

## Ultra Compact 40W Man-pack Troposcatter Terminal

The Man-pack Troposcatter Terminal combining a BUC, LNB, modem and filters in a single, lightweight, and ruggedized, portable terminal provides a cutting-edge solution in the Beyond Line-of-Site (BLoS) communications segment.

Providing up to 20W of linear output power and a frequency range of 4.4-5.0GHz, this compact device has exceptional power density, and weighs less than 6kg.

This product is designed for long-range, point-to-point communication, ideal for tactical military operations, disaster recovery, and emergency restoration, ensuring reliable communications in locations where traditional SATCOM is unavailable.

Providing exceptional flexibility in deployment, the terminal is compatible with all antenna systems and supports data rates of at least 7 Mbps over distances of up to 70km. The integrated modem with quad-diversity further enhances performance, making it ideal for demanding, tactical communications.

### Options

- Integrated Modem-BUC configuration
- Modem Only ODU Unit
- BUC Only ODU Unit

### Features

- Ultra Compact design and lightweight for
  - Integrated Modem-BUC solution:
    - o BUC only in 28.5 x 17.8 x 7.6 cms
    - o Terminal in 28.5 x 17.8 x 12.2 cms
      - Superior RF performance:
    - o Superior Phase Noise: 8 dB better than IESS308/309 recommendation
    - o Up to 20W Linear power
    - o Low Noise Power density below - 80dBm/Hz
    - o Wide range Gain Control
    - o Highest Linearity at small back-off
      - Highest Dispersion Tolerance
      - LDPC Backwards Compatible
- Integrated Terminal is ready to work in space diversity mode
- o 2 x TX outputs and 4 x RX inputs
  - Extensive M&C capability
- o Ethernet: embedded Web browser (HTTP)
- o SNMPv3 support
  - Auto Uplink Power Control
  - Adaptive and ACM Control
  - DVBS2X



BUC Parameters		
Output Frequency	4.4 - 5.0 GHz	
Input L Band Frequency	950-1550 MHz	
LO Frequency	5.95GHz (single conversion; inverted)	
Linear Output Power Plin	40dBm (10W) min / 43dBm (20W) min	
Conversion Gain, dB	68 minimum, 70 typical	
Gain Flatness, dB	+/-1 typical over full band +/-0.4 maximum over any 40MHz	
Gain Stability, dB	+/-1.5 maximum over full temperature range	
Linearity at Pout=Plin:	2 tone IMD	-25dBc max
	Spectral Re-growth	-30dBc for QPSK at 1 x symbol rate
Phase Noise, dBc/Hz	-70 @ 100Hz; -80 @ 1kHz; -90 @ 10kHz; -95 @ 100kHz; -115 @ 1MHz	
Noise Power Density, dBm/Hz	-80 max in Transmit Band	
Output Spurious:	Non-signal related	-60dBc
	Signal related	-55dBc
Modular Parameters		
Modulator Outputs	1 or 2, Modulation Common to Both Carriers, Freq Independent	
Min Symbol Rate / Max Symbol Rate	1Msps / 80 Msps	
Max Data Rate	Up to 400 Mbps (ModCod Dep)	
Mod Roll-Off Factor, %	20, 25, 30, 35, 40	
Modulation Types	QPSK, 8PSK, 8APSK, 16APSK, 32APSK, 64APSK, 128APSK, 256APSK	
FEC Type	DVBS2X	
FEC Block Sizes	Short: 16k, Normal: 64k (Bits)	
Interleaver	0-200ms	
Receive Demodulator Parameters		
Diversities	Single, Dual or Quad	
Maximal Ratio Combiner	Freq Domain Combiner / Equalizer	
Min Symbol Rate / Max Symbol Rate	1Msps / 80 Msps	
Max Data Rate	>400 Mbps	
Frequency Acquisition Range	+SR/4500	
Mod Roll-Off Factor	% 20, 25, 30, 35, 40	
Modulation Types	QPSK, 8PSK, 8APSK, 16APSK, 32APSK, 64APSK, 128APSK, 256APSK	
FEC Type	DVBS2X	



Mechanical & Environmental	
Cooling	Forced Air
Size BUC Module Only	28.5 x 17.8 x 7.6 cms (11.2" x 7" x 3")
Size BUC and Modem Integrated	28.5 x 17.8 x 12.2 cms (11.2" x 7" x 4.8")
Weight BUC and Modem Integrated	4.5KG (10lbs)
Operating Temperature / Relative Humidity	-40°C to +60°C / Up to 100% condensing

Interfaces	
TX Out; RX In	N-type Female
RF Output Connector	N-type Female (WR187 Grooved Optional)
DC Power In	MS3112E12-3P
Data In; M&C - Ethernet	M12

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.

Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.