SFH-10SFSF-A3

Rev. 1.0

W-Band Harmonic Mixer, Keysight Spectrum Analyzer

Description:

Model SFH-10SFSF-A3 is a W-Band balanced harmonic mixer that is specially designed for use with Keysight's spectrum analyzer series. The mixer employs high performance, GaAs Schottky flip chip diodes and a balanced configuration to produce superior RF performance. With an IF range of DC to 1.3 GHz, the harmonic mixer uses the harmonic number 18 of a 3.0 to 6.1 GHz LO at +16 dBm to translate 75 to 110 GHz. The harmonic mixer has a conversion loss of 47 dB.

Features:

- Full Waveguide Band Operation
- No External Bias Required
- 18th Harmonic Detection

Applications:

- Keysight Spectrum Analyzers
- Frequency Meters
- Phase Locked Loops

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Frequency	75 GHz		110 GHz
LO Frequency	3.0 GHz		6.1 GHz
IF Range	DC		1.3 GHz
Input Power		+16 dBm	+19 dBm
Harmonic Number		18	
Conversion Loss		47 dB	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

Mechanical Specifications:

Item	Specification
RF Port	WR-10 Waveguide with UG-387/U-M Flange
LO Port	SMA (F)
IF Port	SMA (F)
Case Material	Brass
Finish	Gold Plated
Weight	5.4 Oz
Size	1.5"(L) x 1.2"(W) X 2.0"(H)
Outline	FH-W2

www.sagemillimeter.com | 3043 Kashiwa Street, Torrance, CA 90505
Phone: 424-757-0168 | Fax: 424-757-0188 | Email: sales@sagemillimeter.com

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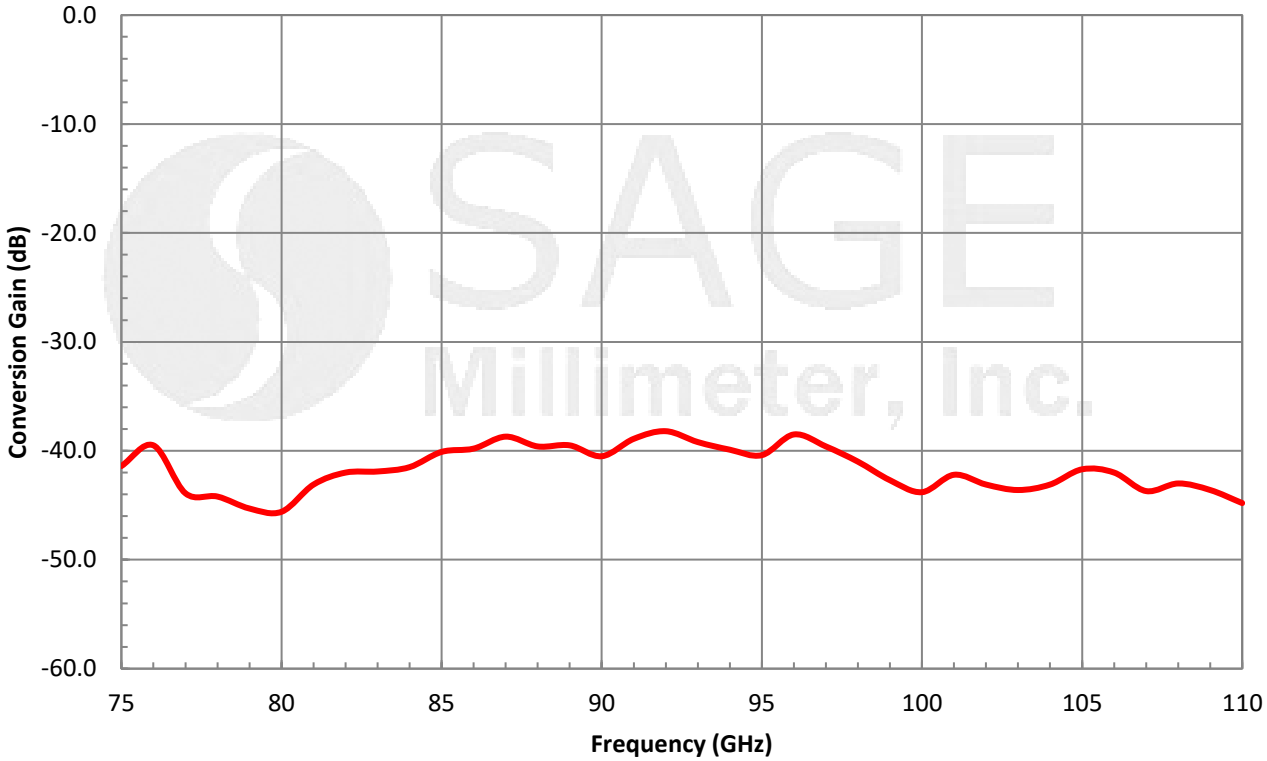
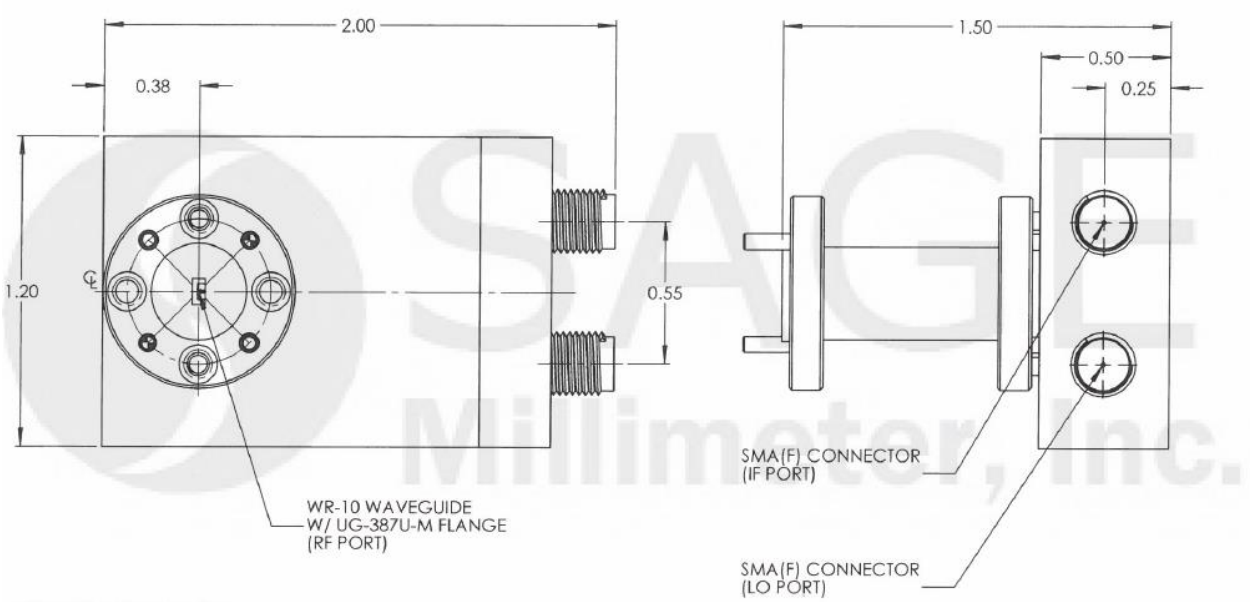
Typical Conversion Loss vs. Frequency

P_{RF} = -20 dBm



Mechanical Outline: (Unless otherwise specified, all dimensions are in inches)



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Note:

- All data presented is collected from a sample lot. Actual data may vary unit to unit, slightly.
- All testing was performed under +25 ˚C case temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

- Exceeding absolute maximum ratings of the mixer will damage the device.
- Any foreign objects in the waveguide will degrade performance and/or damage the device.
- The mixer is a static sensitive device. Always follow ESD rules when working with the mixer.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.92 ± 0.05 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**