

GENERAL DESCRIPTION

The LNB-12750-02 is a dual Ku-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.



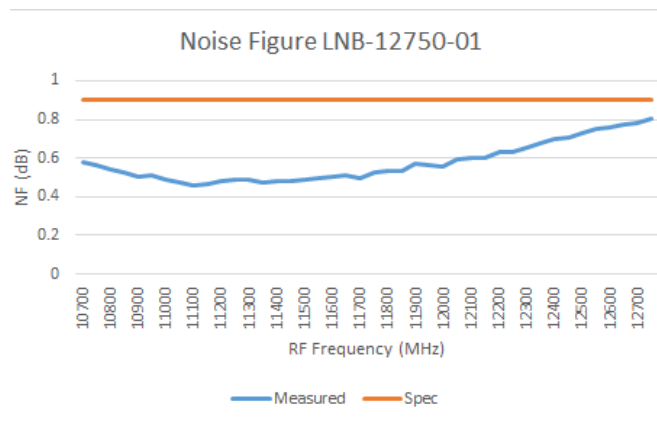
LNB-12750-02 FEATURES

- 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

NOISE FIGURE PLOT



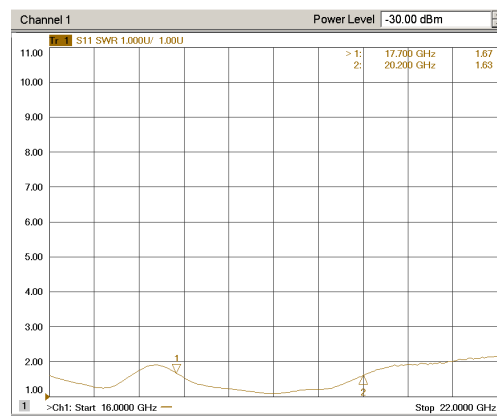
APPLIED INDUSTRIES



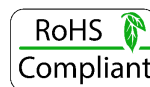
LNB SERIES TYPICAL APPLICATIONS

- Satellite Communications
- Airborne and ground-based wireless internet connectivity

INPUT VSWR PLOT



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



ELECTRICAL SPECIFICATIONS

Input Frequency	10700 - 12750 MHz
Frequency Band 1	10700 - 11700 MHz
Frequency Band 2	11700 - 12750 MHz
IF Frequency	950 - 1950 MHz
LO Band 1 Frequency	9750 MHz
LO Band 2 Frequency	10750 MHz
LO Leakage at Input	-70 dBm Max
LO Phase Noise	
Offset	MAX (dBc/Hz)
100 Hz	-70
1 KHz	-85
10 KHz	-90
100 KHz	-95
1 MHz	-120
Noise Figure	≤ 0.9 dB Max @ 25°C
Gain	65 dB ± 3 dB
Gain Flatness	± 0.4 dB over any 36 MHz Bw
	± 3.0 dB over full Bw
Gain Variation	± 3 dB over operating temp range
Two Tone IMD	-40 dBc for two output tones, 0 dBm each, 1 MHz apart
Stability	Unconditionally stable for all input loads
In Band Spurious	< -90 dBm @ no input signal
P1dB	> 10 dBm
OIP3	> 20 dBm
Image Rejection	50 dBc minimum
Input VSWR	1.9 : 1.0 Max
Output VSWR	2.0 : 1.0 Max
Max Input Signal	+10 dBm

REFERENCE ELECTRICAL SPECIFICATIONS

External Reference		
Frequency	10 MHz	
Input Level	0 dBm ± 3 dBm	
Input Impedance	50 Ω	
Reference Phase Noise	100 Hz	-125 dBc/Hz Max
	1 KHz	-140 dBc/Hz Max
	10 KHz	-150 dBc/Hz Max

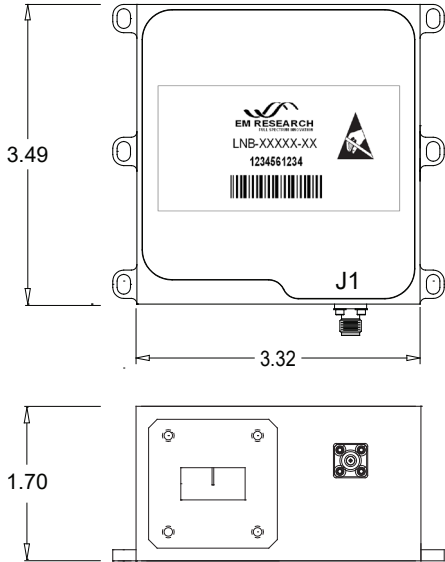
I/O SPECIFICATIONS

Supply Voltage	11.5V to 19.0 V DC (25V Max)
Current	550 mA Max
Band Switching: Input Voltage	11.5 V - 14.0 V (BAND 1)
	16.0 V - 19.0 V (BAND 2)

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Page 2 of 4

PACKAGE OUTLINE

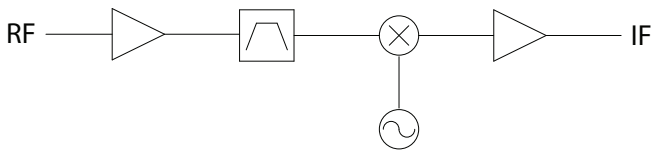


All dimensions are in inches unless otherwise specified
.XX = +/- 0.01.

ENVIRONMENTAL SPECIFICATIONS

Standard Operating Temperature	-55°C to +70°C
Storage Temperature	-65°C to +85°C

BLOCK DIAGRAM



Custom designs are available. Please contact EM Research.

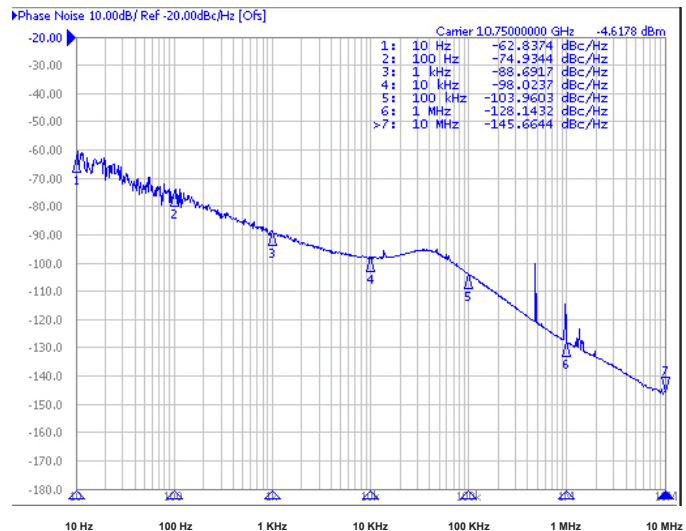
PIN DESCRIPTIONS

Waveguide Flange WR-75	
SMA Female	IF Output
	DC Input
	Reference Input

MECHANICAL SPECIFICATIONS

Package	Module Mount, 3.49" x 3.32" x 1.70"
Package Outline	EM Drawing # 2200039004
Part Label	EM Drawing # 8000058002

PHASE NOISE PLOT OF BAND 2 LO





DETAILS

Title	Programmable Frequency Synthesizer Part No. LNB-12750-02
File	SPC-LNB-12750-02-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	3/18/20
MFG: Nick Hicks	3/16/20
Other:	

REVISION HISTORY

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

NOTES