



### Main Features:

- Frequency Range: 47.2 to 50 GHz.
- Typical values: Gain 11 dB, NF 3.5 dB
- RF connectors (I/O): WR19
- Solder filtered pins for DC connection
- Several mounting options
- Gold plated compact aluminum housing
- Hi-reliability and dedicated screening/ environmental tests available under request

### ERZ-LNA-4720-5140-15-4

The ERZ-LNA-4720-5140-15-4 is a Low Noise Amplifier providing a gain of 11 dB with a noise figure of 3.5 dB. The compact size and modularity makes it ideal for a wide range of applications.

### Typical applications:

- Industrial / Laboratory
- Satcom / Telecom
- Space / Aerospace / Military

### Performance

Parameter	Value			Units
	Min	Typ	Max	
Frequency	47.2	-	50	GHz
Output Power (P1dB)	-	12	-	dBm
Small Signal Gain	9	11	12	dB
Gain Flatness	-	±0.5	-	dB
Noise Figure	-	3.5	4	dB
VSWR input	2.5:1	4.0:1	6.5:1	-
VSWR output	1.2:1	1.8:1	2.0:1	-
DC Voltage	11	12	13	V
Power Consumption	-	0.6	-	W
RF Connectors	WR19 IN/OUT			-

Specifications at a case temperature of 25°C at 12 V

### Small Signal Gain

Figure 1 shows the small signal gain measurement as a function of frequency at room temperature (25°C).

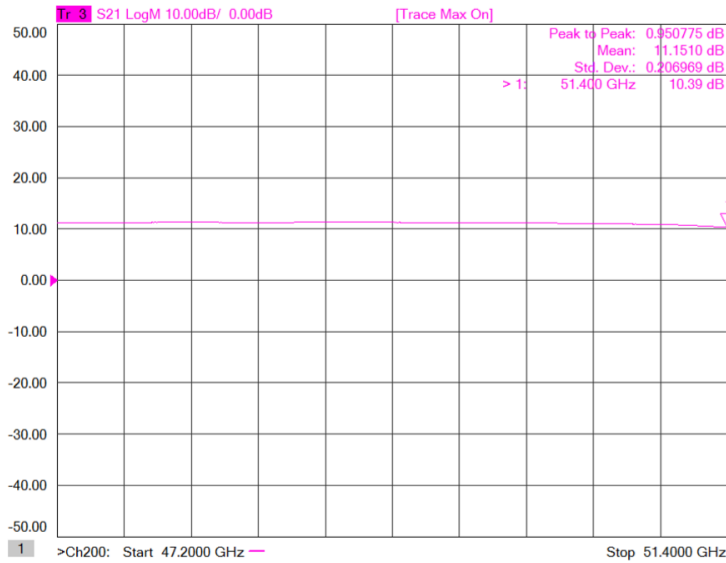


Figure 1: ERZ-LNA-4720-5140-15-4 Small Signal Gain

### Noise Figure

Figure 2 shows the noise figure measurement as a function of frequency at room temperature (25°C).

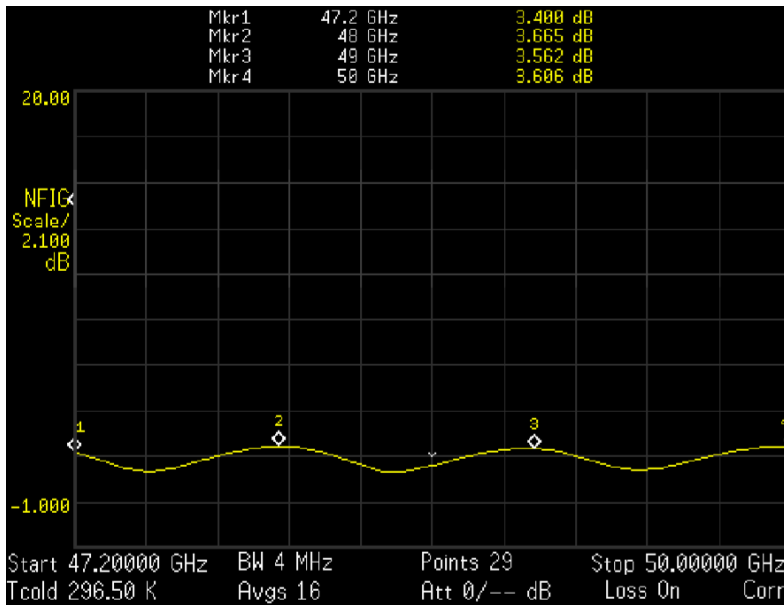


Figure 2: ERZ-LNA-4720-5140-15-4 Noise Figure

### Input and Output Matching

Figure 3 and Figure 4 show input (S11) and output (S22) VSWR as a function of frequency at room temperature (25°C).

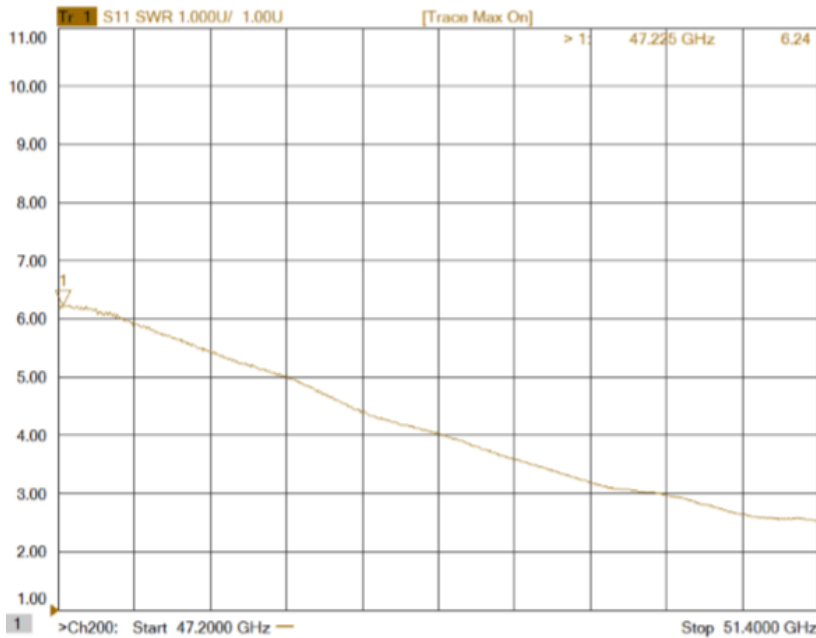


Figure 3: ERZ-LNA-4720-5140-15-4 Input Matching

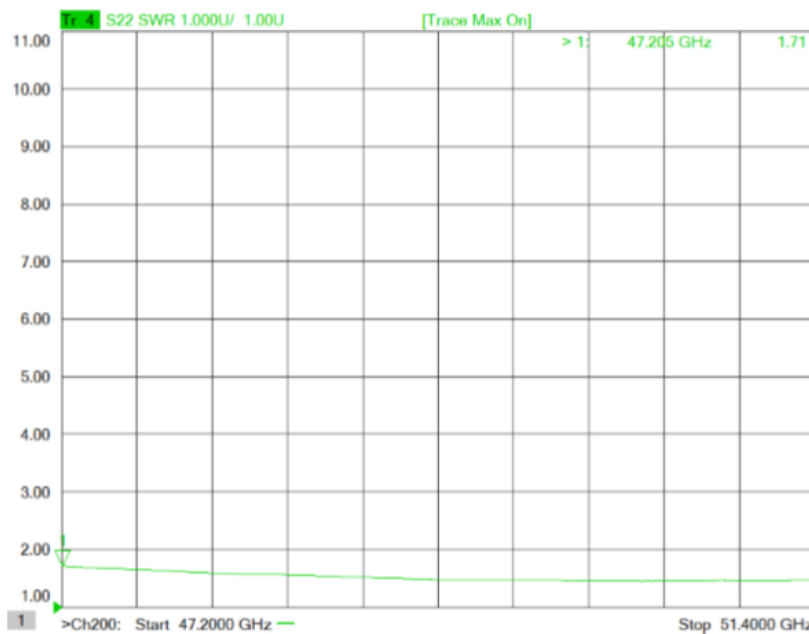


Figure 4: ERZ-LNA-4720-5140-15-4 Output Matching

### Absolute Maximum Ratings

Condition	Value
DC Voltage	+13 VDC
Maximum Input Power (CW)	+5 dBm
Operation temperature (at case)	-45 to 85 °C
Storage temperature	-55 to 125 °C

- Stress above these ratings may cause permanent damage to the device.
- It is final user responsibility to maintain the amplifier within the specified ranges.

### Measurements Conditions

All measurements provided in this report were performed at the following conditions:

Condition	Value
Temperature (DUT ON)	25 °C ± 1°C
Humidity	44% ± 10%
DUT Warm up time	30 min
DUT minimum operation time	24 hours
Test equipment warm up time	2 hours
Additional temperature cycles in climatic chamber (DUT OFF)	-40°C to 85°C

### Environmental Specifications (By Design)

Operating Temperature:	-45 to +85 °C	(MIL-STD-810F, method 520.2)
Storage Temperature:	-55 to 125 °C	(MIL-STD-810F, method 520.2)
Vibration:	8g rms	(MIL-STD-810F, method 514.5)
Shock:	20g,11ms,saw-tooth	(MIL-STD-810F, method 516.5)
Acceleration:	15g	(MIL-STD-810F, method 513.5)

### RoHS & REACH Compliance

This part is compliant with EU 2011/65/UE RoHS (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment) and REACH (Registration, Evaluation, Authorization and restriction of Chemical substances) directives.





## Documentation and Test Reports

All modules are at least delivered with: Electrical Test Report, Certificate of Conformance, Certificate of Acceptance and Origin. Optionally, units can be environmentally tested (temperature, vibration...).

## Option (HS): Heat Sink

A heat sink (HS) can be provided to allow the operation of Power Amplifiers. Please note that most power amplifiers need heat sink or appropriate heat dissipation strategy.

## Space / Military Usage

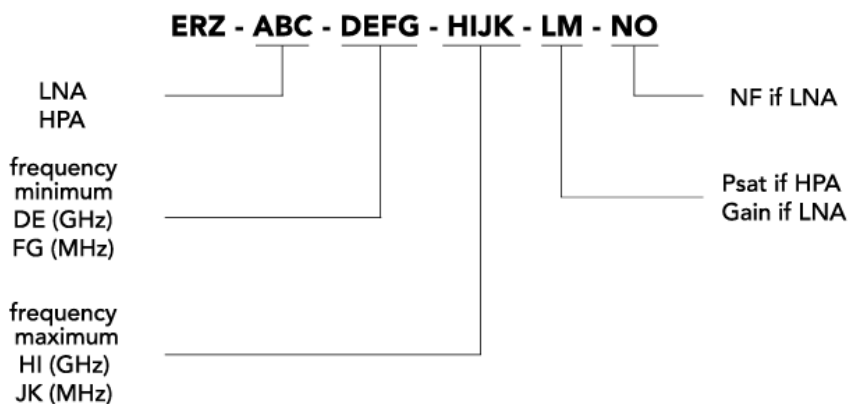
Most of ERZIA's products are based on rad-hard technologies and can be manufactured and integrated according to MIL / ECSS or specific hi-rel standard-screening for space, aeronautics, military or specific hi-reliability usage.

## Customization and Extended Performances

ERZIA can fully design or adapt one of the existing RF amplifiers designs according to your specifications. Please contact us for additional information.

## Model Number Codification

### MODEL NUMBER



# ERZIA

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