



Main Features:

- Type: Double Balanced
- RF/LO Frequency: 18 to 50 GHz.
- IF Frequency: 0 to 20 GHz
- RF connectors: SMA & 2.92 mm Female
- Conversion Loss: 10 dB
- LO Power: 16 dBm
- Compact aluminum housing

ERZ-MIX-1800-5000-10

The ERZ-MIX-1800-5000-10 is a double balanced mixer with a wideband operational bandwidth and great conversion loss. 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	
RF/LO Frequency	18	-	50	GHz
IF Frequency	0	-	20	GHz
Conversion Loss	10	8	6	dB
LO Power	15	17	20	dBm
Input IP3	13	16	20	dBm
LO to IF Isolation	30	35	45	dB
RF to IF Isolation	25	35	40	dB
LO to RF Isolation	-	40	-	dB
RF VSWR		2.5:1	3.5:1	-
LO VSWR		2.5:1	4.5:1	-
IF VSWR		2.5:1	4.5:1	-
RF Connectors	SMA & 2.92mm Female			-

Specifications at a case temperature of 25°C

Insertion Loss

Figures 1, 2 & 3 show Insertion Loss measurement for different IF frequencies as a function of frequency at room temperature (25°C).

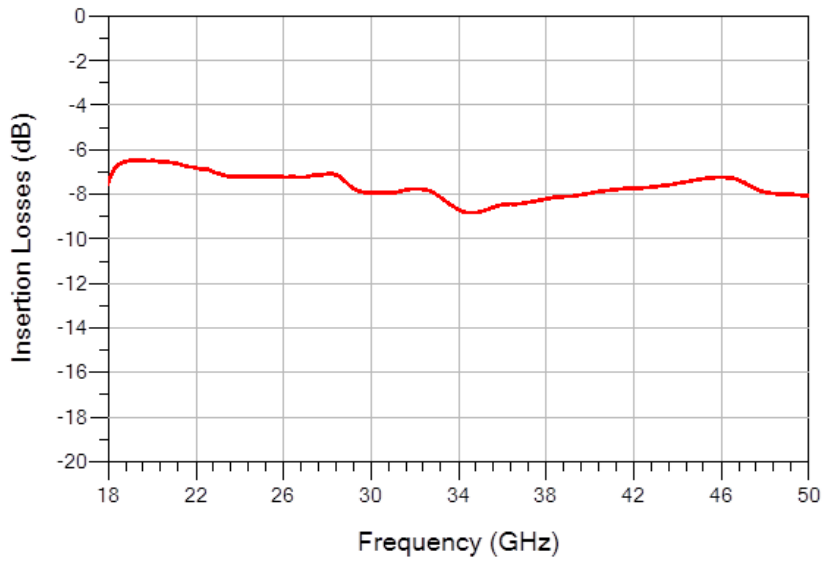


Figure 1: Insertion Loss for IF=100 MHz and 17 dBm

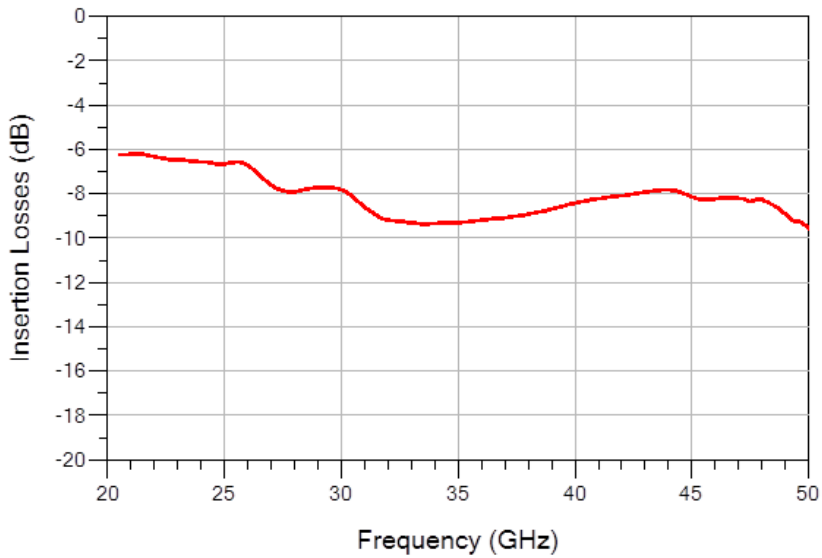


Figure 2: Insertion Loss for IF=5 GHz and 17 dBm

Insertion Loss

Figures 1, 2 & 3 show Insertion Loss measurement for different IF frequencies as a function of frequency at room temperature (25°C).

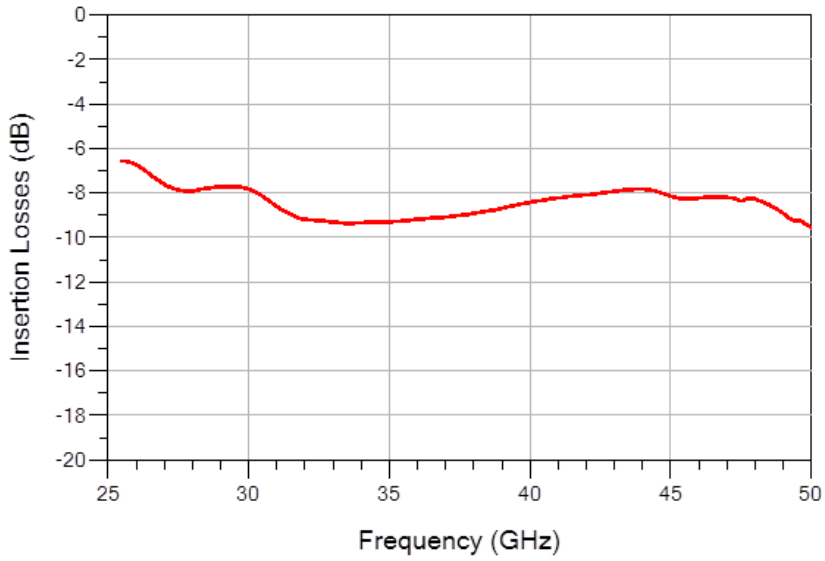


Figure 1: Insertion Loss for IF=10 GHz and 17 dBm

Absolute Maximum Ratings

Condition	Value
Maximum Input Power (CW)	+21 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.

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