



Main Features:

- Frequency Range: 2.6 to 3.8 GHz.
- Typical values: Psat 41 dBm, Gain 32 dB
- RF connectors (I/O/COUPL): SMA Female
- DB9 connector for DC and Control
- Several mounting options
- Compact aluminum housing
- Hi-reliability and dedicated screening/
environmental tests available under request

ERZ-HPA-0200-0400-40

The ERZ-HPA-0200-0400-40 is a High-Power Amplifier providing an output power of 41 dBm and a gain of 32 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	2.6	-	3.8	GHz
Output Power (Psat)	40	41	42	dBm
Small Signal Gain	28	32	35	dB
Gain Flatness	-	±2	-	dB
Noise Figure	11	12	13	dB
VSWR input	1.0:1	1.2:1	1.5:1	-
VSWR output	1.1:1	1.3:1	1.5:1	-
Coupling	28	30	32	dB
DC Voltage	27.5	28	28.5	V
Power Consumption	-	40	-	W
RF Connectors	SMA Female IN/OUT/COUPL			-

Specifications at a case temperature of 25°C at 28V

Saturated Output Power

Figure 1 shows saturated output power measurement as a function of frequency at different temperatures.

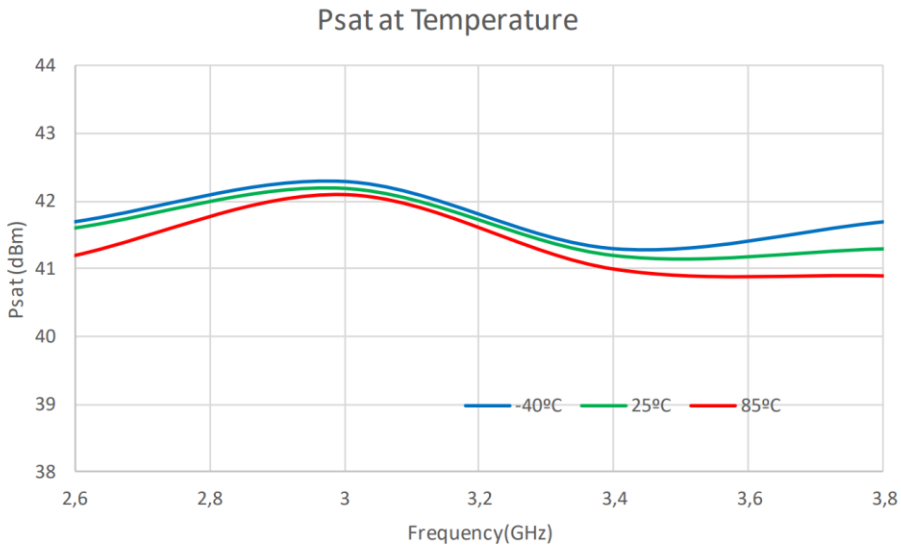


Figure 1: ERZ-HPA-0200-0400-40 Psat

Pout Vs Pin

Figure 2 shows output power as a function of input power at room temperature (25°C).

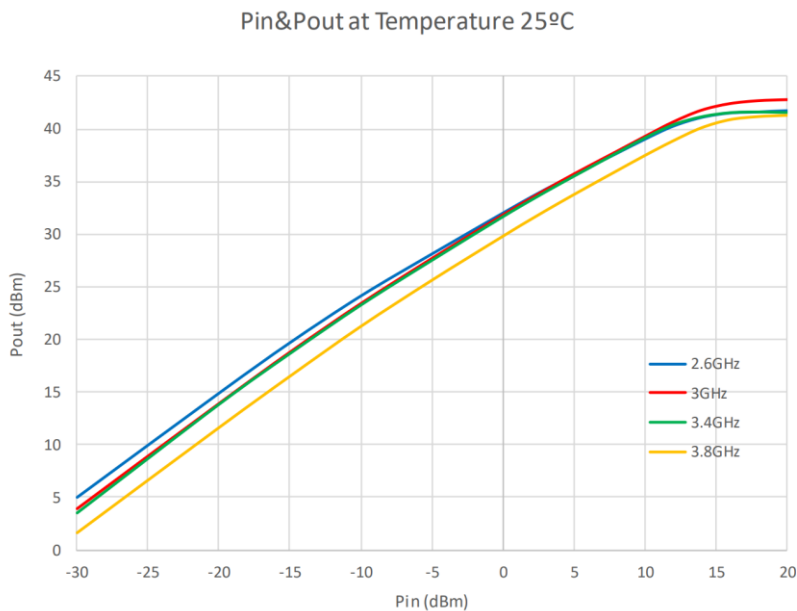


Figure 2: ERZ-HPA-0200-0400-40 Pout Vs Pin

Small Signal Gain

Figure 3 shows the small signal gain measurement as a function of frequency at room temperature (25°C).

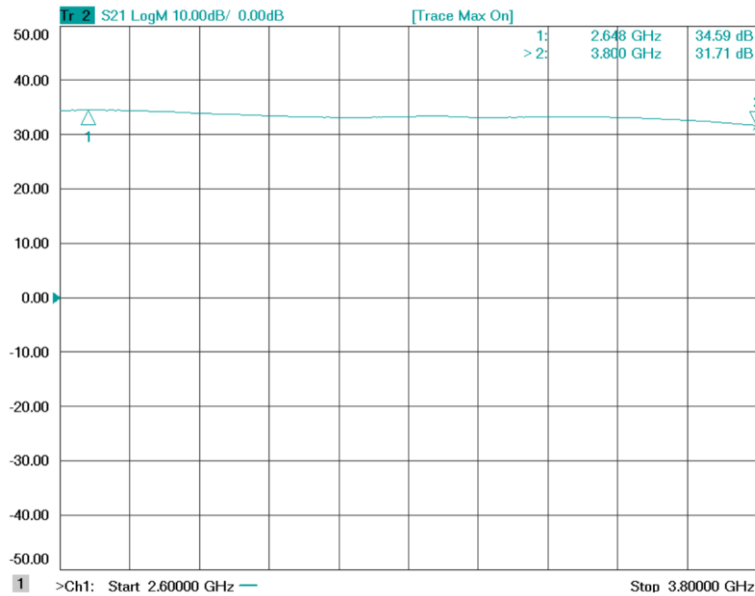


Figure 3: ERZ-HPA-0200-0400-40 Small Signal Gain

Noise Figure

Figure 4 shows noise figure measurement as a function of frequency at room temperature (25°C).

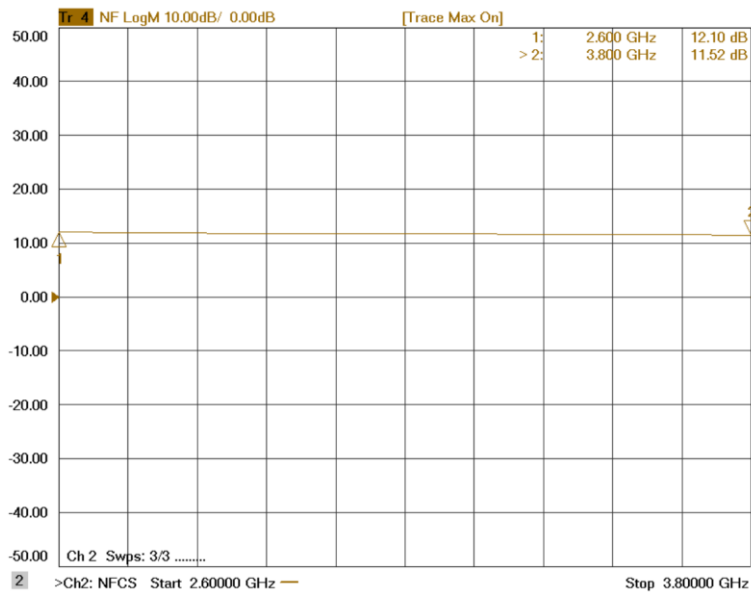


Figure 4: ERZ-HPA-0200-0400-40 Noise Figure

Input VSWR

Figure 5 shows output VSWR as a function of frequency at room temperature (25°C).

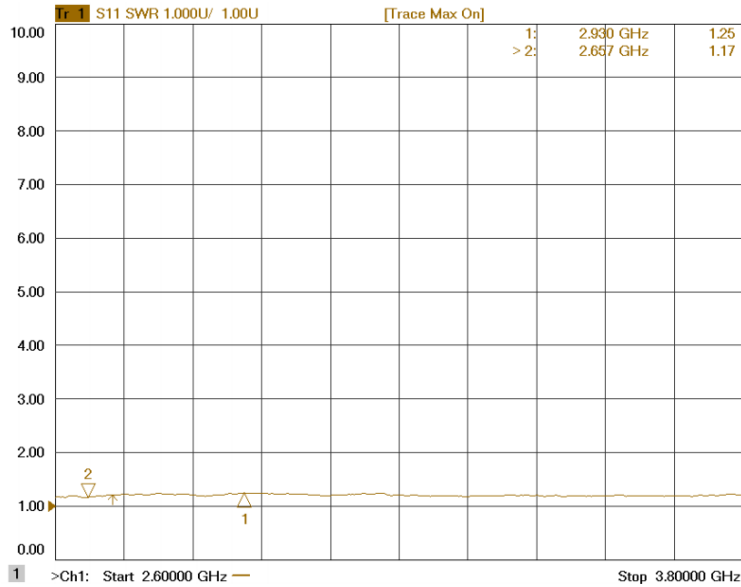


Figure 4: ERZ-HPA-0200-0400-40 Input VSWR

Output VSWR

Figure 6 shows output VSWR as a function of frequency at room temperature (25°C).

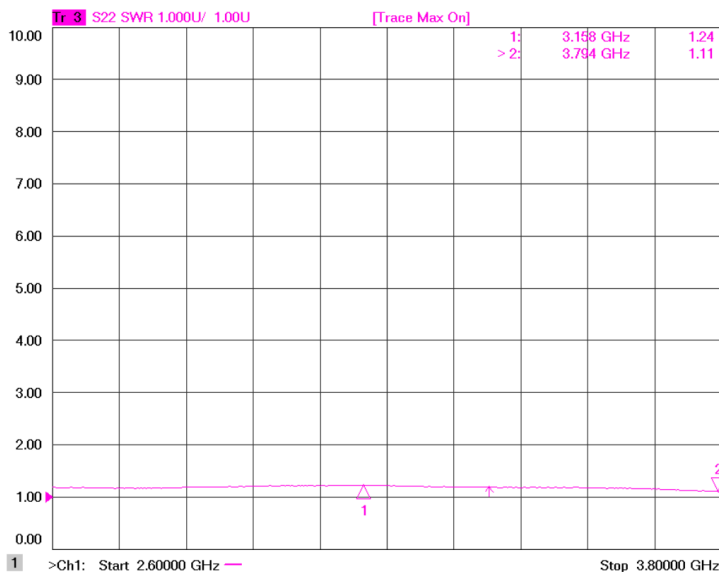
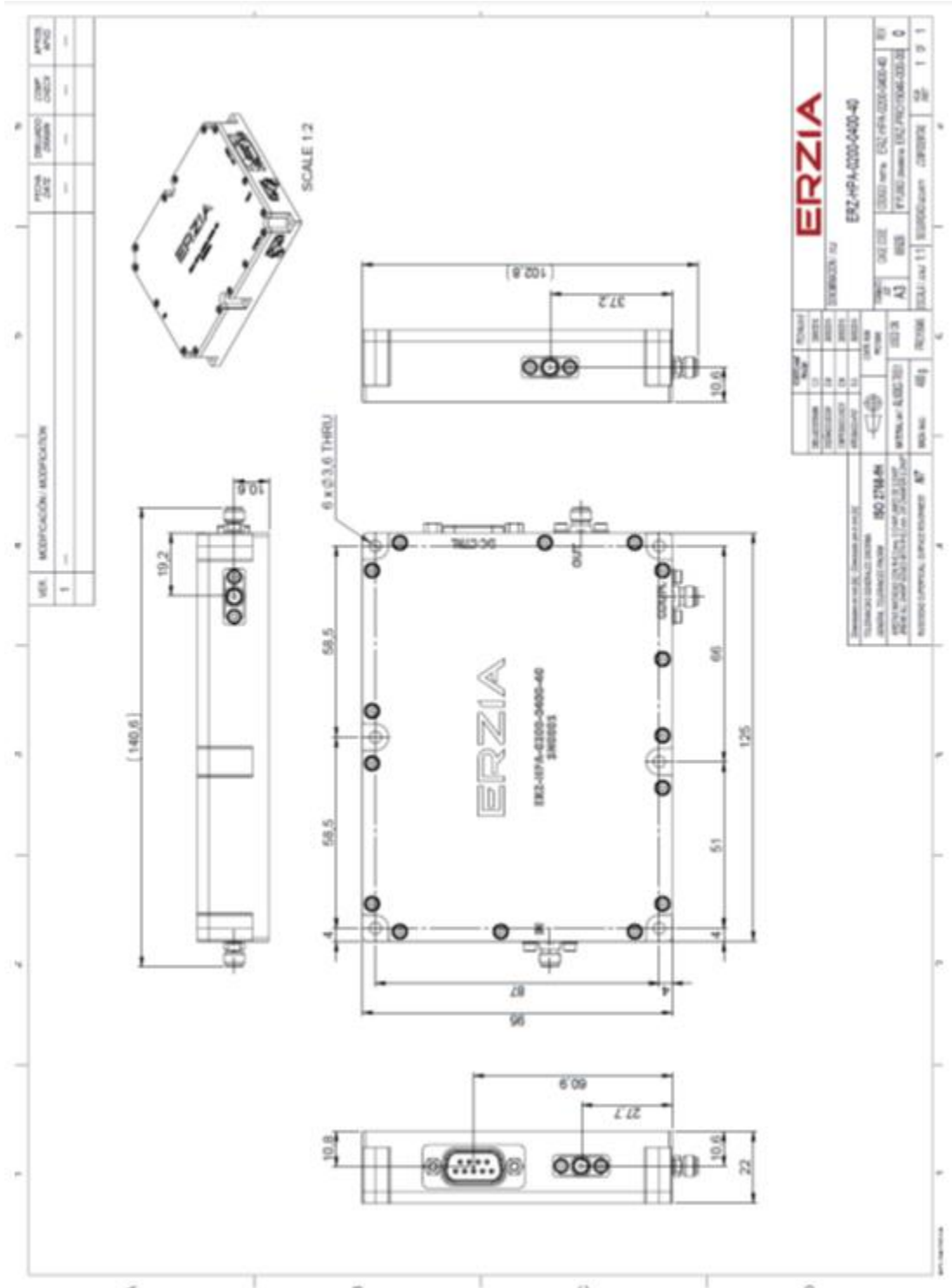


Figure 5: ERZ-HPA-0200-0400-40 Output VSWR

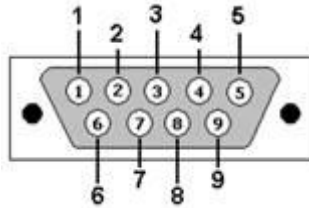
Mechanics and Housing



ERZIA		ERZ-HPA-0200-0400-40	
SERIES: HPA		SERIES: HPA	
PART NO: 2000001		PART NO: 2000001	
REV: 01		REV: 01	
DATE: 2023-01-11		DATE: 2023-01-11	
DRAWN: J. KOWALSKI		DRAWN: J. KOWALSKI	
CHECKED: M. KOWALSKI		CHECKED: M. KOWALSKI	
APPROVED: P. KOWALSKI		APPROVED: P. KOWALSKI	
MATERIAL: ALUMINUM		MATERIAL: ALUMINUM	
FINISH: ANODIZED		FINISH: ANODIZED	
WEIGHT: 0.5 kg		WEIGHT: 0.5 kg	
VOLUME: 1000 pcs		VOLUME: 1000 pcs	
COUNTRY: POLAND		COUNTRY: POLAND	

DC & Control Interface

Table below shows D-sub 9 connector (Male) pinout:



D-sub 9 Connector (Front view)

PIN	LABEL	SIGNAL
1	VCC	+28V Power Source
2	A1	Address selection
3	DGND	Digital Ground
4	A0	Address selection
5	SDA	Signal Data
6	GND	Power Ground
7	GND	Power Ground
8	EN	Enable
9	SCL	Signal Clock

Absolute Maximum Ratings

Condition	Value
DC Voltage Enable	+28.5 VDC +5 VDC
Maximum Input Power (CW)	+33 dBm
Operation temperature (at case)	-40 to 75 °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 +75 °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

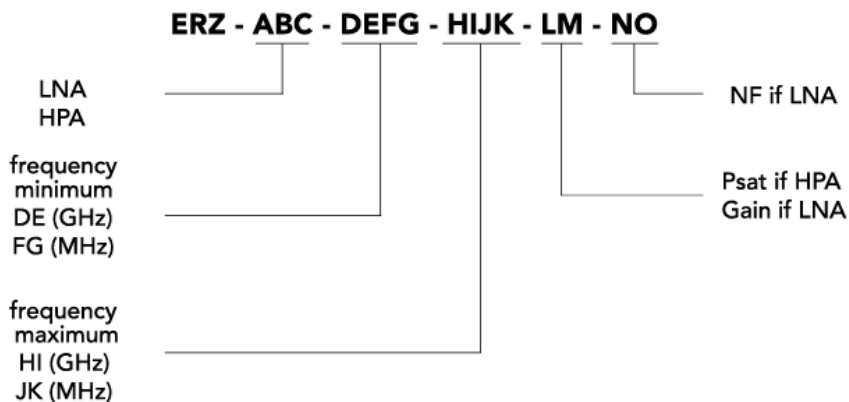
Most of ERZIA's products are based on rad-hard technologies and can be manufactured and integrated according to MIL / ECSS or specific hi-rel standard-screening for space, aeronautics, military or specific hi-reliability usage.

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

20210311_rev2.0

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