

APU504XGbE

Digital Signal Processor for X-ray spectroscopy

20181108

This is a radiation measurement device equipped with digital signal processing (DSP) function for X-ray spectroscopy. This instrument does not use the conventional spectroscopy amplifier. Directly input preamplifier signals of detectors such as SDD, Si (Li), SSD, SiPin, and perform digital signal processing with high-speed ADC (100Msps, 14-bit) and highly integrated FPGA. Measurement data includes Histogram and Quick-Scan, which is transferred to the PC via the network. It is possible to obtain TTL logic output by ROI - SCA function. Set peak detection timing and Input timing between ROIs in advance.



Feature

- **Resolution (@ 5.9 keV)**

[Case of 19 element SSD]

139 eV 6 μ s peaking time

250 eV 0.5 μ s Peaking time *0.25 μ s equivalent analog

[In the case of SDD (high resolution type)]

125 eV 2 μ s peaking time

145 eV 0.5 μ s Peaking time *0.25 μ s equivalent analog

- **Output:** 1.5 Mcps or more

- **Mode:** Histogram, Quick-Scan

- **Multifunction:** ROI-SCA etc. (FAST, SLOW)

- **Communication I / F**

TCP / IP, Gigabit Ethernet

Data transfer 20 M Byte / sec or more (list mode)



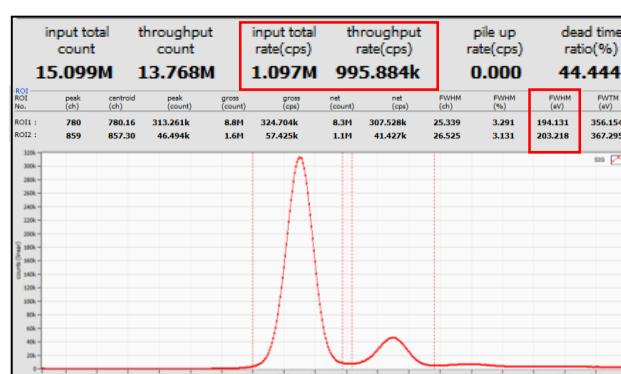
Quick-scan mode performs time-resolved measurement. At the time of external trigger timing (minimum 10ms), histogram data in that interval is sent to the PC, and data is continuously saved in the HDD by the PC. Ideal for QXAFS measurement.

Quick-Scan data example

Event#1	CH1 4096ch	CH2 4096ch	CH3 4096ch	CH4 4096ch
Event#2	CH1 4096ch	CH2 4096ch	CH3 4096ch	CH4 4096ch
:				
Event#N	CH1 4096ch	CH2 4096ch	CH3 4096ch	CH4 4096ch

Specifications

Analog Input	4CH, LEMO connector, Input impedance 1k Ω
Coarse Gain	x2, x4, x10, x20
Fine Gain	x0.5~x1.5
ADC	Input signal \pm 1V, 100Msps, 14-bit
ADC Gain	4096, 2048, 1024, 512, 256 channel
Trapezoidal Filter	0.05~12 μ s
Digital Signal Processing	Baseline Restorer, Pileup Rejecter, CFD Setting all parameters from the PC
Quick-Scan	Minimum time interval: 10ms Data size: 32768byte (= 2byte \times 4CH \times 4096ch)
External terminal	Filter waveform output, clock input, GATE (Trigger) input, VETO input, Clear input, ROI-SCA output
Communication I / F	TCP/IP or UDP, Gigabit Ethernet
Dimensions	210(W) x 45(H) x 275(D) (without connector)
Weight	About 1800g



Radiation light irradiation test

Target: Mn, ICR 1.1Mcps, OCR 1.0Mcps,
FWHM: 194eV@5.9keV MnKa 0.15 μ sPT

*Images is for illustration purpose.

*Please note that contents may change without prior notice.

Manufacture of Radiation and Radioactivity measurement devices

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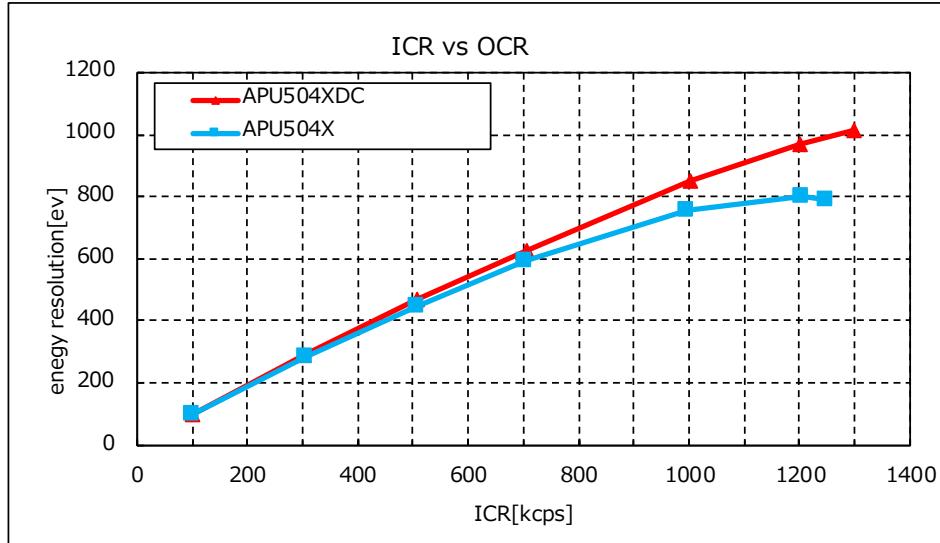
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✉️ order@techno-ap.com

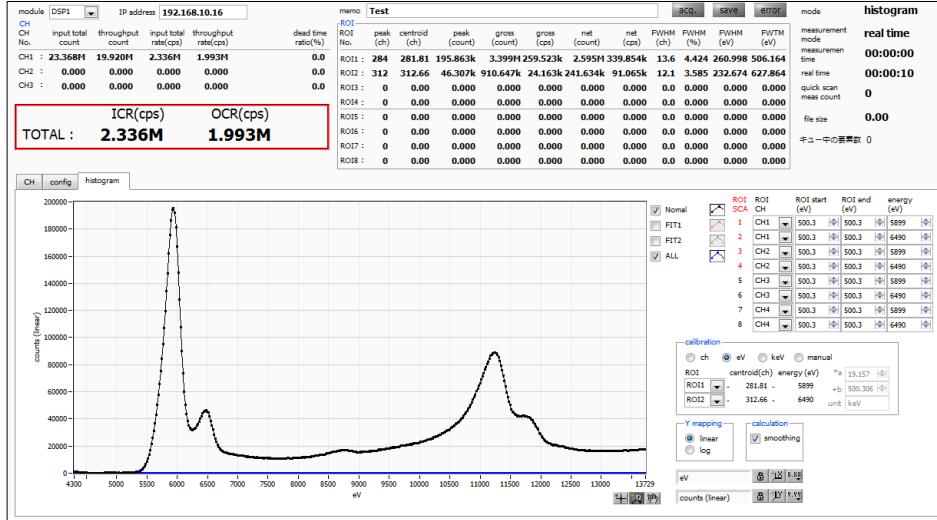
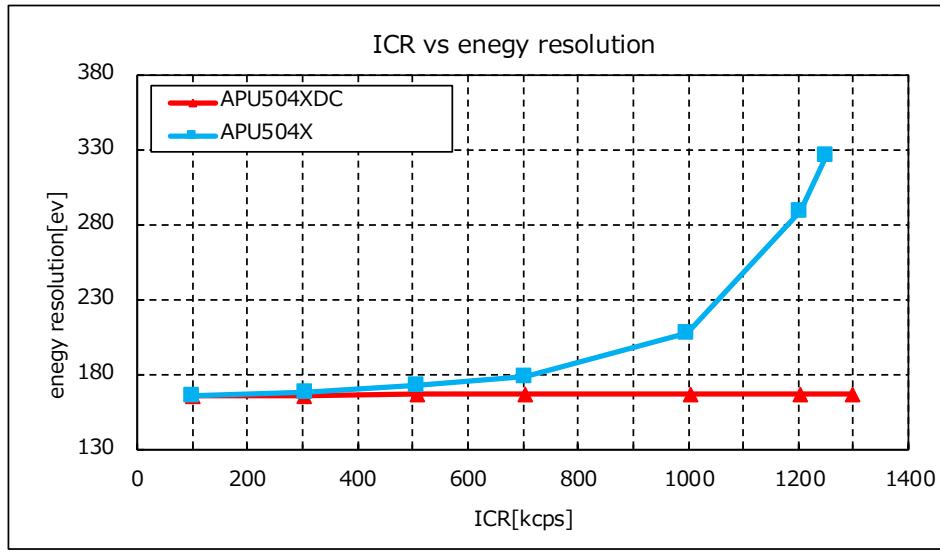
Website



Count rate



Resolution



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