

Instrumentation laboratory for Detector Development:
Experimental High Energy Physics.

Technical specification for proposed
1 GHz 4 Channel Oscilloscope
At least one year warranty

1) 1 GHz, 6.25 GS/s, 4 Channel

Number of Channels	4 Analog Channels
Bandwidth	1 GHz on all Channels or better
Sample Rate	Up to 6.25 GSa/s on all Channels
Rise time	≤ 400 ps or better
Record Length	≥ 60 MPoints on all channels or better
ADC/Vertical Resolution @ 3GSa/s	12 Bits, 16 Bits with High Resolution Mode or better
Input Coupling & Impedance	DC (50 Ω), 50Ω, 1 MΩ
DC Gain Accuracy (for scale > 5mV/div)	≤ ± 0.5 % of full scale
Time base range	500 ps/div to 1000 s/div
Waveform Capture Rate	500,000 wfm/sec in Real Time capture mode
Trigger types	Auto, Normal, Single Edge, Glitch, Width, Runt, Window zone trigger on all Channels simultaneously
Trigger Rate in Segmented Mode	200 ns or better
Vertical sensitivity	1 MΩ: 500 μV/div to 10 V/div in a 1-2-5 sequence 50 Ω: 500 μV /div to 1 V/div in a 1-2-5 sequence
Acquisition mode	Sample, Peak Detect, High Resolution, Faster Acquisition, Envelope, Averaging
Spectrum Analysis	It should have DDC based Spectrum Analysis on all channel. Each Channels can be individually configured to turn ON & turn OFF.
DDC Span	1 KHz to 300 MHz.
RBW Setting	1mHz to 60MHz
Spectrum Time Setting	It should be available for DDC Spectrum & Time Domain.
Measurements	Rise/Fall Time, Skew, Period/Frequency, Data Rate, Positive/Negative Width, Positive/Negative Overshoot, Phase Noise, Time Interval Error With simultaneous at least 32 measurements of pulse.
Measurement Analysis	Histogram, Time trend, Spectrum Plots
Search & Mark	It should be available and should be to find min & max for debug.
Result Table	Search Result table & Measurement Result Table
Report Generation	It should be available.
Trigger Frequency Counter	With 8 Digit resolution or better
Digital Voltmeter	4.5 Digit Resolution or better
Display type & interfaces	HD 1920 x 1080, minimum 15.5 inch with Multi-touch

	capacitive display, LAN Port, USB ports
Temperature Range	Operating: +5°C to 40°C
Standard accessories	Compatible 1 GHz Passive probes per Channels with better than 4pF, Front Cover, Accessories Pouch
Warranty	1 Year