# INDIAN INSTITUTE OF TECHNOLOGY KANPUR
## Department of Electrical Engineering

Enquiry No.: EE/YSC/2015/02
Opening Date: 18th June, 2015
Closing Date: 06th July, 2015

**Sub.: Purchase of 100kHz-8.5GHz Network Analyzer**

Please send sealed quotation, to undersigned, for the above product. Please see technical specifications and compliance table. Mark, whether your system complies or not with the specifications.

**Technical Specifications and Compliance table:**

| VECTOR NETWORK ANALYZER with inbuilt Display | | |
|---|---|---|
| S. No. | **Technical parameter** | **Recommended Specifications for 8.5 GHz Network analyzer with inbuilt display** |
| 1 | Frequency range | 100 KHz to 8.5 GHz with bias tee |
| 2 | Resolution | 1 Hz |
| 3 | Source stability and CW accuracy | ±7 ppm (5 to 40 ºC) |
| 4 | Number of measurement points | 1601 |
| 5 | Power range | -55 to +7dBm from 100KHz to 8.5 GHz |
| 6 | Maximum levelled power | +10 dBm from 100KHz to 8.5GHz |
| 7 | Crosstalk | –110dB from 10 MHz to 45MHz<br>–112 dB from 45 MHz to 15 GHz |
| 8 | Dynamic range (10 Hz IF BW) | 300 KHz to 10 MHz 107 dB , typ 115 dB<br>10MHz to 8.5 GHz 117 dB , typ 124 dB |
| 9 | Test port noise floor | 300 Khz to 8.5 Ghz typ -115 dbm/Hz<br>10MHz to 8.5 GHz typ -127 dBm/Hz |
| 10 | IF Bandwidth | 10 Hz to 1.5 MHz |
| 11 | No. of Ports | 2 ports |
| 12 | Port 1 & 2 Connector | N type with adapter 2.4 mm to N type and N type calibration kit |
| 13 | Trace Noise Magnitude | 0.006 dBrms (300 KHz to 8.5 GHz) |
| 14 | Trace Noise Phase | 0.005 rms (300 KHz to 8.5 GHz) |
| 15 | Phase Noise (10 Khz Offset ) from center | < -65 dBc/ Hz upto 20 GHz |
| 16 | Stability magnitude | 300 kHz to 3 GHz ±0.005 dB/°C<br>3 GHz to 8.5 GHz ±0.04 dB/°C |
| 17 | Stability phase | 300 kHz to 3 GHz ±0.1 deg/°C<br>3 GHz to 8.5GHz ±0.8 deg/°C |
| 18 | Damage input level | +26 dBm or ±35 VDC |
| 19 | Directivity | 46 dB from 300 KHz to 3 GHz<br>38 dB from 3 GHz to 8.5 GHz |
| 20 | Source match | 40 dB from 300 KHz to 3 GHz<br>35 dB from 3 GHz to 8.5 GHz |
| 21 | Load match | 46 dB from 300 KHz to 3 GHz<br>37 dB from 3 GHz to 8.5 GHz |
| 22 | Reflection tracking | ±0.021 from 300 KHz to 3 GHz ±0.054 from 3 GHz to 8.5 |

| | | |
|---|---|---|
| | | GHz |
| 23 | Transmission tracking | ±0.018 from 300 KHz to 3 GHz ±0.088 from 2 GHz to 20 GHz |
| 24 | Display | 10.4 in TFT color LCD with touch screen |
| 25 | video output | 15-pin mini D-Sub; female; drives XGA compatible monitors |
| 26 | GPIB | 24-pin D-Sub (Type D-24), female; compatible with IEEE-488 and LXI Class C compliant |
| 27 | Parallel Port | 36-pin D-Sub (Type 1284-C), female; provides connection to printers |
| 28 | USB and LAN | To connect with PC |
| 29 | Power Supply | 120 - 240 V / 50 Hz |
| 30 | Upgradeable to Vector Mixer Calibration | Upgradeable to Vector Mixer Calibration |
| 31 | Fixture embedding and de-embedding for on wafer measurements | Fixture embedding and de-embedding for on wafer measurements |
| 32 | Software support | Must support ICCAP for device modelling |
| **Accessories:** | | |
| 1 | DC Power Supply | E3631A 80W Triple Output DC Power Supply, 6V, 5A & ±25V, 1A |
| 2 | Flexible Precision Cable 50 Ohm; 3.5 mm(f) Ruggedized / 3.5mm mm(m) DUT; Coaxial cables | 2 nos |
| 3 | Upgradeability : | Frequency upgradebale till 20 GHz |
| | | Must support material measurements for dielectric measurements |
| **Warranty:**<br>• Vendor must provide 3(THREE)-years onsite warranty for all parts/components and servicing. | | |
| Other terms:<br>• **Parent company should be an established company with good number of installations and after sales support in India as well: Provide proof.**<br>• Installation charges and training should be included in the quotation. | | |

Note:

1. Your quotation shall contain Authorization Letter from manufacturer.
2. Quotation must be valid for 90 days.
3. Delivery period should not be more than **12 weeks** and delivery should be at IIT Kanpur.
4. Send complete detail of the product(s).
5. Payments terms: 90% on installation and 10% satisfactory report.
6. **IITK is exempted from excise/custom duty. Payment can be made in USD for import.**
7. Price must include all taxes and charges. **All prices are to be FOR IIT Kanpur.**

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