MTI **Ku-Band Block Up Converter (BUC)** is high performance RF equipment for satellite communications. It is mainly designed for satellite broadband or private network applications, including voice, data, and internet access through satellite.

This product is connected between OMT/ feed 950 ~ 1450 MHz and RF output is from 14.0 ~ 14.5 GHz. Transmit output power are available for 2 and 4 Watts.

MTI **Ku-Band BUC** also provides very high DC power efficiency to minimize power consumption and it has extremely low phase noise to assure superb signal quality. The local frequency is locked to an external 10 MHz reference signal. In the case of 10 MHz signal is absent or PLL is unlocked, the RF output power will be muted automatically.

MTI **Ku-Band BUC** has a very compact and robust mechanical design for easy installation and fast deployment in the field. It provides state-of-the art performance, high reliability and very cost effective solution for today’s satellite communications needs.

**Key Features**

- L-Band IF interface with satellite modem (IDU)
- Constant gain and high linearity
- Extremely low phase noise
- Very high DC power efficiency
- Built-in transmit high pass filter
- PLO lock detection and PA mute function
- Low cost, high quality and compact design
# Electrical Specifications

## INPUT
- **Frequency Range**: 950 to 1450 MHz
- **Input VSWR**: 2.0:1 max
- **Impedance**: 75 ohms (F-Type)/ 50 ohms (N-Type)

## OUTPUT
- **Frequency Range**: 14.0 ~ 14.5 GHz
- **Output VSWR**: 2:1
- **Output Power @ 1dB Gain Compression**: 33 dBm min.
- **Conversion Gain (nominal)**: 53 dB

## LOCAL SIGNAL
- **Frequency**: 13.05 GHz; Phase-locked DRO
- **Phase Noise (SSB)**:
  - 100 Hz: < -60 dBc/Hz,
  - 10 kHz: < -80 dBc/Hz,
  - 1 MHz: < -100 dBc/Hz
- **Phase Noise (1KHz)**:
  - 100 Hz: < -70 dBc/Hz
  - 100 kHz: < -90 dBc/Hz
  - 1 MHz: < -100 dBc/Hz

## DC Power Requirement
- **Power Consumption**: 24 W
- **Supply Voltage**: 15 to 24 VDC

## Reference Signal
- **Frequency**: 10 MHz
- **Input Power Level**: -15 to +5 dBm
- **Phase Noise**:
  - 100 Hz: < -135 dBc/Hz,
  - 10 kHz: < -143 dBc/Hz
- **Phase Noise (1KHz)**:
  - 100 Hz: < -140 dBc/Hz

## Transmit Mute Function
- **Mute Function**: RF signal will be turned off automatically when PLL is not in the lock condition

## Mechanical Interface & Size
- **IF Input Connector**: F-Type (Female)/ N-Type (Female)
- **RF Output Waveguide**: WR-75
- **Dimensions (L*W*H)**:
  - 16*12*6 cm
  - 19*19*7 cm
- **Weight**: 1 Kg
- **Storage Temp.**: -50 to +85 °C

### Environmental
- **Operating Temp.**: -40 to +55 °C