संख्या. पी-63013/228/01/2025/मोड–।/सी0सु0बल/5223-27

भारत सरकार, गृह मंत्रालय
महानिदेशालय सीमा सुरक्षा बल
(रसद निदेशालय: आधुनिकीकरण सैल)
(Email-comdtord@bsf.nic.in)
(Fax: 011-24367683)

ब्लाक संख्या . 10,
सीजीओ काम्पलैक्स,
लोधी रोड, नई दिल्ली–03
दिनांक 26 दिसम्बर 2025

**वरिष्ठ तकनीकी निदेशक**
The Senior 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)**

Sub: **Request for comments of stakeholders/OEM on draft QRs & TDs**

कृपया गृह मंत्रालय के पत्र संख्या IV-24011/12/2011-Prov-I(part)(CFN 3300890)-1710 दिनांक 31st Aug 2015 के सन्दर्भ में।

2. उपरोक्त विष्यान्तर्गत सूचित किया जाता है कि तकनीकी विशेषज्ञों के उप समूह द्वारा **"TI Monocular"** के गुणातमक आवश्यकता/परीक्षण निर्देशों के मसौदें का प्रारुप दिनांक 23 दिसम्बर 2025 को आयोजित सभा के दौरान तैयार किया गया, जिसको इस आश्य से प्रेषित किया जा रहा है कि उक्त उपकरण के गुणातमक आवश्यकता/परीक्षण निर्देश को गृह मंत्रालय की वैबसाईट पर 15 दिन के लिए अपलोड करने का श्रम करें।

संलग्नः उपरोक्तनुसार

(कपिल चाहर)
उप कमाण्डेंट (मोड)

**प्रतिलिपि** :-

1. SO (IT), North Block, MHA **(Through E-mail)** **(E-mail address: soit@nic.in)** : उपरोक्त उपकरण के गुणातमक आवश्यकता /परीक्षण निर्देशों के मसौदा को आपके सूचनार्थ एवं अग्रिम कार्यवाही हेतु प्रेषित किया जाता है।
2. IT Wing, FHQ BSF : उपरोक्त उपकरण के गुणातमक आवश्यकता /परीक्षण निर्देशों के मसौदे को सीमा सुरक्षा बल की वैबसाईट पर 15 दिन के लिए अपलोड करने का श्रम करें। आपसे अनुरोध है कि उक्त मसौदे को गृह मंत्रालय की वैबसाईट पर भी अपलोड करने हेतु निम्नलिखित पतों पर ई–मेल करने का श्रम करें:-
   (a) Technical Director, NIC, North Block, MHA **(E-mail : mpsugandhi@nic.in)**
   (b) SO (IT), North Block, MHA **(E-mail : soit@nic.in)**
3. The DIG (Prov), NSG HQr E-mail:scord@nsg.gov.in : For information w.r.t your UO No.1240 dated 16 Sept 2025.
4. File.

भारत सरकार, गृह मंत्रालय
महानिदेशालय सीमा सुरक्षा बल
(रसद निदेशालय: आधुनिकीकरण सैल)
ब्लाक संख्या . 10,सीजीओ काम्पलैक्स,लोधी रोड, नई दिल्ली–03
(Email-comdtord@bsf.nic.in)
(Fax: 011-24367683)

संख्या. पी-63013/228/01/2025/मोड–।/सी0सु0बल/ दिनांक ___दिसम्बर 2025

**विषय** : **"TI MONOCULAR" के गुणातमक आवश्यकता/परीक्षण निर्देशों पर हितधारकों/ निर्माताओं/ विक्रेताओं की टिप्पणी के लिए अनुरोध।**

**"TI MONOCULAR"** के गुणातमक आवश्यकता और परीक्षण निर्देशों को परिशिष्ट 'ए' के रुप में संलग्न किया गया है। हितधारकों/निर्माताओं/विक्रेताओं से अनुरोध किया जाता है कि वे उस उत्पाद की विस्तृत एवं स्टीक जानकारी दें। साथ ही प्रत्येक पैरामीटर के अनुरुप अपने उत्पाद के सही विवरणों को प्रस्तुत करें । सिर्फ 'अनुपालना' या ' अनुपालना नहीं' वाली टिप्पणी स्वीकार नहीं की जाएगी।

- क्या आप मूल उपकरण निर्माता/विक्रेता हैं?
- यदि विक्रेता मूल उपकरण निर्माता का विवरण देता है।
- मूल उपकरण निर्माता से प्राधिकरण प्रमाण पत्र।
- उत्पाद की मूल सूची।
- उत्पाद ब्रोशर एवं साहित्य रचना का ब्यौरा

1. आवश्यक जानकारी/विवरण 9 जनवरी 2025 तक निम्नलिखित पते पर भेजे जा सकते हैं।

रसद निदेशालय, सीमा सुरक्षा बल
लेवल–8, ब्लाक–10,
केन्द्रीय कार्यालय परिसर, लोधी रोड,
नई दिल्ली–110003
ईमेलः– comdtord@bsf.nic.in

2. शीघ्र प्रतिक्रिया का अनुरोध किया जाता है।

कपिल चाहर 26/12/25

**(कपिल चाहर)**
उप कमाण्डेंट (आधुनिकीकरण)

Government of India
Ministry of Home Affairs
Directorate General Border Security Force
(Prov Dte: Mod Cell)
Block No.10, CGO Complex, Lodhi Road, New Delhi-03
**(Fax: 011-24367683, Email-comdtord@bsf.nic.in)**

No. P-63013/228/01/2025/Mod-I/BSF/ Dated, the __Dec 2025

**Subject : Request for comments of stakeholders/OEM/Firms on QRs (Qualitative Requirements) & TDs (Trial Directives) of "TI MONOCULAR"**

The draft QRs/TDs **"TI Monocular"** 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.
- Original catalogue of the product
- Brochure/Literature of the product

2. The required information/details may please be forwarded at the following addresses by 09.01.2025.

Directorate General BSF,
Level-8, Block No. 10,
CGO Complex, Lodhi Road,
New Delhi-110003
Email: comdtord@bsf.nic.in

3. An early response is requested.

26/12/24

**( Kapil Chahar)**
Dy. Commandant (Mod)

**Appendix-A**

## DRAFT QRs & TRIAL DIRECTIVES OF TI MONOCULAR

| S.No | Specification | Parameters | Procedure suggested for trial | Result expected / desired | Remarks |
|---|---|---|---|---|---|
| 1. | Thermal Imaging Monocular Hand Held compact device which is helmet mountable and head mountable. | | a) Physically check the system for compactness and monocular version.<br><br>(b) Check the monocular for use as hand held, helmet mountable and head mountable with suitable adaptors / dovetails.<br><br>(c) The firm has to submit National/ International accredited lab certificate/ report to confirm that the monocular is Thermal Imager. | (a) System must be compact and Monocular<br><br>(b) The monocular must have the facility to be used in Hand held role, helmet and head mountable role with hands free operation.<br><br>(c) Check the authenticity of accredited lab certificate / report for TI Monocular. In case of any doubt in the test report, the veracity of the same may be checked from the concerned lab. | |
| 2. | Magnification | 1X | Fix the equipment on Instrument Testing Scale of Integrated test equipment and measure the magnification of the Thermal sight as per the standard procedure. | Magnification must be 1X. | |
| 3. | (a) Type of Detector : Micro bolometer.<br>(b) Spectral Range : 3 to 5 µm or 8 to 14 µm or both.<br>(c) FPA Resolution : 640 x 480 or better at 12 µm | | Check the detector OEM data sheet/ certificate duly attested by the participating firm and OEM in respect of QRs Para 3 (a) to (c). | Detector OEM data sheet/ certificate must confirm the same. In case of any doubt in the test report, the veracity of the same may be checked from the concerned OEM. | |
| 4. | Capturing Frame Rate | 30 FPS or better | (a) Physically switch ON the system, hold it in hand and observe the performance of the Thermal picture by moving the sight horizontally from right to left and vice versa with speed (not less than 6° per second). | (a) The Thermal picture must not freeze and there should not be lag/delay in image relay.<br><br>(b) Check the authenticity of National/ International accredited | |

| S.No | Specification | Parameters | Procedure suggested for trial | Result expected / desired | Remarks |
|---|---|---|---|---|---|
| | | | (b) Additionally, the firm should submit National/ International accredited Lab test report/ certificate in respect of the same. | lab test report/ certificate for the same. In case of any doubt in the test report, the veracity of the same may be checked from the concerned lab. | |
| **5.** | OLED Resolution | 800 x 600 (min) | The firm should submit National/ International accredited Lab certificate/ report or OEM data sheet/ certificate duly attested by the participating firm in respect of type of display (i.e OLED) and its Resolution. | Check the authenticity of National / International accredited lab test report/ certificate or detector OEM data sheet/ certificate for the display type and its resolution. In case of any doubt in the test report, the veracity of the same may be checked from the concerned lab. | |
| **6.** | Field of View (FOV) | 40° X 30° | Fix the equipment on Acceptance Test Station (ATS) and measure the Field of View as per the procedure. | **FOV must be 40° X 30°**<br>Horizontal - 40°<br>Vertical - 30° | |
| **7.** | Range: (Single man size target).<br>Detection range – 400 meters or better.<br>Recognition range – 150 meters or better. | | Move a single man as target at the range of 400 meters for detection and at 150 meters for recognition at night. | Human target must be detected from a distance of 400 meters and recognition from a distance of 150 meters minimum clearly. | |
| **8.** | Dioptre Adjustment | +2 to -4D or better | (a) Check the sight for facility of dioptre setting. Proceed as per the provision for dioptre setting provided manually or automatic:<br>(i) If provided manually, measure the Dioptre adjustment limits with the help of Dioptre measuring apparatus in the lab.<br>(ii) If automatic, switch ON the system and observe the thermal picture for reading the OSD texts by wearing | The sight should have manual dioptre adjustment from +2 to -4D (min) or better. The OSD text must be sharp focused at different dioptre ratings manually or automatically. | |

| S.No | Specification | Parameters | Procedure suggested for trial | Result expected / desired | Remarks |
|---|---|---|---|---|---|
| | | | spectacles having lens power form +2 to -4D in the lab. | | |
| **9.** | The system should have mechanism for. | (a) On/ Off.<br>(b) Black Hot / White Hot polarity change.<br>(c) Brightness Control.<br>(d) NUC | Check the system for the following parameters:<br>(a) Facility to switch On/Off the system.<br>(b) Facility to change Polarity of Hot.<br>(c) Facility to control the brightness of the screen.<br>(d) Switch On the system and observe the picture performance continuously for 30 min for any flickering, freezing of the video and any dead pixels (white or black spot) appearing on the screen. | The system must have mechanism for<br>(a) On/ Off.<br>(b) Black Hot / White Hot change.<br>(c) Brightness Control.<br>(d) The system must not have any flickering, freezing of the video and dead pixels appearance on screen during monitoring after performing NUC manually or automatically. | |
| **10.** | Battery Status Indicator | System should display battery status on its screen. | Physically check the battery status indication on the screen of the system. | System must display battery status on its screen. | |
| **11.** | Weight | 300 grams with cell/ battery with 10% tolerance. | Check the weight of the system with the help of weighing machine physically without accessories. | The complete system must weight 400 grams with with 10% tolerance with cell/ battery. | |
| **12.** | Mil Std | Complete System should confirm the parameters of latest Mil STD or JSS 55555 | The firm should submit National/ International accredited Lab test report/ certificate in respect of Mil STD or JSS 55555 | Check the authenticity of National/ International accredited lab test report/ certificate in respect of Mil STD or JSS 55555. In case of any doubt in the test report, the veracity of the same may be checked from the concerned lab. | |
| **13.** | Battery | Lithium based rechargeable cell/ battery be provided with the system to keep it operational in the range of operating | (a) Check the battery for its type, recharge ability and facility of proper temperature protection.<br>(b) Additionally, obtain National/ International accredited lab certificate/ test report from the firm in | The battery provided must be Lithium based, rechargeable, with proper temperature protection and operational in the range of operating temperature. | |

| S.No | Specification | Parameters | Procedure suggested for trial | Result expected / desired | Remarks |
|---|---|---|---|---|---|
| | | temperature with proper temperature protection. | respect of the same. | | |
| **14.** | Battery Efficiency | The system should remain fully operational on single/ set of batteries (rechargeable) for not less than 4 Hrs or better on single charge. | Switch 'ON' the system with fully charged battery in operational mode and not down the continuous run time. | System must run for 4 Hrs continuously in operational mode with fully charged battery on single charge. | |
| **15.** | Battery charger | A suitable Intelligent charger operating on 100 volt to 270 volt AC mains supply should be provided to charge the battery. There should be provision of keeping the battery safe from over-charging. The charger should be able to charge the cells/ battery fully within 5 hours. | (a) Check the charging current of full discharged battery and full charged battery to confirm the suitability and intelligent behaviour with over charger protection.<br><br>(b) Connect the charger to AC mains power supply and vary the input voltage of the charger with the help of Variac from 100 volt to 270 volt.<br><br>(c) Connect a fully discharged battery with the charger and note down the time taken to charge the battery fully. | (a) The charger must have facility to indicate the charging status (charging On, status of percentage of charge and full charge) intelligently.<br><br>(b) Connect the charger to AC mains power supply and vary the input voltage of the charger with the help of Variac from 100 volt to 270 volt.<br><br>(c) Connect a fully discharged battery with the charger and note down the time taken to charge the battery fully not more than 5 hours. | |
| **16.** | Operating Temperature | -40°C to +55°C | The firm should submit National/ International accredited Lab test report/ certificate in respect of temperature -40°C to +55°C. | Check the authenticity of National/ International accredited lab test report/ certificate in respect of temperature -40°C to +55°C. In case of any doubt in the test report, the veracity of the same may be checked from the concerned lab. | |

| S.No | Specification | Parameters | Procedure suggested for trial | Result expected / desired | Remarks |
|---|---|---|---|---|---|
| 17. | Storage Temperature | -40°C to +60°C | The firm should submit National/ International accredited Lab test report/ certificate in respect of temperature -40°C to +60°C. | Check the authenticity of National/ International accredited lab test report/ certificate in respect of temperature -40°C to +60°C. In case of any doubt in the test report, the veracity of the same may be checked from the concerned lab. | |
| 18. | Focus | Adjustable (manual or automatic) | Place or select a target at a distance of 50 meters & 400 meters and observe through equipment during night. | The system must be able to focus the target from a distance of 50 meters (min) and 400 meters (considered as parallel rays coming from infinity) with the help of focusing mechanism provided or automatically. | |
| 19. | Carrying case | (a) A ruggedize, Polypropylene shock proof container Mil Std for transportation.<br><br>(b) An additional soft carrying case with shoulder strap be provided. | (a) Drop the transportation box with equipment and all accessories from a height of 3 meters on hard surface.<br><br>(b) The firm should submit National/ International accredited Lab test report/ certificate in respect of ruggedized, Polypropylene, shock proofing, IP-67, latest Mil Std for transportation and soft carrying case for water proofing.<br><br>(c ) Check the system for soft carrying case with shoulder strap physically. | (a) The equipment as well as carrying case must not get damaged and sight must function properly after the drop.<br><br>(b) The firm must submit National/ International accredited lab test report/ certificate in respect of the same.<br><br>(c) Carrying case with shoulder strap must be provided additionally. | |
| 20. | Miscellaneous | (a) Suitable & stable Head and helmet mount accessories to be provided as per the operational requirement | (a) Mount the monocular on head and helmet one by one with the help op respective accessories provided. Check the system mounted on head and helmet for operational suitability | (a) The Thermal Monocular must be provided with suitable and stable head and helmet mount accessories as per the user requirement. The system must not | |

| S.No | Specification | Parameters | Procedure suggested for trial | Result expected / desired | Remarks |
|---|---|---|---|---|---|
| | | of the user.<br><br>(b) Suitable sling should be provided with each equipment for safety.<br><br>(c) Technical manual/ Operational manual should be provided.<br><br>(d) One spare Eye guard and black cover should be provided with each system. | in field conditions by cross country movement of soldier in order to ensure the stability.<br><br>(b) Check the sling provided with the equipment for suitability. | be unstable, loose fit and should not misalign with the eyes on head and helmet mounted role during cross country movement.<br><br>(b) Suitable sling must be provided with each equipment. | |

तकनीकी विशेषज्ञों के उप समूह द्वारा यह निश्चित किया गया है कि उक्त गुणातमक आवश्यकता को अधिक बेहतर बनाने के लिए गृह मंत्रालय एवं सीमा सुरक्षा बल की वैबसाईट पर विक्रेताओं/फर्मों के सुझाव प्राप्त करने हेतु 15 दिनों के लिए अपलोड किया जाए।

**नोट** – सभी विक्रताओं/फर्मों से निवेदन है कि अपने सुझावों के साथ निम्नलिखित कागजात संल्गन कर ई–मेल पता comdtord@bsf.nic.in पर भेजने का श्रम करें:–

1. उत्पाद की वास्तविक विवरण पुस्तिका।
2. उत्पाद की साहित्यिक रचना का ब्यौरा।
3. गुणातमक आवश्यकताओं के उपर व्यापक टिप्पणीयॉ।

(कपिल चाहर)
उप कमांडेण्ट (आधुनिकीकरण)