ERAVANT

NEXT GENERATION MILLIMETERWAVE COMPONENTS

F BAND UPDATES

February 2021

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INTRODUCTION

ERAVANT designs and manufactures total solutions for microwave and millimeterwave applications covering 10 MHz to 220 GHz and up to 325 GHz.

- **This presentation introduces Eravant's selective standard product offerings in the F-Band (90 to 140 GHz).**
- Our full product offering, including Limited Run models, are listed on our website at **www.eravant.com.**

Additional products and presentations are available upon customer request:

- Custom models for components and subassemblies can be configured to customers' specifications.
- Presentations about Ka, Q, U, V, E, W, D and G-Bands are available.
- Presentations for specific applications like 5G/IoT, Space, Test Instrumentation, Communications, and Radar are also available **online.**

ERAVANT PRODUCT COVERAGE

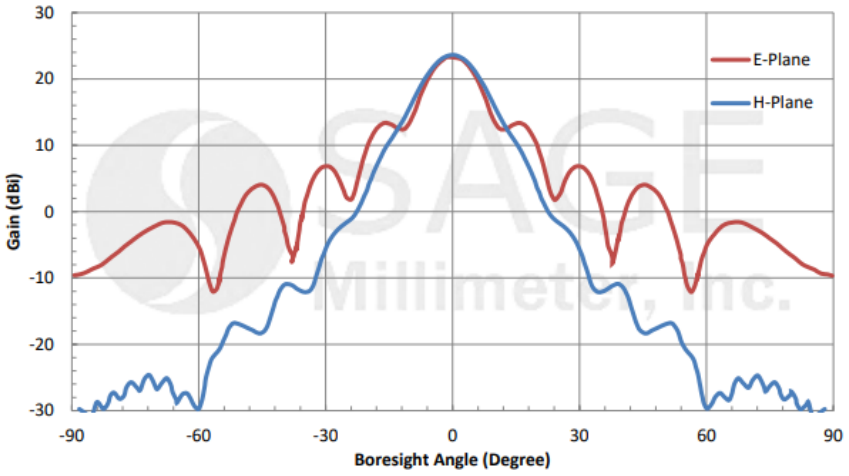
- ERAVANT offers Total Product Solutions to configure any system applications in the Frequency Range of DC to 220 GHz and up to 325 GHz.
- F Band products are mainly used in
  - THz communication systems
  - Automotive Radar systems
  - 5G systems
  - Scientific and industrial systems
  - Test equipment and set ups
- The intent of this presentation is to present the ERAVANT product offerings in **F Band** to help the customers having a quick overview of available product families for their project and system planning. The model selected is for illustration purpose only. The full product offerings under many models with various performance in the same product family are available on **Eravant's website**.

Rectangular Horn Antenna

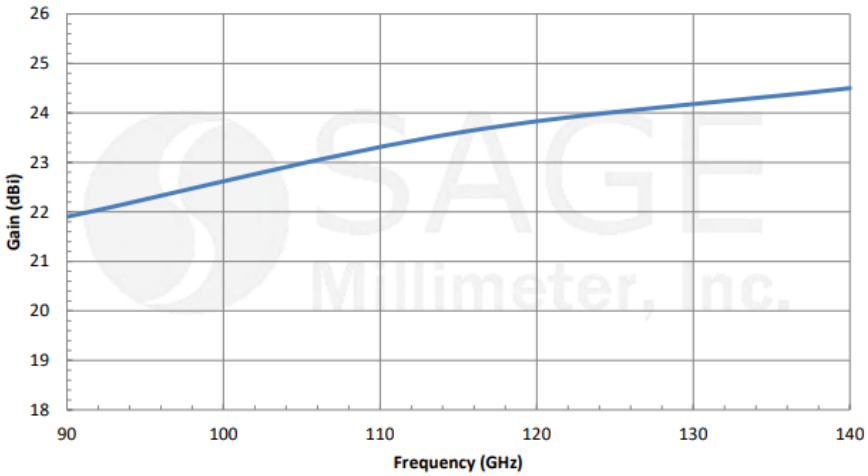
Model SAR-2309-08-S2

Parameter	Minimum	Typical	Maximum
Frequency	90 GHz		140 GHz
Gain	21 dBi	23 dBi	24 dBi
Polarization		Linear	
3 dB Beamwidth, E-Plane		11°	
3 dB Beamwidth, H-Plane		12°	
Sidelobes, E-Plane		-14 dB	
Sidelobes, H-Plane		-30 dB	
Return Loss		23 dBi	

Typical Antenna Pattern @ 115 GHz



Typical Gain vs. Frequency



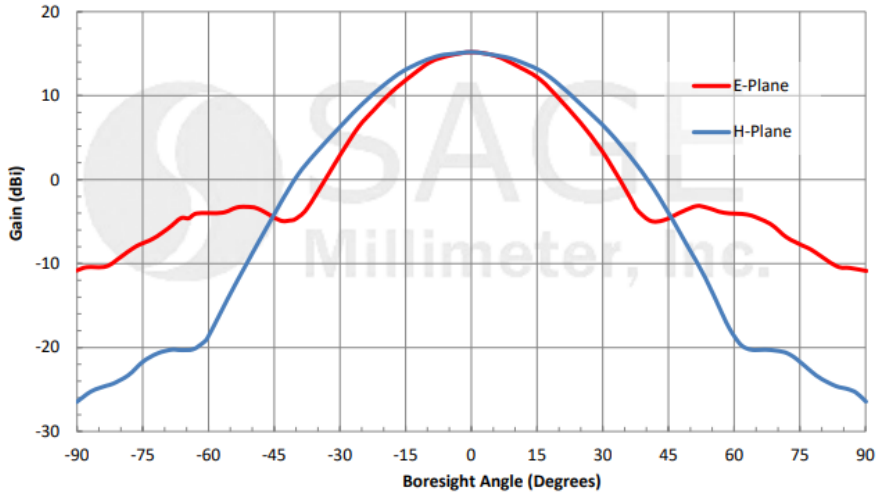
Conical Horn Antenna

Model SAC-1533-082-S2

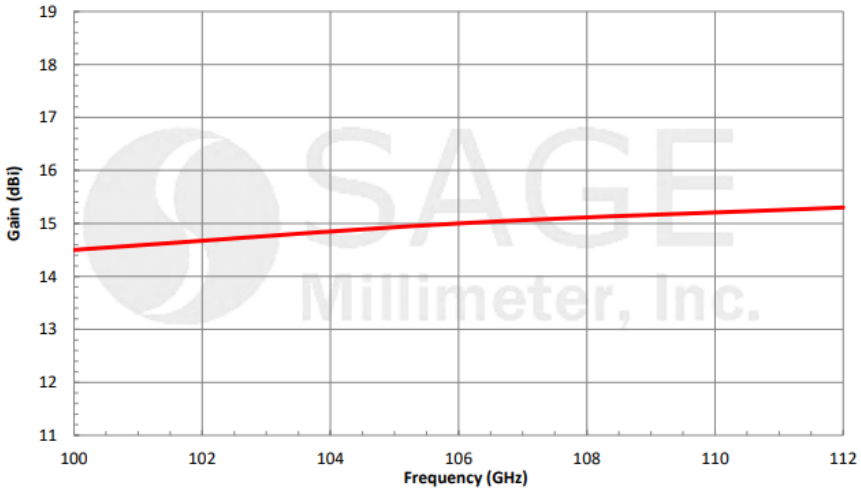
Parameter	Minimum	Typical	Maximum
Frequency*	110 GHz		112 GHz
Gain		15 dBi	
3 dB Beamwidth, E-plane		30°	
3 dB Beamwidth, H-plane		36°	
Sidelobes, E-plane		-16 dB	
Sidelobes, H-plane		-28 dB	
Return Loss		23 dBi	

*Note: Can operate from 95 to 140 GHz if the dominant mode is maintained.

Typical Antenna Pattern @ 106 GHz



Typical Gain vs. Frequency

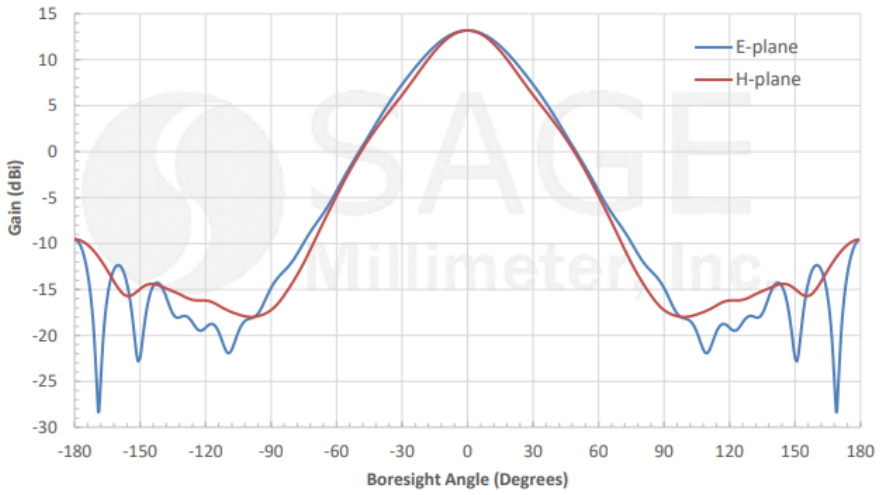


Dual Polarized Antenna, 90 to 140 GHz

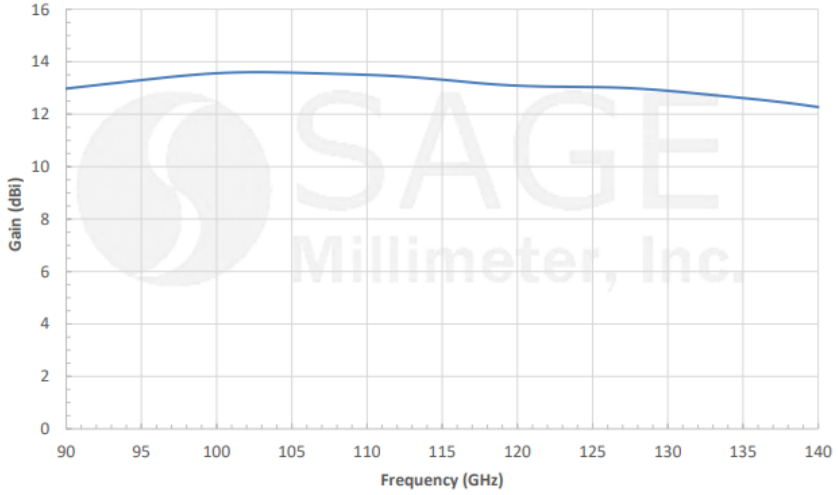
Model SAF-9031441335-094-S1-080-DP

Parameter	Minimum	Typical	Maximum
Frequency	90 GHz	115 GHz	140 GHz
Gain		13 dBi	
3 dB Beamwidth, E-plane		40˚	
3 dB Beamwidth, H-plane		40˚	
Sidelobe Levels		-25 dB	
V and H Port Isolation		30 dB	
RF Connector	WR-08 with UG-387/U-M Flange		
Weight		0.1 lbs	

Simulated Antenna Patterns @ 115 GHz



Simulated Gain vs. Frequency

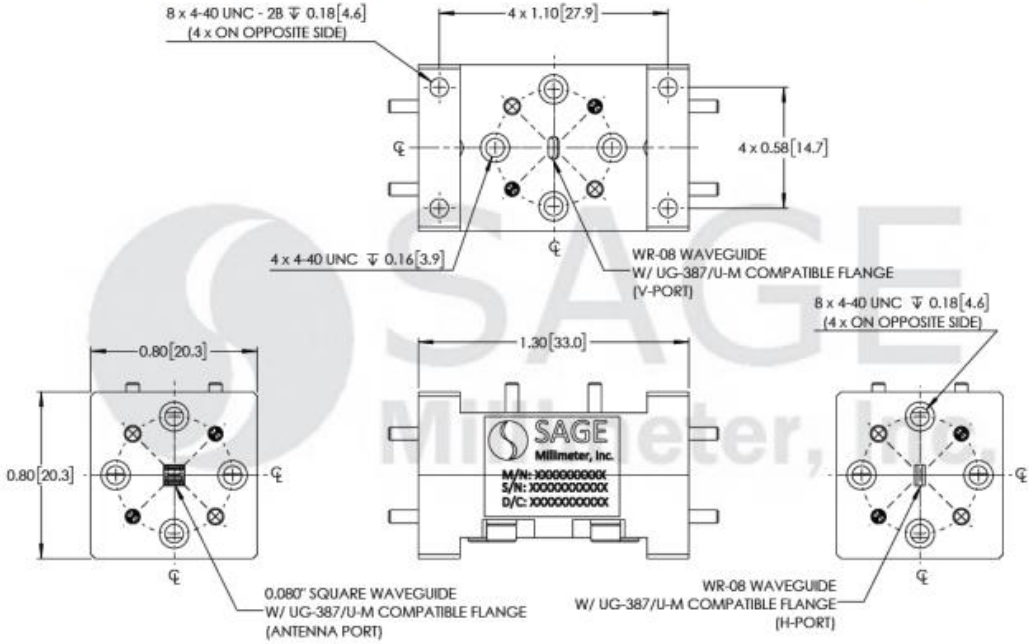


Full Band Orthomode Transducer

Model SAT-FF-08008-S1

Parameter	Minimum	Typical	Maximum
Frequency	90 GHz		140 GHz
Insertion Loss, Vertical		2.0 dB	
Insertion Loss, Horizontal		2.5 dB	
Isolation		30 dB	
Cross Polarization		20 dB	

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



Features

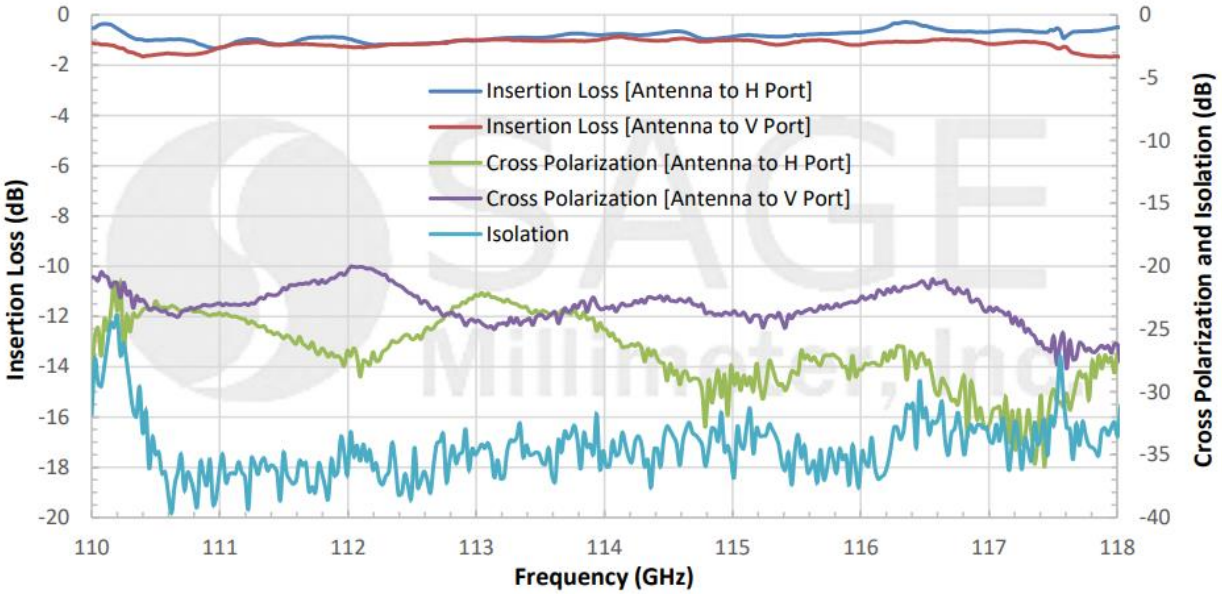
- High Isolation
- Low Insertion Loss
- Full Band Coverage
- 20 dB Cross-pol Rejection

Narrow Band Orthomode Transducer

Model SAT-114-07508-C1

Parameter	Minimum	Typical	Maximum
Frequency	110 GHz		118 GHz
Insertion Loss, Vertical		1.0 dB	
Insertion Loss, Horizontal		1.2 dB	
Isolation		30 dB	
Cross Polarization		20 dB	

Typical Performance vs. Frequency



Features

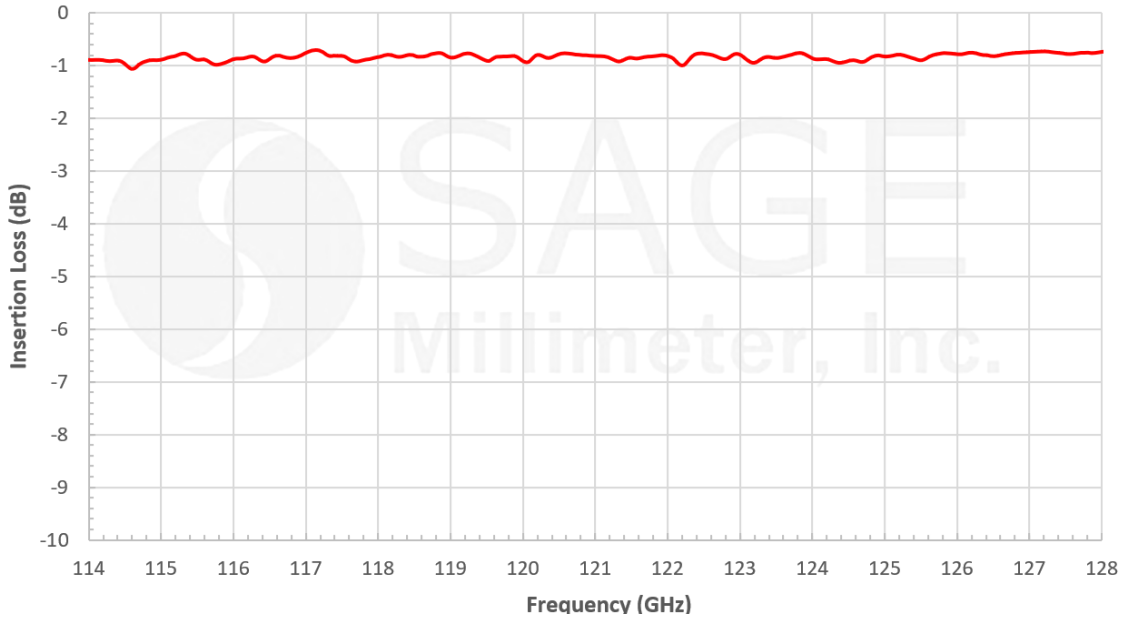
- High Isolation
- Low Insertion Loss
- Circular Antenna Port
- 25 dB Cross-pol Rejection

Linear to Circular Polarizer

Model SAS-124-07506-F1

Parameter	Minimum	Typical	Maximum
Frequency	114 GHz		128 GHz
Insertion Loss, Vertical		2.5 dB	
Insertion Loss, Horizontal		2.5 dB	
Isolation		30 dB	
Cross Polarization		18 dB	

Typical Performance vs. Frequency



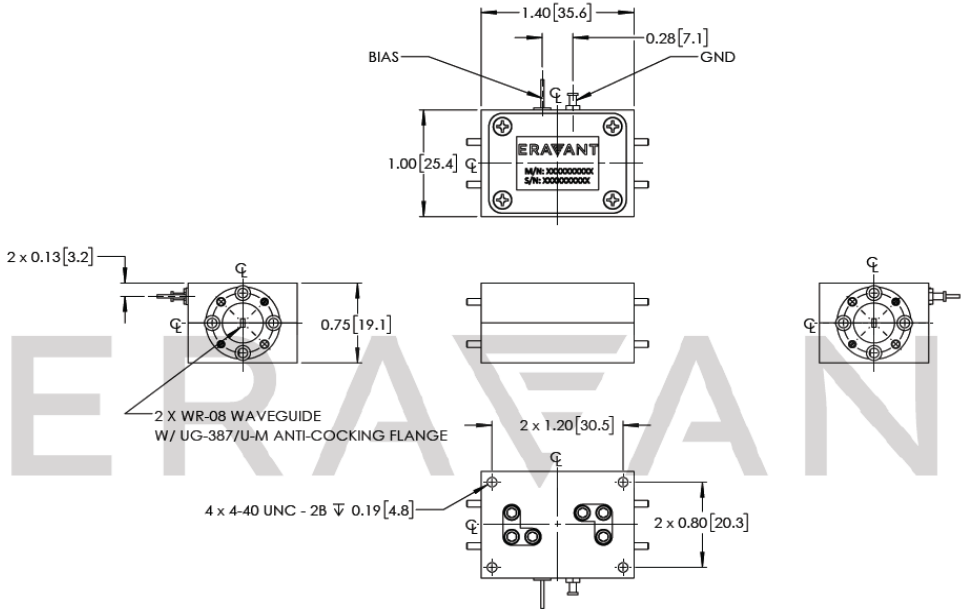
Features

- Good Axial Ratio
- Low Insertion Loss
- Broad Band Coverage

Low Noise Amplifier, 95 to 145 GHz

Model SBL-9531441565-0808-E1

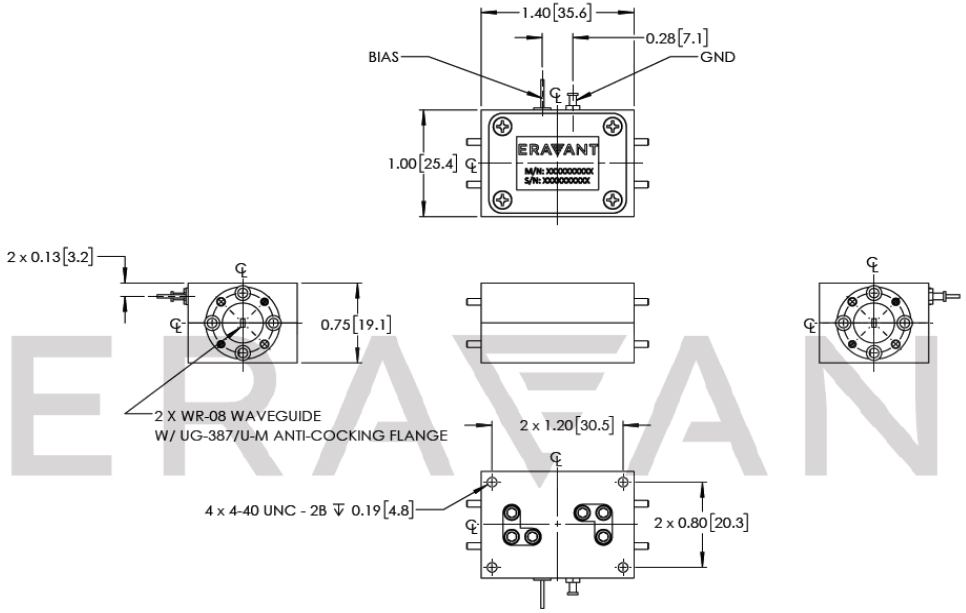
Parameter	Minimum	Typical	Maximum
Frequency	95 GHz		145 GHz
Gain		15 dB	
Noise Figure		6.5 dB	
P_{in}			+10 dBm
Input Return Loss		10 dB	
Output Return Loss		10 dB	
DC Voltage	+6 V_{DC}	+8 V_{DC}	+12 V_{DC}
DC Supply Current		40 mA	



Low Noise Amplifier, 95 to 145 GHz

Model SBL-9531443565-0808-E1

Parameter	Minimum	Typical	Maximum
Frequency	95 GHz		145 GHz
Gain		35 dB	
Noise Figure		6.5 dB	
P_{in}			+10 dBm
Input Return Loss		10 dB	
Output Return Loss		10 dB	
DC Voltage	+6 V_{DC}	+8 V_{DC}	+12 V_{DC}
DC Supply Current		80 mA	



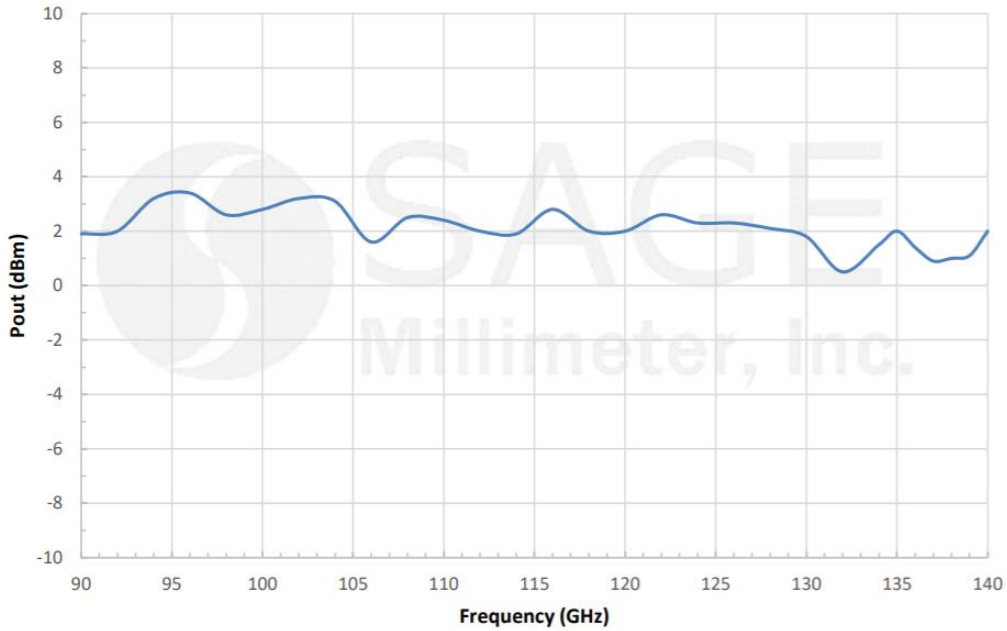
X2 Passive Multiplier

Model SFP-08215-S2

Parameter	Minimum	Typical	Maximum
Input Frequency	45 GHz		70 GHz
Output Frequency	90 GHz		140 GHz
Input Power		+16 dBm	+18 dBm
Output Power		+0 dBm	
Harmonic Suppression		20 dB	

Output Power vs. Frequency

Input Power: +16 dBm



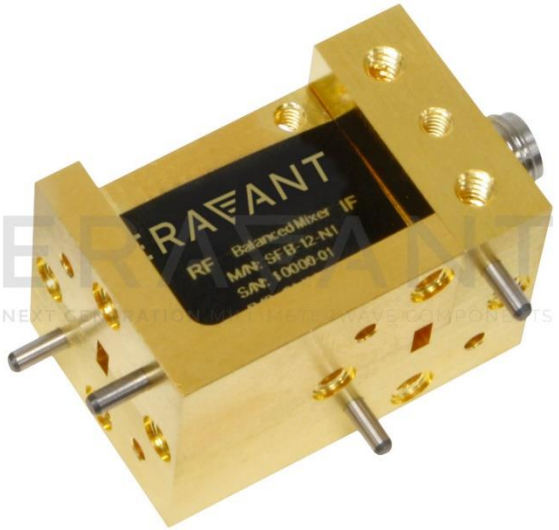
Features

- Minimal Conversion Loss
- No External Bias
- Compact Package

Balanced Mixer

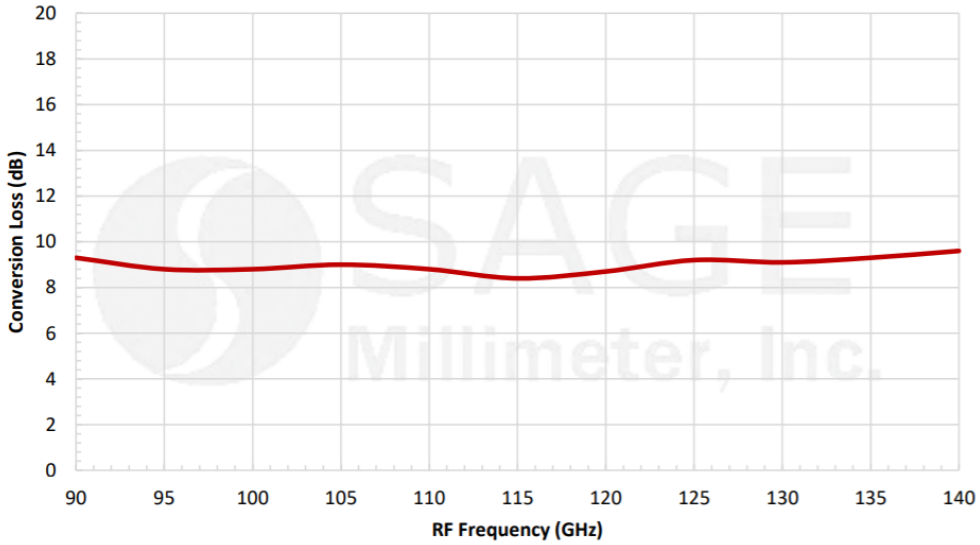
Model SFB-08-N1

Parameter	Minimum	Typical	Maximum
RF Frequency	90 GHz		140 GHz
LO Frequency	90 GHz		140 GHz
IF Frequency	DC		40 GHz
LO Pumping Power		+13 dBm	+17 dBm
Conversion Loss		12 dB	15 dB
Input P_{1dB}		-3 dBm	
RF to LO Isolation		30 dB	
Combined RF and LO Power			+20 dBm



Typical Conversion Loss vs. Frequency

RF: -20 dBm; LO: 115 GHz/+12 dBm



Features

- Full Waveguide Band Coverage
- Low Conversion Loss
- High IF Frequency up to 40 GHz and Beyond
- Compact Package

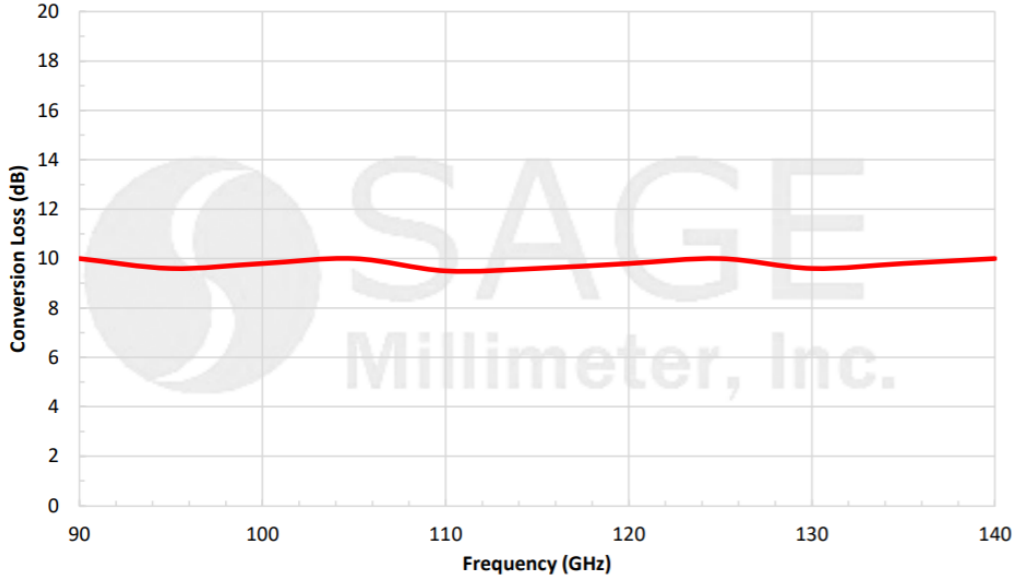
Externally Biased Balanced Mixer

Model SFB-08-E2

Parameter	Minimum	Typical	Maximum
RF Frequency Range	90 GHz		110 GHz
LO Frequency Range	90 GHz		110 GHz
IF Frequency Range	DC		40 GHz
Required LO Pumping Power	+0 dBm	+3 dBm	+10 dBm
Conversion Loss		13 dB	
Input P-1 dB		-10 dBm	
Combined RF and LO Power			+13 dBm
External Bias Voltage		+5 V_{DC}/2mA	+5 V_{DC}/5mA

Typical Conversion Loss vs. Frequency

LO: +3 dBm, RF: -20 dBm, Bias: +5 Vdc/2 mA



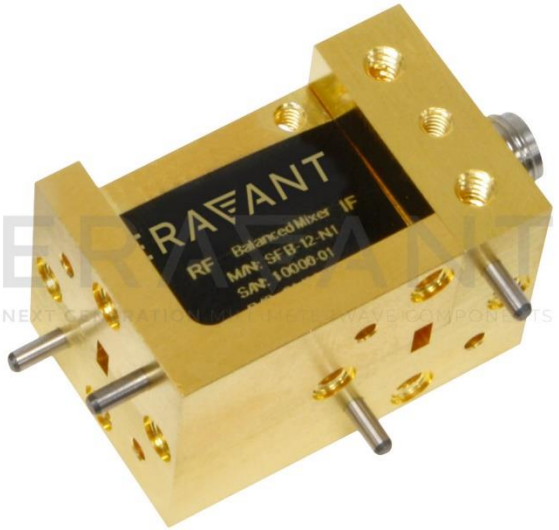
Features

- Full Waveguide Band Coverage
- Low Conversion Loss
- High IF Frequency up to 40 GHz and Beyond
- Compact Package

Balanced Upconverter

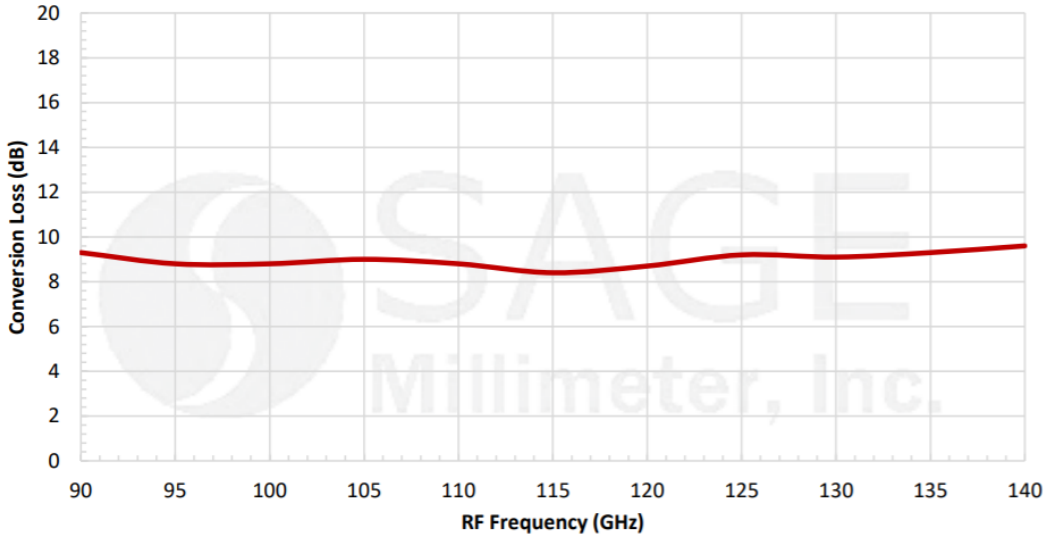
Model SFU-08-N1

Parameter	Minimum	Typical	Maximum
RF Frequency	90 GHz		140 GHz
LO Frequency	90 GHz		140 GHz
IF Frequency	DC		40 GHz
LO Pumping Power		+13 dBm	+15 dBm
Conversion Loss		13 dB	16 dB
Input P_{1dB}		-5 dBm	
RF to LO Isolation		30 dB	
Combined RF and LO Power			+18 dBm



Typical Conversion Loss vs. Frequency

RF: -20 dBm; LO: 115 GHz/+12 dBm



Features

- Full Waveguide Band Coverage
- Low Conversion Loss
- High IF Frequency up to 40 GHz and Beyond
- Compact Package

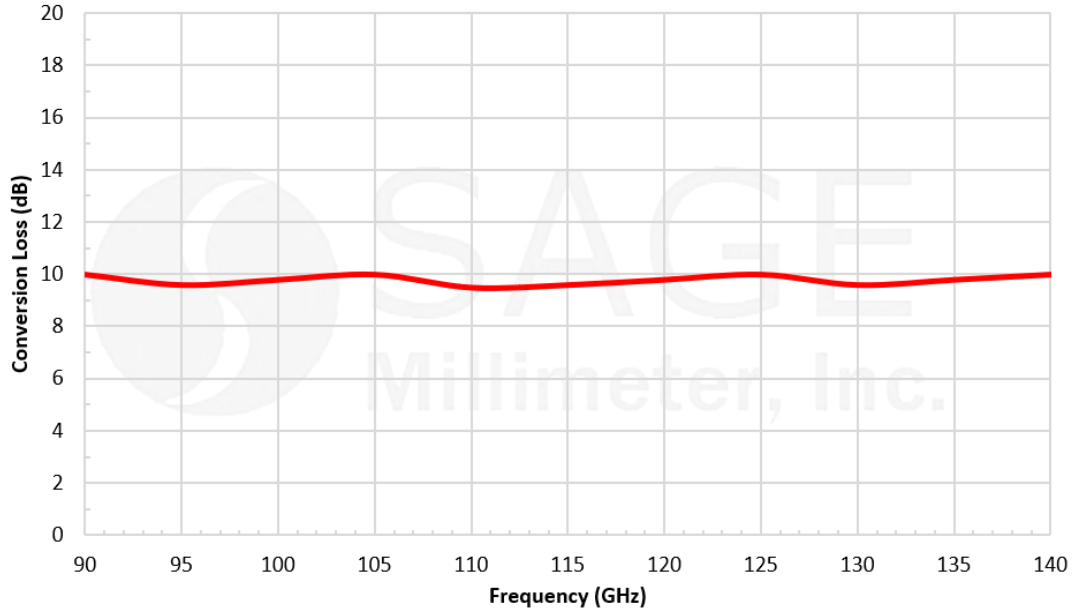
Externally Biased Upconverter

Model SFU-08-E2

Parameter	Minimum	Typical	Maximum
RF Frequency Range	90 GHz		140 GHz
LO Frequency Range	90 GHz		140 GHz
IF Frequency Range	DC		40 GHz
Required LO Pumping Power	+0 dBm	+3 dBm	+10 dBm
Conversion Loss		14 dB	
Input P-1 dB		-8 dBm	
Combined RF and LO Power			+18 dBm
External Bias Voltage		+5 V_{DC}/2mA	+5 V_{DC}/5mA

Typical Conversion Loss vs. Frequency

IF: -20 dBm, LO: 115 GHz/+3 dBm, Bias: +5 Vdc/2 mA



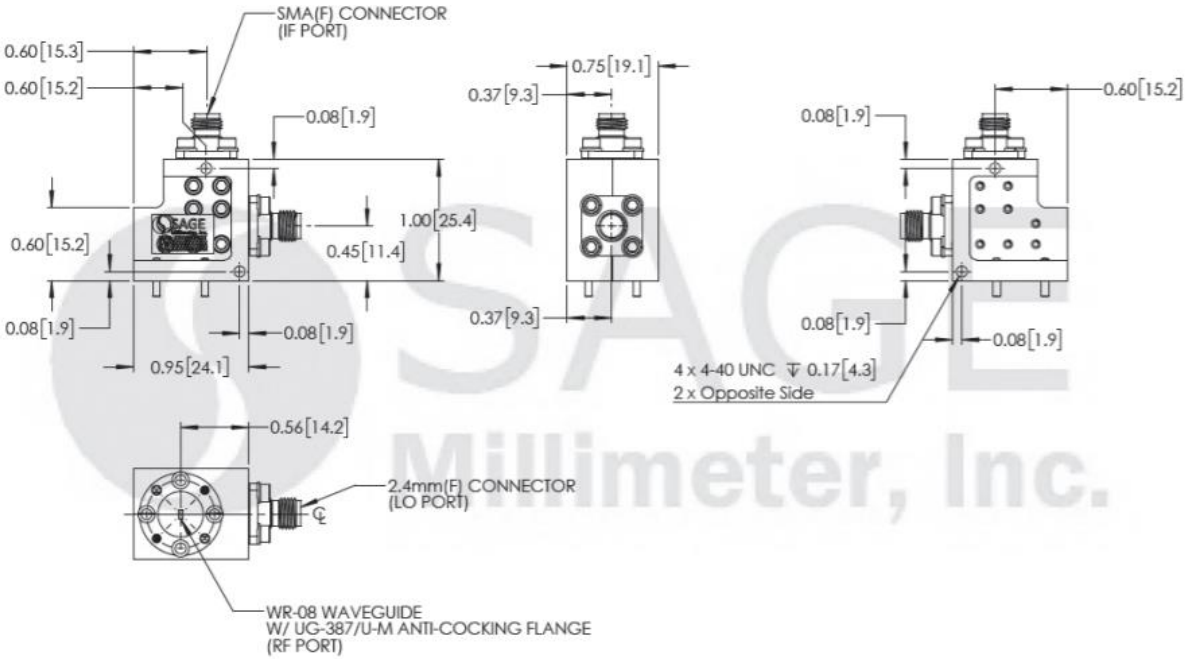
Features

- Full Waveguide Band Coverage
- Low Conversion Loss
- High IF Frequency up to 40 GHz and Beyond
- Compact Package

Subharmonically Pumped Mixer

Model SFS-08-N3

Parameter	Minimum	Typical	Maximum
RF Frequency	90 GHz		140 GHz
LO Frequency	45 GHz		70 GHz
IF Frequency	DC		5 GHz
LO Pumping Power		+16 dBm	
Conversion Loss		16 dB	
LO to IF Isolation		30 dB	
Combined RF and LO Power			+20 dBm



Features

- Full Band Operation
- LO=1/2 RF
- Second Harmonic Mixing
- Compact Package

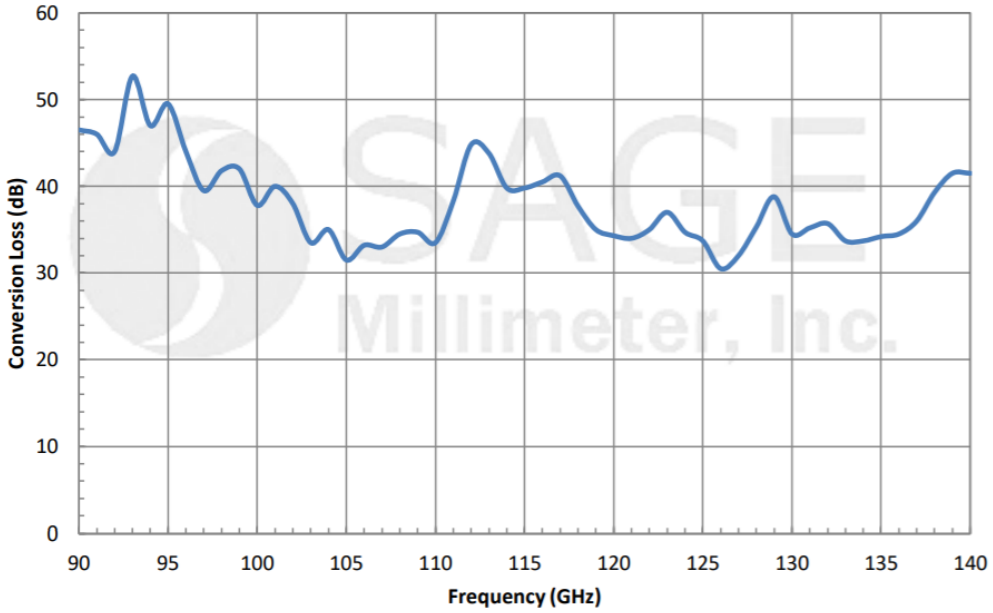
Harmonic Mixer

Model SFH-08SFSF-A3

Parameter	Minimum	Typical	Maximum
RF Frequency	90 GHz		140 GHz
LO Frequency	3.0 GHz		6.1 GHz
IF Frequency	DC		1.3 GHz
LO Pumping Power		+16 dBm	+19 dBm
Harmonic Number		24	
Conversion Loss		48 dB	
Combined RF and LO Power			+20 dBm

Typical Conversion Loss vs. Frequency

P_{RF} = -20 dBm



Features

- Full Band Operation
- Even Harmonics
- Balanced
- No External Bias Required
- 24th Harmonic Calibrated
- Other Even Harmonic Calibration Table Available
- Compact Package

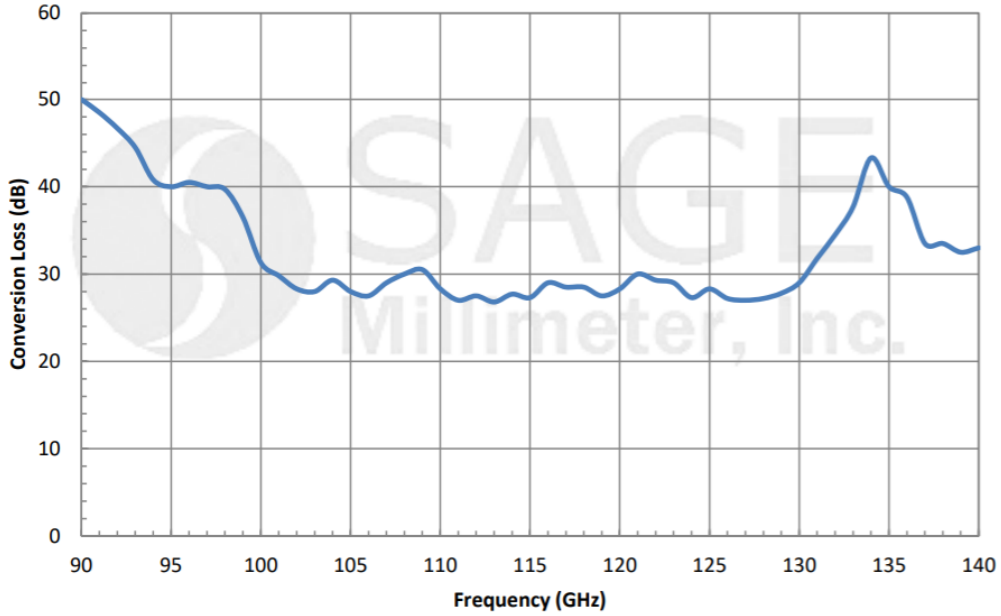
Harmonic Mixer

Model SFH-08SFSF-A3-2

Parameter	Minimum	Typical	Maximum
RF Frequency	90 GHz		140 GHz
LO Frequency	5.0 GHz		12.0 GHz
IF Frequency	DC		1.6 GHz
LO Pumping Power		+16 dBm	+19 dBm
Harmonic Number		12	
Conversion Loss		42 dB	
Combined RF and LO Power			+20 dBm

Typical Conversion Loss vs. Frequency

P_{RF} = -20 dBm



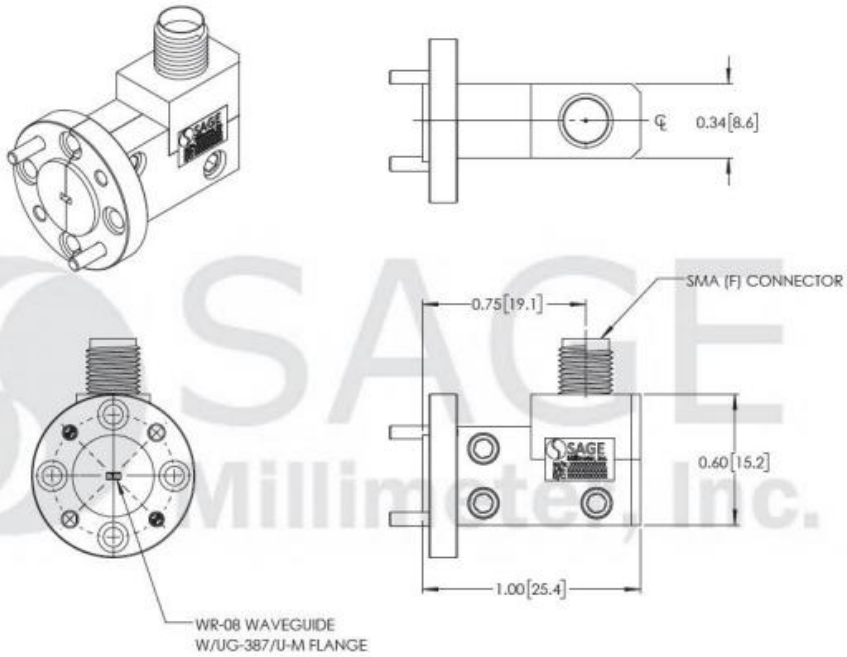
Features

- Full Band Operation
- Even Harmonics
- Balanced
- No External Bias Required
- 12th Harmonic Calibrated
- Other Even Harmonic Calibration Table Available
- Compact Package

Harmonic Mixer

Model STH-08SF-S1

Parameter	Minimum	Typical	Maximum
RF Frequency	90 GHz		140 GHz
LO Frequency	4.0 GHz		14.0 GHz
IF Frequency	DC		2.0 GHz
LO Pumping Power	+10 dBm	+13 dBm	+16 dBm
Harmonic Number		14	
Conversion Loss		45 dB	
Combined RF and LO Power			+20 dBm



Features

- Full Band Operation
- Single Ended
- Single LO/IF Port
- No External Bias Required
- 14th Harmonic Calibrated
- Other Even Harmonic Calibration Table Available
- Compact Package

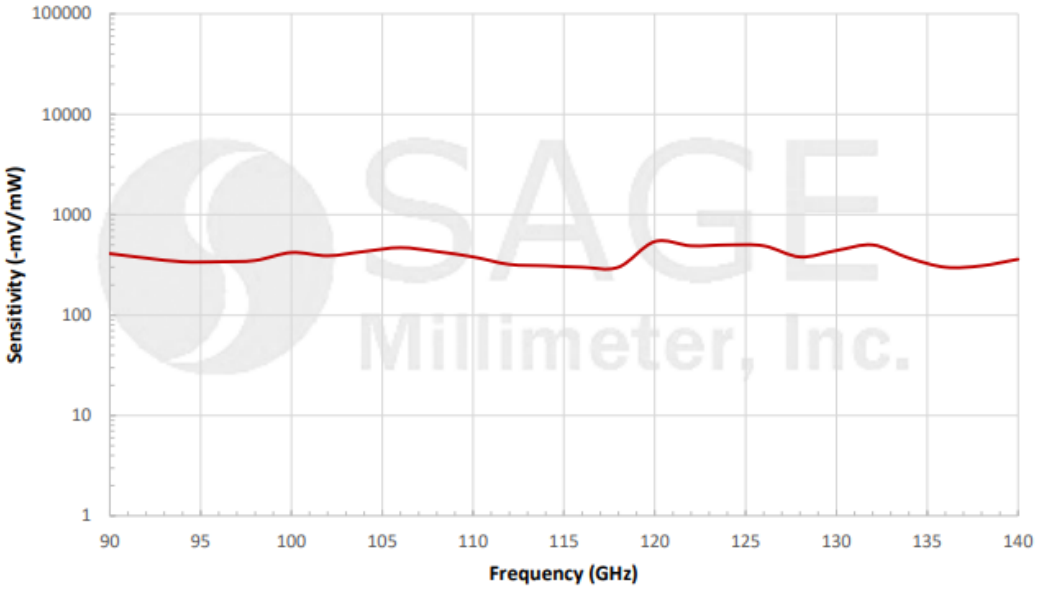
Amplitude Detector

Models SFD-903144-08SF-N1 and SFD-903144-08SF-P1

Parameter	Minimum	Typical	Maximum
Frequency Range	90 GHz		140 GHz
Sensitivity (SFD-114174-06SF-N1)		-300 mV/mV	
Sensitivity (SFD-114174-06SF-P1)		+300 mV/mV	
Sensitivity Flatness		± 2.0 dB	
Linear Detection Range	-45 dBm	-10 dBm	0 dBm
RF Input Power		-20 dBm	+17 dBm
Video Bandwidth		10 MHz	

Typical Performance vs. Frequency

P_{in} = -20 dBm



Features

- Full Waveguide Band Operation
- Positive and Negative Output Selection
- High Sensitivity Without Tuning
- High Sensitivity Stability Over Broad Temperature Range
- The Models with Integrated Faraday Isolator Available under **STD-08SF-NI** and **STD-08SF-PI.**

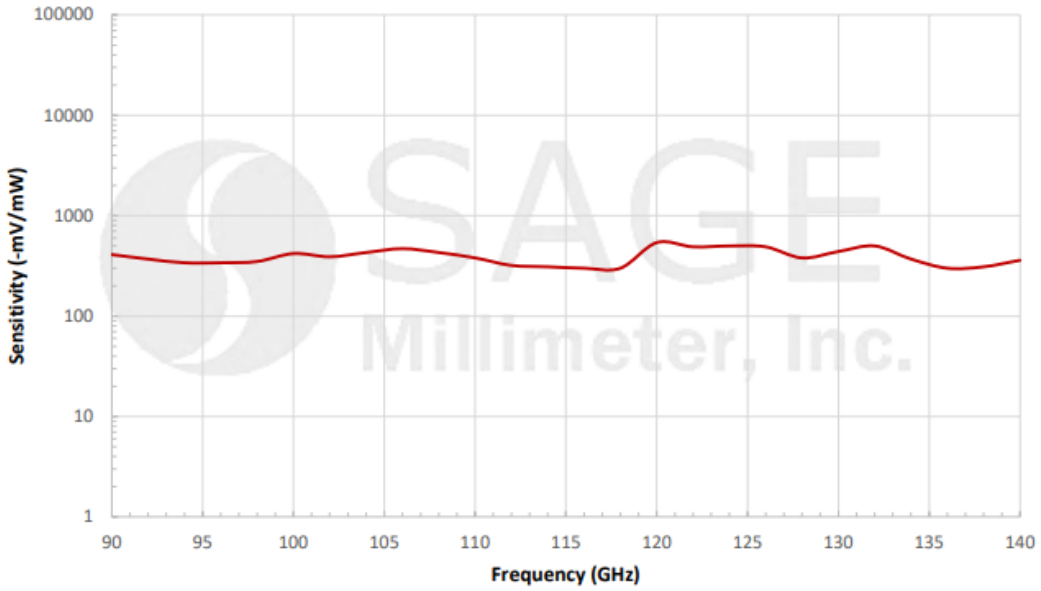
Amplitude Detector with Isolator

Models STD-08SF-NI and STD-08SF-PI

Parameter	Minimum	Typical	Maximum
Frequency Range	90 GHz		140 GHz
Sensitivity (STD-06SF-NI)		-300 mV/mV	
Sensitivity (STD-06SF-PI)		+300 mV/mV	
Sensitivity Flatness		± 2.0 dB	
Linear Detection Range	-45 dBm	-10 dBm	0 dBm
RF Input Power		-20 dBm	+17 dBm
Video Bandwidth		10 MHz	

Typical Performance vs. Frequency

P_{in} = -20 dBm



Features

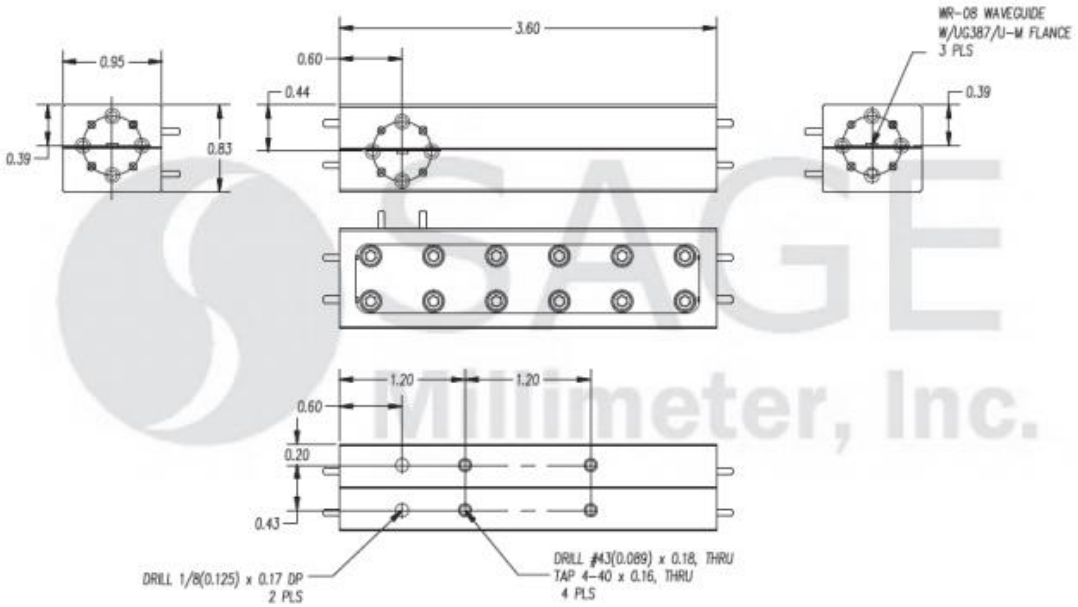
- Full Waveguide Band Operation
- Positive and Negative Output Selection
- High Sensitivity Without Tuning
- High Sensitivity Stability Over Broad Temperature Range
- The Models without Integrated Faraday Isolator Available under **SFD-903144-08SF-N1 and SFD-903144-08SF-P1.**

Waveguide Directional Coupler

Model SWD-2030H-08-SB

Parameter	Minimum	Typical	Maximum
Frequency	90 GHz		140 GHz
Insertion Loss*		2.5 dB	
Coupling*		20 dB	
Directivity*		25 dB	
Main Line VSWR			1.2:1

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



Features

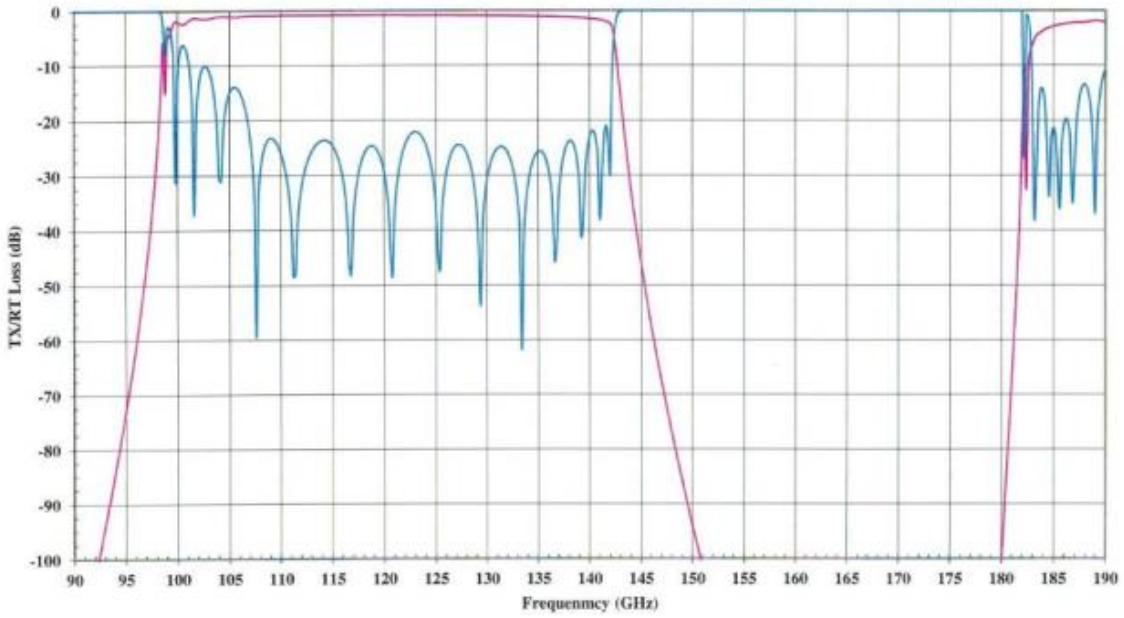
- Full Band Operation
- 3, 6, 10, 20, 30, 40 dB
- Dual Directional
- Bi-Directional
- Waveguide Version
- Low Insertion Loss
- High Directivity

Waveguide Bandpass Filter

Model SWF-13435330-08-B1

Parameter	Minimum	Typical	Maximum
Passband Frequency	105 GHz		140 GHz
Passband Insertion Loss		2.5 dB	
Passband Ripple		±1.0 dB	
Rejection Frequency, Low Side	DC		94 GHz
Rejection Frequency, High Side	145 GHz		180 GHz
Rejection		40 dB	
Passband Return		14 dB	

Simulated Data



Features

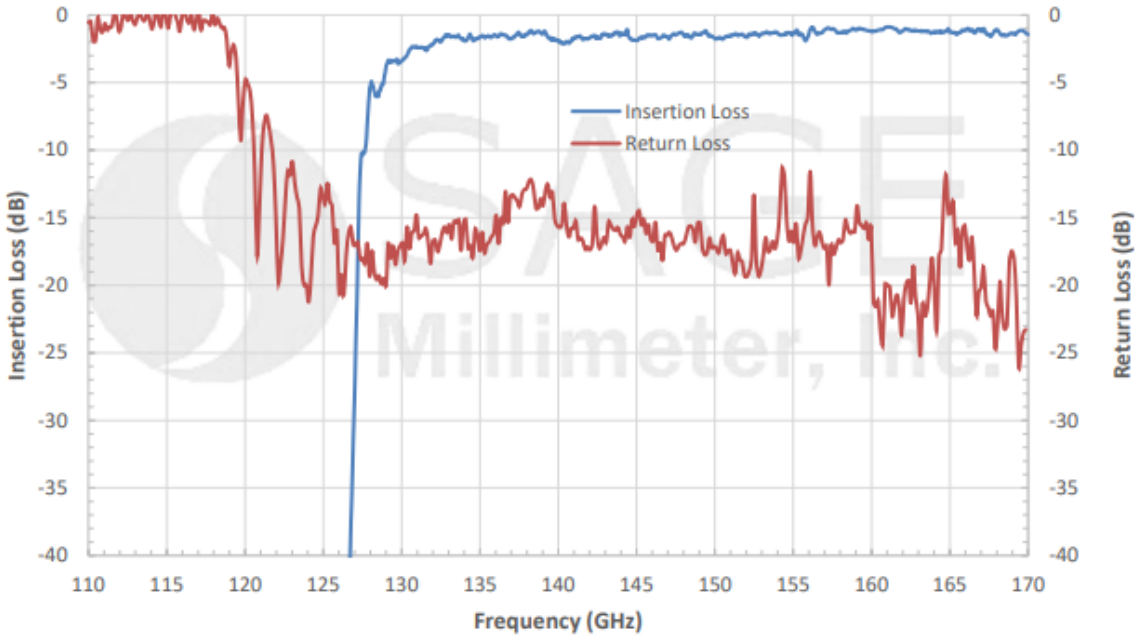
- Lowpass, Highpass and Bandpass
- Narrow and Broadband
- Low Insertion Loss
- High Rejection

Waveguide Highpass Filter 130 GHz

Model SWF-13412460-08-H1

Parameter	Minimum	Typical	Maximum
Passband Frequency	130 GHz		>200 GHz
Passband Insertion Loss		2.5 dB	
Rejection Frequency	DC		124 GHz
Rejection		80 dB	
Passband VSWR		1.5:1	
Waveguide		WR-06	

Typical Insertion and Return Loss vs Frequency



Features

- Lowpass, Highpass and Bandpass
- Narrow and Broadband
- Low Cost
- Low Insertion Loss
- High Rejection

Waveguides

- **Metrology Grade Straight: 2.5”**
- **Straights: 1”, 2”, 3”, 4” etc. and Custom Length**
- **Bends, H and E-Plane, 45 °, 90° and Custom Angle**
- **Twists, 45 °, 90° and Custom Angle**

Waveguide Straight: 2.5”
Metrology Grade

Waveguide E-Bend: 90°

Waveguide Straight: 2”

Waveguide H-Bend: 90°

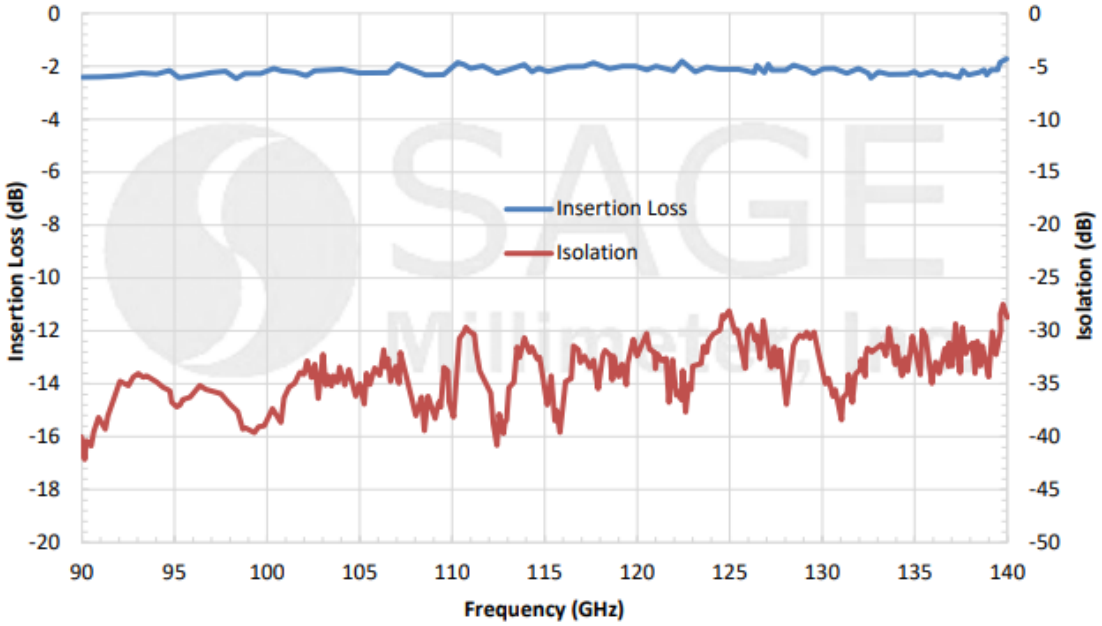
Waveguide Twist: 90°

Faraday Isolator, Full Band

Model STF-08-S1 and STF-08-91

Parameter	Minimum	Typical	Maximum
RF Frequency	90 GHz		140 GHz
Insertion Loss		2.0 dB	
Isolation		30 dB	
Return Loss		14 dB	
Power Handling		0.8 W (CW)	1.0 W (CW)

Typical Performance vs. Frequency



Features

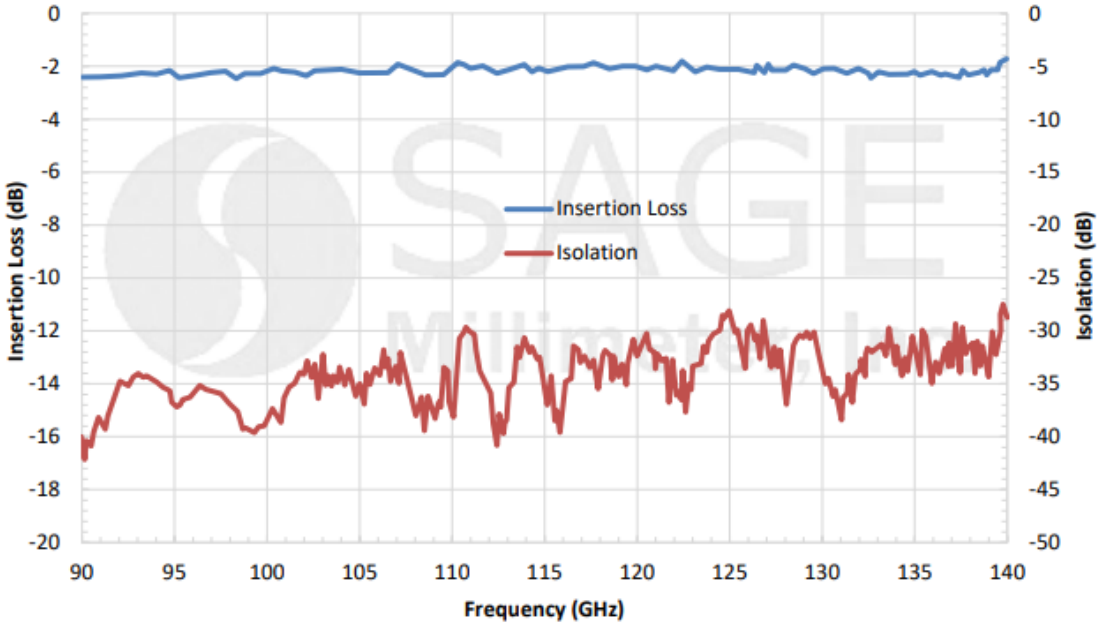
- Full Waveguide Band
- Instrumentation Grade
- Various Port Orientations
- Compact Options
- Low Insertion Loss
- High Rejection

Faraday Isolator, Compact, Full Band

Model STF-08-S1-C and STF-08-91-C

Parameter	Minimum	Typical	Maximum
RF Frequency	90 GHz		140 GHz
Insertion Loss		2.0 dB	
Isolation		28 dB	
Return Loss		14 dB	
Power Handling		0.8 W (CW)	1.0 W (CW)

Typical Performance vs. Frequency



Features

- Full Waveguide Band
- Instrumentation Grade Options
- Various Port Orientations
- Low Insertion Loss
- High Rejection

Full Band VNA Frequency Extender

Model STO-08203-U6

Features

- Full Band Coverage
- Dynamic Range of 110 dB
- AC Power Input: 100 to 240 VAC

Applications

- Dual Source and 4 Port VNA Extension
- E band S-Parameter Measurement
- Test Lab Instrumentation

Parameter	Minimum	Typical	Maximum
RF Operating Frequency	90 GHz		140 GHz
Test Port Output Power		+1 dBm	
Output Power Control Range		0 to 20 dB	
Dynamic Range @ 10 Hz Bandwidth	100 dB	110 dB	
Test Port Match		30 dB	
Directivity	35 dB	40 dB	
RF Source Input Frequency	7.5 GHz		11.66 GHz
RF Source Input Power	0 dBm	+3 dBm	+6 dBm
LO Source Input Frequency (RF±IF)	7.5 GHz		11.66 GHz
LO Source Input Power	0 dBm	+3 dBm	+6 dBm

Full Band Waveguide Calibration Kit

Model STQ-TO-08-S1-CKIT1

Features

- Precisely Machined and Manufactured
- Metrology Grade
- High Electrical Performance

Applications

- Vector Network Analyzer Calibration
- Scalar Network Analyzer Calibration
- General Test Lab Instrumentation

Components Included in the Kit:

Item	SAGE Model Number	Quantity
Metrology Fixed Short	STQ-WS-VG-F1	1 Piece
Metrology Fixed Waveguide Load	STQ-WL-0823-S1	1 Piece
Metrology ⅛ Wavelength Offset	STQ-WI-08017-SB	1 Piece
Metrology ¼ Wavelength Offset	STQ-WI-08033-SB	1 Piece
Metrology ⅜ Wavelength Offset	STQ-WI-08050-SB	1 Piece
Waveguide Quick Connect, 0.75" Diameter Flange	SWH-QC-0750C-R2	2 Pieces
Waveguide Screws, 3/32 Hex Head	SWH-332-SS-10	1 Bag (10 Pieces)
Waveguide Screwdriver, 3/32 Hex Head	SWH-332-DS	1 Piece
Calibration Data, USB Drive	STQ-TO-08-S1-U	1 Piece

Full Band Frequency Extender

Model STE-2F308-00-S1

Features

- Full Waveguide Band Operation
- High Output Power
- Low Harmonics and Spurious Emission
- Cost Effective
- Many Other Modes
- Instrumentation Grade
- Adjustable/Removable Legs

Applications

- Network Analyzer Systems
- Frequency Sources
- Test Instrumentations

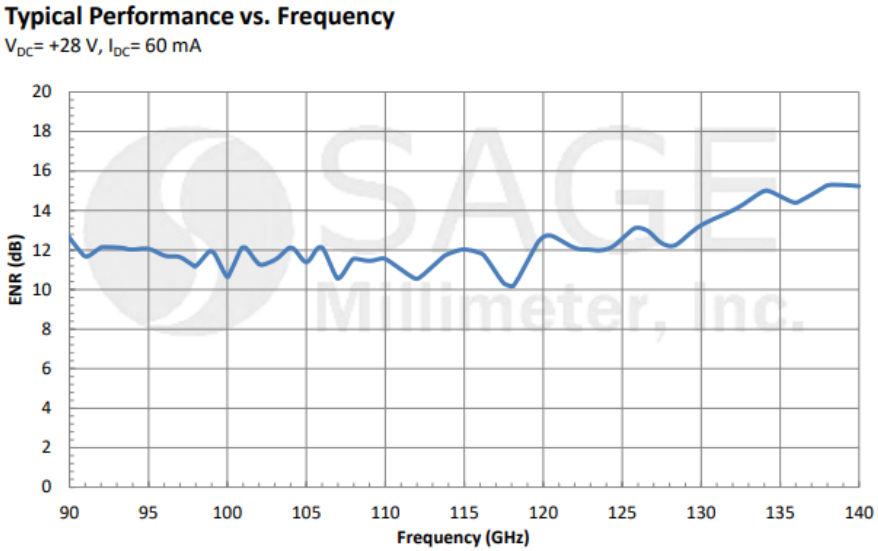
Parameter	Minimum	Typical	Maximum
Output Frequency Range	90 GHz		140 GHz
Input Frequency Range	30 GHz		46.67 GHz
Output Power		+3 dBm	
Input Power	+1 dBm	+5 dBm	+20 dBm
Harmonic Suppression		20 dBc	
Spurious Suppression		60 dBc	
DC Voltage	+13 V	+15V	+16 V
DC Current		450 mA	

Full Band Noise Figure and Gain Test Extender

Model STG-08-S1

Parameter	Minimum	Typical	Maximum
RF Frequency Range	90 GHz		140 GHz
Noise Source: ENR		12.0 dB	
Noise Source: Bias	+ 18 V_{DC}/50mA	+28 V_{DC}/60mA	+30 V_{DC}/75mA
IF Frequency Range	10 MHz		26.5 GHz
LO Frequency Range	10 GHz		15.5 GHz
LO Power	+3 dBm	+5 dBm	+20 dBm
N.F. Dynamic Range	0 dB		20 dB
Conversion Gain	15 dB	20 dB	
Down-Converter: Bias		+12 V_{DC}/450mA	+15 V_{DC}/550mA

Model STZ-08-I1
ENR



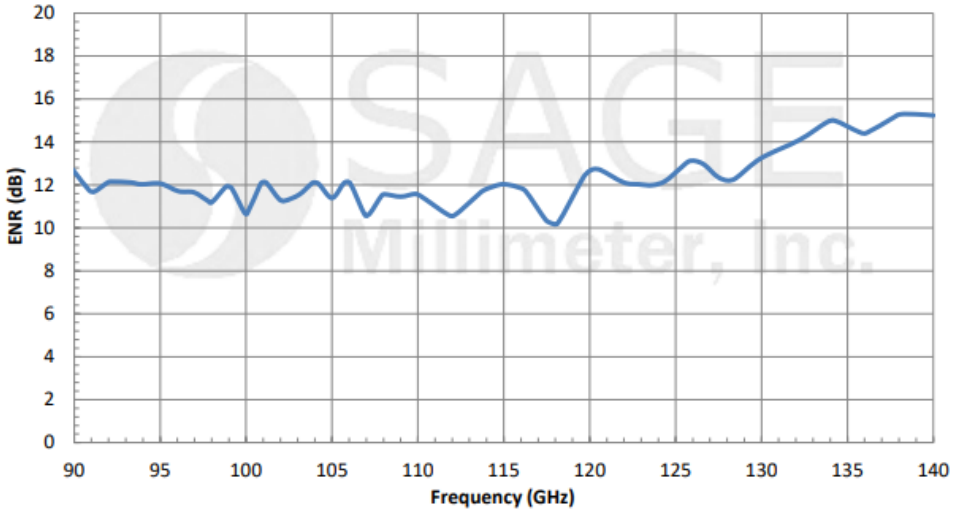
Noise Source with Isolator

Model STZ-08-I1

Parameter	Minimum	Typical	Maximum
RF Frequency Range	90.0 GHz		140.0 GHz
ENR		12.0 dB	
ENR Flatness		± 3.0 dB	
Temperature Stability		0.01 dB/°C	
Long Term Temperature Stability		0.05 dB/day	
AM Modulation Trigger		TTL	
AM Modulation Rate		1.0 kHz	
DC Bias	+18 V_{DC}/35 mA	+28 V_{DC}/60 mA	+30 V_{DC}/75 mA

Typical Performance vs. Frequency

V_{DC}= +28 V, I_{DC}= 60 mA



Fixed Attenuator

Model STA-10-08-F1

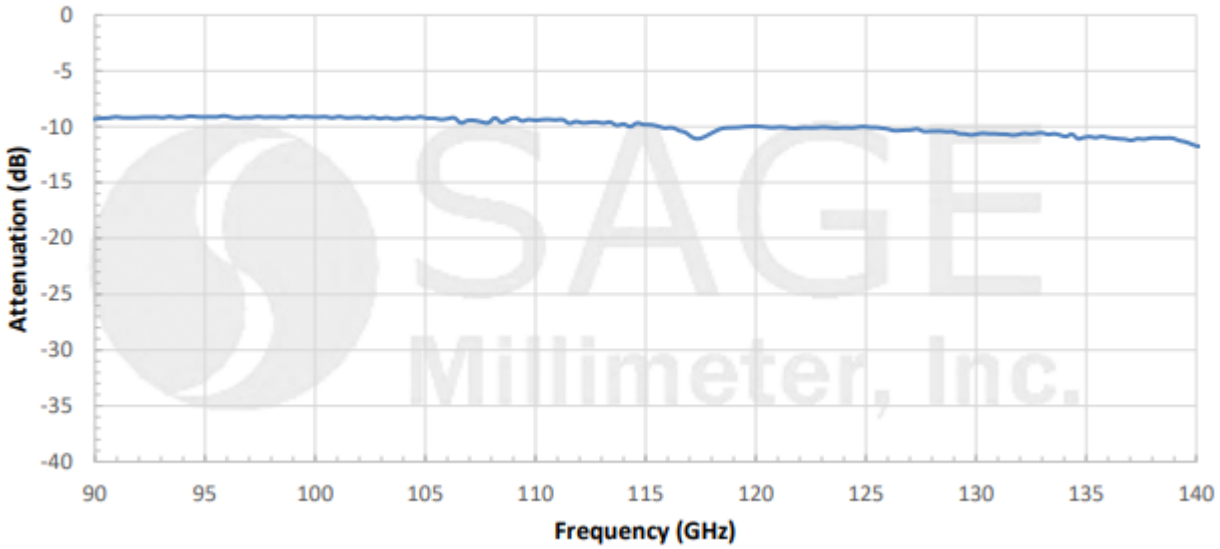
Features

- Full Band Coverage
- 3, 6, 10, 20, 30, 40, 50 dB
- Custom Attenuation Values

Applications:

- Test Lab
- Instrumentations
- System Integration

Typical Measured Attenuation vs Frequency



Level Setting Attenuator

Model STA-30-06-M1

Features

- Full Band Coverage
- Head Locking Screw
- Precision Machined Housing
- Convenient Level Setting

Applications:

- Test Lab
- Instrumentations
- Manual Test Set

Parameter	Minimum	Typical	Maximum
Frequency Range	110 GHz		170 GHz
Insertion Loss		1.7 dB	
Attenuation Range		30 dB	
Return Loss		20 dB	
Power Handling			300 mW (CW)
Specification Temperature		+25 ˚C	
Operating Temperature	-40 ˚C		+85 ˚C

Direct Reading Attenuator

Model STA-60-08-D1

Features

- Full Band Coverage
- High Attenuation Accuracy
- Large Scaled Dial

Applications:

- Test Lab
- Instrumentations
- Manual Test Set

Parameter	Minimum	Typical	Maximum
RF Frequency Range	90 GHz		140 GHz
Insertion Loss		1.5 dB	2.5 dB
Attenuation Range	0 dB		60 dB
Attenuation Accuracy	0.1 dB or 3% of reading, whichever is larger, up to 40 dB		
Return Loss		18 dB	
Power Handling (CW)		50 mW	100 mW

Digital Direct Reading Attenuator

Model STA-60-08-D5

Features

- Full Band Coverage
- High Attenuation Accuracy
- Digital Screen with Back Light

Applications:

- Test Lab
- Instrumentations
- Manual Test Set

Parameter	Minimum	Typical	Maximum
RF Frequency Range	90 GHz		140 GHz
Insertion Loss		1.5 dB	2.5 dB
Attenuation Range	0 dB		60 dB
Attenuation Accuracy	0.1 dB or 2% of Setting, whichever is larger, up to 40 dB		
Return Loss		18 dB	
Power Handling (CW)		100 mW	250mW

Programmable Attenuator

Model STA-60-08-P1

Features

- Full Band Coverage
- High Attenuation Accuracy
- IEEE-488 and USB Control Ports

Applications:

- Test Lab
- Instrumentations
- Auto Test Set

Parameter	Minimum	Typical	Maximum
RF Frequency Range	90 GHz		140 GHz
Insertion Loss		3.0 dB	
Attenuation Range	0 dB		70 dB
Attenuation Accuracy	0.1 dB or 3% of the reading, whichever is larger, up to 40 dB		
Return Loss		20 dB	
Power Handling (CW)		250 mW	500 mW

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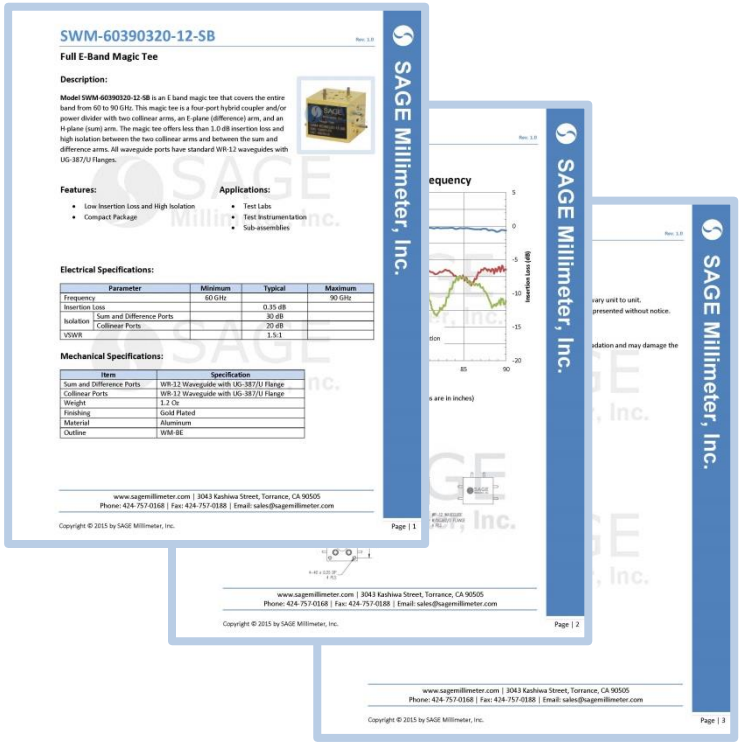

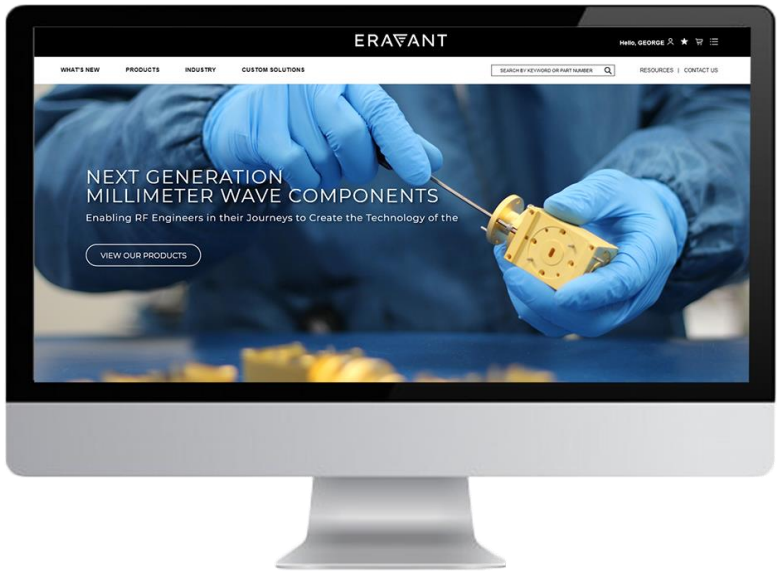

PASSIVE FREQUENCY MULTIPLIERS

GRID | TABLE

28 RESULTS

MODEL	MINIMUM OUTPUT FREQUENCY	MAXIMUM OUTPUT FREQUENCY	OUTPUT POWER	MINIMUM INPUT FREQUENCY	MAXIMUM INPUT FREQUENCY	INPUT POWER	OUTPUT PORT	INPUT PORT	DOWNLOADS	VIEW
SFP-06212-S2	110 GHz	170 GHz	0 dBm	55 GHz	85 GHz	+16 dBm	WR-06 Waveguide	WR-12 Waveguide	Datasheet	View
SFP-06319-U6	110 GHz	170 GHz	-3 dBm	36.67 GHz	56.67 GHz	+20 dBm	WR-06 Waveguide	WR-19 Waveguide	Datasheet	View
SFP-06210-S2	140 GHz	220 GHz	-3 dBm	70 GHz	110 GHz	+17 dBm	WR-05 Waveguide	WR-10 Waveguide	Datasheet	View
SFP-223403205-28SF-S1	22 GHz	40 GHz	+5 dBm	11 GHz	20 GHz	+18 dBm	WR-28 Waveguide	SMA (F)	Datasheet STEP File	View
SFP-243423303-28SF-S1	24 GHz	42 GHz	+3 dBm	8 GHz	14 GHz	+20 dBm	WR-28 Waveguide	SMA (F)	Datasheet STEP File	View
SFP-283SF-U9	26.5 GHz	40.0 GHz	+5 dBm	8.37 GHz	13.33 GHz	+20 dBm	WR-28 Waveguide	SMA (F)	Datasheet	View
SFP-2734033N05-28SF-S1	26.5 GHz	40 GHz	-5 dBm	8.37 GHz	13.33 GHz	+10 dBm	WR-28 Waveguide	SMA (F)	Datasheet STEP File	View
SFP-223SF-S1	33 GHz	50 GHz	+3 dBm	11 GHz	16.67 GHz	+20 dBm	WR-22 Waveguide	SMA (F)	Datasheet STEP File	View
SFP-222KF-S1	33 GHz	50 GHz	+7 dBm	16.5 GHz	25 GHz	+20 dBm	WR-22 Waveguide	2.92 mm (F)	Datasheet STEP File	View
SFP-363573303-19SF-N1	57 GHz	36 GHz	+3 dBm	12 GHz	19 GHz	+20 dBm	WR-19 Waveguide	SMA (F)	Datasheet STEP File	View
SFP-192KF-S1	40 GHz	60 GHz	+6 dBm	20 GHz	30 GHz	+20 dBm	WR-19 Waveguide	2.92 mm (F)	Datasheet STEP File	View