

LNF-LNC4_8C

4-8 GHz Cryogenic Low Noise Amplifier

Rev: January 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
DC voltage on RF input and output	-30V	30V

Product features

- RF bandwidth: 4-8 GHz
- Noise Temperature: 2.3 K typical
- Noise Figure: 0.034 dB typical
- Gain: 39 dB
- DC-power: $V_d=0.50$ V, $I_d=8$ mA
- One gate and one drain supply only
- RF-connectors: female SMA
- DC-connector: 9-pin female Nano-D

Typical RF Characteristics

Parameter	Test Condition	Value	Unit
Gain	4-8GHz	39	dB
Noise	4-8 GHz	2.3	K
IRL	4-8 GHz	15	dB
ORL	4-8 GHz	20	dB
P_{1dB}	5 GHz	-12	dBm
OIP3	5 GHz	-2	dBm

Product description

LNF-LNC4_8C is an ultra-low noise cryogenic amplifier operating in the 4-8 GHz frequency range. The LNA is packaged in a coaxial module using industry standard SMA and Nano-D connectors. The Nano-D connector can be replaced with a 5-pin strip connector on the output face of the LNA. The lightweight gold plated aluminum module measures 25.66*20.00*7.80 mm excluding the connectors.

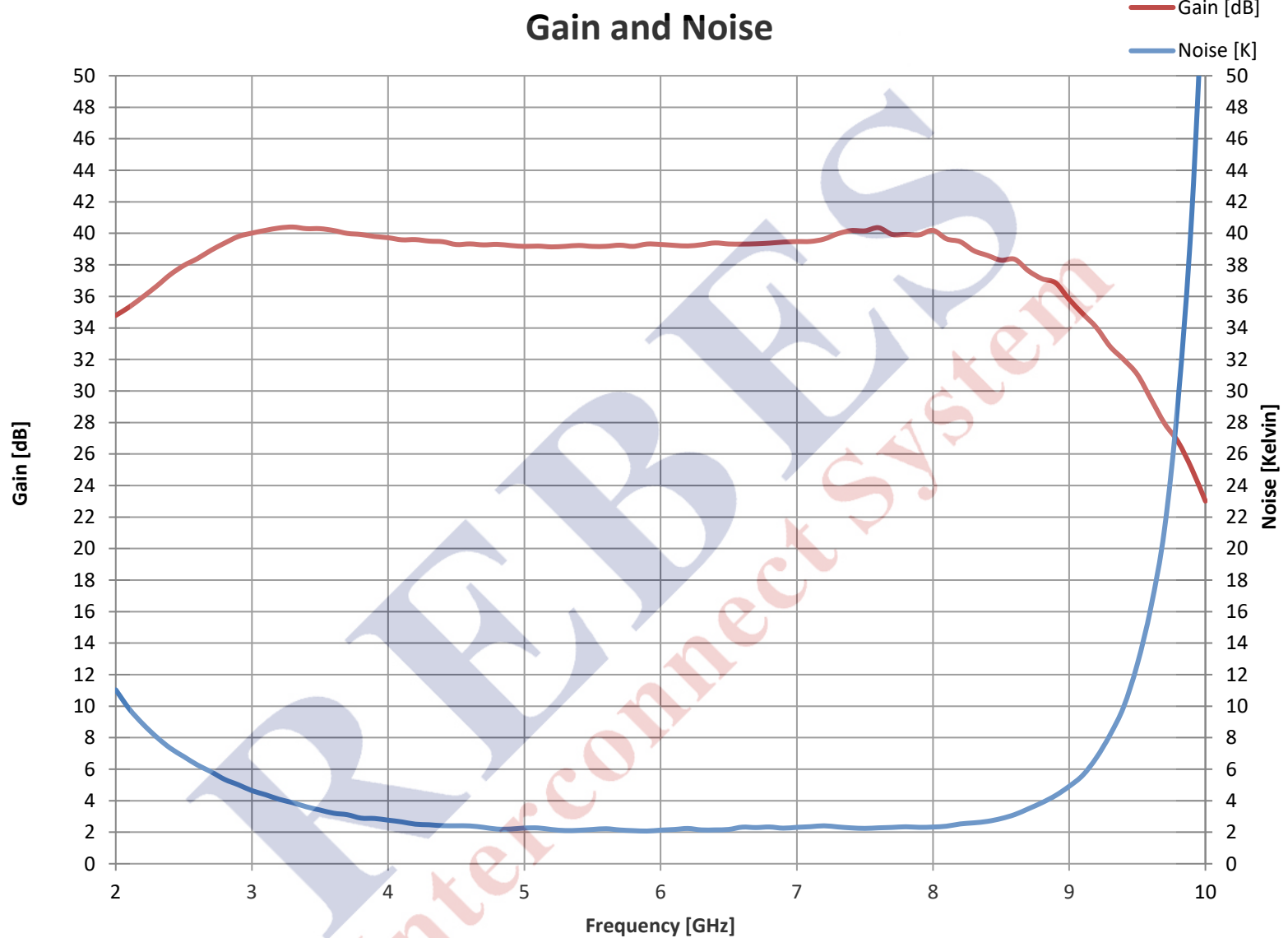
Typical DC Characteristics

Parameter	Value	Unit
V_{ds}	0.5	V
I_{ds}	8	mA
V_{gs}	+0.04V	V
I_{gs}	3.6	μ A
P_{dc}	4.0	mW

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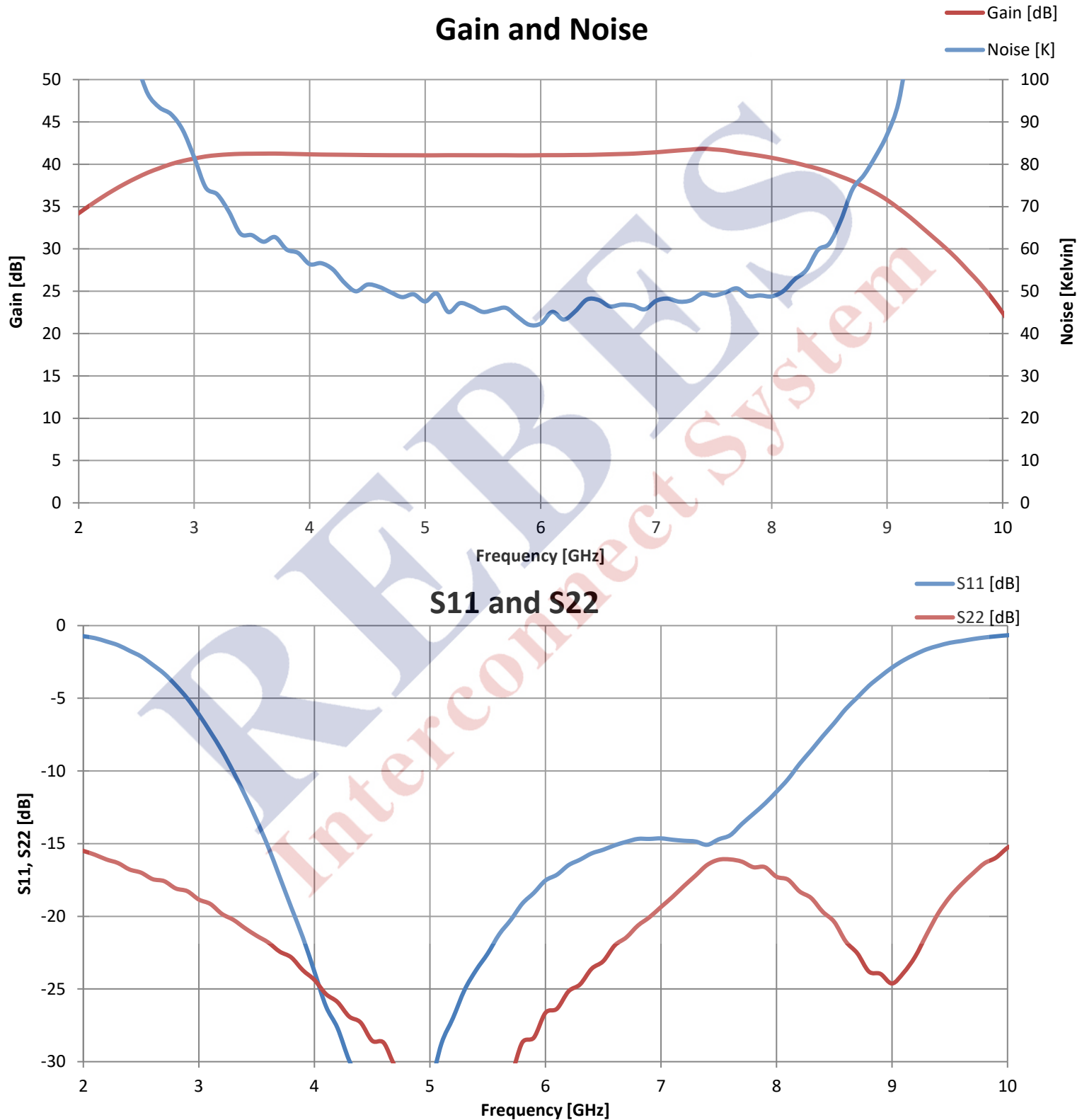
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Measured typical data $T_{amb}=5\text{ K}$ 

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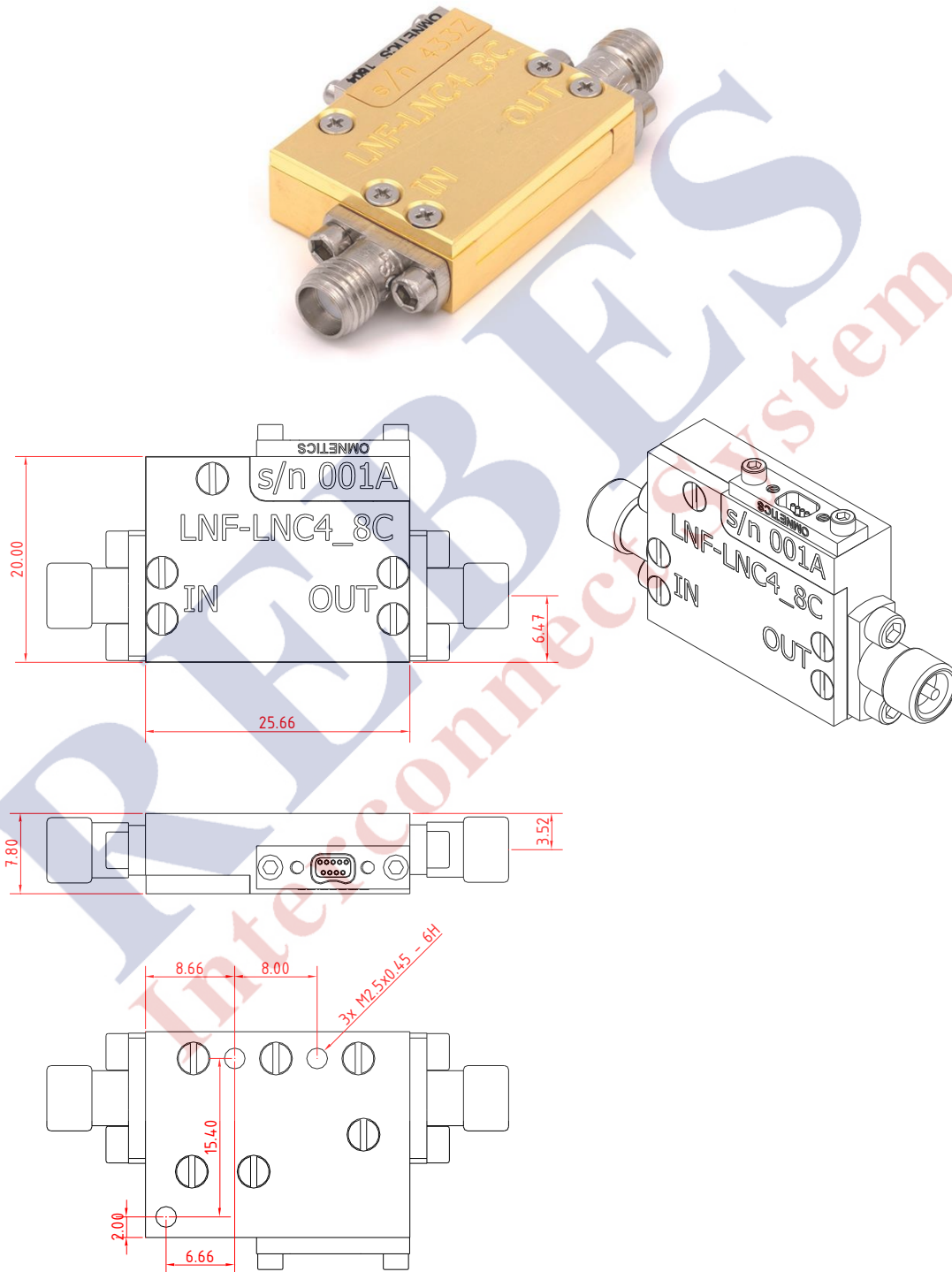
Measured typical data @ $T_{amb}=296\text{ K}$ 

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Standard configuration, 9-pin nano-D connector, part# LNF-LNC4_8C



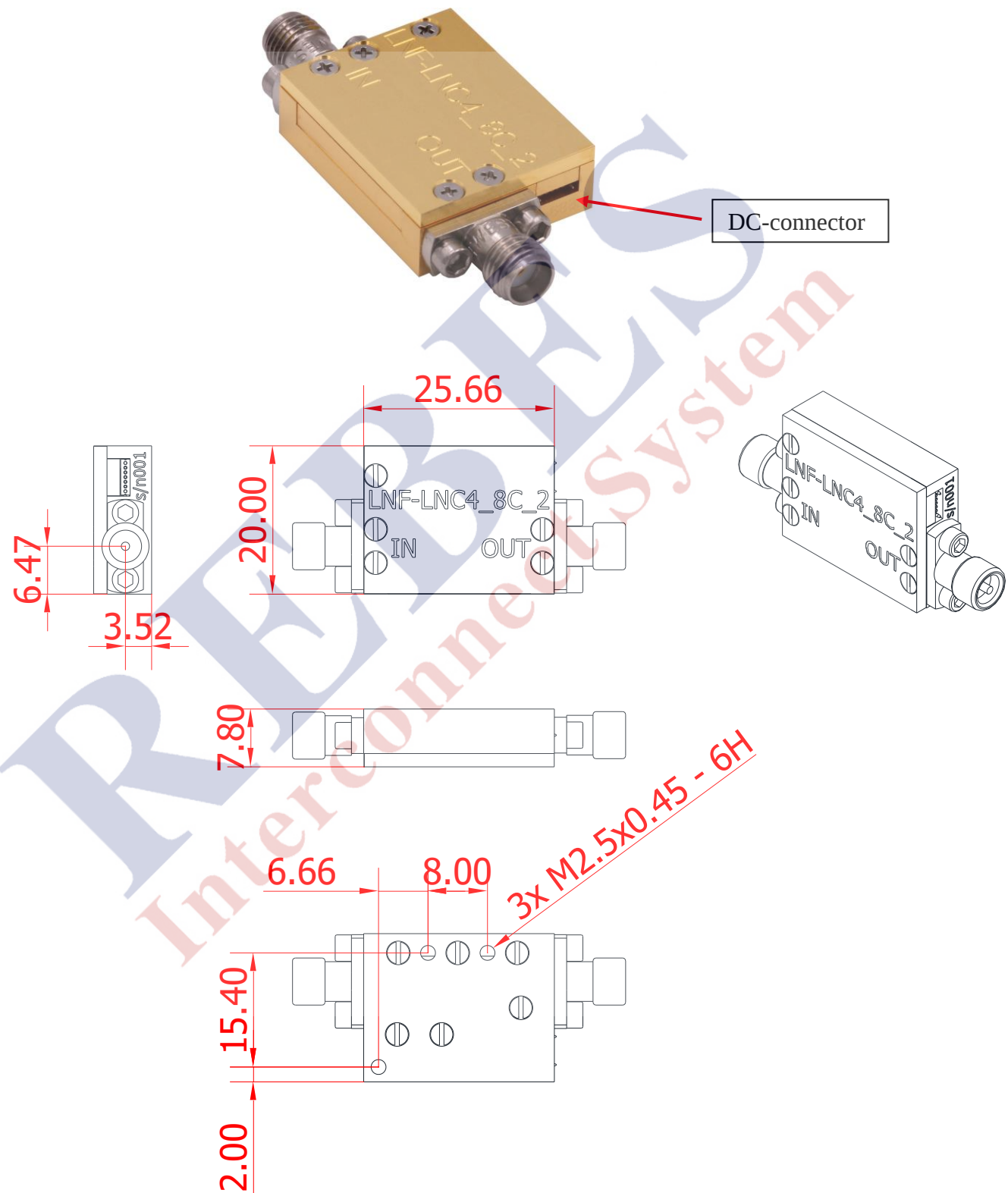
Dimensions are in millimeters

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5-pin strip connector on the output connector face, part# LNF-LNC4_8C_2



Dimensions are in millimeters