



Product features

- RF bandwidth: 45-77 GHz
- Noise Temperature: 150 K typical
- Noise Figure: 1.80 dB typical
- Gain: 34 dB
- DC-power: $V_d=1.80$ V, $I_d=35$ mA
- One gate and one drain supply only
- RF-connectors: WR15
- DC-connector: 9-pin female Nano-D

Product description

LNF-LNR45_77WA is an ultra-low noise amplifier operating in the 45-77 GHz frequency range. The LNA is packaged in a waveguide module using industry standard WR15 and Nano-D connectors. The lightweight gold plated aluminum module measures 16.63*26.55*19.20 mm. MMIC technology ensures reliable and repeatable unit-to-unit result.

Absolute maximum ratings

Parameter	Min	Max
V_{ds}	-0.5 V	2 V
I_{ds}		150 mA
V_{gs}	-20 V	+20 V
RF Input drive level		0 dBm

Typical RF Characteristics

Parameter	Test Condition	Value	Unit
Gain	45-77 GHz	34	dB
Noise	50-75 GHz	150	K
IRL	45-77 GHz	10	dB
ORL	45-77 GHz	10	dB
P_{1dB}	45-77 GHz	≈ -6	dBm
OIP3	45-77 GHz	≈ 4	dBm

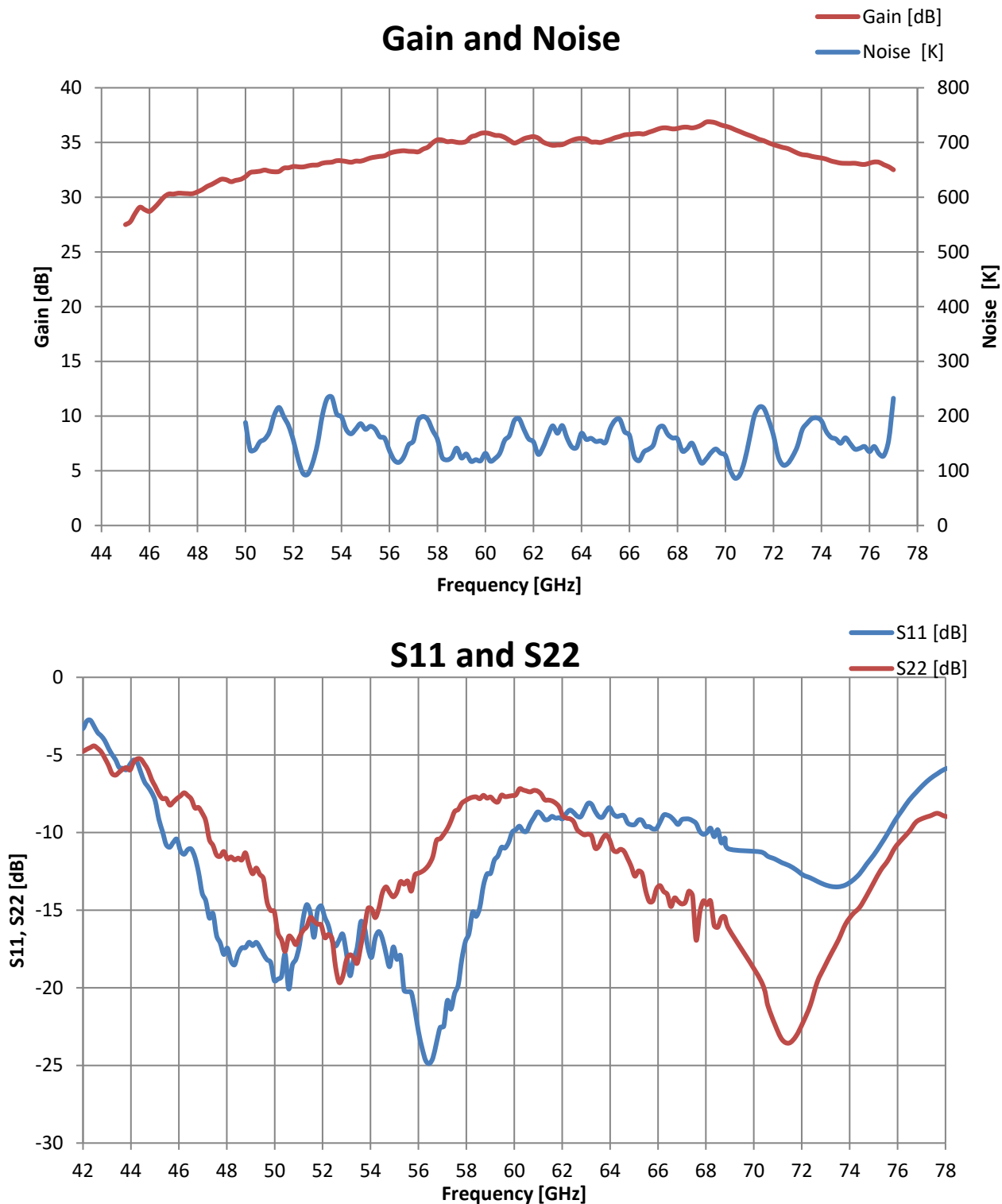
Typical DC Characteristics

Parameter	Value	Unit
V_{ds}	1.80	V
I_{ds}	35	mA
V_{gs}	-0.3 ¹	V
I_{gs}	-27	μ A
P_{dc}	63	mW

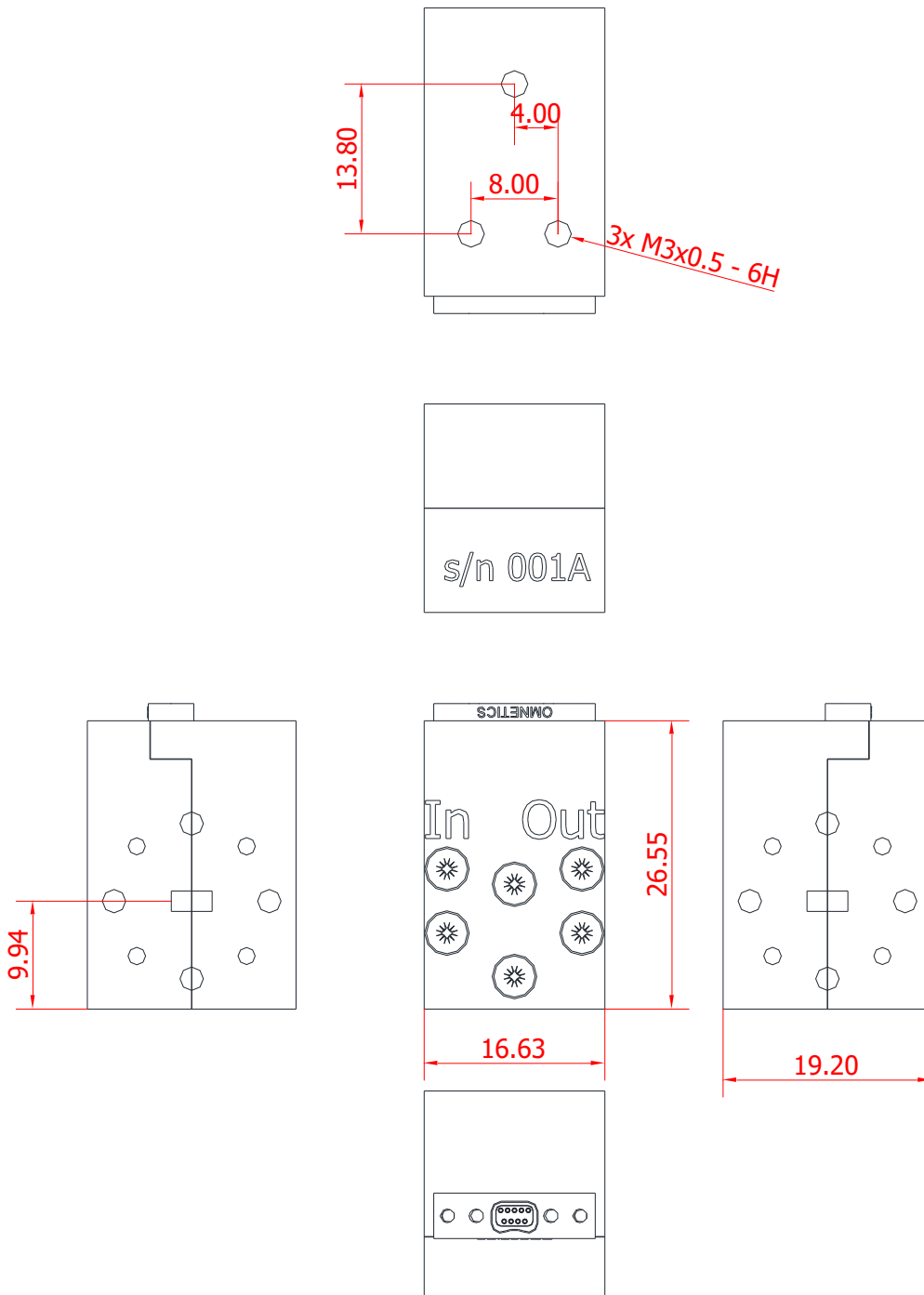
¹ Will vary slightly from unit to unit. Adjust to give $I_{ds}=35$ mA

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



Drawings



Dimensions are in millimeters