

## Heritage Receiver/Downconverter Line Up

### Ku-band Downconverter



#### Main Characteristics

- o Ku-band DNC consists of an RF Section, a Local Oscillator and a DC/DC Converter.
- o RF Section converts the 14GHz input signals to the 12GHz signals using Local signal of 1248MHz(Type 1), 1748.5MHz(Type 2), 2289MHz(Type 3), 2789.5MHz(Type4), and 3,043MHz(Type 5).
- o Local Oscillator provides the Local signal to the Mixer of the RF Section.  
TCXO is used for Local signal reference source.
- o DC/DC Converter supplies the secondary voltage to the RF Section and the Local Oscillator.  
And it receives the Turn ON and OFF commands and provide the ON/OFF Status telemetry.
- o Typical performance of Ku-band DNC is as follows;  
Gain: 25dB nom. / NF: 18dB max. / IP3: +30.5dBm min. / Pdc: 8W max.

#### Specification Table

Parameter	Unit	Typical Performance
RF Frequency	GHz	13.75 to 14.00 (Type1, 3) 14.20 to 14.50 (Type2, 4), 14.00 to 14.25 (Type5)
IF Frequency	GHz	12.50 to 12.75 (Type1,2) 11.45 to 11.70 (Type3,4), 10.95 to 11.20 (Type5)
LO Frequency	GHz	1.248 (Type1), 1.7485 (Type2) 2.289 (Type3), 2.7895 (Type4), 3.043 (Type5)
Usable Bandwidth	MHz	250
Gain	dB	25 nom.
Gain Flatness	dBp-p	0.6 max. (over operational bandwidth)
Noise Figure	dB	18 max. (Over AT and EOL)
C/3IM	dBc	-44 max (Pin = -17dBm each): OIP3=30.5dBm
In-Band Spurious	dBc	-65 max.
Frequency Stability	ppm	+/-1 max. (Initial setting) +/-2 max. (Over Diurnal) +/-3.5 max. (Over AT & Life w/o initial setting)
Phase Noise		
@10Hz	dBc/Hz	-50 max.
@100Hz		-70 max.
@1kHz		-100 max.
@10kHz		-110 max.
@100kHz		-110 max.
@1MHz		-120 max.
@10MHz		-120 max.
DC Power Consumption	W	8 max.
Mass	kg	0.84 max.
Temperature Range	degC	+5 to +66 (AT), -5 to +76 (QT)