



**GOVERNMENT OF INDIA  
(Ministry of Home Affairs)  
DIRECTORATE GENERAL**

**CENTRAL RESERVE POLICE FORCE**

**EAST BLOCK-7, SEC-1, R.K. PURAM, NEW DELHI-110066**

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No. B.V-7-C/2023-24-C(NIB)

Dated, the April'2023

**Subject:- REQUEST FOR COMMENTS OF  
STAKEHOLDERS/OEM/FIRMS ON QRs (QUALITY  
REQUIREMENT) & TDs of "NETWORK IN BOX(NIB)".**

1. The QRs/TDs "Network in Box(NIB)" is attached as **Appendix 'A'**. The OEMs/Vendors are requested to forward information of the product, which they can offer and also forward correct specifications of their system against each parameter. Only complied or not complied remarks will not be accepted. The firms are also requested to furnish the following details:-

- Whether you are OEM/Vendor?
- If vendor details of OEM.
- Authorization certificate from OEM.


2. The required information/details may please be forwarded at the following addresses by **2<sup>nd</sup> May2023**.

Directorate General CRPF

East Block-7, Sec-1, R.K. Puram, New Delhi-110066

Email: [comncell@crpf.gov.in](mailto:comncell@crpf.gov.in)

3. An early response is requested.

  
{Sunil Kumar Singh, DC(Comn)}  
**For DIG (Equipment)**  
**Directorate General, C R P F**

**DRAFT QRs/TDs OF NETWORK IN BOX(NIB)**

<b>S.N</b>	<b>Specification/ Parameters</b>	<b>Trial Directives</b>
<b>1.</b>	<b><u>LTE NIB &amp; ACCESSORIES.</u></b>	
	<b>(a) <u>Key features.</u></b>	
	(i) All in one box containing all subsystems of the network	BOO will check practically.
	(ii) Shall be integrable with Omni directional/ sectorial antenna	BOO will check practically.
	(iii) Device should be mountable on a telescopic/ Guyed/ Tower/vehicle (as per user requirement)	BOO will check practically.
	(iv) Shall be integrable with existing communication network(Radio compatibility (HF/VHF/UHF), E1(cash/PRI), CO Port(RJ 11), GSM Gateway (for vehicular based NIB))	BOO will check practically.
	<b>(b) <u>Functional requirement.</u></b>	
	(i) LTE NiB shall have integrated functionality of e Node B, EPC, IMS, Group Communication & Location Application server, web server for O&M and Built in Router as per MCX 3GPP standards .	BOO will check different nodes are present in the same unit using OMC access & GUI.
	(ii) LTE NiB shall provide support for LTE attach, detach, authentication, location update procedures as per MCPTX 3GPP standards.	BOO will check practically radio coverage of the system
	(iii) The system shall be capable for voice, video & data services as per MCX 3GPP standards	BOO will check practically.
	(iv) Multiparty conference (Voice + Video): Minimum 6 party	BOO will check practically.
	(v) One to One and Group Chat, File/ Image transfer (minimum 5MB)	BOO will check practically.
	(vi) Live location sharing & Tracking With GPS, IRNSS	BOO will check practically.
	(vi) Upgradable by software to upgrade to latest version	BOO will check practically.
	(vii) Remotely configurable	BOO will check practically.
	(viii) GUI for management functions like Registering users, routing calls, sms	BOO will check practically.
	(ix) LTE NIB shall provide SIP Based Connectivity towards external IPPABX	BOO will check practically.
(x) Data services should be at least 1 mbps from mobile to NIB (upload/ download) and 1 mbps between mobile handset and mobile	BOO will check practically.	
(xi) Data service should be capable of supporting a continuous video streaming from mobile handset to IP backbone subscribers	BOO will check practically.	

S.N	Specification	Parameters	Trial Directives
(xii)	PTX over LTE Group Call: Minimum 10 party		BOO will check practically.
(xiii)	Location tracking of Group members by Group Admin		
<b>(c)</b>	<b>Specifications for Manpack NIB.</b>		
(i)	Capacity	Registration for users $\geq 250$	BOO will check practically.
		Active users simultaneously $\geq 32$	BOO will check practically.
(ii)	Frequency Band	As per latest TRAI guidelines and NFAP	Firm will submit OEM undertaking certificate.
(iii)	Tx output RF power	$\geq 5W$	BOO will check practically.
(iv)	Range	$\geq 3$ km with Directional Antenna with min gain of 10dbi in radio line of sight.	BOO will check practically.
		$\geq 1$ km with Omni directional Antenna with min gain of 6 dbi in radio line of sight.	BOO will check practically.
(v)	Weight	$\leq 15$ kg	BOO will check practically.
(vi)	Operating Temperature	a). $-10^{\circ}C$ to $+55^{\circ}C$ b). $-40^{\circ}C$ to $+55^{\circ}C$ (as per user requirement)	Firm will submit certificate of Govt. Lab. or NABL accredited laboratory.
(vii)	Storage Temperature	a). $-15^{\circ}C$ to $+60^{\circ}C$ b). $-40^{\circ}C$ to $+60^{\circ}C$ (as per user requirement)	
(viii)	Humidity	As per MILSTD 810G or JS555555 or better	
(ix)	Input power source	DC operated 12/24VDC ( $\pm 5\%$ )	BOO will check practically
(x)	Carrying Harness with spare battery compartment	$\leq 3$ kg	BOO will check practically

S.N	Specification		Parameters	Trial Directives
(xi)	Total Weight of NIB with spare Bty Manpack including Antenna & Harness		≤ 25 kg	BOO will check practically
(xii)	Bty Running hours		≥ 04 hrs	BOO will check practically
(xiii)	Booting time		≤ 5 min	BOO will check practically
(ix)	MIMO		2x2	BOO will check practically
(xv)	User Mobility		0-80 Kmph or above	BOO will check practically
<b>(d)</b>	<b><u>Specifications for Static/ Veh Based NiB.</u></b>			
(i)	Capacity	Registration for users	≥ 250	BOO will check practically
		Active users simultaneously	≥ 32	BOO will check practically
(ii)	Frequency Band		As per latest TRAI guidelines and NFAP	Firm will submit OEM undertaking certificate.
(iii)	Tx output RF power		≥ 25W	BOO will check practically
(iv)	Input Power Source		12/24V DC / 230V AC (+- 5%)	BOO will check practically
(v)	Range		≥7 km with Directional Antenna with min gain of 10dbi in <b>radio line of sight.</b>	BOO will check practically
			≥4 km with Omni directional Antenna with min gain of 6 dbi in <b>radio line of sight.</b>	BOO will check practically
(vi)	Weight of NiB		≤ 25kg	BOO will check practically

S.N	Specification	Parameters	Trial Directives
(vii)	Operating Storage Temperature	a). -10°C to + 55°C b)-40°C to + 55°C (as per user requirement)	Firm will submit certificate of Govt. Lab. or NABL accredited laboratory.
(viii)	Storage Temperature	a). -15°C to +60°C b)-40°C to + 60°C (as per user requirement)	
(xi)	Humidity	As per MILSTD 810G or JS555555 or better	
<b>(e) Operation &amp; Maintenance.</b>			
(i)	O & M Interface: The LTE NIB shall provide a web-based O&M interface for debugging, troubleshooting and for providing fault, configuration, and performance data. The O&M interface shall be Ethernet/USB		BOO will check practically
(ii)	The LTE NIB control software shall interact with various hardware/software entities of the LTE NiOB and provide the health status/Alarms of the entire system on the web GUI		BOO will check practically
(iii)	The LTE NIB shall have reboot/restart capability		BOO will check practically
(iv)	The system shall provide the count for the total number of 'UE provisioned', 'UE active', 'UE idle'		BOO will check practically
2	<b>ANTENNA AND ACCESSORIES.</b>		
(a)	Gain	≥ 6dbi for Omni directional antenna	Firm will submit OEM Certificate
		≥ 10dbi for Sectoral antenna	Firm will submit OEM Certificate
(b)	Telescopic Mast	Pneumatic	BOO will check practically
(c)	Height	≥ 4mtr	BOO will check practically
(d)	Weight	≤ 1 kg Omni directional antenna	BOO will check practically
		≤ 8 kg Sectoral antenna	BOO will check practically
(e)	Ethernet cable	Type-Cat-6 outdoor Shielded protected	Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory.
(f)	VSWR	<1.5	BOO will check practically
(g)	Impedance	50 ± 5 ohms	BOO will check practically

<b>S.N</b>	<b>Specification</b>	<b>Parameters</b>	<b>Trial Directives</b>	
	(h)	Horizontal Beamwidth	120° for Sectoral antenna	BOO will check practically
	(i)	Length	0.5m	BOO will check practically
<b>3.</b>	<b><u>MOBILE HANDSET &amp; ACCESSORIES.</u></b>			
	<b>(a)</b>	<b><u>Handset with charger.</u></b>		
		Screen size	≤ 5.4 Inch	BOO will check practically
		RAM	Min 3 GB	Firm will submit OEM Certificate.
		Storage	Min 32 GB	Firm will submit OEM Certificate.
		Battery	Minimum 5000mah, Li-Po battery	Firm will submit OEM Certificate.
		Software	Upgradeable to latest technology Over Wi-fi	Firm will submit OEM Certificate
		Headset	Wireless headset with 08 hrs battery	BOO will check practically
		Carrying case	Ruggedized case with wrist mount & chest mount.	BOO will check practically
		Applications	As per user requirement	BOO will check practically
		Charger	Type C/Micro USB	BOO will check practically
		Wi-fi	802.11 a/b/g/n/ac 2.4G+5GHz	BOO will check practically and
		Blue tooth	4.0 or better	Firm will submit OEM Certificate
		Camera	Front :-Minimum 8mp Rear: Minimum16mp	BOO will check practically
		Operating System	Android 10 or latest	Firm will submit OEM Certificate
	<b>(b)</b>	<b><u>SIM.</u></b>		
	(i)	USIM	Pre-programmed, Non-Editable	BOO will check practically and
	(ii)	SIM Memory Size	128K	Firm will submit OEM Certificate
	(iii)	ISIM (IMPI, IMPU, Domain) parameters	Pre-programmed	BOO will check practically
<b>4.</b>	<b><u>TABLETS WITH RUGGEDIZED CASE.</u></b> (optional)			
	<b>(a)</b>	<b><u>Physical Characteristics</u></b>		
	(i)	SIMs	Dual	BOO will check practically
	(ii)	Screen Type	Capacitive touch screen	Firm will submit OEM Certificate
	(iii)	Screen Size	8" or more	BOO will check practically

<b>S.N</b>	<b>Specification</b>	<b>Parameters</b>	<b>Trial Directives</b>
(iii)	Internal memory	Min 64Gb	BOO will check practically
(iv)	External memory support	≥ 1TB, Micro SD	BOO will check practically
(v)	Ports	Min USB-2.0, Ear-jack	BOO will check practically
(vi)	Weight	≤1kg	BOO will check practically
<b>(b)</b>	<b>Technical Characteristics.</b>		
(ii)	Battery capacity	Li-Po battery > 7000mAH	Firm will submit OEM Certificate.
(iii)	Operating System	Android 10 or latest	Firm will submit OEM Certificate
(iv)	Camera	≥ 8 MP, Both Front and back Camera Available	BOO will check practically
(v)	Frequency Band Support	As per latest TRAI guidelines and NFAP	Firm will submit OEM undertaking Certificate
(vi)	Wi-Fi Support	802.11 a/b/g/n/ac 2.4G+5GHz	Firm will submit OEM Certificate
(vii)	RAM Size	≥ 4GB	Firm will submit OEM Certificate
(viii)	CPU speed	Better than 1.8 GHz, Octa Core	Firm will submit OEM Certificate
<b>5.</b>	<b>Power Source</b> (Optional)		
<b>(a)</b>	<b>AC input</b>		
(i)	Voltage	<b>(90 to 270 VAC @ 50Hz-60hz)</b>	BOO will check practically
(ii)	Short Circuit, UV, OV Protection	Yes	
<b>(b)</b>	<b>DC Output.</b>		
(i)	DC Output Port	Min 4 Nos.	BOO will check practically
(ii)	DC Output Voltage	<b>(12V to 56.4V @ 10 Amp)</b>	
<b>(c)</b>	<b>Dimensions.</b>		
	Weight	≤ 30 kg	BOO will check practically
<b>(d)</b>	<b>User Interface.</b>		
(i)	RS485 Port/ USB	Min 2 Nos.	BOO will check practically
(ii)	10/100 Mbps Standard Eth. Port/POE	Min 4 Nos.	
(iii)	Alarm & Indications	Interfaces to OMC, Alarm and Display Unit over Ethernet	

<b>6.</b>	<b>Secure LTE Radio Backhaul.</b>			
	NIB should be integrateble with existing network of user agency. Networl will be decided by user agency during procurement.			
<b>7.</b>	<b>Mounting System.</b>			
	<b>(a)</b>	<b>Hand Cranked 3 Section mast with Tripod Stand</b>		
	(i)	Extended Height	$\geq 4$ meters	BOO shall verify physically
	(ii)	Retracted Height	$\leq 1.8$ meter	
	(iii)	Weight	$\leq 15$ kg	
	<b>(b)</b>	<b>Outdoor and Pneumatic telescopic Mast.</b>		
	(i)	Extended Height	$\geq 6$ meters	BOO shall verify physically
	(ii)	Type	Pneumatic	
	(iii)	Retracted Height	1.75 meter	
	(iv)	Weight	$\leq 30$ kg	
	<b>(c)</b>	<b>Tripod.</b>		
	(i)	Erected heighted	2.5 Meter	
	(ii)	Weight	<6kg	