

PRASAR BHARTI
(India's Public Service Broadcaster)
Directorate general of Doordarshan
Doordarshan Bhawan, Copernicus Marg
New Delhi -110001.

File No. 19(2)2020-21E1 (P) TV

15/01/2021

Subject: Draft Technical Specification Procurement of Modulators for Earth Station and DSNG in DD Network.

The Draft specification of the upcoming tender is enclosed herewith to offer comments, if any by prospective bidders. The comments may be submitted on or before due date at e-mail address ddpurchase401@yahoo.co.in or on following Address:

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Directorate General: Doordarshan,
Doordarshan Bhawan,
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Specification For: Draft Technical Specification Procurement of Modulators for DD Network.

Specification no: SATM/Modulators/08 Nos. /Dec_2020 Dated: 29.12.2020

Due Date to offer Comments: 29.01.2021

Encl.: As above (22 Pages)

Prabhat Kumar Singh
Assistant Engineer
For DG: DD

Prasar Bharati
Directorate General: Doordarshan
Doordarshan Bhawan: Copernicus Marg
New Delhi-110001

**Specification for "Supply of Satellite Modulators for
Earth Stations & DSNGs in DD Network"**

Specification No.: SATM/Modulators/08 Nos./Dec_2020
Date: 29/12/2020

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Technical Specification for Supply of Satellite Modulators for Earth Stations and DSNGs in DD Network

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1. Introduction:

- 1.1 This document lays down technical specifications for Supply of DVB-S, DVB-S2 Modulators for Earth Stations and DSNGs in DD Network.

2. Scope:

The scope of the tender shall include

- 2.1 "Supply of DVB-S and DVB-S2 Modulators for use in existing chain of Input and RF equipment and with existing monitoring system of Earth Stations and DSNGs in DD Network".
- 2.2 The offered system shall meet the International standards for digital satellite broadcasting having DVB-S and DVB-S2 modulation (one at a time).
- 2.3 The offered system would also include the standard accessories supplied by the Manufacturer along with the modulator.

3. Eligibility Criteria:

- 3.1 The bidder should be the original equipment manufacturer (OEM) of DVB-S, DVB-S2 modulators or their authorized representative/dealer in India.
- 3.2 Bidders shall offer satellite modulators of only those OEMs who are having past experience of at least Five years of manufacturing and supplying similar modulators.
- 3.3 OEM should meet the following eligibility criteria:
- 3.3.1 The OEM of satellite modulator must have experience of Supplying at least 20 numbers or more of offered DVB-S and DVB-S2 modulators for use at C/Ku Band Earth Station/DSNGs in the past five years.
- 3.3.2 Copies of supply order and receipt certificates/delivery challans/dispatch certificates in respect of above said quantities of modulators in the preceding past five years should essentially be submitted along with the bid document.
- 3.3.3 In case bidder is OEM of Indian origin it must also have a valid Dealer Possession License at the time of submission of bid.
- 3.4 In case bidder is the authorized representative/dealer of DVB-S2 modulators in India, it should be in the business of sales and supply of Broadcast Equipment for at least past three years and must have a valid Dealer Possession License at

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the time of submission of bid. A copy of valid Dealer Possession License, copies of orders and completion certificates/delivery challans/dispatch certificates to support this must be provided.

- 3.5 The bidder must have his local office/authorized representative/dealer in India for after sales support etc.
- 3.6 As per Rule 173 (i) of GFR 2017, the condition of past experience may be relaxed by two years for Indian Start-ups (as defined by Department of Industrial Policy and Promotion, Ministry of Commerce & Industry, Govt. of India), subject to meeting of Technical Specification.
- 3.7 The cutoff date for the experience shall be the date of NIT.

4 General requirement for completing the offer:

- 4.1 The bidder shall submit only one solution (Single BOM) for the offered system. Bid with multiple options against any requirement is liable to be rejected.
- 4.2 The offered equipment and accessories including software should be from internationally reputed manufacturer and the quoted model should be of high class, high MTBF, field proven and in use by leading broadcasters/organizations in various continents of the World. Any customized product which is not field proven in the industry will not be acceptable.
- 4.3 All software being offered, are to be licensed to Doordarshan on perpetual basis without specifying any time limit or without specifying any end of life of the software. Software upgrades within warrantee period will have to be supplied free of cost.
- 4.4 For facilitating maintenance issues, bidder must also submit firm's self certified copies of Bill of Entry/Custom Invoice of all imported items to DG: DD for release of PBG.
- 4.5 The installation, testing and commissioning of the equipment supplied at site will be done by Doordarshan as per procedure laid down in the installation manual of respective equipment. The installation manual should also include list of Do's & Don'ts and step by step procedure for configuration etc. Bidder must submit copy of the installation manual along with the bid.
- 4.6 The local office/authorized representative/dealer in India will be nodal point for resolving issues related to configuration, testing and after sales support of the equipment. Details of the local office/authorized representative/dealer in India including its location are to be provided along with bid.


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4.7 Inspection and Testing:

- 4.7.1 The DVB-S, DVB-S2 Modulators shall be installed, configured, tested and commissioned at site by Doordarshan as per the instructions contained in the manufacturer's installation manual.
- 4.7.2 However, the local representative of the OEM/bidder shall also be responsible for resolving any issues related to hardware, softwares, licenses and configuration of the DVB-S, DVB-S2 Modulators. If required, the local representative of the OEM/bidder shall resolve issues related to hardware, softwares, licenses and configuration through OEM(s).
- 4.8 In the process of technical evaluation Doordarshan can ask for any clarification/query as required through e-mail/FAX/Post etc, which shall be treated as a part of tender and invariably attended and replied by the bidder within the time stipulated therein.
- 4.9 Bidder may have to demonstrate the features of equipment offered as and when asked as part of technical evaluation of Tender. However it will not bestow any right of acceptance of the bid.
- 4.10 Cross reference in respect of supporting documents, should be given with proper page number and volume no. etc. If required Doordarshan may also ask for any other supporting document to ascertain the claim of bidder and their OEM.
- 4.11 The successful bidder must submit the firm's self certified copies of import license alongwith modulators for issuance of operating license from WPC.

5. Technical Specifications of Equipment:

5.1 Specifications for Satellite Modulator

a) Essential Features:

- i) The offered modulator should be compact, reliable and have state of the art technology.
- ii) It should provide IF output (70MHz) as per DVB-S and DVB-S2 standards' modulation schemes based on the user requirement.
- iii) It should have facility to auto equalization or pre-equalization to pre-distort signal before feeding to existing Up-converter based on received signal from existing LNA so that downlink signal is kept within 36 MHz BW of the transponder. This should not affect the operation of the existing IRDs (MPEG-2 & 4 and DVB-S & DVB-S2).

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- iv) The offered modulators should have front panel display. It should be possible to configure the offered modulators through front panel keys and through browser on remote computer.
- v) The offered modulators should be compliant to the ETSI EN 103 129 DVB Carrier ID (DVB-CID) requirement.
- vi) The modulator should have capability of generating alarm and control signal for operation in 1+1 redundant mode with suitable configuration if required.
- vii) The offered Modulators should have facility to insert opportunistic data. Opportunistic data would be inserted through IP data port and program TS from ASI.
- viii) All the requisite drivers, softwares and licenses required for meeting the DD specifications must necessarily be pre-loaded and configured by the OEM before supplying equipment to DD.

b) Technical Specifications:

Sl. No.	Parameter	Specifications
I. ASI Inputs		
1	Compliance	DVB Document A010 rev. 1, May 1997: Section 4.4
2	Input data format	MPEG-2 TS over ASI
3	Byte stuffing modes	Byte and single packet burst mode.
4	Connector	BNC
II. IP Data Port		
1	Input data format	MPEG-2 TS over IP
2	Ethernet interface	1000 base T
3	Ethernet Connector	1xRJ 45
NOTE: External IP to ASI converter is not acceptable.		
III. Forward Error Correction and Modulation Scheme as per DVB-S standard		
1	Multiplex Adaptation and Energy Dispersal	As per ETSI EN 300 421 (DVB-S)
2	Outer Coding	Reed-Solomon (204,188,T=8)

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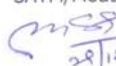
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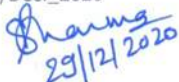
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3	Interleaving Depth	12
4	Inner coding	QPSK: Convolution $R=1/2, 2/3, 3/4, 5/6$ or $7/8$
5	Spectrum Roll off factor	20%, 25 % and 35% selectable
6	Modulation	QPSK
7	Transmission rates	Variable, 1.0 to 45.0 M symbol/s (minimum)
IV. Forward Error Correction and Modulation Scheme as per DVB-S2 standard		
1	Multiplex Adaptation and Energy Dispersal	As per ETSI EN 302 307 (DVB-S2)
2	Modulation	QPSK, 8PSK
3	Modulation mode	Should be capable of emitting signals on the following modes: 1. Backward compatible mode (DVB-S/ DVB-S2 one at a time) 2. Constant Coding and Modulation mode (CCM)
4	Outer Coding	BCH
5	Inner coding	LDPC $R=1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10$ (for DVB-S2, QPSK), $R=3/5, 2/3, 3/4, 5/6, 8/9, 9/10$ (for DVB-S2, 8PSK)
6	Spectrum Roll off factor	5%, 10%, 15%, 20%, 25% and 35% selectable
7	Transmission rates	Variable, 1.0 to 45.0 M symbol/sec (minimum)
V. IF output Interface Specifications		
1	Output Frequency Range	70 ± 18 MHz
2	Output Impedance	75 ohms unbalanced
3	Connector	BNC, female
4	Output Return Loss	15 dB (min.)
5	Output Level Range	-20 dBm to 0 dBm
6	Level Step Size	0.2 dB max.
7	Spurious Outputs	≤ -55 dBc/4 kHz at 0 dBm output power level or ≤ -60 dBm
8	Synthesizer Phase Noise	Should meet the requirements of IESS-308
9	CW mode	Selectable

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10	Noise floor (No/ C)	< -120 dBc/Hz
VI. Internal 10 MHz clock & Synchronization		
1	Frequency stability with respect to temperature	< ± 2.5 ppm over 0° to 50°

6. Physical, Environmental & Mechanical Specifications

The following specifications are to be followed if not mentioned elsewhere in this document:

6.1 Power Supply

Equipment shall operate from a wide range of power supply voltages without interruption or damage.

Parameter	Specification
(a) Voltage Range	220/240 V AC nominal
(b) Frequency	48-52 Hz

6.2 Environmental Specifications

Parameter	Specification
(a) Operating Temperature (Indoor)	0°C to 40°C
(b) Storage Temperature	- 20°C to 60°C
(c) Humidity (Indoor) non-condensing	0 to 85%
(d) Altitude	0 to 2000 m

6.3 Mechanical Specifications

Offered equipment shall be rack mounted.

Parameter	Specification
(a) Construction	Modular approach, EIA RS-310C, 19" rack-mount

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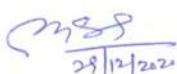
7. Complement of Equipment:


- 7.1 The quantity, make and model/part no. of all the equipment should be clearly mentioned in the offered Bill of Material (BoM).
- 7.2 The suggestive Bill of Material (BOM) has been provided in **Annexure-I**. The bidder is required to provide the complete list of equipment, software and accessories etc. offered to meet the specifications requirement. The quantity of each item including sub-module etc. are to be specified clearly and compulsorily, failing which the bid is liable to be rejected summarily.
- 7.3 Any substandard equipment included in the offer may result into the rejection of complete offer with the sole responsibility of bidder.
- 7.4 The offer should also include the detailed technical brochure and technical manual containing all the technical specifications of all the offered equipment, accessories, and software etc.
- 7.5 Technical specifications applicable to the equipment have been given in Clause No. 5 and 6. The quantity, make and model/part no. of modulator should be clearly mentioned in the offered Bill of Material (BoM).

8. General

8.1 Compliance and Authorization:

- 8.1.1 The bidder must submit a point-by-point compliance statement in respect of all the points, sub-points and clauses laid down in this specification from page 4 onwards along with the offer.
- 8.1.2 In addition to the above, compliance from the OEM of DVB-S, DVB-S2 Modulators (not from representatives) should necessarily be given on their letter head, with reference to the points, sub-points and clauses laid down in the technical specifications.
- 8.1.3 The OEM's authorization (not from representative) in respect of offered modulator should also be given on their letter head along with bid in the format prescribed in **Annexure-II**.
- 8.1.4 Mere signature on a copy of Doordarshan specifications shall not be accepted as a compliance statement.


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8.1.5 Compliance statement in the format as indicated below shall only be accepted.

Sr. No. of DD specs.	DD Specs.	Compliance (Yes/No)	Performance fig. of equipment offered.	Deviations, in case of non-compliance	Optional items if any required to make the system Compliant to DD specs.	Features in the system offered Which exceed DD specs.	Page No. of offered document	Remarks
1								
2								

8.1.6 The manufacturer should also record the performance figures of the equipment offered in the quote for which the compliance statement is enclosed.

8.1.7 The compliance statement should be supported by highlighted record of these in the technical literature/data sheets enclosed with the tender and a clear reference to the attached supporting document should be given in the remarks column against each & every specs. Any offer without proper supporting document of each & every specs and containing only a commercial hand out/pamphlet is liable to be rejected.

8.1.8 Data sheets/relevant technical literature should be submitted in respect of all offered equipment. Any deviation from the specification detailed in the compliance statement is to be highlighted separately. Page no. of location of data sheet should be given in page no. column above.

8.1.9 Offers without proper & duly completed compliance statement are likely to be rejected with the sole responsibility of bidder and no further claim/correspondence will be entertained.

8.2 Documentation

8.2.1 One set of technical manuals/relevant technical literature from the OEM, for the offered equipment are to be provided along with the tender to

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facilitate the technical evaluation, otherwise the tender is liable to be ignored.

- 8.2.2 The Technical manuals would include Installation Manual and Operation & Maintenance manual.
- 8.2.3 The successful bidder will have to supply set of printed technical manuals along with factory test report of the offered equipment.
- 8.2.4 Technical Manual for all equipments should also be supplied in searchable PDF on USB drive.
- 8.2.5 All offered software should be in the name of Doordarshan and should have perpetual validity. All software backups should also be supplied on USB drive.
- 8.2.6 The successful Indian bidder must submit the firm's self certified copies of import licenses in respect of RF equipment for issuance of operating license for WPC.
- 8.2.7 For facilitating maintenance issues, the bidder must submit the firm's self certified copies of Bill of Entry/Bill of Lading/Custom Invoice of all imported items to DG:DD at the time of release of PBG.
- 8.2.8 The successful bidder must ensure that all Invoices bear serial numbers of equipment to meet the requirement of WPC.

8.3 Guarantee

- 8.3.1 The manufacturer shall guarantee satisfactory working of the offered modulators without any fault and defect for three years from the date of receipt of last accepted consignment at respective consignee's premises.
- 8.3.2 Any defect or failure of any module/equipment during the guarantee period shall be repaired/replaced free of charge by the successful bidder at site. For repairing of any defective module/equipment during guarantee period, the defective module or equipment requiring repairs will be handed over to local office/local authorized representative/ dealer who will arrange repairs locally at site or send/export the defective modules to OEM factory and re-import/send back after repairs.
- 8.3.3 It is the responsibility of local office/ Authorized representative/ dealer of the bidder to arrange the repair/ replacement of faulty items for Doordarshan i.e. transportation charges would not be paid by DD for

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transporting the defective/ repaired items. if required to be removed from site, during the guarantee period.

- 8.3.4 Guarantee period is to be extended corresponding to the outage period if the failure rectification takes more than 15 days time.
- 8.3.5 Bidder shall provide the guarantee/warranty through the OEM. A certificate duly signed by the OEM on the OEM's letterhead, in this regard of offered modulator must be submitted with the offer by the bidder in the format as prescribed in **Annexure III**.
- 8.3.6 After sales service support for additional 2 (TWO) years for the repairs/maintenance of offered equipment after the completion of guarantee/warranty period shall also be provided by the OEM of the equipment either directly or through his representative in India. In this regard a certificate, duly signed by the OEM on the letterhead, must be submitted with the offer by the bidder.
- 8.3.7 The successful bidder will be responsible for providing after sales service support of offered equipment for Five years from the date of receipt of last accepted consignment at respective consignee's premises including three (3) years warranty period. The bidder must submit undertaking for providing after sales service support for additional Two (2) years after the end of warranty period along with bid.
- 8.3.8 If bidder is not the OEM of the offered equipment, then after sales service support for the repairs/maintenance for 3 years warranty period and for 2 years after the completion of guarantee/warranty period shall also be provided by the OEM either directly or through its representative in India. A certificate, on the letterhead, in this regard duly signed by the OEM must be submitted with offer by the bidder in the format as prescribed in Annexure IV.

8.4 Inspection:

- 8.4.1 All the equipment to be supplied against the supply order for this tender shall be subjected to inspection in India by Doordarshan before acceptance of the equipment. The successful bidder should produce the factory test reports of all the offered equipment to facilitate inspection.
- 8.4.2 The inspection of equipment will be carried out by a team of Doordarshan authorized by Doordarshan Directorate. A draft copy of ATP (Acceptance Test Procedure) must be submitted by the bidder within one month of issue of A/T. ATP should describe the standard test procedure of individual equipment and of the integrated system chain.

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The factory test report will not be treated as ATP. The accepted ATP with or without changes shall be sent back to the successful bidder and it will also be used for inspection and commissioning of equipment by DD Engineer(s) at site.

8.4.3 In case the bid is directly from OEM not based in India :

1. Its local office/authorized representative/dealer in India shall facilitate the inspection by DD Engineers at DD premises in Delhi/consignee site.
2. OEM has to submit one advance sample equipment at his own cost, within 45 days of issue of A/T in accordance with clause No. 11.10 (Delivery linked with approval of advance sample) of DGS&D manual. The advance sample shall be inspected by DD as per approved ATP within 10 working days of receipt of advance sample at the inspection site.
3. The approval of the acceptance of sample equipment shall be intimated by DD to the supplier/authorized representative or dealer in India after which the supplier shall deliver the equipment as per A/T.
4. Thereafter, post delivery inspection shall be carried out on receipt of equipment before accepting and issue of Inspection Note accordingly.

8.5 Delivery Period

Four months from the date of issue of purchase order or four months from the date of the Decision Letter/requisite letter from WPC for issue of import license in respect of modulator, whichever is later.

8.6 Pre-bid Conference

8.6.1 A pre bid conference on technical Specifications and other issues shall be held on date and time specified in the NIT. All prospective bidders may attend the pre bid conference to discuss their queries and suggestions.

8.6.2 All the queries and suggestions should be sent to Doordarshan at least 2 days before the date of pre bid conference. No queries/ suggestions shall be entertained after pre bid conference.

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- 8.6.3 Amendments subsequent to the pre bid conference shall be sent to prospective bidders, who have purchased tender document, by e-mail/fax/post.
- 8.6.4 It shall be bidder's responsibility to check for any amendments/addendum on the website before submitting their duly completed bids.

8.7 Check List and Enclosures

The bidders may ensure the following check list while submitting the bid including some important list of enclosures for ease of technical evaluation (Annexure V).

- 8.7.1 Whether documents related to fulfilment of the eligibility criteria as per Clause 3 have been submitted.
- 8.7.2 Whether point-by-point compliance statement of the bidder in respect of all the points, sub-points and clauses laid down in this specification from page 4 onwards along with the offer as given in Clause 8.1.1 has been included.
- 8.7.3 Whether point-by-point compliance statement of OEM in respect of all the points, sub-points and clauses as laid down in the specification of respective equipment and their authorization mentioned in Clause 8.1.2 & 8.1.3 respectively, have been included. Authorization and Compliance Statement from OEMs will only be acceptable and not from the authorized dealer of the OEMs.
- 8.7.4 Whether the compliance (Both Bidder's and the OEM's compliance) has been submitted in the prescribed format as given in Clause 8.1.5.
- 8.7.5 Ensure that all equipment and accessories as given in the Suggestive bill of material have been included in the offered BOM.
- 8.7.6 Whether the page numbers of the relevant enclosed technical data sheet/manual against each parameter of the specifications have been given in the compliance statements.
- 8.7.7 Whether the requisite undertakings for after sales support by OEMs and bidder have been submitted.
- 8.7.8 Ensure that no alternate item has been offered.

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8.7.9 Ensure that the installation manual, relevant technical brochures containing all the parameters of technical specifications of all the offered equipment and accessories have been included with proper indexing for ease of identification.

8.7.10 Ensure that the Un-priced BOM has been included.

8.7.11 Any other item mentioned elsewhere in the tender.

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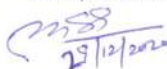
Annexure-I

Suggestive Bill of Material (BOM)

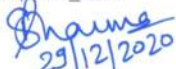
Supply of DVB-S, DVB-S2 Modulators for Earth Stations and DSNGs
in DD Network

Sr. No.	Description of Item as per Specification (Suggestive BOM)	Description of Item as offered by Bidder	Qty. as per suggestive BOM	Qty. as offered by Bidder	Make	Model	Remarks
1	Digital Satellite Modulators						
a)	Digital Satellite Modulators capable of Modulating in DVB-S and DVB-S2 (one at a time)		08 Nos.				
2	Any other item found essential to meet DD specifications. Note: If offered, bidder must provide the detail.		08 Sets				
3	Equipment manuals consisting of:		08 Sets				
a)	Installation, Operation/User Manual Hard copy and Soft copy in searchable PDF on USB drive USB 3.1 (Backward compatible with USB 3.0 and 2.0) 32 GB or more for the supplied equipment. (1 Set for each Kendra)						
b)	All software backups are to be supplied on USB drive USB 3.1 (Backward compatible with USB 3.0 and 2.0) 32 GB or more (1 Set for each Kendra).						
c)	Firm's self certified copies of import license in respect of Modulators – 4 Sets for each site						

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Annexure II

OEM's LETTER HEAD

CERTIFICATE FOR AUTHORIZATION

Date:

Tender No. :

We, M/s <Name
and Address of the OEM>, do hereby authorize
M/s..... <Bidder's name>, having its office at
..... <Bidder's address> to
submit the bid and sign the contract with Doordarshan for the equipment/product offered
by us against the above tender.

Signature
Name & Designation of authorized signatory of the OEM.....
Name of the OEM -
Stamp of the OEM

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Annexure III

OEM's LETTER HEAD

CERTIFICATE FOR GUARANTEE

Date:

Tender No.:

We, M/s<Name and address of the OEM>, do hereby confirm that:

1. The offered modulators shall be guaranteed for satisfactory working without any fault and defect for three years from the date of receipt of last accepted consignment at respective consignee's premises.
2. Any defect or failure of any module/equipment during the guarantee period shall be repaired/replaced free of charge by the successful bidder at site. For repairing of any defective module/equipment during guarantee period, the defective module or equipment requiring repairs will be handed over to M/s<Name of local office/local authorized representative/dealer> who will arrange repairs locally at site or send/export the defective modules to our factory and re-import/send back after repairs.
3. It is the responsibility of M/s<Name of local office/local authorized representative/dealer> to arrange the repair/ replacement of faulty items for Doordarshan i.e. transportation charges are not to be paid by DD for transporting the defective/ repaired items, if required to be removed from site, during the guarantee period.
4. Guarantee period of the equipment would be extended corresponding to the outage period if the failure rectification takes more than 15 days time.
5. After sales service support for additional 2 (TWO) years for the repairs/maintenance of supplied equipment after the completion of guarantee/warranty period shall also be provided by M/s<Name of the OEM of the modulator> either directly or through M/s<Name of OEM's representative in India>. In this regard a certificate, duly signed by the OEM on the letterhead, must be submitted with the offer by the bidder.
6. All offered software will be licensed to Doordarshan on perpetual basis without specifying any time limit or without specifying end of life of the software. Software upgrades within warranty period will be supplied free of cost.

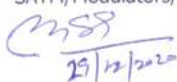
Signature

Name & Designation of authorized signatory.....

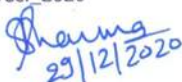
Name of the OEM -

Stamp of the OEM

SATM/Modulators/08 Nos./Dec. 2020



29/12/2020



29/12/2020




29.12.20

Annexure IV

OEM's LETTER HEAD

CERTIFICATE FOR AFTER SALES SERVICE SUPPORT

Date:

Tender No. :

We, M/s <Name and address of the OEM>, do hereby confirm that after sales service support for additional Two (2) years for the repairs/maintenance of offered products after the completion of three (3) Years guarantee/ warrantee period shall be provided through our representatives/authorized dealer/service provider for the offered equipment and accessories in India as mentioned below:

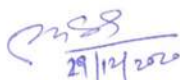
S. No.	Name of the authorized person	After sales & support office address	Telephone/ Fax	Email of concerned personnel
1				

Signature

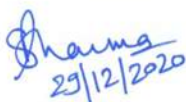
Name & Designation of authorized signatory of the OEM.....

Name of the OEM.....

Stamp of the OEM



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Annexure V

BIDDER'S LETTER HEAD**DECLARATION BY THE BIDDER**

1. Bill of Material (BOM) [Yes/No]
2. Bidder's compliance (As per specs clause no. 8.1.1) [Yes/No]
3. The copy of Dealer Possession License in case of possession of RF equipment (as per clause no. 3.5) [Yes/No]
4. OEM Compliance for following equipment from respective OEMs (as per clause no. 8.1.2):

S. No.	Name of equipment	Name of OEM	OEM compliance submitted (Yes/ No)
i.	DVB-S and DVB-S2 Modulator		

5. Certificate for Authorization for following equipment from their respective OEMs:

S.No.	Name of equipment	Name of OEM	Authorization certificate submitted (Yes/ No)
i.	DVB-S and DVB-S2 Modulator		

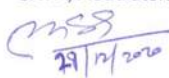
6. Certificate for Guarantee for following equipment from their respective OEMs:

S.No.	Name of equipment	Name of OEM	Guarantee certificate submitted (Yes/ No)
i.	DVB-S and DVB-S2 Modulator		

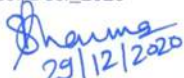
7. Certificate for After sales service support for following equipment from their respective OEMs:

S.No.	Name of equipment	Name of OEM	After sales service support certificate submitted (Yes/ No)
i.	DVB-S and DVB-S2 Modulator		

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8. Datasheets/Technical Literature for the offered equipment:
 i. DVB-S and DVB-S2 Modulator

[Yes/No]

Signature.....
 Name & Designation of authorized signatory of the bidder.....
 Name of the Bidder.....
 Stamp of the bidder

ms
 29/12/2020

Sharma
 29/12/2020

B
 29/12/2020

Sim
 28.12.20

SATM/Modulators/08 Nos./Dec._2020