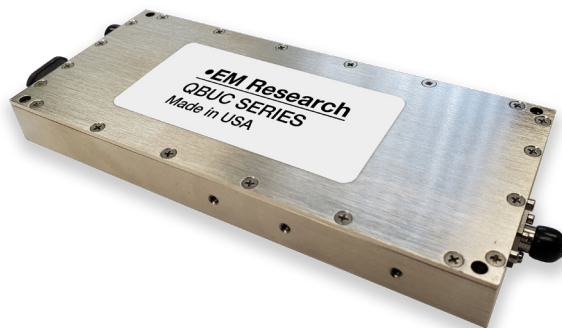


GENERAL DESCRIPTION

The QBUC-31000-04 is an L-Band to Ka-Band frequency block-upconverter. With 4 switchable bands between 27500 and 31000 MHz, the QBUC is a flexible frequency solution suitable for demanding environments.

Our QBUC offers fantastic performance with low power consumption, low phase noise, low spurs and excellent EVM. All this is included in a compact form factor.



QBUC-31000-04 FEATURES

- L-Band to Ka-Band
- 4 Switchable Bands in one package
- Low Spurious
- Low Noise Figure
- Low Power Consumption
- Multiple Package Outlines
- Configurable IF & RF Frequencies

INDUSTRIES



QBUC SERIES OPTIONS

- RS-232, RS-405, CAN, SPI, or I2C control

QBUC SERIES TYPICAL APPLICATIONS

- Satellite communication
- Aerospace
- Defense Applications

All specifications are typical unless otherwise specified and subject to change without notice.



HIGHEST QUALITY • COMPREHENSIVE SERVICE • BEST PERFORMANCE



RF OUTPUT ELECTRICAL SPECIFICATIONS

Output Frequency	27.50 - 28.50 GHz (Band A)	
	28.25 - 29.25 GHz (Band B)	
	29.00 - 30.00 GHz (Band C)	
	30.00 - 31.00 GHz (Band D)	
Output Power, P1dB	+0 dBm, MIN	
Output VSWR	1.6:1 Max	
Input Impedance	50 Ω	
Spurious (In-Band)	-60 dBc MAX	
LO Leakage	< -75 dBm	
Two-Tone IMD	< -55 dBc	
Phase Noise	Offset	TYP
	10Hz	-35
	100 Hz	-65
	1 KHz	-80
	10 KHz	-90
	100 KHz	-100

IF INPUT ELECTRICAL SPECIFICATIONS

Input Frequency	0.95 - 1.95 GHz
Input No Damage	+15 dBm
Input VSWR	1.4:1 (950 to 2050 MHz)
Input Impedance	50 Ω

All specifications are typical unless otherwise specified and subject to change without notice.

REFERENCE REQUIREMENTS

Reference Frequency	10 MHz	
Input Level	-3 to +6 dBm	
Input Impedance	50 Ω	
Input VSWR	1.5:1	
Phase Noise	Offset	TYP
	10Hz	-110
	100 Hz	-140
	1 KHz	-153
	10 KHz	-155
	100 KHz	-155

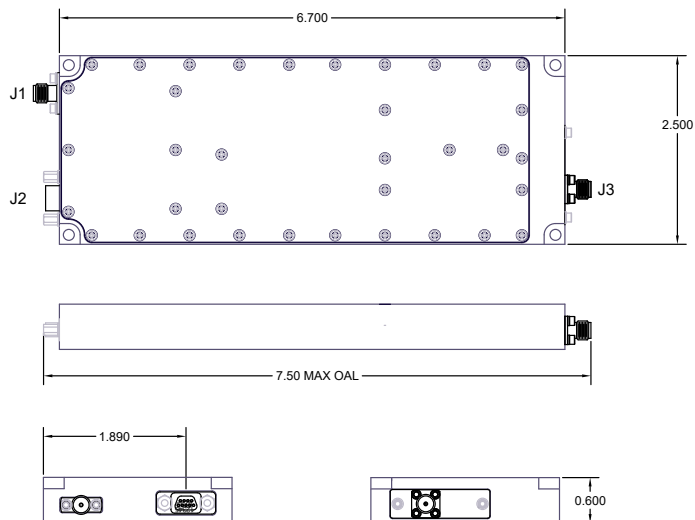
GAIN SPECIFICATIONS

Conversion Gain	0 dB $\pm$ 2 dB Max
Gain Adjust Range:	+25 dB 0.1 dB steps
Gain Flatness per 40 MHz	< 0.5 Max
Gain Flatness per 200 MHz	< 1.0 dB Max
Gain Flatness, each Band	<1.5 dB Max

IO SPECIFICATIONS

Supply Voltage	+12 VDC, $\pm$ 0.5V
Current	750 mA TYP
Programming Format	RS232

PACKAGE OUTLINE



All dimensions are in inches unless otherwise specified
.XX = +/- 0.03

PIN DESCRIPTIONS

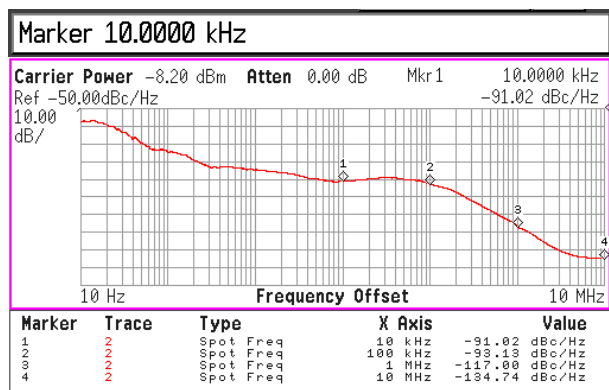
J1	IF / REF Input		Female SMA
J2	DC, GND, I/O		9-Pin, Male, Micro-D
J3	REF Output		Female SMA
Micro-D Connector Pinout			
P1	BUC Tx D (RS-232)	P6	Summary Fault
P2	BUC Rx D (RS-232)	P7	GND
P3	GND	P8	GND
P4	VCC	P9	GND
P5	VCC		

*Optional reference input on separate SMA.

MECHANICAL SPECIFICATIONS

Dimensions	6.7" x 2.5" x 0.6"
Housing	Aluminum Alloy
Finish	Electroless Nickel
Package Outline	EM Drawing 2200012031
Part Label	EM Drawing 8000013013

PHASE NOISE PLOT



ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-20°C to +70°C
Storage Temperature	-45°C to +85°C
Altitude	16,000 ft
Humidity	0 to 95% non-condensing

Custom designs are available. Please contact EM Research.



DETAILS

Title	Block Up-Converter Part No. QBUC-31000-04
File	DS-QBUC-31000-04-REVA
Scale	N/A
Size	A
Rev.	A

APPROVALS

Department	Date

REVISION HISTORY

Rev.	Description	Date	Approved
-	Configurable Product		

NOTES

