
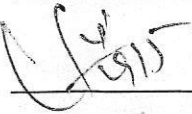
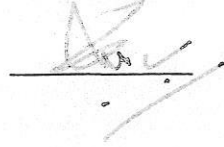
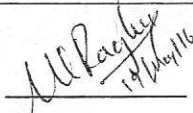
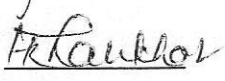


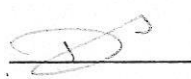

QRs/SPECIFICATIONS OF HAND HELD DETECTOR SENSOR/
THROUGH WALL RADAR (1D)


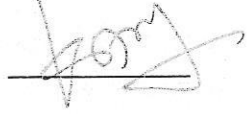
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Ser No	Qualitative Requirements	
1.	Physical Characteristics	
(a)	Physical Attributes	Compact, portable and operable by one soldier.
(b)	Weight (in Kg) of Hand Held Unit	Should be less than 1.5 Kg including batteries.
2.	Technical Characteristics	
(a)	Range	15 Meter or better.
(b)	Display	(i) It should display presence of living being (Target) direction of movement and distance. (ii) It should also have a battery status indicator.
(c)	Field of view	120° or better in both azimuth and elevation.
(d)	Capability required	The system should be capable of :- (i) Detecting living being behind wall (ii) Operating both, in-contact with the wall and in stand-off mode i.e. from a distance away from the wall with in the op range of the radar. (iii) Should have a simple user interface for easy interpretation of the scenario. (iv) Should have rugged design for military operations and should conform to MIL 810F std.
(e)	Power Supply	(i) Suitable rechargeable batteries to be provided to power the equipment. The vendor should also provide spare set of batteries. (ii) 220 V AC Bty charger should be part of package.
(f)	Operating Time (in Hours)	3 Hrs or better in operational mode.
(g)	Wall Thickness/Materials	Should be able to penetrate minimum 18" wall constructed of standard building material like reinforced concrete, brick and block separated by a cavity, timber etc.
(h)	Operating Temperature	Should be able to function at temperature range with -10° C to + 50° C.
(j)	Safety	The radiation emission from the radar should be within permissible safety limits as per prevalent world standards.
(k)	Vibration Sustenance	Should comply to MIL STD 810E.
(l)	Ingress Protection	Should comply to IP 67/ MIL STD 810E.

**QRs/SPECIFICATIONS OF HAND HELD DETECTOR SENSOR/
THROUGH WALL RADAR (1D) (Contd....)**

Ser No	Qualitative Requirements
Misc Aspects	
3.	Literature. Operating and Technical manual should be provided by the vendor in English.
4.	Demonstration and Training. Demonstration of one set of complete system with its full accessories should be arranged in Delhi on NO cost NO commitment basis. In situ training of users for three day on operation, maintenance, fault finding and user level repairs.

19/5/15
Vibin Dharwad
Dy. Condt.
CRPF
19/5
(Jatinder Singh)
AC ITBSP
Shaujay Sharma
P SO
BPRD

19/5/15
RAGHU M.D
AC, SSB

19/5/15
Maj Deepak Jais
FO2, Try Centre

19/5/15
RAJESH DATTAR
INSPLER CISE

19/5/15
(HARINDER KUMAR)
DC SIW BSF

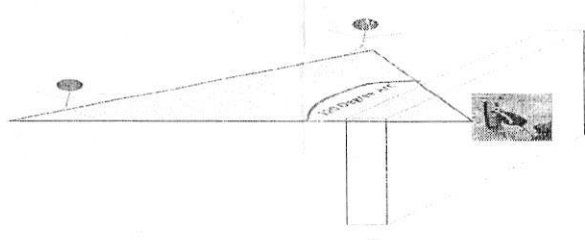
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Maj Shiva
TC(WE)
HQ NSG


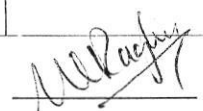

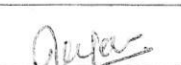
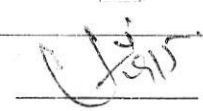
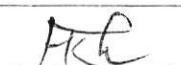
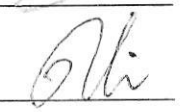

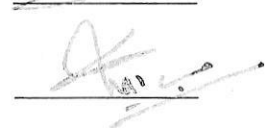
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DG, NSG
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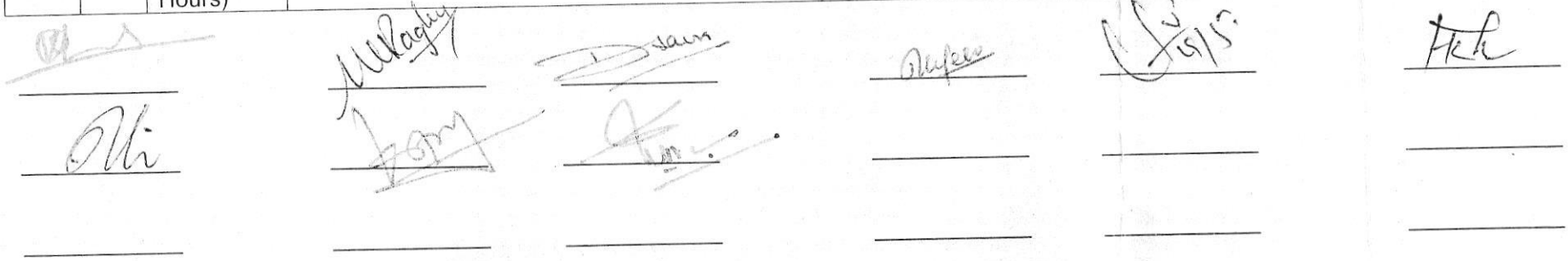
TRIAL DIRECTIVES FOR HAND HELD DETECTOR SENSOR/THROUGH WALL RADAR (1D)

Ser No	Qualitative Requirements		Trial Methodology
1.	Physical Characteristics		
	(a) Physical Attributes	Compact, portable and operable by one soldier.	To be physically checked by BOO.
	(b) Weight (in Kg) of Hand Held Unit	Should be less than 1.5 Kg including batteries.	To be physically checked by BOO.
2.	Technical Characteristics		
	(a) Range	15 Meter or better.	Human Target to be placed at 15 m from the equipment behind a wall of minimum 18" and detection of the same by eqpt should be ascertained progressively.
	(b) Display	(i) It should display presence of living being (Target) direction of movement and distance. (ii) It should also have a battery status indicator.	All the display modes to be physically verified by BOO
	(c) Field of view	120° or better in both azimuth and elevation.	<p>(aa) To be checked Physically by BOO. (ab) Horizontal and vertical angular arc representing 120 degrees to be marked by BOO. (ac) Human Target should be made to stand on each edge of the arc while equipment placed at vertex of arc behind wall. (ad) Equipment should be able to detect the human target both in horizontal and vertical 120 degree angle, without moving the eqpt.</p> 

TRIAL DIRECTIVES FOR HAND HELD DETECTOR SENSOR/THROUGH WALL RADAR (1D) (Contd....)

<u>Ser No</u>	<u>Qualitative Requirements</u>		<u>Trial Methodology</u>
(d)	Capability required	The system should be capable of :- (i) Detecting living being behind wall (ii) Operating both, in-contact with the wall and in stand-off mode i.e. from a distance away from the wall with in the op range of the radar. (iii) Should have a simple user interface for easy interpretation of the scenario. (iv) Should have rugged design for military operations and should conform to MIL 810F std.	(aa) To be physically checked by BOO (ab) Human Target to be placed at 15 m from the equipment behind a wall of minimum 18" and detection of the same by eqpt should be ascertained progressively. (ac) BOO should check the certificate from National/International Accredited Lab.
(e)	Power Supply	(i) Suitable rechargeable batteries to be provided to power the equipment. The vendor should also provide spare set of batteries. (ii) 220 V AC Bty charger should be part of package.	To be physically checked by BOO.
(f)	Operating Time (in Hours)	3 Hrs or better in operational mode.	To be checked physically by BOO in operational mode.



The bottom section of the page contains several handwritten signatures and initials, some of which are underlined. From left to right, there are approximately six distinct signatures, including one that appears to be 'Ali' and another that looks like 'Feh'.

