# Ultra Compact 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<br>+/-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 |

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| 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 |

Specifications are subject to change without notice

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