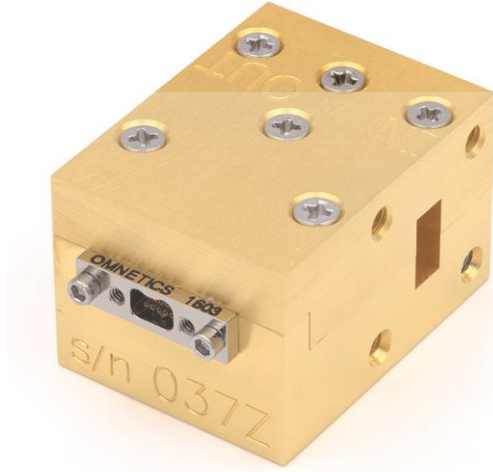


LNF-LNC23_42WB

23-42 GHz Cryogenic Low Noise Amplifier

Rev: Jan 2018



Absolute maximum ratings

Parameter	Min	Max
V_{ds}	-0.5 V	2 V
I_{ds}		100 mA
V_{gs}	-20 V	+20 V
RF Input drive level		-10 dBm

Product features

- RF bandwidth: 23-42 GHz
- Noise Temperature: 7.9 K typical
- Noise Figure: 0.12 dB typical
- Gain: 28 dB
- DC-power: $V_d=1.00$ V, $I_d=9$ mA
- One gate and one drain supply only
- RF connectors: WR28, UG-599/U
- DC-connector: 9-pin female Nano-D

Typical RF Characteristics

Parameter	Test Condition	Value	Unit
Gain	23-42GHz	28	dB
Noise	23-41GHz	7.9	K
IRL	23-42GHz	13	dB
ORL	23-42GHz	17	dB
P_{1dB}	23-42GHz	-10	dBm
OIP3	23-42GHz	0	dBm

Product description

LNF-LNC23_42WB is an ultra-low noise cryogenic amplifier operating in the 23-42 GHz frequency range. The LNA is packaged in a waveguide module using industry standard WR28 and Nano-D connectors. The lightweight gold plated aluminum module measures 22.70*29.91*19.20 mm excluding the connectors.

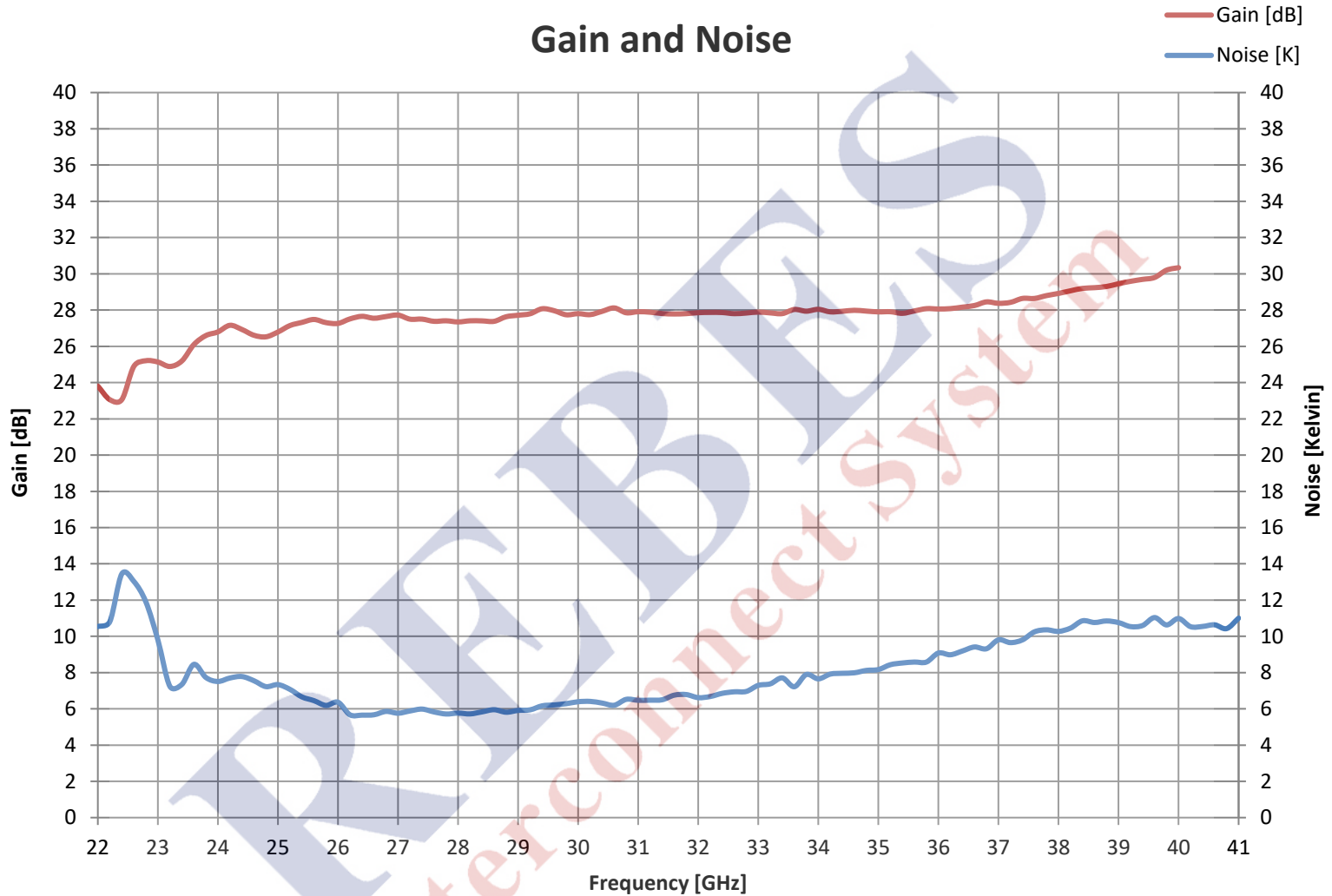
Typical DC Characteristics

Parameter	Value	Unit
V_{ds}	1.0	V
I_{ds}	9.0	mA
V_{gs}	-0.25	V
I_{gs}	25	μ A
P_{dc}	9	mW

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

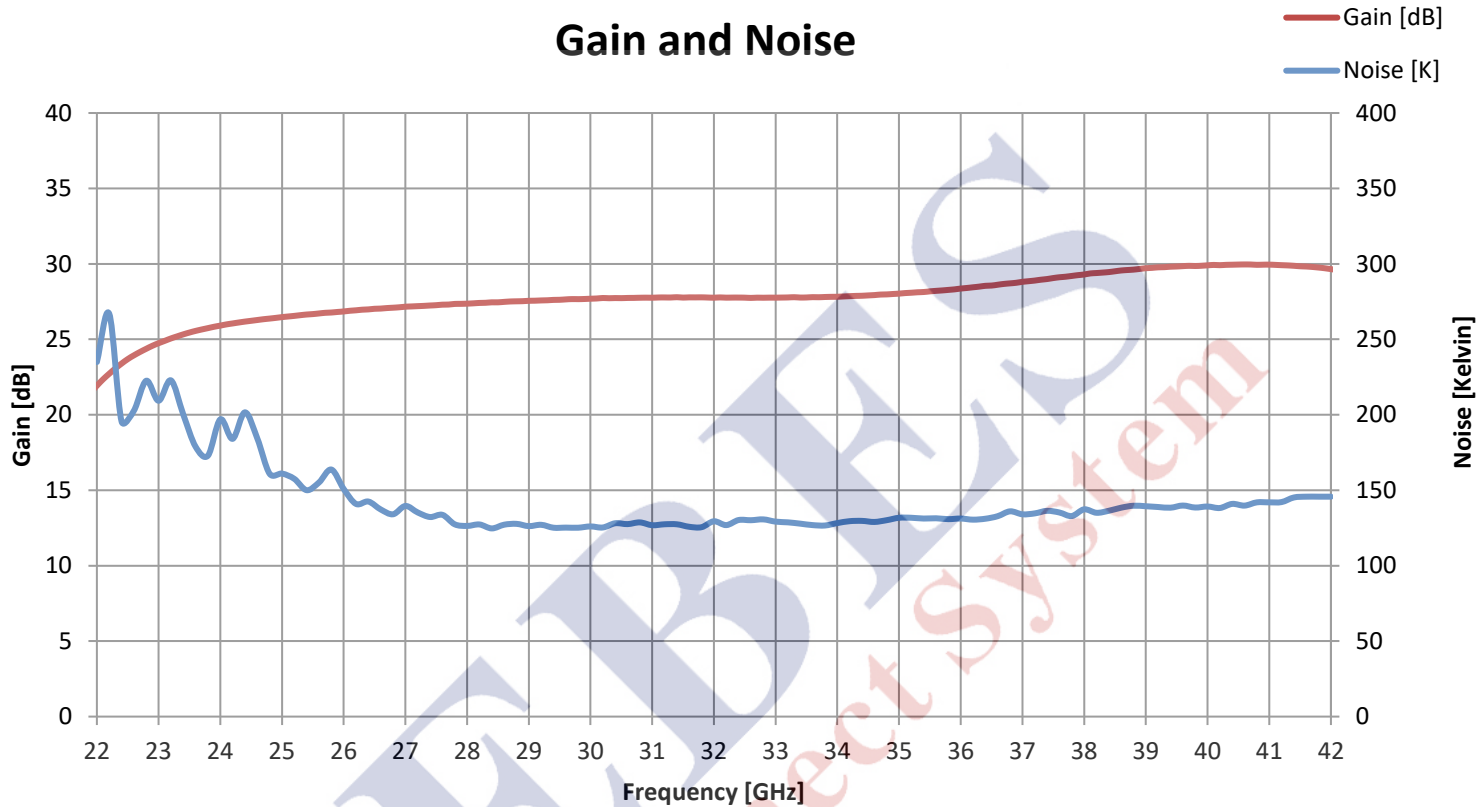
LNF-LNC23_42WB

23-42 GHz Cryogenic Low Noise Amplifier

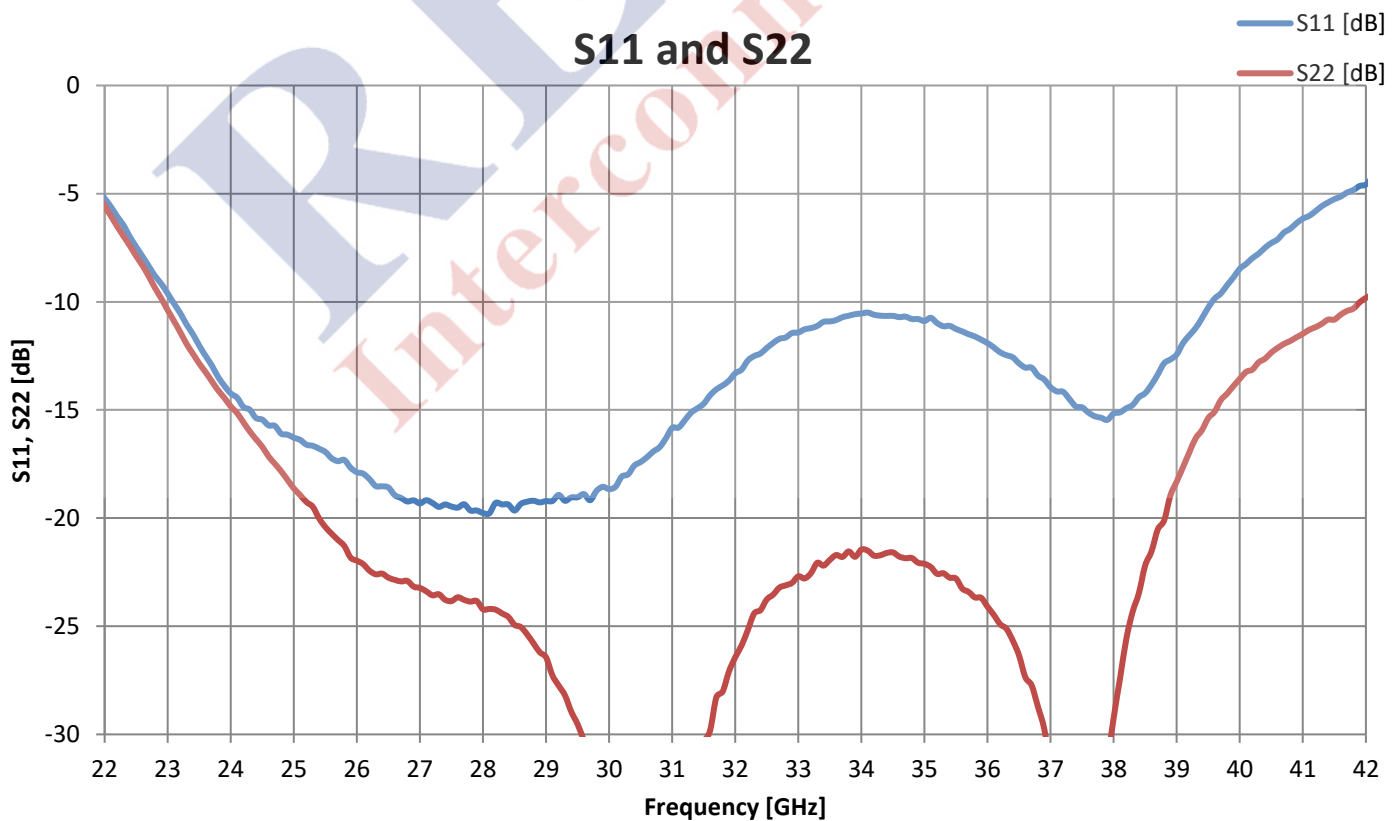
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Measured typical data @ $T_{amb}=296\text{ K}$

Gain and Noise

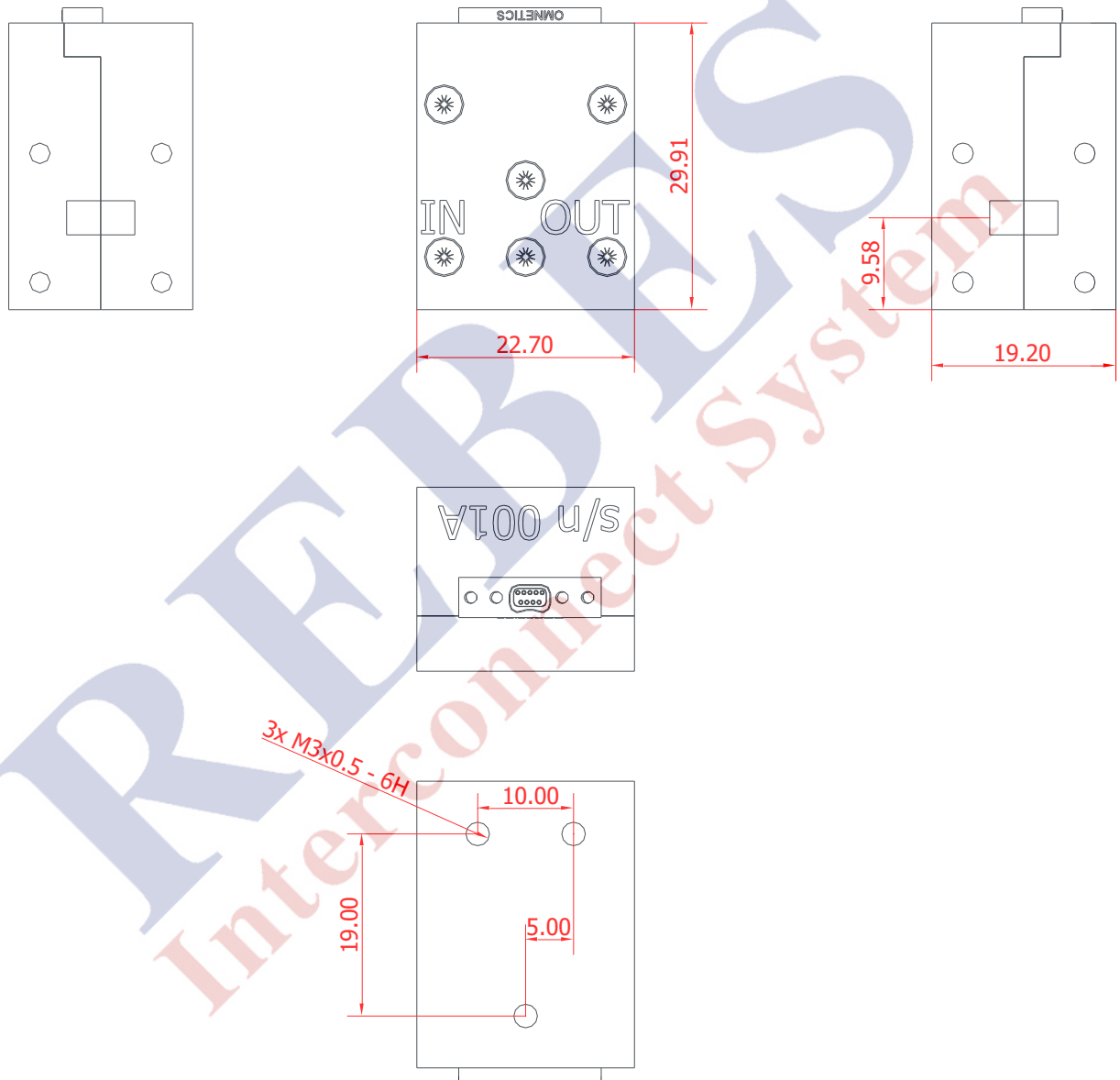


S11 and S22



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Drawings



Dimensions are in millimeters