

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

**Tender for S- Band 10-kW SSPA Transmitter for polrimetric Doppler
Weather Radar**

Bids to be submitted online

Tender No.: ISTRAC/ISTRAC PURCHASE/TR202200043101 dated 23-05-2023

A. Tender Details

Tender No : **ISTRAC/ISTRAC PURCHASE/TR202200043101**

Tender Date : **23-05-2023**

Tender Classification: **GOODS**

Purchase Entity : **ISTRAC PURCHASE**

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

S- Band 10-kW SSPA Transmitter for polrimetric Doppler Weather Radar

Note: 1) This is a Dual Part Tender. Please submit your Offers separately for Technical and Price Bid under relevant Template. Please upload Price Bid under Price Bid only and nowhere else. If price is mentioned anywhere other than Price Bid, your offer will not be considered. 2) Please provide your compliance separately for (a) Performance Bank Guarantee Clause (b) Liquidated Damages Clause (c) Security Deposit Clause (d) Submission of Certificate of Undertaking (e) Make in India Clause

A.1 Tender Schedule

Bid Submission Start Date : **24-05-2023 18:00**

Bid Clarification Due Date : **27-06-2023 17:00**

Bid Submission Due Date : **06-07-2023 17:00**

Bid Opening Date : **07-07-2023 10:00**

Price Bid Opening Date : **11-07-2023 10:00**

B. Tender Attachments

NA

Instructions To Vendors

1. INSTRUCTIONS TO TENDERERS FOR ONLINE SUBMISSION OF TENDERS THROUGH E-PROCUREMENT SYSTEM

1. 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.

2. 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.

3. 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.

4. 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 and Phone: +91471 2565454/4574/2527/3753/3289).

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.

2. CERTIFICATE OF UNDERTAKING

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

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

3. 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)).

4. (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.

5. 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.

6. 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.

7. CERTIFICATE

8.

COMPANY NAME AND SEAL:

9. DESIGNATION:

10. 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;

11. GOVERNMENT OF INDIA

DEPARTMENT OF SPACE

ISTRAC, BENGALURU: 560 058.

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. (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.

14. 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.

15. (ii).I/We hereby confirm that the country of origin of goods is _____

16. 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.

17. (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.

18. 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.

19. 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.

20. NAME:

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. Ref:Tender No _____ date _____

Our Quotation No. _____ date _____

23. REQUIREMENT OF REGISTRATION:

24. SIGNATURE:

25. (* Strike out whichever is not applicable).

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

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

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

29. 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.

3. MAKE IN INDIA UNDERTAKING (VENDORS SHALL SUBMIT THE BELOW CERTIFICATE ON THEIR LETTER HEAD DULY SIGNED)

1. The type of Class which the vendor belongs: Class-I or Class-II Local Suppliers as defined under DPIIT Order dtd 04/06/2020- Preference to Make in India Order-2017 Revision.(Class I local supplier means a supplier or service provider, whose goods, service or works offered for procurement, has local content equal to or more than 50% & Class II local supplier means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%). NOTE: Bidders offering imported products will fall under the category of Non-local suppliers. They cannot claim themselves as Class I Local suppliers/Class II Local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition.

2. Percentage of local content for the quoted item.

3. Details of location (s) at which the local value addition is made

4. Provide self-certification that the item (s) offered meets the local content requirement for Class-I/Class-II Local Suppliers as the case may be.

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

1. 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.

2. 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.

3. 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.

4. 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.

5. 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.

6. 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

7. 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.

8. TAXES: GST is payable as per applicable rates.

9. 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)

10. 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.

11. It is to be noted that either Customs Duty or GST is applicable (any one)

12. 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.

13. 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.

14. Please provide your compliance for Security Deposit, Performance Bank Guarantee and Liquidated Damages Clause.

15. 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.

16. 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.

17. 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.

18. 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.

19. 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.

20. TERMS & CONDITIONS OF TENDER

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

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

23. 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.

24. 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.

25. 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.

26. 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.

27. 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.

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

29. 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.

5. TENDER TERMS AND CONDITIONS

1. All information in Vendor Specified Terms shall be provided without fail to avoid unnecessary correspondence / delay in process. The same should reach before technical bid opening date and time without fail.

2. a) Order no: F.No.6/18/2019 PPD dated 23.07.2020 of Department of Expenditure), Ministry of Finance

Under Public procurement division for the General Financial rule (GFRs).

3. As per Rule 144(xi) of General Financial Rules, 2017, any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority (i.e., Department for Promotion of Industry and Internal Trade) in line with Order (Public Procurement No. 1, 2 and 3) dated 23/07/2020 and 24/07/2020 or any amendments thereon issued by the Public Procurement Division, Department of Expenditure, Ministry of Finance. Hence, Vendors or Agents of a Vendor (Indian or Others) from a country sharing border with India shall submit the copy of Valid Registration made with DPIIT along with the tender mandatorily, without which the offer will be treated as invalid.

4. A supplier who has been debarred by any procuring entry for violation of this order shall not be eligible

for preference under this order for procurement by any other procuring entity for the duration of the

debarment. The debarment for such other procuring entities shall take effect prospectively from the date on which it comes to the notice of other procurement entities, in the manner prescribed.

5. b) Class I local supplier means a supplier or service provider, whose goods, service or works offered for procurement, has local content equal to or more than 50%, as defined under order.

6. c) Class II local supplier means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%, as defined under this Order.

7. d) Bidders offering imported products will fall under the category of Non-local suppliers. They cannot claim themselves as Class I Local suppliers/Class II Local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition.

8. Delivery Terms: FOR ISTRAC

9. e) Verification of local content:

i) The Class I local supplier/ Class II local supplier at the time to tender, bidding or solicitation shall be required to indicate percentage of local content and provide self certification that the item offered meets the local content requirement for Class I local supplier / Class II local supplier as the case may be. They shall also give details of the location(s) at which the local value addition is made.

10. GENERAL TERMS & CONDITIONS FOR BIDDERS: For this procurement, bids from Class I & class II Local Suppliers are admissible. hence provisions contained in Public Procurement (Preference to Make in India), Order 2017 issued by Department for Promotion of Industry and Internal Trade (DIPP), Ministry of Commerce & Industries vide letter No. P 45021/2/2017 PP(BE II) dated 04.06.2020 and subsequent amendment & directives shall be followed. Accordingly, offer will be evaluated & processed in conformation with above referred GOI order (Specially mentioned below). The bidder shall provide compliance and undertaking as per order and hereafter amendments:

11. If an agent submit bid on behalf of the principal/OEM, the same agent shall not submit a bid on behalf of another principal/OEM in this tender for the same item. If submitted, all offers will be liable for rejection.

12. iii) False declarations will be in breach of the code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules (GFR) for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the general Financial Rules along with such other actions as may be permissible under

Law.

13. ii) In case bid value is in excess of Rs. 10 Cr., Class I local supplier/ Class II local supplier shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

14. In case the bidders propose any other payment terms in deviation with the standard terms mentioned in the tender enquiry, it may be noted that applicable cash flow implications will be loaded on the prices quoted for commercial comparison of the offers. If advance payments are insisted by the bidders, interest at the rate of MCLR (Marginal Cost Linked Rate) as notified by State Bank of India from time to time shall be loaded on the prices for price comparison.

15. In this tender either the Indian agent on behalf of the principal/OEM or the principal /OEM itself can bid, but both cannot bid simultaneously for the same item. Indian agents while quoting on behalf of their principals shall provide necessary latest authorisation letter obtained from their principals/manufacturers.

16. Liquidated damages: If the vendor fails to deliver the items on or before the delivery date, or any extension thereafter purchaser shall recover from the vendor as liquidated damages a sum of 0.5% of the contract price of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed 10% of the contract price of the unit or units so delayed.

17. Model Certificate for Tenders:

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered.

18. Model Certificates for Tenders for Work involving possibility of sub contacting:

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub contracting to contracting from such countries I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub contract any work to a contract form such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered.

Provide Compliance for the above in Vendor Specified Commercial Terms.

19. NO EMD AND TENDER FEE.

20. Performance Bank Guarantee (PBG) to be furnished as a security for fulfilment of warranty

obligations by the successful vendor after satisfactory execution of purchase order/Contract (3% of the value of the purchase order/Contract). Central SUs/PSE/Autonomous bodies are exempted from the production of Performance Bank Guarantee. Instead; an indemnity bond shall be furnished in lieu of PBG.

21. Product Scope: Class I local supplier/ Class II local supplier shall offer only standard and catalogued product for Equipment / Spares Cards / assemblies. If the above offered Equipment / Cards / Assemblies are under development / to be developed the bid will not be considered.

22. PUBLICITY: No publicity of any kind whatsoever in case of PURCHASE ORDER shall be given by the Supplier without prior permission of the Purchaser.

23. SECRECY: The technical information, drawings, specifications and other related documents, forming part of the CONTRACT, are the property of the Purchaser and shall not be used for any other purpose, except for execution of the CONTRACT. All rights, including rights in the event of grant of patent and registration of designs are reserved. The technical information, drawings, specifications, records and other documents shall not be copied, transcribed, traced or reproduced in any other form or otherwise in whole and/or duplicated, modified, divulged and/or disclosed to a third party nor misused in any other form whatsoever without Purchasers consent in writing except to the extent required for the execution of this CONTRACT. These technical informations, drawings, specifications and other related documents shall be returned to the Purchaser with approved copies and duplicates, if any, immediately after they have been used for the agreed purpose.

24. Senior Purchase and Stores Officer, ISTRAC, reserves the right to accept or reject any/or all the tenders in part or full without assigning any reasons thereof.

25. Submit the bid on or before due date.

26. Successful vendor has to submit the security deposit. (3 % of the value of the purchase order). Central PSUs/PSE/Autonomous bodies shall be exempted from the payment of security deposit, and instead, an indemnity bond shall be secured from them.

27. VENDORS HAS TO REFLECT THE POINT NO (4), (5) AND (6) IN THEIR BID.

28. TAXES: GST is payable as per applicable rates.

29. Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales quotes not permitted. The bids shall be in INR only.

C. Bid Templates

C.1 Technical Bid - S- Band 10-kW SSPA Transmitter for polarimetric Doppler Weather Radar

1. TRANSMITTERS (TUBES, SSPA ETC.) 10-kW SSPA Based Transmitter for S- Band Polarimetric Doppler Weather Radar .

Transmitter Frequency : 2.75 ± 0.01 GHz OR 2.85 ± 0.01 GHz

Document : RFP for 10-kW S- Band SSPA

2. RF Transmitters spares(Spare Units of basic LRU module(2-kw or More)) Vendor has to Quote separately for spare LRU units, ISTRAC has right to place the purchase order or not for these LRU units

Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	TRANSMITTER TECHNICAL SPECIFICATIONS	The specifications & architecture for proposed 10 kW S-band SSPA is based on GaN Power Amplifier technology with basic Module of minimum 2-kW peak power .The key features of this architecture are high output power (10-kW) using low power PA modules (2-kW) with modular design and graceful degradation. Six /Eight 2-kW SSPA modules shall be cascaded to obtain a combined output power of 10-kW.	Yes / No / Explain		
2	Frequency Range	2.7 to 2.9 GHz	Yes / No / Explain		

3	Quantity	One Number of 10kW SSPA based Transmitter unit Frequency : 2.75 ± 0.01 GHz OR 2.85 ± 0.01 GHz	Yes / No / Explain		
4	Architecture	10-kW SSPA shall be configured in LRU concept. Each LRU can be 2-kW or higher output power	Yes / No / Explain		
5	Center frequencies	a) 2.75 ± 0.01 GHz OR b) 2.85 ± 0.01 GHz	Yes / No / Explain		
6	1-dB Instantaneous bandwidth	50MHz min. at selected center freq.	Yes / No / Explain		
7	Peak Saturated RF Power	better than 10 kW, (Modular LRU design with output power = 2 kW or more at each LRU)	Yes / No / Explain		
8	Pulse Width	0.25 μ s to 250 μ s	Yes / No / Explain		
9	Rise/Fall Time	better than 100ns	Yes / No / Explain		
10	Small Signal Gain	better than 71 dB	Yes / No / Explain		
11	Amplifier Device	High efficiency GaN devices	Yes / No / Explain		
12	Overall Efficiency	better than 40% including DC Supply power factor	Yes / No / Explain		
13	Duty Cycle	better than 15%	Yes / No / Explain		
14	Pulse Droop	better than 0.5 dB at Max. pulse width	Yes / No / Explain		
15	Output Power Flatness over time	better than 1 dB (after Temperature stabilization)	Yes / No / Explain		
16	Phase variation over time	± 3 deg Max after Temperature stabilization	Yes / No / Explain		
17	Input/output Return Loss	better than 14dB	Yes / No / Explain		
18	Input Output Impedance	50 ohm	Yes / No / Explain		

19	Spurious	better than -60 dBc	Yes / No / Explain		
20	Harmonic Output	better than -40 dBc	Yes / No / Explain		
21	Input Connector	N-type (F)	Yes / No / Explain		
22	Output Connector	WR-284 Waveguide	Yes / No / Explain		
23	Monitoring Outputs	TWO Coupled Output Sample ports (N-type)	Yes / No / Explain		
24	Thermal Management	Liquid Cooling for complete system along with Power Supply & controller card	Yes / No / Explain		
25	Mounting Provision	19-inch Rack Mountable with EMI/EMC Racks along with power supply, thermal management & controller.	Yes / No / Explain		
26	Packaging of the SSPA	a) This rack with all the rack accessories, power distribution, mounting, doors, cable routing ducts, rack plates, etc. shall be supplied by the vendor. b) Each 2-kW unit shall be LRU based modular design for the ease of replacing and trouble shooting.	Yes / No / Explain		
27	Controller Features1.1	Local Controller at each basic 2-kW LRU	Yes / No / Explain		
28	Controller Features1.2	separate Master Controller for 10 kW transmitter other than local controller at 2-kW LRU	Yes / No / Explain		
29	Controller Features1.3	Local Controller card shall generate all the Health & status parameters mentioned in the table	Yes / No / Explain		
30	Controller Features1.4	Temperature Compensation	Yes / No / Explain		
31	Controller Features1.5	Remote operation over TCP/IP	Yes / No / Explain		
32	Controller Features1.6	Triggered Synchronization with 50ns setting resolution	Yes / No / Explain		

33	Controller Features1.7	Real-time Health & Status Monitoring (RF input, Junction Temp. Output power, Communication status, PSU status, Power Good , Analog & Digital power, forward power, RF Presence	Yes / No / Explain		
34	Controller Features1.8	Update rate for all the above parameters shall be better than 10HZ.	Yes / No / Explain		
35	Controller Features1.9	Interface: Dual Ethernet controller with debugging option	Yes / No / Explain		
36	Controller Features1.10	GUI: Web based GUI supporting both latest Windows and LINUX OS	Yes / No / Explain		
37	Controller Features1.11	Local & Remote Mode of operation Local mode will be used during qualification, testing and commissioning and maintenance of the amplifier. In the remote mode SSPA will be controlled through the commands given through Radar controller All the health parameters Values & status mentioned in the subsequent sections to be displayed during local & remote mode	Yes / No / Explain		
38	Real Time Interlocks	a) Excess RF input, b) Excess VSWR, c) Excess Duty & PW, d) Excess Temp, e) Excess Current Vendor can implement more interlocks as per safety of the system.	Yes / No / Explain		
39	Phase control	a) Provision to control the phase of the transmitter. b) The maximum allowable phase variation of the transmitter shall be of the order of ± 3 deg c) Provision to adjust output power variation	Yes / No / Explain		

40	Power supply	3 phase AC supply \pm 10%, 50 \pm 10 %Hz	Yes / No / Explain		
41	Functionality	The remote control of power supply units using Web based GUI.	Yes / No / Explain		
42	Total regulation range (10% to 90% load changed)	Main output +/- 1%	Yes / No / Explain		
43	De-rating Factor	50% or better on average power	Yes / No / Explain		
44	Efficiency	85% or better	Yes / No / Explain		
45	Cooling	Air cooled	Yes / No / Explain		
46	Load regulation	1 %or better	Yes / No / Explain		
47	Line regulation	1 % or better	Yes / No / Explain		
48	Low frequency rms ripple	100mV or better	Yes / No / Explain		
49	Ripple factor peak to peak	1% of max output voltage	Yes / No / Explain		
50	Remote ON & OFF control	Feature for Power ON & OFF sequencing shall be provided for unmanned remote operation using the web based GUI for provided for the system)	Yes / No / Explain		
51	Safety protections	OCP, OVP, short /open protection	Yes / No / Explain		
52	Operational Temperature	10 to 50 °C	Yes / No / Explain		
53	Operational Humidity	55-95 % RH (non-condensing)	Yes / No / Explain		
54	Environment	Coastal and Saline environment	Yes / No / Explain		
55	Ingress Protection	IP65 or better	Yes / No / Explain		

56	Environmental test	a)72 hours burn in test, dry heat test and damp heat test as per JSS-5555, b) EMI/EMC tests as per MIL-STD-461-E (CE102, RE102), Detailed description of these tests will be discussed during PDR and ATP document will be finalized accordingly.	Yes / No / Explain		
57	Software/Firmware	a)The vendor shall design, develop and supply the required software/firmware application to standalone test and verify all the functionalities of the transmitter. b)Vendor shall finalize Ethernet Data Frame format as per ISTRAC inputs and the same shall be approved by ISTRAC.	Yes / No / Explain		
58	Operational requirement	The system shall be capable of round-the-clock continuous operation during its useful life.	Yes / No / Explain		
59	System life/reliability	The MTBF of the each Unit should be greater than 5000 hours and MTTR should be less than 1 hour. The MTBF of all system components should be greater than 50000 hours.	Yes / No / Explain		
60	VENDOR EVALUATION CRITERIA2.1	Vendor should have proven technical credentials and past experiences in assembling, manufacturing, testing and supplying of high-power SSPA transmitter of the order of 2-kW level to reputed firms including public sectors and R&D institutes.	Yes / No / Explain		

61	VENDOR EVALUATION CRITERIA 2.2	Vendor should have proven expertise in the design of fail-safe interlocks and in handling Liquid cooled system for High power RF systems.	Yes / No / Explain		
62	VENDOR EVALUATION CRITERIA 2.3	Vendor to submit the necessary certificates and documentary proof for point 1 & 2 for the works carried out during last 5 years along with the technical proposal.	Yes / No / Explain		
63	VENDOR EVALUATION CRITERIA 2.4	Delivery Challan to be presented for previously completed project.	Yes / No / Explain		
64	VENDOR EVALUATION CRITERIA 2.5	Bid will not be considered valid if any of the above conditions are not fulfilled.	Yes / No / Explain		
65	VENDOR EVALUATION CRITERIA 2.6	1.The ranking of the vendors (L1) will be done on the 10-kW SSPA unit along with accessories and spare LRU modules. 2.Vendor has to Quote separately for spare LRU modules, ISTRAC has right to place the purchase order or not for these LRU modules. 3.CAMC cost will not be included in L1 evaluation. However CAMC cost should not exceed 8 % of the indent value .	Yes / No / Explain		

66	SCOPE OF THE WORK 3.1	The vendor shall design, develop, test and deliver 10-kW SSPA Transmitter as per the configuration & specifications provided by ISTRAC. Vendor shall also handover all the design files including Schematics, Layout, Gerber, CAD drawings, simulation results, Signal & Power Integrity Analysis, Thermal Analysis, BOM & datasheets for all the sub-systems and circuits along with all source codes for FPGA, GUI and firmware.	Yes / No / Explain		
67	WORK FLOW DETAILS 4.1	Vendor shall develop and realize the individual systems as per the required design, configuration & specifications.	Yes / No / Explain		
68	WORK FLOW DETAILS 4.2	Preliminary Design Review (PDR) will be held within 45 days from the date of issue of purchase order. In PDR, the design approach to realize the hardware i.e. RF cards consists of lineup of SSPA and associated circuitry, related monitoring and status hardware, biasing circuit & power supply unit, Cooling Mechanism, Mechanical packaging Quality & reliability aspects will be discussed.	Yes / No / Explain		

69	WORK FLOW DETAILS 4.3	Clearance for Production unit: CDR will be conducted within Five months from the date of issue of purchase order. In CDR, vendor shall submit the test reports of all the proto units along with performance parameters of each sub-system. Integrated performance will be discussed in details to ensure that overall performance parameters are meeting as per RFP. Based on the standalone performance of proto unit and integrated test results, clearance will be obtained from ISTRAC for the production.	Yes / No / Explain		
70	WORK FLOW DETAILS 4.4	The 10-kW Transmitter shall be delivered in 12 month's time from the date of purchase order release.	Yes / No / Explain		
71	WORK FLOW DETAILS 4.5	After ISTRAC clearance, vendor shall proceed for production of complete system as per the mentioned quantities and configurations. Vendor shall test each production unit of every sub-system before integrating them in the system. Vendor shall provide integrated system level test and performance report along with environmental & EMI/EMC test reports.	Yes / No / Explain		

72	WORK FLOW DETAILS 4.6	PCB fabrication & Hardware realization for 1st unit: Vendor shall present Simulation results before fabrication of sub modules of the proposed configuration vendor shall proceed for PCB fabrication & Hardware realization for 1st unit for sub-systems based on PDR committees' recommendation.	Yes / No / Explain		
73	WORK FLOW DETAILS 4.7	The vendor shall submit detailed test plans for Factory Acceptance Testing (FAT) prior for approval. Vendor shall provide integrated system level test and performance report along with environmental & EMI/EMC test reports that carried out on 1st unit.	Yes / No / Explain		
74	WORK FLOW DETAILS 4.8	The vendor shall submit detailed test plans for Factory Acceptance Testing (FAT) prior for approval. As per the ISTRAC approved FAT test plan & procedures, FAT of integrated systems shall be carried out at the Vendor's premises prior to shipment. The final unit shall be shipped only after satisfactory conclusion of the pre-shipment acceptance testing (FAT).	Yes / No / Explain		
75	WORK FLOW DETAILS 4.9	After ISTRAC clearance, vendor shall proceed for production of complete system as per the mentioned quantities and configurations. Vendor shall test each production unit of every sub-system before integrating them in the system.	Yes / No / Explain		

76	WORK FLOW DETAILS 4.10	The vendor shall submit detailed test plans for Site Acceptance Testing (SAT) to be carried out. As per the ISTRAC approved SAT test plan & procedures, SAT of systems shall be carried out at site. Vendor representative shall be involved in the commissioning of the transmitter systems at each site/project.	Yes / No / Explain		
77	WORK FLOW DETAILS 4.11	Vendor must provide the project execution plan with time line for completion of work if vendor proposes to use external Test facilities; vendor shall bring out its impact on schedule.	Yes / No / Explain		
78	Guidelines 5.1	Vendor shall finalize the design configuration & realization approach of all the sub-systems based on the overall system configuration provided by ISTRAC.	Yes / No / Explain		
79	Guidelines 5.2	RF Design and simulation should be carried out by the vendor. All design and simulation files should be handed over to ISTRAC, Vendor is required to change the design & layout (if needed), based on ISTRAC inputs.	Yes / No / Explain		
80	Guidelines 5.3	Vendor shall provide all the related records, versions of PCB design along with generated reports and post processed CAM files (Gerber, Drill, Fabrication notes, layer stack up, impedance details etc.).	Yes / No / Explain		

81	Guidelines 5.4	Vendor shall use the substrate material defined by ISTRAC, for PCB fabrication. All the - components used in the RF card, TSG and DC power supply should be of high quality and reliability to support long-term operation of the SSPA.	Yes / No / Explain		
82	Guidelines 5.5	Component population and PCB Assembly, surface treatment, mechanical packaging shall be done by the vendor as per ISRO standards.	Yes / No / Explain		
83	Guidelines 5.6	Vendors shall provide Quality Control (QC) and reliability analysis for all the components selected for the SSPA fabricated. Detailed analysis on de rating, Thermal analysis including MTBR, MTTR shall also be mentioned in the report. Any, Non Conformance, if any, shall be reported to ISTRAC.	Yes / No / Explain		
84	Guidelines 5.7	Test & Acceptance of all the SSPA shall be carried out based on the document provided by the ISTRAC.	Yes / No / Explain		
85	Guidelines 5.8	Vendor shall develop a separate GUI for the testing of sub units including controller card and also in integrated testing.	Yes / No / Explain		
86	Guidelines 5.9	The technical information, drawings and other related documents given by ISTRAC in the course of the work should remain the property of ISTRAC/ISRO. The given Material/Documents should not be used for any other purpose or be duplicated in any case.	Yes / No / Explain		

87	Guidelines 5.10	Vendor shall be available for integration of the SSPA unit at site till performance clearance.	Yes / No / Explain		
88	QUALIFICATION TEST MATRIX 6.1	All the specification requirements of this RFP shall be verified by testing. Vendor is required to generate test procedure, clearly showing the test setup. Testing shall be done as per ISTRAC approved test procedure using calibration test and measuring instruments. Transmitter Unit testing shall be carried out based on following matrix for Proto & Production units.	Yes / No / Explain		
89	QUALIFICATION TEST MATRIX 6.2	Parameters to be checked	Yes / No / Explain		
90	QUALIFICATION TEST MATRIX 6.3 Parameters to be checked	Output /Input Bandwidth	Yes / No / Explain		
91	QUALIFICATION TEST MATRIX 6.4	RF Output Power (over BW)	Yes / No / Explain		
92	QUALIFICATION TEST MATRIX 6.5	Power Gain (over BW)	Yes / No / Explain		
93	QUALIFICATION TEST MATRIX 6.6	Gain Flatness (over BW & Time)	Yes / No / Explain		
94	QUALIFICATION TEST MATRIX 6.7	Phase Accuracy (over BW & Time)	Yes / No / Explain		
95	QUALIFICATION TEST MATRIX 6.8	Attenuator & Phase Shifter Tests	Yes / No / Explain		
96	QUALIFICATION TEST MATRIX 6.9	I/P Return Loss	Yes / No / Explain		
97	QUALIFICATION TEST MATRIX 6.10	Spurious	Yes / No / Explain		
98	QUALIFICATION TEST MATRIX 6.11	Harmonics	Yes / No / Explain		

99	QUALIFICATION TEST MATRIX 6.12	Pulse Characteristics (over BW)	Yes / No / Explain		
100	QUALIFICATION TEST MATRIX 6.13	Gain & Phase Variation over Temp	Yes / No / Explain		
101	QUALIFICATION TEST MATRIX 6.14	Power Supply Performance (over time) with RF	Yes / No / Explain		
102	QUALIFICATION TEST MATRIX 6.15	Power Supply Performance (over time) no RF	Yes / No / Explain		
103	QUALIFICATION TEST MATRIX 6.16	Status & Health Monitoring Tests	Yes / No / Explain		
104	QUALIFICATION TEST MATRIX 6.17	Controller Card Performance Tests	Yes / No / Explain		
105	QUALIFICATION TEST MATRIX 6.18	Heat Dissipation Measurement	Yes / No / Explain		
106	QUALIFICATION TEST MATRIX 6.19	Cooling Solution Performance	Yes / No / Explain		
107	QUALIFICATION TEST MATRIX 6.20	Endurance Test	Yes / No / Explain		
108	QUALIFICATION TEST MATRIX 6.21	EMI/EMC test as per MIL std (461-E) CE-102,RE102	Yes / No / Explain		
109	QUALIFICATION TEST MATRIX 6.22	Environmental tests (Dry heat & Damp Heat Test)	Yes / No / Explain		
110	LIST OF DELIVERABLES 7.1	All sub-systems, integrated & interconnected in a single rack, including all the required interconnecting RF, signal & power cables as per the tender.	Yes / No / Explain		
111	LIST OF DELIVERABLES 7.2	Softcopies of all the design related items including Design Schematics, PCB Layout Designs, Fabrication drawings, all source codes for FPGA, GUI and firmware, software source code executables, Mechanical CAD drawings & project files .	Yes / No / Explain		

112	LIST OF DELIVERABLES 7.3	PCB Hardware Design and simulation Project Files including simulation, Schematics, Layout, Gerbers, Plots, films, Signal & Power Integrity Analysis, Thermal Analysis and BOM& datasheets for Both RF and Digital circuits etc Parts List: Detailed parts list with part numbers shall be provided.	Yes / No / Explain		
113	LIST OF DELIVERABLES 7.4	All the documentation & reports related to: a. Realization plan with schematic b. Technical details of all components (datasheets) c. All circuits details & diagrams d. Test reports at various design & realization stages e. Interface Control Document f. Quality & Reliability Assurance Plan g. De-rating and stress analysis report h. Thermal analysis Report i. Operational & trouble-shooting Manuals j. Frame formats for remote access related to GUI & Controller	Yes / No / Explain		

114	TERMS & CONDITIONS 8.1	<p>Vendor shall obtain ISTRAC approval and clearance at following stages of the development & realization of each sub-system:</p> <ul style="list-style-type: none"> a. Card level Schematic & Design approval (if modified by vendor) --- PDR b. Approval of Sub-vendors/OEM for procurement of BOM/sub-units --- PDR c. Card level Layout design review --- CDR d. CAD model design review for mechanical packaging and mounting --- CDR e. Thermal simulation result review --- CDR f. Review of Proto Units test results g. FAT test plan approval h. Review of FAT test results i. Clearance for delivery j. SAT test plan approval k. Review of SAT test results l. Work completion certificate 	Yes / No / Explain		
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115	TERMS & CONDITIONS 8.2	<p>Definition of Proto unit: For each transmitter development, vendor shall realize basic building blocks of each sub-system as proto unit. In proto units consists of followings:</p> <p>a. Single unit of each repeated</p> <p>(i) SSPA modules up to the waveguide/coaxial output as per the approved configurations</p> <p>(ii) Power supply modules corresponding to the proto SSPA module as per the approved configurations.</p> <p>(iii) Controller card/unit corresponding to the proto SSPA module as per the approved configurations.</p> <p>b. Thermal management system design as well as complete rack & mechanical packaging design should be ready at the time of proto unit review.</p> <p>c. Any additional circuit required for functioning of the proto units should also be realized as a part of proto realization (same design shall be used in the final system until otherwise modification asked by ISRAC review committee)</p>	Yes / No / Explain		
116	TERMS & CONDITIONS 8.3	Vendor to submit the necessary certificates and documentary proof for the similar works carried out along with the technical proposal.	Yes / No / Explain		

117	TERMS & CONDITIONS 8.4	ISTRAC retains the option to split the requirements and can award multiple contracts taking into account the capabilities of the bidders, quantum of work, project requirements and schedule, prices quoted etc.	Yes / No / Explain		
118	TERMS & CONDITIONS 8.5	The fabrication is to be carried out as per ISTRAC/ISRO approved processes.	Yes / No / Explain		
119	TERMS & CONDITIONS 8.6	All raw materials, components, connectors, cables, mechanical parts, substrates, PCBs, etc. shall be procured by vendor through qualified sub-vendors. The procurement specifications are to be generated by the vendor and approved by ISTRAC before procurement/ placement of Purchase Order.	Yes / No / Explain		
120	TERMS & CONDITIONS 8.7	Vendor shall take approval from ISTRAC prior to third party outsourcing. R&QA requirements will be applicable to third party also.	Yes / No / Explain		
121	TERMS & CONDITIONS 8.8	All the components used in the system should be of high quality and reliability to support long-term operation of the system at coastal saline and humid environment. They should have long operational life and should be from highly reliable and reputed manufacturers with proven track-record.	Yes / No / Explain		

122	TERMS & CONDITIONS 8.9	If third party is developing the software/firmware a clear agreement shall be executed with the party in consultation with ISTRAC to hand over the source code and executable to be delivered under this development along with the final deliverables. Any standard drivers available in the market used for the development will not come under this clause and that shall be specified in advance.	Yes / No / Explain		
123	TERMS & CONDITIONS 8.10	Supplier needs to supply all the hardware units as per mounting provisions for standard 19-inch Racks. Its structure shall be made with good quality CRS MS sheets. Its mounting plate and gland plates shall be Zinc-plated. The complete structure shall be rigid, self-supporting, and free from flaws, twists, bends and all cutouts shall be true in shape and devoid of sharp edges.	Yes / No / Explain		
124	TERMS & CONDITIONS 8.11	Preferred make for all resistances, inductors, capacitors etc. are Vishay, Keltron, Philips, Cornell Dubilier, Coil Craft, Coil Master and equivalent unless specified otherwise. For integrated circuits the preferred make are Analog devices, Maxim Integrated, NXP, Philips or equivalent. Preferred make for Connectors, PCB profile holders, terminal blocks and relays are Phoenix, Connect well, OEN, Pla or equivalent.	Yes / No / Explain		

125	TERMS & CONDITIONS 8.12	All RF connectors shall from M/s Huber Schunner/Radiall (France) / Times make only. Other connectors, control/power, shall be MS circular connectors from M/s Amphenol/ Allied.	Yes / No / Explain		
126	TERMS & CONDITIONS 8.13	All RF switches used in the system should be absorptive type.	Yes / No / Explain		
127	TERMS & CONDITIONS 8.14	Vendor shall select or use AC-DC & DC-DC power supplies only from following reputed manufacturers: TDK-Lambda, GE, and GWinstek. DC-DC convertors shall be from vicor/Cosel etc. The power supply configuration and make shall be approved by ISTRAC during PDR.	Yes / No / Explain		
128	TERMS & CONDITIONS 8.15	Proper shielding, tagging, marking and lugging shall be done in all cables. All connectors should be covered and cables shall be strain relieved by means of proper boots.	Yes / No / Explain		
129	TERMS & CONDITIONS 8.16	Vendor should have necessary test equipment (with valid calibration at the time of testing). Vendor to confirm the availability of the instruments and equipment while bid submission.	Yes / No / Explain		
130	TERMS & CONDITIONS 8.17	Vendor should submit plan and probable list of environmental & EMI/EMC test facilities at the time of bid submission.	Yes / No / Explain		
131	TERMS & CONDITIONS 8.18	All documents supplied by ISTRAC are the exclusive property of ISTRAC and shall not be used for any purpose other than agreed upon.	Yes / No / Explain		

132	TERMS & CONDITIONS 8.19	Any changes carried out in the design, drawings or documents during the contract tenure, done by vendor or ISTRAC shall be exclusive property of ISTRAC and shall not be used for any purpose other than agreed upon.	Yes / No / Explain		
133	TERMS & CONDITIONS 8.20.a	EMI/EMC protection aspects must be followed in the design. Conformal coating of PCBs, extended temperature devices & thermal conduction assembly shall be followed in design.	Yes / No / Explain		
134	TERMS & CONDITIONS 8.20.b	Mechanical packages, boxes, covers, clamps, etc. shall be fabricated by Vendor / Sub-vendor as per ISTRAC approved drawings. These shall undergo 100% dimensional measurements and visual inspection including plating / thermal painting workmanship point of view.	Yes / No / Explain		
135	TERMS & CONDITIONS 8.21	Transmitter Modules along with power supply module shall be subjected to endurance test, temperature cycling, dry heat test, damp heat test, EMI/EMC test. All the environmental tests to be carried out in presence of ISTRAC representative.	Yes / No / Explain		
136	TERMS & CONDITIONS 8.22	Detailed thermal analysis to be carried out for Transmitter Modules. Transmitter Modules should be designed with efficient thermal management like proper conductive cold plates & heat sink.	Yes / No / Explain		

137	TERMS & CONDITIONS 8.23	Entire Transmitter Modules system to be configured for operation in different modes through a PC based GUI through standard communication interfaces.	Yes / No / Explain		
138	TERMS & CONDITIONS 8.24	System should be designed for continuous operation on a 24 x 365 basis with standard preventive maintenance schedules.	Yes / No / Explain		
139	TERMS & CONDITIONS 8.25	Endurance test of complete integrated system for 14 days, with full load.	Yes / No / Explain		
140	TERMS & CONDITIONS 8.26	Operation, Reference, maintenance and troubleshooting manuals for both hardware and software should be made available.	Yes / No / Explain		
141	TERMS & CONDITIONS 8.27	Adequate test points should be provided in the system for the health monitoring and speedy trouble shooting. These aspects should be explicitly stated in the maintenance/trouble shooting manual.	Yes / No / Explain		
142	TERMS & CONDITIONS 8.28	The system should be capable of detecting failures of subsystems like SSPA modules, power supply, controller card etc. and should provide indication locally and remotely.	Yes / No / Explain		
143	TERMS & CONDITIONS 8.29	All the status and analog parameters from SSPA Modules and other sub systems shall be available in GUI display.	Yes / No / Explain		

144	TERMS & CONDITIONS 8.30	Transmitter Modules shall be designed with necessary protection interlocks like excess VSWR, excess RF, excess temperature, excess duty, Power good condition, etc. These interlock status to be available in GUI, with a provision for bypassing the interlocks, if necessary.	Yes / No / Explain		
145	TERMS & CONDITIONS 8.31	All transmitter modules shall be provided with lightening protection circuitry.	Yes / No / Explain		
146	TERMS & CONDITIONS 8.32	All the components used shall be of industrial grade with minimum 50% de rating.	Yes / No / Explain		
147	TERMS & CONDITIONS 8.33	Adequate de-rating (minimum 50%) shall be provided to all the selected components. De-rating analysis and reliability report shall be submitted. De-rating analysis and reliability report shall be submitted. Adequate test points should be provided in the Module for the health monitoring and speedy troubleshooting. These aspects should be explicitly stated in the maintenance/trouble shooting manual	Yes / No / Explain		

148	TERMS & CONDITIONS 8.34	All the sub-systems and components used in the system should be of high quality and reliability to support long-term operation of the system at coastal humid environment. They should have long operational life and should be from highly reliable and reputed manufacturers with proven track-record. Make, model numbers and detailed technical specifications of all the sub-systems and components should be provided.	Yes / No / Explain		
149	TERMS & CONDITIONS 8.35	The system shall have the provision for complete automation of the amplitude and phase calibrations of transmit channels individually.	Yes / No / Explain		
150	TERMS & CONDITIONS 8.36	All the sub systems should have only ISRO logo at the front view. Vendors can put their logo at card level.	Yes / No / Explain		
151	TERMS & CONDITIONS 8.37	Vendor shall do necessary modifications in the design based on ISTRAC committee suggestions & recommendations without extra cost.	Yes / No / Explain		

152	SYSTEM LIFE/RELIABILITY 9.1	<p>The useful life of the delivered items shall be minimum 10 years after acceptance at site. The delivered items shall be capable of round-the-clock continuous operation during its useful life. State of the art technology shall be incorporated in the design and development of the hard wares. All components of the hardware shall be of industry standard or better. The system shall be designed on a modular concept. When a fault has been located in a module, its replacement shall be possible without realignment and adjustment of the system. The Vendor is required to submit a complete analysis of MTBF (Mean Time between Failures) and MTTR (Mean Time to Repair) for each Sub system as mentioned in Table-1. The MTBF of the each subsystem should be greater than 5000 hours and MTTR should be less than 1 hour. The MTBF of all system components should be greater than 50000 hours.</p>	Yes / No / Explain		
153	PACKING AND MARKING 10.1	<p>The packing for the goods provided by the vendor should be strong and durable enough to withstand, without limitation, the entire journey, rough handling, open storage etc. without any damage, deterioration etc.</p>	Yes / No / Explain		

154	INSPECTION AND REVIEWS 11.1	The purchaser/consignee reserves the right to inspect goods at factory site/ vendor site before their dispatch, if required. Goods accepted by the purchaser/consignee and/or its inspector at initial inspection shall in no way dilute purchaser's/consignee's right to reject the same later, if found deficient in terms of the clauses of the contract. After Acceptance of Purchase Order, ISRO Shall conduct Preliminary Design Review (PDR)/Critical Design Review (CDR)/Technical Reviews/Meetings as and when required at various stages of development by Committee formed by ISTRAC.	Yes / No / Explain		
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155	ACCEPTANCE TESTS 12.1	<p>The deliverables will be accepted only after obtaining successful technical performance as per the specifications. The test plan shall require approval by the ISRO. As per the mutually agreed test procedures, FAT shall be carried out at the vendor premises or ISTRAC Bangalore prior to shipment. The equipment shall be shipped only after satisfactory conclusion of the pre-shipment acceptance testing. The objective of the tests shall be the verifications of performance of the sub-system as per the specifications and functional requirements. Site Acceptance Test (SAT) shall be conducted at site . The test plan shall require concurrence by the ISTRAC. As per the mutually agreed test procedures, acceptance test should be carried out. Any defects / deviations noticed during the site acceptance tests (SAT) shall be rectified by the vendor. After such rectification, the tests shall be repeated to verify the rectification & functional requirement of the system as per tender document.</p>	Yes / No / Explain		
156	TRAINING 13.1	<p>The vendor shall provide training in maintenance and servicing of the sub-systems delivered by them to persons from ISRO or for ISRO identified personnel for a maximum period of 1 week required) at ISTRAC Bangalore .</p>	Yes / No / Explain		

157	LOCATION & INSTALLATION 14.1	The installation and SAT shall be at ISTRAC, Bangalore	Yes / No / Explain		
158	WARRANTY/GAURANTEE 15.1	The vendor warrants that the items supplied under the contract conform to technical specifications prescribed and shall perform according to the said technical specifications. The vendor warrants for a period of 3 years onsite warranty from the date of acceptance as per the ATP document and site acceptance test. The warranty shall also include all third party bought out items / subsystems. OEM certification of warranty for the third party items is to be provided.	Yes / No / Explain		
159	WARRANTY/GAURANTEE 15.2	All items supplied to stores should be free from all defects and faults in material workmanship and manufacture.	Yes / No / Explain		
160	WARRANTY/GAURANTEE 15.3	Goods should be of the highest grade and consistent with the established and generally accepted standards for material of the type used and in full conformity with the specifications, drawings, or samples and shall, if operable, operate properly.	Yes / No / Explain		

161	WARRANTY/ GAURANTEE 15.4	The deliverables should be guaranteed for trouble free performance during warranty period after SAT and acceptance. The vendor shall finally warrant that all the stores, equipment and components supplied under the Order shall be new and of the first quality according to the specifications and shall be free from the defects. The defects, if any, during the guarantee period are to be rectified free of charge by arranging free replacement wherever necessary. Further, the technical specifications and requirements may also be verified	Yes / No / Explain		
162	WARRANTY/ GAURANTEE 15.5	The vendor shall be bound to furnish a clear written warranty.	Yes / No / Explain		
163	WARRANTY/ GAURANTEE 15.6	The vendor will be required to replace defective goods, free of cost inclusive of all freight and handling charges.	Yes / No / Explain		
164	WARRANTY/ GAURANTEE 15.7	Free updates made to firmware, processing software and clarifications should also be supplied with relevant documentation during the period of warranty .	Yes / No / Explain		
165	WARRANTY/ GAURANTEE 15.8	The vendor shall supply the details of its Compliant Centre meant for booking the complaints along with the contact numbers like mobile nos., phone nos., mail address and names etc. of its service engineers.	Yes / No / Explain		

166	CAMC 16.1	Year wise CAMC shall be quoted for 07 years after completion of 03 years warranty period, otherwise the Bid shall be considered as unresponsive.	Yes / No / Explain		
167	CAMC 16.2	The Purchaser/Consignee has the discretion to award CAMC or not, however the ranking of the vendors (L1) shall be determined on the cost of transmitters and associated accessories only.	Yes / No / Explain		
168	CAMC 16.3	The comprehensive maintenance contract includes preventive and corrective maintenance and free replacement of all types of the defective parts/devices.	Yes / No / Explain		
169	CAMC 16.4	The CAMC charge shall not be more than 8% (eight percent) of the transmitter system.	Yes / No / Explain		
170	CAMC 16.5	Vendor shall maintain critical spares in order to avoid radar down time .	Yes / No / Explain		

171	COMPLIANCE STATEMENT 17.1	The vendor shall submit detail point-by-point compliance statement of this tender mentioning full details with reference Para, Clause and page no. for each parameter along with reasons for compliance/ non-compliance, if any. Silence on any paragraph or simply making a statement 'complied' without proper justification or reference will be considered as non-compliance. All the claims with respect to any specification shall be supported by document along with bid document otherwise same may be treated as non-compliance. Compliance matrix should be filled in at all points of tender document individually.	Yes / No / Explain		
172	18.Delivery Schedule		-		
173	Purchase order release	Defined as T0	Yes / No / Explain		
174	PDR	T0 + 45 days	Yes / No / Explain		
175	PDR closure	T0+2 Months	Yes / No / Explain		
176	CDR	T0+5 Months	Yes / No / Explain		
177	Clearance for fabrication	T0+6 Months	Yes / No / Explain		
178	Readiness of the Transmitter unit	T0+10 Months	Yes / No / Explain		
179	FAT	T0+11 Months	Yes / No / Explain		
180	SAT of Transmitter & Final acceptance	T0+12Months	Yes / No / Explain		

Supporting Documents required from Vendor

1. Vendor shall separately quote for basic module / LRU Units(2-kW or more) . (Price Bid Related)

2. Product data sheets, Bil of Material and all the documents mentioned in the List of Deliverables as per (point 9) of the documentd

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	As per Delivery & Acceptance Tests Mentioned in the Document	Yes / No / Explain	
2	Payment Term (Our normal terms of payment is 100% within 30 days from the date of receipt and acceptance of the item at our site)	Yes / No / Explain	
3	Taxes and other costs, if any	Yes / No / Explain	
4	Delivery Period	Yes / No / Explain	
5	Delivery Term	Yes / No / Explain	
6	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	
7	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	
8	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	
9	<p>DELAY IN COMPLETION / LIQUIDATED DAMAGES : 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	

10	Warranty	Yes / No / Explain	
11	Validity	Yes / No / Explain	
12	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). Address indicated here must be available in your profile as a Principal/Agent failing which PO will be placed on the e-procurement address available in the profile.	Yes / No / Explain	
13	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	
14	Foreign vendors are not permitted to quote. 1. Only Class -I and Class-II Local suppliers as per make in India policy are eligible to participate in the bid. 2. The percentage of local content should be specifically mentioned in the offer, without which will be summarily rejected 3. Preference will be given to class-I Local Supplier and in their absence, class-II Local supplier will be considered.	Yes / No / Explain	

15	<p>This tender is restricted only to Class-I and Class-II Local Suppliers as defined under DPIIT Order dtd 04/06/2020- Preference to Make in India Order-2017 Revision. Non-Local Suppliers need not quote. Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales Quotes not permitted. The bids shall be in INR only.</p> <p>Purchase preference to eligible vendors are applicable as per extant notifications issued by the Government of India.</p> <p>The Class-I/Class-II Local suppliers, at the time of submitting their offer, shall also indicate percentage of local content and provide self certification that the item (s) offered meets the local content requirement for Class-I/Class-II Local Suppliers as the case may be. They shall also give details of location (s) at which the local value addition is made.</p> <p>In cases if the item(s) offered exceed Rs. 10 Crores, the Class-I/Class-II Local Suppliers shall provide a Certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content. False Declarations will be in breach of the Code of Integrity under Rule 175 (1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.</p>	Yes / No / Explain	
16	Percentage of local content for the quoted item.	Yes / No / Explain	
17	Details of location (s) at which the local value addition is made	Yes / No / Explain	
18	Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales quotes not permitted. The bids shall be in INR only.	Yes / No / Explain	

19	GeM Seller ID: As per Gol OM No. 6/9/2020-PPD dated 24.08.2020 and DO No. 170/CEO-GeM/2020, sellers providing Goods and Services to Central Government Organizations shall be registered on GeM and obtain a unique GeM registered ID. Hence please get registered in GeM and furnish your GeM Seller ID.	Yes / No / Explain	
20	Any other terms	Yes / No / Explain	

C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	TRANSMITTERS (TUBES, SSPA ETC.) 10-kW SSPA Based Transmitter for S- Band Polarimetric Doppler Weather Radar . Transmitter Frequency : 2.75 ± 0.01 GHz OR 2.85 ± 0.01 GHz	1.00 Nos.		-		
2	RF Transmitters spares(Spare Units of basic LRU module(2-kw or More)) Vendor has to Quote separately for spare LRU units, ISTRAC has right to place the purchase order or not for these LRU units	2.00 Nos.		-		

Common charges (Applicable for all items)

P&F Charges	
Freight Charges	
Installation Charges	
Documentation & Handling Charges	
Other Charges (If any)	