



Ka Band Block Up Converter 43dBm (20W) Saturated Power



Features:

- No Shelter Required
- Delivers 10W/12W Linear Power
- Complete Digital M&C Interface
- RS-232, RS-422, RS-485 Interface



SSPA - The specifications are the same without the BUC, except the input and output frequency are RF, BUC only specifications are disabled: LO Freq, Ref Signal Freq, 10MHz power level

This High Power Solid State Block Up converters (BUC) is a series of compact fully integrated antenna mount units designed for low cost operation and longevity. The L-Band input interfaces to standard modems operating in the 1000 - 2000 MHz range.

Intended for outdoor operation eliminates the need for a separate shelter. The construction and light weight allows for direct mount to the antenna. This eliminates long waveguide runs and associated RF losses.

Forced air cooling is implemented in the package to allow reliable operation over extended temperature ranges. The monitor and control (M&C) interface provides a component system status.

The block up converter operates from an external, weatherized power supply which provides the system DC sources. The L-Band transmit signal and 10 MHz reference frequency are brought to the unit over a single coaxial line.

Order Examples: RBUC-L(950-1450M) to Ka(29.5-30.0)-Nf-WR28-ER10M-20W-n6

Description: (Block Up Converter, L Band(950-1450MHz) to Ka(29.5-30.0GHz), N-Type Female Input Connector, WR28 Output Connector, 10MHz External Reference, 20 Watts)

L to Ka Band 29.5-30.0 Block Up Converter 43dBm (20W) Saturated Power

| Parameters | | |
|--|------------------------------|--|
| Frequency Range | Output | 29.5 to 30.0 GHz |
| | Input | 950 to 1450 MHz |
| | LO Frequency | 28.55 GHz |
| Input Level, w/o damage (maximum) | | 10 dBm |
| Reference Signal Frequency | | external 10 MHz |
| 10 MHz Power Level | | 0 dBm \pm 5 dB |
| Reference Input Impedance | | 50 Ohms |
| Output Power | | 43 dBm (20W) |
| Saturated Power (minimum) | | 43 dBm (20W) |
| Linear Power | | 40 dBm (10W) |
| Gain | Small Signal (typical) | 65 dB |
| | Maximum SSG Variation Over | |
| | Any Narrow Band | \pm .3 dB per 36 MHz |
| | Full Band | \pm 1.5 dB |
| | Stability, 24 hr. (maximum) | +1.5, -1.4 dB |
| | Stability, Temperature (max) | \pm 1.0 dB over temperature range at any frequency |
| Gain Adjustment | | 30 dB, 0.25 dB steps |
| Intermodulation (maximum) with respect to combined power of two equal carriers | | -25 dBc @ linear power |
| Harmonic Output (maximum) | | -60 dBc |
| Spectral Regrowth (1.0 symbol rate from carrier), OQSPK | | -30 dBc @ linear power |
| AM/PM Conversion (maximum) | | 2.0 deg/dB @ linear power |
| Noise Power (maximum) | Transmit Band | -76 dBm/Hz |
| | Receive Band | -120 dBm/Hz |
| | Spurious (In band) | -65 dBc |
| Phase Noise (maximum) | 100 Hz | -65 dBc/Hz |
| | 1 kHz | -75 dBc/Hz |
| | 10 kHz | -85 dBc/Hz |
| | 100 kHz | -95 dBc/Hz |
| | 1 MHz | -105 dBc/Hz |
| 10 MHz Reference Phase Noise (maximum) | | -140 dBc/Hz @ 1 kHz |
| VSWR Input (maximum) 1.3:1 | | VSWR Output (maximum) 1.5:1 |
| Prime Power | | 18-30 VDC, 230W typical @ PLIN < 320 W max. |
| Environmental | | |
| Operating temperature -40°C to +60°C (2°C/1000 Feet Derating) | | Non Operating temperature -50°C to +70°C |
| Relative Humidity | | up to 100% condensing |
| Altitude | | 12,000 Feet MSL Maximum |
| Shock and vibration | | Normal Transporting |
| Cooling | | Forced Air |

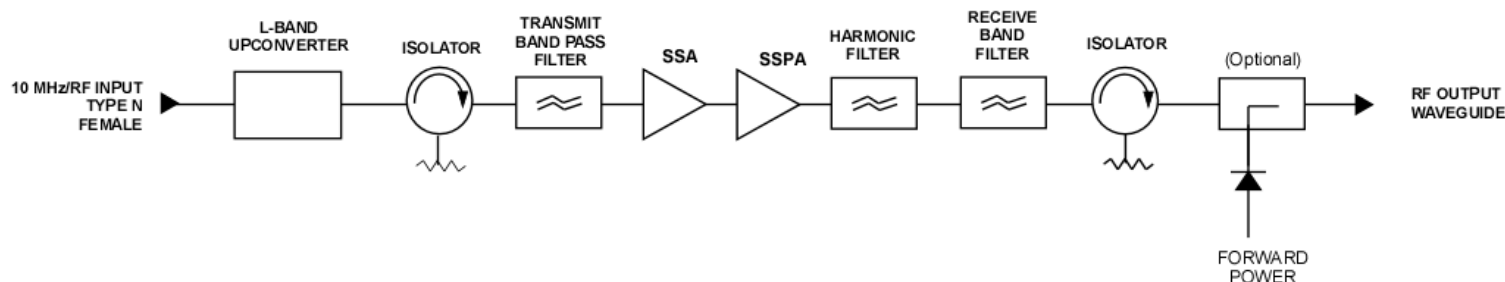
| Type | Function | | |
|----------------|---|--|------------|
| Remote control | Transmit ON/OFF | Fault Reset | RF Inhibit |
| Remote Status | Transmit ON/OFF Temperature (°C) RF Inhibit (ON/OFF) Forward Power | Summary Fault Fault Identification Lock Detect Over Temperature | |

Option

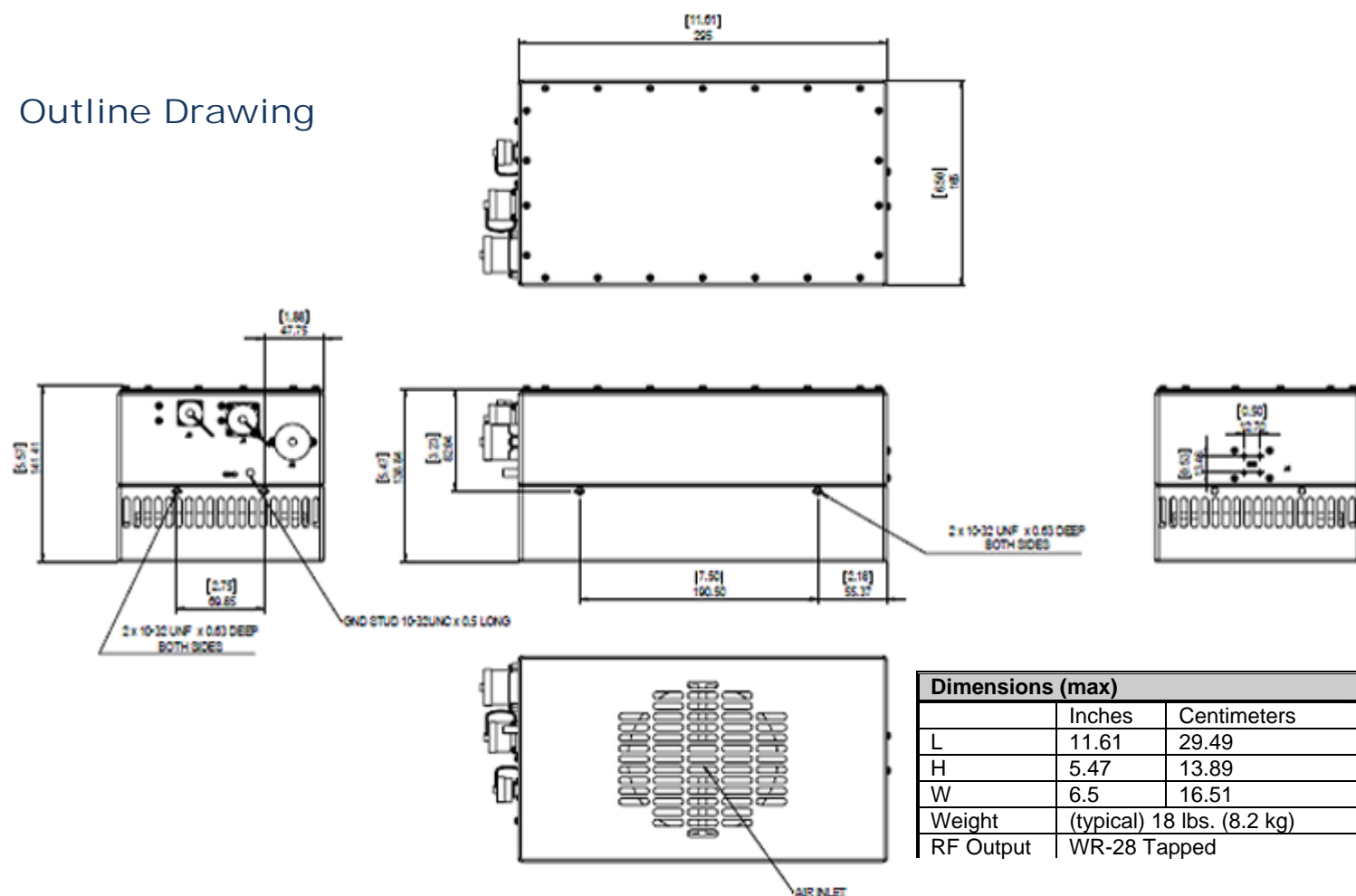
- Input Diplexer (combining IF and 10 MHz reference)
- Detected RF Transmit Power
- AC Power Operation
- 5 MHz Reference

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Block Diagram



Outline Drawing



| Dimensions (max) | | |
|------------------|----------------------------|-------------|
| | Inches | Centimeters |
| L | 11.61 | 29.49 |
| H | 5.47 | 13.89 |
| W | 6.5 | 16.51 |
| Weight | (typical) 18 lbs. (8.2 kg) | |
| RF Output | WR-28 Tapped | |