

## 83. SATELLITE PHONES



1	Transmit frequency band	2670-2690 MHz
2	Receive Frequency band	2500-2520 MHz
3	Antenna polarization	LHCP (both transmit and receive)
4	Antenna gain	15.5 dB ( Min.)
5	EIRP of the terminal	18.5 dBW ( Min.)
6	G/T of the terminal	Better than -8.4 dB/K
7	Transmit frequency accuracy (Including stability)	$\pm 2.7$ KHz ( Max)
8	Phase noise (SSB) of transmit Carrier	1 KHz Offset < -70 dBc 10 KHz & Beyond < -80 dBc
9	Harmonics pf the transmit carrier	Lower than -40 dB
10	Spurious and noise output in the transmit carrier	Ess than -45 dB (discrete components other than signal spectrum in $\pm 100$ KHz band and less than -60 dB of the transmit carrier in any 4 KHz band out side selected $\pm 100$ KHz band
11	Channel Tuning	10 KHz
12	Modulation/Demodulation	BPSK
13	Modulation Parameter	
	Phase imbalance	< 3.0 deg
	Amplitude imbalance	< $\pm 0.2$ dB
	Error connection	Rate $\frac{1}{2}$ with K=7, Convolution coding viterbi decoding
14	Phase Ambiguity Resolution	Differential Encoding/Decoding
15	Scrambling /Descrambling	CCITT v.35
16	Data Tx.rate	5,4 Kbps( Voice coding rate 4.8 Kbps)
17	BER	Better than $1 \times 10^6$ at Eb/No of 6.0 dB
18	Package	A suitable package with carrying case
19	Antenna alignment	By signal strength indicator & Magnetic compass
20	Weight of terminal	Less than 3.5 Kg.(with carry case & Charger < 4.0 Kg)
21	Power Supply	Battery operated with charging option of mains
22	Operating Temp	0 <sup>0C</sup> to +55 <sup>0C</sup>
23	Humidity	95% at 40 <sup>0</sup> , non condensing
24	Shock & Vibration	As per Transportation level

### OTHER REQUIRMENTS OF PORTABLE TERMINAL

Mss Type -D portable terminal should support DAMA and PAMA selection. It should support signaling and communication protocol of ISRO HUB.

Battery Charging from main without removing from terminal.

Battery replacement should be possible from outside without opening main cover. Battery should sustain for at least 12 Hr. operational ( Receive mode) and talk time should be greater than 3.0 Hr.

Compass should rugged enough to take care of transportation.

Terminal package design be highly reliable for disaster management application.