardiovascular Orifice Area	-
SV	SRT	F-32120	Stroke Volume	-
FV	LN	33878-0	Volume flow	-
SVm	99HITACHI	H12122-001	Mean Stroke Volume	-
FVm	99HITACHI	H12122-002	Mean Volume flow	-
CIA Measurement				
CIA	SRT	T-46710	Common Iliac Artery	-
Vs	LN	11726-7	Peak Systolic Velocity	-
Vd	LN	11653-3	End Diastolic Velocity	-
Vmin	LN	11665-7	Minimum Diastolic Velocity	-
Vm	LN	11692-1	Time averaged peak velocity	-
Vmm	LN	20352-1	Time averaged mean velocity	-
S/D	LN	12144-2	Systolic to Diastolic Velocity Ratio	-
RI	LN	12023-8	Resistivity Index	-
PI	LN	12008-9	Pulsatility Index	-
VTI	LN	20354-7	Velocity Time Integral	-
VTIm	99HITACHI	H12120-001	Time averaged Velocity Time Integral	-
Acc	LN	20167-3	Acceleration Index	-
AcT	LN	20168-1	Acceleration Time	-
DcT	LN	20217-6	Deceleration Time	-
ET	LN	20222-6	Ejection Time	-
AcT/ET	99HITACHI	H12121-001	Ratio of Acceleration Time to Ejection Time	-
HR	LN	11948-7	Fetal Heart Rate	-
CSA	SRT	G-038E	Cardiovascular Orifice Area	-
SV	SRT	F-32120	Stroke Volume	-
FV	LN	33878-0	Volume flow	-

Label	Measurement			Modifier
SVm	99HITACHI	H12122-001	Mean Stroke Volume	-
FVm	99HITACHI	H12122-002	Mean Volume flow	-
L-RA Measurement				
L-RA	SRT	T-46600	Renal Artery	Laterality : Left
Vs	LN	11726-7	Peak Systolic Velocity	-
Vd	LN	11653-3	End Diastolic Velocity	-
Vmin	LN	11665-7	Minimum Diastolic Velocity	-
Vm	LN	11692-1	Time averaged peak velocity	-
Vmm	LN	20352-1	Time averaged mean velocity	-
S/D	LN	12144-2	Systolic to Diastolic Velocity Ratio	-
RI	LN	12023-8	Resistivity Index	-
PI	LN	12008-9	Pulsatility Index	-
VTI	LN	20354-7	Velocity Time Integral	-
VTIm	99HITACHI	H12120-001	Time averaged Velocity Time Integral	-
Acc	LN	20167-3	Acceleration Index	-
AcT	LN	20168-1	Acceleration Time	-
DcT	LN	20217-6	Deceleration Time	-
ET	LN	20222-6	Ejection Time	-
AcT/ET	99HITACHI	H12121-001	Ratio of Acceleration Time to Ejection Time	-
HR	LN	11948-7	Fetal Heart Rate	-
CSA	SRT	G-038E	Cardiovascular Orifice Area	-
SV	SRT	F-32120	Stroke Volume	-
FV	LN	33878-0	Volume flow	-
SVm	99HITACHI	H12122-001	Mean Stroke Volume	-
FVm	99HITACHI	H12122-002	Mean Volume flow	-
R-RA Measurement				
R-RA	SRT	T-46600	Renal Artery	Laterality : Right
Vs	LN	11726-7	Peak Systolic Velocity	-
Vd	LN	11653-3	End Diastolic Velocity	-
Vmin	LN	11665-7	Minimum Diastolic Velocity	-
Vm	LN	11692-1	Time averaged peak velocity	-
Vmm	LN	20352-1	Time averaged mean velocity	-
S/D	LN	12144-2	Systolic to Diastolic Velocity Ratio	-
RI	LN	12023-8	Resistivity Index	-
PI	LN	12008-9	Pulsatility Index	-

Label	Measurement			Modifier
VTI	LN	20354-7	Velocity Time Integral	-
VTIm	99HITACHI	H12120-001	Time averaged Velocity Time Integral	-
Acc	LN	20167-3	Acceleration Index	-
AcT	LN	20168-1	Acceleration Time	-
DcT	LN	20217-6	Deceleration Time	-
ET	LN	20222-6	Ejection Time	-
AcT/ET	99HITACHI	H12121-001	Ratio of Acceleration Time to Ejection Time	-
HR	LN	11948-7	Fetal Heart Rate	-
CSA	SRT	G-038E	Cardiovascular Orifice Area	-
SV	SRT	F-32120	Stroke Volume	-
FV	LN	33878-0	Volume flow	-
SVm	99HITACHI	H12122-001	Mean Stroke Volume	-
FVm	99HITACHI	H12122-002	Mean Volume flow	-
Umbil.V. Measurement				
Umbil.V.	SRT	T-F1820	Umbilical Vein	-
S	99HITACHI	H12120-002	S-Wave Velocity	-
D	99HITACHI	H12120-003	D-Wave Velocity	-
A	99HITACHI	H12120-004	A-Wave Velocity	-
A/S	99HITACHI	H12121-002	Ratio of A-Wave to S-Wave	-
Vs	LN	11726-7	Peak Systolic Velocity	-
Vd	LN	11653-3	End Diastolic Velocity	-
Vmin	LN	11665-7	Minimum Diastolic Velocity	-
Vm	LN	11692-1	Time averaged peak velocity	-
Vmm	LN	20352-1	Time averaged mean velocity	-
Vs/Vd	LN	12144-2	Systolic to Diastolic Velocity Ratio	-
VTI	LN	20354-7	Velocity Time Integral	-
Acc	LN	20167-3	Acceleration Index	-
AcT	LN	20168-1	Acceleration Time	-
DcT	LN	20217-6	Deceleration Time	-
ET	LN	20222-6	Ejection Time	-
AcT/ET	99HITACHI	H12121-001	Ratio of Acceleration Time to Ejection Time	-
HR	LN	11948-7	Fetal Heart Rate	-

(3) Pelvic_Vasc Measurement

Table 6.3.1-3 Pelvic_Vasc

Label	Measurement			Modifier
Pelvic_Vasc	SRT	T-D6007	Pelvic Vascular Structure	-
L-Ovary.A. Measurement				
L-Ovary.A.	SRT	T-46980	Ovarian Artery	Laterality : Left
Vs	LN	11726-7	Peak Systolic Velocity	-
Vd	LN	11653-3	End Diastolic Velocity	-
Vmin	LN	11665-7	Minimum Diastolic Velocity	-
Vm	LN	11692-1	Time averaged peak velocity	-
Vmm	LN	20352-1	Time averaged mean velocity	-
S/D	LN	12144-2	Systolic to Diastolic Velocity Ratio	-
RI	LN	12023-8	Resistivity Index	-
PI	LN	12008-9	Pulsatility Index	-
VTI	LN	20354-7	Velocity Time Integral	-
VTIm	99HITACHI	H12120-001	Time averaged Velocity Time Integral	-
Acc	LN	20167-3	Acceleration Index	-
AcT	LN	20168-1	Acceleration Time	-
DcT	LN	20217-6	Deceleration Time	-
ET	LN	20222-6	Ejection Time	-
AcT/ET	99HITACHI	H12121-001	Ratio of Acceleration Time to Ejection Time	-
HR	LN	8867-4	Heart rate	-
CSA	SRT	G-038E	Cardiovascular Orifice Area	-
SV	SRT	F-32120	Stroke Volume	-
FV	LN	33878-0	Volume flow	-
SVm	99HITACHI	H12122-001	Mean Stroke Volume	-
FVm	99HITACHI	H12122-002	Mean Volume flow	-
R-Ovary.A. Measurement				
R-Ovary.A.	SRT	T-46980	Ovarian Artery	Laterality : Right
Vs	LN	11726-7	Peak Systolic Velocity	-
Vd	LN	11653-3	End Diastolic Velocity	-
Vmin	LN	11665-7	Minimum Diastolic Velocity	-
Vm	LN	11692-1	Time averaged peak velocity	-
Vmm	LN	20352-1	Time averaged mean velocity	-
S/D	LN	12144-2	Systolic to Diastolic Velocity Ratio	-

Label	Measurement			Modifier
RI	LN	12023-8	Resistivity Index	-
PI	LN	12008-9	Pulsatility Index	-
VTI	LN	20354-7	Velocity Time Integral	-
VTIm	99HITACHI	H12120-001	Time averaged Velocity Time Integral	-
Acc	LN	20167-3	Acceleration Index	-
AcT	LN	20168-1	Acceleration Time	-
DcT	LN	20217-6	Deceleration Time	-
ET	LN	20222-6	Ejection Time	-
AcT/ET	99HITACHI	H12121-001	Ratio of Acceleration Time to Ejection Time	-
HR	LN	8867-4	Heart rate	-
CSA	SRT	G-038E	Cardiovascular Orifice Area	-
SV	SRT	F-32120	Stroke Volume	-
FV	LN	33878-0	Volume flow	-
SVm	99HITACHI	H12122-001	Mean Stroke Volume	-
FVm	99HITACHI	H12122-002	Mean Volume flow	-
L-Uterine A. Measurement				
L-Uterine A.	SRT	T-46820	Uterine Artery	Laterality : Left
Vs	LN	11726-7	Peak Systolic Velocity	-
Vd	LN	11653-3	End Diastolic Velocity	-
Vmin	LN	11665-7	Minimum Diastolic Velocity	-
Vm	LN	11692-1	Time averaged peak velocity	-
Vmm	LN	20352-1	Time averaged mean velocity	-
S/D	LN	12144-2	Systolic to Diastolic Velocity Ratio	-
RI	LN	12023-8	Resistivity Index	-
PI	LN	12008-9	Pulsatility Index	-
VTI	LN	20354-7	Velocity Time Integral	-
VTIm	99HITACHI	H12120-001	Time averaged Velocity Time Integral	-
Acc	LN	20167-3	Acceleration Index	-
AcT	LN	20168-1	Acceleration Time	-
DcT	LN	20217-6	Deceleration Time	-
ET	LN	20222-6	Ejection Time	-
AcT/ET	99HITACHI	H12121-001	Ratio of Acceleration Time to Ejection Time	-
HR	LN	8867-4	Heart rate	-
CSA	SRT	G-038E	Cardiovascular Orifice Area	-
SV	SRT	F-32120	Stroke Volume	-

Label	Measurement			Modifier
FV	LN	33878-0	Volume flow	-
SVm	99HITACHI	H12122-001	Mean Stroke Volume	-
FVm	99HITACHI	H12122-002	Mean Volume flow	-
R-Uterine A. Measurement				
R-Uterine A.	SRT	T-46820	Uterine Artery	Laterality : Right
Vs	LN	11726-7	Peak Systolic Velocity	-
Vd	LN	11653-3	End Diastolic Velocity	-
Vmin	LN	11665-7	Minimum Diastolic Velocity	-
Vm	LN	11692-1	Time averaged peak velocity	-
Vmm	LN	20352-1	Time averaged mean velocity	-
S/D	LN	12144-2	Systolic to Diastolic Velocity Ratio	-
RI	LN	12023-8	Resistivity Index	-
PI	LN	12008-9	Pulsatility Index	-
VTI	LN	20354-7	Velocity Time Integral	-
VTIm	99HITACHI	H12120-001	Time averaged Velocity Time Integral	-
Acc	LN	20167-3	Acceleration Index	-
AcT	LN	20168-1	Acceleration Time	-
DcT	LN	20217-6	Deceleration Time	-
ET	LN	20222-6	Ejection Time	-
AcT/ET	99HITACHI	H12121-001	Ratio of Acceleration Time to Ejection Time	-
HR	LN	8867-4	Heart rate	-
CSA	SRT	G-038E	Cardiovascular Orifice Area	-
SV	SRT	F-32120	Stroke Volume	-
FV	LN	33878-0	Volume flow	-
SVm	99HITACHI	H12122-001	Mean Stroke Volume	-
FVm	99HITACHI	H12122-002	Mean Volume flow	-

(4) Summary Measurement

Table 6.3.1-4 Summary

Label	Measurement			Modifier
Summary	DCM	121111	Summary	-
NoF	LN	11878-6	Number of Fetuses	-
LMP	LN	11955-2	LMP	-
Fetus Summary	DCM	125008	Fetus Summary	-
EFBW	LN	11727-5	Estimated Weight	*1 *2 *3

Label	Measurement			Modifier
EFBW1	LN	11727-5	Estimated Weight	*1 *2 *3
EFBW2	LN	11727-5	Estimated Weight	*1 *2 *3
EFBWT	LN	11727-5	Estimated Weight	*1 *2 *3

(5) Bio_Ratio Measurement

Table 6.3.1-5 Bio_Ratio

Label	Measurement			Modifier
Bio_Ratio	DCM	125001	Fetal Biometry Ratios	-
HC/AC	LN	11947-9	HC/AC	-
FL/AC	LN	11871-1	FL/AC	-
FL/BPD	LN	11872-9	FL/BPD	-
CI	LN	11823-2	Cephalic Index	-

(6) Biometry Measurement

Table 6.3.1-6 Biometry

Label	Measurement			Modifier
Biometry	DCM	125002	Fetal Biometry	-
BPD	LN	11820-8	Biparietal Diameter	*1 *2
AC	LN	11979-2	Abdominal Circumference	*1 *2
FL	LN	11963-6	Femur Length	*1 *2
HC	LN	11984-2	Head Circumference	*1 *2
OFD	LN	11851-3	Occipital-Frontal Diameter	*1
FTA	LN	33068-8	Thoracic Area	*1 *2
TCD	LN	11863-8	Trans Cerebellar Diameter	-
APTD	LN	11819-0	Anterior-Posterior Trunk Diameter	-
TTD	LN	11864-6	Transverse Thoracic Diameter	*1
APTDxTTD	LN	33191-8	APAD * TAD	*1 *2
Foot	LN	11965-1	Foot length	-

(7) Long_Bones Measurement

Table 6.3.1-7 Long_Bones

Label	Measurement			Modifier
Long_Bones	DCM	125003	Fetal Long Bones	-
HL	LN	11966-9	Humerus length	*1 *2
RAD	LN	11967-7	Radius length	-
ULNA	LN	11969-3	Ulna Length	-
TIB	LN	11968-5	Tibia length	-

Label	Measurement			Modifier
FIB	LN	11964-4	Fibula length	-
FL	LN	11963-6	Femur Length	*1 *2
NB	SRT	T-11149	Nasal bone	-

(8) Cranium Measurement

Table 6.3.1-8 Cranium

Label	Measurement			Modifier
Cranium	DCM	125004	Fetal Cranium	-
LVW	LN	12171-5	Lateral Ventrical width	*2
IOD	LN	33070-4	Inner Orbital Diameter	-
OD	LN	11629-3	Outer Orbital Diameter	-
TCD	LN	11863-8	Trans Cerebellar Diameter	-
HW	LN	12170-7	Width of Hemisphere	*2
NT	LN	33069-6	Nuchal Translucency	-

(9) E_Gestation Measurement

Table 6.3.1-9 E_Gestation

Label	Measurement			Modifier
E_Gestation	DCM	125009	Early Gestation	-
CRL	LN	11957-8	Crown Rump Length	*1 *2
GS	LN	11850-5	Gestational Sac Diameter	*2

(10) AFI Measurement

Table 6.3.1-10 AFI

Label	Measurement			Modifier
AFI	SRT	T-F1300	Amniotic Sac	-
Q1	LN	11624-4	First Quadrant Diameter	-
Q2	LN	11626-9	Second Quadrant Diameter	-
Q3	LN	11625-1	Third Quadrant Diameter	-
Q4	LN	11623-6	Fourth Quadrant Diameter	-
AFI	LN	11627-7	Amniotic Fluid Index	-

(11) Uterus Measurement

Table 6.3.1-11 Uterus

Label	Measurement			Modifier
Uterus	DCM	125011	Pelvis and Uterus	-
UterusL	LN	11842-2	Uterus Length	-
UterusW	LN	11865-3	Uterus Width	-
UterusH	LN	11859-6	Uterus Height	-
CervixL	LN	11961-0	Cervix Length	-
Endomet.T	LN	12145-9	Endometrium Thickness	-

(12) Ovary Measurement

Table 6.3.1-12 Ovary

Label	Measurement			Modifier
Ovary	SRT	T-87000	Ovary	-
L-Ovary Measurement				
L	LN	11840-6	Left Ovary Length	-
AP	LN	11857-0	Left Ovary Height	-
W	LN	11829-9	Left Ovary Width	-
V	LN	12164-0	Left Ovary Volume	-
R-Ovary Measurement				
L	LN	11841-4	Right Ovary Length	-
AP	LN	11858-8	Right Ovary Height	-
W	LN	11830-7	Right Ovary Width	-
V	LN	12165-7	Right Ovary Volume	-

(13) L-Follicul Measurement

Table 6.3.1-13 L-Follicul

Label	Measurement			Modifier
Follicul	SRT	T-87600	Ovarian Follicle	Laterality: Left
L-Follicul.1 Measurement				
L	LN	11793-7	Follicle Diameter	-
AP	LN	11793-7	Follicle Diameter	-
W	LN	11793-7	Follicle Diameter	-
V	SRT	G-D705	Volume	-
L-Follicul.2 Measurement				
L	LN	11793-7	Follicle Diameter	-
AP	LN	11793-7	Follicle Diameter	-

Label	Measurement			Modifier
W	LN	11793-7	Follicle Diameter	-
V	SRT	G-D705	Volume	-
L-Follicul.3 Measurement				
L	LN	11793-7	Follicle Diameter	-
AP	LN	11793-7	Follicle Diameter	-
W	LN	11793-7	Follicle Diameter	-
V	SRT	G-D705	Volume	-

(14) R-Follicul Measurement

Table 6.3.1-14 R-Follicul

Label	Measurement			Modifier
Follicul	SRT	T-87600	Ovarian Follicle	Laterality: Right
R-Follicul.1 Measurement				
L	LN	11793-7	Follicle Diameter	-
AP	LN	11793-7	Follicle Diameter	-
W	LN	11793-7	Follicle Diameter	-
V	SRT	G-D705	Volume	-
R-Follicul.2 Measurement				
L	LN	11793-7	Follicle Diameter	-
AP	LN	11793-7	Follicle Diameter	-
W	LN	11793-7	Follicle Diameter	-
V	SRT	G-D705	Volume	-
R-Follicul.3 Measurement				
L	LN	11793-7	Follicle Diameter	-
AP	LN	11793-7	Follicle Diameter	-
W	LN	11793-7	Follicle Diameter	-
V	SRT	G-D705	Volume	-

(15) Gestational Age tables

Table 6.3.1-15 Gestational Age tables

Label	Obstetric Table name	Gestational Age			Information (DCM,121424,Table of Values)			Notes
EFBW	TODAI96	LN	18185-9	Gestational Age	-	-	-	
	OSAKA U.	LN	18185-9	Gestational Age	-	-	-	

Label	Obstetric Table name	Gestational Age			Information (DCM,121424,Table of Values)			Notes
BPD	HAD84	LN	18185-9	Gestational Age	LN	11902-4	BPD, Hadlock 1984	
	SABB78	LN	18185-9	Gestational Age	LN	11907-3	BPD, Sabbagha 1978	
	HANS85	LN	18185-9	Gestational Age	LN	11903-2	BPD, Hansmann 1985	
	TODAI96	LN	18185-9	Gestational Age	LN	33084-5	BPD, Shinozuka 1996	
	OSAKA U.	LN	18185-9	Gestational Age	LN	33082-9	BPD, Osaka 1989	
	H1	LN	18185-9	Gestational Age	-	-	-	
	JSUM2001	LN	18185-9	Gestational Age	-	-	-	
	JSUM2003	LN	18185-9	Gestational Age	-	-	-	
AC	HAD84	LN	18185-9	Gestational Age	LN	11892-7	AC, Hadlock 1984	
	TODAI96	LN	18185-9	Gestational Age	LN	33076-1	AC, Shinozuka 1996	
	JSUM2001	LN	18185-9	Gestational Age	-	-	-	
	JSUM2003	LN	18185-9	Gestational Age	-	-	-	
FL	HAD82	LN	18185-9	Gestational Age	-	-	-	
	JEAN84	LN	18185-9	Gestational Age	LN	11923-0	FL, Jeanty 1984	
	HANS85	LN	18185-9	Gestational Age	LN	11921-4	FL, Hansmann 1985	
	TODAI96	LN	18185-9	Gestational Age	LN	33102-5	FL, Shinozuka 1996	

Label	Obstetric Table name	Gestational Age			Information (DCM,121424,Table of Values)			Notes
	OSAKA U.	LN	18185-9	Gestational Age	LN	33101-7	FL, Osaka 1989	
	H1	LN	18185-9	Gestational Age	-	-	-	
	JSUM2001	LN	18185-9	Gestational Age	-	-	-	
	JSUM2003	LN	18185-9	Gestational Age	-	-	-	
HC	HAD84	LN	18185-9	Gestational Age	LN	11932-1	HC, Hadlock 1984	
	HANS85	LN	18185-9	Gestational Age	LN	33112-4	HC, Hansmann 1985	
OFD	HANS85	LN	18185-9	Gestational Age	LN	33544-8	OFD, Hansmann 1985	
FTA	OSAKA U.	LN	18185-9	Gestational Age	LN	33138-9	Fetal Trunk Cross-Sectional Area, Osaka 1989	
TTD	HANS85	LN	18185-9	Gestational Age	LN	33136-3	Transverse Thoracic Diameter, Hansmann 1985	
APTD xTTD	TODAI96	LN	18185-9	Gestational Age	LN	33078-7	AxT, Shinozuka 1996	
HL	JEAN84	LN	18185-9	Gestational Age	LN	11934-7	HC, Jeanty 1984	
	OSAKA U.	LN	18185-9	Gestational Age	LN	33117-3	Humerus Length, Osaka 1989	
CRL	ROB75	LN	18185-9	Gestational Age	LN	11914-9	CRL, Robinson 1975	
	HANS85	LN	18185-9	Gestational Age	LN	11911-5	CRL, Hansmann 1985	
	TODAI	LN	18185-9	Gestational Age	LN	33096-9	CRL, Tokyo 1986	

Label	Obstetric Table name	Gestational Age			Information (DCM,121424,Table of Values)			Notes
	OSAKA U.	LN	18185-9	Gestational Age	LN	33093-6	CRL, Osaka 1989	
	JSUM2001	LN	18185-9	Gestational Age	-	-	-	
	JSUM2003	LN	18185-9	Gestational Age	-	-	-	
GS	HEL69	LN	18185-9	Gestational Age	LN	11928-9	GS, Hellman 1969	
	TODAI	LN	18185-9	Gestational Age	LN	33108-2	GS, Tokyo 1986	

(16) Growth tables

Table 6.3.1-16 Growth tables

Label	Obstetric Table name	Growth Distribution Rank			Information (DCM,121424,Table of Values)			Notes
EFBW	TODAI96	DCM	125013	Growth Z-score	-	-	-	
	OSAKA U.	DCM	125013	Growth Z-score	-	-	-	
	JSUM2001	DCM	125013	Growth Z-score	-	-	-	
	JSUM2003	DCM	125013	Growth Z-score	-	-	-	
BPD	HAD84	DCM	125013	Growth Z-score	LN	33198-3	BPD by GA, Hadlock 1984	
	TODAI96	DCM	125013	Growth Z-score	LN	33156-1	BPD by GA, Shinozuka 1996	
	OSAKA U.	DCM	125013	Growth Z-score	-	-	-	
	JSUM2001	DCM	125013	Growth Z-score	-	-	-	
	JSUM2003	DCM	125013	Growth Z-score	-	-	-	

Label	Obstetric Table name	Growth Distribution Rank	Information (DCM,121424,Table of Values)	Notes
AC	HAD84	DCM 125013 Growth Z-score	LN 33146-2 AC by GA, Hadlock 1984	
	TODAI96	DCM 125013 Growth Z-score	LN 33149-6 AC by GA, Shinozuka 1996	
	JSUM2001	DCM 125013 Growth Z-score	- - -	
	JSUM2003	DCM 125013 Growth Z-score	- - -	
FL	HAD84	DCM 125013 Growth Z-score	LN 33166-0 FL by GA, Hadlock 1984	
	TODAI96	DCM 125013 Growth Z-score	LN 33170-2 FL by GA, Shinozuka 1996	
	OSAKA U.	DCM 125013 Growth Z-score	- - -	
	JSUM2001	DCM 125013 Growth Z-score	- - -	
	JSUM2003	DCM 125013 Growth Z-score	- - -	
HC	HAD84	DCM 125013 Growth Z-score	LN 33173-6 HC by GA, Hadlock 1984	
FTA	OSAKA U.	DCM 125013 Growth Z-score	- - -	
APTD xTTD	TODAI96	DCM 125013 Growth Z-score	LN 33150-4 AxT by GA, Shinozuka 1996	
HL	OSAKA U.	DCM 125013 Growth Z-score	- - -	
LVW	PRE86	DCM 125013 Growth Z-score	- - -	
HW	PRE86	DCM 125013 Growth Z-score	- - -	
CRL	OSAKA U.	DCM 125013 Growth Z-score	- - -	

(17) EFBW Equations

Table 6.3.1-17 EFBW Equations

Label	Equations	Information (DCM,121420,Equation)			Notes
EFBW	SHEP82	LN	11739-0	EFW by AC and BPD, Shepard 1982	
	HAD85	LN	11735-8	EFW by AC, BPD, FL, Hadlock 1985	
	HANS76	LN	33139-7	EFW by BPD, TTD, Hansmann 1986	
	TODAI	LN	33141-3	EFW1 by Shinozuka 1996	
	OSAKA U.	LN	33140-5	EFW by BPD, FTA, FL, Osaka 1990	
	JSUM 2001	LN	33142-1	EFW2 by Shinozuka 1996	

*1 See (15)Gestational Age tables.

*2 See (16)Growth tables.

*3 See (17)EFBW Equations.

6.3.2 ECHOCARDIOGRAPHY PROCEDURE REPORT TEMPLATES (Cardiac_SR_II)

TID 5200 is the template for the root the content tree for the Echocardiography procedure report.

This root template includes following measurements.

(1) Left Ventricle

Table 6.3.2-1 Left Ventricle

Label	Measurement			Modifier
Echo LV	SRT	T-32600	Left Ventricle	-
B-LVMeasurement				
IVSd	LN	18154-5	Interventricular Septum Diastolic Thickness	Mode: 2D mode, Method: Teichholz
LVEdD	LN	29436-3	Left Ventricle Internal End Diastolic Dimension	Mode: 2D mode, Method: Teichholz
LVPWd	LN	18152-9	Left Ventricle Posterior Wall Diastolic Thickness	Mode: 2D mode, Method: Teichholz
IVSs	LN	18158-6	Interventricular Septum Systolic Thickness	Mode: 2D mode, Method: Teichholz
LVEsD	LN	29438-9	Left Ventricle Internal Systolic Dimension	Mode: 2D mode, Method: Teichholz
LVPWs	LN	18156-0	Left Ventricle Posterior Wall Systolic Thickness	Mode: 2D mode, Method: Teichholz

Label	Measurement			Modifier
FS	LN	18051-3	Left Ventricular Fractional Shortening	Mode: 2D mode, Method: Teichholz
IVS/LVPWd	LN	18155-2	Interventricular Septum to Posterior Wall Thickness Ratio	Mode: 2D mode, Method: Teichholz
LVEdV	LN	18026-5	Left Ventricular End Diastolic Volume	Mode: 2D mode, Method: Teichholz
LVEsV	LN	18148-7	Left Ventricular End Systolic Volume	Mode: 2D mode, Method: Teichholz
EF	LN	18043-0	Left Ventricular Ejection Fraction	Mode: 2D mode, Method: Teichholz
LVMass	LN	18087-7	Left Ventricle Mass	Mode: 2D mode, Method: Left Ventricle Mass by M-mode
LVMI	LN	18087-7	Left Ventricle Mass	Mode: 2D mode, Method: Left Ventricle Mass by M-mode, Index: Body Surface Area
SV	SRT	F-32120	Stroke Volume	Mode: 2D mode, Method: Teichholz
CO	SRT	F-32100	Cardiac Output	Mode: 2D mode, Method: Teichholz
CI	SRT	F-32110	Cardiac Index	Mode: 2D mode, Method: Teichholz
SI	SRT	F-00078	Stroke Index	Mode: 2D mode, Method: Teichholz
LAD	LN	29469-4	Left Atrium Antero-posterior Systolic Dimension	Mode: 2D mode, Method: Teichholz, Finding Site: Left Atrium
AoD	LN	18015-8	Aortic Root Diameter	Mode: 2D mode, Method: Teichholz, Finding Site: Aorta
RVDd	LN	20304-2	Right Ventricular Internal Diastolic Dimension	Mode: 2D mode, Method: Teichholz, Finding Site: Right Ventricle
HR	LN	8867-4	Heart rate	Mode: 2D mode, Method: Teichholz

Label	Measurement			Modifier
LVEdDI	LN	29436-3	Left Ventricle Internal End Diastolic Dimension	Mode: 2D mode, Method: Teichholz, Index: Body Surface Area
LVEsDI	LN	29438-9	Left Ventricle Internal Systolic Dimension	Mode: 2D mode, Method: Teichholz, Index: Body Surface Area
LADI	LN	29469-4	Left Atrium Antero-posterior Systolic Dimension	Mode: 2D mode, Method: Teichholz, Finding Site: Left Atrium, Index: Body Surface Area
AoDI	LN	18015-8	Aortic Root Diameter	Mode: 2D mode, Method: Teichholz, Finding Site: Aorta, Index: Body Surface Area
RVDdI	LN	20304-2	Right Ventricular Internal Diastolic Dimension	Mode: 2D mode, Method: Teichholz, Finding Site: Right Ventricle, Index: Body Surface Area
M-LVMeasurement				
IVSd	LN	18154-5	Interventricular Septum Diastolic Thickness	Mode: M mode, Method: Teichholz
LVEdD	LN	29436-3	Left Ventricle Internal End Diastolic Dimension	Mode: M mode, Method: Teichholz
LVPWd	LN	18152-9	Left Ventricle Posterior Wall Diastolic Thickness	Mode: M mode, Method: Teichholz
IVSs	LN	18158-6	Interventricular Septum Systolic Thickness	Mode: M mode, Method: Teichholz
LVEsD	LN	29438-9	Left Ventricle Internal Systolic Dimension	Mode: M mode, Method: Teichholz
LVPWs	LN	18156-0	Left Ventricle Posterior Wall Systolic Thickness	Mode: M mode, Method: Teichholz
FS	LN	18051-3	Left Ventricular Fractional Shortening	Mode: M mode, Method: Teichholz
IVS/LVPWd	LN	18155-2	Interventricular Septum to Posterior Wall Thickness Ratio	Mode: M mode, Method: Teichholz
LVEdV	LN	18026-5	Left Ventricular End Diastolic Volume	Mode: M mode, Method: Teichholz

Label	Measurement			Modifier
LVEsV	LN	18148-7	Left Ventricular End Systolic Volume	Mode: M mode, Method: Teichholz
EF	LN	18043-0	Left Ventricular Ejection Fraction	Mode: M mode, Method: Teichholz
LVMass	LN	18087-7	Left Ventricle Mass	Mode: M mode, Method: Left Ventricle Mass by M-mode
LVMI	LN	18087-7	Left Ventricle Mass	Mode: M mode, Method: Left Ventricle Mass by M-mode, Index: Body Surface Area
SV	SRT	F-32120	Stroke Volume	Mode: M mode, Method: Teichholz
CO	SRT	F-32100	Cardiac Output	Mode: M mode, Method: Teichholz
CI	SRT	F-32110	Cardiac Index	Mode: M mode, Method: Teichholz
SI	SRT	F-00078	Stroke Index	Mode: M mode, Method: Teichholz
LAD	LN	29469-4	Left Atrium Antero-posterior Systolic Dimension	Mode: M mode, Method: Teichholz, Finding Site: Left Atrium
AoD	LN	18015-8	Aortic Root Diameter	Mode: M mode, Method: Teichholz, Finding Site: Aorta
RVDd	LN	20304-2	Right Ventricular Internal Diastolic Dimension	Mode: M mode, Method: Teichholz, Finding Site: Right Ventricle
HR	LN	8867-4	Heart rate	Mode: M mode, Method: Teichholz
LVEdDI	LN	29436-3	Left Ventricle Internal End Diastolic Dimension	Mode: M mode, Method: Teichholz, Index: Body Surface Area
LVEsDI	LN	29438-9	Left Ventricle Internal Systolic Dimension	Mode: M mode, Method: Teichholz, Index: Body Surface Area

Label	Measurement			Modifier
LADI	LN	29469-4	Left Atrium Antero-posterior Systolic Dimension	Mode: M mode, Method: Teichholz, Finding Site: Left Atrium, Index: Body Surface Area
AoDI	LN	18015-8	Aortic Root Diameter	Mode: M mode, Method: Teichholz, Finding Site: Aorta, Index: Body Surface Area
RVDdI	LN	20304-2	Right Ventricular Internal Diastolic Dimension	Mode: M mode, Method: Teichholz, Finding Site: Right Ventricle, Index: Body Surface Area
M.SimpsonMeasurement				
4c d V	LN	18026-5	Left Ventricular End Diastolic Volume	Mode: 2D mode, View: Apical four chamber, Method: Modified Simpson
4c s V	LN	18148-7	Left Ventricular End Systolic Volume	Mode: 2D mode, View: Apical four chamber, Method: Modified Simpson
4c SV	SRT	F-32120	Stroke Volume	Mode: 2D mode, View: Apical four chamber, Method: Modified Simpson
4c EF	LN	18043-0	Left Ventricular Ejection Fraction	Mode: 2D mode, View: Apical four chamber, Method: Modified Simpson
2c d V	LN	18026-5	Left Ventricular End Diastolic Volume	Mode: 2D mode, View: Apical two chamber, Method: Modified Simpson
2c s V	LN	18148-7	Left Ventricular End Systolic Volume	Mode: 2D mode, View: Apical two chamber, Method: Modified Simpson
2c SV	SRT	F-32120	Stroke Volume	Mode: 2D mode, View: Apical two chamber, Method: Modified Simpson
2c EF	LN	18043-0	Left Ventricular Ejection Fraction	Mode: 2D mode, View: Apical two chamber, Method: Modified Simpson

Label	Measurement			Modifier
d L	LN	18077-8	Left Ventricle diastolic major axis	Mode: 2D mode, Method: Modified Simpson
s L	LN	18076-0	Left Ventricle systolic major axis	Mode: 2D mode, Method: Modified Simpson
d V	LN	18026-5	Left Ventricular End Diastolic Volume	Mode: 2D mode, Method: Modified Simpson
s V	LN	18148-7	Left Ventricular End Systolic Volume	Mode: 2D mode, Method: Modified Simpson
SV	SRT	F-32120	Stroke Volume	Mode: 2D mode, Method: Modified Simpson
SI	SRT	F-00078	Stroke Index	Mode: 2D mode, Method: Modified Simpson
CO	SRT	F-32100	Cardiac Output	Mode: 2D mode, Method: Modified Simpson
CI	SRT	F-32110	Cardiac Index	Mode: 2D mode, Method: Modified Simpson
EF	LN	18043-0	Left Ventricular Ejection Fraction	Mode: 2D mode, Method: Modified Simpson
HR	LN	8867-4	Heart rate	Mode: 2D mode, Method: Modified Simpson
Dia.Func.Measurement				
E	LN	59080-2	E-Wave Peak Velocity	Mode: Doppler Pulsed
DcT	LN	20217-6	Deceleration Time	Mode: Doppler Pulsed
PHT	LN	20280-4	Pressure Half-Time	Mode: Doppler Pulsed
A	LN	59081-0	A-Wave Peak Velocity	Mode: Doppler Pulsed
E/A	LN	59104-0	Peak E wave/Peak A wave by US	Mode: Doppler Pulsed
s`-Septal	SRT	G-037D	Left Ventricular Peak Systolic Tissue Velocity	Mode: Tissue Doppler Imaging, Finding Site: Medial Mitral Annulus
e`-Septal	SRT	G-037A	Left Ventricular Peak Early Diastolic Tissue Velocity	Mode: Tissue Doppler Imaging, Finding Site: Medial Mitral Annulus
a`-Septal	SRT	G-037C	LV Peak Diastolic Tissue Velocity During Atrial Systole	Mode: Tissue Doppler Imaging, Finding Site: Medial Mitral Annulus

Label	Measurement			Modifier
E/e`-Septal	LN	59111-5	E Velocity to Annulus E Velocity Ratio	Mode: Doppler Pulsed, Finding Site: Medial Mitral Annulus
s`-Lateral	SRT	G-037D	Left Ventricular Peak Systolic Tissue Velocity	Mode: Tissue Doppler Imaging, Finding Site: Lateral Mitral Annulus
e`-Lateral	SRT	G-037A	Left Ventricular Peak Early Diastolic Tissue Velocity	Mode: Tissue Doppler Imaging, Finding Site: Lateral Mitral Annulus
a`-Lateral	SRT	G-037C	LV Peak Diastolic Tissue Velocity During Atrial Systole	Mode: Tissue Doppler Imaging, Finding Site: Lateral Mitral Annulus
E/e`-Lateral	LN	59111-5	E Velocity to Annulus E Velocity Ratio	Mode: Doppler Pulsed, Finding Site: Lateral Mitral Annulus
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed
Vm	LN	20352-1	Time Averaged Mean Velocity	Mode: Doppler Pulsed
PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli
PGm	LN	20256-4	Mean Gradient	Mode: Doppler Pulsed
VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Pulsed
Dop IndexMeasurement				
IVCT	SRT	G-037E	Left Ventricular Isovolumic Contraction Time	Mode: Doppler Pulsed
ET	LN	20222-6	Ejection Time	Mode: Doppler Pulsed
IVRT	LN	18071-1	Left Ventricular Isovolumic Relaxation Time	Mode: Doppler Pulsed
COT	LN	59082-8	Closure to Opening Time	Mode: Doppler Pulsed
Dop index	LN	59099-2	Myocardial Performance Index (Tei)	Mode: Doppler Pulsed
Dop index2	LN	59099-2	Myocardial Performance Index (Tei)	Mode: Doppler Pulsed
COMeasurement				
VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Pulsed
Diam.	SRT	G-038F	Cardiovascular Orifice Diameter	Mode: Doppler Pulsed

Label	Measurement			Modifier
SV	SRT	F-32120	Stroke Volume	Mode: Doppler Pulsed
SI	SRT	F-00078	Stroke Index	Mode: Doppler Pulsed
CO	SRT	F-32100	Cardiac Output	Mode: Doppler Pulsed
CI	SRT	F-32110	Cardiac Index	Mode: Doppler Pulsed
CSA	SRT	G-038E	Cardiovascular Orifice Area	Mode: Doppler Pulsed
HR	LN	8867-4	Heart rate	Mode: Doppler Pulsed
BI-PlaneMeasurement				
LVLd	LN	18077-8	Left Ventricle diastolic major axis	Mode: 2D mode, Method: Area-Length Biplane
LVD1d	LN	29436-3	Left Ventricle Internal End Diastolic Dimension	Mode: 2D mode, View: Apical two chamber, Method: Area-Length Biplane
LVD2d	LN	29436-3	Left Ventricle Internal End Diastolic Dimension	Mode: 2D mode, View: Apical four chamber, Method: Area-Length Biplane
LVLs	LN	18076-0	Left Ventricle systolic major axis	Mode: 2D mode, Method: Area-Length Biplane
LVD1s	LN	29438-9	Left Ventricle Internal Systolic Dimension	Mode: 2D mode, View: Apical two chamber, Method: Area-Length Biplane
LVD2s	LN	29438-9	Left Ventricle Internal Systolic Dimension	Mode: 2D mode, View: Apical four chamber, Method: Area-Length Biplane
LVEdV	LN	18026-5	Left Ventricular End Diastolic Volume	Mode: 2D mode, Method: Area-Length Biplane
LVEsV	LN	18148-7	Left Ventricular End Systolic Volume	Mode: 2D mode, Method: Area-Length Biplane
SV	SRT	F-32120	Stroke Volume	Mode: 2D mode, Method: Area-Length Biplane
SI	SRT	F-00078	Stroke Index	Mode: 2D mode, Method: Area-Length Biplane
CO	SRT	F-32100	Cardiac Output	Mode: 2D mode, Method: Area-Length Biplane

Label	Measurement			Modifier
CI	SRT	F-32110	Cardiac Index	Mode: 2D mode, Method: Area-Length Biplane
EF	LN	18043-0	Left Ventricular Ejection Fraction	Mode: 2D mode, Method: Area-Length Biplane
HR	LN	8867-4	Heart rate	Mode: 2D mode, Method: Area-Length Biplane
Area LengthMeasurement				
LVAd	SRT	G-0375	Left Ventricular Diastolic Area	Mode: 2D mode, Method: Area-Length Single Plane
LVLd	LN	18077-8	Left Ventricle diastolic major axis	Mode: 2D mode, Method: Area-Length Single Plane
LVAs	SRT	G-0374	Left Ventricular Systolic Area	Mode: 2D mode, Method: Area-Length Single Plane
LVLs	LN	18076-0	Left Ventricle systolic major axis	Mode: 2D mode, Method: Area-Length Single Plane
LVEdV	LN	18026-5	Left Ventricular End Diastolic Volume	Mode: 2D mode, Method: Area-Length Single Plane
LVEsV	LN	18148-7	Left Ventricular End Systolic Volume	Mode: 2D mode, Method: Area-Length Single Plane
SV	SRT	F-32120	Stroke Volume	Mode: 2D mode, Method: Area-Length Single Plane
SI	SRT	F-00078	Stroke Index	Mode: 2D mode, Method: Area-Length Single Plane
CO	SRT	F-32100	Cardiac Output	Mode: 2D mode, Method: Area-Length Single Plane
CI	SRT	F-32110	Cardiac Index	Mode: 2D mode, Method: Area-Length Single Plane
EF	LN	18043-0	Left Ventricular Ejection Fraction	Mode: 2D mode, Method: Area-Length Single Plane
HR	LN	8867-4	Heart rate	Mode: 2D mode, Method: Area-Length Single Plane
LVMass-ALMeasurement				
LVMass	LN	18087-7	Left Ventricle Mass	Mode: 2D mode, Method: Left Ventricle Mass by Area Length

Label	Measurement			Modifier
LVMI	LN	18087-7	Left Ventricle Mass	Mode: 2D mode, Method: Left Ventricle Mass by Area Length, Index: Body Surface Area
LVMass-TEMeasurement				
LVMass	LN	18087-7	Left Ventricle Mass	Mode: 2D mode, Method: Left Ventricle Mass by Truncated Ellipse
LVMI	LN	18087-7	Left Ventricle Mass	Mode: 2D mode, Method: Left Ventricle Mass by Truncated Ellipse, Index: Body Surface Area
HRMeasurement				
HR	LN	8867-4	Heart rate	-

(2) Left Atrium

Table 6.3.2-2 Left Atrium

Label	Measurement			Modifier
Echo LA	SRT	T-32300	Left Atrium	-
B-LAMeasurement				
LADs	LN	29469-4	Left Atrium Antero-posterior Systolic Dimension	Mode: 2D mode
2c LAEsV	SRT	G-0383	Left Atrium Systolic Volume	Mode: 2D mode, View: Apical two chamber, Method: Modified Simpson
4c LAEsV	SRT	G-0383	Left Atrium Systolic Volume	Mode: 2D mode, View: Apical four chamber, Method: Modified Simpson
LAEsV	SRT	G-0383	Left Atrium Systolic Volume	Mode: 2D mode, Method: Modified Simpson
LAVI	SRT	G-0383	Left Atrium Systolic Volume	Mode: 2D mode, Method: Modified Simpson, Index: Body Surface Area
LAsA	LN	17977-0	Left Atrium Systolic Area	Mode: 2D mode
2c LAD-Maj	SRT	G-A193	Major Axis	Mode: 2D mode, View: Apical two chamber, Cardiac Cycle Point: End Systole

Label	Measurement			Modifier
2c LAD-Min	SRT	G-A194	Minor Axis	Mode: 2D mode, View: Apical two chamber, Cardiac Cycle Point: End Systole
4c LAD-Maj	SRT	G-A193	Major Axis	Mode: 2D mode, View: Apical four chamber, Cardiac Cycle Point: End Systole
4c LAD-Min	SRT	G-A194	Minor Axis	Mode: 2D mode, View: Apical four chamber, Cardiac Cycle Point: End Systole
RAD-Major	SRT	G-A193	Major Axis	Mode: 2D mode, Finding Site: Right Atrium
RAD-Minor	SRT	G-A194	Minor Axis	Mode: 2D mode, Finding Site: Right Atrium
LVDd	LN	29436-3	Left Ventricle Internal End Diastolic Dimension	Mode: 2D mode, Finding Site: Left Ventricle
RVDd	LN	20304-2	Right Ventricular Internal Diastolic Dimension	Mode: 2D mode, Finding Site: Right Ventricle
M-LAMeasurement				
LADs	LN	29469-4	Left Atrium Antero-posterior Systolic Dimension	Mode: M mode
AoD	LN	18015-8	Aortic Root Diameter	Mode: M mode, Finding Site: Aorta
LA/Ao	LN	17985-3	Left Atrium to Aortic Root Ratio	Mode: M mode
LAsA	LN	17977-0	Left Atrium Systolic Area	Mode: M mode
LVDd	LN	29436-3	Left Ventricle Internal End Diastolic Dimension	Mode: M mode, Finding Site: Left Ventricle
RVDd	LN	20304-2	Right Ventricular Internal Diastolic Dimension	Mode: M mode, Finding Site: Right Ventricle
TEE-LAMeasurement				
LAD	LN	29469-4	Left Atrium Antero-posterior Systolic Dimension	Mode: 2D mode, View: Transesophageal short axis view
LAAs	LN	29486-8	Left Atrial Appendage Peak Velocity	Mode: Doppler Pulsed, View: Transesophageal short axis view, Cardiac Cycle Point: Systole

Label	Measurement			Modifier
LAAd	LN	29486-8	Left Atrial Appendage Peak Velocity	Mode: Doppler Pulsed, View: Transesophageal short axis view, Cardiac Cycle Point: Diastole

(3) Right Ventricle

Table 6.3.2-3 Right Ventricle

Label	Measurement			Modifier
Echo RV	SRT	T-32500	Right Ventricle	-
COMeasurement				
VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Pulsed
Diam.	SRT	G-038F	Cardiovascular Orifice Diameter	Mode: Doppler Pulsed
SV	SRT	F-04FD8	RV Stroke Volume	Mode: Doppler Pulsed
SI	SRT	F-04FE5	RV Stroke Index	Mode: Doppler Pulsed
CO	SRT	F-04FA5	RV Cardiac Output	Mode: Doppler Pulsed
CI	SRT	F-04F84	RV Cardiac Index	Mode: Doppler Pulsed
CSA	SRT	G-038E	Cardiovascular Orifice Area	Mode: Doppler Pulsed
HR	LN	8867-4	Heart rate	Mode: Doppler Pulsed
B-RVMeasurement				
RVDd	LN	20304-2	Right Ventricular Internal Diastolic Dimension	Mode: 2D mode
LVDd	LN	29436-3	Left Ventricle Internal End Diastolic Dimension	Mode: 2D mode, Finding Site: Left Ventricle
LAD	LN	29469-4	Left Atrium Antero-posterior Systolic Dimension	Mode: 2D mode, Finding Site: Left Atrium
AoD	LN	18015-8	Aortic Root Diameter	Mode: 2D mode, Finding Site: Aorta
M-RVMeasurement				
RVDd	LN	20304-2	Right Ventricular Internal Diastolic Dimension	Mode: M mode
LVDd	LN	29436-3	Left Ventricle Internal End Diastolic Dimension	Mode: M mode, Finding Site: Left Ventricle
LAD	LN	29469-4	Left Atrium Antero-posterior Systolic Dimension	Mode: M mode, Finding Site: Left Atrium
AoD	LN	18015-8	Aortic Root Diameter	Mode: M mode, Finding Site: Aorta

Label	Measurement			Modifier
HRMeasurement				
HR	LN	8867-4	Heart rate	-

(4) Right Atrium

Table 6.3.2-4 Right Atrium

Label	Measurement			Modifier
Echo RA	SRT	T-32200	Right Atrium	-
B-RAMeasurement				
RAD-Major	SRT	G-A193	Major Axis	Mode: 2D mode
RAD-Minor	SRT	G-A194	Minor Axis	Mode: 2D mode
RAsP	LN	18070-3	Right Atrium Systolic Pressure	Mode: 2D mode
HR	LN	8867-4	Heart rate	Mode: 2D mode

(5) Aortic Valve

Table 6.3.2-5 Aortic Valve

Label	Measurement			Modifier
Echo AV	SRT	T-35400	Aortic Valve	-
AV RegurgMeasurement				
PISA-R	LN	59102-4	Flow Radius	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Alias Vel.	LN	59130-5	Alias velocity	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
PISA	LN	20226-7	Flow Area	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Flow Rate	LN	34141-2	Peak Instantaneous Flow Rate	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area

Label	Measurement			Modifier
ERO	SRT	G-038E	Cardiovascular Orifice Area	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Reg. Vol.	LN	33878-0	Volume Flow	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
VelocityMeasurement				
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed
Vp-Reg	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Flow Direction: Retrograde Flow
PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli
PGp-Reg	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli, Flow Direction: Retrograde Flow
PHTMeasurement				
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed
Vp-Reg	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Flow Direction: Retrograde Flow
PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli
PGp-Reg	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli, Flow Direction: Retrograde Flow
PHT	LN	20280-4	Pressure Half-Time	Mode: Doppler Pulsed
DcT	LN	20217-6	Deceleration Time	Mode: Doppler Pulsed
Dcc	LN	20216-8	Deceleration Slope	Mode: Doppler Pulsed
D-TraceMeasurement				
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed
Vm	LN	20352-1	Time Averaged Mean Velocity	Mode: Doppler Pulsed
PGm	LN	20256-4	Mean Gradient	Mode: Doppler Pulsed
VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Pulsed
PHT	LN	20280-4	Pressure Half-Time	Mode: Doppler Pulsed

Label	Measurement			Modifier
AcT	LN	20168-1	Acceleration Time	Mode: Doppler Pulsed
DcT	LN	20217-6	Deceleration Time	Mode: Doppler Pulsed
Vp-Reg	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Flow Direction: Retrograde Flow
PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli
PGp-Reg	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli, Flow Direction: Retrograde Flow
Dcc	LN	20216-8	Deceleration Slope	Mode: Doppler Pulsed
B-AreaMeasurement				
AVA	SRT	G-038E	Cardiovascular Orifice Area	Mode: 2D mode, Method: Planimetry
Area-VpMeasurement				
AV-Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Method: Continuity Equation by Peak Velocity
LVOT-Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Method: Continuity Equation by Peak Velocity, Finding Site: Left Ventricle Outflow Tract
AV-PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Continuity Equation by Peak Velocity
LVOT-PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Continuity Equation by Peak Velocity, Finding Site: Left Ventricle Outflow Tract
LVOT-Diam	SRT	G-038F	Cardiovascular Orifice Diameter	Mode: 2D mode, Method: Continuity Equation by Peak Velocity, Finding Site: Left Ventricle Outflow Tract

Label	Measurement			Modifier
LVOT-CSA	SRT	G-038E	Cardiovascular Orifice Area	Mode: 2D mode, Method: Continuity Equation by Peak Velocity, Finding Site: Left Ventricle Outflow Tract
AVA	SRT	G-038E	Cardiovascular Orifice Area	Method: Continuity Equation by Peak Velocity
Area-VmMeasurement				
AV-Vm	LN	20352-1	Time Averaged Mean Velocity	Mode: Doppler Pulsed, Method: Continuity Equation by Mean Velocity
AV-PGm	LN	20256-4	Mean Gradient	Mode: Doppler Pulsed, Method: Continuity Equation by Mean Velocity
LVOT-Vm	LN	20352-1	Time Averaged Mean Velocity	Mode: Doppler Pulsed, Method: Continuity Equation by Mean Velocity, Finding Site: Left Ventricle Outflow Tract
LVOT-PGm	LN	20256-4	Mean Gradient	Mode: Doppler Pulsed, Method: Continuity Equation by Mean Velocity, Finding Site: Left Ventricle Outflow Tract
LVOT-Diam	SRT	G-038F	Cardiovascular Orifice Diameter	Mode: 2D mode, Method: Continuity Equation by Mean Velocity, Finding Site: Left Ventricle Outflow Tract
LVOT-CSA	SRT	G-038E	Cardiovascular Orifice Area	Mode: 2D mode, Method: Continuity Equation by Mean Velocity, Finding Site: Left Ventricle Outflow Tract
AVA	SRT	G-038E	Cardiovascular Orifice Area	Method: Continuity Equation by Mean Velocity

Label	Measurement			Modifier
Area-VTIMeasurement				
AV-VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Pulsed, Method: Continuity Equation by Velocity Time Integral, Finding Site: Aortic Valve Ring
LVOT-VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Pulsed, Method: Continuity Equation by Velocity Time Integral, Finding Site: Left Ventricle Outflow Tract
LVOT-Diam	SRT	G-038F	Cardiovascular Orifice Diameter	Mode: 2D mode, Method: Continuity Equation by Velocity Time Integral, Finding Site: Left Ventricle Outflow Tract
LVOT-CSA	SRT	G-038E	Cardiovascular Orifice Area	Mode: 2D mode, Method: Continuity Equation by Velocity Time Integral, Finding Site: Left Ventricle Outflow Tract
AVA	SRT	G-038E	Cardiovascular Orifice Area	Method: Continuity Equation by Velocity Time Integral
HRMeasurement				
HR	LN	8867-4	Heart rate	-

(6) Mitral Valve

Table 6.3.2-6 Mitral Valve

Label	Measurement			Modifier
Echo MV	SRT	T-35300	Mitral Valve	-
Dia.Func.Measurement				
E	LN	18037-2	Mitral Valve E-Wave Peak Velocity	Mode: Doppler Pulsed, Method: Area by Pressure Half-Time
DcT	LN	G-0384	Mitral Valve E-Wave Deceleration Time	Mode: Doppler Pulsed, Method: Area by Pressure Half-Time

Label	Measurement			Modifier
PHT	LN	20280-4	Pressure Half-Time	Mode: Doppler Pulsed, Method: Area by Pressure Half-Time
A	LN	17978-8	Mitral Valve A-Wave Peak Velocity	Mode: Doppler Pulsed
Adur	SRT	G-0385	Mitral Valve A-Wave Duration	Mode: M mode
E/A	LN	18038-0	Mitral Valve E to A Ratio	Mode: Doppler Pulsed
s`-Septal	SRT	G-037D	Left Ventricular Peak Systolic Tissue Velocity	Mode: Tissue Doppler Imaging, Finding Site: Medial Mitral Annulus
e`-Septal	SRT	G-037A	Left Ventricular Peak Early Diastolic Tissue Velocity	Mode: Tissue Doppler Imaging, Finding Site: Medial Mitral Annulus
a`-Septal	SRT	G-037C	LV Peak Diastolic Tissue Velocity During Atrial Systole	Mode: Tissue Doppler Imaging, Finding Site: Medial Mitral Annulus
E/e`-Septal	LN	59111-5	E Velocity to Annulus E Velocity Ratio	Mode: Doppler Pulsed, Finding Site: Medial Mitral Annulus
s`-Lateral	SRT	G-037D	Left Ventricular Peak Systolic Tissue Velocity	Mode: Tissue Doppler Imaging, Finding Site: Lateral Mitral Annulus
e`-Lateral	SRT	G-037A	Left Ventricular Peak Early Diastolic Tissue Velocity	Mode: Tissue Doppler Imaging, Finding Site: Lateral Mitral Annulus
a`-Lateral	SRT	G-037C	LV Peak Diastolic Tissue Velocity During Atrial Systole	Mode: Tissue Doppler Imaging, Finding Site: Lateral Mitral Annulus
E/e`-Lateral	LN	59111-5	E Velocity to Annulus E Velocity Ratio	Mode: Doppler Pulsed, Finding Site: Lateral Mitral Annulus
ET	LN	20222-6	Ejection Time	Mode: Doppler Pulsed
IVRT	LN	59083-6	Isovolumic Relaxation Time	Mode: Doppler Pulsed
EFslope	LN	18040-6	Mitral Valve E-F Slope by M-Mode	Mode: M mode
EPSS	LN	18036-4	Mitral Valve EPSS, E wave	Mode: M mode

Label	Measurement			Modifier
MVA	SRT	G-038E	Cardiovascular Orifice Area	Mode: Doppler Pulsed, Method: Area by Pressure Half-Time
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed
Vm	LN	20352-1	Time Averaged Mean Velocity	Mode: Doppler Pulsed
dP/dtMeasurement				
dP/dt	LN	18035-6	Mitral Regurgitation dP/dt derived from Mitral Reg. velocity	Mode: Doppler Pulsed
MV RegurgMeasurement				
PISA-R	LN	59102-4	Flow Radius	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Alias Vel.	LN	59130-5	Alias velocity	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
PISA	LN	20226-7	Flow Area	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Flow Rate	LN	34141-2	Peak Instantaneous Flow Rate	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
ERO	SRT	G-038E	Cardiovascular Orifice Area	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Reg. Vol.	LN	33878-0	Volume Flow	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
VelocityMeasurement				
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed

Label	Measurement			Modifier
Vp-Reg	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Flow Direction: Retrograde Flow
PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli
PGp-Reg	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli, Flow Direction: Retrograde Flow
PHTMeasurement				
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Method: Area by Pressure Half-Time
Vp-Reg	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Method: Area by Pressure Half-Time, Flow Direction: Retrograde Flow
PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Area by Pressure Half-Time
PGp-Reg	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Area by Pressure Half-Time, Flow Direction: Retrograde Flow
PHT	LN	20280-4	Pressure Half-Time	Mode: Doppler Pulsed, Method: Area by Pressure Half-Time
DcT	LN	20217-6	Deceleration Time	Mode: Doppler Pulsed, Method: Area by Pressure Half-Time
Dcc	LN	20216-8	Deceleration Slope	Mode: Doppler Pulsed, Method: Area by Pressure Half-Time
MVA	SRT	G-038E	Cardiovascular Orifice Area	Mode: Doppler Pulsed, Method: Area by Pressure Half-Time
D-TraceMeasurement				
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed

Label	Measurement			Modifier
Vm	LN	20352-1	Time Averaged Mean Velocity	Mode: Doppler Pulsed
PGm	LN	20256-4	Mean Gradient	Mode: Doppler Pulsed
VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Pulsed
PHT	LN	20280-4	Pressure Half-Time	Mode: Doppler Pulsed, Method: Area by Pressure Half-Time
AcT	LN	20168-1	Acceleration Time	Mode: Doppler Pulsed
DcT	LN	20217-6	Deceleration Time	Mode: Doppler Pulsed
Vp-Reg	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Flow Direction: Retrograde Flow
PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli
PGp-Reg	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli, Flow Direction: Retrograde Flow
MVA	SRT	G-038E	Cardiovascular Orifice Area	Mode: Doppler Pulsed, Method: Area by Pressure Half-Time
Dcc	LN	20216-8	Deceleration Slope	Mode: Doppler Pulsed
B-AreaMeasurement				
MVA	SRT	G-038E	Cardiovascular Orifice Area	Mode: 2D mode, Method: Planimetry
Area-VpMeasurement				
MV-Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Method: Continuity Equation by Peak Velocity
LVOT-Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Method: Continuity Equation by Peak Velocity, Finding Site: Left Ventricle Outflow Tract
MV-PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Continuity Equation by Peak Velocity

Label	Measurement			Modifier
LVOT-PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Continuity Equation by Peak Velocity, Finding Site: Left Ventricle Outflow Tract
LVOT-Diam	SRT	G-038F	Cardiovascular Orifice Diameter	Mode: 2D mode, Meathod: Continuity Equation by Peak Velocity, Finding Site: Left Ventricle Outflow Tract
LVOT-CSA	SRT	G-038E	Cardiovascular Orifice Area	Mode: 2D mode, Meathod: Continuity Equation by Peak Velocity, Finding Site: Left Ventricle Outflow Tract
MVA	SRT	G-038E	Cardiovascular Orifice Area	Meathod: Continuity Equation by Peak Velocity
Area-VmMeasurement				
MV-Vm	LN	20352-1	Time Averaged Mean Velocity	Mode: Doppler Pulsed, Meathod: Continuity Equation by Mean Velocity
MV-PGm	LN	20256-4	Mean Gradient	Mode: Doppler Pulsed, Meathod: Continuity Equation by Mean Velocity
LVOT-Vm	LN	20352-1	Time Averaged Mean Velocity	Mode: Doppler Pulsed, Meathod: Continuity Equation by Mean Velocity, Finding Site: Left Ventricle Outflow Tract
LVOT-PGm	LN	20256-4	Mean Gradient	Mode: Doppler Pulsed, Meathod: Continuity Equation by Mean Velocity, Finding Site: Left Ventricle Outflow Tract
LVOT-Diam	SRT	G-038F	Cardiovascular Orifice Diameter	Mode: 2D mode, Meathod: Continuity Equation by Mean Velocity, Finding Site: Left Ventricle Outflow Tract

Label	Measurement			Modifier
LVOT-CSA	SRT	G-038E	Cardiovascular Orifice Area	Mode: 2D mode, Meathod: Continuity Equation by Mean Velocity, Finding Site: Left Ventricle Outflow Tract
MVA	SRT	G-038E	Cardiovascular Orifice Area	Meathod: Continuity Equation by Mean Velocity
Area-VTIMeasurement				
MV-VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Pulsed, Meathod: Continuity Equation by Velocity Time Integral, Finding Site: Mitral Annulus
LVOT-VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Pulsed, Meathod: Continuity Equation by Velocity Time Integral, Finding Site: Left Ventricle Outflow Tract
LVOT-Diam	SRT	G-038F	Cardiovascular Orifice Diameter	Mode: 2D mode, Meathod: Continuity Equation by Velocity Time Integral, Finding Site: Left Ventricle Outflow Tract
LVOT-CSA	SRT	G-038E	Cardiovascular Orifice Area	Mode: 2D mode, Meathod: Continuity Equation by Velocity Time Integral, Finding Site: Left Ventricle Outflow Tract
MVA	SRT	G-038E	Cardiovascular Orifice Area	Meathod: Continuity Equation by Velocity Time Integral
MV-RegVolMeasurement				
MV-VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Pulsed, Finding Site: Mitral Annulus
MV-Diam	SRT	G-038F	Cardiovascular Orifice Diameter	Mode: 2D mode, Finding Site: Mitral Annulus
MV-CSA	SRT	G-038E	Cardiovascular Orifice Area	Mode: 2D mode, Finding Site: Mitral Annulus
MV-SV	SRT	F-32120	Stroke Volume	Finding Site: Mitral Annulus

Label	Measurement			Modifier
LVOT-VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Pulsed, Finding Site: Left Ventricle Outflow Tract
LVOT-Diam	SRT	G-038F	Cardiovascular Orifice Diameter	Mode: 2D mode, Finding Site: Left Ventricle Outflow Tract
LVOT-CSA	SRT	G-038E	Cardiovascular Orifice Area	Mode: 2D mode, Finding Site: Left Ventricle Outflow Tract
LVOT-SV	SRT	F-32120	Stroke Volume	Finding Site: Left Ventricle Outflow Tract
Reg. Vol.	LN	33878-0	Volume Flow	Flow Direction: Retrograde Flow
MV-RF	SRT	G-0390	Regurgitant Fraction	-
HRMeasurement				
HR	LN	8867-4	Heart rate	-

(7) Pulmonic Valve

Table 6.3.2-7 Pulmonic Valve

Label	Measurement			Modifier
Echo PV	SRT	T-35200	Pulmonic Valve	-
PV RegurgMeasurement				
PISA-R	LN	59102-4	Flow Radius	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Alias Vel.	LN	59130-5	Alias velocity	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
PISA	LN	20226-7	Flow Area	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area

Label	Measurement			Modifier
Flow Rate	LN	34141-2	Peak Instantaneous Flow Rate	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
ERO	SRT	G-038E	Cardiovascular Orifice Area	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Reg. Vol.	LN	33878-0	Volume Flow	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
VelocityMeasurement				
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed
Vp-Reg	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Flow Direction: Retrograde Flow
PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli
PGp-Reg	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli, Flow Direction: Retrograde Flow
PHTMeasurement				
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed
Vp-Reg	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Flow Direction: Retrograde Flow
PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli
PGp-Reg	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli, Flow Direction: Retrograde Flow
PHT	LN	20280-4	Pressure Half-Time	Mode: Doppler Pulsed
DcT	LN	20217-6	Deceleration Time	Mode: Doppler Pulsed
Dcc	LN	20216-8	Deceleration Slope	Mode: Doppler Pulsed
D-TraceMeasurement				
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed
Vm	LN	20352-1	Time Averaged Mean Velocity	Mode: Doppler Pulsed

Label	Measurement			Modifier
PGm	LN	20256-4	Mean Gradient	Mode: Doppler Pulsed
VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Pulsed
PHT	LN	20280-4	Pressure Half-Time	Mode: Doppler Pulsed
AcT	LN	20168-1	Acceleration Time	Mode: Doppler Pulsed
DcT	LN	20217-6	Deceleration Time	Mode: Doppler Pulsed
Vp-Reg	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Flow Direction: Retrograde Flow
PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli
PGp-Reg	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli, Flow Direction: Retrograde Flow
Dcc	LN	20216-8	Deceleration Slope	Mode: Doppler Pulsed
HRMeasurement				
HR	LN	8867-4	Heart rate	-

(8) Tricuspid Valve

Table 6.3.2-8 Tricuspid Valve

Label	Measurement			Modifier
Echo TV	SRT	T-35100	Tricuspid Valve	-
TV RegurgMeasurement				
PISA-R	LN	59102-4	Flow Radius	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Alias Vel.	LN	59130-5	Alias velocity	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
PISA	LN	20226-7	Flow Area	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area

Label	Measurement			Modifier
Flow Rate	LN	34141-2	Peak Instantaneous Flow Rate	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
ERO	SRT	G-038E	Cardiovascular Orifice Area	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Reg. Vol.	LN	33878-0	Volume Flow	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
VelocityMeasurement				
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed
Vp-Reg	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Flow Direction: Retrograde Flow
PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli
PGp-Reg	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli, Flow Direction: Retrograde Flow
PHTMeasurement				
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed
Vp-Reg	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Flow Direction: Retrograde Flow
PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli
PGp-Reg	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli, Flow Direction: Retrograde Flow
PHT	LN	20280-4	Pressure Half-Time	Mode: Doppler Pulsed
DcT	LN	20217-6	Deceleration Time	Mode: Doppler Pulsed
Dcc	LN	20216-8	Deceleration Slope	Mode: Doppler Pulsed
D-TraceMeasurement				
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed
Vm	LN	20352-1	Time Averaged Mean Velocity	Mode: Doppler Pulsed

Label	Measurement			Modifier
PGm	LN	20256-4	Mean Gradient	Mode: Doppler Pulsed
VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Pulsed
PHT	LN	20280-4	Pressure Half-Time	Mode: Doppler Pulsed
AcT	LN	20168-1	Acceleration Time	Mode: Doppler Pulsed
DcT	LN	20217-6	Deceleration Time	Mode: Doppler Pulsed
Vp-Reg	LN	20351-3	Peak Velocity	Mode: Doppler Pulsed, Flow Direction: Retrograde Flow
PGp	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli
PGp-Reg	LN	20247-3	Peak Gradient	Mode: Doppler Pulsed, Method: Simplified Bernoulli, Flow Direction: Retrograde Flow
Dcc	LN	20216-8	Deceleration Slope	Mode: Doppler Pulsed
HRMeasurement				
HR	LN	8867-4	Heart rate	-

(9) Aorta

Table 6.3.2-9 Aorta

Label	Measurement			Modifier
Echo Ao	SRT	T-42000	Aorta	-
B-AoMeasurement				
AoD	LN	18015-8	Aortic Root Diameter	Mode: 2D mode, Finding Site: Root of Aorta
Valsalva	LN	18015-8	Aortic Root Diameter	Mode: 2D mode, Finding Site: Structure Sinus of Valsalva
Stjunction	LN	18015-8	Aortic Root Diameter	Mode: 2D mode, Finding Site: Aortic Sinotubular Junction
Asc. Ao	LN	18012-5	Ascending Aortic Diameter	Mode: 2D mode, Finding Site: Ascending Aorta
Aortic Arch	LN	18011-7	Aortic Arch Diameter	Mode: 2D mode, Finding Site: Aortic Arch
Des. Ao	LN	18013-3	Descending Aortic Diameter	Mode: 2D mode
Tho. Ao	LN	18013-3	Descending Aortic Diameter	Mode: 2D mode, Finding Site: Thoracic Aorta

Label	Measurement			Modifier
Abd. Ao	LN	18013-3	Descending Aortic Diameter	Mode: 2D mode, Finding Site: Abdominal Aorta
AoMeasurement				
RVOTd	SRT	G-038F	Cardiovascular Orifice Diameter	Mode: M mode, Finding Site: Right Ventricle Outflow Tract
AoD	LN	18015-8	Aortic Root Diameter	Mode: M mode
AV open	LN	17996-0	Aortic Valve Cusp Separation	Mode: M mode, Cardiac Cycle Point: Ventricular Isovolumic Contraction
AV close	LN	17996-0	Aortic Valve Cusp Separation	Mode: M mode, Cardiac Cycle Point: End Systole
LAD	LN	29469-4	Left Atrium Antero-posterior Systolic Dimension	Mode: M mode, Finding Site: Left Atrium
LA/Ao	LN	17985-3	Left Atrium to Aortic Root Ratio	Mode: M mode, Finding Site: Left Atrium
PEP	LN	59085-1	Pre-Ejection Period	Mode: M mode
ET	LN	18041-4	Aortic Valve Ejection Time	Mode: M mode
HRMeasurement				
HR	LN	8867-4	Heart rate	-

(10) Pulmonary Artery

Table 6.3.2-10 Pulmonary Artery

Label	Measurement			Modifier
Echo PArtery	SRT	T-44000	Pulmonary artery	-
B-PArteryMeasurement				
PAD	LN	18020-8	Main Pulmonary Artery Diameter	Mode: 2D mode
RPAD	LN	18021-6	Right Pulmonary Artery Diameter	Mode: 2D mode
LPAD	LN	18019-0	Left Pulmonary Artery Diameter	Mode: 2D mode
D-PArteryMeasurement				
PArtery-Vp	SRT	G-038A	Main Pulmonary Artery Peak Velocity	Mode: Doppler Pulsed
HRMeasurement				
HR	LN	8867-4	Heart rate	-

(11) Inferior Vena Cava

Table 6.3.2-11 Inferior Vena Cava

Label	Measurement			Modifier
Echo IVC	SRT	T-48600	Vena Cava	-
B-IVCMeasurement				
IVCD insp	LN	18006-7	Inferior Vena Cava Diameter	Mode: 2D mode, Respiratory Cycle Point: During Inspiration
IVCD exp	LN	18006-7	Inferior Vena Cava Diameter	Mode: 2D mode, Respiratory Cycle Point: During Expiration
HRMeasurement				
HR	LN	8867-4	Heart rate	-

(12) Pulmonary Vein

Table 6.3.2-12 Pulmonary Vein

Label	Measurement			Modifier
Echo PVein	SRT	T-48581	Pulmonary Venous Structure	-
D-PVeinMeasurement				
S1	LN	29450-4	Pulmonary Vein Systolic Peak Velocity	Mode: Doppler Pulsed, Cardiac Cycle Point: Ventricular Isovolumic Contraction
S	LN	29450-4	Pulmonary Vein Systolic Peak Velocity	Mode: Doppler Pulsed, Cardiac Cycle Point: Peak Systolic
D	LN	29451-2	Pulmonary Vein Diastolic Peak Velocity	Mode: Doppler Pulsed, Cardiac Cycle Point: Diastole
A	LN	29453-8	Pulmonary Vein Atrial Contraction Reversal Peak Velocity	Mode: Doppler Pulsed, Cardiac Cycle Point: Atrial Systole
S/D	LN	29452-0	Pulmonary Vein Systolic to Diastolic Ratio	Mode: Doppler Pulsed
Adur	SRT	G-038B	Pulmonary Vein A-Wave Duration	Mode: Doppler Pulsed
HRMeasurement				
HR	LN	8867-4	Heart rate	-

(13) Cardiac Shunt Study

Table 6.3.2-13 Cardiac Shunt Study

Label	Measurement			Modifier
Echo CS	SRT	P5-30031	Cardiac Shunt Study	-
Qp/QsMeasurement				
LVOT-VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Pulsed, Finding Site: Left Ventricle Outflow Tract
LVOT-Diam	SRT	G-038F	Cardiovascular Orifice Diameter	Mode: 2D mode, Finding Site: Left Ventricle Outflow Tract
LVOT-CSA	SRT	G-038E	Cardiovascular Orifice Area	Mode: 2D mode, Finding Site: Left Ventricle Outflow Tract
LVOT-SV	SRT	F-32120	Stroke Volume	Finding Site: Left Ventricle Outflow Tract
RVOT-VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Pulsed, Finding Site: Right Ventricle Outflow Tract
RVOT-Diam	SRT	G-038F	Cardiovascular Orifice Diameter	Mode: 2D mode, Finding Site: Right Ventricle Outflow Tract
RVOT-CSA	SRT	G-038E	Cardiovascular Orifice Area	Mode: 2D mode, Finding Site: Right Ventricle Outflow Tract
RVOT-SV	SRT	F-32120	Stroke Volume	Finding Site: Right Ventricle Outflow Tract
Qp/Qs	LN	29462-9	Pulmonary-to-Systemic Shunt Flow Ratio	-
HRMeasurement				
HR	LN	8867-4	Heart rate	-

(14) Congenital Anomaly of Cardiovascular System

Table 6.3.2-14 Congenital Anomaly of Cardiovascular System

Label	Measurement			Modifier
Echo Cong	SRT	D4-30000	Congenital Anomaly of Cardiovascular System	-

Label	Measurement			Modifier
Cong RegurgMeasurement				
PISA-R	LN	59102-4	Flow Radius	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Alias Vel.	LN	59130-5	Alias velocity	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Vp	LN	20351-3	Peak Velocity	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
VTI	LN	20354-7	Velocity Time Integral	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
PISA	LN	20226-7	Flow Area	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Flow Rate	LN	34141-2	Peak Instantaneous Flow Rate	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
ERO	SRT	G-038E	Cardiovascular Orifice Area	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
Reg. Vol.	LN	33878-0	Volume Flow	Mode: Doppler Color Flow, Method: Proximal Isovelocity Surface Area
HRMeasurement				
HR	LN	8867-4	Heart rate	-

6.3.3 OB-GYN REPORT TEMPLATES (OB_SR)

TID 5000 is the template for the root of the content tree for the OB-GYN ultrasound procedure report. This root template includes following other templates.

(1) TID 5002 OB-GYN PROCEDURE SUMMARY SECTION

- TID 5002 OB-GYN Procedure Summary Section
  - TID 5003 OB-GYN Fetus Summary
    - TID 1008 Fetus ID
    - TID 300 Measurement : CID 12019 OB-GYN Fetus Summary

Table 6.3.3-1 CID 12019 OB-GYN FETUS

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	11727-5	Estimated Weight	-

(2) TID 5004 FETAL BIOMETRY RATIO SECTION

- TID 5004 Fetal Biometry Ratio Section
  - TID 1008 Fetus ID
  - CID 12004 Fetal Biometry Ratios

Table 6.3.3-2 CID 12004 FETAL BIOMETRY RATIOS

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	11947-9	HC/AC	-
LN	11871-1	FL/AC	-
LN	11872-9	FL/BPD	-
LN	11823-2	Cephalic Index	-

(3) TID 5005 FETAL BIOMETRY SECTION

- TID 5005 Fetal Biometry Section
  - TID 1008 Fetus ID
  - TID 5008 Fetal Biometry Group
    - TID 300 Measurement: CID 12005 Fetal Biometry Measurements
      - CID 3627 Measurement Type
    - Gestational Age
      - CID 12013 Gestational Age Equations and Tables
    - CID 12017 Growth Distribution Rank
      - CID 12015 Fetal Growth Equations and Tables

Table 6.3.3-3 CID 12005 FETAL BIOMETRY MEASUREMENTS

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	11979-2	Abdominal Circumference	-
LN	11818-2	Anterior-Posterior Abdominal Diameter	-
LN	11820-8	Biparietal Diameter	-
LN	11963-6	Femur Length	-
LN	11984-2	Head Circumference	-
LN	11851-3	Occipital-Frontal Diameter	-
LN	33068-8	Thoracic Area	-
LN	11863-8	Trans Cerebellar Diameter	-
LN	11864-6	Transverse Thoracic Diameter	-
LN	33191-8	APAD * TAD	-

Table 6.3.3-4 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

Table 6.3.3-5 CID 12013 GESTATIONAL AGE EQUATIONS AND TABLES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	11892-7	AC, Hadlock 1984	-
LN	33076-1	AC, Shinozuka 1996	-
LN	33078-7	AxT, Shinozuka 1996	
LN	11902-4	BPD, Hadlock 1984	-
LN	11903-2	BPD, Hansmann 1985	-
LN	33082-9	BPD, Osaka 1989	-
LN	11907-3	BPD, Sabbagha 1978	-
LN	33084-5	BPD, Shinozuka 1996	-
LN	11921-4	FL, Hansmann 1985	-
LN	11923-0	FL, Jeanty 1984	-

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	33101-7	FL, Osaka 1989	-
LN	33102-5	FL, Shinozuka 1996	-
LN	11932-1	HC, Hadlock 1984	-
LN	33112-4	HC, Hansmann 1985	-
LN	33544-8	OFD, Hansmann 1985	-
LN	33136-3	Transverse Thoracic Diameter, Hansmann 1985	-
LN	33138-9	Fetal Trunk Cross-Sectional Area, Osaka 1989	-

Table 6.3.3-6 CID 12017 GROWTH DISTRIBUTION RANK

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
DCM	125013	Growth Z-score	-

Table 6.3.3-7 CID 12015 FETAL GROWTH EQUATIONS AND TABLES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	33146-2	AC by GA, Hadlock 1984	-
LN	33150-4	AxT by GA, Shinozuka 1996	-
LN	33198-3	BPD by GA, Hadlock 1984	-
LN	33156-1	BPD by GA, Shinozuka 1996	-
LN	33166-0	FL by GA, Hadlock 1984	-
LN	33170-2	FL by GA, Shinozuka 1996	-
LN	33173-6	HC by GA, Hadlock 1984	-

(4) TID 5006 FETAL LONG BONES SECTION

- TID 5006 Fetal Long Bones Section
  - TID 1008 Fetus ID
  - TID 5008 Fetal Biometry Group
    - TID 300 Measurement: CID 12006 Fetal Long Bones Biometry Measurements
      - CID 3627 Measurement Type
    - Gestational Age
      - CID 12013 Gestational Age Equations and Tables
    - CID 12017 Growth Distribution Rank
      - CID 12015 Fetal Growth Equations and Tables

Table 6.3.3-8 CID 12006 FETAL LONG BONES BIOMETRY MEASUREMENTS

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	11966-9	Humerus length	-
LN	11967-7	Radius length	-
LN	11969-3	Ulna length	-
LN	11968-5	Tibia length	-
LN	11964-4	Fibula length	-
LN	11963-6	Femur Length	-

Table 6.3.3-9 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

Table 6.3.3-10 CID 12013 GESTATIONAL AGE EQUATIONS AND TABLES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	11921-4	FL, Hansmann 1985	-
LN	11923-0	FL, Jeanty 1984	-
LN	33101-7	FL, Osaka 1989	-
LN	33102-5	FL, Shinozuka 1996	-
LN	11934-7	HC, Jeanty 1984	-

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	33117-3	Humerus Length, Osaka 1989	-

Table 6.3.3-11 CID 12017 GROWTH DISTRIBUTION RANK

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
DCM	125013	Growth Z-score	-

Table 6.3.3-12 CID 12015 FETAL GROWTH EQUATIONS AND TABLES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	33166-0	FL by GA, Hadlock 1984	-
LN	33170-2	FL by GA, Shinozuka 1996	-

(5) TID 5007 FETAL CRANIUM SECTION

- TID 5007 Fetal Cranium Section
  - TID 1008 Fetus ID
  - TID 5008 Fetal Biometry Group
    - TID 300 Measurement: CID 12007 Fetal Cranium
      - CID 3627 Measurement Type

Table 6.3.3-13 CID 12007 FETAL CRANIUM

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	12171-5	Lateral Ventrical width	-
LN	33070-4	Inner Orbital Diameter	-
LN	11629-3	Outer Orbital Diameter	-
LN	11863-8	Trans Cerebellar Diameter	-
LN	12170-7	Width of Hemisphere	-

Table 6.3.3-14 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

(6) TID 5011 EARLY GESTATION SECTION

- TID 5011 Early Gestation Section
  - TID 1008 Fetus ID
  - TID 5008 Fetal Biometry Group
    - TID 300 Measurement: CID 12009 Early Gestation Biometry Measurements
      - CID 3627 Measurement Type
    - Gestational Age
      - CID 12013 Gestational Age Equations and Tables

Table 6.3.3-15 CID 12009 EARLY GESTATION BIOMETRY MEASUREMENTS

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	11957-8	Crown Rump Length	-
LN	11850-5	Gestational Sac Diameter	-

Table 6.3.3-16 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

Table 6.3.3-17 CID 12013 GESTATIONAL AGE EQUATIONS AND TABLES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	11911-5	CRL, Hansmann 1985	-
LN	33093-6	CRL, Osaka 1989	-
LN	11914-9	CRL, Robinson 1975	-
LN	33096-9	CRL, Tokyo 1986	-
LN	11928-9	GS, Hellman 1969	-
LN	33108-2	GS, Tokyo 1986	-

(7) TID 5010 AMNIOTIC SAC SECTION

- TID 5010 Amniotic Sac Section
  - Amniotic Sac
  - TID 300 Measurement: Amniotic Fluid Index
  - TID 300 Measurement: CID 12008 OB-GYN Amniotic Sac

Table 6.3.3-18 CID 12008 OB-GYN AMNIOTIC SAC

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	11624-4	First Quadrant Diameter	-
LN	11626-9	Second Quadrant Diameter	-
LN	11625-1	Third Quadrant Diameter	-
LN	11623-6	Fourth Quadrant Diameter	-

(8) TID 5015 PELVIS AND UTERUS SECTION

- TID 5015 Pelvis and Uterus Section
  - TID 5016 LWH Volume Group
    - TID 300 Measurement: Uterus Volume
    - TID 300 Measurement: Uterus Length
    - TID 300 Measurement: Uterus Width
    - TID 300 Measurement: Uterus Height
  - TID 300 Measurement: CID 12011 Ultrasound Pelvis and Uterus

Table 6.3.3-19 CID 12011 ULTRASOUND PELVIS AND UTERUS

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	11961-0	Cervix Length	-
LN	12145-9	Endometrium Thickness	-

(9) TID 5012 OVARIES SECTION

- TID 5012 Ovaries Section
  - Ovary
  - TID 5016 LWH Volume Group
    - TID 300 Measurement: Left Ovary Volume
    - TID 300 Measurement: Left Ovary Length
    - TID 300 Measurement: Left Ovary Width
    - TID 300 Measurement: Left Ovary Height
  - TID 5016 LWH Volume Group
    - TID 300 Measurement: Right Ovary Volume
    - TID 300 Measurement: Right Ovary Length
    - TID 300 Measurement: Right Ovary Width
    - TID 300 Measurement: Right Ovary Height

(10) TID 5013 FOLLICLES SECTION

- TID 5013 Follicles Section
  - Ovarian Follicle
  - Left or Right
  - TID 5014 Follicle Measurement Group
    - Identifier
    - TID 300 Measurement: Volume
    - TID 300 Measurement: Follicle Diameter

6.3.4 VASCULAR ULTRASOUND REPORT TEMPLATES (Vascular_SR)·····

TID 5100 is the template for the root the content tree for the vascular ultrasound procedure report. This root template includes following other templates.

(1) TID 5103 VASCULAR ULTRASOUND SECTION "ARTERY OF NECK"

- TID 5103 Vascular Ultrasound Section
  - Artery of neck
  - Left or Right
  - TID 5104 Vascular Ultrasound Measurement Group: CID 12104 Extracranial Arteries
    - TID 300 Measurement: CID 12119 Vascular Ultrasound Property
      - CID 3627 Measurement Type

Table 6.3.4-1 CID 12104 EXTRACRANIAL ARTERIES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	T-45170	Carotid Bulb	-
SRT	T-45100	Common Carotid Artery	-
SRT	T-45200	External Carotid Artery	-
SRT	T-45300	Internal Carotid Artery	-
SRT	T-46100	Subclavian Artery	-
SRT	T-45700	Vertebral Artery	-

Table 6.3.4-2 CID 12119 VASCULAR ULTRASOUND PROPERTY

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
INCLUDE CID 12120 Blood Velocity Measurements			
LN	11653-3	End Diastolic Velocity	-
LN	11665-7	Minimum Diastolic Velocity	-
LN	11726-7	Peak Systolic Velocity	-
LN	20352-1	Time averaged mean velocity	-
LN	11692-1	Time averaged peak velocity	-
INCLUDE CID 12121 Vascular Indices and Ratios			
SRT	R-101BA	Lumen Area Stenosis	-
SRT	R-101BB	Lumen Diameter Stenosis	-
LN	12008-9	Pulsatility Index	-
LN	12023-8	Resistivity Index	-
LN	12144-2	Systolic to Diastolic Velocity Ratio	-
INCLUDE CID 12122 Other Vascular Properties			
LN	20168-1	Acceleration Time	-
LN	20217-6	Deceleration Time	-
SRT	G-0364	Vessel lumen diameter	-

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	G-0365	Vessel outside diameter	-
SRT	G-0366	Vessel lumen cross-sectional area	-
LN	33878-0	Volume flow	-
SRT	R-1025E	Vessel depth from surface	-
SRT	R-1025C	Vessel Intimal Diameter	-

Table 6.3.4-3 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

(2) TID 5103 VASCULAR ULTRASOUND SECTION "ARTERY OF LOWER EXTREMITY"

- TID 5103 Vascular Ultrasound Section
  - Artery of Lower Extremity
  - Left or Right
  - TID 5104 Vascular Ultrasound Measurement Group: CID 12109 Lower Extremity Arteries
    - TID 300 Measurement: CID 12119 Vascular Ultrasound Property
      - CID 3627 Measurement Type

Table 6.3.4-4 CID 12109 LOWER EXTREMITY ARTERIES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	T-46710	Common Iliac Artery	-
SRT	T-47700	Anterior Tibial Artery	-
SRT	T-47400	Common Femoral Artery	-
SRT	T-47741	Dorsalis Pedis Artery	-
SRT	T-46910	External Iliac Artery	-
SRT	T-46740	Internal Iliac Artery	-

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	T-47630	Peroneal Artery	-
SRT	T-47500	Popliteal Artery	-
SRT	T-47600	Posterior Tibial Artery	-
SRT	T-47440	Profunda Femoris Artery	-
SRT	T-47403	Superficial Femoral Artery	-

Table 6.3.4-5 CID 12119 VASCULAR ULTRASOUND PROPERTY

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
INCLUDE CID 12120 Blood Velocity Measurements			
LN	11653-3	End Diastolic Velocity	-
LN	11665-7	Minimum Diastolic Velocity	-
LN	11726-7	Peak Systolic Velocity	-
LN	20352-1	Time averaged mean velocity	-
LN	11692-1	Time averaged peak velocity	-
INCLUDE CID 12121 Vascular Indices and Ratios			
SRT	R-101BA	Lumen Area Stenosis	-
SRT	R-101BB	Lumen Diameter Stenosis	-
LN	12008-9	Pulsatility Index	-
LN	12023-8	Resistivity Index	-
LN	12144-2	Systolic to Diastolic Velocity Ratio	-
INCLUDE CID 12122 Other Vascular Properties			
LN	20168-1	Acceleration Time	-
LN	20217-6	Deceleration Time	-
SRT	G-0364	Vessel lumen diameter	-
SRT	G-0365	Vessel outside diameter	-

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	G-0366	Vessel lumen cross-sectional area	-
LN	33878-0	Volume flow	-
SRT	R-1025E	Vessel depth from surface	-
SRT	R-1025C	Vessel Intimal Diameter	-

Table 6.3.4-6 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

(3) TID 5103 VASCULAR ULTRASOUND SECTION "VEIN OF LOWER EXTREMITY"

- TID 5103 Vascular Ultrasound Section
  - Vein of Lower Extremity
  - Left or Right
  - TID 5104 Vascular Ultrasound Measurement Group: CID 12110 Lower Extremity Veins
    - TID 300 Measurement: CID 12119 Vascular Ultrasound Property
      - CID 3627 Measurement Type

Table 6.3.4-7 CID 12110 LOWER EXTREMITY ARTERIES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	T-49630	Anterior Tibial Vein	-
SRT	G-035B	Common Femoral Vein	-
SRT	T-48920	Common Iliac Vein	-
SRT	T-48930	External Iliac Vein	-
SRT	T-4942D	Gastrocnemius vein	-
SRT	T-49530	Great Saphenous Vein	-
SRT	T-49550	Lesser Saphenous Vein	-
SRT	T-49650	Peroneal Vein	-
SRT	T-49640	Popliteal Vein	-

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	T-49620	Posterior Tibial Vein	-
SRT	T-49660	Profunda Femoris Vein	-
SRT	T-D930A	Saphenofemoral Junction	-
SRT	G-036B	Soleal vein	-
SRT	G-035A	Superficial Femoral Vein	-
SRT	T-4941A	Saphenopopliteal junction	-
SRT	T-4942A	Hunterian perforating vein	-
SRT	T-49426	Cockett's perforating vein	-
SRT	T-49424	Boyd's perforating vein	-

Table 6.3.4-8 CID 12119 VASCULAR ULTRASOUND PROPERTY

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
INCLUDE CID 12122 Other Vascular Properties			
SRT	G-0364	Vessel lumen diameter	-
SRT	G-0365	Vessel outside diameter	-
SRT	R-1025E	Vessel depth from surface	-

Table 6.3.4-9 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

6.3.5 ECHOCARDIOGRAPHY PROCEDURE REPORT TEMPLATES (Cardiac_SR)

TID 5200 is the template for the root the content tree for the Echocardiography procedure report. This root template includes following other templates.

(1) TID 5202 ECHO SECTION "LEFT VENTRICLE"

- TID 5202 Echo Section
  - Left Ventricle
  - Measurement Group
    - CID 12224 Ultrasound Image Modes
    - TID 5203 Echo Measurement: TID 300 Measurement: CID 12200 Echocardiography Left Ventricle
      - CID 12227 Echocardiography Measurement Method
      - CID 3627 Measurement Type

Table 6.3.5-1 CID 12224 ULTRASOUND IMAGE MODES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	G-03A2	2D mode	-
SRT	R-409E2	Doppler Color Flow	-
SRT	G-0394	M mode	-
SRT	R-409E4	Doppler Pulsed	-

Table 6.3.5-2 CID 12200 ECHOCARDIOGRAPHY LEFT VENTRICLE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
INCLUDE CID 12220 Echocardiography Common Measurements			
LN	8867-4	Heart rate	-
INCLUDE CID 12201 Left Ventricle Linear			
LN	29436-3	Left Ventricle Internal End Diastolic Dimension	-
LN	29438-9	Left Ventricle Internal Systolic Dimension	-

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	18051-3	Left Ventricular Fractional Shortening	-
INCLUDE CID 12202 Left Ventricle Volume			
LN	18026-5	Left Ventricular End Diastolic Volume	-
LN	18148-7	Left Ventricular End Systolic Volume	-
LN	18043-0	Left Ventricular Ejection Fraction	-
INCLUDE CID 12222 Orifice Flow Properties			
LN	33878-0	Volume Flow	-
LN	34141-2	Peak Instantaneous Flow Rate	-
SRT	G-038E	Cardiovascular Orifice Area	-
SRT	G-038F	Cardiovascular Orifice Diameter	-
LN	11726-7	Peak Velocity	-
LN	20354-7	Velocity Time Integral	-
INCLUDE CID 12203 Left Ventricle Other			
LN	18071-1	Left Ventricular Isovolumic Relaxation Time	-
SRT	G-037A	Left Ventricular Peak Early Diastolic Tissue Velocity	-
SRT	G-037C	LV Peak Diastolic Tissue Velocity During Atrial Systole	-
SRT	G-037D	Left Ventricular Peak Systolic Tissue Velocity	-
INCLUDE CID 12239 Cardiac Output Properties			
SRT	F-32120	Stroke Volume	-

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	F-32100	Cardiac Output	-
SRT	F-32110	Cardiac Index	-

Table 6.3.5-3 ECHOCARDIOGRAPHY MEASURMENT METHOD

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
INCLUDE CID 12228 Volume Methods			
DCM	125204	Area-Length Biplane	-
DCM	125205	Area-Length Single Plane	-
DCM	125209	Teichholz	-
DCM	125227	Modified Simpson	-

Table 6.3.5-4 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

(2) TID 5202 ECHO SECTION "RIGHT VENTRICLE"

- TID 5202 Echo Section
  - Right Ventricle
  - Measurement Group
    - CID 12224 Ultrasound Image Modes
    - TID 5203 Echo Measurement: TID 300 Measurement: CID 12204 Echocardiography Right Ventricle
      - CID 3627 Measurement Type

Table 6.3.5-5 CID 12224 ULTRASOUND IMAGE MODES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	G-03A2	2D mode	-
SRT	R-409E2	Doppler Color Flow	-

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-409E4	Doppler Pulsed	-

Table 6.3.5-6 CID 12204 ECHOCARDIOGRAPHY RIGHT VENTRICLE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
INCLUDE CID 12220 Echocardiography Common Measurements			
LN	8867-4	Heart rate	-
INCLUDE CID 12222 Orifice Flow Properties			
LN	33878-0	Volume Flow	-
LN	34141-2	Peak Instantaneous Flow Rate	-
SRT	G-038E	Cardiovascular Orifice Area	-
SRT	G-038F	Cardiovascular Orifice Diameter	-
LN	11726-7	Peak Velocity	-
LN	20354-7	Velocity Time Integral	-
INCLUDE CID 12239 Cardiac Output Properties			
SRT	F-32120	Stroke Volume	-
SRT	F-32100	Cardiac Output	-
SRT	F-32110	Cardiac Index	-

Table 6.3.5-7 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

(3) TID 5202 ECHO SECTION "AORTIC VALVE"

- TID 5202 Echo Section
  - Aortic Valve
  - Measurement Group
    - CID 12224 Ultrasound Image Modes
    - TID 5203 Echo Measurement: TID 300 Measurement: CID 12211 Echocardiography Aortic Valve
      - CID 3627 Measurement Type

Table 6.3.5-8 CID 12224 ULTRASOUND IMAGE MODES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	G-03A2	2D mode	-
SRT	R-409E2	Doppler Color Flow	-
SRT	G-0394	M mode	-

Table 6.3.5-9 CID 12211 ECHOCARDIOGRAPHY AORTIC VALVE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	17996-0	Aortic Valve Cusp Separation	-
LN	18041-4	Aortic Valve Ejection Time	-
INCLUDE CID 12220 Echocardiography Common Measurements			
LN	8867-4	Heart rate	-
INCLUDE CID 12222 Orifice Flow Properties			
LN	33878-0	Volume Flow	-
LN	34141-2	Peak Instantaneous Flow Rate	-
SRT	G-038E	Cardiovascular Orifice Area	-
SRT	G-038F	Cardiovascular Orifice Diameter	-
LN	11726-7	Peak Velocity	-
LN	20354-7	Velocity Time Integral	-

Table 6.3.5-10 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

(4) TID 5202 ECHO SECTION "MITRAL VALVE"

- TID 5202 Echo Section
  - Mitral Valve
  - Measurement Group
    - CID 12224 Ultrasound Image Modes
    - TID 5203 Echo Measurement: TID 300 Measurement: CID 12207 Echocardiography Mitral Valve
      - CID 3627 Measurement Type

Table 6.3.5-11 CID 12224 ULTRASOUND IMAGE MODES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	G-03A2	2D mode	-
SRT	R-409E2	Doppler Color Flow	-
SRT	G-0394	M mode	-
SRT	R-409E4	Doppler Pulsed	-

Table 6.3.5-12 CID 12207 ECHOCARDIOGRAPHY MITRAL VALVE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	17978-8	Mitral Valve A-Wave Peak Velocity	-
LN	18037-2	Mitral Valve E-Wave Peak Velocity	-
LN	18038-0	Mitral Valve E to A Ratio	-
LN	18040-6	Mitral Valve E-F Slope by M-Mode	-

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	18036-4	Mitral Valve EPSS, E wave	-
SRT	G-0385	Mitral Valve A-Wave Duration	-
INCLUDE CID 12220 Echocardiography Common Measurements			
LN	8867-4	Heart rate	-
INCLUDE CID 12222 Orifice Flow Properties			
LN	33878-0	Volume Flow	-
LN	34141-2	Peak Instantaneous Flow Rate	-
SRT	G-038E	Cardiovascular Orifice Area	-
SRT	G-038F	Cardiovascular Orifice Diameter	-
LN	11726-7	Peak Velocity	-
LN	20354-7	Velocity Time Integral	-

Table 6.3.5-13 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

(5) TID 5202 ECHO SECTION "PULMONIC VALVE"

- TID 5202 Echo Section
  - Pulmonic Valve
  - Measurement Group
    - CID 12224 Ultrasound Image Modes
    - TID 5203 Echo Measurement: TID 300 Measurement: CID 12209 Echocardiography Pulmonic Valve
      - CID 3627 Measurement Type

Table 6.3.5-14 CID 12224 ULTRASOUND IMAGE MODES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	G-03A2	2D mode	-
SRT	R-409E2	Doppler Color Flow	-

Table 6.3.5-15 CID 12209 ECHOCARDIOGRAPHY PULMONIC VALVE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
INCLUDE CID 12220 Echocardiography Common Measurements			
LN	8867-4	Heart rate	-
INCLUDE CID 12222 Orifice Flow Properties			
LN	33878-0	Volume Flow	-
LN	34141-2	Peak Instantaneous Flow Rate	-
SRT	G-038E	Cardiovascular Orifice Area	-
SRT	G-038F	Cardiovascular Orifice Diameter	-
LN	11726-7	Peak Velocity	-
LN	20354-7	Velocity Time Integral	-

Table 6.3.5-16 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

(6) TID 5202 ECHO SECTION "TRICUSPID VALVE"

- TID 5202 Echo Section
  - Tricuspid Valve
  - Measurement Group
    - CID 12224 Ultrasound Image Modes
    - TID 5203 Echo Measurement: TID 300 Measurement: CID 12208 Echocardiography Tricuspid Valve
      - CID 3627 Measurement Type

Table 6.3.5-17 CID 12224 ULTRASOUND IMAGE MODES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	G-03A2	2D mode	-
SRT	R-409E2	Doppler Color Flow	-

Table 6.3.5-18 CID 12208 ECHOCARDIOGRAPHY TRICUSPID VALVE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
INCLUDE CID 12220 Echocardiography Common Measurements			
LN	8867-4	Heart rate	-
INCLUDE CID 12222 Orifice Flow Properties			
LN	33878-0	Volume Flow	-
LN	34141-2	Peak Instantaneous Flow Rate	-
SRT	G-038E	Cardiovascular Orifice Area	-
SRT	G-038F	Cardiovascular Orifice Diameter	-
LN	11726-7	Peak Velocity	-
LN	20354-7	Velocity Time Integral	-

Table 6.3.5-19 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

(7) TID 5202 ECHO SECTION "PULMONARY VEINS"

- TID 5202 Echo Section
  - Pulmonary Venous Structure
  - Measurement Group
    - CID 12224 Ultrasound Image Modes
    - TID 5203 Echo Measurement: TID 300 Measurement: CID 12214 Echocardiography Pulmonary Veins
      - CID 3627 Measurement Type

Table 6.3.5-20 CID 12224 ULTRASOUND IMAGE MODES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	G-03A2	2D mode	-
SRT	R-409E4	Doppler Pulsed	-

Table 6.3.5-21 CID 12214 ECHOCARDIOGRAPHY PULMONARY VEINS

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	29450-4	Pulmonary Vein Systolic Peak Velocity	-
LN	29451-2	Pulmonary Vein Diastolic Peak Velocity	-
LN	29452-0	Pulmonary Vein Systolic to Diastolic Ratio	-
SRT	G-038B	Pulmonary Vein A-Wave Duration	-
INCLUDE CID 12220 Echocardiography Common Measurements			
LN	8867-4	Heart rate	-

Table 6.3.5-22 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

(8) TID 5202 ECHO SECTION "CARDIAC SHUNT"

- TID 5202 Echo Section
  - Cardiac Shunt Study
  - Measurement Group
    - CID 12224 Ultrasound Image Modes
    - TID 5203 Echo Measurement: TID 300 Measurement: CID 12217 Echocardiography Cardiac Shunt
      - CID 3627 Measurement Type

Table 6.3.5-23 CID 12224 ULTRASOUND IMAGE MODES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	G-03A2	2D mode	-
SRT	R-409E4	Doppler Pulsed	-

Table 6.3.5-24 CID 12217 ECHOCARDIOGRAPHY CARDIAC SHUNT

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
LN	29462-9	Pulmonary-to-Systemic Shunt Flow Ratio	-
INCLUDE CID 12220 Echocardiography Common Measurements			
LN	8867-4	Heart rate	-

Table 6.3.5-25 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

(9) TID 5202 ECHO SECTION "CONGENITAL"

- TID 5202 Echo Section
  - Congenital Anomaly of Cardiovascular System
  - Measurement Group
    - CID 12224 Ultrasound Image Modes
    - TID 5203 Echo Measurement: TID 300 Measurement: CID 12218 Echocardiography Congenital
      - CID 3627 Measurement Type

Table 6.3.5-26 CID 12224 ULTRASOUND IMAGE MODES

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	G-03A2	2D mode	-
SRT	R-409E2	Doppler Color Flow	-

Table 6.3.5-27 CID 12218 ECHOCARDIOGRAPHY CONGENITAL

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
INCLUDE CID 12220 Echocardiography Common Measurements			
LN	8867-4	Heart rate	-
INCLUDE CID 12222 Orifice Flow Properties			
LN	33878-0	Volume Flow	-
LN	34141-2	Peak Instantaneous Flow Rate	-
SRT	G-038E	Cardiovascular Orifice Area	-
SRT	G-038F	Cardiovascular Orifice Diameter	-
LN	11726-7	Peak Velocity	-
LN	20354-7	Velocity Time Integral	-

Table 6.3.5-28 CID 3627 MEASUREMENT TYPE

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	Coding Scheme Version (0008,0103)
SRT	R-00317	Mean	-

6.4 GRAYSCALE IMAGE CONSISTENCY

No Grayscale Image Consistency is supported.

6.5 STANDARD EXTENDED / SPECIALIZED / PRIVATE SOP CLASSES

No Specialized or Private SOP Classes are supported.

6.6 PRIVATE TRANSFER SYNTAXES

No Private Transfer Syntaxes are supported.

INDEX

V

W