

**GOVERNMENT OF INDIA
MINISTRY OF COMMUNICATIONS
DEPARTMENT OF TELECOMMUNICATIONS
WPC WING, REGIONAL LICENSING OFFICE (SOUTH)**

IMS Campus, Kandanchavadi
Perungudi Post, Chennai
Chennai 600 096

No.Q-11011/01/2021-RLO(SR)

Date: 05 April 2023

To,

All concerned

Subject: Technical Proposal Invite for the procurement of 23 nos. of Handheld Spectrum Analysers along with antennas and accessories for Wireless Monitoring Organization, DoT, Ministry of Communications-reg.

Reference: WMO letter no. Project/ASMS/05/2022 dated 03/4/2023

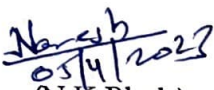
The proposal to procure twenty-three (23) nos. of **Handheld Spectrum Analysers along with antennas and accessories**, as per ITU Monitoring Handbook, covering the frequency band 1-80GHz for all the 22 Wireless Monitoring Stations and 01 for WMTDC of Wireless Monitoring Organization, DoT is under consideration by this Ministry.

The details of the requirements and measurement capabilities are given at Annexure-1.

2. Interested vendors in this field are invited to provide their technical proposal for the complete system, in the form of a document containing complete/exhaustive technical specifications, detailed installation particulars & commissioning of the equipment. Relevant information, illustrating typical setup of the product and the output derived from the setup would be appreciated.
3. It would be appreciated that, if you could indicate the estimated/budgetary cost in Indian Rupees (inclusive of duties/taxes, freight charges, insurance etc.) for **Handheld Spectrum Analysers along with antennas and accessories** including warranty of 3 years, Comprehensive Annual Maintenance Contract (CAMC) for 5 years and the cost of installation & commissioning of these systems including training to the officers. The detailed estimate cost break-up and methodology of arrival at the estimated/budgetary cost for each system may also be provided.

The above detailed information may be sent by registered post to the undersigned within 04 days on the date of issue of this letter. A copy of the same may be also be sent by email to nk.bhola@nic.in.

The undersigned may be contacted for any query in this regard.


(N.K Bhola)
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1.0 Brief Details of the requirements and measurement capabilities of the system

- (i) Handheld Spectrum Analyser (covering the frequency band 1-80GHz) along with light weight antenna, RF cables, tripod for mounting antennas, foldable telescopic mast, internal DC Bias, Battery, GPS receiver for carrying out monitoring in inaccessible areas. It should be rugged and all-weather use.
- (ii) The Handheld Spectrum Analyzer shall perform measurement/monitoring function in the frequency 1-80GHz such as Frequency, Bandwidth, Power Spectrum Density (PSD), Channel power measurement, Adjacent Channel Power Ratio (ACPR), Occupancy/Vacancy etc in accordance to the applicable ITU Recommendations/Reports.
- (iii) The Handheld Spectrum Analyzer should also have the following monitoring function and measurement capabilities while monitoring over-the-air RF emissions/transmissions in the frequency 1-80GHz:
- Demodulation analysis/Emission Identification such as FSK, BPSK, QPSK, QAM etc;
 - Analysis and Identification of Standard Transmission/Emissions of different technologies used in terrestrial communication viz. GSM, CDMA, WCDMA, CDMA2000, WIMAX, WLAN, LTE & LTE-Advance and IMT 2020(5G) technologies and Microwave access/ backbone frequency bands i.e 7 GHz, 15 GHz, 21 GHz, 28 GHz (including upcoming 32, 38 GHz bands), E Band & V Band ; 2.4 GHz, 5 GHz short range communications standards (LAN/WAN etc.); Radiolocation/ radiodetermination services (Radars etc.); other short range communications etc.;
 - Spectrum measurements, I/Q Capture, Error Vector Magnitude (EVM), Water fall display etc.
 - Transmitter/Emitter Direction Estimation with integrated GPS.
 - Data capture, Streaming & Report Generation.
 - System automation for determining course of actions when signal of interest is detected;
 - Recording of the spectrum, Data logging, storage and Management;
 - Database for archival and retrieval of information, Data mining and information analysis,
 - Locate interfering signals using the intuitive spectrogram display and recording capability

Nareeb
05/4/2023