

2207HTFN

2000 Triple-Band Ku-Band PLL LNB (0.7 dB)

Frequency: F: 10.70 - 11.80 GHz | 10.95 - 12.10 GHz |
11.70 - 12.75 GHz

L.O. Stability: +/- 25 kHz

Output Connector: N: 50 Ohm



REACH



KEY SPECIFICATIONS

Band	Ku-Band
Input Frequency Band 1	10.70 - 11.80 GHz
Input Frequency Band 2	10.95 - 12.10 GHz
Input Frequency Band 3	11.70 - 12.75 GHz
LO Frequency 1	9.75 GHz
LO Frequency 2	10.00 GHz
LO Frequency 3	10.75 GHz
LO Stability	±25 kHz
LO Type	PLL
Noise Figure Max	0.8 dB
Noise Figure Typ	0.7 dB
Number Of Onboard Los	Triple-Band
Output Frequency Band 1	950 - 2050 MHz
Output Frequency Band 2	950 - 2100 MHz
Output Frequency Band 3	950 - 2000 MHz
Tone Frequency	22 kHz ± 4 kHz

RF SPECIFICATIONS

Control Signal 1	13V / No Tone
Control Signal 2	13V / 22kHz Tone
Control Signal 3	18V / No Tone
Conversion Gain Max	65 dB
Conversion Gain Min	55 dB



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Conversion Gain Typ	60 dB
Gain Flatness (over Full Band)	≤ 6 dB p-p
Input VSWR	2.3 : 1 max.
Output P1db	+ 5 dBm min.
Output VSWR	2.2 : 1 max.
Phase Noise 0.1kHz Offset Max	-125 dBc/Hz
Phase Noise 1kHz Offset Max	-75 dBc/Hz
Phase Noise 10kHz Offset Max	-80 dBc/Hz
Phase Noise 100kHz Offset Max	-93 dBc/Hz

ELECTRICAL SPECIFICATIONS

Current Consumption	350 mA max
Power Requirements	+12 to +24V DC

INTERFACE SPECIFICATIONS

IF Connector	N-Connector
RF Input Connector	WR-75 waveguide grooved

ENVIRONMENTAL SPECIFICATIONS

Humidity	0 - 95%
IP Rating	IP 66
Temperature Operational	-40°C to +70°C
Temperature Storage	-50 to +80°C

PHYSICAL SPECIFICATIONS

Product Height	1.70 in
Product Length	4.46 in
Product Weight	0.255 kg
Product Width	1.72 in

LOGISTICS SPECIFICATIONS

HS Code	Country of Origin	Ex Works	ECCN Number	Unit Package
	Made in Canada	Richmond, BC, Canada	EAR99	135 x 68 x 48 mm 0.335 kg

HOW TO ORDER



2108HSAF

LNB SERIES #	CONNECTOR	F: 75 Ohm N: 50 Ohm
	FREQUENCY	A / B / C / D / E / F / G (Please see next page for frequency bands)
	BAND	S: Single-Band D: Dual-Band T: Triple-Band U: Quad-Band
	REFERENCE	H: Internal Reference X: External Reference
	NOISE FIGURE	7: 0.7 dB 8: 0.8 dB 9: 0.9 dB
	L.O STABILITY	0: External Reference 1: ± 10 kHz 2: ± 25 kHz

MECHANICAL DIAGRAMS





FREQUENCY BANDS

Single Band				Dual Band								
Band	RF freq (GHz)	L.O freq (GHz)	Output freq	Band	RF freq (GHz)	L.O freq (GHz)	Output freq	Voltage/Tone				
A	11.7 - 12.20	10.75	950 - 1450 MHz	A	Band 1	10.95 - 11.70	10	950 - 1700 MHz	13 V			
B	12.25 - 12.75	11.3	950 - 1450 MHz		Band 2	11.70 - 12.75	10.75	950 - 2000 MHz	18 V			
C	10.95 - 11.70	10	950 - 1700 MHz	B	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V			
D	10.70-11.80	9.75	950 - 2050 MHz		Band 2	11.70 - 12.75	10.75	950 - 2000 MHz	18 V			
Triple Band				C	Band 1	10.95 - 11.70	10	950 - 1700 MHz	13 V			
Band	RF freq (GHz)	L.O freq (GHz)	Output freq		Voltage/Tone	Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz		
A	Band 1	10.95 - 11.70	10	950 - 1700 MHz	13 V	D	Band 1	10.95 - 11.70	10	950 - 1700 MHz	13 V	
	Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz		Band 2	12.25 - 12.75	11.3	950 - 1450 MHz	18 V	
B	Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V	D	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V	
	Band 1	10.95 - 11.70	10	950 - 1700 MHz	13 V		Band 2	11.70 - 12.25	10.75	950 - 1500 MHz	13 V / 22 kHz	
C	Band 2	11.70 - 12.25	10.75	950 - 1500 MHz	13 V / 22 kHz	D	Band 3	12.25 - 12.75	11.3	950 - 1450 MHz	18 V	
	Band 3	12.25 - 12.75	11.3	950 - 1450 MHz	18 V		Quad Band					
D	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V	Band	RF freq (GHz)	L.O freq (GHz)	Output freq	Voltage/Tone		
	Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz	A	Band 1	10.70 - 11.20	9.75	950 - 1450 MHz	13 V	
C	Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V		Band 2	11.20 - 11.70	10.25	950 - 1450 MHz	13 V / 22 kHz	
	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V		Band 3	11.70 - 12.25	10.75	950 - 1500 MHz	18 V	
D	Band 2	11.70 - 12.25	10.75	950-1500 MHz	13 V / 22 kHz		Band 4	12.25 - 12.75	11.3	950 - 1450 MHz	18 V / 22kHz	
	Band 3	12.25 - 12.75	11.3	950-1450 MHz	18 V	B	Band 1	10.70 - 10.95	9.75	950 - 1200 MHz	13 V	
E	Band 1	10.95 - 11.70	10	950 - 1700 MHz	13 V		Band 2	10.95 - 11.70	10	950 - 1700 MHz	13 V / 22 kHz	
	Band 2	11.55 - 12.25	10.6	950 - 1650 MHz	13 V / 22 kHz		Band 3	11.70 - 12.25	10.75	950 - 1500 MHz	18 V	
F	Band 3	12.20 - 12.70	11.25	950 - 1450 MHz	18 V		Band 4	12.25 - 12.75	11.3	950 - 1450 MHz	18 V / 22kHz	
	Band 1	10.70 - 11.80	9.75	950 - 2050 MHz	13 V	C	Band 1	10.70 - 11.20	9.75	950 - 1450 MHz	13 V	
G	Band 2	10.95 - 12.10	10	950 - 2100 MHz	13 V / 22 kHz		Band 2	11.20 - 11.70	10.25	950 - 1450 MHz	13 V / 22 kHz	
	Band 3	11.70 - 12.75	10.75	950 - 2000 MHz	18 V		Band 3	11.70 - 12.20	10.75	950 - 1450 MHz	18 V	
G	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V		D	Band 4	12.20 - 12.75	11.25	950 - 1500 MHz	18 V / 22kHz
	Band 2	11.70 - 12.70	10.75	950 - 1950 MHz	13 V / 22 kHz	Band 1		10.95 - 11.45	10	950 - 1450 MHz	13 V	
	H	Band 3	12.25 - 12.75	11.3	950 - 1450 MHz	18 V		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz	13 V / 22 kHz
		I	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz		13 V	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
J	Band 2		11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz	I	Band 4	12.20 - 12.75	11.25	950 - 1500 MHz	18 V / 22kHz
	K	Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V		J	Band 1	10.95 - 11.45	10	950 - 1450 MHz
L		Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V	K		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz
	M	Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz		L	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
N		Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V	M		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz
	O	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V		N	Band 1	10.95 - 11.45	10	950 - 1450 MHz
P		Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz	O		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz
	Q	Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V		P	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
R		Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V	Q		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz
	S	Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz		R	Band 1	10.95 - 11.45	10	950 - 1450 MHz
T		Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V	S		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz
	U	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V		T	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
V		Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz	U		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz
	W	Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V		V	Band 1	10.95 - 11.45	10	950 - 1450 MHz
X		Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V	W		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz
	Y	Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz		X	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
Z		Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V	Y		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz
	AA	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V		Z	Band 1	10.95 - 11.45	10	950 - 1450 MHz
AB		Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz	AA		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz
	AC	Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V		AB	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
AD		Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V	AC		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz
	AE	Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz		AD	Band 1	10.95 - 11.45	10	950 - 1450 MHz
AF		Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V	AE		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz
	AG	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V		AF	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
AH		Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz	AG		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz
	AI	Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V		AH	Band 1	10.95 - 11.45	10	950 - 1450 MHz
AJ		Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V	AI		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz
	AK	Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz		AJ	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
AL		Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V	AK		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz
	AM	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V		AL	Band 1	10.95 - 11.45	10	950 - 1450 MHz
AN		Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz	AM		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz
	AO	Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V		AN	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
AP		Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V	AO		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz
	AQ	Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz		AP	Band 1	10.95 - 11.45	10	950 - 1450 MHz
AR		Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V	AQ		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz
	AS	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V		AR	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
AT		Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz	AS		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz
	AU	Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V		AT	Band 1	10.95 - 11.45	10	950 - 1450 MHz
AV		Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V	AU		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz
	AW	Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz		AV	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
AX		Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V	AW		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz
	AY	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V		AX	Band 1	10.95 - 11.45	10	950 - 1450 MHz
AZ		Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz	AY		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz
	BA	Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V		AZ	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
BB		Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V	BA		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz
	BC	Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz		BB	Band 1	10.95 - 11.45	10	950 - 1450 MHz
BD		Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V	BC		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz
	BE	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V		BD	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
BF		Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz	BE		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz
	BG	Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V		BF	Band 1	10.95 - 11.45	10	950 - 1450 MHz
BH		Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V	BG		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz
	BI	Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz		BH	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
BJ		Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V	BI		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz
	BK	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V		BJ	Band 1	10.95 - 11.45	10	950 - 1450 MHz
BL		Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz	BK		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz
	BM	Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V		BL	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
BN		Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V	BM		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz
	BO	Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz		BN	Band 1	10.95 - 11.45	10	950 - 1450 MHz
BP		Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V	BO		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz
	BQ	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V		BP	Band 3	11.70 - 12.20	10.75	950 - 1450 MHz
BR		Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz	BQ		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz
	BS	Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V		BR	Band 1	10.95 - 11.45	10	950 - 1450 MHz
BT		Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V	BS		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz