12W Ka Wideband Mini Matchbox BUC

WAVESTREAM MMB-KAD012

Field-Proven Performance

Wavestream's 12W Ka Wideband Block Upconverter (BUC) leads the Industry in linear power for a feedmount-ready package, ensuring the maximum available power at the feed flange.

This amplifier provides the ability to cover multiple frequency bands with a switchable upconverter in an Industry-leading small, rugged, outdoor package. The Ka Wideband BUC offers forward power monitoring, 30 dB of step attenuation, serial RS-422/485, RS-232, or optional Ethernet control interface, and DC input power.

Features

- 12W Ka-band BUC providing > 8W of linear power
- Ruggedized package weighing less than 3.5 lb (1.6 kg)
- Covers Commercial and Military Bands
- Dual-band upconverter allows coverage of up to two (2) 1000 MHz bands

Wavestream Advantages

What sets Wavestream products apart from traditional amplifier solutions is the innovative Spatial advantEdge™ technology. This unique patented technology allows generation of higher output power in lighter, more compact product packages that use less energy and are more reliable. Wavestream products are biased for Class AB operation, drawing less power when backed off to help save valuable energy resources. They generate less heat, ensuring a higher Mean Time Between Failures (MTBF) for greater reliability and lower lifecycle maintenance costs.

Benefits

- Higher output power with less energy usage
- Proven reliability and efficiency
- Reduced lifecycle maintenance costs
- Compact footprint to meet critical space and weight limitations

Gilat

Technical Specifications

RF Specifications

- **Transmit Frequency**:
  - 29.0 GHz - 30.0 GHz
  - 30.0 GHz - 31.0 GHz
- **IF Frequency**:
  - 950 MHz - 1950 MHz
  - 1000 MHz - 2000 MHz
- **Frequency Reference** (10 MHz on IF): 0 dBm ± 5 dB
- **Small Signal Gain**: 57 dB nominal
- **Gain Adjustment**: 30 dB in 0.25 dB steps nominal
- **Gain Variation**:
  - **Over frequency at fixed temp**: 3 dB p-p over 1000 MHz
  - **Over temp at fixed frequency**: 3 dB p-p over operating range
- **Saturated Output Power**: 40.8 dBm nominal
- **Linear Output Power**: > 38.5 dBm

  Linear Output Power as defined by MIL-STD-188-164:
  - **Intermodulation** (Third order intermodulation product relative to combined power of two carriers): -25 dBc
  - **Spectral Regrowth** (For QPSK at 1.5x and OQPSK at 1.0x rate offset): -30 dBc
  - **AM / PM Conversion**: 2 deg/dB
- **Linear Output Power**: 40.0 dBm
  - **ACPR of -20 dBc** (using QPSK symbol rate of 1.0 MSps, alpha 0.2)
- **Phase Noise**:
  - 10 Hz: -32 dBc/Hz
  - 100 Hz: -62 dBc/Hz
  - 1 kHz: -72 dBc/Hz
  - 10 kHz: -82 dBc/Hz
  - 100 kHz: -92 dBc/Hz
  - 1 MHz: -102 dBc/Hz
  - 10 MHz: -112 dBc/Hz
- **Noise Power Density Transmit**: -85 dBW/4 kHz (maximum)
- **Noise Power Density Receive**: -156 dBW/4 kHz (maximum)
- **Output Spurious**: -60 dBc
- **IF Input Connector**: Type N Female
- **IF Input Impedance**: 50 Ohms
- **IF Input VSWR**: 1.8:1 maximum
- **RF Output Connector**: WR-28
- **RF Output VSWR**: 1.3:1 maximum, with optional isolator
- **DC Connector**: 12-pin MIL Circular or optional Bias on IFL
- **M&C Connector**: 12-pin MIL Circular
- **M&C Connector**: Serial RS-485 (SA-bus), Forward Power Monitor, Step Attenuator

Power

- **DC Power**: 22V - 54V, on 12-pin connector
- **DC Power Draw** (typical) (at Linear Output Power): < 80W

Physical

- **Size**: 9" L x 3.6" W x 2.4" H (22.9 x 9.1 x 6.1 cm)
- **Weight**: 3.5 lbs (1.6 kg)
- **Operating Temperature** (Ambient Air): -40° F to +140° F (-40° C to +60° C)
- **Relative Humidity**: 100% Condensing
- **Shock & Vibration: MIL-STD-810E, method 514-4**
- **Altitude**: 10,000 ft above sea level (operating)

Options

- **M&C**: RS-232

Base Model

- **MMB-KAD012-xxxx**

Interfaces

About Wavestream

Wavestream sets the standard in the design and manufacture of next generation high power solid state amplifiers. Wavestream's Family of Ka, Ku, X and C-band Solid State Power Amplifiers (SSPAs) and Block Upconverters (BUCs) provide systems integrators with field-proven, high performance solutions designed for mobile and fixed defense and broadcast satellite communication systems worldwide.

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