

**GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
ISRO TELEMETRY TRACKING & COMMAND NETWORK (ISTRAC)  
BANGALORE**

**Tender for RF Spectrum Analysers-upto 13GHz**

**Bids to be submitted online**

**Tender No.: ISTRAC/ISTRAC PURCHASE/TR202100004601 dated 08-09-2021**

## **A. Tender Details**

Tender No : **ISTRAC/ISTRAC PURCHASE/TR202100004601**

Tender Date : **08-09-2021**

Tender Classification: **GOODS**

Purchase Entity : **ISTRAC PURCHASE**

Centre : **ISRO TELEMETRY TRACKING & COMMAND NETWORK (ISTRAC)**

### **Procurement of RF Spectrum Analysers-upto 13GHz**

Please provide your compliance specifically for the following: (a) Security Deposit clause (b) Performance Bank Guarantee clause (c) DELAY IN COMPLETION / LIQUIDATED DAMAGES (d) Submission of Certificate of Undertaking

#### **A.1 Tender Schedule**

Bid Submission Start Date : **08-09-2021 12:00**

Bid Clarification Due Date : **18-10-2021 17:00**

Bid Submission Due Date : **25-10-2021 17:00**

Bid Opening Date : **26-10-2021 09:00**

## **B. Tender Attachments**

NA

### **Instructions To Vendors**

#### **1. CERTIFICATE OF UNDERTAKING**

1. GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
ISTRAC, BENGALURU: 560 058.

2. Subject: Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs) 2017 - reg.

#### **3. REQUIREMENT OF REGISTRATION:**

4. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. (Competent authority is : DEPARTMENT FOR PROMOTION OF INDUSTRY AND INTERNAL TRADE (DPIIT)).

5. BIDDER (including the term tenderer, consultant or service provider in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.

6. Bidder from a country which shares a land border with India for the purpose means:

(a) An entity incorporated, established or registered in such a country; or

(b) A subsidiary of an entity incorporated, established or registered in such a country; or

(c) An entity substantially controlled through entities incorporated, established or registered in a such a country; or

(d) An entity whose beneficial owner is situated in such a country; or

(e) An Indian (or other) agent of such an entity; or

(f) A natural person who is a citizen of such a country; or

(g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.

7. The beneficial owner for the purpose of (6) above will be as under:

8. i) In case of a company or Limited Liability Partnership, the beneficial owner is a natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

9. Explanation:

(a) Controlling Ownership interest means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company;

10. (b) Control shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements.

11. ii) In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership.

12. iii) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals.

13. iv) Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official.

14. v) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

15. An AGENT is a person employed to do any act for another, or to represent another in dealings with third person.

16. A certificate from the bidder shall be enclosed along with their quotation (Technical bid) as per the format enclosed.

17. (TO BE PRINTED ON THE LETTER HEAD OF THE VENDOR)

18. CERTIFICATE

19. Ref:Tender No \_\_\_\_\_ date \_\_\_\_\_

Our Quotation No. \_\_\_\_\_ date \_\_\_\_\_

20. (i).I/WE \_\_\_\_\_ read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. I / We \_\_\_\_\_ Certify that this bidder is not from such a country.

21. OR\*

I/We \_\_\_\_\_ read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India.

22. I / We \_\_\_\_\_ Certify that this bidder is from such a country and registered with the Competent Authority (i.e. Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT). Copy of Registration Certificate is enclosed.

23. (ii).I/We hereby confirm that the country of origin of goods is \_\_\_\_\_

24. (iii).I/We \_\_\_\_\_ hereby undertake that if the Certificate is found to be false at any given time ISRO/ISTRAC may treat this as a ground for immediate termination and further legal action in accordance with law can be initiated.

25. SIGNATURE:

26. NAME:

27. DESIGNATION:

28.

COMPANY NAME AND SEAL:

29. ( \* Strike out whichever is not applicable).

## 2. PROFORMA FOR INSTRUCTIONS TO TENDERERS AND TERMS & CONDITIONS OF TENDER

1. PRICES: Tender offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotation with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variation/s.
2. a) Your offer should be valid for 120 days from the date of opening of the tender. b) Prices are required to be quoted according to the units indicated in the annexed tender form. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.
3. The term Purchase Order shall mean the communication signed on behalf of the Purchaser by an Officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the tender or offer of the Contractor for supply of stores or plant, machinery or equipment or part thereof.
4. Please provide your compliance for Security Deposit, Performance Bank Guarantee and Liquidated Damages Clause.
5. CUSTOMS DUTY : This office is eligible for Concessional Customs Duty @ 5.5% against Ministry of Finance, Department of Revenue, Government of India, vide Customs Notification No.51/96-Cus Dated 23-07-1996 (Sl.No.1) and amended under Notification No.93/96 dated 11th December 1996 and 24/2002 dated 01-03-2002
6. GST : This office is eligible for Concessional GST @ 5% against Ministry of Finance, Department of Revenue Notification No. 45/2017, Central Tax (Rate) and No. 47/2017, Integrated Tax (Rate) dated 14-11-2017.
7. It is to be noted that either Customs Duty or GST is applicable ( any one)
8. If the IGST is applicable, the same will be reimbursed if it is reflected in Bill Of Entry. Proof shall be provided while claiming payment.
9. SECURITY DEPOSIT: Wherever, the Purchase Order value is Rs. 5.00 Lakhs or more, on acceptance of the tender, the Contractor shall, at the option of the Purchaser and within the period specified by him, deposit with him, in cash or in any other form as the Purchaser may determine, security deposit not exceeding ten percent of the value of the Contract as the Purchaser shall specify. If the Contractor is called upon by the Purchaser to deposit, 'Security' and the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores Contracted at the risk of the Contractor in terms of Sub-Clause (ii) and (iii) of clause regarding Delivery. (b) hereof and/or to recover from the Contractor, damages arising from such cancellation.

10. Sales Tax and/or other duties/levies legally leviable and intended to be claimed should be mentioned in the price bid template. If nothing is mentioned, then it will be presumed that the rate quoted is inclusive of all taxes/duties.

#### 11. TERMS & CONDITIONS OF TENDER

12. TEST CERTIFICATE: Wherever required, test certificates should be sent along with the despatch documents.

13. The Purchaser reserves the right to place order on the successful tenderer for additional quantity up to 25% of the quantity offered by them at the rates quoted.

14. The authority of the person signing the tender, if called for, should be produced.

15. The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portions of the quantity offered and the tenderers shall supply the same at the rates quoted.

16. a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.

(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of nonacceptance of tender, the tenderer will have to remove the samples at his own expense.

(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.

(d) Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.

17. The tenderer should supply along with his tender, the name of his bankers as well as the latest Income-Tax clearance certificate duly countersigned by the Income-Tax Officer of the Circle concerned under the seal of his office, if required by the Purchaser.

18. The term Contractor shall mean, the person, firm or company with whom or with which the order for the supply of Stores is placed and shall be deemed to include the Contractor's successors, representative, heirs, executors and administrators unless excluded by the Contract.

19. The term Purchaser shall mean the President of India or his successors or assigns.

20. The term "Stores" shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order including erection of plants & machinery and subsequent testing, should such a condition is included in the Purchase Order.

21. ACCEPTANCE OF STORES: (a) The stores shall be tendered by the Contractor for inspection at such places as may be specified by the purchaser at the Contractor's own risk, expense and cost. (b) It is expressly agreed that the acceptance of the stores Contracted for, is subject to final approval by the purchaser, whose decision shall be final. (c) If, in the opinion of the purchaser, all or any of the stores do not meet the performance or quality requirements specified in the Purchase Order, they may be either rejected or accepted at a price to be fixed by the purchaser and his decision as to rejection and the prices to be fixed shall be final and binding on the Contractor. (d) If the whole or any part of the stores supplied are rejected in accordance with Clause No. (c) above, the purchaser shall be at liberty, with or without notice to the Contractor, to purchase in the open market at the expense of the Contractor stores meeting the necessary performance and quality Contracted for in place of those rejected, provided that either the purchase, or the agreement to purchase, from another supplier is made within six months from the date of rejection of the stores as aforesaid.

22. REJECTED STORES: Rejected stores will remain at destination at the Contractor's risk and responsibility. If instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice of rejection, the purchaser or his representative has, at his discretion, the right to scrap or sell or consign the rejected stores to Contractor's address at the Contractor's entire risk and expense, freight being payable by the Contractor at actuals.

23. As a Government of India Department, this office is exempted from payment of Octroi and similar local levies. Tenderers shall ensure that necessary Exemption Certificates are obtained by them from the Purchase Officer concerned to avoid any payment of such levies.

24. DESPATCH: The Contractor is responsible for obtaining a clear receipt from the Transport Authorities specifying the goods despatched. The consignment should be despatched with clear Railway Receipt/Lorry Receipt. If sent in any other mode, it shall be at the risk of the Contractor. Purchaser will take no responsibility for short deliveries or wrong supply of goods when the same are booked on 'said to contain' basis. Purchaser shall pay for only such stores as are actually received by them in accordance with the Contract.

25. PACKING FORWARDING & INSURANCE: The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packages shall be done by and at the expense of the Contractor. The purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the Contractor and the Purchaser shall pay only for such stores as are



actually received in good condition in accordance with the Contract.

26. **GUARANTEE & REPLACEMENT:** (a) The Contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down, for material, workmanship and performance. (b) Warranty shall be for the period mentioned in the tender document. After the acceptance of the stores, if any defects are discovered therein or any defects therein found to have developed under proper use, arising from faulty stores design or workmanship, the Contractor shall remedy such defects at his own cost provided he is called upon to do so within the warranty period, by the purchaser who shall state in writing in what respect the stores or any part thereof are faulty. (c) If, in the opinion of the purchaser, it becomes necessary to replace or renew any defective stores such replacement or renewal shall be made by the Contractor free of all costs to the purchaser, provided the notice informing the Contractor of the defect is given by the purchaser in this regard within the said period of warranty from the date of acceptance thereof. (d) Should the Contractor fail to rectify the defects, the purchaser shall have the right to reject or repair or replace at the cost of the Contractor the whole or any portion of the defective stores. (e) The decision of the Purchaser notwithstanding any prior approval or acceptance or inspection thereof on behalf of the Purchaser, as to whether or not the Stores supplied by the Contractor are defective or any defect has developed within the said period of warranty or any other period or as to whether the nature of defects requires renewal or replacement, shall be final, conclusive and binding on the Contractor. (f) To fulfill guarantee conditions outlined in (a) to (e) above, the Contractor shall, at the option of the Purchaser, furnish a Bank Guarantee (as prescribed by the Purchaser)

27. **SETTLEMENT OF DISPUTES :** Except as otherwise specifically provided in the contract, all disputes concerning question of fact arising under the Contract shall be decided by the Purchaser subject to a written appeal by the Contractor to the Purchaser whose decision shall be final to the parties hereto. Any disputes or differences including those considered as such by only one of the parties arising out of or in connection with the Contract shall be, to the extent possible, settled amicably between the parties. If amicable settlement cannot be reached, then all disputes shall be settled by arbitration.

28. **ARBITRATION :** All disputes, differences, claims and demands arising under or pursuant to or touching this agreement shall be referred to Arbitration of a sole Arbitrator to be appointed by the Director, ISTRAC, whose decision/award will be final and binding on both the parties. Such arbitration shall be held in Bangalore and shall be subject to and governed by the provisions of the Arbitration and Conciliation Act of 1996 or any statutory modification or re-enactment thereof. The language to be used in Arbitration is English only.

29. **JURISDICTION :** The contract/ purchase order shall be governed by an interpreted and construed in accordance with the laws of India. The courts situated at Bangalore only shall have jurisdiction to deal with and decide any legal matter or dispute arising out of contract/ purchase order.

### **3. INSTRUCTIONS TO TENDERERS FOR ONLINE SUBMISSION OF TENDERS THROUGH E-PROCUREMENT SYSTEM**

#### 1. Conditions for online submission of tenders:

- a) It is mandatory for interested parties to register as vendors in our e-procurement portal <https://eproc.vssc.gov.in/home.html> for participating in online eProcurement process of ISRO. Only registered vendors can submit their offers online in our eProcurement portal.
- b) Vendors who are already registered in the existing EGPS software of ISRO, please register by clicking the link in the email you would have already received from 'eproc@vssc.gov.in'. After registration, do the profile update by login to this portal.
- c) For new vendors, who are not registered in the existing EGPS software, vendor registration will be released along with the portal release. To register as vendors please refer to the help demos listed on the home page of the e-procurement link mentioned above. They may approach help desk (contact details provided on the home page) for any technical help for registration and subsequent process.
- d) OEM details should be added in your E-Procurement profile under Add Agent/Principal without fail.

2. a) Bidders shall arrange themselves all resources, including Digital signature certificates and Internet Connections at their own cost, for participating in online tendering.

b) Vendors can download the tender details and submit their offers online using their vendor accounts (obtained during registration) in our portal. Help demos for tender download and bidding processes are given on home page.

c) The tender should be submitted online in the ISTRAC link before the due date and time as specified in the tender schedule in the portal.

d) Vendors shall also take note of other Instructions to tenderers indicated in the tender documents.

#### 3. Procedure for seeking clarifications/help for the tender:

a) All enquiries regarding the tenders and submission of offers shall be online and only through our eProcurement portal.

b) Vendors may approach help desk e-mail id and phone number given on the home page for any technical help (e-mail: [eproc@vssc.gov.in](mailto:eproc@vssc.gov.in) and Phone: +91471 2565454/4574/2527/3753/3289).

4. ISTRAC shall not be responsible for failure of vendors in submitting bids online caused due to technical reasons at vendor end such as network or power failures, computer failure, internet-browser, mistakes / errors in filling the bids on line by vendor etc.

5. Queries by vendors on technical problems on the last day of tender will not be binding on ISTRAC/ISRO for resolving/addressing. ISTRAC will not be responsible for non-submission of bids for those cases.

## C. Bid Templates

### C.1 Technical Bid - RF Spectrum Analysers-upto 13GHz

#### 1. Spectrum Analyser- upto 13 GHz

##### Item specifications for Spectrum Analyser

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	FREQUENCY RANGE	10 KHz to 13 GHz	Yes / No / Explain		
2	Frequency Resolution	0.01 Hz	Yes / No / Explain		
3	Frequency Span	100 Hz to 10 GHz, Zero & full Span	Yes / No / Explain		
4	Frequency counter accuracy	+/- (Freq X ref. Error + ½ last digit)	Yes / No / Explain		
5	Frequency counter resolution	Up-to 0.001 Hz selectable	Yes / No / Explain		
6	Spectral purity (dBc / Hz) SSB phase noise, F = 1 GHz	Carrier offset 100 Hz: Better than -88 dBc 10 KHz: Better than -105 dBc 1 MHz: Better than -130 dBc	Yes / No / Explain		
7	Resolution bandwidths (3 dB)	10 Hz to 5 MHz in typical 1/2/3/5 sequence	Yes / No / Explain		
8	RBW Accuracy	+/-2% or better	Yes / No / Explain		
9	FFT Filter Bandwidths	1 Hz to 100 KHz in typical 1/2/3/5 sequence	Yes / No / Explain		
10	FFT Filter Accuracy	+/-2% or better	Yes / No / Explain		
11	Video bandwidths	10 Hz to 5 MHz in 1/2/3/5 sequence	Yes / No / Explain		
12	Displayed Average noise level (At 10 Hz RBW, 1 Hz VBW, 0 dB attenuation, Pre amplifier OFF)	1 MHz to 1 GHz: -140 dBm or better 1 GHz to 13 GHz: -135 dBm or better	Yes / No / Explain		

13	Signal Analysis bandwidths	20 MHz or better	Yes / No / Explain		
14	Range of ref. level setting	-110 dBm to +30 dBm in step of 0.1 dB	Yes / No / Explain		
15	Amplitude Units for scale	Log. level: dBm, dBmV, dBμV, dBpW Linear Level: mV, μV, mA, pW	Yes / No / Explain		
16	Input Attenuator	0 to 60 dB in 5 dB steps	Yes / No / Explain		
17	Level Display 1.Log Scale Level 2.Linear level Scale 3.Traces 4.Trace detector 5.Trace functions	10 dB to 200 dB in step of 1/2/5 dB 10% of ref level/ div in μV to V Min. 3 (or more) per screen Max. Peak, Min. Peak, Auto peak, Average, RMS. Clear/Write, Max/Min Hold, Average, view	Yes / No / Explain		
18	Total level measurement Uncertainty (2)	±0.3 dB or better at 2 GHz ±0.8 dB or better at 10 GHz	Yes / No / Explain		
19	Spurious response 1. Image response 2. Residual spurious response	< -70 dBc < -90 dBm	Yes / No / Explain		
20	Sweep time	1 mSec. to 7200 Sec. for Zero Span 2 mSec. to 4000 Sec. for Span 100 Hz	Yes / No / Explain		
21	Sweep trigger	Free run, video, external, IF level	Yes / No / Explain		
22	Markers	Normal, Max., delta, Peak search, Peak Track, Marker to center. (It shall be possible to set normal & delta marker on different traces).	Yes / No / Explain		
23	No. of Markers	Minimum 4	Yes / No / Explain		
24	Internal reference (aging / year)	1 X 10 <sup>-7</sup> or better	Yes / No / Explain		
25	Internal Reference Short Term Stability	5 X 10 <sup>-7</sup> or better	Yes / No / Explain		

26	Internal reference temp. Drift	1 X 10-7 or better	Yes / No / Explain		
27	Mass Memory for Data storage	Built in Hard disk USB 2.0/3.0 port (min. 02 nos.) > 500 instrument settings & traces	Yes / No / Explain		
28	Remote control	TCP/IP LAN, LXI platform preferred.	Yes / No / Explain		
29	RF Input (Front panel)	N-female, 50 Ohms, VSWR: 2.0:1 or better	Yes / No / Explain		
30	Input/ Outputs	(Rear panel) 1)Ref. Freq. I/p: BNC, 5/ 10 MHz, 0-10 dBm 2)Ref. Freq. O/P: BNC, 10 MHz 3)Ext. Trigger I/p, BNC female 4)External Monitor: VGA / DVI-D / DP Ethernet TCP/IP (100 base T / gigabit LAN), RJ45 connector	Yes / No / Explain		
31	Operating Temperature	+5 to +45 deg. C, Max. 95% RH	Yes / No / Explain		
32	Power supply	100 – 240 VAC, 47 – 63 Hz	Yes / No / Explain		
33	Mechanical housing	In line with MIL-PRF-28800F or equivalent	Yes / No / Explain		
34	Operation & service Manual	To be provided in English	Yes / No / Explain		
35	Warranty Period	2-years minimum standard warranty.	Yes / No / Explain		

**Document : specification of RF spectrum analysers-upto 13ghz**

**2. Spectrum Analyser- RF Pre-Amplifier Option**

**Item specifications for Spectrum Analyser**

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	RF Preamplifier	Gain = 20 dB typical covering the entire frequency range of offered product	Yes / No / Explain		

### 3. Spectrum Analyser-Tracking Generator Option upto 5GHz

#### Item specifications for Spectrum Analyser

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Tracking Generator	1 MHz to 5 GHz with frequency setting resolution of 1 Hz Level Range: 0 to -50 dBm	Yes / No / Explain		

### 4. Spectrum Analyser- Phase Noise Measurement Software Option

#### Item specifications for Spectrum Analyser

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Phase Noise Measurement application	10 Hz to 10 MHz range (carrier offset). RF I/P level +10 to -30 dBm Measurement of residual FM/PM & jitter	Yes / No / Explain		

### 5. Spectrum Analyser- Modulation Analysis Option for FM & PM Modulation Signals

#### Item specifications for Spectrum Analyser

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Modulation Analysis for PM & FM signals	PM modulation Index measurement range of 0.2 to 2.0 rad.	Yes / No / Explain		

### 6. Spectrum Analyser -Noise Figure Measurement Option

#### Item specifications for Spectrum Analyser

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Noise Figure Measurement	Noise figure and Noise temperature measurement in the range of 0.1 to 20 dB	Yes / No / Explain		

### 7. Spectrum Analyser- Vector Signal Analysis Option

### Item specifications for Spectrum Analyser

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Vector Signal Analysis	Shall cover BPSK / QPSK / OQPSK / 8-PSK / GMSK / 16 QAM / 64 QAM / FSK modulations. Display of Constellation / vector diagram and Histogram, BER measurement for PRBS.	Yes / No / Explain		

### 8. Spectrum Analyser-EMI Measurement option

#### Item specifications for Spectrum Analyser

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	EMI Measurement	Automatic detection of time varying signals. Identification of AM & FM signals. Choice of standard and user specific limit lines.	Yes / No / Explain		

### 9. Spectrum Analyser- Ruggedized Housing Option

#### Item specifications for Spectrum Analyser

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Ruggedized Housing		-		

#### Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
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1	Proposed Spectrum Analyser is going to be used in Satellite Earth Station for precise monitoring of all station RF parameters and RF sub-systems		-		
2	The Spectrum Analyzer shall have dynamic range of min. 100 dB with RMS detector for fast & accurate measurement		-		
3	It shall provide split screen with separate settings & minimum 3 traces per screen		-		
4	It shall have TFT/ LCD / LED color display of size 8.0" min. or more		-		
5	The unit shall have automatic test routines / application firmware for measuring TOI, AM Modulation Depth, occupied BW, Harmonic distortion, Noise source control, Noise figure etc		-		



6	Spectrum Analyzer shall have USB / LAN interface for connecting over a 100 base-T / gigabit LAN network. It shall be remotely controllable via LAN.		-		
7	The Spectrum Analyser offered shall support marker functions like signal count, noise measurement, phase noise, ndB down etc.		-		
8	The unit offered shall have calibration cycle of min. 2 years		-		
9	Unit shall meet electromagnetic compatibility standards as per IEC/EN61326-1 / EN55011 and electrical safety standards as per IEC/EN 61010-1.		-		
10	General Requirements:		-		

11	The bidder shall provide complete technical details of the offer with detailed explanation of the function of the system, detailed data sheet of the system offered along with the model number of the offered unit.		-		
12	The bidder shall provide complete details of various options available and any other information that may be required to evaluate the offer		-		
13	The bidder shall bring out point-by-point technical compliance matrix against all the specifications and functional requirements.		-		
14	The bidder shall explicitly bring out all the points in the remark column wherever the specifications are not met or exceeded. Any incomplete offer is liable for rejection.		-		

15	The bidder shall clearly indicate the optional features offered in the offer and shall accordingly quote the price for each of the options separately		-		
16	The bidder shall guarantee maintenance / service support for at least 10 years from the date of acceptance of the system.		-		
17	The system shall be considered to be accepted by ISTRAC, ISRO only after the successful completion of the on-site acceptance tests duly certified by ISTRAC Engineer.		-		
18	If ISTRAC requires, vendor shall provide hands on training covering all operational aspects and available features of the offered product after delivery. Any cost implications towards that shall be clearly mentioned by the vendor in his offer		-		

19	The vendor shall be ISO 9001:2015 certified one with established Quality Assurance Plan which shall consist of periodical inspections and progressive Quality Control throughout the developmental and production cycle of the product offered.		-		
20	The vendor should attach supporting documents on this with their offer.		-		
21	The factory calibration report to be provided along with the instrument delivery		-		
22	L1 computation shall be done including the cost of Base unit, optional feature of Phase Noise Measurement, Modulation Analysis for PM & FM signal, RF Pre-amplifier and Ruggedized Housing.		-		

### Supporting Documents required from Vendor

5 additional documents can be uploaded by the vendor

## C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	as per genrral terms & conitions	Yes / No / Explain	
2	As per general terms and conditions	Yes / No / Explain	
3	Payment Term	Yes / No / Explain	
4	Taxes and other costs, if any	Yes / No / Explain	
5	Delivery Period	Yes / No / Explain	
6	Delivery Term	Yes / No / Explain	
7	Security Deposit: FD or BG for 3% of PO value to be submitted after receipt of PO and valid till supply & acceptance.	Yes / No / Explain	
8	Performance Bank guarantee : BG for 3% of PO value to be submitted while claiming payment valid till end of warranty period with a claim period of 60 days.	Yes / No / Explain	
9	(OR) SD-cum-Warranty (PBG) (in lieu of SD & PBG as a single instrument): BG for 3% of PO value to be submitted after receipt of PO valid till end of warranty period with a claim period of 60 days.	Yes / No / Explain	
10	<p><b>DELAY IN COMPLETION / LIQUIDATED DAMAGES :</b>If the Contractor fails to deliver the stores within the time specified in the Contract or any extension thereof, the Purchaser shall recover from the Contractor as Liquidated Damages a sum of one-half of one per cent (0.5%) of the Contract price of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed ten percent (10%) of the contract price of the unit or units so delayed. Stores will be deemed to have been delivered only when all their component parts are also delivered. If certain components are not delivered in time, the stores will be considered as delayed until such time as the missing parts are delivered.</p>	Yes / No / Explain	

11	Warranty	Yes / No / Explain	
12	Validity	Yes / No / Explain	
13	Name and Address of the company on whom purchase order to be placed (OEM if any should be added in your E-Procurement profile under Add Agent/Principal without fail).	Yes / No / Explain	
14	Certificate of Undertaking: Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods or services (including consultancy services and non consultancy services) or works (including turn-key projects) only if the bidder is registered with the Competent authority (i.e. DPIIT). Hence, it is mandatory to furnish Certificate of Undertaking as indicated in the tender document.	Yes / No / Explain	
15	Any other terms	Yes / No / Explain	

### C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	Spectrum Analyser	1.0 - 2.0 Lot		-		
		3.0 - 6.0 Lot		-		
		7.0 - 10.0 Lot		-		
		11.0 - 15.0 Lot		-		
2	Spectrum Analyser	1.0 - 2.0 Lot		-		
		3.0 - 6.0 Lot		-		
		7.0 - 10.0 Lot		-		
3	Spectrum Analyser	1.0 - 2.0 Lot		-		
		3.0 - 6.0 Lot		-		

4	Spectrum Analyser	1.0 - 2.0 Lot		-		
		3.0 - 6.0 Lot		-		
		7.0 - 10.0 Lot		-		
5	Spectrum Analyser	1.0 - 2.0 Lot		-		
		3.0 - 6.0 Lot		-		
		7.0 - 10.0 Lot		-		
6	Spectrum Analyser	1.0 - 2.0 Lot		-		
		3.0 - 6.0 Lot		-		
7	Spectrum Analyser	1.0 - 2.0 Lot		-		
		3.0 - 6.0 Lot		-		
8	Spectrum Analyser	1.0 - 2.0 Lot		-		
		3.0 - 6.0 Lot		-		
		7.0 - 10.0 Lot		-		
9	Spectrum Analyser	1.0 - 2.0 Lot		-		
		3.0 - 6.0 Lot		-		
		7.0 - 10.0 Lot		-		

**Common charges (Applicable for all items)**

<b>P&amp;F Charges</b>	
<b>Freight Charges</b>	
<b>Installation Charges</b>	

<b>Documentation &amp; Handling Charges</b>	
<b>Other Charges (If any)</b>	