

## MAIN FEATURES

- ❖ Very low noise
- ❖ High reliability
- ❖ Weather-proof housing
- ❖ RS485 control
- ❖ Capable to use in redundant LNA system



## DESCRIPTION

This Q-band low noise amplifier is intended for use in modern solid state communication equipment, where high reliability microwave signal amplification, high dynamic range are important factors. Typical applications are in satellite ground station systems. This microwave LNA is constructed using Gallium Arsenide HEMT amplifier stages of high reliability. Due to the weather-proof sealing, it can be used effectively in harsh environmental conditions.

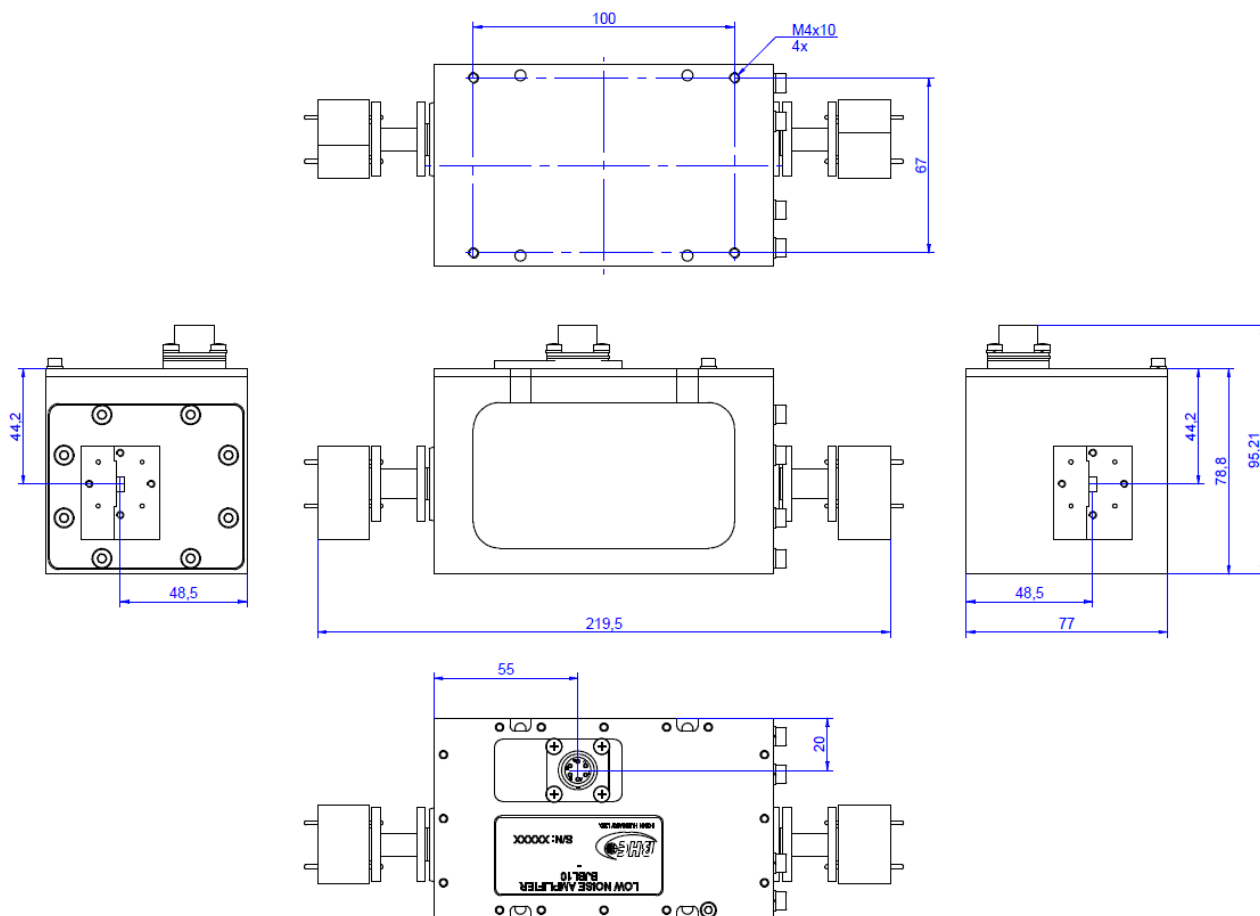
## SPECIFICATIONS

ELECTRICAL PARAMETERS	
Frequency Band	37.5 to 42.0 GHz
Linear Gain	50 dB min. 54 dB max.
Gain Flatness	2.5dB pk-pk in full band 1dB pk-pk in any 500 MHz 0.25dB pk-pk in any 40 MHz
Gain stability @ constant temperature	±0.2 dB / 24 hours ±0.5 dB / 7 days
Gain variation over operating temperature range	-0.05 dB / °C
Input Noise Temperature (@ +23°C)	≤ 200 K (37.50 – 40.00 GHz) ≤ 215 K (40.00 – 40.50 GHz) ≤ 230 K (40.50 – 42.00 GHz)
Noise Temperature variation over temperature	1.5 K/°C typ.
1 dB Compression	+10 dBm min.
Output 3 <sup>rd</sup> Order Intercept Point	+20 dBm min.
AM/PM Conversion	0.03 °/dB max. @ Pout= -10dBm
Maximum input power (damage level)	-10dBm (in operational frequency band)
Max. input power in 27-31 and 47.2-52.4GHz bandwidth	-40dBm (without degradation of RF performance)
Input VSWR	1.4:1 max. with input WG isolator
Output VSWR	1.3:1 max. with output WG isolator
Group delay in full band	2ns pk-pk
Group Delay in any 40MHz	Linear: 0.01 ns/MHz Parabolic: 0.002 ns/MHz <sup>2</sup> Ripple: 0.2 ns pk-pk
Supply voltage	+ 12 ... + 36V DC
Power Consumption	200mA max. @ +15V DC
Inrush current	≤ 1A
MTBF	140 000 hours

Monitoring and control	via RS485
Alarm contact	Open @ Fault Closed @ OK
<b>MECHANICAL PARAMETERS</b>	
RF Input Interface	WR22, UG-383/U flange
RF Output Interface	WR22, UG-383/U flange
DC & Control Interface	PT02E-10-6P (Miniature cylindrical)
Weight	approx. 1100g
Dimensions	approx. 220 x 77 x 79mm (see outline drawing)
Surface finish	RAL7035 acrylic paint
<b>ENVIRONMENTAL PARAMETERS</b>	
Humidity	waterproof (IP67)
Operating Temperature Range	-20°C to +55°C
Storage Temperature Range	-50 °C to +75 °C
Degree of protection	IP67 Outdoor
Air leakage	no air leak with an overpressure of 0.25psi
Shock & Vibration	Transportation

Specifications are subject to change without notice.

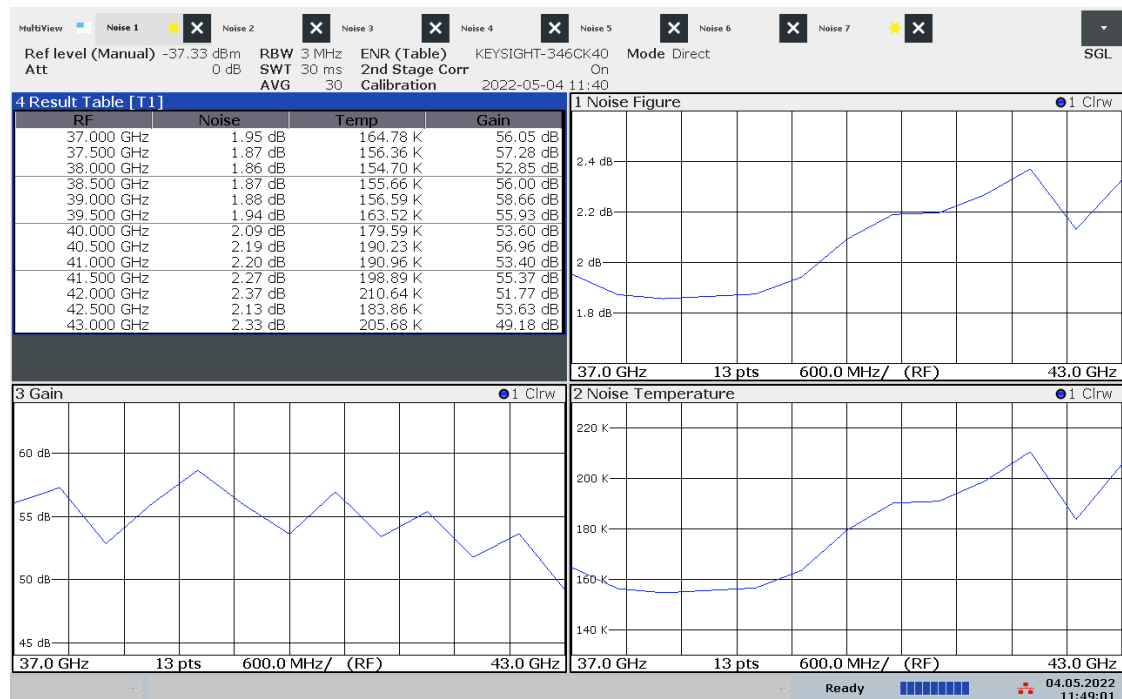
## **OUTLINE DRAWING (mm)**



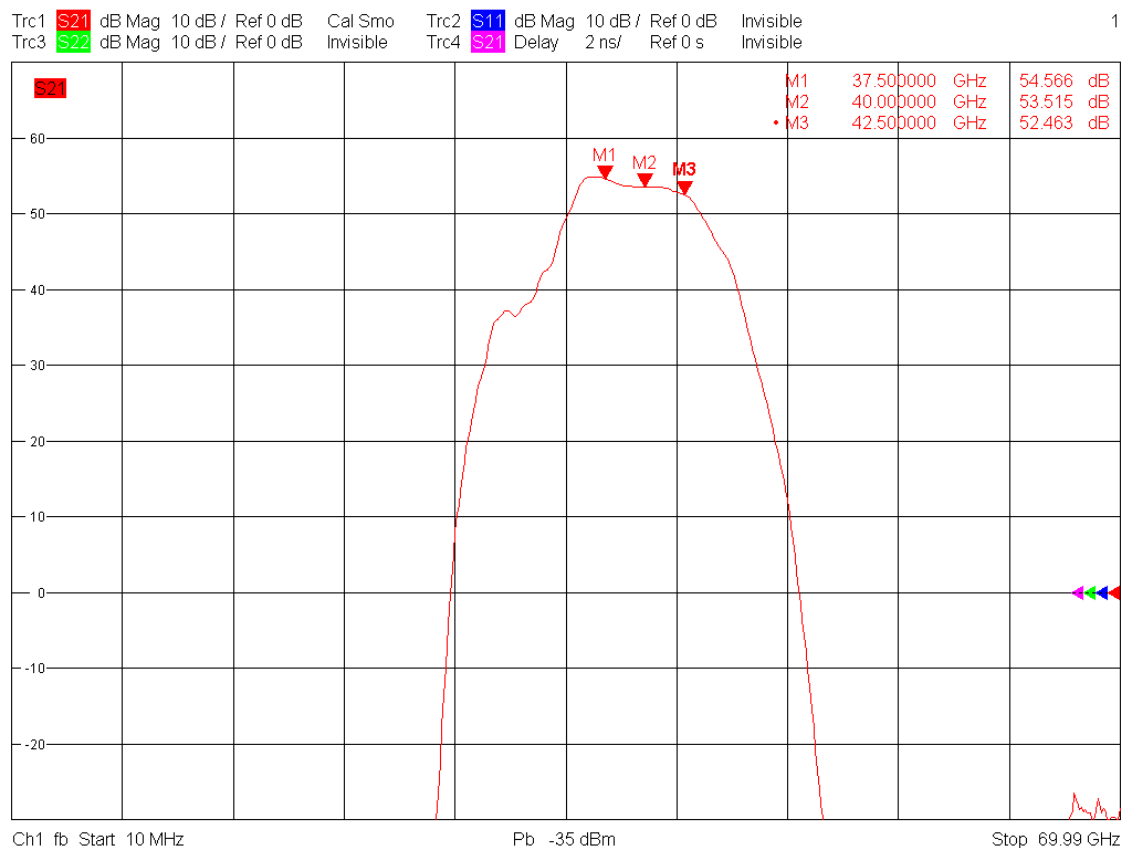


## BJEL13 Q-band low noise amplifier

### TYPICAL TEST DATA (NF & GAIN)



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## BJEL13 Q-band low noise amplifier

### ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
BJEL13K11501	Q-band low noise amplifier

### DOCUMENT REVISION

DOCUMENT NAME	REVISION	DATE
BJEL12-LM-K11501-V01	V02	10/11/2025