

LNF-LNC6_20C

6-20 GHz Cryogenic Low Noise Amplifier

Rev: Feb 2017



Product features

- RF bandwidth: 6-20 GHz
- Noise Temperature: 4.7 K typical
- Noise Figure: 0.070 dB typical
- Gain: 38 dB
- DC-power: $V_d=0.70$ V, $I_d=14$ mA
- One gate and one drain supply only
- RF-connectors: female SMA
- DC-connector: 9-pin female Nano-D

Product description

LNF-LNC6_20C is an ultra-low noise cryogenic amplifier operating in the 6-20 GHz frequency range. The LNA is packaged in a coaxial module using industry standard SMA and Nano-D connectors. The lightweight gold plated aluminum module measures 22.0*19.6*7.80 mm excluding the connectors.

Absolute maximum ratings

Parameter	Min	Max
V_{ds}	-0.5 V	3 V
I_{ds}		100 mA
V_{gs}	-20 V	+20 V
RF Input drive level		-10 dBm
DC voltage on RF input and output	-30V	30V

Typical RF Characteristics

Parameter	Test Condition	Value	Unit
Gain	6-20GHz	38	dB
Noise	6-20 GHz	4.7	K
IRL	6-20 GHz	15	dB
ORL	6-20 GHz	15	dB
P_{1dB}	13 GHz	-10	dBm
OIP3	13 GHz	0	dBm

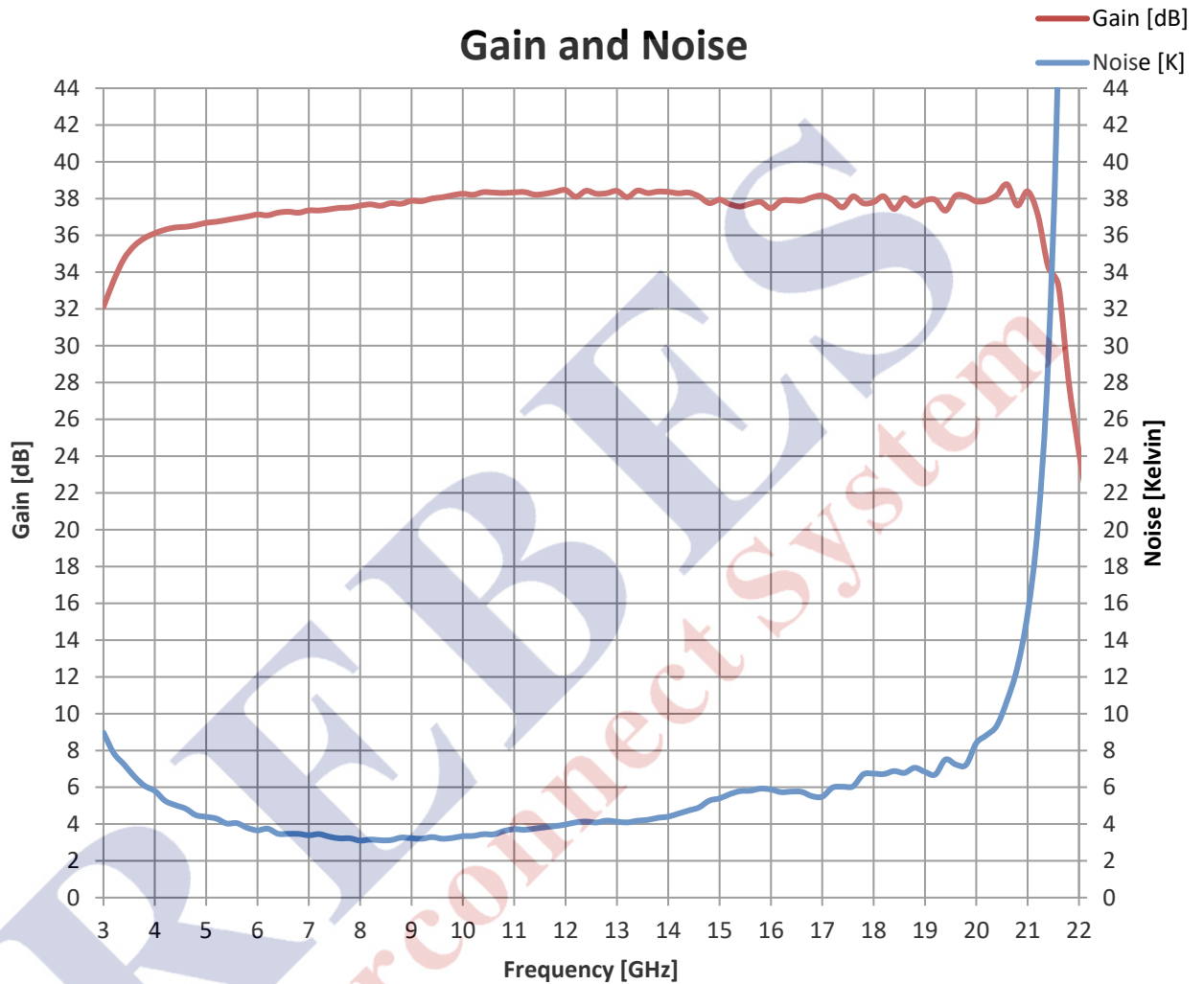
Typical DC Characteristics

Parameter	Value	Unit
V_{ds}	0.7	V
I_{ds}	14	mA
V_{gs}	+0.4	V
I_{gs}	36	μ A
P_{dc}	9.8	mW

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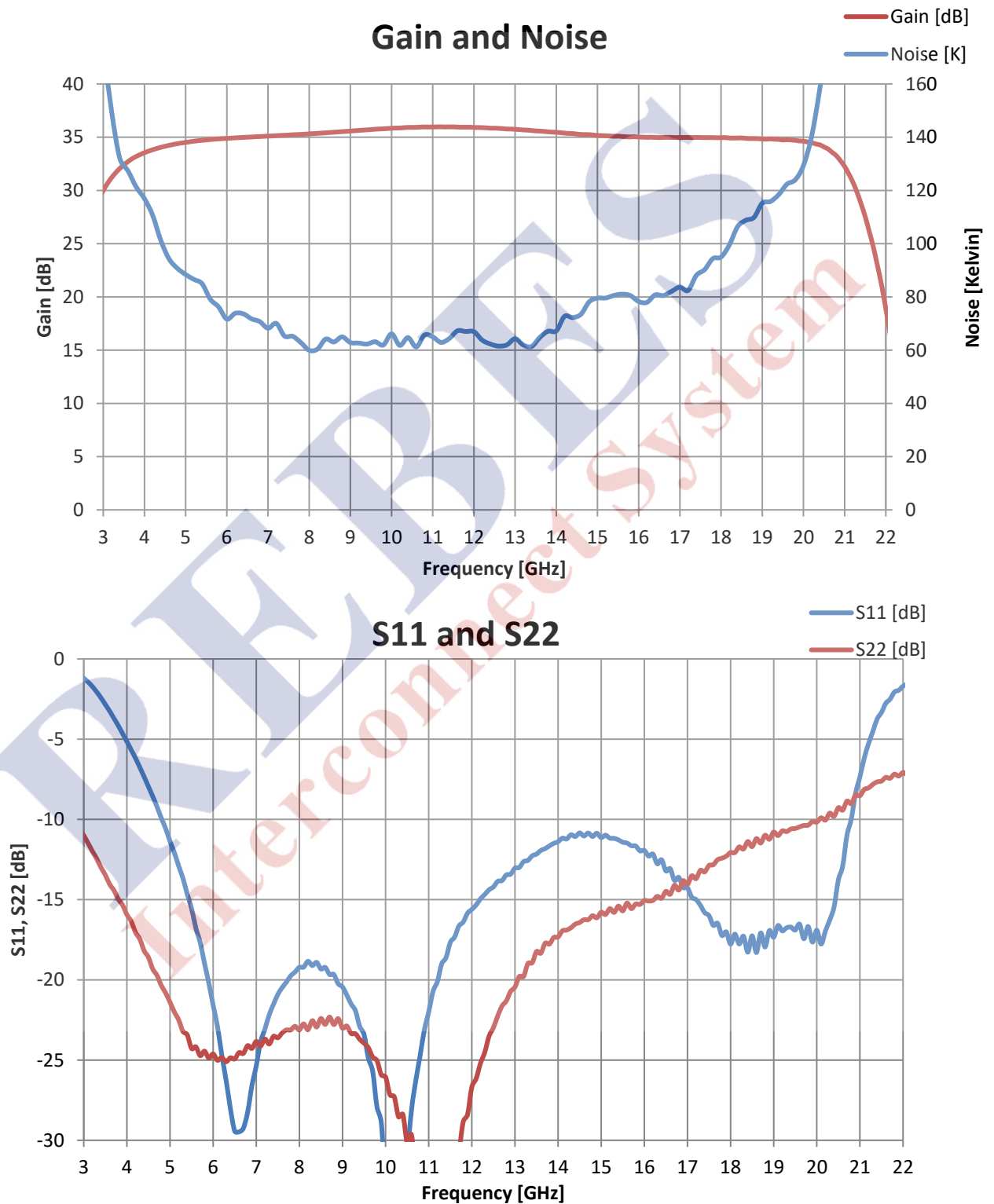
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Measured typical data $T_{\text{amb}}=5\text{ K}$ 

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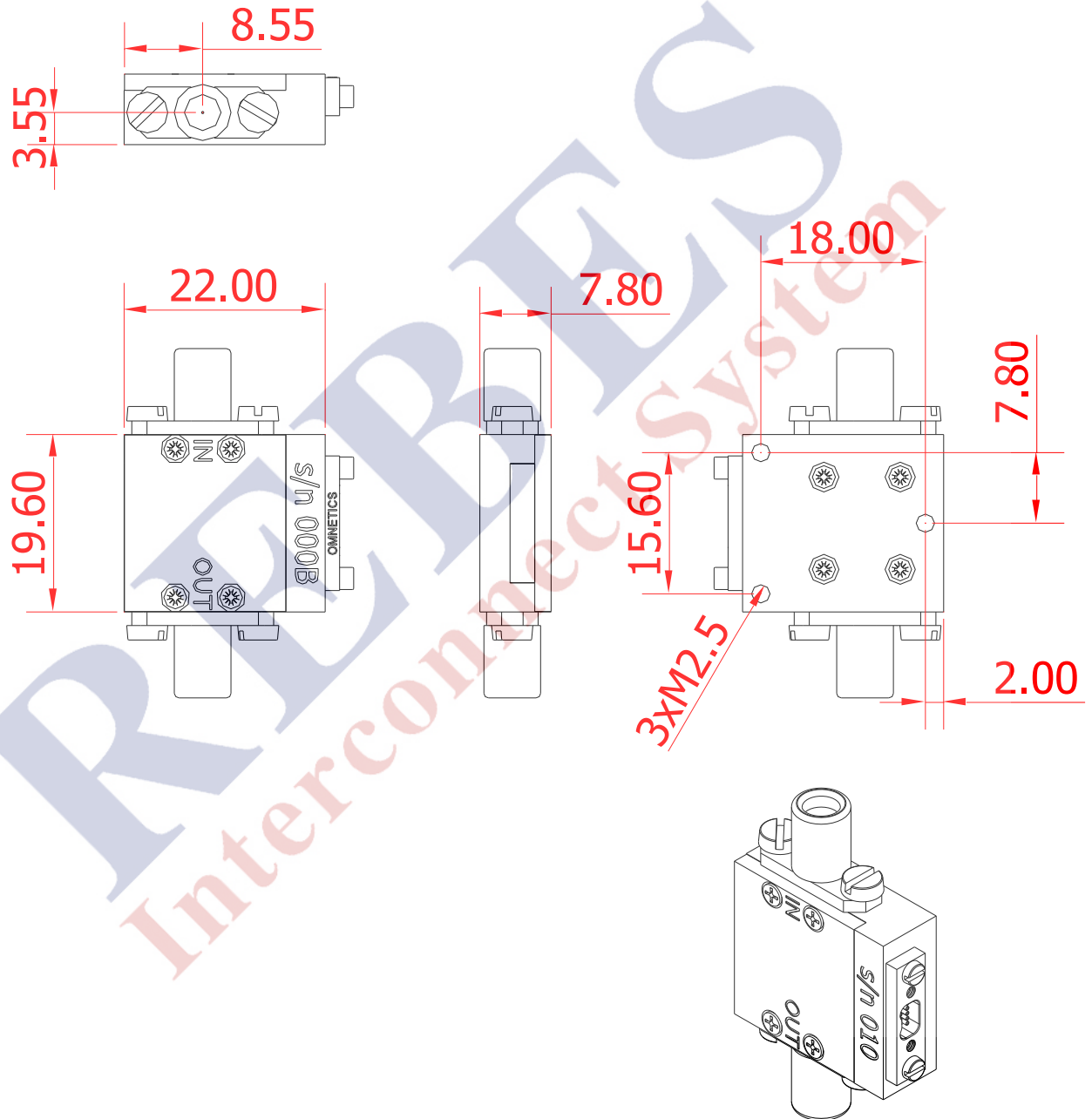
Measured typical data @ $T_{amb}=296\text{ K}$ 

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Drawings



Dimensions are in millimeters