

**TYPICAL CHARACTERISTICS
ON
IRMX-8G12G-50-33-SFF**



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Outline Drawing

DESCRIPTION:

PMI MODEL: IRMX-8G12G-50-33-SFF IS AN IMAGE REJECT MIXER OPERATING OVER THE 8.0 TO 12.0 GHz FREQUENCY RANGE. THIS MODEL OFFERS A TYPICAL IMAGE REJECTION OF 33 dB WHILE LIMITING THE NOISE FIGURE TO A MAXIMUM OF 9.5 dB. THIS PRODUCT IS CONFIGURED FOR LOW SIDE CONVERSION, IF = RF - LO, USB

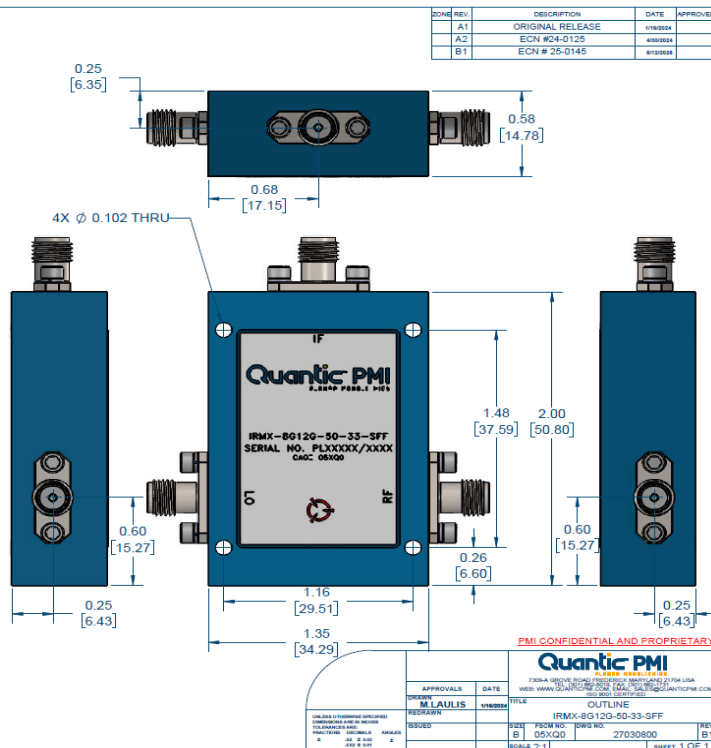
SPECIFICATIONS:

- LO INPUT FREQUENCY RANGE: 8.0 TO 12.0 GHz
- RF INPUT FREQUENCY RANGE: 8.03 TO 12.09 GHz
- IF OUTPUT FREQUENCY RANGE: 30 TO 90 MHz
- LO POWER: +14 dBm MIN
+15 dBm TYP
+17 dBm MAX
- LO VSWR: 1.4:1 TYP
- RF VSWR: 3.0:1 TYP
- IF OUTPUT IMPEDANCE: 50 Ω
- CONVERSION LOSS: 7.5 dB TYP
10.5 dB MAX
- NOISE FIGURE: 8 dB TYP
9.5 dB MAX
- INPUT IP3: +23 dBm TYP (2-TONE, Δf = 1 MHz)
- INPUT P1dB: +14 dBm TYP
- LO-RF ISOLATION (NO RF INPUT): 40 dB MIN
50 dB TYP
- LO-IF ISOLATION (NO RF INPUT): 55 dB TYP
- IMAGE REJECTION (OVER IF BAND): 23 dB MIN
33 dB TYP
- LO/RF INPUT POWER W/O DAMAGE: +23 dBm MAX
- CONNECTORS: SMA FEMALE
- SIZE: 50.80mm x 34.29mm x 14.78mm
2.00" x 1.35" x 0.58"
- FINISH: PAINTED BLUE

ENVIRONMENTAL RATINGS:

- TEMPERATURE: -40°C TO +85°C (OPERATING)
- HUMIDITY: MIL-STD-202, METHOD 103B COND. B
- SHOCK: MIL-STD-202, METHOD 213B COND. B
- VIBRATION: MIL-STD-202, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202, METHOD 107D COND. A

NOTE: SPECIFICATIONS WILL VARY OVER TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION



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Technical Specifications

TEST ITEM NO:	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE
1	LO Input Frequency Range	8.0 to 12.0 GHz	8.0 to 12.0 GHz
2	RF Input Frequency Range	8.03 to 12.09 GHz	8.03 to 12.09 GHz
3	IF Output Frequency Range	30 to 90 MHz	30 to 90 MHz
4	IF Configuration	IF = RF - LO	Pass
5	LO Power	+14 dBm MIN +15 dBm TYP +17 dBm MAX	+15 dBm
6	LO VSWR	1.4:1 TYP	1.78:1
7	RF VSWR	3.0:1 TYP	2.47:1
8	Conversion Loss	7.5 dB TYP 10.5 dB MAX	6.84 dB TYP 8.47 dB MAX
9	Noise Figure	8 dBm TYP 9.5 dB MAX	7.34 dB TYP 8.97 dB MAX
10	Input IP3	+23 dBm TYP (2-TONE, $\Delta f = 1$ MHz)	See Plots
11	Input P1dB	+14 dBm TYP	9.9 dBm
12	LO-RF Isolation (No RF Input)	40 dB MIN 50 dB TYP	40.94 dB
13	LO-IF Isolation (No RF Input)	55 dB TYP	54.72 dB
14	Image Rejection (over IF Band)	23 dB MIN 33 dB TYP	31.13 dB
15	LO/RF Input Power W/O Damage	+23 dBm MAX	Pass

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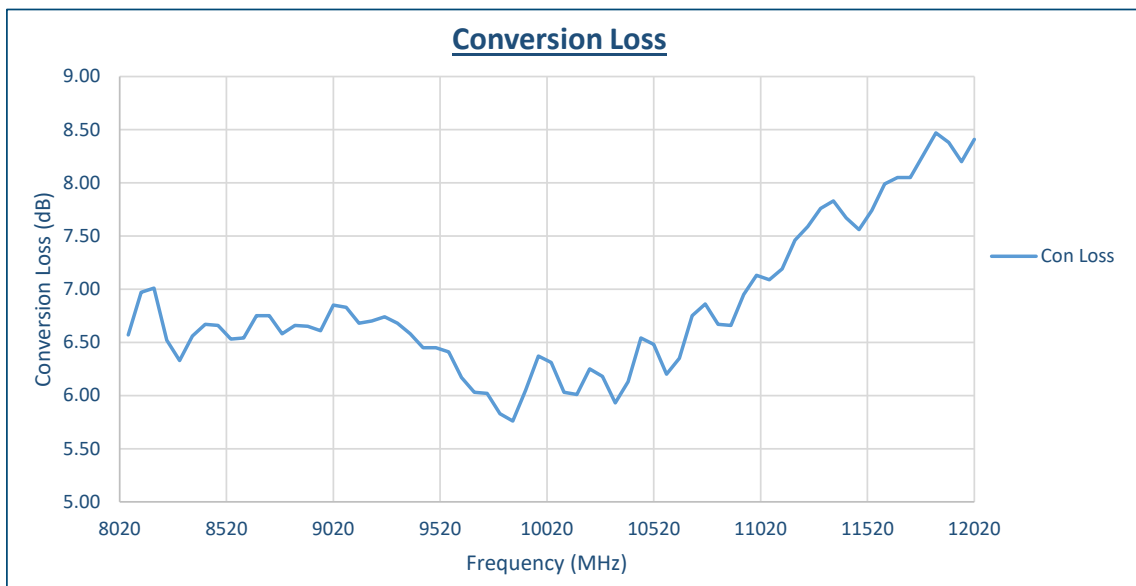
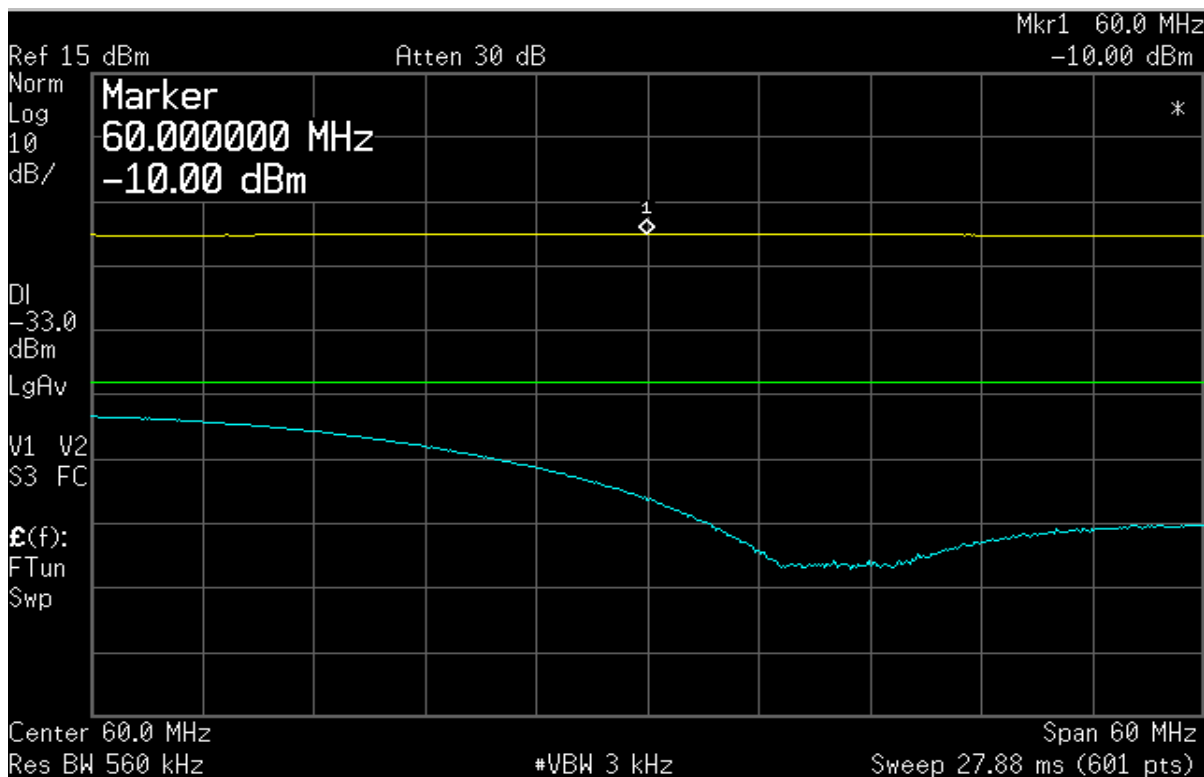


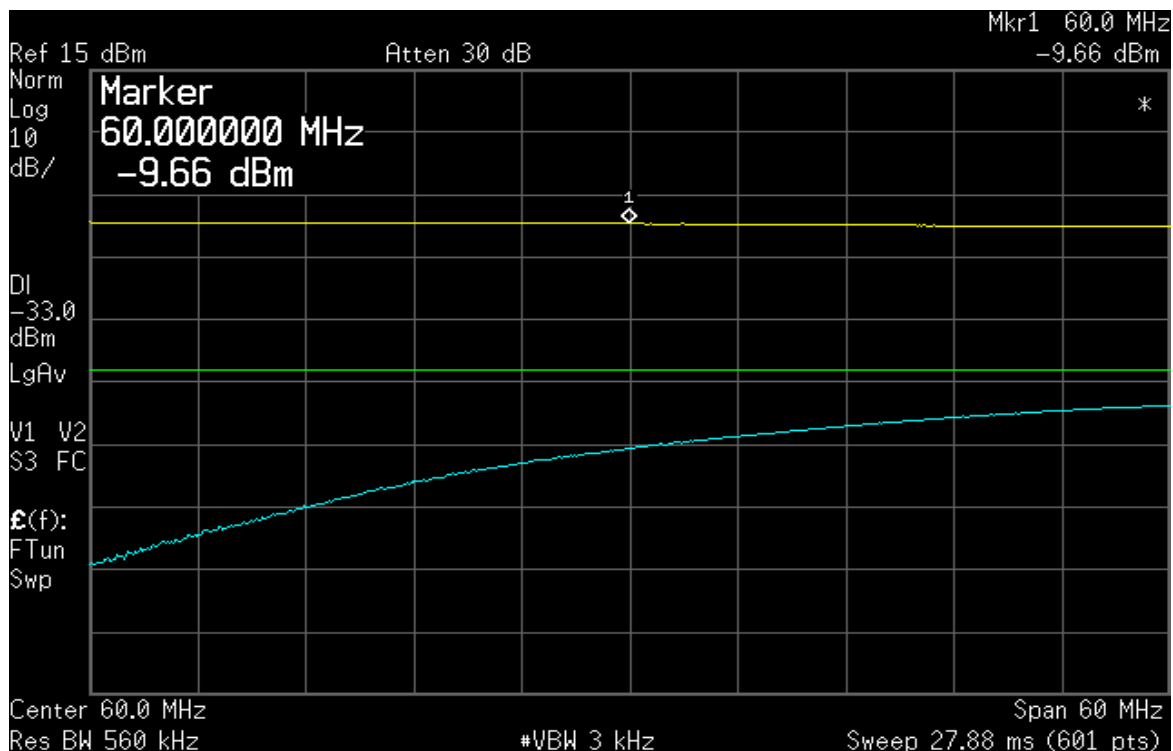
Image Rejection (over IF Band)

RF=8.06 GHz

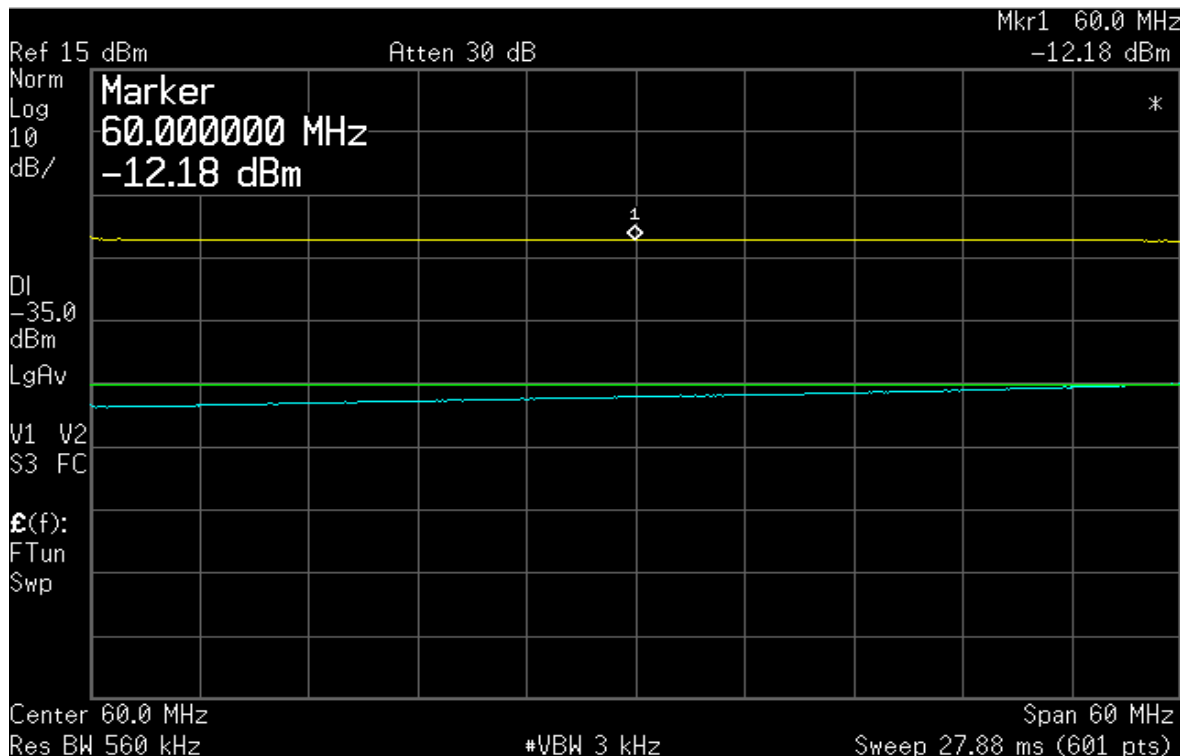


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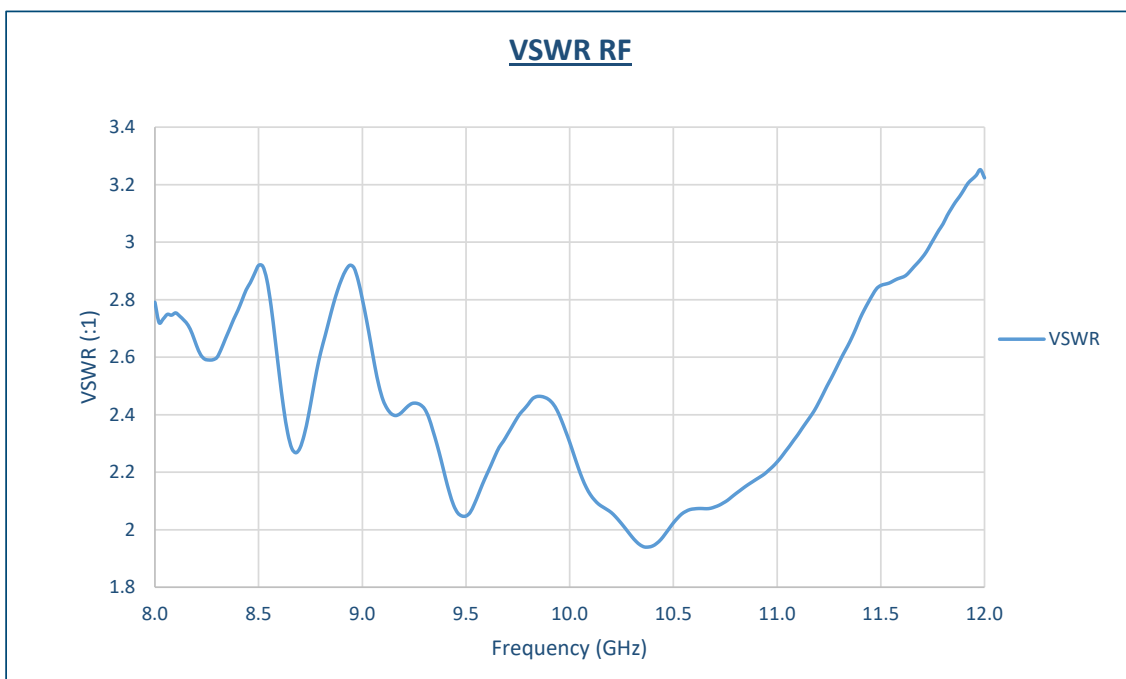
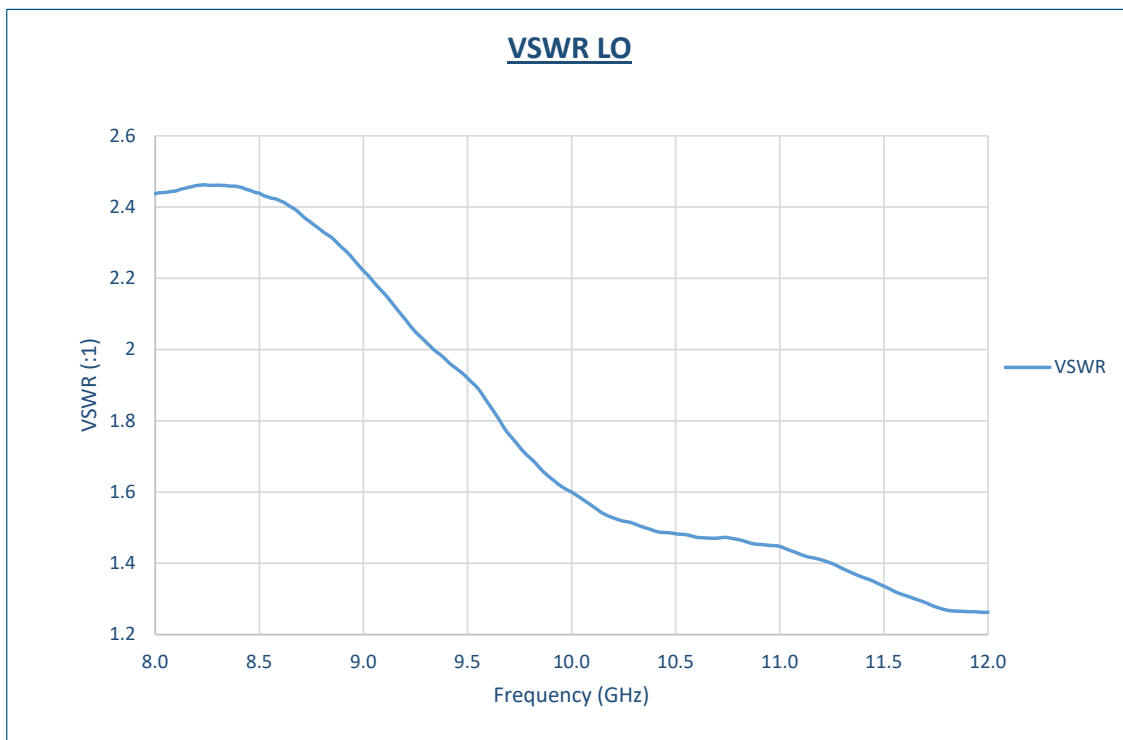
RF=10.06 GHz



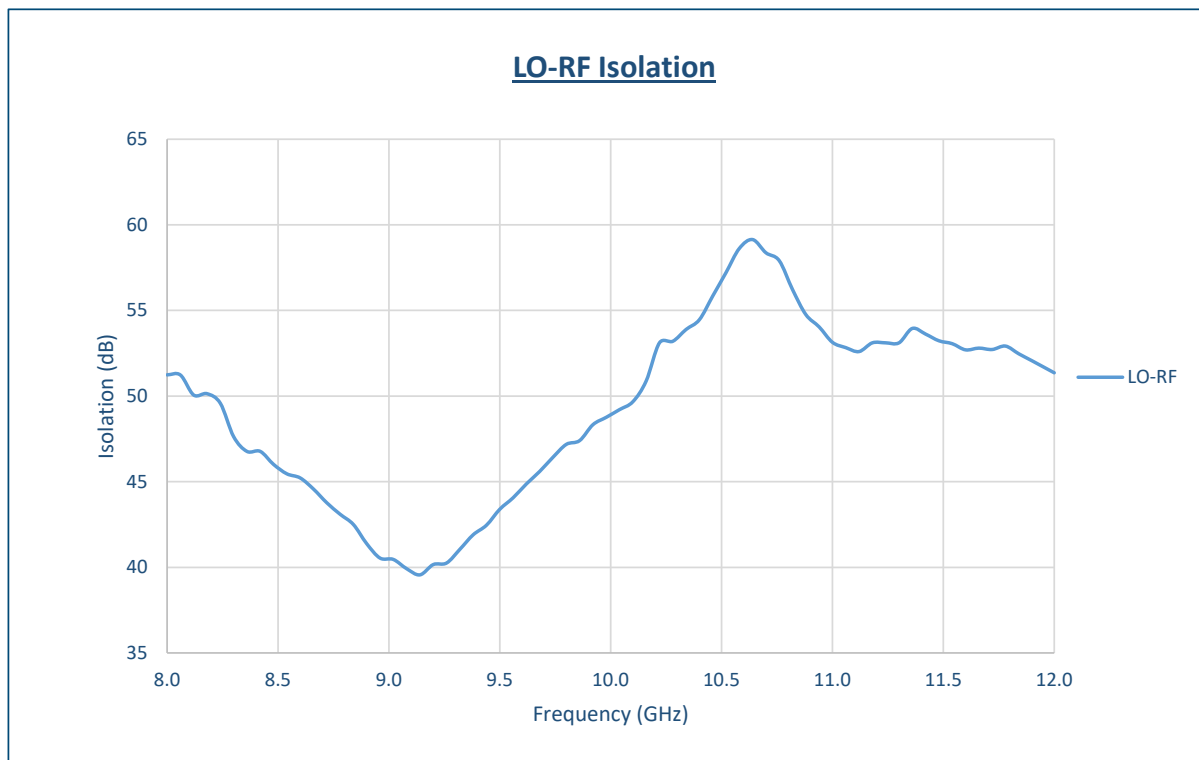
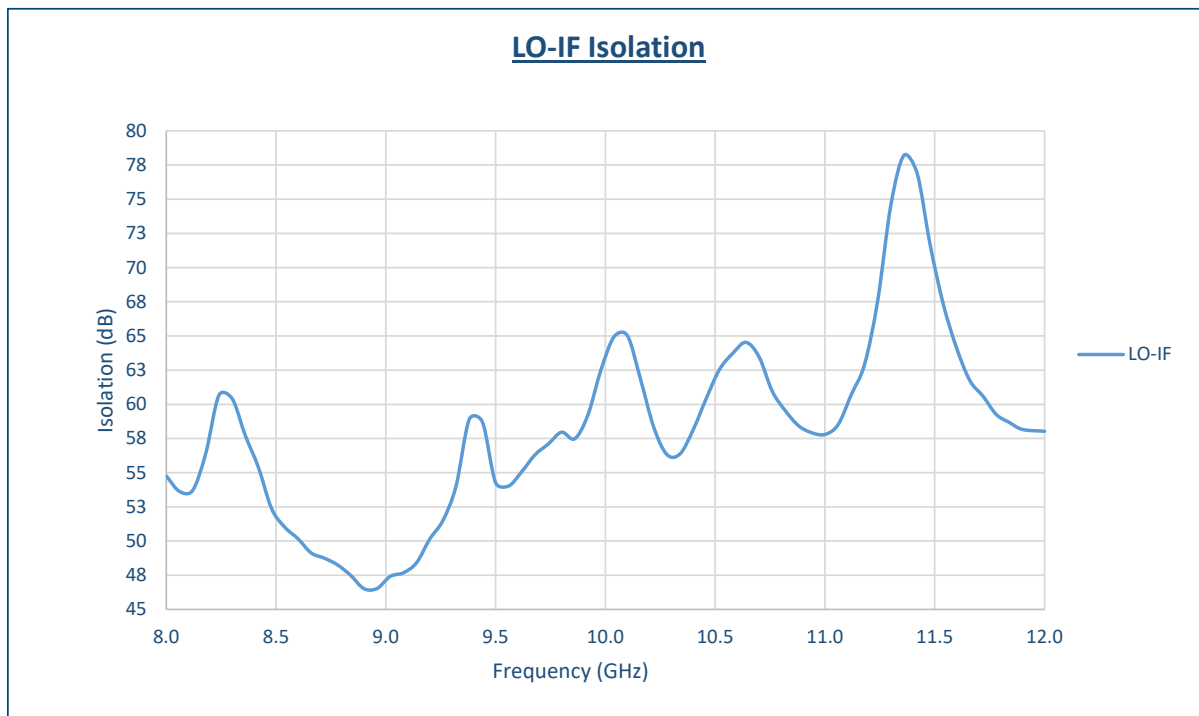
RF=12.06 GHz



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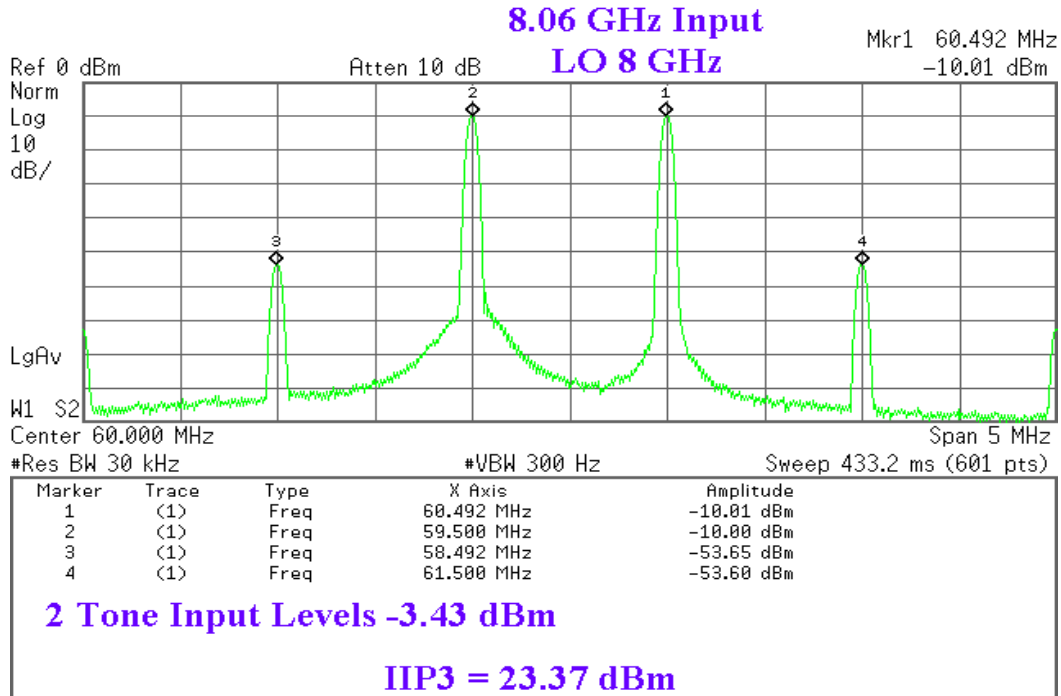


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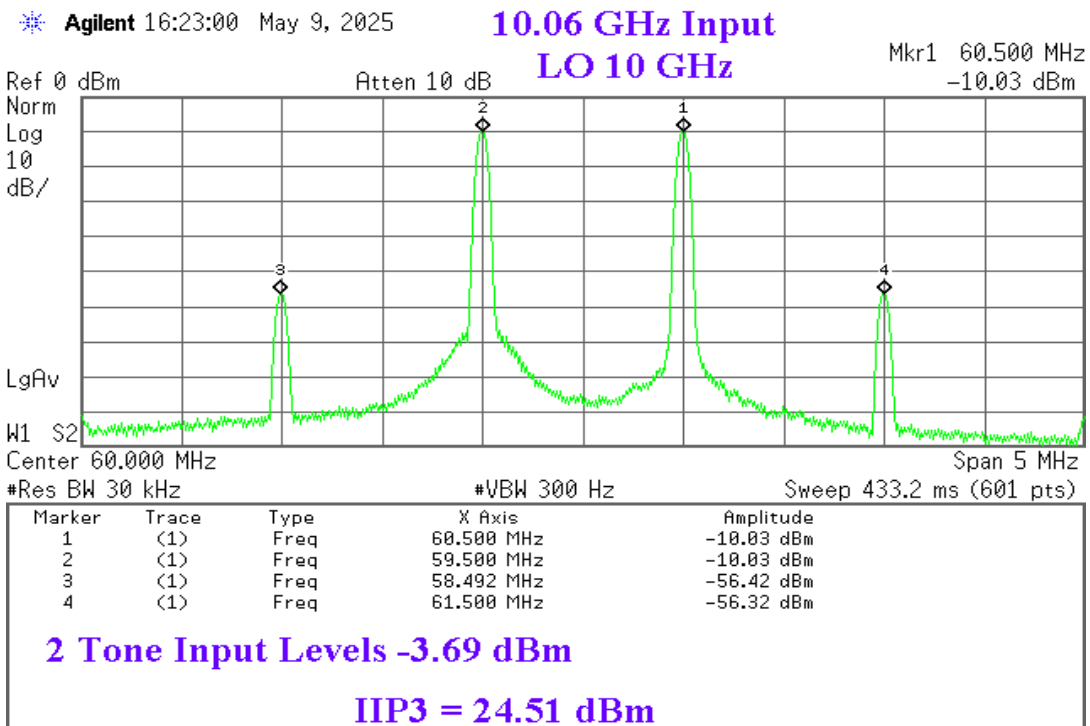


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Input IP3 @ 8.06 GHz



Input IP3 @ 10.06 GHz



**TYPICAL CHARACTERISTICS
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Input IP3 @ 12.06 GHz

