संख्या. पी-63013/117/04/2025/मोड–।/सीसुबल 603-09

भारत सरकार, गृह मंत्रालय
महानिदेशालय सीमा सुरक्षा बल
(रसद निदेशालय: आधुनिकीकरण सैल)
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(Fax: 011-24367683)

ब्लाक संख्या . 10,
सीजीओ काम्पलैक्स,
लोधी रोड, नई दिल्ली–03
दिनांक 06 मार्च 2026

सेवा में,

महानिदेशकः– आसाम राईफलस (through LOAR), केन्द्रीय ओद्यौगिक सुरक्षा बल, केन्द्रीय रिजर्व पुलिस बल, भारतीय तिब्बत बोर्डर पुलिस, सशस्त्र सीमा बल, राष्ट्रीय सुरक्षा गार्ड एवं पुलिस अनुसन्धान एवं विकास ब्योरो

विषयः **अनुमोदित गुणात्मक आवश्यकता /परीक्षण निर्देशों का प्रेषण**

तकनीकी विशेषज्ञों के उप समूह द्वारा किए गये सूत्रीकरण एवं महानिदेशक सीमा सुरक्षा बल द्वारा अनुमोदित **"Global Positioning System-Revision"** उपकरण के गुणात्मक आवश्यकता/परीक्षण निर्देशों को आपकी अग्रिम कार्यवाही हेतु प्रेषित किया जाता हैं।

संलग्न : उपरोक्तनुसार

बाला 6/3/26
(विपुल मोहन बाला)
उप महानिरीक्षक (रसद)

प्रतिलिपि :-

1. **तकनीकी निदेशक**
The Technical Director
राष्ट्रीय सूचना–विज्ञान केन्द्र, नोर्थ ब्लाक, गृह मंत्रालय, नई दिल्ली
NIC, North Block, MHA
New Delhi **(द्वारा ई–मेल)**
(ई–मेल पता : mpsugandhi@nic.in)
: आपसे अनुरोध है कि उक्त उपकरण के गुणात्मक आवश्यकता /परीक्षण निर्देशों जोकि गृह मंत्रालय की वैबसाईट (पुलिस आधुनिकीकरण संभाग) के गुणात्मक आवश्यकता पोर्टल में मशीनरी एवं उपकरण के साथ निगरानी उपकरण वर्ग के अर्न्तगत कमांक संख्या–**93** पर पहले से अपलोड है को डिलीट करने के उपरांत उक्त के स्थान पर इस पत्र के साथ संलग्न संशोधित गुणात्मक आवश्यकता/ परीक्षण निर्देशों को अपलोड करने का श्रम करें।

2. SO (IT), North Block, MHA
(Through E-mail)
(E-mail address: **soit@nic.in**)
: कृपया उपरोक्तानुसार कार्यवाही करने का श्रम करें।

3. Sh. Samarth Sharma,
Director Nodal Officer for MHA
GeM, 3rd Floor, Jeevan Bharti Building Conaught Lane,
Janpath Cannaught Place, N/ Delhi-110001E-mail:
directorcategory13@gem.gov.in
For info with request to upload the approved QRs & TDs of **"Global Positioning System-Revision"** on GeM Portal. Copy of QRs & TDs is attached with this letter.

4. तकनीकी विंग, सीमा सुरक्षा बल
: कृपया उक्त उपकरण के गुणात्मक आवश्यकता/परीक्षण निर्देशों को सीमा सुरक्षा बल की वैबसाईट पर अपलोड करने का श्रम करें।

5. रसद निदेशालय (आयुद्ध अनुभाग)
बल मुख्यालय सीमा सुरक्षा बल।
: आपके यूओ संख्या–3827 दिनांक 25.09.2025 के सन्दर्भ में अनुमोदित उपकरण के संशोधित गुणात्मक आवश्यकता/परीक्षण निर्देशों को आपके सूचनार्थ एवं अग्रिम कार्यवाही हेतु प्रेषित जाता है।

6. फाईल।

Appendix-A

QRs & TDs OF GLOBAL POSITIONING SYSTEM (GPS) - REVISION

S No.	Parameter/ Specification	Trial Directives	Result expected/ desired
Navigation features:			
1.	**Display** TFT Color/ Transflective HD IPS LCD Display size 3" Minimum diagonal.	To be physically checked by BOO. Measure the Display size diagonally with the help of scale or measuring tape.	TFT Color/ Transflective HD IPS LCD Display size must be 3" Minimum diagonally.
2.	**Routes** Minimum 250 routes with compatible SD memory card.	To be physically checked by BOO. Switch 'ON' the GPS and create at least 25 routes. Firm to be provide OEM Certificate for minimum 250 routes.	The GPS must have the memory to save minimum 250 routes with compatible SD memory card.
3.	**Way points** Unit must have capacity to store 10,000 way points.	(i) Firm to be provide OEM Certificate in respect of ability to store 10,000 way points. (ii) To be physically checked by BOO for storing 25 way points approximately.	The GPS must have capacity and memory to store 10,000 way points.
4.	**Tracks** Must be able to store 10,000 track points and 200 GPX tracks.	i) Firm to be provide OEM Certificate in respect of ability to store 10,000 track points and 200 GPX tracks. ii) To be physically checked by BOO storing 25 track points and 25 GPX tracks approximately physically in GPS or by unloading from PC.	The GPS must be able to store 10,000 track points and 200 GPX tracks.
5.	**Track back** Storage of track log files should be provided	i) To be physically checked by BOO. ii) Create a route and then activate it after reaching destination, check the back track log in the GPS as per the procedure provided in the GPS.	The GPS must have provision for storage of track log files.
6.	**Map Datum's** Should have the facility for user-defined datum with inbuilt	i) To be physically checked by BOO.	The system must have the facility for user-defined datum with inbuilt standard datum's including Indian datum.

S No	Parameter/ Specification	Trial Directives	Result expected/ desired
	standard datum's including Indian datum.	ii) Check the GPS for standard Map datum's including Indian datum, WGS-84 & user defined datum provided in the system.	
7.	**Co-ordinates** Lat/Lon, UTM, MGRS (Indian GR system (IGRS) with Auto IGRS zone selection) and other grid based on user defined requirements.	i) To be physically checked by BOO. ii) Check the GPS for Co- ordinate system including Lat/Lon, UTM, MGRS (Indian GR system (IGRS) with Auto IGRS zone selection) and other grid based on user defined requirements. iii) Check the facility of selecting Indian GR system including options of pre-loaded nine zones of Indian grid reference coordinate system.	The GPS must have coordinate system including Lat/Lon, UTM, MGRS (Indian GR system (IGRS) withAuto IGRS zone selection) and othergrid based on user defined requirements.
8.	**Co-Ordinates conversion** The system should have the provision to convert Co-Ordinates from Lat-Lon to IGRS & vice versa.	i) To be physically checked by BOO. ii) Check the GPS for converting Co-ordinates. Get Co-ordinate in Lat/Lon of a point and feed it in the GPS for getting the IGRS value of the same. Again feed the IGRS co-ordinate of a point in the GPS and get the Lat/Lon value of the same point through GPS.	The system must have the provision to convert Co-ordinates from Lat/ Lon to IGRS & vice versa.
9.	**Safety** The System should have the provision of password protection for prevention of unauthorized user and encryption of data stored.	i) To be physically checked by BOO. Check the system for the provision of setting password in the start when the system will be switched 'ON'. (ii) Firm to provide OEM certificate in respect of encryption of data stored. iii) The system should have provision for validation of co-ordinates. It should create alert in case of wrong entry of	The System must have the provision of password protection for prevention of unauthorized user. It should also have provision for encryption of stored data in memory card to deny unauthorized access. Systemshould also have provision for validation of Co-ordinates. It must create alert in case of wrong entry of co-ordinates

S No	Parameter/ Specification	Trial Directives	Result expected/ desired
		co-ordinates and map sheet number during storage of way point.	and map sheet number during storage of way point
10.	**Navigation screens** Should display battery status, Own position, Altitude, Compass, Graphical plot, Speed & Time, Total distance covered and Cross track error.	i) To be physically checked by BOO. ii) Switch 'ON' the GPS and check the display screens for battery Status, own position altitude, compass, graphical plot, speed & time and verify its functionality. Set the GPS to navigate a way point far away (200 meters) from the own position and start navigation. iii) Check the total distance covered and cross track error display screen during the navigation.	The system must have provision of on screen display regarding battery status, own position, altitude, Compass,Graphical plot, Speed &Time, total distance covered and Cross track error.
11.	**PC Interface** Should be provided software to upload and download the data with high speed data USB port.	To be physically checked by BOO. Store 5 to 10 way points and create two routes having 3 to 4 legs in the GPS. Install the software in the PC and connect the GPS with the help of cable provided through USB port. Create & store 5 to 10 way points and two routes having 3 to 4 legs in the PC. Download the way points and routes created in the GPS to the PC and upload way points & routes from PC to GPS.	GPS must have capable with software to upload and download the data with high speed USB port.
12.	**Language** English for operation.	To be physically checked by BOO.	GPS must have English language for operation.
13.	**Alarm** Off track visual indication and arrival audio alarm.	i) To be physically checked by BOO. ii) Switch 'ON' the GPS and navigate to a way point ≥ **100** meters away. Check the GPS navigation screen for 'OFF track' visual indication and arrival at destination audio alarm.	GPS must have Off track visual indication and arrival at destination audio alarm.

S No	Parameter/ Specification	Trial Directives	Result expected/ desired
14.	**Way point icons** Should be provided	To be physically checked by BOO. Switch 'ON' the GPS and store 10 way points by allotting icons from the icon bank provided in the database of GPS.	GPS must have way point icon bank.
15.	**Compass** Should have built in 3 axis electronic compass for real time direction indication without GPS fix.	i) To be physically checked by BOO. ii) Check the GPS for built in 3 axis electronic compass for real time direction indication without GPS fix i.e. inside a building where the satellite signals are not accessible.	GPS must have built in 3 axis electronic compass for real time direction indication without GPS fix.
16.	**Radio Comn Interface** Optional **(To be defined by the user if required).**	To be physically checked by BOO. The facilities of Radio communication interface should be checked as per the user requirement.	GPS must have Radio Comn interface in case required/defined by user.
PERFORMANCE:			
17.	**Receiver** **Receiver:** Min 24 Parallel channel receiver and should be compatible to receive signals from **IRNSS (NavIC),** GPS and GLONASS/GALILEO /QZSS.	i) To be physically checked by BOO. ii) Check minimum receiver channel available in the GPS by switching 'ON' it under open sky. The firm has to submit National / international accredited Lab report / certificate in r/o compatibility to receive signals from **IRNSS (NavIC),** GPS and GLONASS/GALILEO /QZSS.	The system must have 24 Channel receiver and able to receive signal from **IRNSS (NavIC),** GPS and GLONASS/GALILEO /QZSS.
18.	**GNSS selection features:** The system shall have provision to select NavIC only mode.	To be physically checked by BOO. The system should be configured in NavIC –only mode and receive signal from only NavIC satellite and not from other satellites.	The system must have configured in NavIC –only mode.
19.	**Acquisition** <=20 second hot,	i) To be physically checked by BOO. ii) Insert the battery or cells in the GPS and switch it 'ON'. Count the time taken to fix the position by the GPS during following conditions:	The acquisition time taken by the GPS to fix the position must be as under: 3 minutes in cold

S No	Parameter/ Specification	Trial Directives	Result expected/ desired
	<=60 seconds warm and 3 minutes cold.	a) Cold - When GPS is in switched `OFF' condition from last 3 to 4 hours. While walking on ground in open space with GPS position fixed (count the time from Switching 'ON' GPS to fix the GPS). b) Warm - When GPS is in Standby mode. While walking on ground in open space with GPS position fixed (count the time from count the time from GPS 'ON' to fix the GPS). c) Hot - When GPS is in switched `ON' condition. While walking on ground in open space with GPS position fixed and pass through overhead obstacle (where satellite signal is not accessible) then move again to the open space (count the time from crossing the Overhead obstacles open space till GPS fix).	≦60 seconds in warm ≦ 20 second hot
20.	**Mapping units and software** Loading of maps of user specific format in the GPS unit along with map loading software should be provided. Also an option to load satellite images into GPS unit. It should also support raster maps in Geo TIFF, JPG etc. formats, Vector maps or digital maps (Shape files).	i) To be physically checked by BOO. ii) Check the GPS display with map in background by loading military map in the system with the help of map loading latest software (if required) provided with the GPS. iii) Check the GPS by loading satellite map images from web site into the system through PC. **Note : user must know about the specific format of the maps available with the concerned CAPFs and provide a soft copy of an area as a sample to board at the time of evaluation. So that firm may arrange demonstration to load the map in the GPS.**	The GPS must have the map loading latest software to load the map of user specific format in the system. It must also have option to load satellite images in to GPS unit. It must also support raster maps in Geo TIFF, JPG etc. formats, Vector maps or digital maps (Shape files).
21.	**Unit to Unit transfer** Data can be transferred from one unit to another unit via wireless or Bluetooth.	i) To be physically checked by BOO. ii) Create limited database of way points and routes in two GPS. Transfer the data (from data base) from one system to another via wireless or Bluetooth and vice versa.	The GPS must have the facility to transfer the data from one unit to another unit via wireless or Bluetooth.

S No	Parameter/ Specification	Trial Directives	Result expected/ desired
		Note: 02 GPS to be provided by the firm as tender sample for evaluation.	
22.	**Update rate** One per second continuous.	To bephysically checkedby BOO.	Update rate of GPS must be one per second continuous.
23.	**Accuracy** a) ≤5 meters or better in multi GNSS mode. b) ≤ 20 meter or better in NavIC mode only.	i) To be physically checked by BOO. ii) Select a prominent point whose GR is known. Take the GPS to the point and check the positional data of that positional point through GPS. Compare both the values.	a) ≤5 meters or better in multi GNSS mode. b) ≤ 20 meter or better in NavIC mode only.
24.	**Power (Source)** Rechargeable Batteries 'AA' size (NIMH or Lithium) and compatible battery charger. The battery should function for 10 hours minimum in operational mode and 24 hours minimum in standby mode. One set spare battery should be provided. Or Inbuilt Li-ion rechargeable Battery and compatible battery charger. The battery should function for 18 hours minimum in operational mode and 24 hours minimum in standby mode.	To be physically checked by BOO.	Specifications must be as per mentioned in QRs.
25.	**Operating system**	i) To be physically checked by BOO.	The GPS software must be compatible with windows 7 or higher onwards operating

S No	Parameter/ Specification	Trial Directives	Result expected/ desired
	The GPS software should be compatible with window 7 or higher that normal personal computer and Laptop use.	ii) Check the compatibility of GPS software with Microsoft Window Form Window 7 or higher onwards by installing on Desktop & Laptop and transferring the GPS data from PC to GPS & vice versa. iii) Firm to provide undertaking certificate in this regard and also software up-gradation for 7 years. BOO to check the certificate.	system that normal personal computer and Laptop use.
PHYSICAL:			
26.	**Weight** Upto 400 gms with batteries.	To be physically checked by BOO.	The weight of GPS must be maximum 400 gms with batteries.
27.	**Display** Sunlight-readable, High contrast colour display with back light.	To be physically checked by BOO.	Display of the GPS must be Sunlight-readable, High contrast colour display with back light.
28.	**Keyboard/ Touch Screen** Should have keys or multi-function keys or soft keys (touch screen) for easy & quick operations like navigation, set up, illumination, Go to, point logging and marking.	To be physically checked by BOO.	GPS must have keys or multi-function keys or soft keys (touch screen) for easy & quick operations like navigation, set up, illumination, Go to, point logging and marking.
29.	**Ingress Protection** GPS should be IP67 Compliant or better.	i) To be physically checked by BOO. GPS in 'ON' condition should be immersed in one-meter depth of water for 30 minutes. Take out the GPS from the water container and it should work properly. ii) Check the National/ International accredited Lab test report/certificate compliant to IP67 standard. In case of	The GPS must be IP67 Compliant or better. A National/ International accredited Lab test certificate must be obtained from firm for IP 67.

S No	Parameter/ Specification	Trial Directives	Result expected/ desired
		any doubt in the test report, the veracity of the same may be checked from the concerned Lab in r/o IP 67.	
30.	**Temperature** **Operating :** -20° C to +55° C **Storage:** -20° C to +55° C	i) The firm has to submit National/ international accredited Lab report / certificate in respect of the same. ii) Check the national/ international accredited lab test report for the same. In case of any doubt in the test report, the veracity of the same may be checked from the concerned lab.	GPS must be operable in Operating temperature: -20°C to ±55°C Storage Temperature : -20°C to ±55°C A certificate must be obtained from firm for the same.
31.	**Memory Backup** Minimum 16GB inbuilt memory must be provided along with additional memory of 32GB through SD card **Or inbuilt 48 GB memory.**	To bephysically checked by BOO.	GPS must have minimum 16GB inbuilt memory along with additional memory of 32GB through SD card Or inbuilt 48 GB memory.
32.	**Shelf Life** 10 Years	Firm to provide undertaking certificate in this regard. BOO to check the certificate.	An undertaking must be obtained from firm for the same.
33.	**Warranty** i) Free warranty for 12 months with spares. Firm will provide the spare part for 07 years after expiry of warranty ii) AMC - Optional	Firm to provide undertaking certificate in this regard. BOO to check the certificate.	An undertaking must be obtained from firm for the same.
34.	**Engineering Support Package** i) Technical literature. ii) Training manual and user hand book.	Firm to provide undertaking certificate in this regard. BOO to check the certificate.	An undertaking must be obtained from firm for the same.

S No	Parameter/ Specification	Trial Directives	Result expected/ desired
	iii) Illustrated spare part list duly priced. iv) Repair manual.		
35.	**Operator and Repair & Maintenance level training:-** **i)** Firm will provide operator training to 02 persons @ each equipment for 03 t0 05 days at consignee location. **ii)** Firm will provide repair & maintenance training to 10 persons for 01 week at firm premises.	Firm to provide undertaking certificate in this regard. BOO to check the certificate.	A certificate must be obtained from firm for the same.
36.	**Kill Button:** The system should have kill switch for erase all data.	To be physically checked by BOO. In emergency condition user may press the kill button to erase all data of the system.	The system must have Kill Button for erase all data.
37.	**Ruggedness:** The system must be ruggedized as per latest Mil STD 810G/JSS 55555 in respect of applicable environmental parameters (low high temperature, humidity, vibration, shock/drop and corrosion)	The firm has to submit National/International accredited lab certificate/report for Mil STD 810G/JSS 55555 in respect of ruggedness and all applicable environmental parameters. BOO to check the certificate.	A certificate must be obtained from firm for the same.
38.	**BITE Facility :** The system should have BITE (Built In Test Equipment) facility.	To be physically checked by BOO.	The system must have BITE facility.

S No	Parameter/ Specification	Trial Directives	Result expected/ desired
39.	**Carrying case:** Carrying Case should be IP65 Compliant or better.	The Firm has to submit National/ International accredited lab certificate /report for the same. In case of any doubt in the test report, the veracity of the same may be checked from the concerned lab in r/o IP65.	Carrying case must be IP65 Compliant or better. A certificate must be obtained from firm for IP65.

(Mahesh Kumar Aggarwal), IPS, SDG(HR/Log), BSF

(Sunil Kumar), Comdt (Ord) BSF

(K L Puri), SP, BPR&D (through VC)

(Lt Col. Sumit Vashisht), Assam Rifle (through VC)

(Mukesh Kumar), 2IC, SIW, BSF

(Jayesh Patil), DC, CISF

(Maj Aditya Raj Singh), NSG (through VC)

(Anil Rajput), DC (Ops), Technical Cell, BSF

(Praveen Phulwari), AC, CRPF

(Inspr Swapan Chakraborty), SIW, BSF

(Inspr/Tech H. K. Shukla), ITBP

(ASI/Comn Harbhan Singh), SSB

Approved /Not Approved

approved

Director General
Border Security Force