INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
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Specifications for Wide Bandgap device test set up

Sr. No.	Parameter	Specifications
1	Bandwidth	6 GHz,8GHz
2	Number of Channels	4 Analog Channels.
3	Sample Rate	25 GSa/s on all Channels
4	Rise time	≤ 50 ps
5	Record Length	≥ 60 MPoints on all analog channels
6	ADC/Vertical Resolution	12 bits @ 12.5 GS and 8 bits @ 25 GS/s
7	Noise	≤ 158 µV or better
8	Channel to Channel Isolation	Better than 40 dB
9	Input Coupling & Impedance	DC (50 Ω), GND, 50Ω, 1 MΩ
10	Plot	Time Trend, Histogram and Spectrum
11	DC Gain Accuracy	≤ ± 1.2 %
12	Time base range	40 ps/div to 1000 s/div
13	Timebase Accuracy	±1.0 x10-7 per year
14	Waveform Capture Rate	500000 wfm/sec
15	Trigger types	Auto, Normal, Single Edge, Glitch, Width, Runt, Window zone trigger etc.
16	Trigger Bandwidth	Full Bandwidth of system
17	Vertical sensitivity	1 MΩ: 500 µV/div to 10 V/div in a 1-2-5 sequence 50 Ω: 1 mV/div to 1 V/div in a 1-2-5 sequence
18	Acquisition mode	Sample, Average, Peak Detect, Envelope, High Resolution
19	Functions	Math over Math with 20 Math required such as Integrate, Differentiate, Sin, Cos, etc. System to have capability to show time domain, Frequency domain(spectrum) and FFT for all 4 channels simultaneously.
20	Measurements	Simultaneous 20 measurements of Clock/Square/Pulse Signal measurement with Marking capabilities should be available. Auto Measurement capability required like rise time, fall time, duty cycle, pulse width etc with Min/Max location. It also should have power supply rejection ratio measurement and Frequency response analysis capability.
21	Display type	HD 1920 x 1080, minimum 15.5 inch with Multi-touch capacitive display.
22	System Interface	LAN Port, USB ports
23	warranty	Should 3 years or more.
24	Temperature Range	Operating: +5°C to 40°C

		Non-Operating: -10°C to 60°C
25	Standard accessories	Compatible 1GHz probes with < 4pF loading per channel.
26	Optically Isolated probe(Qty1)	System to have Optically isolated probe with 3 m fibre optic cable length to test devices like GaN and SiC, having following features: • Bandwidths from DC to 1 GHz • Typical rise time 350ps or better • 100 Million to 1 (160 dB) Common Mode Rejection from DC up to 1 MHz • 10,000 to 1 (80 dB) Common Mode Rejection at 1 GHz • 60 kV peak Common Mode Voltage • ±2500 V Differential (DC + pk AC) or better • ±2500 V offset range or better