

SPECIFICATION OF Ext. C-BAND DOWNCONVERTER

Preferable Brand: Comtech, Work Microwave, Bonn Hungary, Vertex, Geosync Microwave, Sotca

Sn.	PARAMETERS	SPECIFICATION VALUES
1	Frequency Range	4500 – 4800 MHz
2	Frequency Conversion	Dual Conversion without Inversion
3	Frequency Step Size	1 KHz
4	Frequency Stability (Time)	+/- 5X10 ⁻⁹ / Day (or better)
5	Frequency Stability (Temp)	+/- 2X10 ⁻⁸ (0 to 50 deg C)
RF INPUT CHARACTERISTICS		
6	RF Input Return Loss	> 19 dB
7	RF Input Impedance	50 ± 2 Ohms
8	Noise Figure	13 dB Max or better at min. attenuation/ max. gain
9	RF Input Connector	N-Type(F)
IF OUTPUT CHARACTERISTICS		
10	IF Output Frequency Range	52-88 MHz(70±18 MHz)
11	IF Output Level	+ 10 dBm @ 1dB Comp.
12	IF Output Spurious with Carrier	-60 dBc @ 0 dBm Output
13	IF Output Spurious without Carrier	-70 dBm
14	IF Output Intermod	-58 dBc min (2 Carriers @1MHz Apart) @ -0 dBm Output power
15	IF Output Impedance	50 ± 2 Ohms

16	IF Output Return Loss	> 20 dB
17	IF Output Connector	BNC(F)
TRANSFER CHARACTERISTICS		
18	Gain	40 dB min.
19	Gain Adjust	0-20 dB in 0.25 dB steps
20	Gain Stability	+/- 0.25 dB/Day (Constant temperature)
21	Gain Flatness (+/- 18 MHz)	+/- 0.5 dB
22	Image Rejection	-80 dBc in band
23	Phase noise	1kHz: - 78 dBc/Hz or less
		100kHz: - 95 dBc/Hz or less
26	Test Points (Front Panel)	RF sample: SMA (F)/N(F)
		IF Sample: BNC (F)
27	Front Panel Indications	Power On: LED, Mute On / Off: LED, Local / Remote: LED, Faults & Stored faults: LED.
28	Power (Power On switch to be provided)	Voltage: 230±10% VAC
		Frequency: 47 - 53 Hz
30	Environmental condition	Temperature:0 - 50 Deg C
		Humidity :0 - 95% Relative
31	Physical	1RU; 19 Inch Rack Mountable
32	Warranty	One Year (Minimum)

General terms and conditions:

1.	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).
----	--

2.	The unit shall have internal reference as well as facility of External Reference of 10 MHz @ 0 ± 3 dBm. In presence of external reference signal, the unit shall lock to the external reference automatically.
3.	Suitable HMI (Display and Control) shall be provided to operate locally.
4.	Automatic Fault recovery provision shall be provided for in case of any fault appearance(Desirable).
5.	Suitable AC power cords (Indian type AC Power cords) with weather-proof connector shall be provided for each unit.
6.	Monitoring and control Software (Standalone or Web Browser based) should be supplied with the unit for remote monitoring and controlling the unit parameters.
7.	One set of Operation Manual, Interface control Document & Maintenance Manuals to be provided.
8.	Factory Test Results to be provided along with the equipment.
9.	Vendor shall provide Technical Compliance statement mentioning the offered values and 'Comply' or 'Non-comply' for each tendered parameter.
10.	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.
11.	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.
12.	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.
13.	Make & Model shall be compulsorily provided in the Vendors compliance statement.
14.	Warranty: One Year standard warranty
15.	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.
16.	Delivery Period: 4 months desirable
17.	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.
18.	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.
19.	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"
20.	MCF reserves the right to place an order on partial or full list of items.
21.	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.
22.	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).
23.	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.
24.	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.
25.	Bidder to give final compliance in strictly Yes or No form for the Bidder eligibility criteria: Class-I, Class-II or Non-local supplier.
26.	<p>If the technical offer is submitted under Class-I or Class-II Local Supplier category following compliance to be provided:</p> <ul style="list-style-type: none"> i. Bidder to provide self-certified document for Class-I or Class-II local supplier with self – certification. 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. 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.
27.	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.
28.	<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>