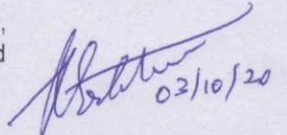

	ITI LIMITED	Phone No:	080-28503662
		Fax No:	080-28503653
BANGALORE PLANT			
DOORAVANINAGAR BANGALORE - 560 016			
ENQUIRY			
		Enquiry Ref No:	C020J001
		Enq Date:	03.10.2020
		Due Date :-	20.10.2020
Please quote your best prices and delivery for the item as mentioned below.			
S/no	Description of the item		Qty
1	Supply of Radio Modem (Radio Link) for (1+1) Hot Standby Configuration Point to Point for MahaIT Project		450 Radio Links
<p align="center">Note: Detail Notice Inviting Tender (Two Covers = Technical Bid + Commercial Bid) as per Specification attached</p>			
<p align="center">If any further technical detail required towards submission of offer please contact Mr.Govinda Raj M.S (PGM-QA) Phone: 080-28503889 and E-mail : msgovindaraj_bgp@itiltd.co.in copy to avmurdeshwar_bgp@itiltd.co.in and rosario_bgp@itiltd.co.in</p>			
Note:	1		
	2	ITI GST NUMBER: 29AAACI4625C1ZV.	
	3		
Your sealed quotation Subscribing our Enquiry reference and Due Date on the Envelope should reach us on or before Due Date ie. 20.10.2020 before 3.00 pm .			
Special Note : (Technical Bid only will be opened on the next working day at 02.30 pm)			
All Quotations should be addressed to :- Deputy General Manager (IMM & PPC) Central Purchase, ITI Limited, Dooravaninagar Bangalore -560 016. Thanking you			
		Your's faithfully, For I.T.I Limited  03/10/20  Deputy General Manager (IMM & PPC)	



**Tender enquiry for Supply of Radio Modem (Radio Link)
for (1+1) hot standby configuration Point to Point for
MahaIT Project: Qty- 450 Radio Links**

ITI Limited
Bangalore Plant

1. INTRODUCTION

ITI Limited, is a Public Sector Undertaking under the Department of Telecommunications, Ministry of Communications & IT, is a leading Telecom equipment manufacturer and solution provider in India. The major customers are BSNL, MTNL, Defence, Paramilitary forces and Railways.

With this background, ITI invites for supply of Radio Modem for MahaIT Project.

2. GENERAL CONDITIONS

1. Bidders shall send their proposal in single sealed cover to the following address: The Quotation submitted through email is not acceptable. Please refer to clause No:4.

Mailing Section
Ground Floor
ITI limited, Doorvaninagar
Bangalore Plant
Bangalore - 560 016.

2. Period of Validity of offers: The offer shall remain valid for a period of at least 180 days from the due date of bid submission. Offers valid for a shorter period shall be rejected.
3. The last date for receiving the proposal is 20-10-2020 15.00 hrs.
4. ITI, Bangalore Plant works from Monday to Saturday, Sunday holiday.
5. In case the date of submission of bid is declared to be a holiday, the bid may be submitted on the next working day of ITI.
6. In case there are any clarifications on this notification, please contact AGM (QA) at msgovindaraj_bgp@itilttd.co.in, Ph: 080-28503627, Mob: 9480428346
7. Late offer: Any offer received after the prescribed timeline shall be rejected and shall be returned unopened to the vender.
8. Language of offers: The offers prepared by the vendor and all the correspondences and documents relating to the offers exchanged by the vendor, shall be in English language.
9. Award of Contract: After completing Technical evaluation and commercial evaluation, the PO will be placed on the successful L1 bidder. Also please refer to clause No: 13.
10. Currency of Purchase Order: ITI will place Purchase Order on Bidder in INR. Any foreign exchange variation shall be borne by the Bidder.
11. Liquidated Damages/Penalty: LD/penalty incurred on account of short closure of order, delay in supply, technical evaluation, installation, Site acceptance test, system

Commissioning, product failure during warranty if any and deficiency in Warranty and AMC services (attributable to the bidder) shall be borne by the bidder.

12. Authorized Signatory: All certificates and documents received as part of the offer shall be signed by the Authorized Representative (signing is not mandatory for technical manuals or documentation). The power or authorization, or any other document consisting of adequate proof of the ability of the signatory to bind the vendor shall be submitted if demanded by ITI.
13. ITI reserves the right to suspend or cancel this **Tender** process at any stage, to accept, or reject any, or all offers at any stage of the process and / or to modify the process, or any part thereof, at any time without assigning any reason, without any obligation or liability whatsoever.
14. Cost of Tender: The vendor shall bear all costs associated with the preparation and submission of its Tender, including cost of presentation for the purposes of clarification of the offer, if so desired by ITI. ITI will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Tender process.
15. The Vendor shall be ready to give clarifications on any part of the offer to ITI.
16. Amendment of Tender: At any time prior to the last date for receipt of offers, ITI, may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective vendor, modify the Tender document by an amendment. In order to provide prospective vendor reasonable time in which to take the amendment into account in preparing their offers, ITI may, at their discretion, extend the last date for the receipt of offers and/or make other changes in the requirements set out in the Invitation for Tender.
17. Disclaimer: ITI and/or its officers, employees disclaim all liability from any loss or damage, whether foreseeable or not, suffered by any person acting on or refraining from acting because of any information including statements, information, forecasts, estimates or projections contained in this document or conduct ancillary to it whether or not the loss or damage arises in connection with any omission, negligence, default, lack of care or misrepresentation on the part of ITI and/or any of its officers, employees.
18. Costs indicated in offer for each item should be the landed cost of the item giving break up of basic cost of item, excise duty and all type of taxes specified separately, levies, freight and so on.
19. Incomplete tender may be rejected.
20. Only OEM or their authorized channel partners authorized to quote on behalf of the OEM will respond to this Tender Enquiry.
21. In a tender, either the Indian agent on behalf of the Principal/OEM or principal/OEM itself can bid but both cannot bid simultaneously for the same item / product in the same tender.

22. Full name and status of the person signing the tender documents must be clearly mentioned in the tender.
23. Alterations if any, in the tender documents should be attested properly by the vendor, failing which the tenders are liable to be rejected.
24. Vendors will not make any assumptions while submitting their bids. If required, clarification will be sought prior to submission of bids.
25. **Proof of Concept (POC):** The L1 vendor shall demonstrate the entire (1+1) Hot Standby system at field location of MahaIT and location & time for demonstration will be decided by ITI. All the expenses for demonstration at site shall be born by the L1 vendor.
26. The vendors bidding for this tender should have experience of working in similar technologies with Government organizations directly. Work order for the work done to the tune of the value shall be not less than 15 Cr. Over a cumulative period of last 5 years. The copy of work order W/o price details shall be submitted for proof. PO will be placed only after successful demonstration at site
27. The vendor will be solely responsible for themselves and their people's transportation, accommodation, fooding and security while working in at site and also during demonstration of the equipment for technical evaluation. ITI does not take responsibility for vendor or their people/staff. In case vendor fails to complete the project after being granted the contract, vendor will be liable for blacklisting in all the branches of MHA and MOD.
28. Offered product OEM and model no. should have successful track record of at least last one year in the field performance. Should have been previously supplied in India in any Government organization and worked successfully. OEM of the product should also have a successful track record of giving after sales service support to all their Government customers. Any bad track record of OEM and their product will lead to rejection of the bid.
29. The company should be ISO 9001:2008 certified or higher (Documents to be attached).
30. Bidder will submit Technical Literature and Brochure of all the items and its accessories being offered. In absence of same the tender will be rejected.
31. OEM should have office in India with valid proof like GST, Sales tax registration number. Certification of incorporation certificate, Articles & Memorandum of Association with CIN No.
32. For MahaIT specifications may be requested through following email: AGM (QA), msgovindaraj_bgp@itilttd.co.in, Ph: 080-28503627, Mob: 9480428346

33. **ELIGIBILITY CRITERIA:**

- a. The bidder shall be a company registered under Indian Companies Act 1956/2013 or as amended from time to time.
- b. The bidder shall submit valid TSEC certificate issued from QA BSNL against TEC

GR.NO: TEC/GR/R/ISM-MOD-001/04.MAR 2016 for Type-B Radio Modem. The model No offered for this tender shall fully comply with the MahaIT technical specifications for Radio implementation under sub section A-4 of MahaIT tender specifications. Ref. No: MahaIT/CNI/001/01/2018 Dated: 31/01/2018. The model number registered in TSEC certificate shall also meet the tender specifications.

- c. Valid PAN No of the company/Vendor.
- d. Valid Goods and Services Tax Registration Certificate No(s).
- e. A self-declaration along with the evidence that the bidder is not black listed by any Govt/Public Sector(PSO's) and GST authorities.
- f. The bidder shall have record towards supply of Radio Modems similar products worth not less than 15 Cr. Over cumulative period of last 5 years.
- g. The authorization letter from OEM shall be enclosed towards bidding by their authorized channel partners.

34. **BID DOCUMENTS:**

- a. The Bid documents will be available online through ITI portal www.itilttd-india.com and <https://eprocure.gov.in/cppp/>
- b. The offers shall be submitted in a single cover (clearly marked as “**Tender enquiry for Supply of Radio Modem (Radio Link) for (1+1) hot standby configuration Point to Point for MahaIT Project**”) which shall contain the following two sealed covers inside.
- c. The first cover (clearly marked as Technical BID) shall contain the following documents:
 - i. Clause-by-clause compliance to this Tender enquiry for Supply of Radio Modems for MahaIT Project & clause by compliance given in the Technical Requirements of MahaIT tender. Ref. No: MahaIT/CNI/001/01/2018 Dated: 31/01/2018 under sub section A-4 of MahaIT tender.
 - ii. Supporting Documents towards technical compliance for MahaIT tender specifications for Radio implementation under sub section A-4 of MahaIT tender.
- d. The second cover shall contain only commercial (clearly marked as Commercial Bid).

35. **EVALUATION PROCESS**

- a. Each Agency shall submit their proposals which includes both technical and commercial Bid.
- b. ITI will constitute an Evaluation Committee to evaluate the responses of the applicants.
- c. The Evaluation Committee constituted by ITI shall evaluate the responses to the tender and all supporting documents & documentary evidence. The committee may seek additional documents as it deems necessary.
- d. Each of the responses shall be evaluated to validate competence of the applicant according to the supporting documents specified in this document.

- e. The decision of the Evaluation Committee in the evaluation of responses to this tender shall be final. No correspondence will be entertained outside the evaluation process of the Committee.
- f. The Evaluation Committee reserves the right to reject any or all proposals.
- g. The vendor shall demonstrate any test on MahaIT specification, if ITI ask for any test if required. The demo shall be provided at ITI.

36. TECHNICAL SPECIFICATION:

Sl.No	Description	Specification No
I	Radio Modem (Radio Link) for (1+1) hot standby configuration Point to Point	MahaIT/CNI/001/01/2018 Dated: 31/01/2018 under sub section A-4 of MahaIT tender.

37. LIST OF EQUIPMENTS:

The commercial quotations shall be provided as per the format given below.

Sl.No	Description	Qty/ Radio link	Price/Radio Link	Qty for 450 Links	Price for 450 Radio links	Total price with tax
a	GPS Sync Unit					
b	ODU					
c	Switch (shall support both indoor & out door)					
d	Antenna					
e	EMS & NMS software					
f	Any other items is required for link					

Note: Please quote FOR price and best delivery terms.

38. INSTALLATION & COMMISSIONING:

Installation Items & commissioning charges shall be quoted separately. The Breakdown of installation items shall be provided.

39. COMPREHENSIVE ON SITE WARRANTY:

Separate comprehensive on-site warranty cost shall be provided for 5 years from date of installation.

Sub-section A – 4: Technical Specification for Radio Implementation**Specific Requirements for Radio Link:****Radio Modem:**

Reference: TEC/GR/R/ISM-MOD-001/04.MAR2016

SIA intends to purchase Radio Equipment for point to point installation as per Generic Requirements as mentioned in TEC/GR/R/ISMMOD-001/04.MAR2016 for point to point deployment along with following additional requirement of Mahanet. Requirement of radio infrastructure of Mahanet is for establishing point-to point link between BSNL tower and Gram Panchayat. The system should work in Point to Point mode of operation.

The system will employ modulation techniques like FHSS (Frequency Hopping Spread Spectrum, DSSS (Direct Sequence Spread Spectrum), OFDM (Orthogonal Frequency Division Multiplexing) etc. and will work in TDD (Time Division Duplex) or FDD (Frequency Division Duplex) with channel bandwidths of 20MHz and 40MHz in addition to 50MHz (optional, if available). Bidders offering 50 MHz/40 MHz should have fall back option to operate in lower channel bandwidths in case of RF interference, low signal or installation inaccuracies etc. At the same time, it should not interfere with adjacent bands.

1. Systems based on IEEE Standard 802.11 ac are also allowed.
2. The system should support Point-to-Point architecture.
3. The frequency range of the system shall lie within 5825 - 5875 MHz. However, it should be configurable in complete ISM Band (5 GHz) as per NFAP present provisions or any future changes.
4. The modem shall support pure IP traffic (Type B). However installer will have to deploy appropriate converter where ever support for backend connectivity from E1 port is required to be extended. (To be added in Price schedule)
5. The system should support the minimum data rates as per the table below (with maximum two spatial streams):

Modulation and FEC	Physical data Rate in Mbps(20 MHz)	Data Rate (throughput) in Mbps* (20 MHz)	Physical data Rate in Mbps (40 MHz)	Data Rate throughput) in Mbps* (40 MHz)	Data Rate throughput) in Mbps* (50 MHz)
BPSK-1/2	13	6.5	27	13.5	18
QPSK-1/2	26	13.0	54	27.0	37
QPSK-3/4	39	19.5	81	40.5	55
16QAM-1/2	52	26.0	108	54.0	73
16QAM-3/4	78	39.0	162	81.0	110
64QAM-2/3	104	52.0	216	108.0	146
64QAM-3/4	117	58.0	243	121.0	165
64QAM-5/6	130	65.0	270	135.0	183

*Minimum unidirectional throughput (in Mbps) for different channel widths.

Note: 1. for 802.11ac testing will be done at GI=800ns.

1. It is mandatory for the system to operate with at least 64 QAM modulation scheme and should have adaptive coding & modulation which enables dynamically altering of modulation scheme to maintain link quality and optimize the throughput in case of RF interference, low signal or installation inaccuracies etc.
2. Bidders may also offer 256 QAM in which case it should have adaptive coding and modulation which enables dynamically altering of modulation scheme to maintain link quality and optimize the throughput in case of RF interference, low signal or installation inaccuracies etc.
3. Channelling Plan / Configurable Channel Bandwidth: The system should be configurable to 20/40/50(optional) MHz channel bandwidths. This flexibility shall allow BBNL to use different channel bandwidths in different installations depending on throughput requirements.
4. The status of Alarms and Diagnostics should be displayed on the front panel of the equipment (LED/LCD display) and should be extendable to EMS/State/BBNL NMS.
5. There should be a provision of extending at least Four External Alarms such as SPV health indicating Alarms (4Nos.) to be extended to the EMS/NMS.
6. There shall be indication on front panel on LED/LCD display/GUI and EMS/BBNL NMS for the following alarms.
 - a. Power failure
 - b. Receive power below threshold
 - c. Radio sync loss
 - d. Dying Gasp (message to EMS/NMS)
7. The equipment shall have (1+1) hot standby configuration for point to point deployment scenarios.
8. Nominal power supply available at telephone exchange or tower site is -48 volts DC, with a variation over the range -44V to -57V. The equipment should operate over this range without any degradation in performance by using suitable convertor.

DC to DC Convertor

S. No.	Specification parameter	Parameter value
1	Operating temperature range	-10°C to 60°C
2	Protections	Short circuit, Overload, Overvoltage

Provision for 1000 Mbps PoE (Power over Ethernet) may also be supported wherever required.

For the equipment to be installed in snowbound areas, it should be IP-67 compliant. For other regions it should be IP-65.

Synchronization: As per TEC GR. Frequency, Phase and Time/ it will ensure successful transmission of packet of sync without fail---

Tower/Pole Specification 9 m pole and 15 m tower antenna Characteristics shall be as follows:

S. No.	Specification parameter	Parameter value
1	Minimum Load Capacity	50 kg (This includes antenna, solar panel and 3 access points etc.
2	Maximum survival wind speed upto	196 km/h
3	Lightning arrestor	Yes
4	Galvanisation	All steel parts - IS: 4759 Bolts and nuts - IS- 1367 part VIII

1. Electrical Parameters

Frequency	4900-5900 MHz
Gain (dBi) (Minimum)	H=23.5 +/- 0.5 V=23.5 +/- 0.5
VSWR (Max)	1.5:1
E Plane BW (deg)	7 +/- 0.5
H plane BW (deg)	7 +/- 0.5
Polarization	Dual (Linear H & V)
Port to port isolation (dB)	25
Max power input (watts)	50
Impedence	50 Ohm
Front to back ratio (dB)	> 26
Cross polarization (dB)	> 28

2. Mechanical Parameters

Radome	UV Stabilized ABS/UV Protected Polycarbonate
Mounting hardware	MS galvanized powder coated
Mounting style	Tower, Pole and Wall
Mounting adjustment	H Plane +/- 180degree V Plane +/- 180degree

3. Environmental Parameters

Temperature Range (deg C)	-10 to +65 (Snow bound areas - -40 to 65)
Max Wind Speed survivability (Km/hr)	196
Humidity	95% No condensation
Shock	QM333, Category D
Vibration	QM333, Category D
Water Protection	IP65*
Environmental protection	QM333, category D
RoHS/WEEE comply	Complied

NOTICE INVITING TENDER (TWO COVER SYSTEM)

Detailed Enquiry is uploaded in M/s. ITI Limited website **www.itiltld-india.com**. **In tender column (Bangalore Plant)**

For further details/clarification please contact

Deputy General Manager - IMM
M/s. ITI Limited, Bangalore Plant,
Dooravani Nagar, Bangalore 560 016,
Telephone No: 080 28503978, Email: snp_bgp@itiltld.co.in

Bids will be received by the

Mailing Section
M/s. ITI Limited, Bangalore Plant,
Dooravani Nagar
Bangalore 560 016

The tender shall be submitted in the two cover system as follows:

1. Part-I (Technical Bid) shall be enclosed in a double sealed cover super scribed with "Part-I (Technical Bid) with detail of machines quoted with supporting document such as catalogues/ leaflets, with tender reference, due date of submission and opening date and firm's address with phone no. / E-mail".
2. Part-II (Commercial Bid) shall be enclosed in another double sealed cover super scribed with "Part-II (Commercial Bid), with tender reference, due date of submission and opening date and firm's address with phone no. / E-mail".

All the above two documents shall be kept in a separate sealed cover and shall be enclosed in another one sealed cover super scribed with tender reference, due date of submission and opening date and firm's address with phone no. / E-mail".

Sealed tender should be addressed to

**DGM -IMM,
M/s. ITI Limited, Bangalore Plant,
Dooravani Nagar,
Bangalore 560 016**

Note: - Quotation shall be valid for 90 days from the date of opening of the tender.

DETAILS OF BID:

Part-I Technical Bid: It shall consist of the following documents enclosed in a double sealed cover.

1. Description of item, Make, Model along with technical brochure containing detail specification, data sheet Etc without price detail.

2) Item wise Compliance Report for the entire enquired item.

Note: No price shall be mentioned in technical bid.

Part-II (Commercial Bid) : It shall consist of the Description of item , Make , Model with price detail I.e. Unit price (delivery to ITI Ltd Bangalore) and applicable statutory levies (GST, CGST, SGST, Freight charges etc)

The statutory levies shall be clearly mentioned in percentage/ amount for each item. The description written as inclusive or exclusive or actual shall not be accepted. The rate shall be quoted FOB / Ex-Works / FOR ITI Limited, Bangalore

NOTE: All the pages of the quotation shall be signed and stamped by the tenderer and submitted.

The date and time of opening of the commercial Bid shall be intimated only to the technically qualified bidders, well in advance

DGM– IMM