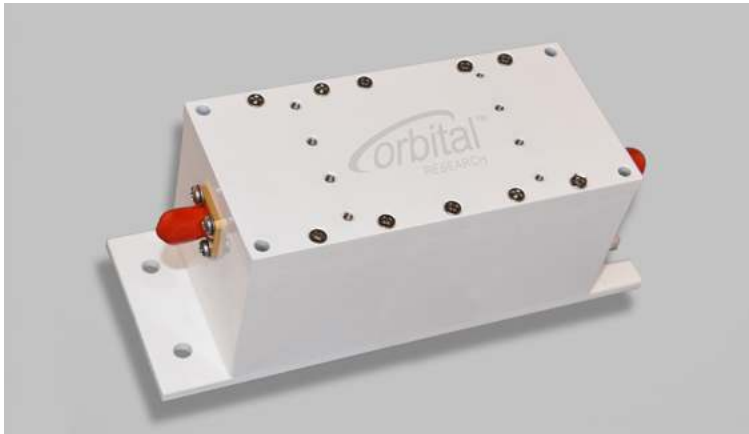




Ku-Band BDC with Multiple Local Oscillators



With multiple local oscillators, this Ku-band block downconverter (BDC) gives you the flexibility to switch between different Ku frequency bands according to your region of operation. It provides IF bandwidth of up to 1.05 GHz – and delivers market-leading performance for broadband Ku satellite communications (SATCOM). Like all Orbital BDCs, this product supports high data rate applications with low bit error rates.

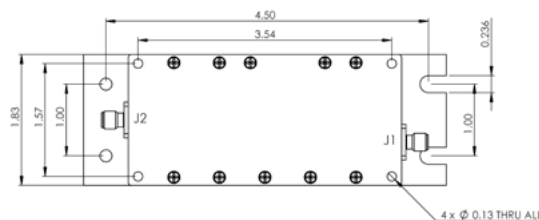
- External referenced for stability
- Low phase noise for maximum data throughput
- Preset signal gains from 20 to 45 dB
- Linearity for higher-order modulation schemes
- Options for temperatures up to 70°C

Applications

Our Ku-band BDC with multiple local oscillators (LO) is designed for military and commercial SATCOM applications, including large satellite teleports, earth stations, comms-on-the-move – and anywhere a user wants to access a Ku satellite's entire spectrum.

[An airborne version is 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.

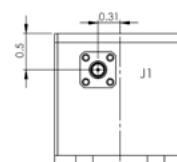
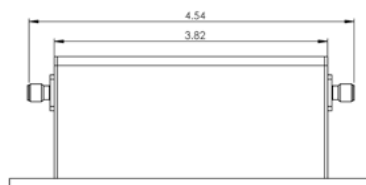
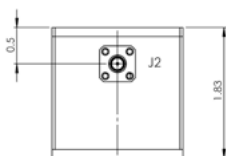


Connections:

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	HIGH
Input RF Freq GHz	10.7 to 11.7	11.7 to 12.75
Output RF Freq MHz (options available)	950 to 1950	950 to 2000
Local Oscillators MHz (2 or more LO's per BDC – options available)	9.75	10.75
LO Stability Locked to External Reference	Y	Y
Output Bandwidth GHz	1.0 max	1.05 max

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

DC Level Band Switching (-DCS ordering option)

Push Button Band Switching (-PBS ordering option)

Open Collector Input Band Switching (-OCS ordering option)

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 max -40 dB 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