



Department of Electrical Engineering
Indian Institute of Technology Madras
Chennai – 600 036. India

Prof. Anil Prabhakar
Electrical Engineering Department

Ref: No. EE/AP /DSO /2018-19

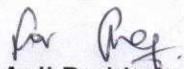
DATE: 9.11.2018

Due date : 16.11.2018

Dear Sir,

1. Quotations are invited in duplicate for the various items shown below/overleaf/**enclosed list**.
2. The **quotations are to be in two parts as Technical Offer and as Commercial offer**; The two parts of the offer are to be clearly marked on the envelopes. The two parts of the offer in separate envelopes must be enclosed in the one bigger envelope duly sealed and super scribed with reference number and due date and must be addressed to the undersigned so as to reach him on or before the due date stipulated above.
3. **Fax and Email quotation are not acceptable.**
4. Quotations should be valid for 60 days from the due date and period of delivery required , warranty terms etc. should also be clearly indicated. A minimum of one year warranty is required from the date of commissioning.
5. Imported supplies should be quoted **for CIF Madras**.
6. Local firms to quote for free delivery to this Institute. If quoted for Ex-Godown delivery charges be indicated separately.
7. Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the Quotations, wherever applicable. Samples / machine/ equipment if called for should be submitted / demonstrated at free of charges, and collected back at the supplier's expenses. Compliancy certificate is to be provided indicating conformity to the technical specifications
8. Sales Tax/General Taxes/ED if applicable and such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. If this is not indicated no such claim will be admitted at any stage. The taxes leviable should take into consideration that we are entitled to have concessional Sales Tax applicable to Non-Government Educational Institutions run with no profit motive for which a concession is given. Sales Tax Certificate will be issued at the time of final settlement of the bill.
9. Goods should be supplied carriage paid and insured.
10. Goods shall not be supplied without an official supply order.
11. If the item is under DGS&D Rate contract No. and the price must be mentioned. It may also please be indicated whether the supply can be made direct to us at the Rate contract price (Please note that we are not Direct Demanding Officers). If so please send copy of the RC.
12. The Guarantee period of the item may be indicated clearly.
13. In case of LC. Payment, 90% of the payment will be made after completion of the supply. The balance 10% of the payment will be made after satisfactory installation of the equipment.
14. IIT Madras is exempt from payment of Excise Duty and is eligible for concessional rate of custom duty. Necessary certificate will be issued on demand. IIT Madras will make necessary arrangements for the clearance of imported goods at the Airport/Seaport. Hence the price should not include the above charges.
15. **Acceptance and Rejection:-** I.I.T. Madras has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.

Yours faithfully,


Prof. Anil Prabhakar

Items required: **A. 350 MHz Digital Storage Oscilloscope with 4 Analog Channel – Qty Required - 1 No. as per specifications enclosed.**

B. Spectrum Analyzer, 5 kHz to 1 GHz & Frequency up grade to 3 GHz.- Qty Required 1 No. as per specifications enclosed.

Phone Nos.: (044) 2257 4425/ /5419 FAX: (044) 2257 4402, E-mail: anilpr@ee. iitm.ac.in



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Specifications for 350MHz Digital Storage Oscilloscope

Parameters	Specifications
Frequency Bandwidth	350 MHz
Channel output	4 (Analog)
Sample Rate	a. 2.5 GSa/S or above on all 4 channels, b. 5 GSa/S on 2 Channels
Memory Depth:	a. 40 Mpts on all 4channels, b. 80 Mpts on 2 channels
Waveform Update rate	64000 waveforms
ADC Resolution	10 bit, up to 16 bit with high resolution decimation
Sensitivity	0.5 mV/div to 10 V/div
Timebase range	0.5 ns/div and 500 s/div
Connectivity	USB, LAN
Math functions	+, --, & × operations
Display	10.1" capacitive touchscreen
Connector	standard BNC connector for input and output channels
Accessories	signal probes and other necessary Accessories
Future Upgradability	Bandwidth upgrade upto 1GHz

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Spectrum Analyzer, 5 kHz to 1 GHz & Frequency up grade to 3 GHz

Parameters	Specifications
Frequency range	5 kHz to 3 GHz
Frequency resolution	1 Hz
Resolution bandwidth	1 Hz to 3 MHz
Video Bandwidth	1 Hz to 3 MHz
Phase noise $f = 500$ MHz @ 100 KHz	< -98 dBc/Hz
Measurement range	-135dBm to +30 dBm
Detectors	Peak, Sample, RMS
Measurement Accuracy	< 1.5 dB
Displayed average noise level 10 Mhz to 3 GHz (without Preamplifier)	< -135 dBm
RF input Attenuator	0 to 40 dB
Maximum input level	+30 dBm , 50 V
Aging per year	± 1 ppm
RF Input and RF Output Connector	50 Ohm, N type Female
Display	10" or more
Interface	LAN and USB
Power Supply	230 V AC, 50 Hz
Future Upgrade options	
Analog-Demodulation	Should be possible to upgrade in future
ASK, FSK Demodulation	Should be possible to upgrade in future
EMI Precompliance	Should be possible to upgrade with quasi-peak detector & EMI software

The quotes should be addressed To:

Prof. Anil Prabhakar, Department of Electrical Engineering,
Indian Institute of Technology Madras, Chennai 600 036.