

LNF-LNC1.5_6A

1.5-6 GHz Cryogenic Low Noise Amplifier

Rev: May 2018



Product features

- RF bandwidth: 1.5-6 GHz
- Noise Temperature: 1.9 K typical
- Noise Figure: 0.028 dB typical
- Gain: 27 dB
- DC-power: $V_d=1.00$ V, $I_d=20$ mA
- One gate and one drain supply only
- RF-connectors: female SMA
- DC-connector: 9-pin female Nano-D

Product description

LNF-LNC1.5_6A is an ultra-low noise cryogenic amplifier operating in the 1.5-6 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	1.5-6 GHz	27	dB
Noise	1.5-6 GHz	1.9	K
IRL	1.5-6 GHz	12	dB
ORL	1.5-6 GHz	14	dB

Typical DC Characteristics

Parameter	Value	Unit
V_{ds}	1.0	V
I_{ds}	20	mA
V_{gs}	-0.3	V
I_{gs}	30	μ A
P_{dc}	20	mW

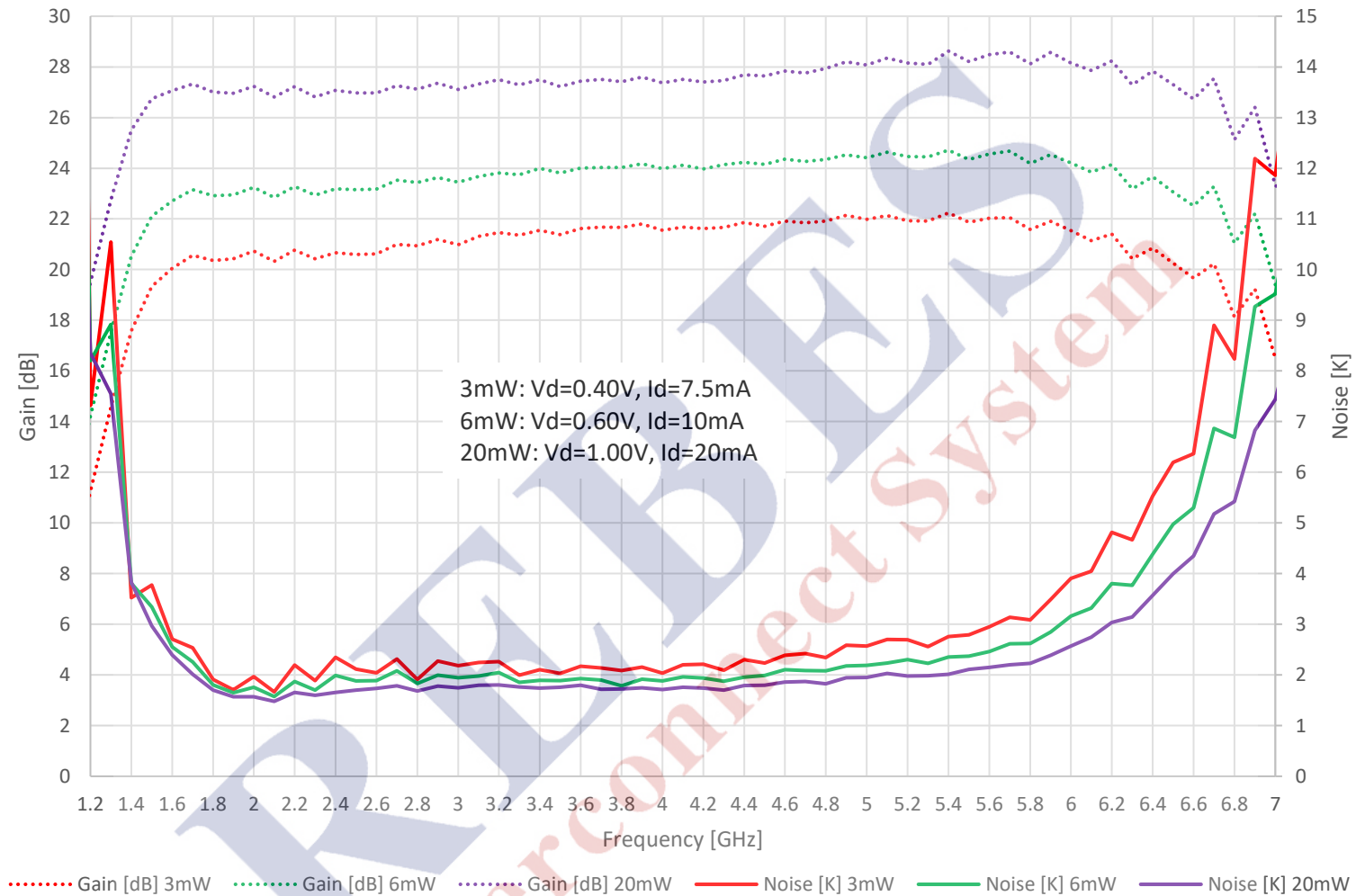
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Measured typical data $T_{amb}=4\text{ K}$

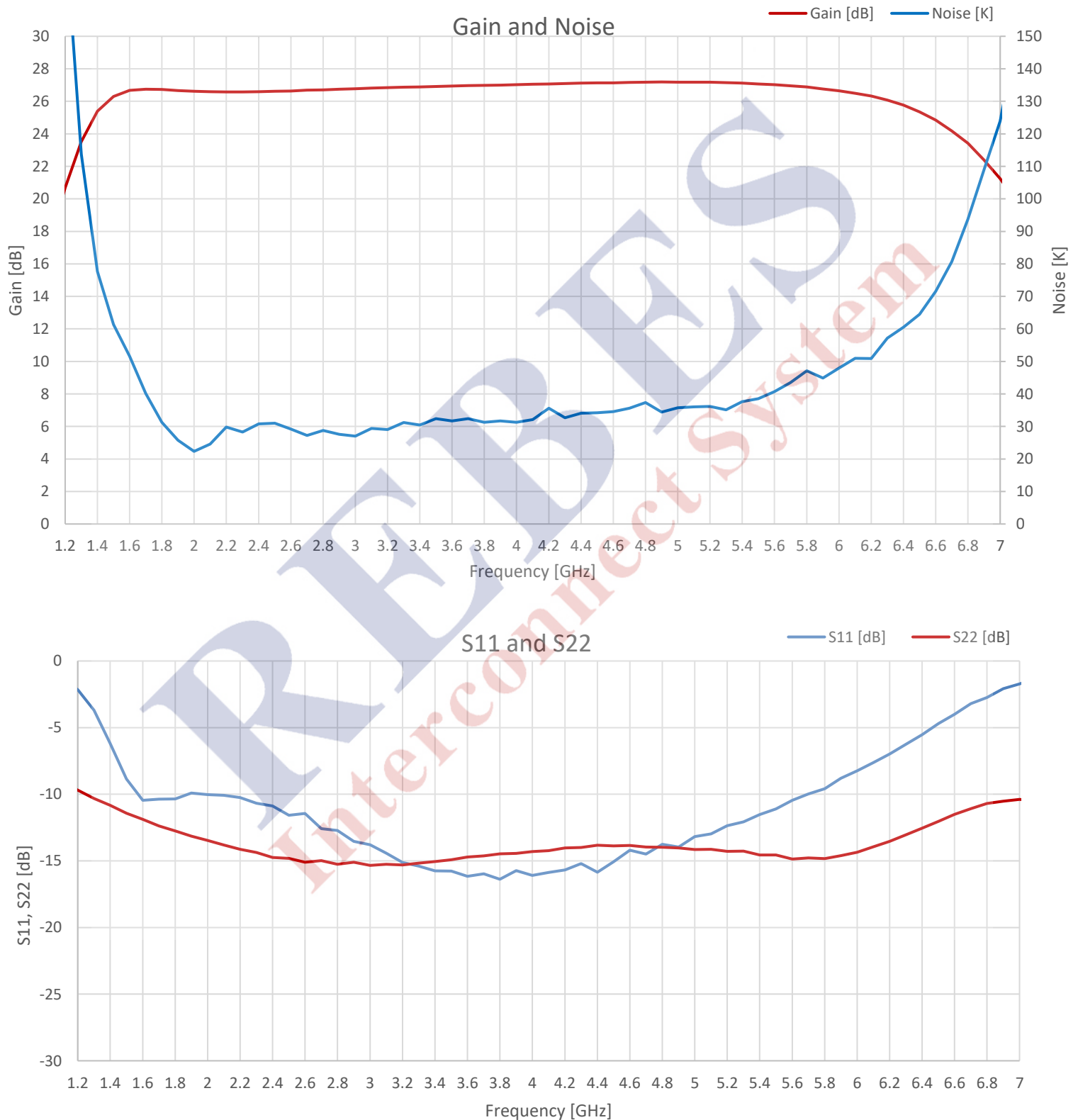
Gain and Noise



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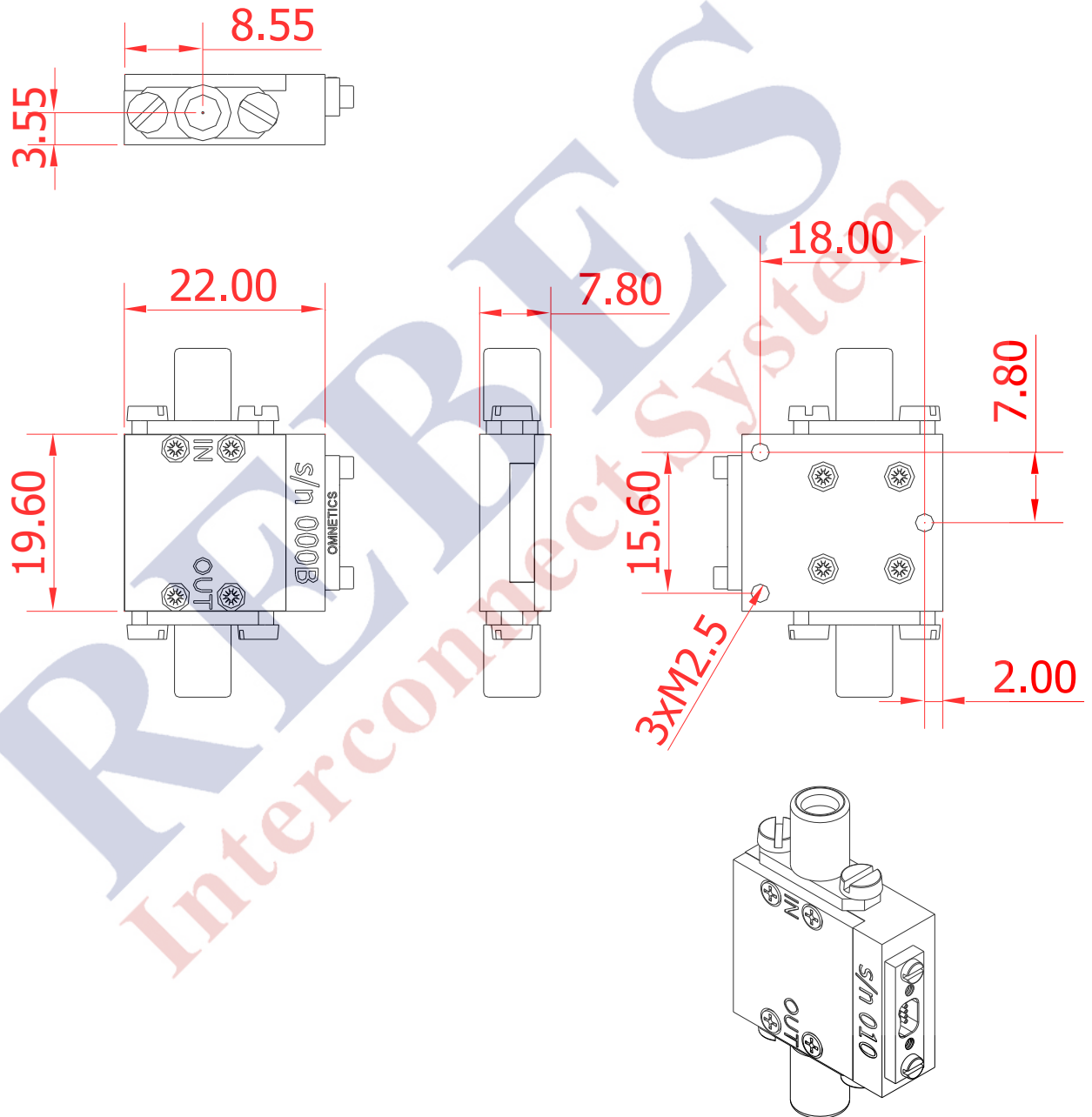
Measured typical data @ $T_{amb}=296\text{ K}$ 

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Drawings



Dimensions are in millimeters