

## Supply of C Band Down-converter

Sl No.	Parameters	Specifications	Compliance (Complied/ Not Complied)	Specification Value (if applicable)	Remarks (if any)
<b>C-BAND DOWN CONVERTERS</b>					
<b>FREQUENCY</b>					
1.	Frequency Range	3625-4200 MHz			
2.	Frequency Conversion	Dual, No Inversion			
3.	Frequency Step Size	1 KHz			
4.	Frequency Stability (Time)	$\pm 5 \times 10^{-9}$ /Day			
5.	Frequency Stability (Temp)	$\pm 2 \times 10^{-8}$ over 0 to 50 Deg. C			
<b>RF INPUT CHARACTERISTICS</b>					
6.	RF Input Return Loss	19 dB Minimum			
7.	RF Input Impedance	$50 \pm 2$ Ohms			
8.	RF Input Connector	N-type (F)			
9.	Noise Figure	13 dB Max or better at min. attenuation/ max. gain			
<b>IF OUTPUT CHARACTERISTICS</b>					
10.	IF Output Frequency Range	52 – 88 MHz (70 $\pm$ 18 MHz)			
11.	IF Output Level	+10 dBm or more @ 1 dB Comp.			
12.	IF Output Spurious with Carrier	-60 dBc or less at 0dBm output			
13.	IF Output Spurious without Carrier	- 70 dBm or less			
14.	IF Output Intermod	-58 dBc min. (2 Carriers 1MHz apart) @ 0 dBm Output			

		power / >30dBm at max. conversion gain			
<b>15.</b>	IF Output Impedance	50 ± 2 Ohms			
<b>16.</b>	IF Output Connector	BNC (F)			
<b>17.</b>	IF Output Return Loss	20 dB Minimum			
<b>TRANSFER CHARACTERISTICS</b>					
<b>18.</b>	Gain	40 dB min.			
<b>19.</b>	Gain Adjust	0–20 dB in 0.25 dB steps			
<b>20.</b>	Gain Stability	± 0.25 dB/Day			
<b>21.</b>	Gain Flatness (± 18 MHz)	± 0.5 dB			
<b>22.</b>	Image Rejection	- 80 dB (In- band)			
<b>23.</b>	Phase noise	1kHz: - 78 dBc/Hz or less 100kHz: - 95 dBc/Hz or less			
<b>24.</b>	Test Points (Front Panel)	RF sample: SMA (F) /N (F) IF Sample: BNC(F)			
<b>25.</b>	Front Panel Indications	Power On Mute On / Off Local / Remote Faults & Stored faults			
<b>26.</b>	Power (Power ON switch to be provided)	Voltage: 230±10% VAC Frequency: 47 – 53 Hz			
<b>27.</b>	Environmental	Temperature:0 – 50 Deg C Humidity :0 – 95% Relative			

<b>28.</b>	Physical	19 Inch Rack Mountable			
<b>29.</b>	Warranty	One Year (Minimum)			

<b>General terms and conditions:</b>		<b>Compliance (Complied/ Not Complied)</b>	<b>Remarks (if any)</b>
<b>1.</b>	Computer Interface and Ports: The unit shall be provided with Ethernet (RJ45) (serial port optional). SNMP or TCP/IP Protocol to be provided for development of Monitoring & Control. The offered units shall be preloaded with latest firmware and tested for given ICD (Interface control Document).		
<b>2.</b>	The unit shall have internal reference as well as facility of External Reference of 10 MHz @ $0 \pm 3$ dBm. In presence of external reference signal, the unit shall lock to the external reference automatically.		
<b>3.</b>	Suitable HMI (Display and Control) shall be provided to operate locally.		
<b>4.</b>	Automatic Fault recovery provision shall be provided for in case of any fault appearance (Desirable).		
<b>5.</b>	Suitable AC power cords (Indian type AC Power cords) with weather-proof connector shall be provided for each unit.		
<b>6.</b>	Monitoring and control Software (Standalone or Web Browser based) should be supplied with the unit for remote monitoring and controlling the unit parameters.		
<b>7.</b>	One set of Operation Manual, Interface control Document & Maintenance Manuals to be provided.		
<b>8.</b>	Factory Test Results to be provided along with the equipment.		
<b>9.</b>	Vendor shall provide Technical Compliance statement mentioning the offered values and 'Comply' or 'Non-comply' for each tendered parameter.		
<b>10.</b>	Vendor to provide technical datasheets of the offered product. Vendors shall ensure that the datasheet of the offered item includes all the tendered technical specifications.		
<b>11.</b>	Wherever the tendered specification is not		

	available in the datasheet, supplier shall provide certification/clarification from OEM for the compliance of these specification, failing which result into the non-compliance of the specification.		
<b>12.</b>	OEM shall have authorized service centre or support agency in India for warranty or post warranty service of the equipment. Bidders to provide the address details of such authorized service agency. OEM letter in this regard to be submitted along with bids.		
<b>13.</b>	Make & Model shall be compulsorily provided in the Vendors compliance statement.		
<b>14.</b>	Warranty: One Year standard warranty		
<b>15.</b>	The items supplied against this order shall be warranted for trouble free services during the warranty period. In case of any defects are noticed during the above period due to faulty design, poor workmanship, use of substandard material etc., the same shall be rectified onsite/replaced by the vender/OEM free of all costs within 15 days from the date of complaint. In case the need of the equipment taking out of MCF premises arises for repair of the equipment, PO equivalent amount bank guarantee shall be submitted by the vendor to MCF.		
<b>16.</b>	Delivery Period: 4 months desirable		
<b>17.</b>	Bidder Eligibility Criteria: OEM/Vendor shall provide the list of customers where such units have been supplied for last 5 years along with satisfactory performance certificate.		
<b>18.</b>	Bidder Eligibility Criteria: The bidder shall be OEM / any Authorized Agent/Vendor for OEM or an organization/ a limited company, private company or any agency capable of taking up works of such nature and magnitude and shall produce an undertaking from OEM that the bidder is an authorized entity to quote for this tender and will provide support and spares directly to purchaser- for the offered product and also that the offered product will be supported by the OEM for the period of minimum 5 years. The authorization shall be tender specific and addressed to the tender issuing authority. Particular product shall not be		

	near end of the life.		
<b>19.</b>	The successful Bidder must provide certification/declaration from OEM for all the IP based devices indicating that “All IP based devices are free from Virus & will not introduce any virus, trojan, etc into Network”		
<b>20.</b>	MCF reserves the right to place an order on partial or full list of items.		
<b>21.</b>	For this procurement, bids/tenders from Class-I, Class-II and Non-Local Suppliers/Bidders are admissible. Offer will be evaluated & processed in conformation with GOI order (Specially mentioned below). The bidder shall provide compliance and undertaking as per order and subsequent amendments.		
<b>22.</b>	Compliance to the terms & Preference in purchase, will be provided as per Make In India Guidelines order no: P-45021/2/2017-PP(BE-II) dated 04.06.2020 of Department for Promotion of Industry and Internal Trade (DIPP), Ministry of Commerce and industry and Make In India Guidelines 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).		
<b>23.</b>	As per above order definition of local content means amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all custom duties) as a proportion of the total value, in percentage.		
<b>24.</b>	Bidder to mention in the certificate/compliance statement, the type of local supplier (Class-I, Class-II or Non-Local Supplier) for the offered quote.		
<b>25.</b>	Bidder to give final compliance in strictly Yes or No form for the Bidder eligibility criteria: Class-I, Class-II or Non-local supplier.		
<b>26.</b>	If the technical offer is submitted under Class-I or Class-II Local Supplier category following compliance to be provided: <ul style="list-style-type: none"> <li>i. Bidder to provide self-certified document for Class-I or Class-II local supplier with self –</li> </ul>		

	<p>certification.</p> <p>ii. Bidder shall clearly mention in the certificate, break up of local content in % without disclosing the actual price and the details of location(s) at which the local value addition is made.</p> <p>iii. If bidder is not the OEM, bidder to obtain declaration from the named OEM that their product calls for such value addition locally for the stated end use of the equipment/component.</p>		
<b>27.</b>	<p>Bidder should furnish the country of origin for major item/equipment/system. While submission of the quote or post contract, if Indian government bars any country for import of items, then bidder shall provide technically same product from a different source without any cost implication. In case of non-compliance to this, offer will be rejected/terminated.</p>		
<b>28.</b>	<p>Any Bidder (OEM/System Integrator/Service Provider) 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 Dept. for Promotion of Industry and Internal Trade (DPIIT). “Bidder from a country which shares a land border with India” for the purpose of this tender means: - a. An entity incorporated, established or registered in such a country; or b. A subsidiary incorporated of an entity incorporated, established or registered in such a country; or c. An entity substantially controlled through entities incorporated, established or registered in 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 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.”</p>		