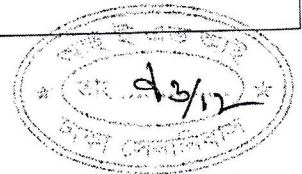
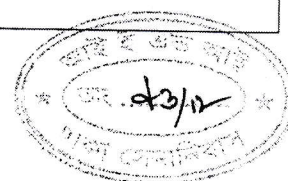


TECHNICAL SPECIFICATION OF PORTABLE (PTBL) VSAT (TERMINAL MANPACK)

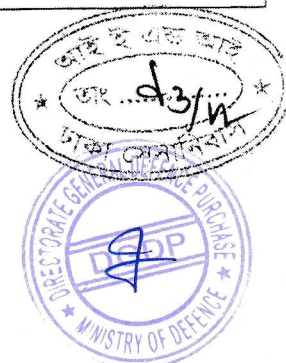
Ser	Description	Technical Specification	To be filled up by the supplier / manufacture
(a)	(b)	(c)	(d)
PART-1: GENERAL SPECIFICATION			
1.	Nomenclature	Ptbi VSAT Terminal (Manpack)	
2.	Brand Name	To be mentioned	
3.	Make	To be mentioned	
4.	Model	To be mentioned	
5.	Country of Origin	Group A Countries	
6.	Country of Manufacture & Assembly	Group A & B Countries	
7.	Year of Manufacture	Not earlier than one calendar year of the contract	
8.	Color of the System	To be mentioned	
9.	Name of Manufacturer with complete address (Office address, Telephone, Fax, Email and Web address)	To be mentioned	
10.	Name of Principal/ Assembler/ Supplier with complete address (Office address, Telephone, Fax, Email and Web address)	To be mentioned	
11.	Name of Local Agent with complete address (Office address, Telephone, Fax, Email and Web address)	To be mentioned	
12.	System Requirements	<p>a. Lower Ku Band Portable VSAT Antenna with Baseband and Network Equipment to be installed and mounted on portable structure with necessary power backup system.</p> <p>b. The system must have auto tracking feature to be linked with lower Ku Band Transponder of Bangabandhu Satellite-1 (BS-1). Additionally, the system must have the option to control manually when required.</p> <p>c. The system must work with BD Army owned Lower KU Band VSAT Hub system.</p> <p>d. The system must be fitted and transferable in a portable single backpack case.</p> <p>e. No additional tools required for assembly/ disassembly.</p> <p>f. Monitor and control via front panel display.</p>	



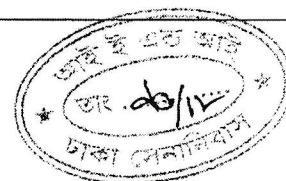
Ser	Description	Technical Specification	To be filled up by the supplier / manufacture
(a)	(b)	(c)	(d)
		g. Maximum weight of complete system (Antenna , BUC, LNB, MODEM, VIDEO IP Phone, WiFi Router and other accessories) including backpack other than Power System must be 30 kg. h. Maximum weight of Battery Pack including portable case must be 15 kg. j. Maximum weight of Generator including portable hand carry case must be 15 kg.	
13.	Capability of the System	Each unit should be capable of handling following: a. Ethernet Data, Voice & Video b. Voice & Video Telephony	
PART-2: TECHNICAL SPECIFICATION			
14.	Carrier Parameter	Carrier parameter will be: a. ITU Satellite Region 3. b. Frequency: Lower Ku Band Frequency of BS-1 (Rx: 10700-10950 & 11200-11450 MHz and Tx: 12750-13250MHz) c. Each Terminal Station must be capable of handling minimum 10 Mbps downlink and 5 Mbps uplink data with lifetime license	
15.	Power output with Auto Power Control	To be available and details to be mentioned.	
16.	Modulation	16 APSK or higher (DVB-S2, DVB-S2X with ACM and MF-TDMA or MX-DMA is preferable).	
17.	Encryption	End to end minimum AES 256 encryption during transmission.	
18.	Compression	System must provide both IP header compression and payload compression technique. Details about the compression technique to be provided.	
19.	Topology	The system shall support Star Topology. Link budget/Data sheet for transmission and reception to be submitted.	
20.	Power Source	Details to be mentioned with block diagram. a. The system must have option to run from AC, DC (Battery & Vehicle Source) & Generator. b. Minimum 04 hours of power backup by battery. Maximum weight of Battery pack including portable carrying case must be 15 Kg. c. Generator-1 KVA, Petrol Driven. Hand Carry. Vendor shall provide required box for easy movement.	



Ser	Description	Technical Specification	To be filled up by the supplier / manufacture
21.	Power Consumption	Details to be mentioned	
22.	Antenna Parameters		
	a. Antenna System	Lower Ku Band Portable Antenna with built in 3-axis Auto Tracking Feature (All units / elements / components as required for the full range system operation). All to be mounted on portable structure	
	b. Antenna Size	Must be within 0.8 to 1 meter. Details to be mentioned.	
	c. Antenna Type	To be mentioned.	
	d. Reflector Material	Carbon / Aluminum / Glass Fiber Reinforced.	
	e. No of Antenna Petals	Details to be mentioned.	
	f. Antenna Feed Type	Linear, must be field replaceable.	
	g. Polarization	Linear X-Pole, details to be mentioned.	
	h. VSWR	1.3:1 or better.	
	j. Satellite Acquisition	Auto acquisition, less than 3 minutes.	
	k. Antenna Controller	Types and other details to be mentioned.	
	l. Antenna Elevation and Azimuth Range	To be mentioned.	
23.	RF Equipment Parameters		
	a. LNB		
	(1) Input Frequency	To be mentioned	
	(2) Output Frequency	To be mentioned	
	(3) Gain	To be mentioned	
	b. BUC		
	(1) Input Frequency	To be mentioned	
	(2) Output Frequency	To be mentioned.	
	(3) BUC Size	10 W.	
	(4) Gain	To be mentioned.	
24.	Connectivity	a. Physical Connection Medium: (1) Fiber (2) UTP b. Ethernet Data, Voice & Video Connectivity. c. Wi-Fi Facility.	
25.	VSAT Modem/Router Parameters	a. It must be rugged, replaceable. b. Modem must support Star Network Topology. c. Certificates from manufacturer to be submitted. d. Details to be mentioned for all parameters.	
26.	HUB Connectivity / Operator Compatibility	a. Proposed terminals must be compatible with lower Ku Band Transponder of Bangabandhu Satellite-1 (BS-1). b. The system must work with BD Army owned Lower KU Band VSAT Hub system. c. Details to be mentioned for all parameters	
27.	License per Terminal	Lifetime licenses for all required equipment, software and services. Details to be mentioned	
28.	Any other	If any item not mentioned above but required for full range of operation, the bidder must specify and quote such item(s) in their offer. In case of failure to specify and quote, bidder must provide such items free of cost	



Ser	Description	Technical Specification	To be filled up by the supplier / manufacture
(a)	(b)	(c)	(d)
29.	Generator		
	a. Nomenclature	Genarator 1 KVA	
	b. Name of manufacturer/ Maker	To be mentioned	
	c. Output		
	(1) Prime Power	Minimum 1 KVA	
	(2) Standby Power	To be mentioned	
	d. Working Condition		
	(1) Operation	Generator should be able to sustain 04 hours Continuous Operation at Prime load	
	(2) Noise	Generator must have Noise suppression system	
	(3) Starting System	To be mentioned	
	(4) Safety Feature	Generator must have Shutdown facility with sound warning against Over voltage, Over current, Over load, Low/high Oil pressure over temperature etc.	
	(5) Mobility/Transportation	It should be hand portable	
	e. Engine		
	(1) Name of manufacturer/ Maker Prime Power	To be mentioned	
	(1) Model	To be mentioned	
	(1) Type Engine	4 Stroke Petrol Engine	
	(1) Output power (KW) with RPM	To be mentioned	
	e. Alternator/ Inverter	Details to be mentioned	
30.	Environmental Requirement		
	a. Environment	Portable VSAT Terminal (Manpack) should be operable under extreme weather conditions like heavy rain/ winds/ temperature of Bangladesh.	
	b. Wind Loading Operational Survivability	Not less than 50 km/h operational & Not less than 72 Km/h survivable	
	c. Rain (Operational)	To be mentioned	
	d. Temperature (operational)	0° to + 55°C	
	e. Environmental parameters	To be mentioned as follows: (1) Humidity: Up to 95% (2) Operating Altitude: To be mentioned (3) Outdoor equipment must be Rain Proof	
31	Others		
	Manufacturer / Principal Experiences	Must have minimum 10 years Functional Experiences.	
	Local Agent Service Support	a. Free of cost during warranty period. b. Minimum 05 (Five) years after the warranty period. c. Local agent must have experience in this field and must be capable to provide service support 24x7. d. Details to be mentioned.	
	Equipment Warranty	02 (Two) years from the date of issuance of I-Note	
	Availability of spares	Minimum for 15 years To be confirmed by the manufacturer/ principal	



Ser	Description	Technical Specification	To be filled up by the supplier / manufacture
	Certificate provided by bidder	<p>Following Certificates to be provided by bidder:</p> <ul style="list-style-type: none"> a. Warranty / Guaranty Certificate b. Authorization Certificate by the manufacturer to the Local Agent c. A Certificate to the effect that the same / similar hardware and software will be available for next 10 years d. Certificate of availability of all spares for 15 years e. Service Support Capability of Principal / Manufacturer and Local Agent f. Country of Software Development g. Year of Production h. Hardware and Software Validity j. Software / Patch Free Update k. MTBF <p>Any other Certificate as required necessary which is not mentioned above to be provided</p>	
32.	List of Standard Items / accessories for each Terminal	Following Item/Accessories are to be offered and provided as Standard	
Bill of Quantity / Material (BOQ/BOM) of Std Items /Accessories for Portable VSAT Terminal (Manpack)			

S/N	Cat/Part No/Product Code No	Nomenclature	Brand, Model & Country of Manufacture	Quantity	Rmks
(a)	(b)	(c)	(d)	(e)	(f)
(1)	To be mentioned	Auto Tracking Antenna System	To be mentioned	01	
(2)	To be mentioned	PLL Type LNB	To be mentioned	01	
(3)	To be mentioned	VSAT Modem(Router)	To be mentioned	01	
(4)	To be mentioned	BUC-10W	To be mentioned	01	
(5)	To be mentioned	PoE Router wirth Switching and WiFi facility (minimum 08 port)	To be mentioned	01	
(6)	To be mentioned	PoE supported Video IP Phone	To be mentioned	01	
(7)	To be mentioned	Analogue Telephone Adapter	To be mentioned	01	
(8)	To be mentioned	4 Hours backup capable battery pack with portable hand carrying case	To be mentioned	01	
(9)	To be mentioned	Connectors, cables & accessories (As and all required)	To be mentioned	Full Set	
(10)	To be mentioned	Portable single backup Case for Antenna, BUC, LNB, Modem, Video IP Phone, WiFi Router and other accessories	To be mentioned	01	
(11)	To be mentioned	Necessary software for all applicable items with product lifetime license	To be mentioned	Full Set	

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Ser	Description	Technical Specification	To be filled up by the supplier / manufacture
33.	List of Optional Items / accessories for each Terminal	List to be provided by the Supplier	
<u>PART-3: TRAINING REQUIREMENT</u>			
34.	Operational Training	Local Training/ Foreign Training on installation/operation/maintenance and Equipment management to be provided as per requirement of Sig Dte and ITD Dte	
35.	Repair and Maintenance Trainig		
<u>PART-4: REPAIR AND MAINTENANCE REQUIRENT LESS LIST OF SPARES</u>			
36.	Measuring and Testing Test, Fault Finding equipment and Diagnostic Set	List to be provided	
37.	Special Service Tools (SST)	List to be provided	
38.	Special Service Materials (SSM)	List to be provided	
<u>PART-5: LIST OF SPARES</u>			
39.	Spare parts list (Fast & Slow moving spares)	To be provided	

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