



TropoFusion

Man-pack Troposcatter terminal combining BUC, Modem, LNB, and 1m manual flyaway antenna.

Introducing the TropoFusion™ Series: Revolutionizing Beyond Line-of-Sight Communication The TropoFusion™ Series, a collaborative innovation by IRT Technologies and Datum Systems, sets a new standard in man-pack troposcatter communication. This fully integrated solution combines BUC, Modem, LNB, and RF Filters in a ruggedized, compact package, offering unprecedented portability and performance.

Man-packable Tropo-BUC (NanoTopo™ Series) provides up to 20W saturated output power and 20W minimum linear output power in ultra-compact and light package perfectly suitable for man-pack application. It also comes in integrated with the best in class M7 Tropo Dual or Quad-Diversity Modem. TropoFustion™ Series features best in class RF characteristics, embedded output isolator, extensive monitor and control capabilities, enabled via Ethernet, Serial and/or Analog Interfaces.

New IRT Technologies and Datum Systems Man-pack Troposcatter is designed for BLOS links with min. 5 Mbps data rates at minimum distance of 60 km.

1m manual flyaway antenna is highly portable and designed to meet beyond line of sight communication requirements in harsh environments. The antenna features a multi-segmented carbon fiber composite reflector. Assembly time is less than 10-15 minutes. The elevation-over-azimuth pedestal provides excellent stiffness characteristics and convenience for the user when pointing and peaking to a remote terminal. The system is designed to meet international performance specifications for Compact Trans Horizon Communication System Digital Loop Carrier System for Over the Horizon Communication/ BLOS.





Key Features

- Ultra compact design and light weight for up to 40W Psat and 20W linear output power
 - Ultra-Lightweight design: 8 lbs (3.62 kg)
 Compact package: 6.25"x7.5"x3.75"
 (160mm x 190mm x 95mm)
- Superior RF performance
 - Superior Phase Noise: 8 dB better than IESS308/309 recommendation
 - Low Noise Power density below -80dBm/Hz
 - Spurious emission below -60 dBc
 - Wide range Gain Control
 - Highest Linearity and small back off
- Input and output True RMS power detection
- Field upgradable software
- Status LED

- DVBS2X
- LDPC Backwards Compatible
- Adaptive and ACM Control
- Auto Uplink Power Control
- Two Sigma/Tau Performance
- Just Beyond LOS Microwave
- Integrated BUC & Modem Solution
- Dual and Quad Diversity Modes
- DCCL, Line-of-Sight (LOS), Obstructed Line-of-Sight (OLOS), Over-The-Horizon (OTH)
 Communications
- Designed for 0–70-mile range.
- Designed to be packed in ruggedized cases.
- Setup and operational in 15 minutes.

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240 441 1150





Dutput Frequency Band, GHz	BUC Parameters	
Input L band Frequencies. MHz		4 4-5 0GHz
Lib Frequency, MHz		
Linear Power Plin		
Gonversion Gain, dB		
Sain Flatness, dB		
A-0.4 maximum over any 40MHz		
Gain Stability, dB		
Linearity at Pout=Plin: 2 tone IMD -25dBc max -30dBc for QPSK at 1.5xsymbol rate	Gain Stability dB	
Phase Noise, dBc/Hz		•
Phase Noise, dBc/Hz		
Modum Parameters Modulator Outputs 1 or 2, Modulation Common to Both Carriers, Freq Independent Diversities Single, Dual or Quad Maximal Ratio Combiner Freq Domain Combiner/Equalizer Min Symbol Rate / Max Symbol Rate 1 Msps / 80 Msps Mix Data Rate Up to 529.9 Mlps (Modcod Dependent) Freg Range L-Band 950 to 2250 MHz, 1 Hz Steps Mod Roll-Off Factor % 20, 25, 30, 35, 40, 45 (%) Modulation Types QPSK,8APSK,8PSK,16APSK,32APSK,64APSK,128APSK,256APSK FEC Type DVB-S2X FEC Block Sizes Short: 16k, Normal: 64k (Bits) Fast ACM and Adaptive Modcods Seamless ACM/Adaptive Data Rate Interleaver 0-200ms Mochanical & Environment Cooling Forced Air Size BUC module only 6,25*x7.5*x3.75** (160x190x95mm) Size BUC module only 81bs (3,62kg) Weight BUC module only 81bs (3,62kg) Weight BUC and Modem Integrated 12bs (5,44kg) Operating temperature / Relative Humidity -40*C+60**C / Up to 100% condensing Trequency (Brz) Frequ	·	
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Max Data Rate	Maximal Ratio Combiner	Freq Domain Combiner/Equalizer
Max Data Rate	Min Symbol Rate / Max Symbol Rate	1Msps / 80 Msps
Freq Range L-Band 950 to 2250 MHz, 1 Hz Steps		Up to 529.9 Mbps (Modcod Dependent)
Mod Roll-Off Factor % 20, 25, 30, 35, 40, 45 (%) Modulation Types QPSK,8APSK,8PSK,16APSK,22APSK,256APSK FEC Type DWB-S2X FEC Block Sizes Short: 16k, Normal: 64k (Bits) Fast ACM and Adaptive Modcods Seamless ACM/Adaptive Data Rate Interleaver 0-200ms Mechanical & Environment Cooling Forced Air Size BUC and Modem integrated 6.25"x7.5"x3.75" (160x190x190mm) Weight BUC and Modem integrated 6.25"x7.5"x3.75" (160x190x120mm) Weight BUC and Modem Integrated 12lbs (5.44kg) Operating temperature / Relative Humidity -40°C +60°C / Up to 100% condensing TROPOSCATTER-BAND PLL LNB Frequency (BHz) 3.45 IF Frequency (GHz) 3.45 IF Frequency (GHz) 590 - 1550 M Troposcatter Antenna Reflector 1 M Carbon Fiber Reflector Configuration 1 M - 8 Piece Symmetrical Frequency (GHz) 3.20 VSWR 3.20 VSWR 1.30:1 Antenna Travel Azimuth +/-180° continuous with fine adjust Antenna Travel Elevation 1.5 m Packaging (Compression Molded Case) Weight 40 lbs (18.2 kg) Antenna / Pedestal / Feed Weight 40 lbs (18.2 kg)	Freg Range L-Band	
FEC Type		
FEC Type	Modulation Types	QPSK,8APSK,8PSK,16APSK,32APSK,64APSK,128APSK,256APSK
FEC Block Sizes	FEC Type	
Interleaver		Short: 16k, Normal: 64k (Bits)
Interleaver	Fast ACM and Adaptive Modcods	Seamless ACM/Adaptive Data Rate
Forced Air		
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Antenna / Pedestal / Feed Weight 40 lbs (18.2 kg)	Pedestal Height	
Packed in Case Weight 79 lbs (35.9 kg)		
	Packed in Case Weight	79 lbs (35.9 kg)

Specifications are subject to change without notice

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