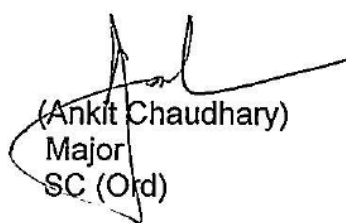


INVITATION OF VENDOR COMMENTS ON QR/ TDs
OF MINIATURE THERMAL WEAPON SIGHT

1. It is intimated that firms/ vendors' comments are invited on the QR/ TDs of Miniature Thermal Weapon Sight. All firms are requested to offer their comments with OEM certificate on e-mail address scord@nsg.gov.in or gcproc@nsg.gov.in as per under mentioned format.

QRs	TDs	Comments by the firm
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2. You are requested to offer comments within 15 days from the date of uploading on the website. The QR/ TDs of above mentioned equipment/ weapon are being considered by sub group committee meeting for finalization.


(Ankit Chaudhary)
Major
SC (Ord)

DRAFT QRs & TDs OF MINIATURE THERMAL WEAPON SIGHT (MTWS) : 10 JANUARY 2023

Ser No	Parameters	Qualitative Requirements	Trial Directives
1.	General	A miniature thermal weapon sight is a light weight and small military standard rugged sight, which is compliant with mil std 1913 picatinny rail.	To be physically checked by board of officers.
		(Optional feature) Miniature thermal sight should be compatible with Reflex/ holographic/ day sight as a clip on feature. (To be specified by user at the time of tender)	To be physically checked by board of officers.
2.	Non Uniformity Correction (NUC)	Sight should have manual and automatic (shutter less technology) feature in it.	Firms to provide OEM certificate in this regard and BOO to physically check the NUC feature.
3.	Field of View	12 degree x 08 degree min.	OEM to provide certificate in respect of the same. BOO to physically check the parameter at SIW, BSF or any other Indian government agency.
4.	Resolution	640 x 480 or better with 12 micron or better	Firm to provide COC (Certificate of compliance) and Data sheet of micro-bolo meter from OEM . BOO to check the certificates
5.	Diopter Adjustment	+2D to -2D or better	To be physically checked by BOO at SIW, BSF or any other govt agency.
6.	OLED Resolution	640x480 or better.	Firm to provide COC (Certificate of compliance) and Data sheet of OLED from OEM. BOO to check the certificates
7.	Spectral Range	8 to 14um.	OEM certificate in respect of the same. BOO to check the certificates.

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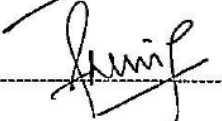
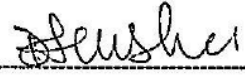


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Ser No	Parameters	Qualitative Requirements	Trial Directives
8.	Sensor / Detector	12 micron detector or better	OEM of microbolometer to provide certificate in respect of the same. BOO to check the certificates.
9.	Frame Rate	50 fps/Hz or better	Firm to provide COC (Certificate of compliance) and Data sheet of OLED & Detector from OEM. BOO to check the certificates.
10.	Electronic Zoom	Should have following modes 1x2x4.	To be physically checked by board of officers.
11.	Bty Charger	<ul style="list-style-type: none"> A universal charger operating between 100V to 270 V AC main and 12 to 48 V DC (entire range). Should be able to charge battery fully in less than 4 hrs. The charger should be able to show the charging status of battery along with an auto-cut system to avoid over charging. 	To be physically checked by board of officers.
12.	Battery	Commercially available rechargeable lithium based battery with min endurance time of 6hrs on single/set of battery.	To be physically checked by board of officers.
13.	Range	<u>Detection</u> – 200m. <u>Recognition</u> – 100m	<u>Detection</u> – Detection of any standing/moving single human target at 200m. <u>Recognition</u> – Recognition of standing/ moving single human target at 100m. BOO to physically check the same.
14.	Reticle polarity	Sight should have dual colour (Black/ White) digital reticle or better.	To be physically checked by the BOO.
15.	Size	Max (130 x 90 x 65 mm)+10% without eye piece cover and OG cover	To be physically checked by board of officers.

Ser No	Parameters	Qualitative Requirements	Trial Directives
16.	Weight	Not exceeding 450 gms + 10% (with battery and mounting adapter, OG cover and Eye cup)	To be physically checked by board of officers.
17.	Locking Mechanism	(a) It should have locking arrangement for quick attachment and detachment. Time < 1 min. (b) It should have a rugged locking mechanism compatible with Mil Std 1913 rail.	To be physically checked by board of officers.
18.	Operational Switches	Brightness control, contrast control, Black hot& white hot, NUC, reticle toggle option.	To be physically checked by board of officers.
19.	Ruggedness	QR:- (a) Weapon system should be ruggedized as per latest mil Std 810H or JSS 5555/JSS 5855 for following test :- -Shock. -Vibration. -Bump. -Thermal shock. -Humidity. -Low pressure(altitude) (b) Should be IP-67 complied. (c) Should be able to withstand sustained firing with the weapon without any effect on zeroing optics of sight after firing 100 rds in burst mode	Firm to provide Certificate from any Indian Govt lab/ NABL lab for all parameters. Firm to provide Certificate from any Indian Govt lab/ NABL lab for all parameters. BOO to physically check the same with the weapon at firing range.
20	Operating Temperature	-30° C to +50° C(±3°C)	Firm to provide Certificate from any Indian Govt lab/ NABL lab for same
21.	Storage Temperature	-40° C to +50° C(±3°C)	Firm to provide Certificate from any Indian Govt lab/ NABL lab for same.
22.	Black Hot White Hot Mode	The equipment must work effectively and be successfully be able to show image in Black hot and white hot mode	To be physically checked by board of officers

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Ser No	Parameters	Qualitative Requirements	Trial Directives
23.	Spare Battery	For Cycle of operation It must provide 02 x set spare battery	To be physically checked by board of officers.
24.	Warranty min 02 years & shelf life of 10 years.	An undertaking in this regard must be obtained by the firm	Warranty of min 02 year and shelf life of 10 years
25.	Reticle	(a) Fine cross hair with centre Dot capable to zero the weapon on target. (b) There should be facility of changing the colour of the reticle. (c) The reticle pattern for 100m should be provided.	Switch on the equipment and observe for reticle pattern confirmation with the facility of changing colour. Reticle of 100 metre should be physically checked by BOO.
26.	Focusing	5 m to Infinity	To be physically checked by board of officers.
27.	Visibility	Should be able to penetrate through smoke and complete darkness.	To be physically checked by board of officers.
28.	Technical Literature	User Hand-book, operating manual and technical manual to be provided.	To be physically checked by board of officers.
29.	Initialization Time	Time \leq 30 Sec	To be physically checked by board of officers by switching ON the sight And it should be ready to use operationally.
30.	Spare part list	Illustrated spare part list along with photograph and cat part number to be provided.	To be physically checked by BOO.
31.	Training: Operational & Repairs	(a) Operational user training for 3 days to be provided for at-least 50 persons at location decided by indenter.	Firm to provide OEM certificate for the same.
		(b) Base level Repair and maintenance training should be provided at-least to 5 technicians on 100 equipment for 1 week at firm premises.	Firm to provide OEM certificate for the same.
32.	Minimum Resolvable Temperature Difference (MRTD)	Value to be specified by the OEM of the equipment	OEM to provide CoC (Certificate of Confirmation) for the same and BOO to check correctness of the certificates.
33.	Low Battery Indicator	Low Battery indication status to be displayed on OLED/screen.	To be physically checked by BOO.

Ser No	Parameters	Qualitative Requirements	Trial Directives
34.	Firing Accuracy a) Wpn types (Model & Calibre) will be informed by user at tender stage. (b) Amn to be provided by user for Zeroing & Test fire.	(a) Zero the sight with the weapon at 25m. BOO to check the sight for the facility provided to electronically shift the aiming dot in azimuth and elevation as per the requirement. (b) Reticle at 100 should be physically checked and its accuracy shall be checked by test fire (10 Rds per target). (i) For 9mm caliber weapons, accuracy shall be checked by test fire at 25 & 50m ranges. (ii) For 5.56mm/ 7.62mm caliber weapons, accuracy shall be checked at 100m. (c) The weapon should be able to engage figure 11 target with min 60% hits (i.e 6 out of 10 rounds).	To be physically checked by BOO.
35.	Misc (To be specified by User if required)	(a) Purging kit to be provided by the firm. (Quantity to be decided by User at tender stage) OPTIONAL Acceptance Test station for Base level repair to be provided by Firm. User will provide details of test equipments at the time of tender.	
36.	Carrying Case	(a) Soft Carrying Case: Firm to provide a soft carrying case complied to IP X5 STD along with each sight. (b) Hard Carrying Case: Firm to provide a rugged hard carrying case, which will sustain a drop test from 3m height on a hard surface. No deformation and breakage of box is acceptable. Sight to be checked for operational use post drop test.	Firm to provide National/NABL accredited lab cert for Soft carrying case and BOO to physically conduct the Drop Test for Hard carrying case.

(SUSHIL KUMAR)
BPR&D.

Vinay Verma
DC (CR&F)

Hemant Choudhary
DL, ITBP

Lt Col SP Singh
TL, NSG

Lt Col Rm Kuldip Singh
SLW BSF, Sigrn.

ASI/Commn.
R.K. Swami, SSB

Maj Anshu Dohoon
HB NSG

DP Mishra
MB/Secd AR