

GENERAL DESCRIPTION

The LNB-20200-10 is a triple K-Band to L-Band Low Noise Block Down Converter. The LNB series provides a versatile range of low noise block down converters for Ku and K band. This series features industry leading noise figure, low noise phase locked integrated LO, and optional hermetic sealing. These LNBS are designed to operate in harsh airborne environments as well as terrestrial terminals. They are also available with multiple switched bands in a single LNB.



LNB-20200-10 FEATURES

- State of the art noise figure
- Vibration tolerant
- Low phase noise
- Low spurious performance

LNB SERIES OPTIONS

- Multiple frequency ranges in a single LNB.
- Optional hermetic sealing
- 10 MHz or 50 MHz reference

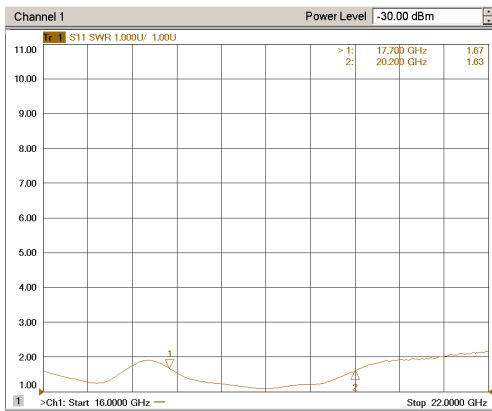
APPLIED INDUSTRIES



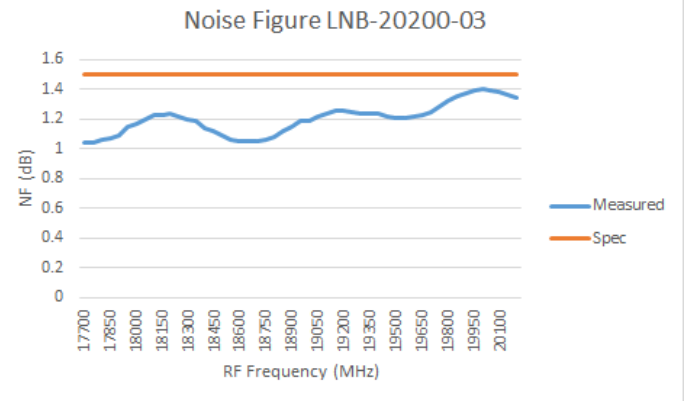
LT SERIES TYPICAL APPLICATIONS

- Satellite Communications
- Airborne Wifi connectivity

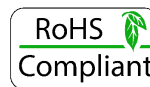
INPUT VSWR PLOT



NOISE FIGURE PLOT



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



ELECTRICAL SPECIFICATIONS

Frequency Band 1	17.70 - 18.70 (GHz)
Frequency Band 2	18.45 - 19.45 (GHz)
Frequency Band 3	19.20 - 20.20 (GHz)
IF Frequency	950 - 1950 (MHz)
LO Band 1 Frequency	16.75 (GHz)
LO Band 2 Frequency	17.50 (GHz)
LO Band 3 Frequency	18.25 (GHz)
LO Leakage at Input	-70 dBm Max
LO Phase Noise	
Offset	MAX (dBc/Hz)
100 Hz	-75
1 KHz	-85
10 KHz	-90
100 KHz	-95
1 MHz	-117
Noise Figure	1.5 dB @ 23° C, Max
Gain	60-67 dB
Gain Flatness (over any 10 MHz BW, max)	0.5 dB p-p
Gain Flatness (over any 120 MHz BW)	2.0 dB p-p
Gain Flatness (950-1950 MHz BW)	3.0 dB p-p
Gain Variation	± 2.0 dB over full temp range
Input VSWR	1.7 : 1.0 Max
3rd Order Intercept Point	21 dBm
Stability	Unconditional for any load
In Band Spurious	-50 dBc Max
Image Rejection	-50 dB Min

REFERENCE ELECTRICAL SPECIFICATIONS

External Reference		
Frequency	50 MHz, via IF Coax	
Input Level	0 dBm	
Input Impedance	50 Ω	
Reference Phase Noise	100 Hz	-130 dBc/Hz
	1 KHz	-160 dBc/Hz
	10 KHz	-165 dBc/Hz

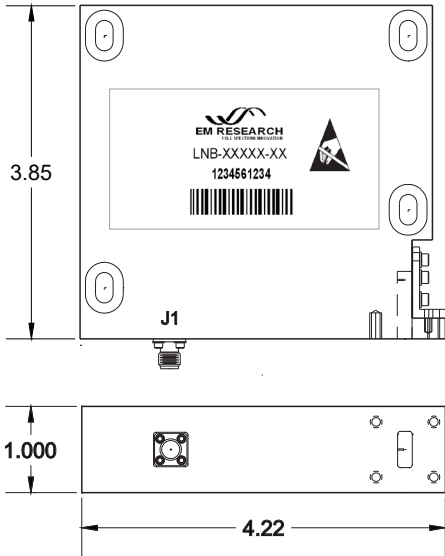
I/O SPECIFICATIONS

Supply Voltage	11.0 - 19.5 VDC
Current	800 mA Max
Band Switching: Input Voltage	Band 1: 11.0 - 12.5 VDC
	Band 2: 14.5 - 16.0 VDC
	Band 3: 18.0 - 19.5 VDC

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Page 2 of 4

PACKAGE OUTLINE



All dimensions are in inches unless otherwise specified
.XX = +/- 0.01.

PIN DESCRIPTIONS

Waveguide Flange, WR-42	
SMA Female	IF Output
	DC Input
	Reference Input

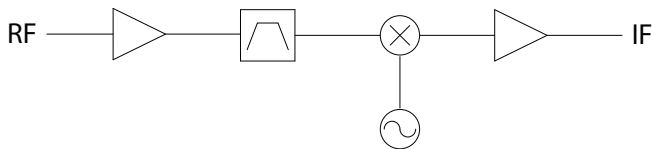
MECHANICAL SPECIFICATIONS

Package	Module Mount, 3.85" x 4.22" x 1.0"
Package Outline	EM Drawing # 2200039002B
Part Label	EM Drawing # 8000058002

ENVIRONMENTAL SPECIFICATIONS

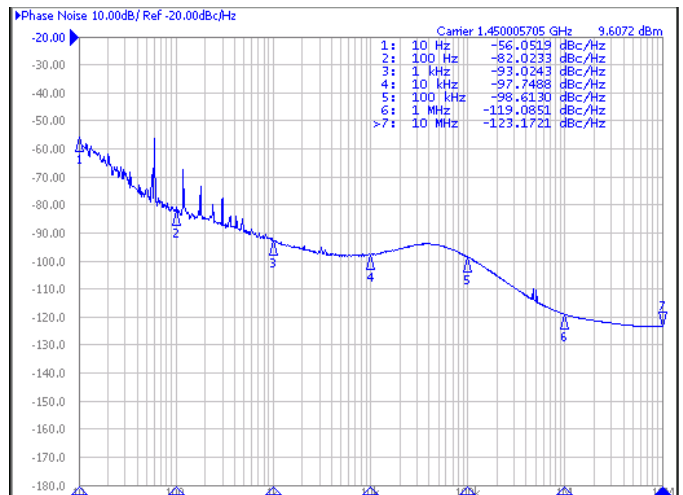
Standard Operating Temperature	-55°C to +70°C
Storage Temperature	-65°C to +125°C

BLOCK DIAGRAM



Custom designs are available. Please contact EM Research.

PHASE NOISE PLOT





DETAILS

Title	Programmable Frequency Synthesizer Part No. LNB-20200-10
File	SPC-LNB-20200-10-REVA
Scale	N/A
Size	A
Rev.	A

APPROVALS

Department	Date
DWN: Kielely Smith	3/30/20
QA: Susan Zandonella	3/13/20
MKTG: Sandi Renden	3/19/20
ENG: Ranjan Misra	3/17/20
MFG: Nick Hicks	3/16/20
Other: Connor VanKalmthout	3/19/20

REVISION HISTORY

Rev.	Description	Date	Approved
A	Configurable Product	3/30/20	DCR# 2004470

NOTES