



iUC-6500

Miniature Microwave Up Converter

FEATURES

- 0.5 to 26.5GHz RF Output Frequency
- Up to 500MHz Signal Bandwidth
- Low phase noise <math><0.45^\circ</math> rms
- >60 dB output spurious rejection
- TCP/IP networked control
- Low SWaP profile, <math><25</math> W, 3.5 lbs
- Optional 10 GigE Vita 49 I&Q Input
- Command/control via 10/100 Ethernet

APPLICATIONS

- Electronic Attack
- Cyber – Soft Offensive Penetration
- SATCOM communications
- Data Playback
- ECM

DESCRIPTION

Intelligent RF Solutions is committed to supporting the virtual radio Cyber mission as well as DoD Electronic Attack applications with the addition of the companion up-converter to the iRF family receivers. The unit was developed to provide high performance for extremely low SWaP profile applications

The iUC-6500 up-converter provides a compact and networked means to translate up to 500MHz of signal bandwidth to RF/Microwave frequencies. Low phase noise, low group delay distortion and low amplitude ripple provide maximum converted signal fidelity.

Further, the super-heterodyne architecture yields added benefits of high suppression of unwanted output signals including sideband, LO feedthru, and IF feedthru, which are unattainable using quadrature up-conversion techniques.



SPECIFICATIONS AT 25° C

Output Tuning Range

0.5 GHz to 26.5 GHz

Frequency Resolution

1kHz

Frequency stability

±1.0 ppm, max. with internal reference

Signal Bandwidth

100MHz typical; 90MHz min. (140/160 Analog Input)

500MHz typical (1GHz Analog Input)

400MHz max (10GE VITA-49)

500MHz max (Digital Data Input Port)

Analog Input Signal Center Frequency

140MHz (~90MHz BW)

160MHz (optional, ~100MHz BW)

70 MHz (optional, reduced BW)

1GHz Wideband Input

Rated Output Signal Amplitude

0dBm

Output Noise floor

< -80dBm/1MHz BW @10dB gain

Manual Gain Control

+40dB to -10dB in 1dB steps

Integrated Phase Noise (100Hz to 100MHz)

0.25° rms to 0.45° (Frequency Dependent)

Single Tone SFDR

>60dB

Output Sideband Suppression

60dB typical; 55dB min.

Output LO Leakage Level

<-80dBm

Output Harmonic Suppression

<-50dBc

External Reference In/Out

10MHz

Supply Voltage

+12VDC

Operating Temperature

-10 to +50C

BLOCK DIAGRAM

