

RFP No. FSID/IOSMCN/05-05 Dated: 03rd June 2024

Foundation for Science Innovation and Development (FSID)



REQUEST FOR QUOTATIONS (RFQ) DOCUMENT

FOR

**Supply of Outdoor Radio for 5G Radio Access
Network Product**

**India Open Source for Mobile Communication
Network (IOS MCN) Project**

**Foundation for Science Innovation and Development
IISc, Bengaluru**

Notice Inviting RFQ



TENDER

NOTICE NO. FSID/IOSMCN/05-05

Dated: 03rd June 2024

BID SCHEDULE			
Sl. No.	Bid Activity	Date	Time
1	Notification	03/06/24	10:00 AM
2	Bid Query	10/06/24	5:00 PM
3	Answers to Bid Queries	12/06/24	10:00 AM
4	Submission of Bid	22/06/24	5:00 PM
5	Opening of Technical Bid	22/06/24	10:00 AM
6	Completion of Technical interaction and Demonstration of bidder's Technical Solution to the Technical Evaluation Committee	06/07/24	5:00 PM
7	Completion of Technical Evaluation	07/07/24	5:00 PM
8	Opening of financial Bid	09/07/24	10:00 AM

Pre-bid queries should be addressed to email: smohammed@fsid-iisc.in and Cc: Vinay Kulkarni vinay@fsid-iisc.in

Mode of Bid Submission: Please refer to Para 5 for instructions.

Technical Bid: Can be submitted by email. In addition, a hard copy has to be sent to the address.

Financial Bid: Quotes for the product must be enclosed in a password-protected PDF file emailed to Puja Srivastava at puja.srivastava@datakaveri.org, cc: Chethan at chethan@fsid-iisc.in or sent a hard copy in a sealed envelope @ **Address: 5G Lab, Dept. of Electrical Communication Engineering, Indian Institute of Science, Bangalore – 560 012.**

Date:

Chandra B. Murthy
Chief Project Investigator

Address: 5G Lab, Dept. of Electrical Communication Engineering, Indian Institute of Science, Bangalore – 560 012

Chandra B. Murthy, Ph.D.
Professor, ECE Department
Indian Institute of Science
Bangalore 560 012, India

Tel. 080-2293-2464



REQUEST FOR QUOTATIONS.

1. INTRODUCTION

As part of the MeitY-funded India Open Source for Mobile Communication Networks project the procurement is being done for setting up the lab infrastructure. One of the components is an outdoor radio unit. The radio unit should be ORAN specification compliant for 7.2 category A split radio. This document invites manufacturers and suppliers to provide quotations as per the specifications detailed below.

2. SCOPE OF WORK:

The scope of the work includes the timely delivery of the radio along with installation and integration into the open-source radio access network framework and ensuring compatibility with other network components.

Ensuring compliance with all relevant laws, regulations, standards, and contractual obligations throughout the procurement process and project implementation.

Technical support for the duration of the project.

3. TECHNICAL REQUIREMENTS

Mentioned below are the radio specifications that are a must for the quote to be sent for a 5G ORAN-compliant 7.2 category A split radio.

Please refer to the table below ANNEXURE-1 **Specifications**

Please refer to the table below ANNEXURE-2 **PoC (Proof of Compliance)**

Please refer to the table below ANNEXURE-5 **BoQ (Bill of Quantity)**



4. QUANTITY OF REQUIREMENTS

The hardware specified in the mentioned specifications, along with all contingency requirements, is required in the quantity of **1 (One)** unit. Vendors are requested to provide quotations that include the following:

Per Unit Price: Please specify the price per unit of the hardware, inclusive of all specified components and features, as well as any additional contingency provisions.

Total Quantity Price: Calculate the total price for the specified quantity of units, incorporating all contingency requirements.

5. SUBMISSION REQUIREMENTS

The quotation should be submitted in the form of 2 separate documents as specified below:

1. TECHNICAL EVALUATION DOCUMENT: This should contain the following:

- a. A checklist indicating compliance with or deviation from the above technical requirements.
- b. technical datasheet of the server which includes all or a subset of the requirements specified in the technical requirements.
- c. Certifications and compliance documentation if any should be included with the quotation.

2. COMMERCIAL BID DOCUMENT:

- a. Quotations should include detailed pricing, including unit prices, taxes, shipping costs, and any additional fees.
- b. Provide information on warranty terms, technical support services, and maintenance agreements.
- c. Include company profile, relevant experience, and references from past projects.
- d. Quotes for the product must be enclosed in a password-protected PDF file emailed to **Puja Srivastava at puja.srivastava@datakaveri.org**, cc: **Chethan at chethan@fsid-iisc.in** or sent a hard copy in a sealed envelope @ **Address: 5G Lab, Dept. of Electrical Communication Engineering, Indian Institute of Science, Bangalore – 560 012.**

Tel. 080-2293-2464



e. Quotations must be addressed to

Director,

Foundation for Science Innovation and Development

Innovation Centre, IISc Campus Near Maramma Circle gate

Bengaluru 560012 GSTIN: 29AAECF1802E1Z1

IMPORTANT: Vendors must submit their quotations no later than the specified deadline.

6. EVALUATION CRITERIA

The evaluation criteria include considering the quote and awarding with the purchase. order include,

- Compliance with RFQ requirements and specifications.
- Price competitiveness.
- Vendor experience, and track record.
- Warranty and support offerings.
- Technical capabilities and compatibility with existing infrastructure.

7. IMPORTANT NOTES

- The lowest-priced quotation may not necessarily be selected. Quality, reliability, and vendor reputation will also be considered.
- IOS MCN reserves the right to reject any or all quotations and to award the purchase order on its own evaluation criteria.
- Any clarifications or questions regarding this RFQ should be directed to the contact person listed above.

8. Delivery & Penalty notes:

- 4 to 6 weeks from the date PO
- After 6 weeks, a penalty @1% per week for delivery delays will be applied. The maximum limit of penalty would be 10%.

ANNEXURE-1**Outdoor Radio Specifications for Bidder Compliance**

Technical evaluation	
Specifications	Description
Band	n78
Bandwidth (max)	100MHz
Duplex Mode	TDD
Modulation	QAM 256/64/16/QPSK
Carriers	1
Antenna configuration	4T4R Internal
RF output power per port	5W/ 37dBm
Connectivity specifications	
Physical:	10G Base-T Eth over SFP
Interface Protocol	ORAN split 7-2 CAT-A
Time and synchronization	IEEE 1588v2, ITU T G.8275.1
Specification compliance	
3GPP spec compliance	>= Release 15
O RAN compliance CUS	>= V2
O RAN compliance M plane	>=ORAN WG4. MP.0-v01
Interoperable with open-source RAN	OAI and/or SRS
Contingency Requirements (as appropriate)	
Fans, Stand, cables, antennas, power supply, JTAG as appropriate	



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Technical Support for issues	
Major issues	Within 24 hours
Others	Within 3 days



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ANNEXURE-2

Proof of Compliance.

Seq. No.	Specification	COMPLIANCE/ Observation/Remarks
1	Band n78	
2	Bandwidth (max) 100MHz	
3	IBW 100MHz (max)	
4	Duplex Mode TDD	
5	Modulation QAM 256/64/16/QPSK	
6	Number of Component Carriers 1	
7	Antenna configuration 4T4R Internal	
8	RF output power per port 5W/37dBm	
9	Physical data port 10G Base-T Eth over SFP	
10	Interface Protocol ORAN split 7-2 CAT-A	
11	Time and synchronization IEEE 1588v2, ITU T G.8275.1	
12	3GPP spec compliance >=Release 15	
13	O RAN compliance CUS >= v2	
14	O RAN compliance M plane >=ORAN WG4. MP.0-v01	
15	Interoperable with one or more opensource RAN	
16	Certifications	
17	Remarks	



ANNEXURE-3

Self-declaration is to be given by the bidder.

RFQ Reference No.

Date:

Bidder's Name & Address:

Person to be contacted:

Designation:

Telephone No:

Fax No:

Email:

To,

Director,

FSID, IISc Bangalore-560012

We, the undersigned Bidder, having carefully read and examined in detail the Terms and Conditions, specifications, and all bidding documents regarding the supply of the RAN server at FSID accept the same.

We also hereby declare that.

1. We have not been blacklisted/debarred by any Government/Undertaking.
2. The rates quoted are not higher than the rates quoted for the same item for any Government/Undertaking.
3. The bid submitted by us is properly sealed and prepared to prevent any subsequent alteration and replacement.

For and on behalf of the firm

(Firms Name & Address)

(Signature of Authorized
Signatory)

Name:

Date: -----

Designation:

Place: -----

Seal

Phone No:



ANNEXURE – 4

Bidder Organisation Details Format for RFQ No. FSID/IOSMCN/05- 05Dated 03/06/24		
To, Director, FSID, IISc Bangalore-560012		
1	Bidder Name	
2	Website Address	
3	Email Address	
4	Address for Communication	
5	Telephone Number	
6	Fax/Telefax Number	
7	Authorised Person Name	
8	Designation:	
9	Mobile No.	
10	Email ID	
11	Alternate Person Name	
12	Designation:	
13	Mobile No.	
14	Email ID	
15	PAN Number	
16	GST Regn. No. with Address	
17	Beneficiary's complete Bank Details.	
18	Bank Account No.	
19	IFSC / NEFT Code	
20	Name of the Bank	
21	Turnover of the Bidder in last 3 years	
22	2023	
23	2022	
24	2021	
25	Are you a MSME Unit. If yes, please furnish. Registration Details, Name of the DIC/State.	
26	If you are MSME, is it owned by SC/ST Entrepreneurs or Women Entrepreneurs? If Yes, please specify the Name of the Owner who is SC or ST or Women Entrepreneur (as applicable)	
27	Following Documents are to be submitted	
28	Certificate of Incorporation	
29	PAN No	
30	GST Registration No.	
31	DECLARATION S) We have read and understood the terms & conditions of the above-mentioned tender and comply to all Terms & Conditions of the Tender.	Signature of Authorised Signatory with Seal (Name)



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	(In case of any deviation, the Bidder must attach a separate sheet clearly mentioning the Clause No. of the Tender and Deviation thereto) 2) We certify that the information mentioned above are true and correct to best of our knowledge.	
32	Place	

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ANNEXURE-5

BoQ

RFQ No: FSID/IOSMCN/05- 05 Dt 03/06/24 for Supply of Outdoor Radio				
Sl. No	Equipment/Devices	HSN Code	Qty	Compliance (Yes/No)
1.	NR Radio		2	



ANNEXURE-6

Format: Letter of undertaking

(Company letterhead)

To,

Director,
FSID, IISc Bangalore-560012

Sir,

Sub: Undertaking on non-disclosure of contract documents

I/We do hereby undertake that we shall not disclose the contract or any provision, specification, plan, design, pattern, sample, or information to any third party for a period of three years from the termination of the contract.

I/We do hereby undertake that except with the written consent of the Buyer/Seller, the other party shall not disclose the contract or any provision, specification, plan, design, pattern, sample or information to any third party.

I/We do hereby undertake not to copy the AS-IS documentation captured in this tender document in any form Xerox, electronic, or via DMS or any other physical/electronic means. For any purpose but for the bidding process.

For and on behalf of the
Bidder

(Signature)

(Name of the Authorized Signatory)

Date:



ANNEXURE-7

Financial Bid Format

RFQ No: FSID/IOSMCN/05- 05 Dt 03/06/24 for Supply of Outdoor Radio					
Sl. No	Equipment/Devices	Qty	Unit Rate in INR	GST in INR	Total with GST in INR

- **Delivery charges**
- **Installation charges**
- **AMC charges for 3 years**

END THE DOCUMENT