WEST BENGAL UNIVERSITY OF TECHNOLOGY

TENDER FORM

TECHNICAL SPECIFICATIONS VECTOR SIGNAL GENERATOR & ANALYZER WITH ANTENNA

Notice No:: CSE/FO/2012-13/15

Date of Issue January 29, 2013

Tender Price:: Rs. 200/-*

D.D. No. for the Tender Price::

Address:

BF-142, Sector-I,
Salt Lake City,
Kolkata-700064

Tele-Fax No:
(033) 2334-1034

Phone No.:
(033) 2321-1345

***N.B. :: Those who have already applied need not pay tender money. Some proof of previous draft / payment to be included.**

Tender Paper for Supplying VECTOR SIGNAL GENERATOR / ANALYZER WITH ANTENNA

1. a) Name & Address of the Firm :

b) Telephone No:

c) Mobile No.:

d) Fax No:

2. Name of the items for which the Firm is interested:

3. Name of the Proprietors/partners/directors etc:

4. Trade License No (With Photocopy):

5. VAT License No:

6. Service Tax Registration No (With Photocopy):

7. Additional Information if the party wants to include:

8. Copies of Testimonials/credentials/certificates regarding services/experience etc:

Signature with Stamp

Please give sealed quotation for the following items clearly superscribing the tender notice number on the envelope.

TECHNICAL SPECIFICATIONS VECTOR SIGNAL GENERATOR / ANALYZER WITH ANTENNA

The Transreceiver should have following features :

a) Should be able to generate Standard and Custom Generated Digital Modulation formats like GSM , CDMA , LTE and also the custom Generated formats.
b) Should be capable of downloading and generating waveform files written in MATLAB and C++ on the Signal Source
c) Should be able to measure Occupied bandwidth, CCDF, Adjacent Channel Power etc.
d) Demodulate Digital Modulation formats including GSM , CDMA , OFDM etc.along with Analog Modulation like AM, FM, PM etc.
e) It Should have a Digital Sweep Mode with list, Step and Simultaneous Sweep of Amplitude and Waveform.
f) It should have optional I / Q base band Generation & Capture Capability.
g) Capability to generate optional Multifunction generation capability & Arbitrary Waveform with NADC, PDC, GSM, DECT, CUSTOM etc.
h) It Should have a Digital Sweep Mode with list , Step and Simultaneous Sweep of Amplitude and Waveform.
i) Both Transmitter and Receiver should be upgradable.
j) Both Transmitter & Receiver should capablility to interface with Design / Simulation Software For design & Analysis of LTE , GSM , CDMA etc. and should have appropriate antenna. Vector Signal Analysis Software also capable to interface with Design / Simulation Software like MATLAB.

Detailed Technical Specifications of Transmitter: --

1. Frequency Range : 9 KHz. to 6 GHz.

2. Frequency Resolution : 0.01 Hz.

3. Sweep Mode : Step -- Frequency and Amplitude .
Sweep – List
Dwell Time : 100 µS – 100 S
No. of Points : 2 to 65535 (step sweep)

4. Switching : ≤ 5 ms in SCPI mode

5. ACPR : –75 dBc adjacent channel power levels

6. Display : Colour

7. Output Range : + 18 to – 144 dbm or better

8. RF modulation BW : 120 MHz. with 100 Sa/s - 150 MSa (Upgradable).

9. Frequency Modulation : Peak deviation: N x 10 MHz (Nominal), resolution 1 Hz.

10. Phase Modulation : Peak Deviation 0 to 80 radians .

11. Amplitude Modulation : Range 0 to 100 % , resolution 0.1 %

12. Pulse Modulation (Optional) : a) Rise / Fall Time ˂ 10 nsec.

13. Pulse repetition Frequency : 10 Hz to 500 kHz/DC to 10 MHz (ALC on / off)

14. SSB Phase Noise : – 128 dBc/Hz, 500 MHz Frequency at 20 KHz offset

15. Modulation Source : Internal and external and composite.

16. a) Internal Baseband Generator : Arbitrary waveform mode with 16 bit resolution.
b) Basic Modulation type : BPSK , QPSK,OQPSK,8PSK,MSK,QAM,FSK etc.

17. Interface : GP-IB, LAN, USB & should be LXI Class C compliant

DETAILED TECHNICAL SPECIFICATIONS OF RECEIVER:

1. Frequency Range : 10 Hz. to 13.6 GHz. .

2. Frequency reference aging : $\pm$ 1 x 10^{-6} / Year.

3. Sweep Time : Span = 0 Hz 1 µs to 6000 s
Span ≥ 10 Hz 1 ms to 4000 s

4. Sweep (trace) point range : 1 to 40001 at all Spans

5. Resolution Bandwidth : 1 Hz to 3 MHz (10 % steps), 4, 5, 6, 8 MHz

6. Displayed Average Noise Level : Better than - 150 dBm.

7. Maximum Input Lavel : + 23 dBm

8. Phase noise : - 99 dbc/Hz at 10 KHz. Offset
-132 dBc/Hz at 1 MHz offset

9. Analysis bandwidth : 25 MHz. Standard and optional 40 MHz.

10. Time Gating : Gated LO, Gated Video, Gated FFT

11. Operating System : Windows XP / Windows 7

12. Multiformat Modulation Analysis : **Vector Modulation Analysis can be** Measure more than 75 signal standards and modulation types Like --

a) **Cellular communications:** LTE, W-CDMA HSPA+, GSM/ EDGE Evolution, cdma2000R, TD-SCDMA
b) **Wireless connectivity:** 802.11a/b/g, 802.11n, 802.16, OFDMA, WiMAX™, BluetoothR, Zigbee, UWB, RFID
c) **Aerospace, defense and satellite applications:** FSK, BPSK, QPSK, QAM, StarQAM, APSK, VSB
d) Also supports MIMO and multichannel test
e) This Software can be run on Instrument as well as Computer.
f) This Software can be interfaced with MATLAB . design Software
g) Should have greater clarity with 20:20 trace/marker capabilities
h) Analyze analog and digital baseband; IF, RF and microwave; and narrowband to ultra-wideband, SISO, MIMO

13. Storage : Internal Removable solid state drive ≥ 80 GB

14. Interface : USB , LAN 1000 base T , GP-IB, Key Board, Mouse

All necessary connector, cable, software and retractable whip antenna, 700 MHz to 1000 MHz / 700 MHz to 4 GHz type N(m) will be provided

General conditions:

1. The tenderers are required to deposit the tender forms along with relevant papers (mentioned in the form) in sealed cover mentioning financial bid.
2. The university reserves the right to accept or reject any tender without showing any reason.
3. Tender for providing the previous work experience list mentioned in the notice may be submitted in full or in part.
4. All payments should be made through demand drafts in favour of the 'West Bengal University of Technology' payable at Kolkata.
5. The last date of receiving of tender paper is **8th February, 2013**, 5 PM in the office of the Finance Officer. Tender opening date :: **11th February 2013** , 2 PM
6 Incomplete tender shall be summarily rejected.
7. Subcontracting in any form will not be entitled by the University.
8. All legal disputes shall be subject to jurisdiction of Calcutta High Court.