

LNF-LNC0.3_14A

0.3-14 GHz Cryogenic Low Noise Amplifier

Rev: May 2018



Product features

- RF bandwidth: 0.3-14 GHz
- Noise Temperature: 4.2 K typical
- Noise Figure: 0.062 dB typical
- Gain: 36 dB
- DC-power: $V_d=1.00$ V, $I_d=22$ mA
- One gate and one drain supply only
- RF-connectors: female SMA
- DC-connector: 9-pin female Nano-D

Product description

LNF-LNC0.3_14A is an ultra-low noise cryogenic amplifier operating in the 0.3-14 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	2-14GHz	36	dB
Noise	0.3-14 GHz	4.2	K
IRL	4-14 GHz	15	dB
ORL	1-14 GHz	20	dB
P_{1dB}	5 GHz	-10	dBm
OIP3	5 GHz	0	dBm

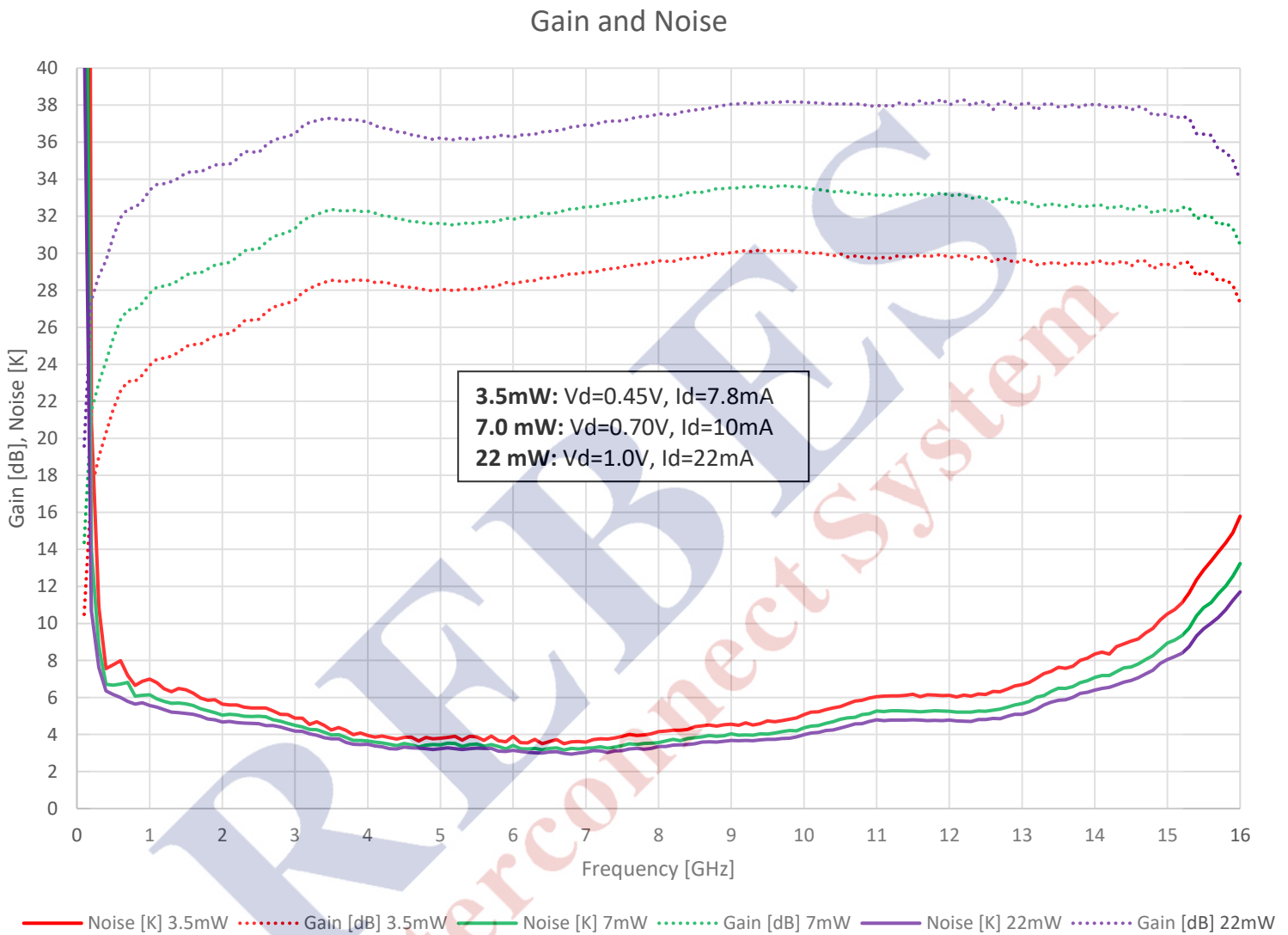
Typical DC Characteristics

Parameter	Value	Unit
V_{ds}	1.0	V
I_{ds}	22	mA
V_{gs}	-0.1	V
I_{gs}	10	μ A
P_{dc}	22	mW

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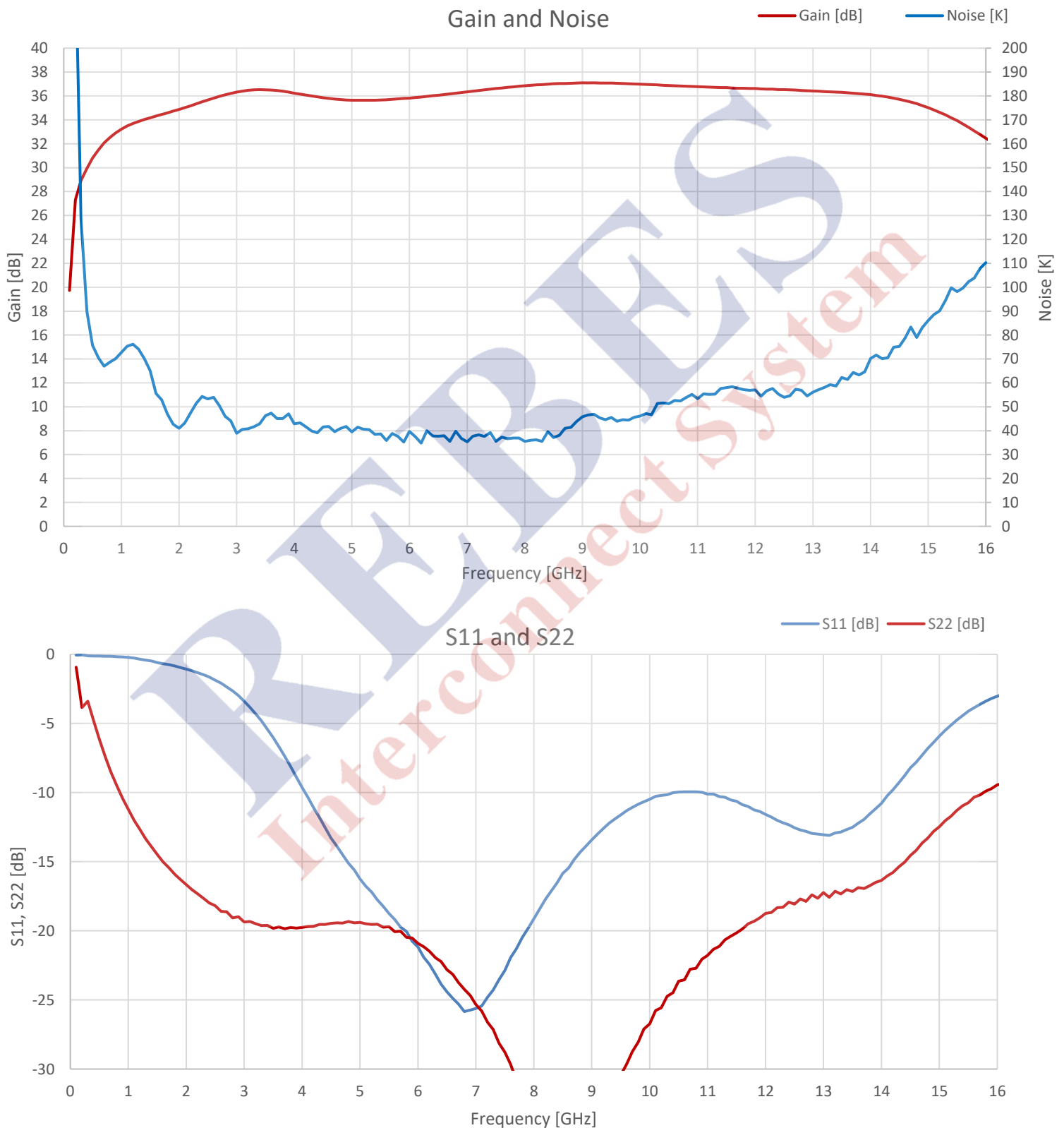
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Measured typical data $T_{amb}=4\text{ K}$ 

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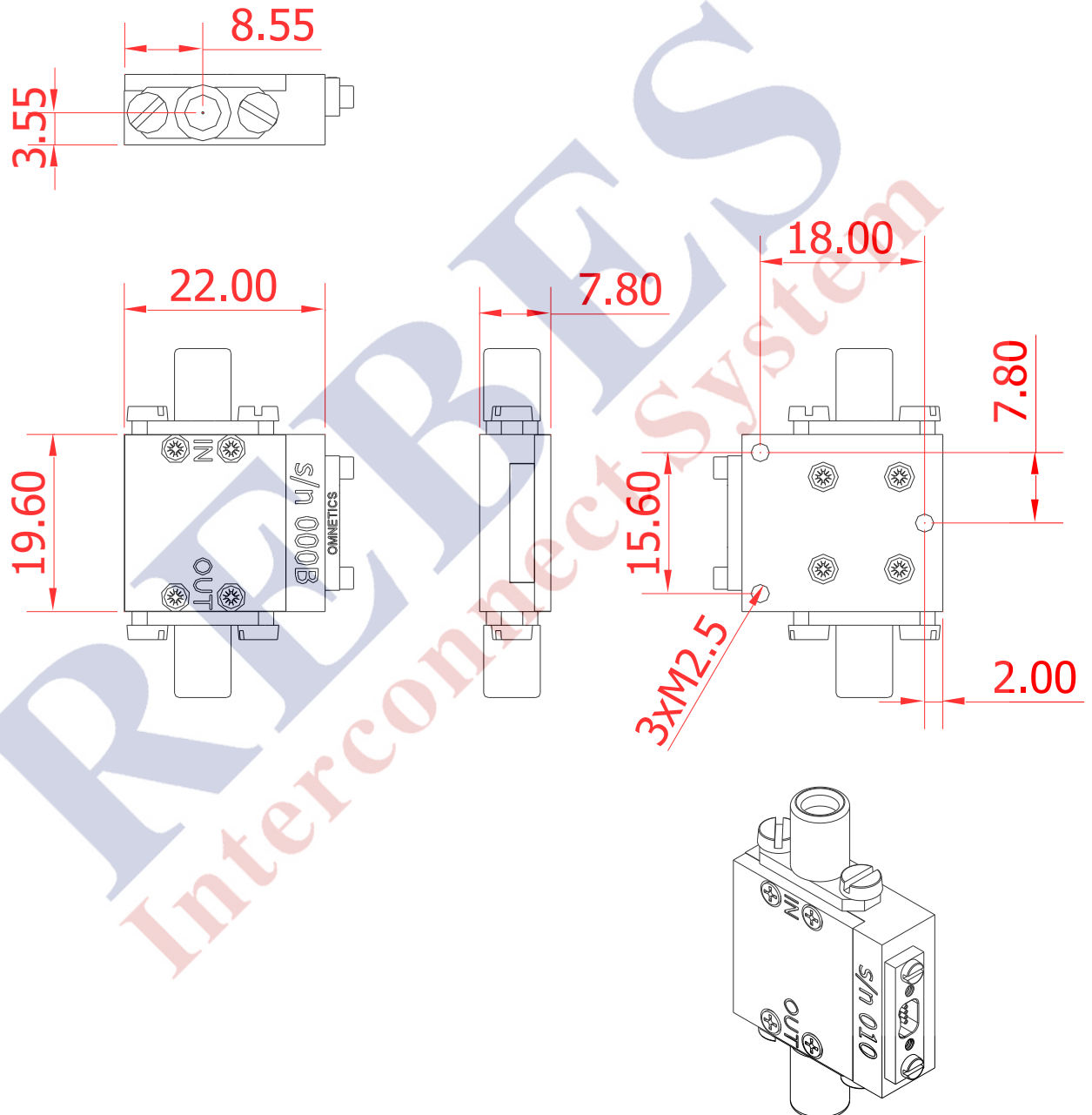
Measured typical data @ $T_{amb}=296\text{ K}$ 

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Drawings



Dimensions are in millimeters