



**10 Watt X-Band Block Upconverter**

**MODEL: UC-7A98A4-4060**



**DESCRIPTION**

This X-Band High Power Block Upconverter features high performance, which is vital for SatCom up-link applications and is mounted on moving platforms. It performs frequency conversion of the L-Band RF signal from a data modem to the X-Band frequency, and boosts the signal to the required power level for transmission through an antenna.

The High Power Block Upconverter communicates with a controller via a serial monitor and control (M&C) interface.

**ELECTRICAL PERFORMANCE**

Input Frequency Range: 950 to 1450 MHz  
Output Frequency Range: 7.9 to 8.4 GHz  
Output Power @ 1dB GCP: 10 Watt (+40 dBm)  
3<sup>rd</sup> Order IMD @ 3dB TOBO: -26 dBc typ.

Specifications Subject to Change without Notice

**ITS Proprietary information**

Errors & Omissions Excepted

**OTHER MODELS AVAILABLE**

**ELECTRICAL PERFORMANCE (CONTINUED)**

Linear Gain: 55 dB, min  
Gain Flatness over Full Band: ±1.0 dB max.  
Gain Variation over Temperature: ±2 dB max  
Input VSWR: 1.5 : 1 max.  
Output VSWR: 1.5 : 1 max.  
Spurious, signal related: -50 dBc  
Spurious, signal independent: -10 dBm  
2<sup>nd</sup> Order Harmonics: -60 dBc  
LO Leakage: -40 dBm  
Noise Figure: 12 dB max  
Noise Power Density: -123 dBm/Hz in 7.25 to 7.75 GHz band  
Output SSB Phase Noise: -65 dBc/Hz @ 100 Hz  
-75 dBc/Hz @ 1 kHz  
-85 dBc/Hz @ 10 kHz  
-95 dBc/Hz @ 100 kHz  
Output Mute: 60 dB min. on command & unit fault  
External Reference Embedded at the IF Input: 10 MHz, ±5 dBm  
Monitoring / Control: BUC temperature, output power (±1.5 dB accuracy), BUC mute  
Monitoring / Control Interface: RS-232  
DC Power Input: +20 to +28 V<sub>DC</sub>, 100W max at steady state and 120W max for 10 sec when the Fan starts.

**MECHANICAL**

IF Input Connector: N-TYPE FEMALE JACK  
RF Output Connector: N-TYPE FEMALE JACK  
DC Power Input / M&C: 13-pin MIL-DTL-38999 Series III, P/N: MS27466T-11B35P  
Cooling: Forced air  
Dimensions (including connectors protrusion): 10.79" x 7.07" x 3.91"  
Weight: 13 lb max.

**ENVIRONMENTAL**

Operating Temperature: -40 to +65 °C  
Relative Humidity: MIL-STD810F Method 507.4 - Procedure I max. temp. 60 °C max  
Relative Humidity 100%  
Storage Temperature: -40 to +80 °C  
Altitude: 10000 AMSL min, derated by 6°C/1000m  
Sand and Dust: MIL-STD810F Method 510.4 - Proc I  
Salt fog: MIL-STD810F Method 509.4 - Proc I  
Shock: MIL-STD 810 F – Method 516.5 proc. 1 – Functional Shock  
Vibration: MIL-STD 167 -1 Mast Mounted

**Response, Innovation, Craftsmanship**

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