आज़ादी का अमृत महोत्सव

G20 भारत 2023 INDIA

GOVERNMENT OF INDIA
(Ministry of Home Affairs)
COMMUNICATION & IT DIRECTORATE
CENTRAL RESERVE POLICE FORCE
EAST BLOCK-7, SEC-1, R.K. PURAM, NEW DELHI-110066

(Email:- comncell@crpf.gov.in Tele/Fax:011-26109038)

No. B.V-7/2023-24-C (QRs) Dated, the 20 July'2023

To

1. The DsG: AR, BSF, CISF, ITBP, NSG, SSB and BPR&D
2. Director, DCPW

Subject: Regarding QRs/TDs of "Wideband Communication receiver" and "IP at core EPABX 600 & 1500 lines".

I am directed to refer on the subject mentioned above and to say that the QRs/TDs of **(i) "Wideband Communication receiver" and (ii) "IP at core EPABX 600 & 1500 lines"** which has been recommended by CAPFs sub-group and experts from DCPW & BRP&D has been approved by the DG CRPF.

Encl:-As above

20/7/23

{Amit Taneja}
DIG (Equipment)
Communication & IT Branch
Directorate. General C R P F

No. B.V-7/2023-24-C (QRs) Dated, the July'2023

Copy to:-

1. Sh. P.K. Singh, IAS, CEO(GeM), Jeevan Tara building- with request to create proper category on GeM portal for subject items (e-mail ID: ceo-gem@gov.in).
2. Mrs. Sugandhi, Technical Director, North block, MHA with request to upload the approved QRs/TDs of (i) "Wideband Communication receiver" and (ii) "IP at core EPABX 600 & 1500 lines" on MHA website (e-mail ID: mpsugandhi@nic.in).

Encl:-As above

20/7/23

{Amit Taneja}
DIG (Equipment)
Communication & IT Branch
Directorate. General C R P F

QRs/TDs of 'Wideband Communication Receiver'

S.N.	Parameters	Specifications	Trial Directives
1.	Salient features:- a) Wideband Communication Receiver with panorama scan for high-speed scanning. b) Quick channel scan for automatic signal search. c) Detailed IF spectrum display at high bandwidths. d) Fast spectrum monitoring. e) Demodulation of wideband signals. f) Automatic detection, classification, demodulation and decoding of multiple signals. g) Continuous I/Q data streaming. h) Comprehensive and user friendly GUI. i) Precise monitoring with outstanding real time bandwidth and high scan speed. j) Good number of antenna elements to get reliable results with coherent signal integration. k) Easy integration in mobile platform. l) The Antennas should have high sensitivity and dynamic range.		BOO will check practically.
2.	Frequency range	8 KHz to 8 GHz	BOO will check practically.
3.	100% POI	1.5 micro second Span = 40 MHz RBW = 1 MHz	BOO will check practically.
4.	Inbuilt display	Minimum 6" color display	BOO will check practically
5.	Real time bandwidth	40 MHz	Board will check practically and firm will submit OEM certificate.
6.	Demodulation bandwidth	40 MHz	Board will check practically and firm will submit OEM certificate.
7.	Inbuilt demodulation modes in receiver	Standard inbuilt features AM, FM, PM, Pulse, I/Q, LSB, USB, CW, ISB	BOO will check practically.
8.	Scan speed	40 GHz/s @ 100 KHz RBW	BOO will check practically.
9.	Inbuilt attenuator, automatic attenuation	Attenuation setting up to 40dB and automatically kicks in the presence of strong signals	BOO will check practically.

S.N.	Parameters	Specifications	Trial Directives
10.	In built battery backup (Standby mode)	5 hrs or better	BOO will check practically.
11.	In built battery backup (Rx Mode)	3.5 hrs or better	BOO will check practically
12.	BITE facility	Provides an indication if all the sub units of the device are operating properly or not with built-in-test.	BOO will check practically and firm will submit OEM certificate.
13.	History mode	Minimum 30 days log	Firm will submit OEM certificate.
14.	Inbuilt recording	The system should have the capability of internal signal recording. Trace recording of spectra and waterfall data and replay of recorded data on the receiver display. Minimum 256 GB recording facility available in the receiver with SD card facility.	BOO will check practically and firm will submit OEM certificate.
15.	DANL	<= - 159 dB 10 MHz <= f <= 35 MHz <= - 161 dB 44 MHz < f <= 3 GHz <= - 159 dB 3 GHz < f <= 6 GHz <= - 154 dB 6 GHz < f <= 8 GHz	BOO will check practically.
16.	I/Q Streaming	LAN/Ethernet interface	BOO will check practically and firm will submit OEM certificate.
17.	A/D converter (ADC) resolution	14 bit or better	Firm will submit OEM certificate.
18.	Tuning resolution	1 Hz	BOO will check practically.
19.	Protection class	IP51 or better As per user requirement	Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory.
20.	Electromagnetic compatibility	ETSI EN 301489-1/22 ETSI EN 300220/300330/300440 (antenna port only), ETSI EN 303413 (GNSS antenna port) EN 55032, class B or MIL-STD-461/462C/462D or better	

S.N.	Parameters	Specifications	Trial Directives
21.	Image rejection 8 KHz <= f 35 MHz 35 MHz <= f <= 3300 MHz 3.3 GHz <f<= 8 GHz	Direct reception (up to 35 MHz) >= 75 dB >= 75 dB	BOO will check practically.
22.	IF rejection 8 KHz <= f 35 MHz 35 MHz <= f <= 3300 MHz 3.3 GHz <f<= 8 GHz	Direct reception (up to 35 MHz) >= 75 dB >= 75 dB	BOO will check practically.
23.	IP3	1 MHz <= f <= 10 MHz : >= 30 dBm 10 MHz < f <= 35 GHz : >= 30 dBm 44 MHz < f <= 3 GHz : >= 5 dBm 3 GHz < f <= 5.3 GHz : >= -3 dBm 5.3 GHz < f <= 8 GHz : >= -3 dBm	Board will check practically and firm will submit OEM certificate.
24.	Inbuilt prescaler	Yes	Firm will submit OEM certificate.
25.	DF functionality (interferometer):- Optional (As per user requirement)		
	a) Frequency range	20MHz to 6 GHz	BOO will check practically.
	b) Display resolution	1 Degree or better	BOO will check practically.
	c) DF method	Correlative interferometer	Firm will submit OEM certificate.
	d) DF operation mode	Fixed frequency mode	Firm will submit OEM certificate.
	e) DF accuracy	2 degree RMS or better	BOO will check practically and firm will submit OEM certificate.
	f) System DF Sensitivity in AOA mode	Less than 10 Microvolt in the complete frequency range from 20MHz to 6GHz	BOO will check practically and firm will submit OEM certificate.
	g) Minimum Signal Duration	5 ms	Firm will submit OEM certificate.

S.N.	Parameters	Specifications	Trial Directives
	h) Necessary cables for connecting to the DF antenna to the Direction finder equipment should be provided		BOO will check practically and firm will submit OEM certificate.
	i) Antenna should be with inbuilt GPS and Electronic Compass		
	j) Automatic Direction finding based on Angle of Arrival (AOA)		Firm will submit OEM certificate
26.	Automatic gain control and Manual Gain control AGC & MGC	Required	BOO will check practically.
27.	IF panorama span	IF panorama span 1/2/5/10/20/50/100/200/500 KHz, 1/2/5/10/20/40 MHz	BOO will check practically.
28.	RBW (Scan spectrum)	RF spectrum with user scalable start/stop frequency and step width; 100/125/200/250/500/625 Hz, 1/1.25/2/2.5/3.125/5/6.25/8.333/10/12.5/20/25/50/100/200/500 KHz, 1MHz, 2 MHz	Firm will submit OEM certificate and BOO will check practically.
29.	RF Input	One or more 'N' connector	BOO will check practically.
30.	Reference input signal	10 MHz 1 PPS	BOO will check practically.
31.	IQ streaming interface	1 GB LAN interface	BOO will check practically.
32.	Streaming format	VITA 49	Firm will submit OEM certificate.
33.	Remote control	SCPI commands	Firm will submit OEM certificate.
34.	Weight with battery	Maximum 4 Kg	BOO will check practically.
35.	Operating temperature	Option-I: -10°C to +55°C Option-II: -20°C to +60°C (As per user requirement)	Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory.
36.	Storage temperature	Option-I: -20°C to +65°C Option-II: -30°C to +70°C (As per user requirement)	Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory.

Specification for Antenna

A)	HF Antenna		
S.N.	**Parameters**	**Specifications**	**Trial directives**
1	Frequency range	2.0 MHz to 30 MHz	BOO will check practically.
2	Polarisation	Linear/vertical/horizontal	Firm will submit OEM certificate.
3	Impedance	50 Ohm	Firm will submit OEM certificate.
4	VSWR	<2.5 typ, 2.0	BOO will check practically.
5	MTBF	>= 100,000 Hrs	Firm will submit OEM certificate.
6	Operating temperature range	Option-I: -40°C to +65°C Option-II: -10°C to +55°C (As per user requirement)	Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory.
7	Max wind speed (survival)	225 Km/H	Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory.
B)	**VHF/UHF/MW Antenna**		
1	Frequency range	30 MHz to 8 GHz or better	BOO will check practically.
2.	VSWR	<2	BOO will check practically.
3	Protection class	IP55	Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory.
4	Operating temperature	Option-I:-40°C to +65°C Option-II:-10°C to +55°C (As per user requirement)	Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory.
5	Max wind speed	225 Km/H	Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory.

S.N.	Parameters	Specifications	Trial directives
6	MTBF	>100,000 Hr	Firm will submit OEM certificate.
7	Gain	10 dB or better	BOO will check practically.
8	Impedance	50 Ohm	Firm will submit OEM certificate.

(Sub.D.P.Mishra)
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