GOVERNMENT OF INDIA (Ministry of Home Affairs) DIRECTORATE GENERAL CENTRAL RESERVE POLICE FORCE EAST BLOCK-7, SEC-1, R.K. PURAM, NEW DELHI-110066

(Email:- <u>comncell@crpf.gov.in</u> Tele/Fax:011-26107493)

No. B.V-7/2019-20-C (SPE)

Dated, the **July** July 2019

.

To

- DIG (Comn), ITBP Block No. 2, CGO Complex Lodhi Road, New Delhi-03
- 3. DIG (Comn), SSB East Block-V, R.K Puram New- Delhi-66
- 5. DIG (Prov), BSF Block No. 10, CGO Complex Lodhi Road, New Delhi-03

- 2. DIG (Comn), NSG Meharam Nagar Palam, New Delhi-37
- AIG (Comn), CISF
 Block No. 13, CGO, Complex
 Lodhi Road, New Delhi-03
- Liaison Office, Assam Rifle Room No-171, North Block, MHA New Delhi -01

Subject: <u>Regarding QRs/TDs of Smart Plus Equipment.</u>

Please find enclosed QRs and TDs of Smart Plus Equipment as Annexure-A & Annexure-B respectively duly approved by the competent authority is forwarded herewith for further necessary action.

Encl: (QRs & TDs of Smart Plus Equipment)

{P.R.Jha, DC (Comn)} For DIG (Equipment) Directorate General, CRPF

APPENDIX "A"

QRs/ Specification of SMART Plus Equipment

	<u>Vits/</u>	Specification of SMART Plus Equipment				
S.N	PARAMETER	SPECIFICATION				
1	General:-					
	Mode of operation	Store and forward				
	Type of transmission	Burst synchronous				
	Type of error control	Forward error control				
	Operating modes	CLEAR/SECURE				
	Type of addressing	Selective/Broadcasting				
	Key board Alpha numeric QWERTY lay out and based of					
		key pad.				
		The keys are divided into the following groups				
		Message preparation keys (alpha numeric keys)				
		Navigation keys (UP, DOWN, RIGHT, LEFT arrow keys)				
		Function keys (EDIT, TX, PRINT, MENU etc)				
	Display 40 x 4 character display for message display					
2.	Radio interface					
	Туре	Frequency shift keying				
	Data rate	50,100,200 bps or better				
	Output level	>30mV peak to peak across 150 Ohm				
	Input level	50 mV to 2000 mV peak to peak across 300 ohm				
	Radio connectivity	Support for HF/VHF/UHF radio for data				
		communication				
3.	Line interface					
	Data rate	50,100,200 bps				
	Output	>-3 dbm across 600 ohm				
	Input	-30dbm to +3dbm across 600 ohm				
4. Computer interface RS232 interface, 115200 bps						
5.	Base band interface					
	Type Data rate	RS232				
		100,200,300,600,1200,2400,4800 bps				
	Output	±5V to ±14V				
6.	Input ±5V to ±20V					
0.	Storage capacity Tx Memory 100 messages of 1000 characters each					
	Rx Memory	100 messages of 1000 characters each				
	Dft Memory	100 messages of 1000 characters each				
	Dit Memory	100 messages of 1000 characters each				
		Message editing with left, right, up and down				
7.	Power supply source					
	From AC Mains	180V to 260V AC (through MAIN)				
	From battery	180V to 260V AC (through MAU) 12/24 V DC				
		Power ON/OFF switch should be ruggedized type				
		Low Battery indication at 10.5 ± 0.5 volt in case of 12V Battery and 21.0 \pm 0.5 milting of 21.0 \pm 0.5 milti				
		12V Battery and 21.0 ±0.5 volt in case of 24V Battery Current 0.9A(Max) at 12 V				
		0.45A(Max) at 24 V				
		- O TOLINIAN AL 27 V				

.

AF

Saman A of

Ango D

3.N	PARAMETER	SPECIFICATION
B.	Communication Security	Crypto Algorithm approved by SAG with minimum
	1	Grade 3,
		Fill gun based key management
9.	Removable Crypto Card	Fasy removal and replacement of armta and i
	(Optional-As per user	
	requirements)	main equipment and provision of guiding pins & robust connectors.
10.	Separate antistatic	
10.	casing for safety of	
	crypto card (Optional-As	during storage/transportation.
	per user requirements)	
11.	Environmental	
11.		0000
	Operating temperature	-30°C to 55°C
	Storage temperature	-30°C to +70°C
10	Humidity	Up to 95% (RH) at +40°C
12.	EMI/EMC Specifications	As per MIL STD 461 D Specifications
13.	Weight and dimensions	
	Size	333 (mm)x264(mm)x105(mm) (General tolerance:
		<u>±5 mm)</u>
	Weight	Weight Approx. 4.4kg without Battery
	Field application	Ruggedized and suitable for field
14.	Printer connectivity	Serial printer connectivity with auxiliary metallic
		socket
15.	BITE Facility	Equipment should have built in Test Facility for the
	-	cards.
16.	Compatibility	Should be compatible with the data communication
		equipment like SMART and BEST in clear mode.
7.	Essential Accessories	i) Printer cable with auxiliary connector at one end
		and D-type 25 pin connector at other end.
i		ii) Main Adapter unit with mains cable
		iii) External Battery Adopter Box (EBAB)
		iv) Cable Main Adapter unit to EBAB
		v) Battery cable
		vi) 25 PIN Female to 9 female Adapter
		vii) USB to serial adapter
		viii) Battery Pack (Ni-Cd) or Better
		ix) Battery Box
		•
		x) Battery Charging Adapter
		xi) Battery Charging Cable xii) Hand Set
		xiii) Radio Interface Cable for HF radio compatible with BEL
		xiv) Free and Radio Interface cable for VHF/UHF
		radio set
		xv) Serial Printer
		xvi) PC interface S/W CD
		xvii) carrying case
		to a product of the day
	M M	> Saupry The Myth
	VI 1'	

		-0-				
S.N	PARAMETER	SPECIFICATION				
18	Additional items for					key
	Secure mode	ii) Secure Key Gun Slave (S management system				key
	Operations (Optional)	iii) Master Replicator - for secure k	key mana	igem	ent syste	em
		 iv)Slave Replicator- for secure key v) RRNG and its power ada management system vi) Cable for Fill Gun. 	manager lapter- f	nent for	secure	key
		vij USB Interface Cable.				
19	Optional Accessories	i) Carrying Harness. ii) Mounting Tray for SMART Plus.				<u> </u>
S	Sanjay	an			and	6
SI/C SS		Insp/T,Jeet Singh ITBP		In	sp/T L.P BSF	Sing
AC-I	A.K. Panday NSG	R.K. Meel,DC CISF		P.R.	Jha,DC(0	Comi
		thal, 2-I/C mRifles	Harjin		CRPF J Singh,DIC RPF	≁ . ì(Eqr
	Ajay Kumi	r Yadav. IPS,	Md. Jay		Untar, IF	29
		a &IT),CRPF	·		s Comn),(

Approved/Not-Approved

Rajeev Rai Bhatnagar, IPS DG, CRPF

-3-

٤

TRIAL DIRECTIVE FOR SMART PLUS EQUIPMENT

All parameters/ specifications mentioned in QRs will be checked by Board of Officers by ascertaining/ verifying following checks in the presence of reprehensive of firm.

2. i. **Physical checks**: In this category, specification of the equipment will be checked physically as per QRs.

ii. **Functional checks**: Firm will show all the features /configuration of the equipment to the Board of Officer during trials.

iii. **Submission of certificates**: Specification which cannot be checked due to lack of Testing facility/ Expertise, Certificate of any Government authority accredited has to be provided by the Firm during trial.

S.N	Parameters	Specifications	Trial Directives
1	General:-		
	Mode of operation	Store and forward	Board will check practically.
	Type of transmission	Burst synchronous	Firm will submit certificate of any Govt lab or DPSU (Defence Public Sector Undertaking) or NABL or ILAC accredited laboratory certificate.
	Type of error control	Forward error control	Firm will submit certificate of any Govt lab or DPSU (Defence Public Sector Undertaking) or NABL or ILAC accredited laboratory certificate.
	Operating modes	CLEAR/SECURE	Board will check practically.
	Type of addressing	Selective/Broadcasting	Board will check practically.
	Key board	Alpha numeric QWERTY lay out and based on touch key pad. The keys are divided into the following groups Message preparation keys (alpha numeric keys) Navigation keys (UP, DOWN,RIGHT,LEFT arrow keys) Function keys (EDIT,TX, PRINT, MENU etc)	Board will check practically and firm will submit OEM certificate.

Sanjar 1 -11-

S.N	Parameters	-2- Specifications	Trial Directives
	Display	40 x 4 character display for	Board will check practicall
	1 5	message display	and firm will submit OEM
			certificate.
2.	Radio inter		
	Туре	Frequency shift keying	Board will check practicall
	Data rate	50,100,200 bps or better	and firm will submi
	Output level	>30mV peak to peak across 150 Ohm	certificate of any Govt lab o DPSU (Defence Public Secto
	Input level	50 mV to 2000 mV peak to	Undertaking) or NABL o
		peak across 300 ohm	ILAC accredited laborator
	Radio	Support for HF/VHF/UHF	certificate.
_		radio for data communication	
3.	Line interfa		
	Data rate	50,100,200 bps	Board will check practicall
	Output	$>-3 \text{ dBm across } 600 \Omega$	and firm will submi
	Input	-30dBm to +3dBm across 600	certificate of any Govt lab o
		ohm	DPSU (Defence Public Secto
			Undertaking) or NABL o ILAC accredited laborator
			certificate.
4.	Computer	RS232 interface, 115200 bps	Board will check practicall
••	interface	10200 50	and firm will submi
			certificate of any Govt lab o
			DPSU (Defence Public Secto
			Undertaking) or NABL o
			ILAC accredited laborator
		·	certificate.
5.	Base band in		
	Туре	RS232	Board will check practicall
	Data rate	100,200,300,600,1200,2400,4	and firm will submi
		800 bps	certificate of any Govt lab o
	Output	±5V to ±14V	DPSU (Defence Public Secto Undertaking) NABL or ILA
	Input	±5V to ±20V	accredited laborator
:			certificate.
6.	Storage cap	acity	tor unoate.
J .	Tx Memory	100 messages of 1000	Board will check practically.
		characters each	practically.
	Rx Memory	100 messages of 1000	
	5	characters each	
	Dft	100 messages of 1000	
	Memory	characters each	
		Message editing with left,	
		right, up and down Movement	
7.	Power suppl		
		180V to 260V AC (through	Board will check practically.
	Mains	MAU)	
	From	12/24 V DC	
	battery	Power ON/OFF switch should	
		be ruggedized type	1 1 A
	•••	$C \rightarrow 0$	

5

5.N	Parameters	Specifications	Trial Directives
		Low Battery indication at 10.5 ± 0.5 volt in case of 12V Battery	
		and 21.0 ±0.5 volt in case of 24V Battery	,
		Current 0.9A(Max) at 12 V 0.45A(Max) at 24 V	-
8.	Communicatio Security	Crypto Algorithm approved by SAG with minimum Grade 3, Fill gun based key management	certificate.
9.	Removable Crypto Ca (Optional-As user requirements)	Easy removal and replacement ard of crypto card in main	practically.
10	Separate antistatic casi for safety crypto ca (Optional-As p user requirements)	of storage/transportation.	Board will check practically.
11	Environmental		
	Operating temperature	-30°C to 55°C	Board will check practically and firm will
	Storage temperature	-30°C to +70°C	submit certificate of any Govt lab or DPSU
	Humidity	Upto 95% (RH) at +40°C	(Defence Public Sector Undertaking) or NABL or ILAC accredited laboratory certificate.
12	EMI/EMC Specifications	As per MIL STD 461 D Specifications	Board will check practically and firm will submit certificate of any Govt lab or DPSU (Defence Public Sector Undertaking) or NABL or ILAC accredited laboratory certificate.
.3	Weight and dim		
	Size	(General tolerance: ±5 mm)	Board will check practically.
	Weight	Weight Approx. 4.4kg without Battery	
1	Field application	Ruggedized and suitable for field	0
3	p p	Sonpur to (20	Rang Bridge

5.п	Parameters	Specifications	Trial Direct	tives
14	Printer	Serial printer connectivity with	Board will	check
	connectivity	auxiliary metallic socket	practically.	
15	BITE Facility	Equipment should have built in		check
		Test Facility for the cards.	practically.	
16	Compatibility	Should be compatible with the data		check
		communication equipment like		
		SMART and BEST in clear mode.	-	
17.	Essential	i) Printer cable with auxiliary	Board will	check
	Accessories	connector at one end and D-	practically.	
		type 25 pin connector at other		
		end.		
		ii) Main Adapter unit with mains		
		cable		
		iii) External Battery Adopter Box		
		(EBAB)		
		iv) Cable Main Adapter unit to		
		EBAB		
		v) Battery cable		
		vi) 25 PIN Female to 9 female		
		Adapter		
		vii) USB to serial adapter		
		viii) Battery Pack (Ni-Cd) or Better	-	
		ix) Battery Box x) Battery Charging Adapter		
		x) Battery Charging Adapterxi) Battery Charging Cable		
		xii) Hand Set		
ļ		xiii) Radio Interface Cable for HF		
		radio compatible with BEL		
		xiv) Free and Radio Interface cable		
		for VHF/UHF radio set		
		xv) Serial Printer		
		xvi) PC interface S/W CD		
		xvii) carrying case		
18	Additional	i) secure key Gun Master (SKGM)-	Board will	check
	items for	for secure key management	practically	
	Secure mode	system		
	Operations	ii) Secure Key Gun Slave (SKGS)-		
	(Optional)	for secure key management		i
		system		
		iii) Master Replicator- for secure		
		key management system		
		iv)Slave Replicator- for secure key		
		management system		
		v) RRNG and its power adapter- for		·
		secure key management system		
		· · · ·		
				_ _
	·	- Caulour As Ab (dal al	do-
0	nº - F	- Sampy A 1	de An	fo-
0	n - H	- Sampy A 1	and An	do-

m.

•

S.N Parameters Specifications **Trial Directives** vi) Cable for Fill Gun vii) USB Interface Cable Optional 19 i) Carrying Harness. Board will check ii) Mounting Tray for SMART Plus. Accessories practically SI/C. Sanjay Insp/T.Jeet Singh Insp/T L.P Šingh SSB ITBP BSF

el, DC

CISF

AC-I A.K. Panday NSG

R. K. Dahal, 2-I/C Assain Rifles

Ajay Kamar Yadav. IPS, IGP(Comn &IT),CRPF P.R.Jha, DC(Comn)

CRPF

Harjinder Singh, DIG(Eqpt) CRPF

Md. Jawed Akhtar, IPS, ADG (Work & Comn), CRPF

Approved/Not Approved

Rajeev Rai Bhatnagar, IPS DG, CRPF