



DIRECTORATE GENERAL, CRPF
EAST BLOCK-7, SECTOR-1, R.K PURAM, NEW DELHI-66
e-mail : digeqpt@crpf.gov.in Tele No. 011-26109038



No. B.V-7/2025-26-C(HF)-QR Cell

Dated, the 28 Oct'2025

To

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

Subject: QRs/TDs OF "1 KW HF (HP) TRANS-RECEIVER" REGARDING.

I am directed to refer to the subject mentioned above and to say that the QRs/TDs of "**1 KW HF (HP) Trans-Receiver**" have been approved by the DG CRPF after due deliberations as per recommendations of CAPFs sub-group of technical experts and experts from DCPW.

2. QRs/TDs of "**1 KW (High Power) HF Transceiver Radio Set**" forwarded earlier vide letter No. B.V-7/2020-21-C(HFHP) dated 01/02/2021 stand rescinded.

This is for favour of information and further needful action please.

Encl:-As above

(Megh Raj)

DIG (Equipment)
Communication & IT Branch
Directorate General C R P F

No. B.V-7/2025-26-C(HF)-QR Cell

Dated, the 28 Oct'2025

Copy to:-

1. Mr. Deepak Kumar, Technical Director, North block, MHA (e-mail ID: deepakg@gov.in) with request to upload the QRs/TDs of "1 KW HF (HP) Trans-Receiver" on MHA website and QRs/TDs of "1 KW (High Power) HF Transceiver Radio Set" forwarded earlier vide letter No. B.V-7/2020-21-C(HFHP) dated 01/02/2021 stand rescinded please.

Encl:-As above

(Megh Raj)

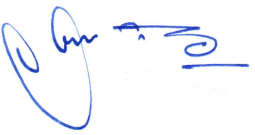
DIG (Equipment)
Communication & IT Branch
Directorate General C R P F

QRs/TDs OF 1 KILO WATT HF (HP) TRANS-RECEIVER

S. N	Parameter	Specifications	Trial Directives
A)	Transceiver base unit:		
a)	General		
1.	Frequency range	2 MHz to 29.9999 MHz or higher tunable at 10 Hz steps or better	BOO will check practically
2.	Mode of operation	SSB (J3E), USB, LSB, AM/AM(E), CW/MCW, AFSK	BOO will check practically and firm will produce OEM certificate
3.	Presets	100 or more preset channels	BOO will check practically
4.	Frequency stability	± 1 ppm or better	BOO will check practically
5.	Built in Test (BITE)	On-line and operator initiated	BOO will check practically.
6.	Input power	AC mains 190 V to 260V, 50 Hz single phase	BOO will check practically
7.	Power consumption (Including radio + Power amp)	Up to 6 KVA	BOO will check practically and firm will also submit OEM certificate.
8.	EMC/EMI	MIL-STD 461/462C or ETSI or CISPR32 or IEC 61000-4 Series (TEC/EMI/ TEL-001/ 01 Feb 09) or better	The firm will produce Certificate of Govt. Lab. Or NABL/ILAC accredited laboratory
9.	Antenna port impedance of radio	50 Ω Unbalanced	BOO will check practically and firm will also submit OEM certificate.
10.	Protection	i). Protection against high VSWR	BOO will check practically and firm will also submit OEM certificate.
		ii). Over Voltage and under voltage protection.	BOO will check practically and firm will also submit OEM certificate.
		iii). Protection against high temperature	Firm will submit OEM certificate.
11.	Roles	Static	BOO will check practically
12.	Headphone (Optional)	Should be compatible with radio set	BOO will check practically and firm will also submit OEM certificate
13.	Cooling	Forced air/liquid cooling system/Heat sink	BOO will check practically
14.	VSWR	Better than 1.5	BOO will check practically

S. N	Parameter	Specifications	Trial Directives
15.	Visual display	Should be available	BOO will check practically
16.	Metering indications	RF output, VSWR and high temperature	BOO will check practically
17.	Interface	RS 232/ USB/ Ethernet	BOO will check practically
18.	Programming	PC programming software and front panel/ Handset programming	BOO will check practically by software and front panel/ Handset programming.
19.	Communication security	AES-256 bit or better/ SAG approved (As per User requirement)	Firm will submit OEM Certificate.
20.	Mounting	Mountable into suitable single rack/cabinet	BOO will check practically
21.	Over all Weight of the equipment including Rack	100 Kg maximum	BOO will check practically
b) Drive Transmitter Specification			
1.	Spurious Emission	Better than 40 dB below PEP	BOO will check practically
2.	Side Band suppression	Better than 50 dB	BOO will check practically
3.	Carrier suppression	Better than 40 dB	BOO will check practically
4.	Inter modulation distortion	Better than 25 dB (below PEP)	Firm will submit OEM certificate
5.	Audio response	Within ± 6 dB (300 Hz to 2700 Hz)	BOO will check practically
6.	Side Tone Level	Better than 0.1 mW into headphone for 5 mV audio input at 1 kHz	BOO will check practically
7.	Modulation sensitivity	1 to 10 mV at 1 kHz for full power under SSB mode	BOO will check practically
c) Receiver Specifications			
1.	Receiver sensitivity	-115dBm @ 10dB SINAD or better	BOO will check practically
2.	Image frequency rejection	Better than 70 dB	BOO will check practically
3.	IF rejection	Better than 70 dB	BOO will check practically
4.	In Band inter modulation distortion	35dB below PEP or better	Firm will submit OEM certificate

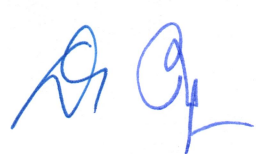




S. N	Parameter	Specifications	Trial Directives
5.	Audio response	Within ± 6 dB per octave for 300 Hz to 2700 Hz; 1 kHz as reference	BOO will check practically
6.	Audio output	Minimum 10 mW (Across headphones) Minimum 1W (across loudspeaker)	BOO will check practically
7.	Audio frequency Harmonic distortion	Better than 25 dB	BOO will check practically
B) Power Amplifier Specifications:			
1.	Power output	1000 Watts ± 1 dB (CW/PEP)	BOO will check practically
2.	Power levels	Variable in steps	BOO will check practically
3.	Spurious and Harmonic emission	Better than 60 dB below PEP	BOO will check practically.
4.	VSWR	3:1 maximum	Firm will submit OEM certificate
5.	Emission compliance	Comply with ETSI EN 301 489/ MIL-STD 188-110D	The firm will produce certificate of Govt. Lab. or NABL/ILAC accredited laboratory
C) Antenna Tuning Unit: (May Be Integrated to Power Amplifier or A Separate Unit)			
1.	Power rating	1000 watt or higher	BOO will check practically.
2.	VSWR	Typical 1.5:1 for following antennas i. Long Wire antenna ii. Whip Antenna iii. Broad Band Antenna	BOO will check practically.
3.	Tuning	Automatic	BOO will check practically.
4.	Tune time	Less than 5 sec	BOO will check practically.

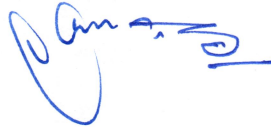
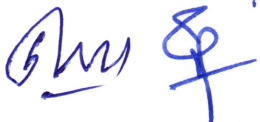






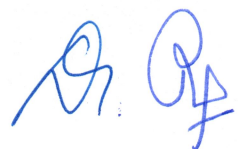
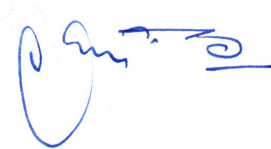

S. N	Parameter	Specifications	Trial Directives
5.	Antenna connector types	There should be facility to connect any of the following antennas- i. Long Wire antenna ii. Whip antenna iii. Broad band antenna	BOO will check practically.
6.	Provision for using single antenna for transmitter and receiver		BOO will check practically.
D)	Environmental Parameters		
1.	Operating Temperature	-10°C to +45°C	Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory
2.	Storage Temperature	-20°C to +60°C	Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory
3.	Humidity	93 ± 5% RH non-condensing at +40°C ±3°C	Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory
4.	Vibration (Optional)	MIL-STD-810F or better or JSS-55555 or equivalent	Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory
5.	Shock (Optional)	MIL-STD-810F or better or JSS-55555 or equivalent	Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory
6.	Altitude	MIL-STD-810F or better or JSS-55555 or equivalent	Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory
E)	Features		
1.	Selective calling	Digital FSK coding	BOO will check practically
2.	Scanning	5 channel per sec or better	BOO will check practically
3.	ALE 2G/3G/4G (As per user requirement)	ALE 2G as per Appendix "A" or ALE 3G as per Appendix "C" or ALE 4G as per Appendix "G" of MIL-STD-188-141D	Firm will submit OEM Certificate



S. N	Parameter	Specifications	Trial Directives
4.	ALE link quality data resolution	i. Local: 5 bit SINAD, 5 bit BER ii. Remote: 5 bit SINAD, 5 bit BER	Firm will submit OEM Certificate
5.	Flash message	Predefined message	BOO will check practically
6.	Vocoder	MELP/CELP/ACELP/TWELP (600/ 800/ 1200/ 2400 bits) or better	Firm will submit OEM certificate.
7.	Data MODEM (Built in/external)	MIL-STD-188-110A single tone $\geq$ 4800 bps or better	Firm will submit OEM certificate
8.	Data communication	Provision for data communication	BOO will check practically
9.	Tele Call (Optional)	The radio set should have capability to dial and operate data.	BOO will check practically
10.	Controls	i. Front panel/ Handset Controls ii. Ethernet: - Remote HTML or remote-control software iii. Serial RS-232/RS-422 remote software control. iv. Interlock: - Antenna interlock to prevent keying PA when not connected.	BOO will check practically
11.	Software updates	Via USB (Local) or Ethernet (Remote)	BOO will check practically
12.	Tunable receiver	Continuous tunable	BOO will check practically
13.	Remote operation	Capability to operate from remote location	BOO will check practically
14.	Audio input sockets	Microphone and external socket	BOO will check practically
15.	Squelch	Digital squelch	BOO will check practically
16.	Push to talk	Suitable microphone to be provided	BOO will check practically





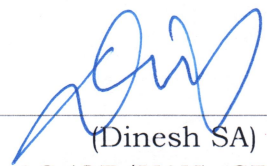
S. N	Parameter	Specifications	Trial Directives
17.	Compatibility	Should be interoperable with existing HF radio sets/receivers in Clear voice Mode communication	BOO will check practically
18.	Thermal Overload protection	85°C	Firm will submit OEM certificate.
19.	Antenna type	Broadband type with 1000 watt or higher	BOO will check practically and firm will submit OEM certificate



(WO/RM Sandip Kumar)
AR



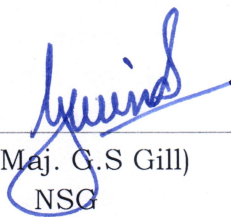
(Sanjay Mathur)
AC (Comn), SSB



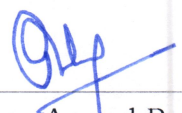
(Dinesh SA)
AC (QR/UAV), CRPF



(Lalji Ram)
JAD, DCPW



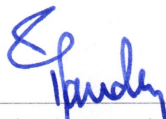
(Maj. G.S Gill)
NSG



(Abhay Anand Patil)
DC, CISF



(R.K. Saran)
2 I/C, BSF



(Rajesh Pandey)
Comdt (Tele), ITBP



(Megh Raj)
DIG (Eqpt), CRPF



(Vijay Kumar)
IG (Comn & IT), CRPF



(Vitul Kumar, IPS)
SDG (OPS), CRPF

✓
Approved/Not Approved



(Sh. G.P. Singh, IPS)
DG, CRPF