



DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY, KURUKSHETRA-136119
(An Institute of National Importance under MoE, Govt of India)

No: ECE/2024/3014

Dated: 02.09.2024

M/s _____

Subject: Invitation of Quotations for supply of Klystron Benches.

Sr No.	Name of items with brief description & specifications of Goods.	Quantity
1.	Klystron Benches(Klystron based) (Details specification attached)	2 No

Terms & Conditions;

1. FOR NIT Kurukshetra
2. The Institute is Central Govt. body and payment will be release after supply of goods and satisfactory report of installation successfully from the Department.
3. The Quotation should be valid for a period of Two month from the date of submission.
4. Price should be mentioned clearly, inclusive/exclusive GST in the quotation.
5. Delivery should supplied in the Institute within 20 days after the purchase order received.
6. The quotation last date 23.09.2024 at 4.30 PM and will be opened in next working day by the Committee.
7. The Institute has right to cancel the contract quotation process without assigning any reason.

Usharma
02/09/24
Head of Department

Adhikari
02/09/24
Chairman (Committee)
02/09/24

1. Prof.In-charge CCN with a request to upload on the Institute Website.

<u>Components</u>	<u>Specifications</u> Klystron based microwave test bench
Klystron Mount	Freq. Range: 8.2 to 12.4 GHz; Waveguide: RG-52/U; Flange type : UG-39/U;
Klystron Tube	X-band
Isolator (8.2 to 12.4 GHz)	Freq. Range: 8.2 to 12.4 GHz; Waveguide type: WR90; Flange type : UG/U 39; Max VSWR: 1.15; Min Isolation: 25 dB; Min insertion loss: 0.4 dB
Frequency Meter	Freq. Range: 8.2-12.4 GHz
Variable Attenuator	Freq. Range: 8.2 to 12.4 GHz; Waveguide type: WR90; Flange type : UG/U 39;
Slotted Section (8.2-12.4 GHz)	Freq. Range: 8.2-12.4 GHz; Residual VSWR: 1.01; Slope: ± 0.2 dB; Waveguide: RG-52AJ; Flange: UG-39/U
Tunable Probe	Freq. Range: 8.2 to 12.4 GHz; Detector: IN-23; Output Connector: BNC(F);
Detector Mount (8.2-12.4 GHz)	Freq. Range: 8.2-12.4 GHz; Crystal: IN-21; Output Connector: BNC(F); Waveguide: RG-52/U; Flange: UG-39/U
Movable Short	Freq. Range: 8.2 to 12.4 GHz; Waveguide: RG-52/U; Flange type : UG-39/U; Reflection Coefficient: 0.98;
Matched Termination (8.2-12.4 GHz)	Freq. Range: 8.2-12.4 GHz; Max VSWR: 1.02; Avg Power: 2W; Type: Fixed; Waveguide: RG-52/U; Flange: UG-39/U




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Slide Screw Tuner	Freq. Range: 8.2 to 12.4 GHz; Waveguide: RG-52/U; Flange type : UG-39/U; Maximum VSWR: 20:1.02;
Waveguide Stands	X-band
VSWR Meter	Freq. Range: 8.2 to 12.4 GHz; Sensitivity: 0.2 μ V at a 200 ohms input for full scale deflection Noise Level: At least 5 dB below full scale at rated sensitivity and maximum band width input terminated in 100 ohms and 500 ohms for crystal low and high respectively. Calibration: Square law, meter indicates SWR, dB Range: 70 dB, input attenuator provides 60 dB in 10 dB steps, accuracy \pm 0.2 dB per 10 dB steps Maximum commutative error \pm 0.5 dB Scale selector: Normal Expand and - 5dB Meter Scale: SWR1-4, SWR 3-10 , expand SWR 1.1.3, dB 0-10, expand dB0.2 Gain Control: Adjust the reference level, variable range 0-10 dB approx. Input: "Bolo" bias provided for 4.3 mA low current bolo meters Recorder output: Socket provided for recording having 1 V for full scale deflection, internal resistance of 1000 ohms or less A/C Output: BNC connector for amplified output Input connector: BNC (F) Frequency: 1000Hz \pm 10% Power: 230 volts A.C \pm 50 Hz, mains supply
Solid State Klystron Power Supply	Beam Supply Voltage Range: 195-400 V continuously variable Current: 45mA Max. Regulation: Better than 0.5% for \pm variation in Mains Supply Voltage Ripple: Less than 5 mV rms Repeller Supply Voltage Range: -10 V to -300 DC continuously variable with respect to Klystron cathode Regulation: 0-25% for \pm variation in Mains supply voltage Heater Supply 6.3V DC (regulated) Modulation Square Wave: Freq. 500 Hz-1.7 KHz Max Amp. +110 Volt peak to peak Amplitude and frequency continuously variable

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	Saw tooth: Freq. 50Hz-196 Hz Amplitude -60 V max peak to peak Amplitude and frequency continuously variable External Input Temp. & light sensor Operating Voltage 230V + 10%, 50 Hz, A.C.
Cooling Fan with Stand	X-band
Co-axial Cable (BNC)	X-band

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Terms & Condition.

one Year. Warranty from date of delivery against manufacturing defects.

Sipra 21/9/24

Adhunik
02/09/24

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