



Annex No. 2

TECHNICAL SPECIFICATION

Digital multi-channel analyzers (2 kusy)

Typ: N6781A

Výrobce: CAEN

Požadavek	Plnění
number of inputs (detector channels): ≥ 2	2 (dual)
BNC connectors	Ano
1 k Ω input impedance	Ano
accept positive and negative signal	Ano
coarse gain at least in the range 1-20	1-33x
sampling rate: ≥ 100 MSa/s	100 Msa/s
types of acquisition available: Pulse-height spectrometry, list mode (including time stamping), oscilloscope	PHA mód, list mód, osciloskop
number of channels in PHA spectrum: $\geq 2^{14}$ (16k)	Ano, 16k kanálů
software/firmware enabling these acquisition modes must be included or available free	SW je součástí
ADC Resolution (of digital conversion): 14 bits or higher	Ano, 14 bit
trapezoidal shaping	Ano
adjustable rise time in the range 0-10 μ s (or wider)	0-10 μ s
adjustable flat-top in the range 0-5 μ s (or wider)	0-5 μ s
digital signal processing includes: PUR, live time correction, baseline restorer, PZC, digital fine gain, adjustable moving average low pass filter	Ano
external trigger input available - BNC, Lemo or SMA connector	Ano, LEMO konektor
coincidence/anticoincidence measurement available among channels and/or external trigger	Ano
connected to PC via USB cable: USB 2.0 or USB 3.X	USB 2.0
constructed as a NIM module	NIM, 1U

Analog multi-channel analyzers (2 kusy)**Typ: WN957XAAAAAA N957 - 8k Multi-Channel Analyzer****Výrobce: CAEN**

Požadavek	Plnění
number of channels: ≥ 8192	8k kanálů
produces pulse-height spectra	Ano
connected to PC by an USB cable: USB 2.0 or USB 3.X	USB 2.0
conversion time: $\leq 2 \mu\text{s}$	0,8 μs
dead time: $\leq 5 \mu\text{s}$	4,8 μs
differential non-linearity: $\leq 1 \%$ (from 5 % to 95 % of input full resolution)	Ano
integral non-linearity: $\leq 0.1 \%$	$< 0,065\%$
I/O signals: NIM	NIM/TTL
discriminator threshold selectable in range 0-500 mV (or larger)	0-500 mV, 100 kroků
PUR, BUSY and GATE available	Ano
all I/O connectors: BNC, Lemo, or SMA	BNC a LEMO
software for data acquisition is supplied (or available free)	Ano, součástí.
NIM module	NIM, 1U

Digitizer (1 ks)**Typ: N6730SB - 8 Ch. 14 bit 500 MS/s Digitizer: 5.12MS/ch, Arria V GX, SE****Výrobce: CAEN**

Požadavek	Plnění
sampling rate: 400 MSa/s or higher	500 MSa/s
resolution (of digital conversion): 14 bits or higher	14 bitů
NIM compatible	NIM, 1U
bandwidth: 200 MHz or higher	250 MHz
minimal full scale range (of analog input): 0-1 V	0,5 nebo 2V (lze nastavit v SW)
input impedance: 50 Ω or 93 Ω	50 Ω
at least 2 analog input channels	8
input for external trigger (50 Ω input impedance) accepting TTL and NIM fast logic signals	50 Ω , TTL/NIM
triggering in analog input channels enabled, using LET (leading edge triggering)	Ano
selectable digital record length, longest available record length is at least 1 ms long	10 s
software/firmware included. It should enable <ul style="list-style-type: none"> • waveform recording • digital signal processing for <ul style="list-style-type: none"> ○ pulse shape discrimination ○ amplitude analysis (spectrometry) 	Ano

NIM bins (2 kusy)

Typ: WNIM8303300W (5U)

Výrobce: CAEN

Požadavek	Plnění
minimal number of free slots for modules: 10	12 slotů
minimal output: 200 W	300 W
available voltages and currents ± 6 V (current maximum at least 10 A) ± 12 V (current maximum at least 3 A) ± 24 V (current maximum at least 3 A)	±6V 17A ±12V 3.4A ±24V 3.4A
AC Input 220(230) V/50 Hz	Ano
noise and ripple: ≤ 5 mVpp for ±6 V, ±12 V, ±24 V (pp = peak-to-peak)	< 3 mVpp @ ±6V, ±12 V, ±24 V (Typ.) < 5 mVpp @ ±6V, ±12 V, ±24 V (Max.)
enables operation of all NIM modules from this part of the tender	Ano