

# Product Specification Summary

## Ultimate SMT™ Block Up/Downconverters

## BUC/BDC Series

These Ku-band block upconverter and block downconverter employ Narda's Ultimate SMT technology to reduce cost and size while delivering high performance. Other techniques including the ability to mix blind, buried, and standard through-hole vias for interconnections between layers, and Narda's unique subcover design with form-in-place gasket, achieve extremely high isolation.

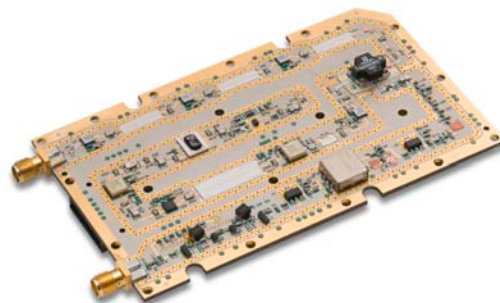
The block upconverter (BUC) drives a 13-W solid state power amplifier (SSPA) module while the block downconverter (BDC) is a standalone unit. Both use a single conversion from Ku-band to L-band. The BUC upconverts to 13.75 GHz to 14.5 GHz, and the frequency range of the BDC is 10.95 GHz to 12.75 GHz, divided into three sub-bands. Both feature high linearity, low current and power dissipation, nearly flat gain over frequency, and temperature, and high spurious rejection.

<b>Block Up Converter</b>	
Input frequency (MHz)	950 to 1700
Output frequency (MHz)	13750 to 14500
Conversion gain (dB)	55
Gain flatness over frequency (dB)	+/-1.5
Group delay variation over any 50 MHz band (ns p-p)	2.5
IP3 (dB)	48.14
Spectral regrowth (dBc)	-33 dBc typical, OQPSK signal measured one symbol rate from carrier
Spurious rejection (dBc)	-70 maximum
Harmonic suppression (dBc)	-60
Noise figure (dB)	20 or less
Phase noise at 10 Hz and 100 kHz offsets (dBc/Hz)	-60 dB at 120 Hz offset, -100 at 100 kHz offset
<b>Block Down Converter</b>	
Input frequency (MHz)	Receive band 1: 10950 to 11700 Receive band 2: 11700 to 12250 Receive band 3: 12250 to 12750
Output frequency (MHz)	Receive band 1: 950 to 1700 Receive band 2: 950 to 1500 Receive band 3: 950 to 1450
Conversion gain (dB)	30
Gain flatness (dB)	+/- 2 over frequency and temperature
RF output IP3 (dBm)	24 typical
Spectral regrowth (dBc)	40 typical, OQPSK signal, measured one symbol rate from carrier
Spurious emissions, 950 to 1700 MHz ( dBc)	-50
LO leakage (dBm)	-75
Harmonic suppression (dBc)	-50
RF P1dB output (dBm)	10
Noise figure (dB)	20 maximum
Phase noise at 10 Hz and 100 kHz offsets, typical (dBc/Hz)	-45 at 10 Hz offset, -95 at 100 kHz offset

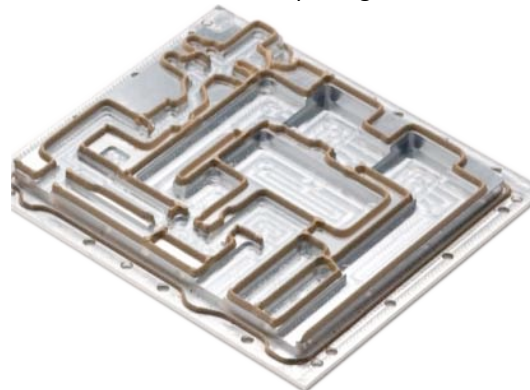
### Key features

- Modules use proprietary Narda techniques to reduce size, cost, and weight
- BUC uses single LO frequency for upconversion to 13.75 to 14.75 GHz
- BCD downconverts 1095 to 12.75 GHz divided into three subbands
- Exceptional linearity, spectral regrowth, gain flatness, spurious and harmonic rejection, and phase noise performance
- High isolation between control, power, and RF components
- Low power consumption
- Very compact and lightweight

Block upconverter top (RF) side



Form-in-place gasket subcover



Please consult the factory for detailed product specifications.

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