



# ELECTRICAL COMMUNICATION ENGINEERING

## Indian Institute of Science, Bangalore - 560 012

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This is a Request For Domestic tender for the **procurement of Vector Signal Generators (VSG) for 5G/6G research** as part of a limited tender for the Electrical Communication Engineering (ECE) department in IISc.

The ECE department has several research groups working on various aspects of wireless communication systems. The 5G laboratory in the ECE department is an initiative in IISc to explore next generation mobile communication systems. In this context, **we invite tenders from DOMESTIC (INDIAN) manufacturers to provide indigenously developed Vector Signal Generators (VSG) for 5G/6G research** satisfying the technical parameters specified in the table below.

### Procedure:

1. Vendors will be required to submit a technical bid and a commercial bid in **two separate sealed covers.**
2. The deadline for submission of proposals is **Friday, 2nd of August 2024, 5 pm IST.** The bids should arrive at the office of the Department of ECE, Indian Institute of Science, India, 560012 by the above deadline.
3. The technical proposal should contain a compliance table with 4 columns in addition to the ones in the technical requirements table that has been included with this RFQ below. The compliance table should include all the items and in the same order. In addition, you should include a soft copy in MS Word “.doc” format. Please do not submit files in “.docx” formats. The first column should describe your compliance in a “Yes” or “No” response. If “No” the second column should state the extent of deviation. The “third” column should state the reasons for the deviation if any. The fourth column can be used to compare your solution with that of your competitors or provide details as requested in the technical requirements table below.
4. Items in addition to those listed in the technical table that you would like to bring to the attention of the committee can be listed at the end of the compliance table.
5. Vendors are encouraged to highlight the advantages of their solution over comparable solutions from their competitors.
6. The clause of local content declaration needs to be specified as per GFR norms.
7. All the goods need to be send on FOR basis only.

	<b>Description</b>	<b>Specifications</b>
1.	<b>Major Application</b>	Measurements/Characterization of 5G/6G hardware
2.	<b>Frequency</b>	100 kHz to 40+ GHz (specify frequency extension options).
3.	<b>Output Power.</b>	Ranges from -130 dBm to +25 dBm
4.	<b>Phase Noise</b>	-140 dBc/Hz (at 10 kHz offset) or better
5.	<b>Modulation Capability</b>	I/Q with QPSK/16-QAM or better (specify), CW/FMCW, Pulse Modulation, FSK, MSK, PSK.
6.	<b>Additional Requirements</b>	1) A listing of 5G/6G signal analysis capabilities needed. 2) Specify capabilities to support JCAS or other 6G features.
7.	<b>Optional Technical Specifications</b>	Please specify any advanced 5G/6G compatible features.
8.	<b>Country of Origin</b>	India
9.	<b>Customer base</b>	Large customer base worldwide and in India. Similar solutions and support should

		have been provided to other customers.
10.	<b>Warranty &amp; AMC</b>	As per norms.
11.	<b>Payment Terms</b>	The payment terms should be specified in the commercial proposal and is subject to negotiation.
12.	<b>Support</b>	Please provide details of the number of trained personnel in India, who can provide support in the same time zone +/- 3 HRS.
13.	<b>References</b>	Please provide references, from India and/or abroad.
14.	<b>Shipping</b>	The cost of shipping up to IISc Bangalore should be included.
15.	<b>Installation and Training</b>	Vendor to specify if necessary.

Thanks and best regards.

Sincerely,



**Gaurab Banerjee,**  
**Professor**

Department of Electrical Communication Engineering  
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