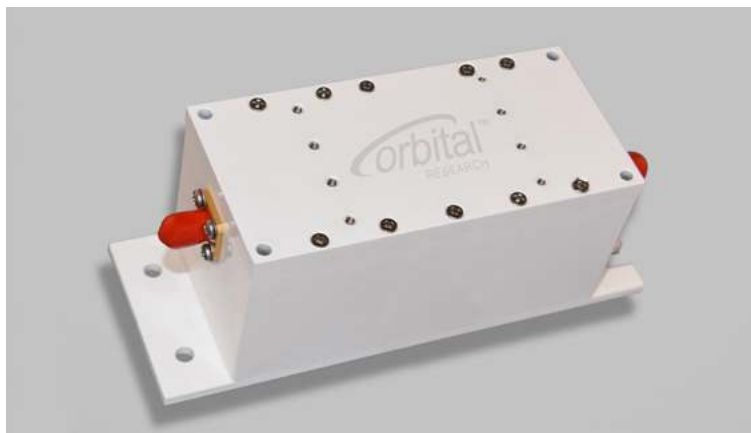




Ku-Band BDCs with Fixed Local Oscillators



Our Ku-band block downconverters (BDCs) with fixed local oscillators (LOs) provide Ku coverage over ITU region 1, 2 or 3. We also have a wideband version that delivers full Ku spectrum coverage for mobile SATCOM applications. Standard LO frequencies are available and custom LOs can be provided to fit any application. These BDCs support high data throughput with very low bit error rates (BER).

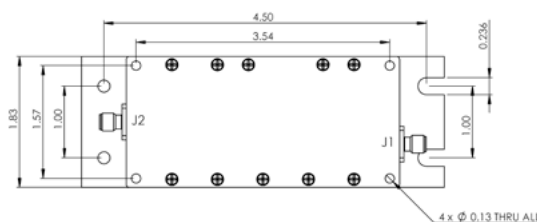
- External referenced for stability
- Low phase noise for maximum data throughput
- Preset signal gains from 20 to 45 dB
- Linearity for higher-order modulation
- Options for temperatures up to 70°C

Applications

Designed for both military and commercial SATCOM applications, our Ku-band BDCs with fixed frequency oscillators are used for large hub antennas and earth stations, SATCOM-on-the-Move systems – and anywhere a user wants to reliably access a Ku satellite’s spectrum.

[Airborne versions are also available.](#)

Unlike an LNB, BDCs are used after an external low noise amplifier (LNA). This means you can connect multiple BDCs to a single LNA without affecting the noise figure of the system. BDCs let you receive signals from the entire satellite spectrum – with IF outputs at appropriate frequencies for your demodulators.

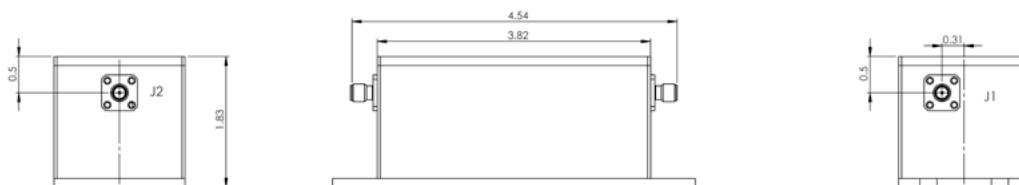


Connections:

J1: RF in SMA Femal 50 ohm
J2: IF out+DC in+ 10M in

Finish:

MIL-DTL-55412 Type II Class 3 and outside surfaces painted white



FREQUENCY RANGE	LOW BAND	HIGH BAND	WIDE BAND
Input RF Freq GHz	10.7 to 11.7	11.7 to 12.75	10.7 to 12.75
Output RF Freq MHz	950 to 1950	950 to 2000	950 to 3000
LOs RF Freq GHz	9.75	10.75	9.75
LO Stability Locked to External Reference	Y	Y	Y
Output Bandwidth GHz	1.0 max	1.05	2.05

NOISE FIGURE

10 dB typical @ 25°C

VSWR

Input 2.0:1 nominal

Output 1.5:1 nominal

GAIN

Gain 20 to 45 dB in 5 dB steps

Flatness +/- 0.75 dB over any 27 MHz

Ripple +/- 0.15 dB per 10 MHz

Stability +/- 0.25 dB max over 24 hours @ +25°C

ENVIRONMENTAL

Operating Temp -40°C to +60°C

Operating Altitude 10,000 ft. ASL

Operating Relative Humidity 100% Condensing

Standards RoHS & REACH

INTERFACES

Input SMA (S)

Output N (N) or SMA (S)

PHASE NOISE MIL-STD-188-164

10 Hz -32 dBc/Hz max

100 Hz -62 dBc/Hz max

1 KHz -72 dBc/Hz max

10 KHz -82 dBc/Hz max

100 KHz -92 dBc/Hz max

1 MHz -102 dBc/Hz max

10 MHz -112 dBc/Hz max

POWER¹

DC In +16 to +26 VDC

Current Draw 280 mA max

Interface via IF Connector

OPTIONS

Remote Data Connection for M&C via Micro DB9 (-RDC ordering option)

Extended Temp to +70°C (-ET ordering option)

Improved Gain Over Temp (-GT ordering option)

OTHER SPECS

LO Leakage - Output -45 dBm min

LO Leakage - Input -45 dBm max

Image Rejection -40 dBm min

P1 dB +10 dBm min, +15 optional

OIP3 +20 dBm min, +25 optional

Overdrive -20 dBm non-damaging

Weight 450 grams

Please contact Orbital Research for ordering information: sales@orbitalresearch.net

¹ Power supplies must meet 100 mV maximum ripple and noise