

### **Innovative Communication Solutions**

### **2209HUCN**

### 2000 Quad-Band Ku-Band PLL LNB

### (0.9 dB)

Frequency: C: 10.70 - 11.20 GHz | 11.20 - 11.70 GHz | 11.70 - 12.20 GHz | 12.20 - 12.75 GHz L.O. Stability: +/- 25 kHz Output Connector: N: 50 Ohm





### **KEY SPECIFICATIONS**

Band	Ku-Band
Input Frequency Band 1	10.70 - 11.20 GHz
Input Frequency Band 2	11.20 - 11.70 GHz
Input Frequency Band 3	11.70 - 12.20 GHz
Input Frequency Band 4	12.20 - 12.75 GHz
LO Frequency 1	9.75 GHz
LO Frequency 2	10.25 GHz
LO Frequency 3	10.75 GHz
LO Frequency 4	11.25 GHz
LO Stability	±25 kHz
LO Туре	PLL
Noise Figure Max	1.0 dB
Noise Figure Typ	0.9 dB
Number Of Onboard Los	Quad-Band
Output Frequency Band 1	950 - 1450 MHz
Output Frequency Band 2	950 - 1450 MHz
Output Frequency Band 3	950 - 1450 MHz
Output Frequency Band 4	950 - 1500 MHz
Tone Frequency	22 kHz ± 4 kHz

/ No Tone

/ 22kHz Tone

### 

Control Signal 1	13V
Control Signal 2	13V





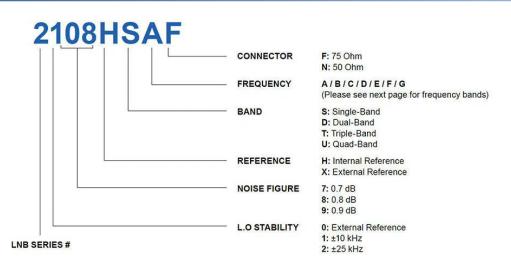
# **International Inc.**

			Inn	ovative Co	ommuni	cation Solution		
Control Signal 3			18V / No Ton	Э				
Control Signal 4			18V / 22kHz <sup>-</sup>	lone				
Conversion Gain Max			65 dB					
<b>Conversion Gain Min</b>			55 dB					
Conversion Gain Typ			60 dB					
Gain Flatness (over Full Ban	d)		≤ 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 N	lax		-125 dBc/Hz					
ELECTRICAL SPI	ECIFICATIONS	S						
Current Consumption			350 mA max					
Power Requirements			+12 to +24V	DC				
INTERFACE SPE	CIFICATIONS							
IF Connector		N-Connector						
RF Input Connector			WR-75 waveguide grooved					
ENVIRONMENTA	L SPECIFICAT	<b>FIONS</b>						
Humidity			0 - 95%					
IP Rating			IP 66					
Temperature Operational			-40°C to +70°C					
Temperature Storage			-50 to +80°C					
PHYSICAL SPEC	<b>IFICATIONS</b>							
Product Height			1.70 in					
Product Length			4.46 in					
Product Weight			0.255 kg					
Product Width			1.72 in					
LOGISTICS SPEC	FICATIONS							
HS Code C	ountry of Origin	Ex Works		ECCN Number	U	nit Package		
Μ	lade in Canada	Richmond, B	C, Canada	EAR99		35 x 68 x 48 mm   .335 kg		
HOW TO ORDER								

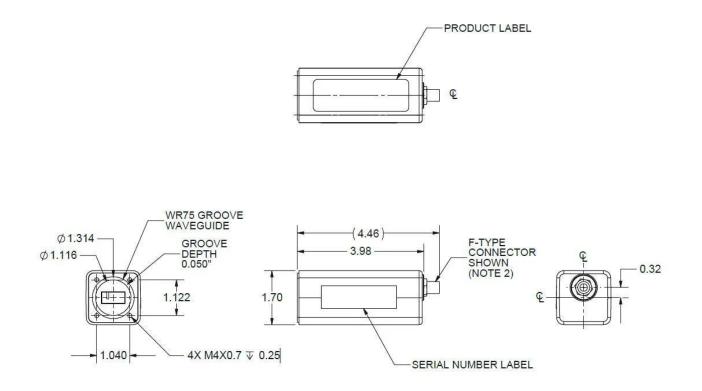




### **Innovative Communication Solutions**



### **MECHANICAL DIAGRAMS**







## Norsat

### **Innovative Communication Solutions**

### **FREQUENCY BANDS**

Single Band				Dual Band							
Band	_	freq (GHz)	L.O freq (GHz)	Output freq		Band	RF freq (GHz)		L.O freq (GHz)	Output freq	Voltage/Tone
A		1.7 - 12.20	10.75		- 1450 MHz	A	Band 1	10.95 - 11.70	10	950 - 1700 MHz	13 V
B		2.25 - 12.75 0.95 - 11.70	11.3 10		- 1450 MHz - 1700 MHz		Dand I	10.33 - 11.70	10	000 1100 1112	
D		0.70-11.80	9.75		- 1700 MHz - 2050 MHz		Band 2	11.70 - 12.75	10.75	950 - 2000 MHz	18 V
			Triple Band	2000 2000 11112			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	в	Danu I	10.70 - 11.70	5.15	330 - 1330 Militz	13 Y
	Band 1	10.95 - 11.70	10	950 - 1700 MHz	13 V	c	Band 2	11.70 - 12.75	10.75	950 - 2000 MHz	18 V
A	Band 2	11.70 - 12.20	10.75	950 - 1450 MHz	13 V / 22 kHz		Band 1	10.95 - 11.70	10	950 - 1700 MHz	13 V
	Band 3	12.20 - 12.75	11.25	950 - 1500 MHz	18 V		Band 2	12.25 - 12.75	11.3	950 - 1450 MHz	18 V
	Band 1	10.95 - 11.70	10	950 - 1700 MHz	13 V		Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V
в	Band 2	11.70 - 12.25	10.75	950 - 1500 MHz	13 V / 22 kHz	D	Dana 1	10.10 11.10	0.70	000 1000 1112	
	Daniel 2	40.05 40.75	44.2	050 4450 141-	40.1/		Band 2	11.70 - 12.75	10.6	1100 - 2150 MHz	18 V
	Band 3	12.25 - 12.75	11.3	950 - 1450 MHz	18 V				Quad Band		
	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
с	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
	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
5						в	Band 1	10.70 - 10.95	9.75	950 - 1200 MHz	13 V
	Band 3	12.25 - 12.75	11.3	950-1450 MHz	18 V		Band 2	10.95 - 11.70	10	950 - 1700 MHz	13 V / 22 kHz
	Band 1	10.95 - 11.70	10	950 - 1700 MHz	13 V		Band 3	11.70 - 12.25	10.75	950 - 1500 MHz	18 V
E	Band 2	11.55 - 12.25	10.6	950 - 1650 MHz	13 V / 22 kHz		Band 4	12.25 - 12.75	11.3	950 - 1450 MHz	18 V / 22kHz
	Band 3	12.20 - 12.70	11.25	950 - 1450 MHz	18 V		Band 1	10.70 - 11.20	9.75	950 - 1450 MHz	13 V
	Band 1	10.70 - 11.80	9.75	950 - 2050 MHz	13 V	c	Band 2	11.20 - 11.70	10.25	950 - 1450 MHz	13 V / 22 kHz
F	Band 2	10.95 - 12.10	10	950 - 2100 MHz	13 V / 22 kHz		Band 3	11.70 - 12.20	10.75	950 - 1450 MHz	18 V
	Band 3	11.70 - 12.75	10.75	950 - 2000 MHz	18 V		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz	18 V / 22kHz
	Band 1	10.70 - 11.70	9.75	950 - 1950 MHz	13 V		Band 1	10.95 - 11.45	10	950 - 1450 MHz	13 V
G	Band 2	11.70 - 12.70	10.75	950 - 1950 MHz	13 V / 22 kHz		Band 2	11.45 - 11.95	10.5	950 - 1450 MHz	13 V / 22 kHz
G	band 2	11.70 - 12.70	10.75	900 - 1950 MHZ	13 V / 22 KHZ		Band 3	11.70 - 12.20	10.75	950 - 1450 MHz	18 V
	Band 3	12.25 - 12.75	11.3	950 - 1450 MHz	18 V		Band 4	12.20 - 12.75	11.25	950 - 1500 MHz	18 V / 22kHz



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