



Main Features:

- Frequency Range: 18 to 40 GHz.
- Typical values:
 - Insertion Loss of -27dB at 18 GHz
 - Insertion Loss of -3.5dB at 40 GHz
- RF connectors (I/O): 2.92 mm Female
- Several mounting options
- Compact aluminum housing
- Hi-reliability and dedicated screening/
environmental tests available under request

ERZ-EQU-1800-4000-30

The ERZ-EQU-1800-4000-30 provides a positive gain slope from 18 to 40GHz and reduces losses over frequency for amplifiers and other RF devices. The ERZIA equalizer is based on high frequency resistors over microstrip technology.

Typical applications:

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

Performance

Parameter	Value			Units
	Min	Typ	Max	
Frequency	18	-	40	GHz
Small Signal Gain @18GHz	-30	-27	-26	dB
Small Signal Gain @40GHz	-4	-3.5	0	dB
VSWR input	1.0:1	1.5:1	2.0:1	-
VSWR output	1.0:1	1.5:1	2.0:1	-
Power Handling	-	-	22	dBm
RF Connectors	2.92 mm Female			-

Specifications at a case temperature of 25°C

Small Signal Gain

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

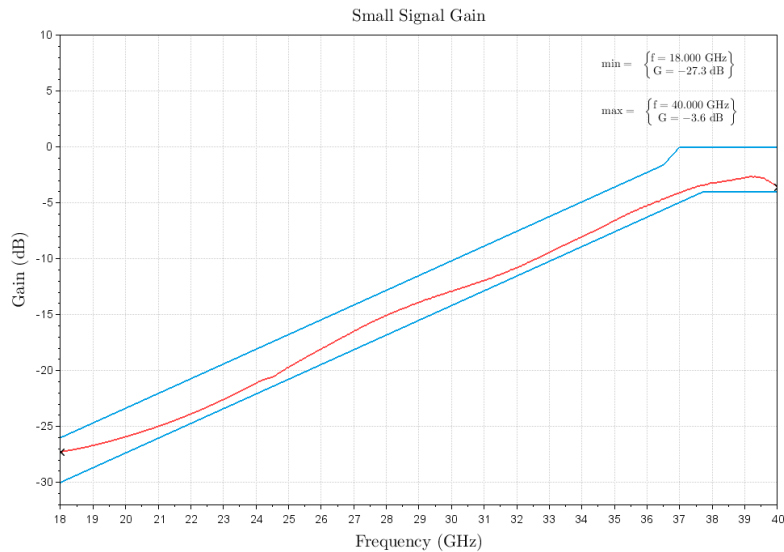


Figure 1: ERZ-EQU-1800-4000-30 Small Signal Gain

Gain Flatness over Frequency and Temperature

Figure 2 shows the small signal gain flatness over frequency and temperature at -40 °C, 25 °C and 85 °C. In this measurement the losses changes due to the variation of the RF cables in temperature are not compensated. The cables losses are around +0.2/0.3dB in 85°C with respect to the 25°C measurement and -0.2/0.3dB in -40°C with respect to 25°C measurement.

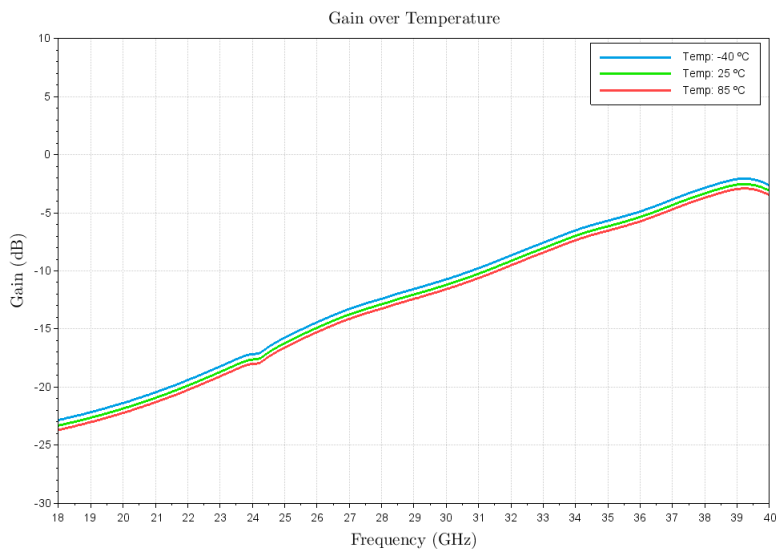


Figure 2: ERZ-EQU-1800-4000-30 Small Signal Gain

Input and Output Matching

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

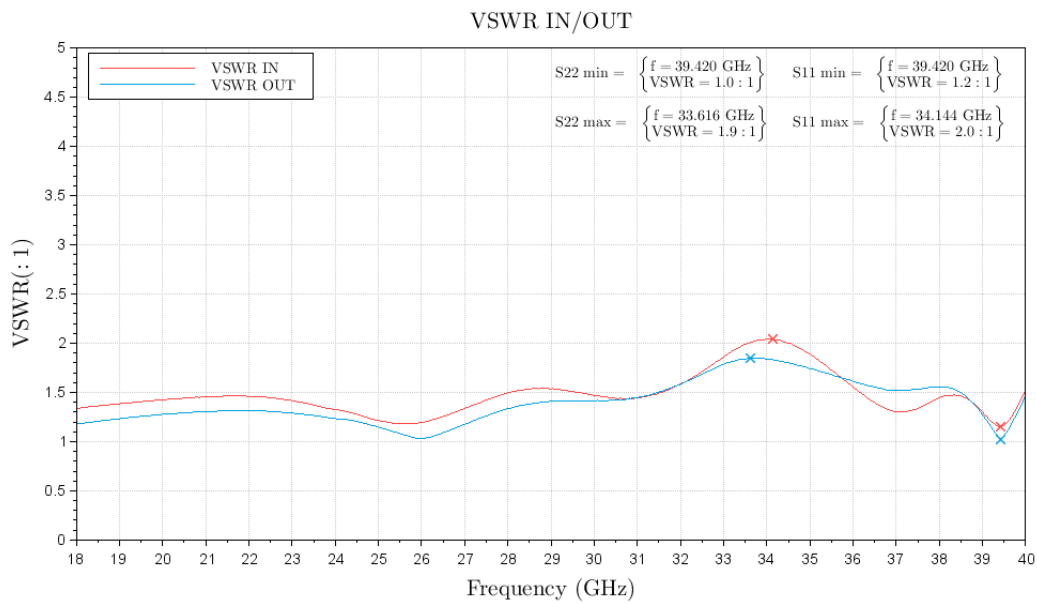


Figure 3: ERZ-EQU-1800-4000-30 Input & Output Matching

Absolute Maximum Ratings

Condition	Value
Maximum Input Power (CW)	22 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)	25 °C ± 1°C
Humidity	44% ± 10%
Additional temperature cycles in climatic chamber (DUT OFF)	-40°C to 85°C

Environmental Specifications (By Design)

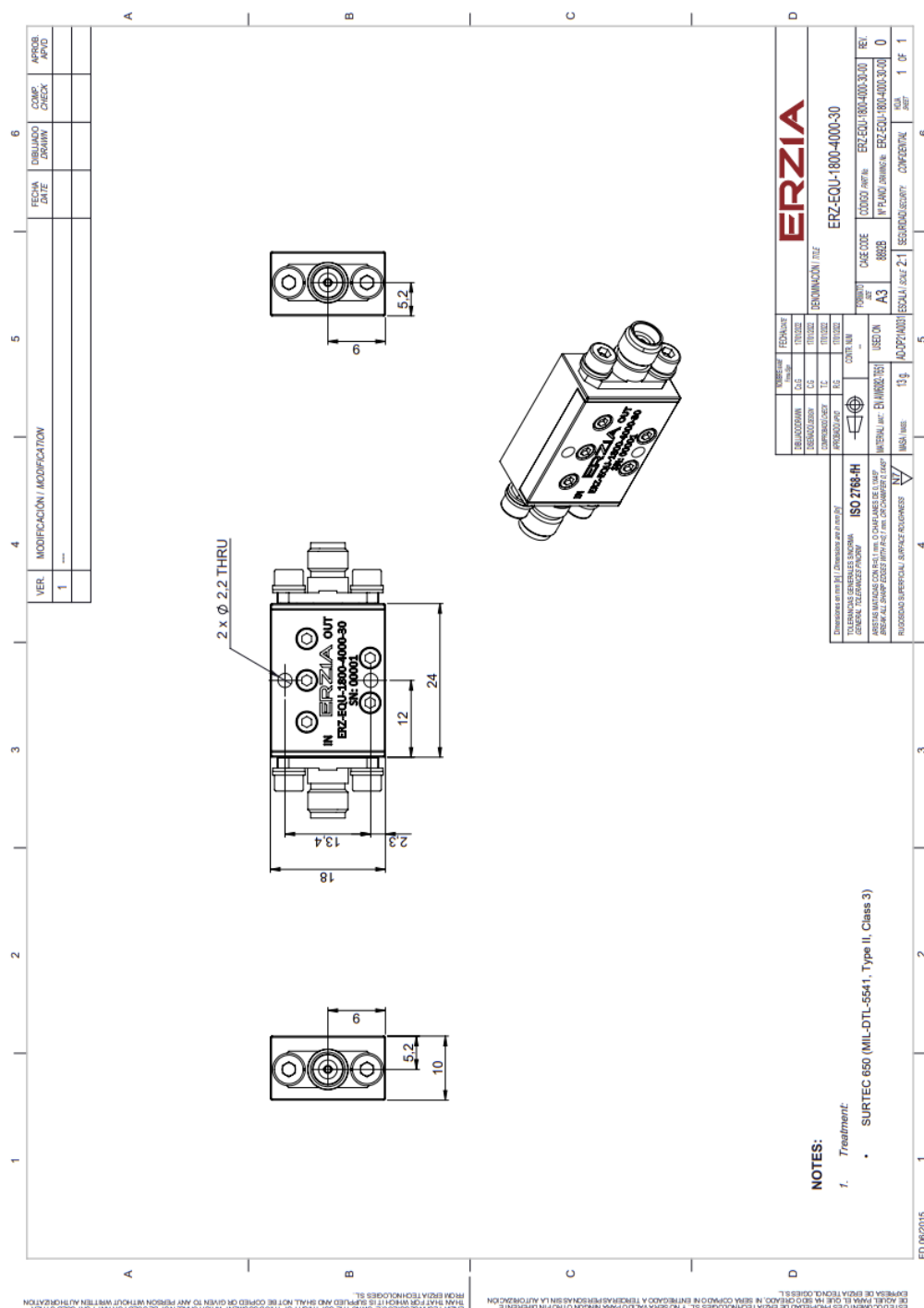
Operating Temperature:	-45 to +85 °C	(MIL-STD-810F, method 520.2)
Storage Temperature:	-55 to 125 °C	(MIL-STD-810F, method 520.2)
Vibration:	8g rms	(MIL-STD-810F, method 514.5)
Shock:	20g,11ms,saw-tooth	(MIL-STD-810F, method 516.5)
Acceleration:	15g	(MIL-STD-810F, method 513.5)

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



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 / Hi-Rel 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, 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.

ERZIA

20260818_rev1.2

Copyright © 2022 ERZIA Technologies. All rights reserved. This information is commercial and indicative, subject to change without notice