

**Government of India : Department of Space
MASTER CONTROL FACILITY
SALAGAME ROAD, HASSAN – 573 201 (KARNATAKA)**

TENDER NOTICE NO. 002 DTD. 25.1.2010

BRIEF TENDER NOTICE

On behalf of President of India, Purchase & Stores Officer, Master Control Facility (MCF), Hassan – 573 201 (Karnataka) invites sealed tenders in **TWO-PART** for the supply of following item.

Sl.No.	Ref. No.	Item Description	Quantity	Tender cost (Inclusive of Sales Tax) Non-refundable
1	MHDI 2009009121	Supply, Installation & Commissioning of Microwave System Analyzer (As per detailed Specification enclosed)	1 Unit	Rs.218.00

NOTE : TWO PART BID SYSTEM. INSTRUCTIONS ARE PART OF THE TENDER DOCUMENTS

DUE DATE FOR SUBMISSION OF TENDER : 3rd March 2010 AT 16.00 HRS. (IST)
OPENING OF VALID TENDER : 4th March 2010 AT 10.00 HRS. (IST)

NOTE:

1. Tender documents are also available on ISRO Web site of www.isro.gov.in Tender Notice No.002 dtd. 25.1.2010. Interested tenderers may, at their option, download the tender documents from website and submit offers along with prescribed tender cost (in form of Bank Draft) as per details in the tender notification. The Demand Draft should be sent in a separate cover with a covering letter along with the cover containing the quotation.
2. Tender fee shall be payable only in the form of bank draft drawn in favour of Accounts Officer, Master Control Facility payable at Hassan. No other mode of payment for tender fee is acceptable.
3. Vendors/firms name and tender no. Shall be indicated on the reverse side of the Demand Draft.
4. While requesting for tender documents, please do not superscribe tender number and due date on the envelope. Instead indicate "Request for Tender Documents".
5. Detailed specification, terms and conditions are furnished in the tender documents.
6. DD should not be dated prior to the date of advertisement / intimation / website.
7. MCF will not be responsible for non-receipt of tender documents/offers due to postal delay/loss in transit.

8. Quotations received without payment of tender fee will be treated as unsolicited.
9. The technical offer shall carry a minimum validity of 120 days from the date of opening.
10. Quotations received after the due date and time will not be considered.
11. While submitting your offer please superscribe tender no and due date on the envelope. Addressed to Purchase & Stores Officer (P), Master Control Facility, Salagame Road, Hassan – 573 201 (Karnataka).
12. If tender opening date happens to be public holiday tender will be opened on the next working day & interested Vendors may depute their Representatives to attend the Public Tender Opening.
13. Request for the extension of the due date will not be considered.
14. Purchase & Stores Officer, MCF shall reserves the right to accept or reject any tenders in part or full without assigning any reasons thereof.
15. Those who do not utilise the website shown at clause 01 above can also buy the Tender documents from Purchase & Stores Officer, Master Control Facility, Salagame Road, Hassan – 573 201 (Karnataka) on payment of Non-refundable tender fee as indicated above, on all working days between **1400Hrs to 1600Hrs**.

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Specification for Microwave System Analyzer

Consisting of Synthesized Source, Scalar Network Analyzer
and
Spectrum Analyzer as an integrated single box Solution

A) Synthesized Source

Frequency range	10 MHz to 20 GHz
Frequency Resolution	1 Hz
CW accuracy	± 10 Hz
Leveled Power Range	-80 dBm to + 7 dBm with inbuilt Step attenuator
Power Sweep Range	> 20 dB
Modulation	1. Internal Modulation Generator for group delay measurement 2. Should have external FM capability
Internal leveling Accuracy	± 1.0 dB
Leveled Power Accuracy	± 1.0 dB
Harmonics	< - 50 dBc
Phase Noise	- 70 dBc at 10 kHz offset
Output connector	N (F)

B) Spectrum Analyzer

Frequency Range	10 MHz to 20 GHz
Resolution Bandwidth	1 kHz to 3 MHz
Video Bandwidth	1 kHz to 100 kHz
DANL (at 18 GHz)	- 90 dBm
Residual Response	< - 85 dBm

C) Scalar Analyzer

Frequency Range	10 MHz to 20 GHz
Inputs	3 detector inputs
No. of measurement points	1600 points user selectable from min to max
Measurement parameters	<ol style="list-style-type: none"> 1. Return loss 2. Insertion loss 3. Group delay 4. Fault location 5. Voltage
Dynamic Range (for insertion loss measurement)	> 60 dB
Return loss measurement	
Calibration	Short / open, short, open
Input	Single input or Ratio
Linearity	≤ 0.5 dB total
Fault Location Measurement	
Measurement Range	Up to 20 km (depending on cable or wave guide loss)
Units	Feet or Meters
Measurement update rate	512 points in 400 msec or better
Dynamic range	> 70 dB
Distance Accuracy	5 mm or 0.12% of range
Group Delay Measurement	
Measurement range	± 0.5 n sec to 10 μ sec
Resolution	Better than 0.2 n sec
Absolute accuracy	± 0.5 n sec
Scales	0.5 n sec / div to 5 μ sec / div
Frequency Standard	
Internal	10 MHz OCXO with aging of ± 5 x 10 ⁻⁷ per year
External	1 to 10 MHz into BNC connector
Interfaces	RS 232, GPIB, & USB output port for printers to screen dump

Rear panel inputs / outputs:	
a) Frequency Std.	(BNC) connector
b) Modulation In / Out	(BNC) connector
c) Video Output	Output from Spectrum Analyzer Detector
d) External ALC	0 to 1 V into a BNC Connector
e) External Monitor	VGA video output with Std VGA connector
Display	Color active matrix TFT, LCD display
Data Storage	USB Flash Memory
Power Supply	100 to 240 V AC 50 Hz \pm 10%

Detectors	3 Nos. Low VSWR detectors for the Scalar Network Analyzer
Auto tester	One No. up to 18 GHz to be used with Scalar Network Analyzer
Fault Locator	One No. Frequency Range up to 20 GHz N (F)
Microwave ruggedized cable for fault location	One No. each of 1.5m & 3.0m up to 18 GHz
Microwave ruggedized cable for test heads	1.5 mtr – 2 Nos. up to 20 GHz
Scalar Detector & Fault Locator DC Cables	1.5 mtr - 1 No.
	3.0 mtr - 1 No.
	10 mtr - 1 No.
	25 mtr - 1 No.
	50 mtr - 1 No.
Accessories required	
Power Splitters	DC to 18 GHz, Type N - 2 Nos.
	DC to 40 GHz, 2.92 mm - 2 Nos.
Power Divider	DC to 18 GHz - 2 Nos.
Precision Adapters	N (f) to 3.5mm (f) - 2 Nos.
	N (m) to 3.5mm (f) - 2 Nos.
	N (m) to 3.5mm (m) - 2 Nos.
	N (f) to 3.5mm (m) - 2 Nos.

Original printed copy of Service manual, operating manual, getting start guide in addition to CD-ROM for the above provided & 3.5mm torque wrench, compact keyboard.

General:

1. Supplied instrument should be portable & one box solution
2. Minimum 5 years on site warrantee (1 year standard + 4 years extended)
3. Equipment should be supplied by authorized Indian representative or Manufacture him self.
4. Vendor shall provide training for operation & maintenance for two no. of engineers.
5. Warrantee & post warrantee services should be available in India.

SPECIAL INSTRUCTIONS FOR 2 PART TENDER

We invite your offer in 2 part as follows:

- a PART – I TECHNICAL & COMMERCIAL TERMS OTHER THAN PRICE
- b PART - II PRICES ONLY.

PART – I: TECHNICAL & COMMERCIAL

- 1) Our Tender Enquiry contains technical requirements and specification. The detailed technical specification of your offer should be covered in this part. This part should not contain prices. This is to be prepared and duly signed and sent in a sealed cover duly superscribing.

**Quotation against Tender No.
Due on:
FOR THE SUPPLY OF
PART - I TECHNICAL & COMMERCIAL)
The cover should indicate “from” address**

- 2) The Commercial Terms to be covered in this Part are Delivery Terms as per (INCOTERMS), Delivery Period, Payment Terms (without mentioning the price or amount), acceptance of Bank Charges payable outside India, Whether item needs Export Licence, Validity of the Offer, Warranty/Guarantee, Performance Guarantee, Liquidated Damages (for delayed supplies) etc.

PART – II: PRICE ALONE

- 1) The Currency and Prices for the items should be indicated item wise with Break-up in this part. Options where quoted, should indicate quantity, unit rate separately. The Prices are to be mentioned both in figures as well as in words and each page is to be signed by your Authorized Signatory. This part VIZ PART - II should also be duly signed and sent in a separate cover super scribing as follows:

**“ Quotation against Tender No.
Due on:
FOR THE SUPPLY OF
PART-II (PRICE BID)
The cover should indicate “from” address**

All these two covers prepared as above should be kept in another envelope sealed superscribed as mentioned below:

**QUOTATION AGAINST TENDER NO.
DUE ON:**

ADDRESS TO:

**PURCHASE & STORES OFFICER
MASTER CONTROL FACILITY
GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
PB # 66, HASSAN-573 201
KARNATAKA**

Telephone: +91 08172-273594

Fax : +91 08172-239035

- 2) Normally we do not open PART- II. If PART - I does not meet with our technical specification requirements. Your offer prepared as above should reach us on or before the due date and time. The offers received after the due date and time will be treated as in-valid.

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