



### Main Features:

- Frequency Range: 6.9 to 8 GHz
- Typical values: Gain 30 dB, NF 2 dB
- RF connectors (I/O): SMA Female
- 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-0690-0800-30-2.5

The ERZ-LNA-0690-0800-30-2.5 is a low noise amplifier providing a gain of 30 dB with a noise figure of 2 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	6.9	-	8	GHz
Output Power (P1dB)	20	20.5	21	dBm
OIP3	34	35	36	dBm
Small Signal Gain	30	31	33	dB
Gain flatness over frequency	-	±0.2	±0.5	dB
Gain flatness over temperature (-30 to +70°C)	-	±0.8	±1	dB
Noise Figure	-	1.7	2.5	dB
VSWR input	-	1.4:1	1.5:1	-
VSWR output	-	1.1:1	1.5:1	-
DC Voltage	14	15	18	V
Power Consumption		1.5		W
RF Connectors	SMA Female IN/OUT			-

Specifications at a case temperature of 25°C at 15 V

### Output Power at 1 dB Compression (P1dB)

Figure 1 shows output power at 1dB compression measurement as a function of frequency at different temperatures (-30, +25 and +70 °C).

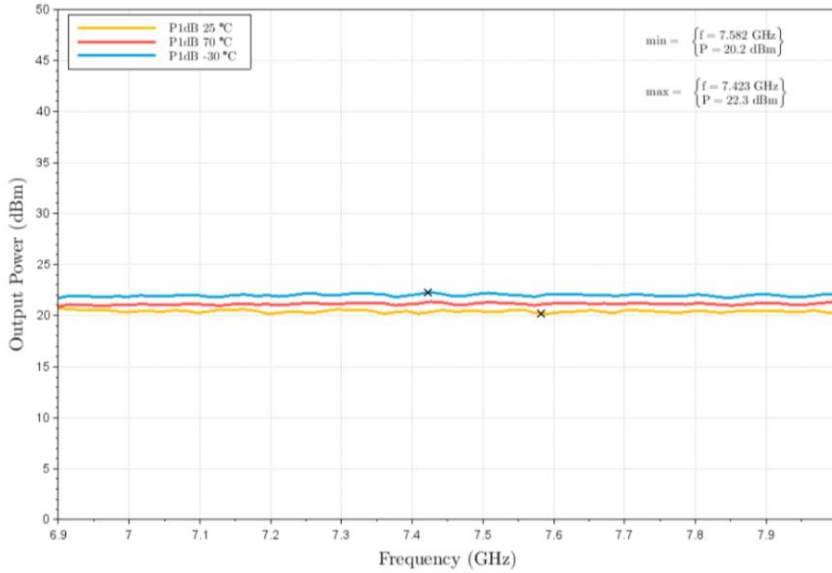


Figure 1: ERZ-LNA-0690-0800-30-2.5 P1dB

### Third order intercept point (OIP3)

Figure 2 shows OIP3 measurement as a function of frequency at different temperatures (-30, +25 and +70 °C).

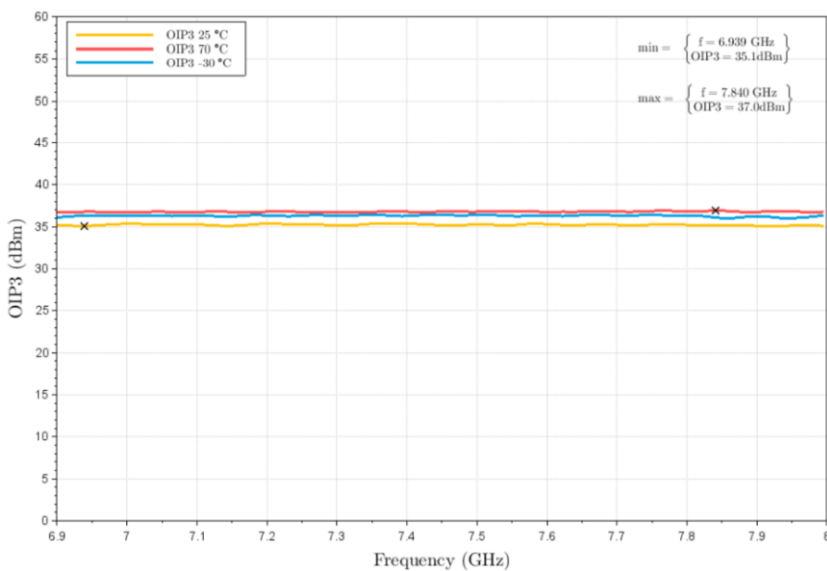


Figure 2: ERZ-LNA-0690-0800-30-2.5 OIP3

### Small Signal Gain

Figure 3 shows small signal gain measurement as a function of frequency at low (-35°C), room (25°C) and high (70°C) temperatures.

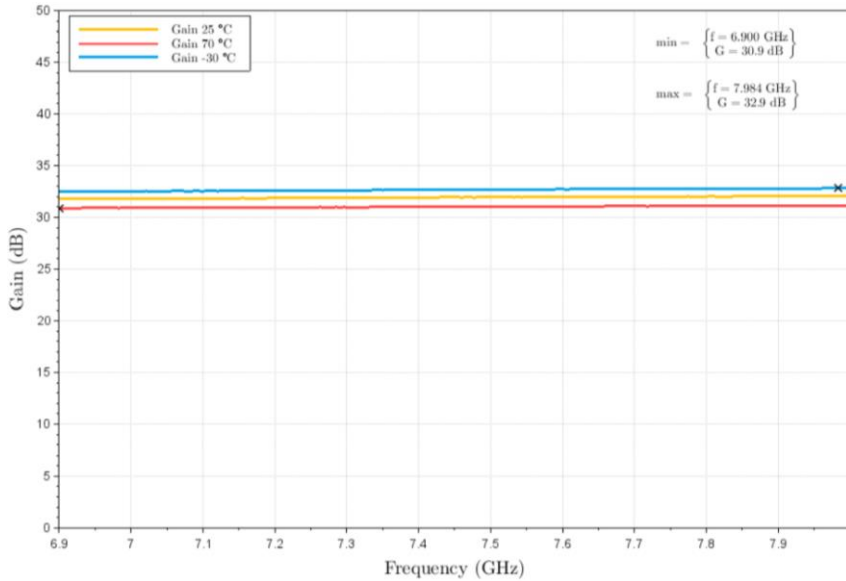


Figure 3: ERZ-LNA-0690-0800-30-2.5 Small Signal Gain

### Noise Figure

Figure 4 shows the noise figure measurement as a function of frequency at different temperatures (-30, +25 and +70°C).

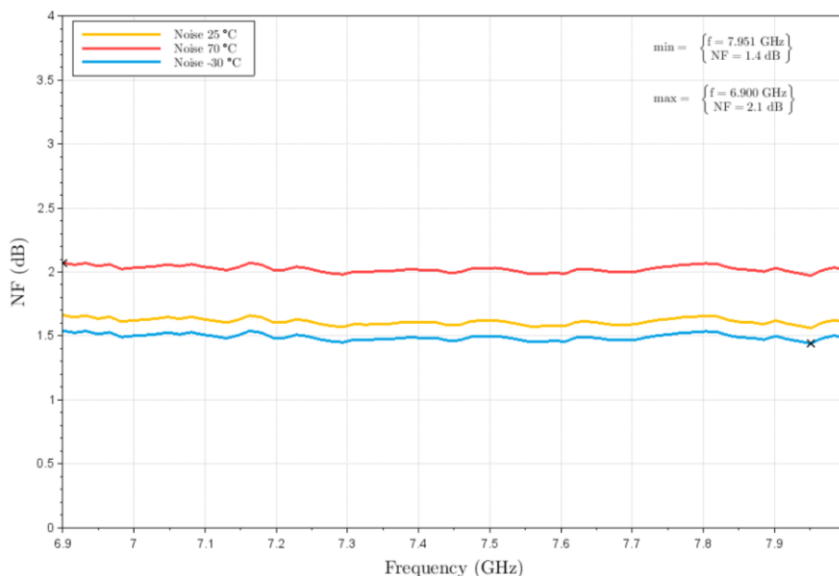


Figure 4: ERZ-LNA-0690-0800-30-2.5 Noise Figure

### Input and Output Matching

Figure 5 and Figure 6 show input (S11) and output (S22) VSWR as a function of frequency at different temperatures (-30, +25 and +70°C).

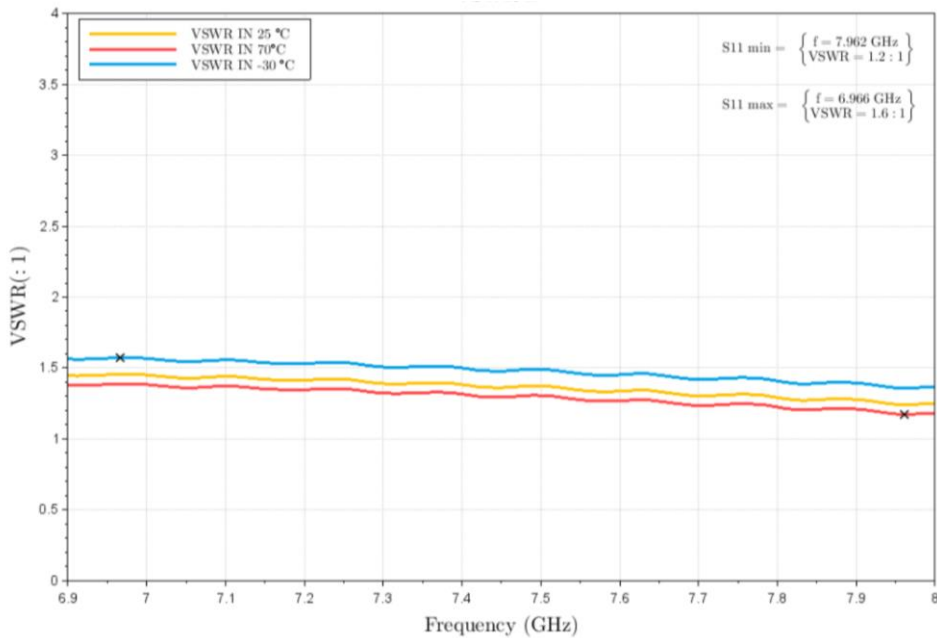


Figure 5: ERZ-LNA-0690-0800-30-2.5 Input Matching

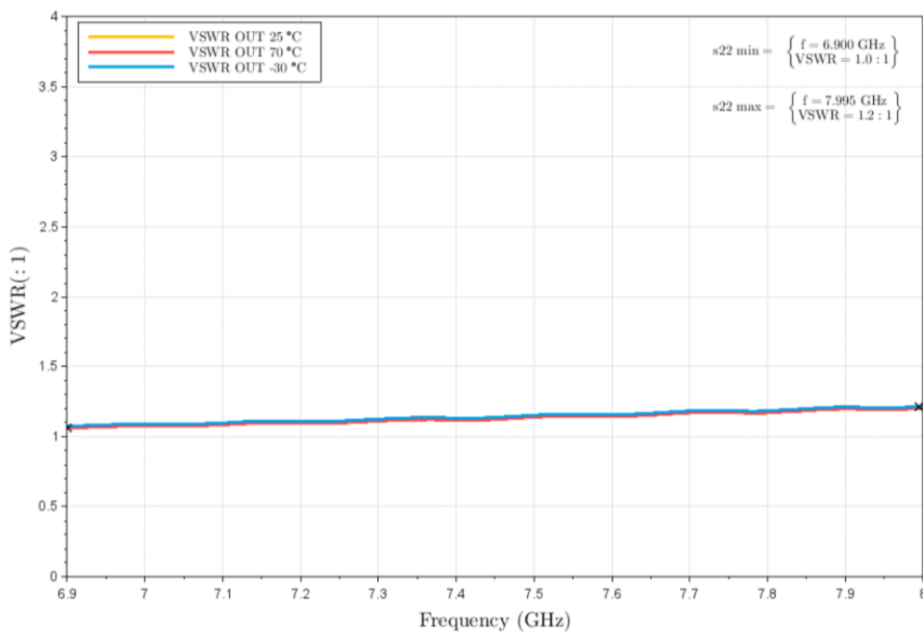


Figure 6: ERZ-LNA-0690-0800-30-2.5 Output Matching

### Absolute Maximum Ratings

Condition	Value
DC Voltage	+18 VDC
Maximum Input Power (CW)	+24 dBm
Operation temperature (at case)	-40 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)	-30, +25, +70 °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)

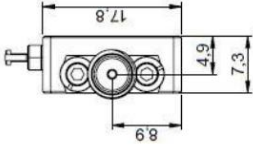
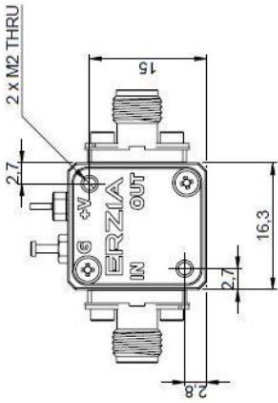
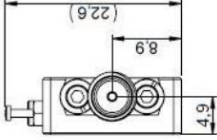
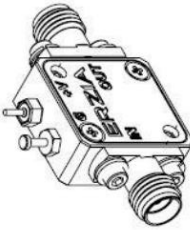
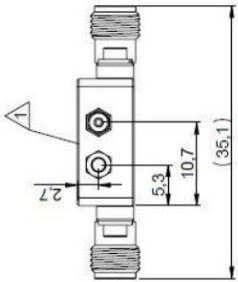
### RoHS & REACH Compliance

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.



### Mechanics and Housing


VER.	MODIFICACIÓN / MODIFICATION	FECHA DATE	REVISADO DRAWN	COM. CHECK	APROB. APOD.
1					

**NOTES:**

- ▲ Mounting base.
- Device can only be mounted on the indicated surface ▲

NOMBRE / NAME	ESPECIFICACIONES / SPECIFICATIONS	MATERIAL / MATERIAL	USO / USE	REVISIONES / REVISIONS	ESTADO / STATUS
DESIGNACIÓN / DESIGNATION	US / UNITED STATES	ALUMINIO / ALUMINUM	USO / USE	REVISIONES / REVISIONS	ESTADO / STATUS
DESCRIPCIÓN / DESCRIPTION	US / UNITED STATES	ALUMINIO / ALUMINUM	USO / USE	REVISIONES / REVISIONS	ESTADO / STATUS
APROBADO / APPROVED	US / UNITED STATES	ALUMINIO / ALUMINUM	USO / USE	REVISIONES / REVISIONS	ESTADO / STATUS
REVISIONES / REVISIONS	US / UNITED STATES	ALUMINIO / ALUMINUM	USO / USE	REVISIONES / REVISIONS	ESTADO / STATUS
GENERAL INSTRUCTIONS	US / UNITED STATES	ALUMINIO / ALUMINUM	USO / USE	REVISIONES / REVISIONS	ESTADO / STATUS
APPROVAL AUTHORITY	US / UNITED STATES	ALUMINIO / ALUMINUM	USO / USE	REVISIONES / REVISIONS	ESTADO / STATUS
MATERIAL / MATERIAL	US / UNITED STATES	ALUMINIO / ALUMINUM	USO / USE	REVISIONES / REVISIONS	ESTADO / STATUS
USO / USE	US / UNITED STATES	ALUMINIO / ALUMINUM	USO / USE	REVISIONES / REVISIONS	ESTADO / STATUS
REVISIONES / REVISIONS	US / UNITED STATES	ALUMINIO / ALUMINUM	USO / USE	REVISIONES / REVISIONS	ESTADO / STATUS
ESTADO / STATUS	US / UNITED STATES	ALUMINIO / ALUMINUM	USO / USE	REVISIONES / REVISIONS	ESTADO / STATUS



REVISIONES / REVISIONS: 0

ESTADO / STATUS: 1 OF 1

### 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

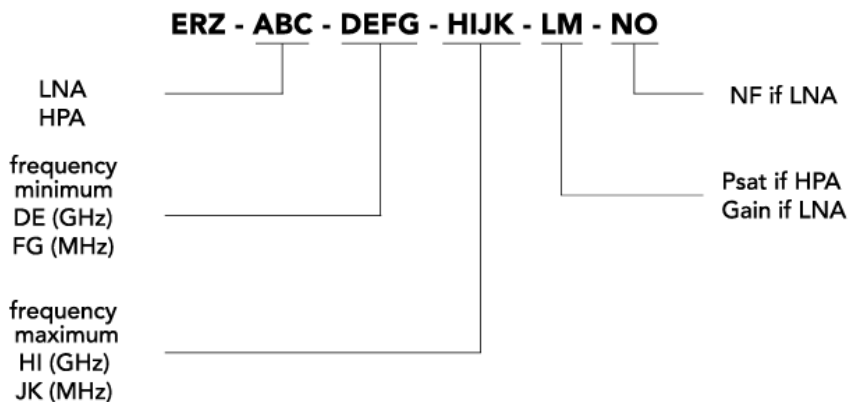
Most of ERZIA's products are based on rad-hard technologies and can be manufactured and integrated according to MIL / ECSS or specific hi-rel standard-screening for space, aeronautics, military or specific hi-reliability usage.

### 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

20210628\_rev1.0

Copyright © 2021 ERZIA Technologies. All rights reserved. This information is commercial and indicative, subject to change without notice

Tel: +34 942 29 13 42

[sales@erzia.com](mailto:sales@erzia.com)

[www.erzia.com](http://www.erzia.com)