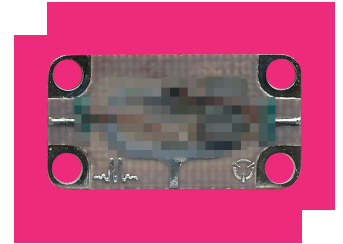


## M2-0226ME-2 Triple-Balanced Mixers

### DEVICE OVERVIEW

#### General Description

M2 triple balanced mixers are hybrid assemblies that have been hand-tuned to feature low conversion loss and high isolations. M2 mixers offer ultrabroadband overlapping frequency coverage on all 3 ports. Many M2 mixers have replaced with MM2 mixers with superior performance, repeatability, and availability. M2 mixers suitable for systems where an MM2 mixer is not available.



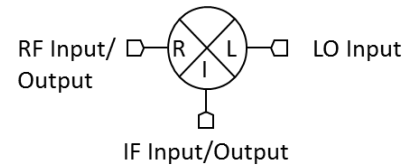
#### Features

- LO/RF 2.0 to 26.5 GHz
- IF .001 to 6.0 GHz
- 7.5 dB Typical Conversion Loss
- 25 dB Typical LO to RF Isolation
- Ultra-Broadband RF, LO, and IF

#### Applications

N/A

#### Functional Block Diagram



#### Part Ordering Options

Part Number	Description	Package	Green Status	Product Lifecycle	Export Classification	Recommended Replacement
M2-0226ME-2	Triple-Balanced Mixers	E	<a href="#">Consult Factory.</a>	Not Recommended for New Design	EAR99	<a href="#">T3-20GLES-2T3-20GLCTG-2MM1-0222LSM-2</a>

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- General Description
- Features
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- **Port Configuration and Functions**

- Port Functions

- **Specifications**

- Package Information
- Recommended Operating Conditions
- Electrical Specifications
- Typical Performance Plots

- **Mechanical Data**

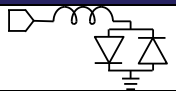
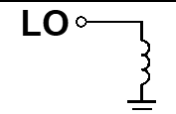
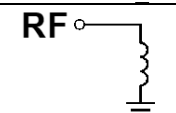
- Outline Drawing

- **Notes**

NOT RECOMMENDED FOR NEW DESIGN

## Port Configuration and Functions

### Port Functions

Port	Function	Description	Equivalent Circuit for Package
IF	IF	The IF port is DC coupled to the diodes and AC matched to 50 Ohms from .001 to 6 GHz. Blocking capacitor is optional.	
LO	LO	The LO port is DC coupled to ground and AC matched to 50 Ohms from 2 to 26.5 GHz. Blocking capacitor is optional.	
RF	RF	The RF port is DC coupled to ground and AC matched to 50 Ohms from 2 to 26.5 GHz. Blocking capacitor is optional.	

NOT RECOMMENDED FOR NEW DESIGN

## Specifications

### Package Information

Parameter	Details	Rating
Dimensions	-	15.24 x 8.13 mm

### Recommended Operating Conditions

Parameter	Min	Nominal	Max	Unit
LO Input Power	13	-	16	-

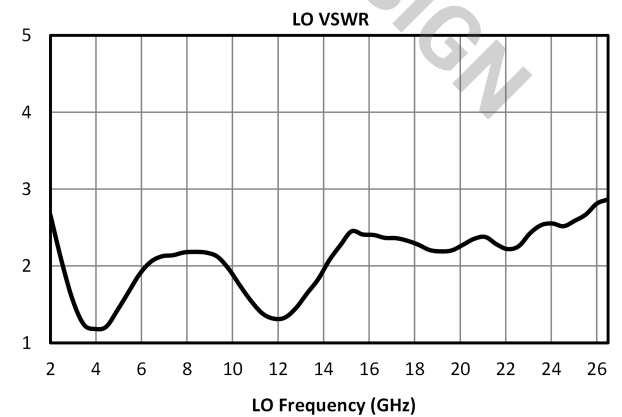
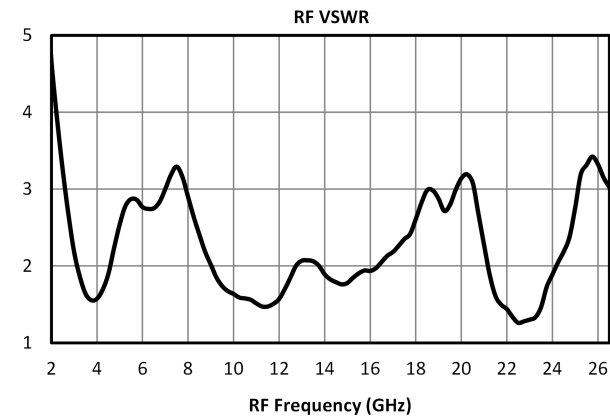
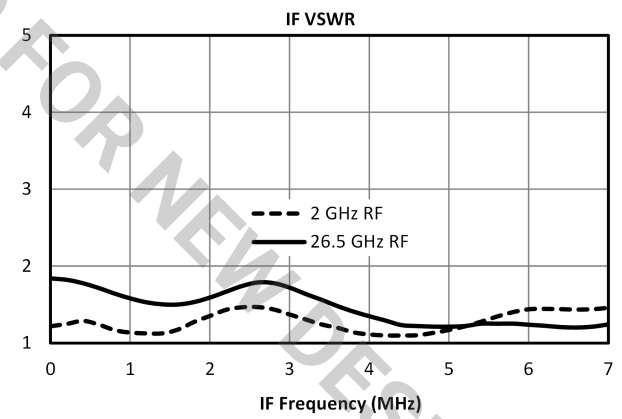
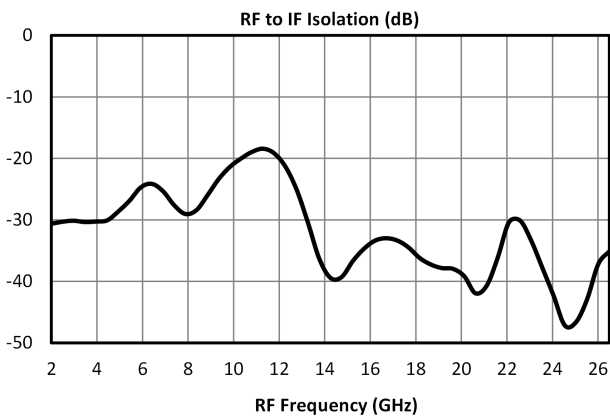
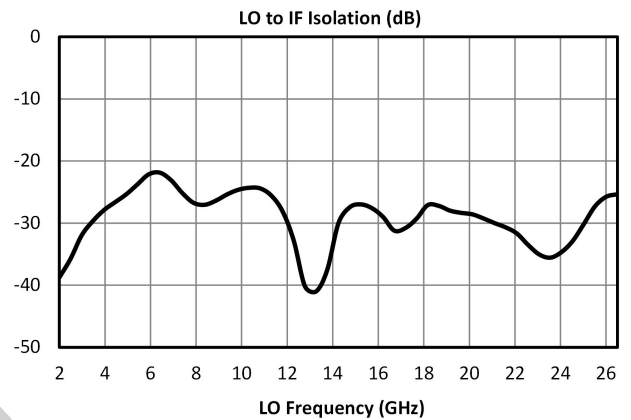
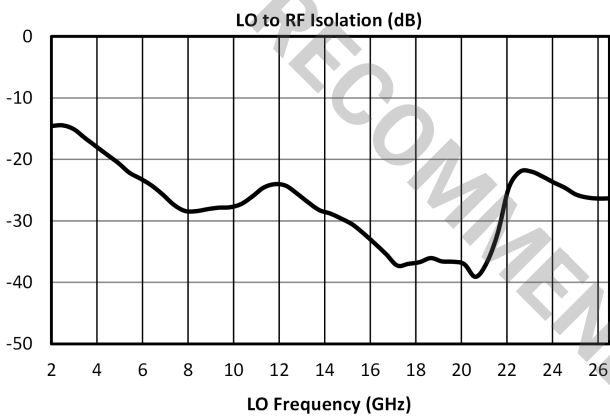
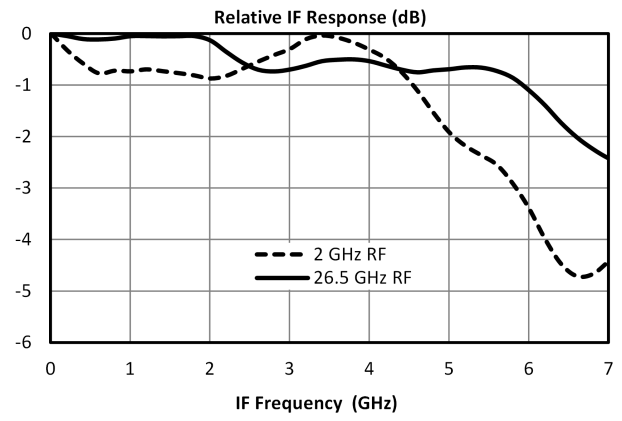
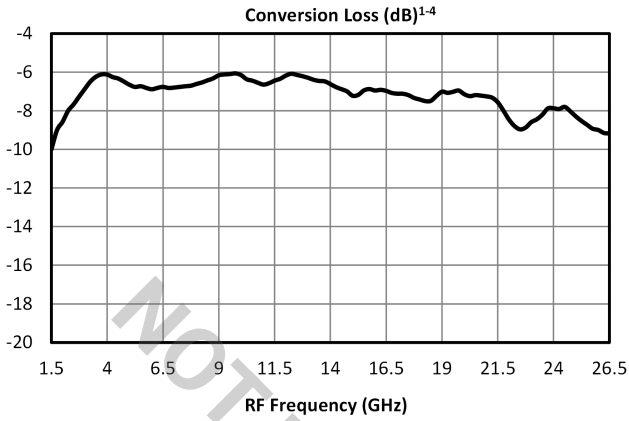
NOT RECOMMENDED FOR NEW DESIGN

## Electrical Specifications

Specifications guaranteed from -55 to +100°C, measured in a 50-Ohm system.

Parameter	Test Conditions	Min	Typ	Max	Unit
Conversion Loss	LO/RF=20-26.5 GHz IF=.001-2 GHz	-	9.5	12	dB
Conversion Loss	LO/RF=20-26.5 GHz IF=4-6 GHz	-	11.5	14	dB
Conversion Loss	LO/RF=2-20 GHz IF=.001-2 GHz	-	7.5	10	dB
Conversion Loss	LO/RF=2-20 GHz IF=2-4 GHz	-	8.5	11	dB
Conversion Loss	LO/RF=2-20 GHz IF=4-6 GHz	-	9.5	12	dB
Input 1 dB Compression	LO/RF=2-26.5 GHz LO drive level, M Diode Option=13-16 dBm	-	8	-	dBm
Input IP3	LO/RF=2-26.5 GHz LO drive level, M Diode Option=13-16 dBm	-	18	-	dBm
Isolation, LO to IF	LO/RF=2-26.5 GHz	-	28	-	dB
Isolation, LO to RF	LO/RF=2-26.5 GHz	12	25	-	dB
Isolation, LO to RF	LO/RF=4-19 GHz	18	28	-	dB
Isolation, RF to IF	LO/RF=2-26.5 GHz	-	30	-	dB
Conversion Loss	LO/RF=20-26.5 GHz IF=2-4 GHz	-	10.5	13	dB
IF Frequency Range	-	0.001	-	6	GHz
RF Frequency Range	-	2	-	26.5	GHz

**Typical Performance Plots**





## Notes

1. Mixer Conversion Loss Plot IF frequency is 100 MHz.
2. Mixer Noise Figure typically measures within +0.5 dB of conversion loss for IF frequencies greater than 5 MHz.
3. Conversion Loss typically degrades less than 0.5 dB for LO drives 2 dB below the lowest and 3 dB above highest nominal LO drive levels.
4. Conversion Loss typically degrades less than 0.5 dB at +100°C and improves less than 0.5 dB at -55°C.
5. Maximum input power is +26 dBm at +25°C, derated linearly to +23 dBm at +100°C.
6. Specifications are subject to change without notice. Contact Marki Microwave for the most recent specifications and data sheets.
7. Standard configuration for A and B Outlines are with connectors and bottom spacer.
8. Catalog mixer circuits are continually improved. Configuration control requires custom mixer model numbers and specifications.

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