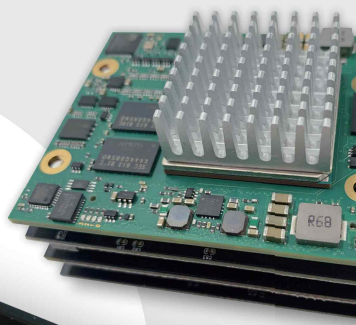
MAETEL16

ModulArizEd DAQ sysTem on Embedded Linux

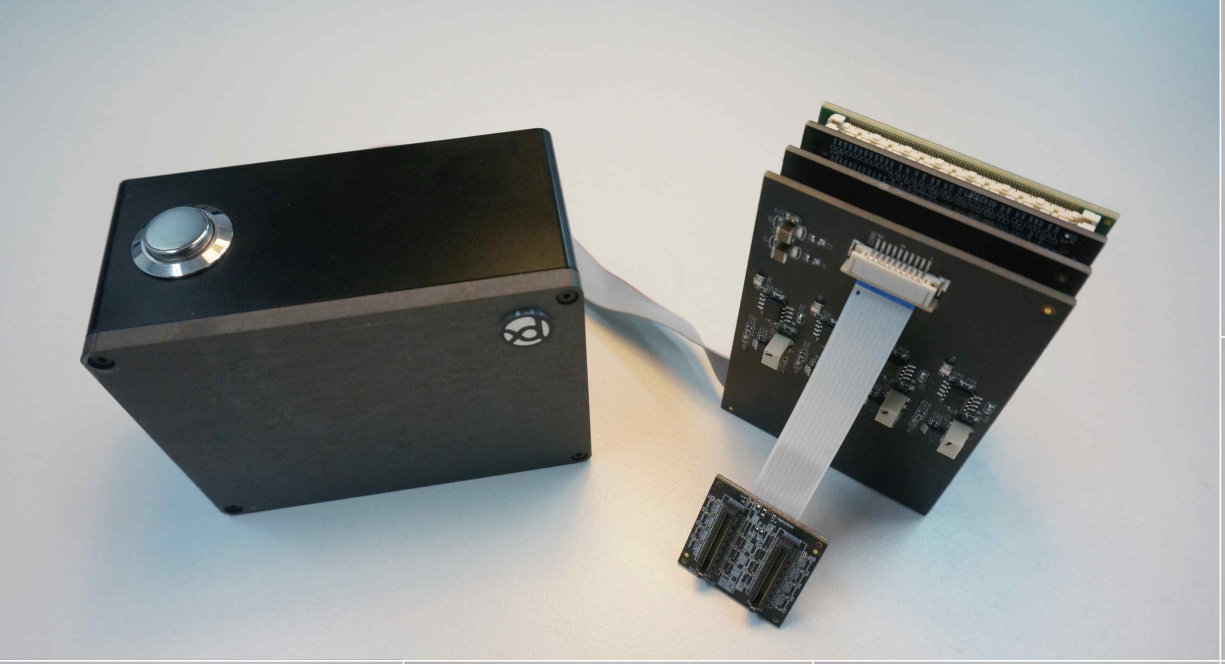
Applications

Gamma ray Spectrometer
Gamma Camera
Single Photon Emission Computed Tomography
Positron Emission Tomography
High Energy Physics

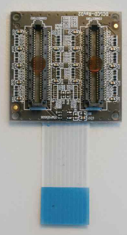


Features

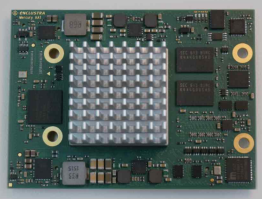
8×8 Silicon Photomultiplier Array
Symmetric Charge Division Circuit
HV Power Supply with Temperature Compensation Function
4ch Preamplifier
16ch, 10bit, 100MSPS ADC
Intel SoC FPGA-based Embedded System
Angstrom Linux
1Gb Ethernet Communication
Compact Size(74×54×33mm^3), Light Weight (130g)
Software runs on Windows, Linux and Mac



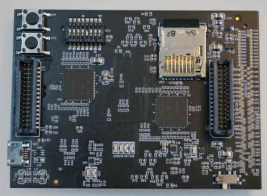
Gigabit Ethernet
& Power Connector



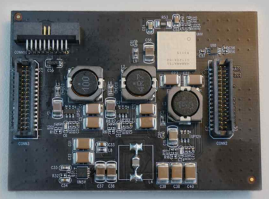
Symmetric Charge Division



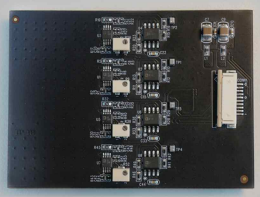
Intel SoC FPGA



16ch 100MSPS ADC

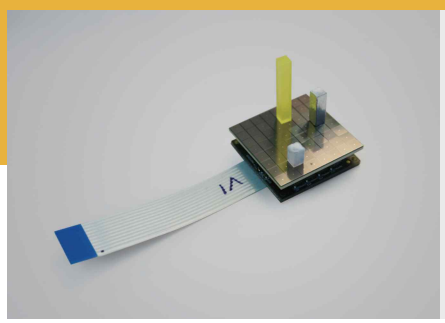


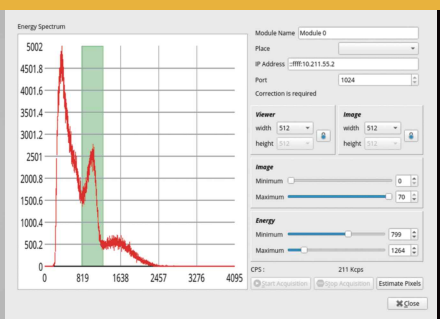
Power Distribution

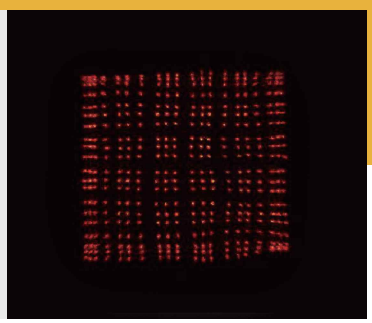


4ch amplifier & ADC driver

MAETEL16 has been designed for analog and digital circuit experiments in order to develop silicon photomultiplier(SiPM) based photon counting radiation imaging devices, such as, gamma camera, SPECT and PET. It provides 6 electric circuit boards, which consist of SCD positioning, Power distribution, Preamplier, ADC, SoC FPGA and Data communication, which correspond to the reference signal processing chain in radiation imaging devices. Additionally, Energy spectrum, Flood-map and Pulse Shape Analyzing can be explored in this all-in-one system. In order to further develop this gamma ray imaging device, user designed collimators can be attached to a customized aluminum housing.







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ADVANCED RADIOLOGICAL SCIENCES