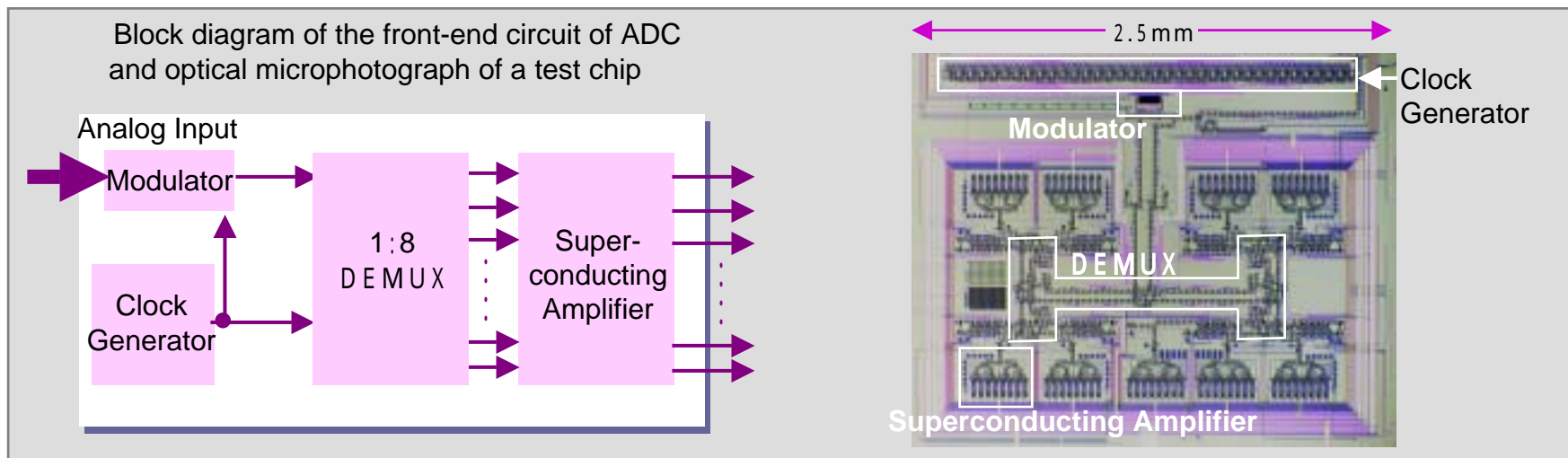


2002/6/27 Release

The fastest Superconducting Single-Flux-Quantum Circuit - Front-end circuit for an Analog-to-Digital Converter with 40 GHz sampling -



Successful demonstration of superconducting single-flux-quantum circuit with the operation speed of 40 GHz has been confirmed. The circuit is a front-end circuit for an Analog-to-Digital converter. The front-end circuit consists of a modulator, demultiplexer and superconducting amplifier and the total number of the Josephson junction was 2,518. Our objective is the base station for wireless digital communication in the future. To realize the goal, we will develop a digital signal processor such as decimation filter. This study was performed through Special Coordination Funds of MEXT.