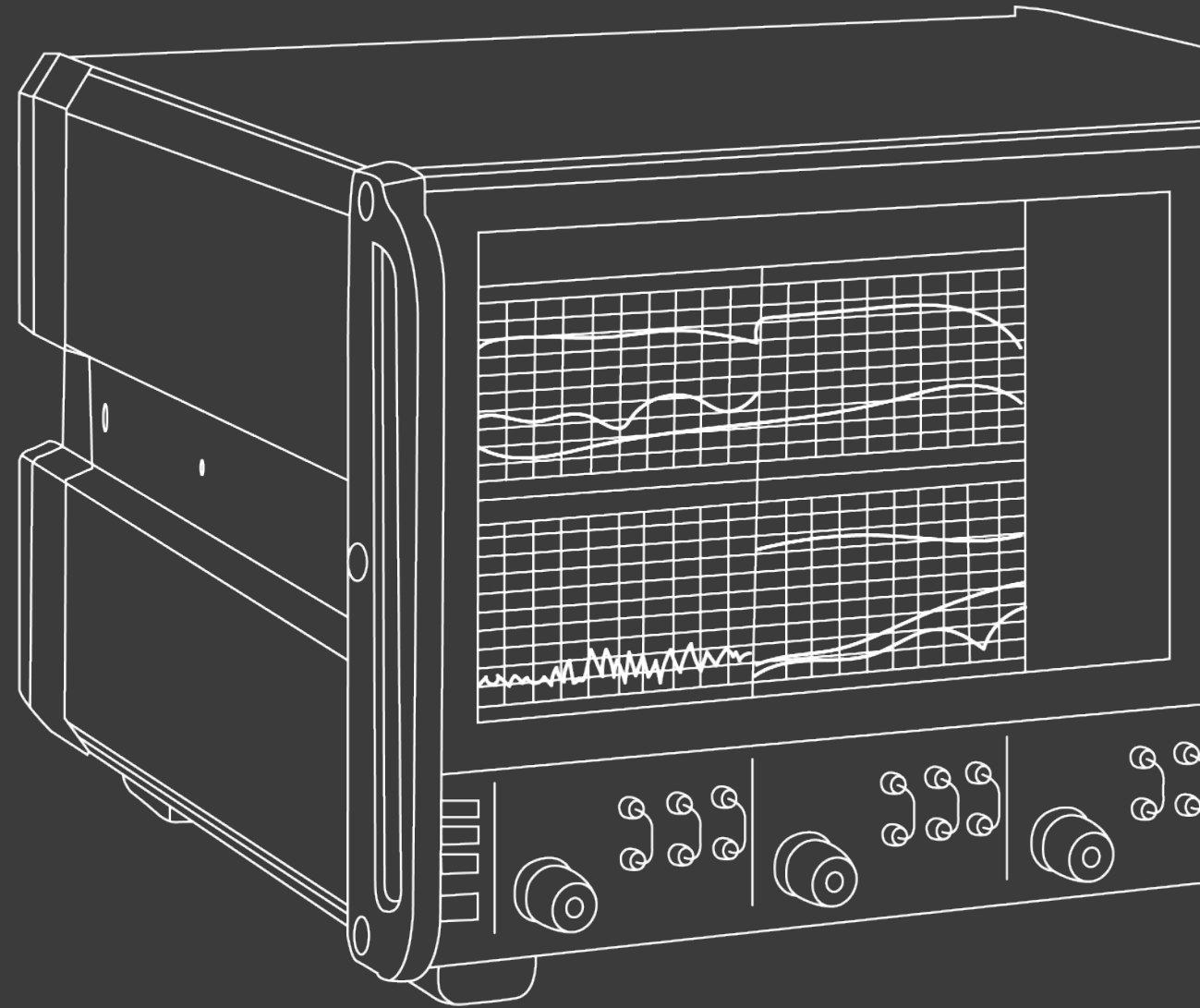


ERA ANT

MAKING MILLIMETERWAVE ACCESSIBLE

BROAD BANDWIDTH
COMPONENTS FOR TEST
EQUIPMENT



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INTRODUCTION

Eravant designs and manufactures total solutions for microwave and millimeterwave applications covering 10 MHz to 330 GHz.

- **This presentation introduces Eravant's broadband products suitable for test instrumentation**
- 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 customer specifications
- Presentations for specific applications such as 5G/6G, IoT, Thermal Vacuum and Space, Communications and Radar are available on-line
- Products in Ka, Q, U, V, E, W, F, D, G and J bands are also described in updated presentations

ERAVANT PRODUCT OFFERINGS

- Although standard models are not specifically designed and manufactured for Space and Thermal Vacuum applications, many of them are suitable for these and other extreme environments. Examples include:
 - SAR, SAC, SAF, SAH, SAJ, SAP, SAT and SAZ antenna families
 - SWG, SWB, SWW, SWT, SWF, SWI, SWH, SWR, SWD, SWX, SWM and SWF waveguide components
 - SUF Uni-Guide™ Waveguide Connectors
 - Models with the “V” suffix are qualified for Thermal Vacuum applications
 - Includes antennas, isolators, attenuators, couplers, adapters and subassemblies
- Many models can be adapted for Space and TVAC applications by simply updating the manufacturing process using “no-out-gassing” materials such as adhesives, OFHC copper or stainless steel, etc.



ANTENNAS

STANDARD GAIN HORN ANTENNA

FAMILY: SAZ
18 to 330 GHz

14 Models Cover Full Waveguide Bands Up To 330 GHz



SAZ-2410-05-S1
140 to 220 GHz, 24 dBi



SAZ-2410-10-S1
75 to 110 GHz, 24 dBi

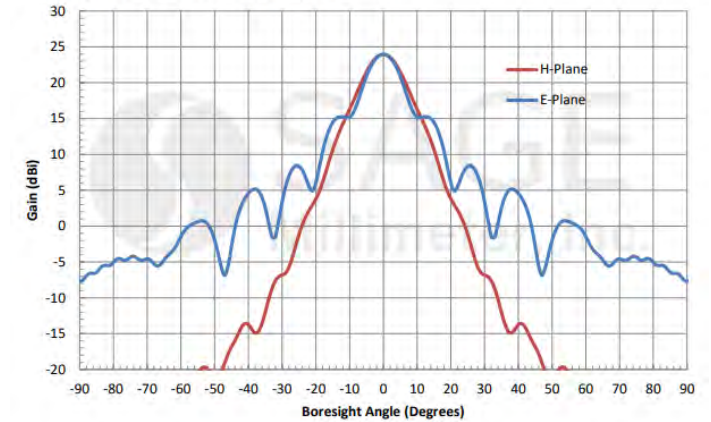


SAZ-2410-15-S1
50 to 75 GHz, 24 dBi

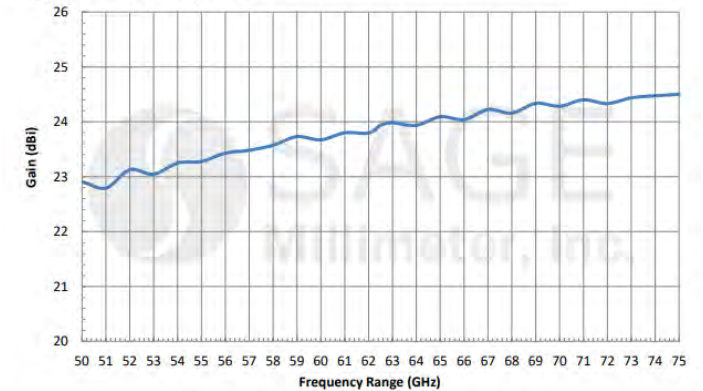


SAZ-2410-28-S1
26.5 to 40 GHz, 24 dBi

Typical Antenna Patterns @ 62.5 GHz



Typical Gain vs. Frequency



SCALAR FEED HORN ANTENNA

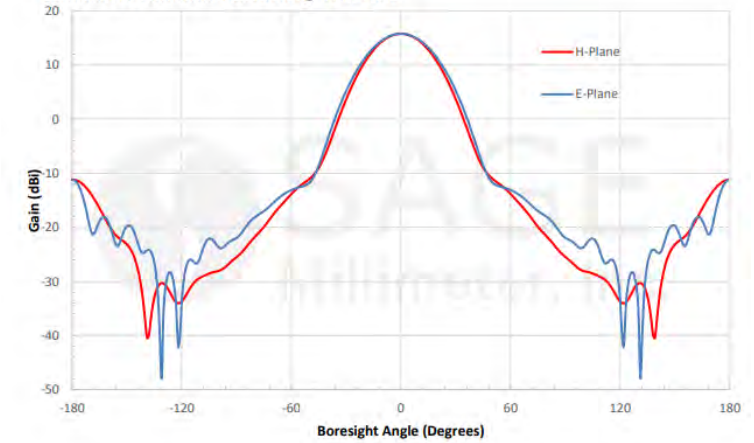
FAMILY: SAF
18 to 220 GHz

More Than 60 Models – Full Waveguide Bandwidth

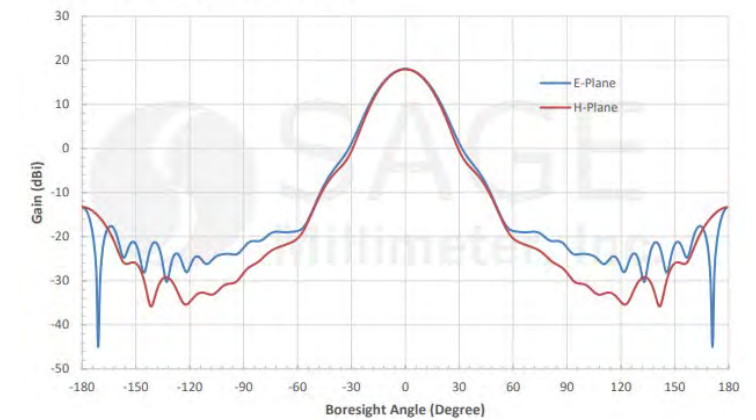


SAF-1141741535-082-S1
110 to 170 GHz, 15 dB

Simulated Antenna Patterns @ 140 GHz



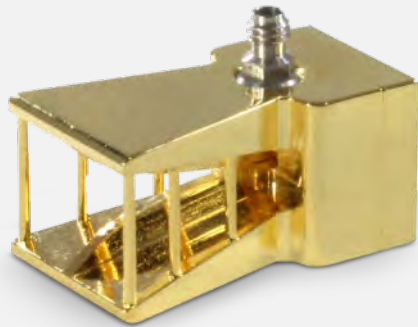
Simulated Antenna Patterns @ 33 GHz



DUAL RIDGED HORN ANTENNA LINEARLY POLARIZED

FAMILY: SAV
1 to 110 GHz

6 Models with Multi-Octave Bandwidth



SAV-1431141535-1F-U5
14 to 110 GHz



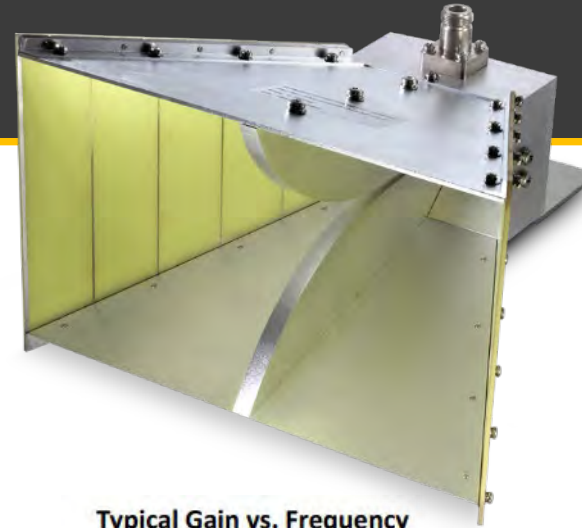
SAV-0636731522-VF-U5
6 to 67 GHz



SAV-0636731429-VF-S1
6 to 67 GHz

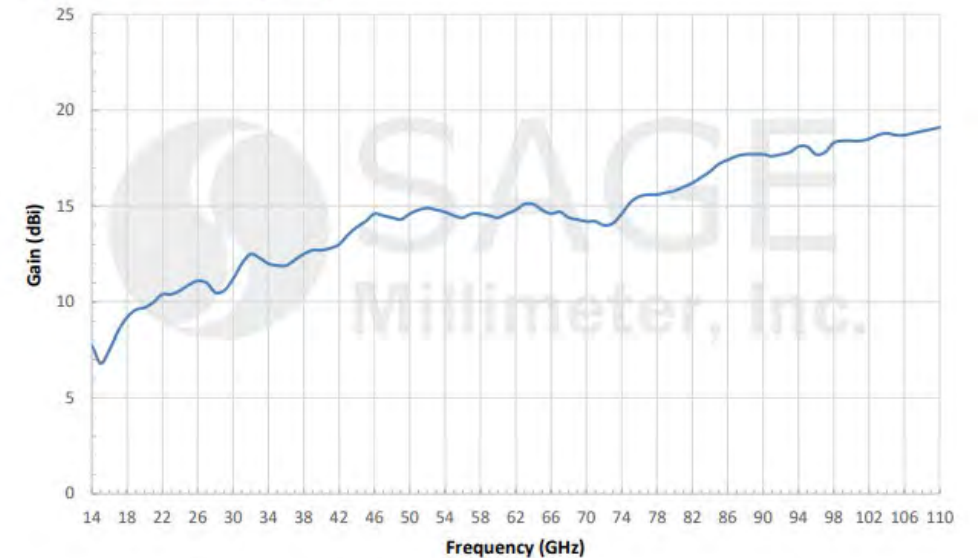


SAV-0434031427-KF-U5
4 to 40 GHz



SAV-0131831040-NF-U2
1 to 18 GHz

Typical Gain vs. Frequency



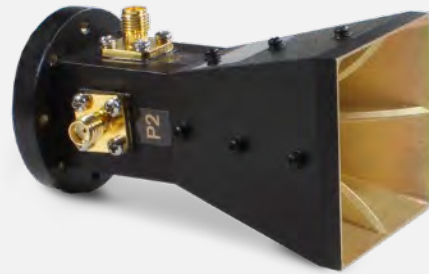
QUAD RIDGE DUAL POLARIZED SQUARE ANTENNA

FAMILY: SAV
1 to 67 GHz

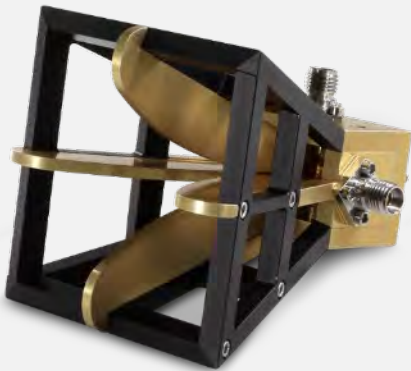
10 Models with Multi-Octave Bandwidth



SAV-0130430883-SF-U4-QR
1 to 4 GHz



SAV-0632531431-SF-U3-QR
6 to 25 GHz

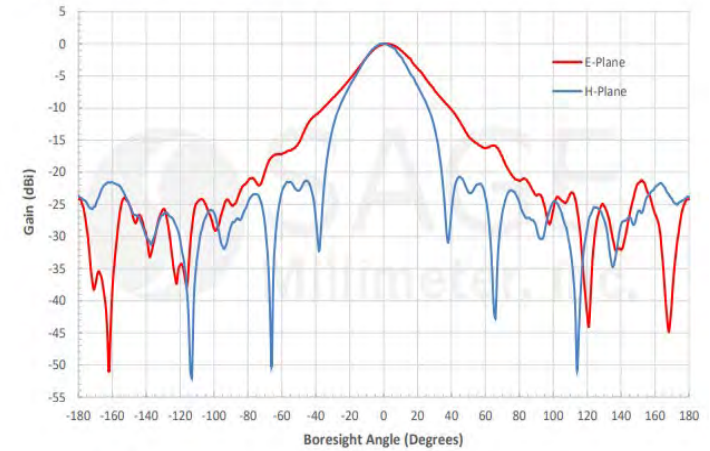


SAV-0434031428-KF-U5-QR
6 to 67 GHz

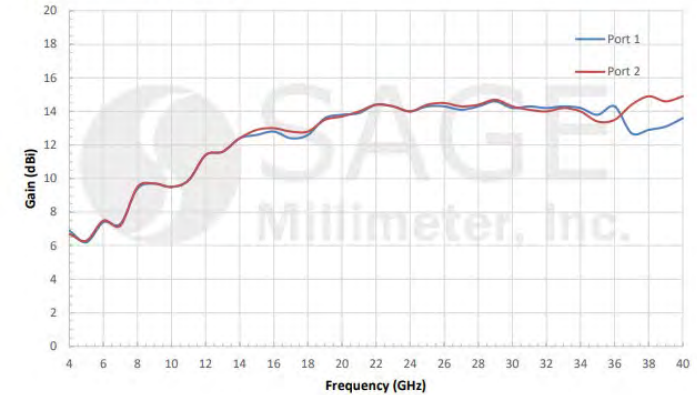


SAV-0535031140-2F-U5-QR
5 to 50 GHz

Typical Antenna Pattern @ 22 GHz



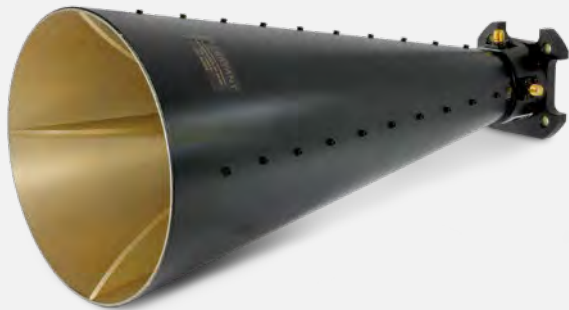
Typical Gain vs. Frequency



QUAD RIDGED DUAL POLARIZED CIRCULAR ANTENNA

FAMILY: SAC
1 to 40 GHz

6 Models: Wide Bandwidth



SAC-0231831225-SF-S4-DP
2 to 18 GHz



SAC-0432431235-SF-S4-DP-RD
4 to 24 GHz

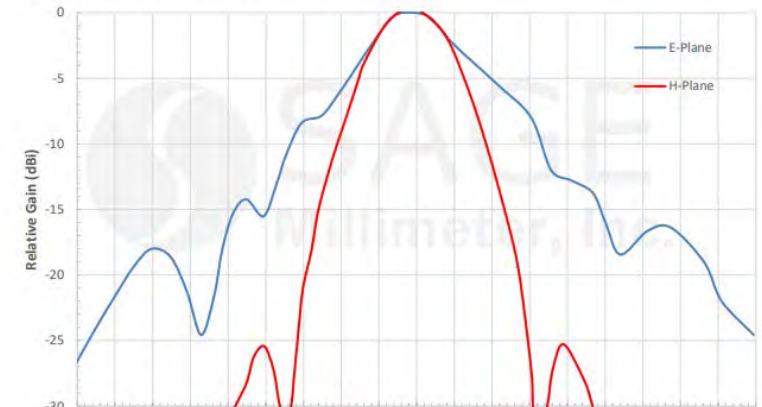


SAC-1834031621-KF-S5-DP
18 to 40 GHz



SAC-2734031517-KF-S5-D
27 to 40 GHz

Typical Antenna Pattern @ 12 GHz



Measured Isolation vs. Frequency



DUAL POLARIZED SCALAR HORN ANTENNA

FAMILY: SAF
23 to 170 GHz

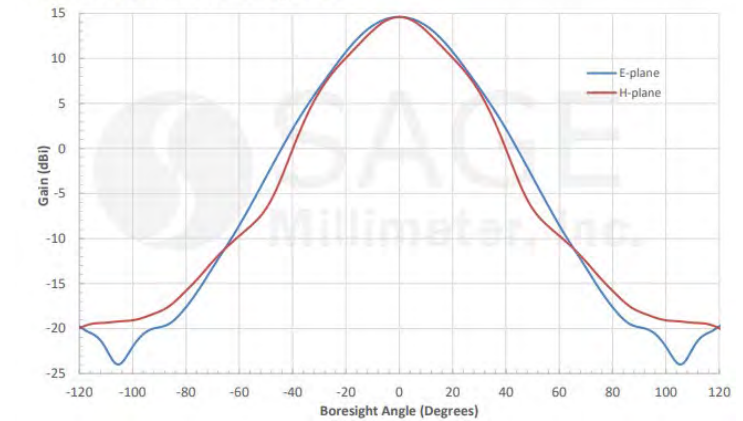
16 Models: Waveguide Bandwidth



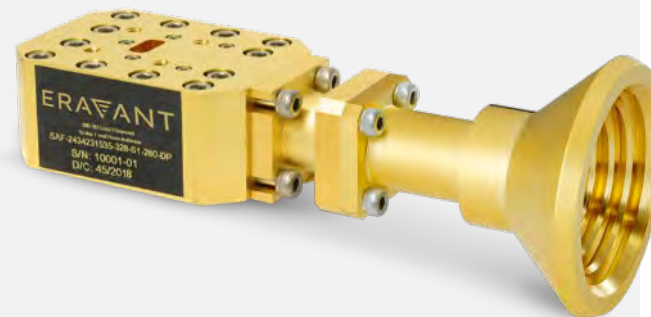
SAF-1141741525-082-S1-065-DP
110 to 170 GHz

SAF-6039031340-141-S1-122-DP
60 to 90 GHz

Simulated Antenna Patterns @ 30 GHz

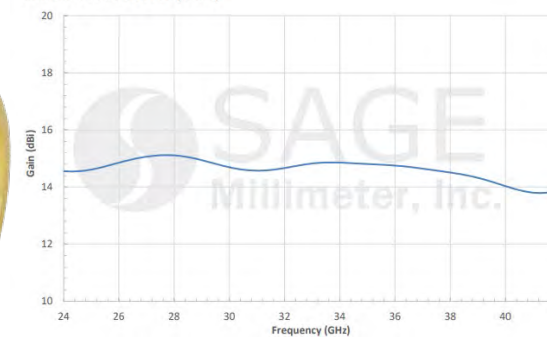


SAF-4036031340-219-S1-188-DP
40 to 60 GHz

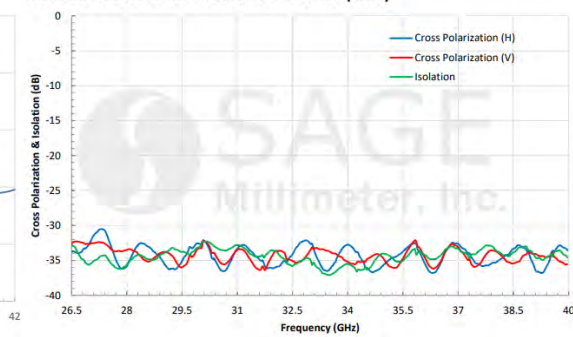


SAF-2434231535-328-S1-280-DP
24 to 42 GHz

Simulated Gain vs. Frequency



Measured Cross Polarization & Isolation vs. Frequency



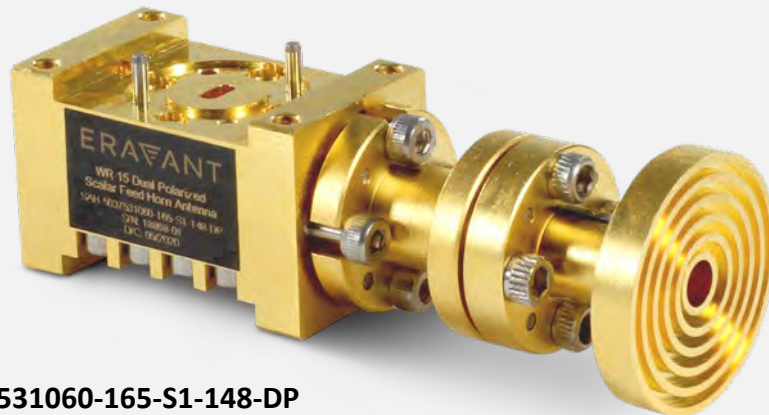
DUAL POLARIZED CHOKE HORN ANTENNA

FAMILY: SAH
24 to 110 GHz

4 Models: Full Waveguide Bandwidth

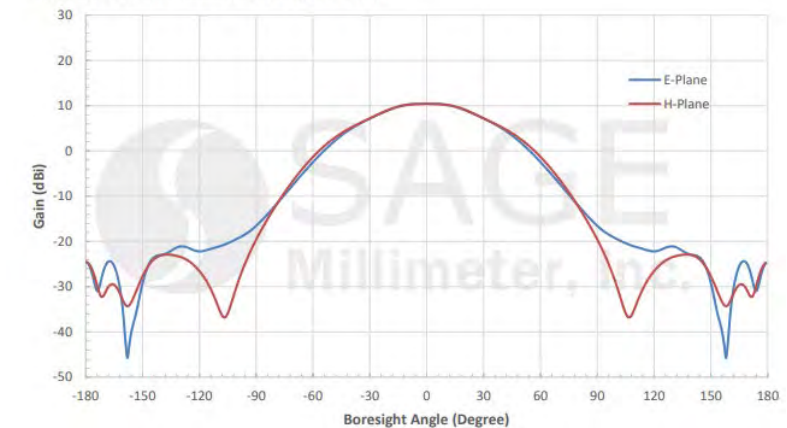


SAH-7531141060-110-S1-100-DP
75 to 110 GHz

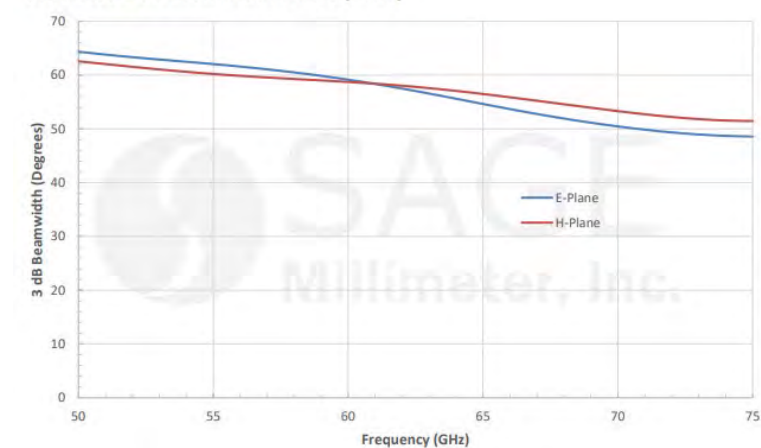


SAH-5037531060-165-S1-148-DP
50 to 75 GHz

Simulated Antenna Patterns @ 62 GHz



Simulated 3 dB Beamwidth vs. Frequency



OMNIDIRECTIONAL ANTENNA

FAMILY: SAO
26.5 to 140 GHz

More Than 20 Models: Full Waveguide Bandwidth



SAO-9031440345-08-S1
90 to 140 GHz



SAO-6039030230-12-S1
60 to 90 GHz

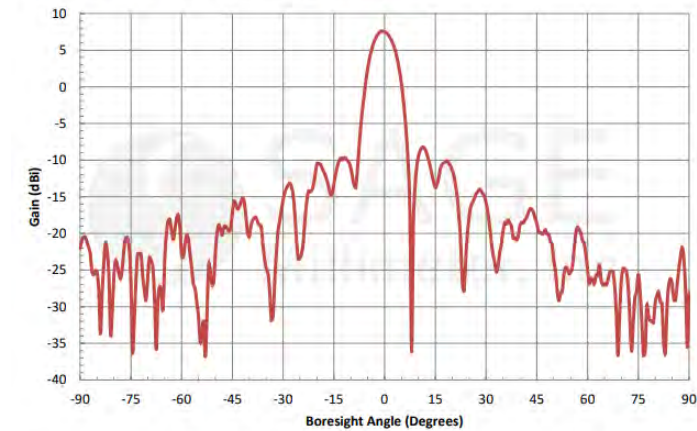


SAO-2734030345-28-S1
26.5 to 40 GHz

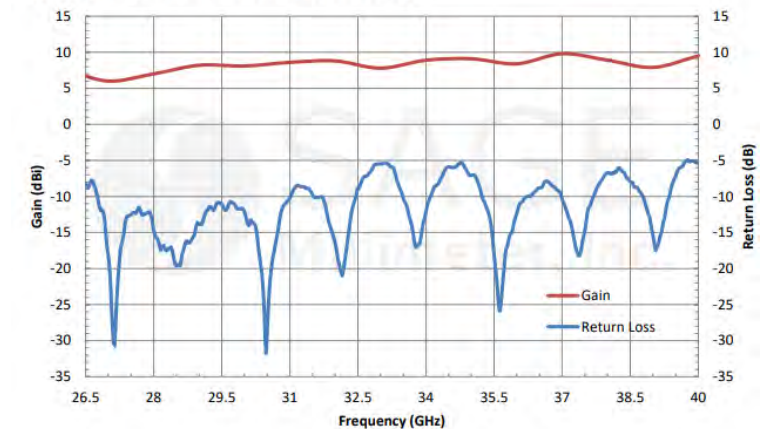


SAO-2734030810-28-S1
26.5 to 40 GHz

Typical E-Plane Antenna Pattern @ 33 GHz



Typical Gain and Return Loss vs. Frequency



AMPLIFIERS

ULTRA BROADBAND AMPLIFIER

FAMILY: SBB
10 MHz to 95 GHz

More Than 30 Models: Up to 95 GHz



SBB-5039532510-1F1F-S1
50 to 95 GHz



SBB-0115033218-2F2F-E3
10 MHz to 50 GHz



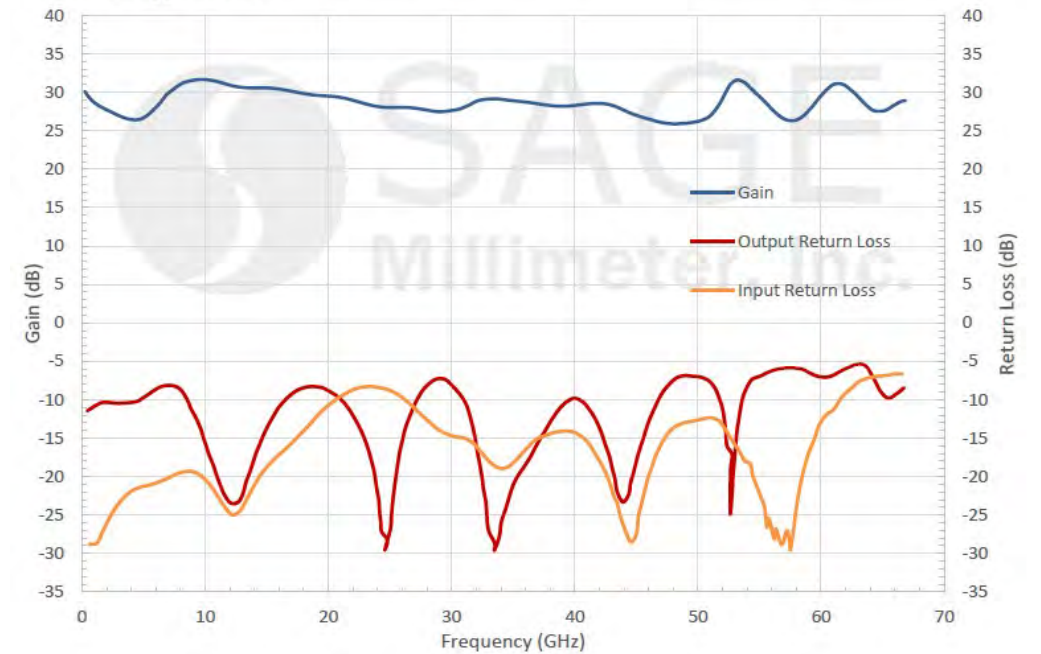
SBB-1834232815-KFKF-E3
18 to 42 GHz



SBB-1834034018-KFKF-E3
18 to 40 GHz

Typical Gain and Return Loss vs. Frequency

Bias: +12 V_{DC}/600 mA



BROADBAND LOW NOISE AMPLIFIER

FAMILY: SBL
0.3 to 270 GHz

More Than 100 Models: Up To Full Waveguide Bandwidth



SBL-2242741585-0303-E1
220 to 270 GHz



SBL-7531143550-1010-E1
75 to 110 GHz



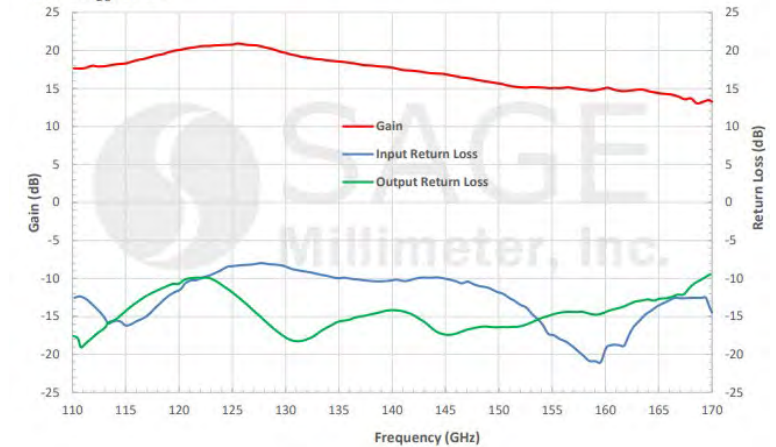
SBL-5539532560-1212-E1
55 to 95 GHz



SBL-3335033040-2222-E1
33 to 50 GHz

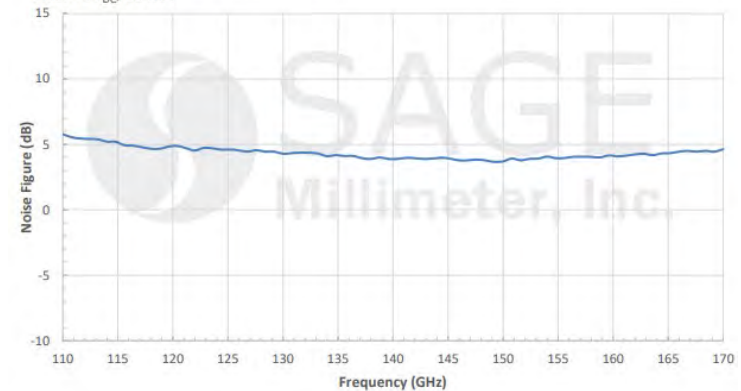
Typical Performance vs. Frequency

Bias: +3V_{DC}/60 mA



Typical Noise Figure vs Frequency

Bias: +3V_{DC}/60 mA



BROADBAND POWER AMPLIFIER

FAMILY: SBP
18 to 230 GHz

More Than 200 Models: Up To Full Waveguide Bandwidth



SBP-2142341507-0404-E1
210 to 230 GHz



SBP-6039032516-1212-S1
60 to 90 GHz



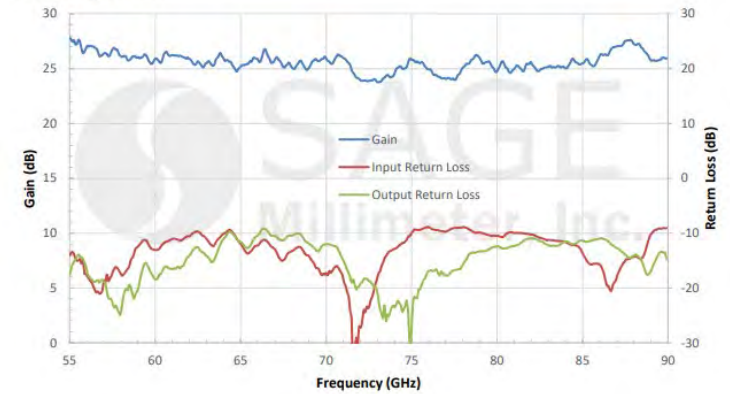
SBP-3335034520-2222-E1
33 to 50 GHz



SBP-2734034526-2828-E1
26.5 to 40 GHz

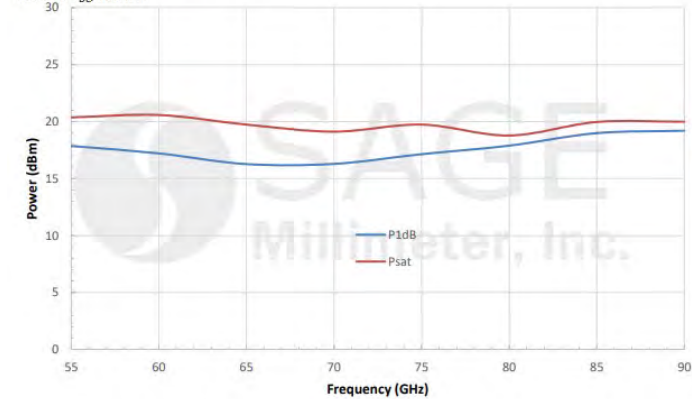
Typical Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/603 mA



Typical Power vs. Frequency

Bias: +8 V_{DC}/750 mA

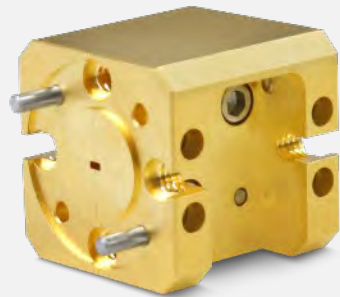


MULTIPLIERS

BROADBAND PASSIVE MULTIPLIER

FAMILY: SFA
22 to 330 GHz

More Than 40 Models: Up To Full Waveguide Bandwidth



SFP-03310-UEB
220 to 330 GHz



SFP-05210-S2
140 to 220 GHz



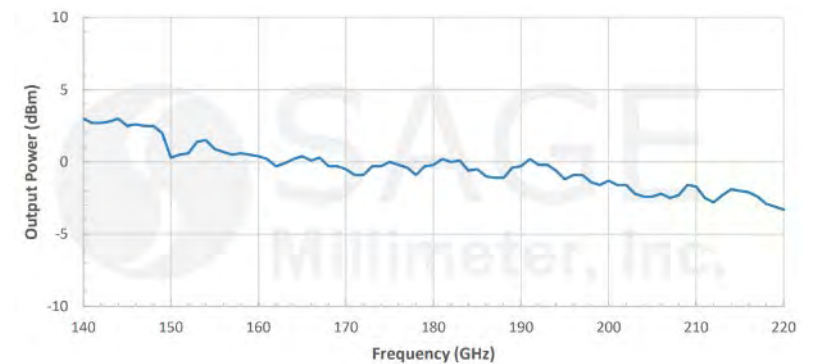
SFP-104KF-S2
75 to 110 GHz



SFP-243423303-28SF-S1
24 to 42 GHz

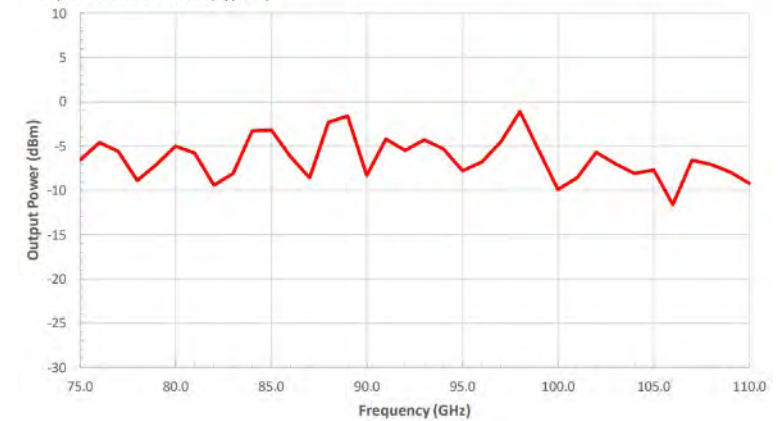
Typical Output Power vs. Frequency

$P_{in} = +16$ dBm



Typical Output Power vs Frequency

Input Power: +17 dBm (Typical)



BROADBAND ACTIVE MULTIPLIER

FAMILY: SFA
20 to 220 GHz

More Than 150 Models: Up To Full Waveguide Bandwidth



SFA-753114616-10SF-E1
75 to 110 GHz



SFA-194224208-0510-E1
190 to 220 GHz



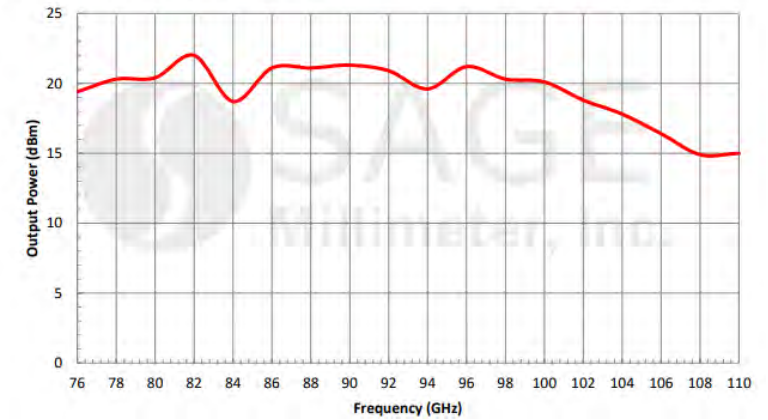
SFA-194SF-E1
40 to 60 GHz



SFA-282SF-E1
26.5 to 40 GHz

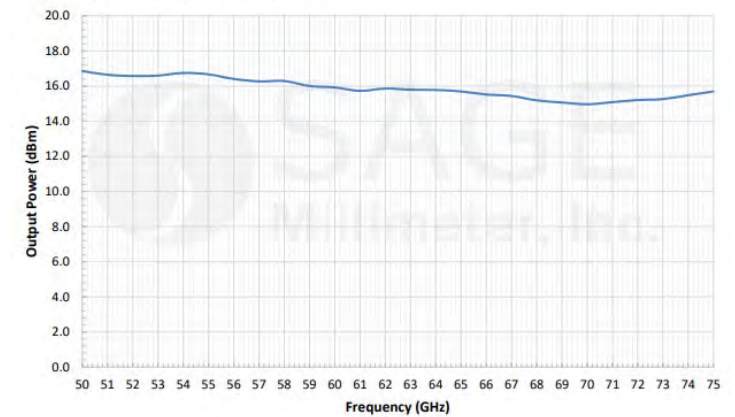
Typical Output Power vs. Frequency

Bias: +13 V_{DC}/550 mA, Input Power: +3 dBm



Typical Output Power vs. Frequency

Bias: +8 V_{DC}/550 mA; Input Power: +3 dBm



CONVERTERS

BROADBAND BALANCED MIXER

FAMILY: SFB
11 to 220 GHz

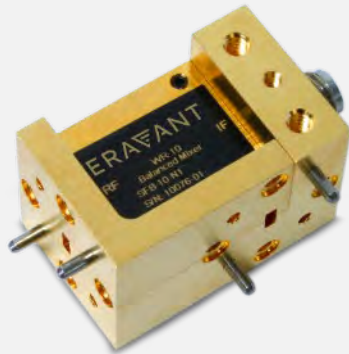
More Than 30 Models: Full Waveguide Bandwidth



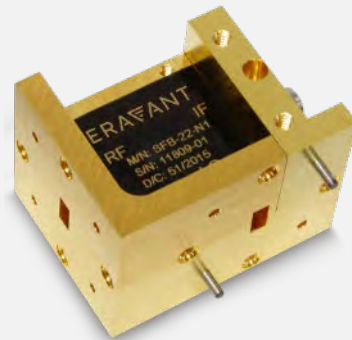
SFB-05-E2
140 to 220 GHz



SFB-06-E2
110 to 170 GHz



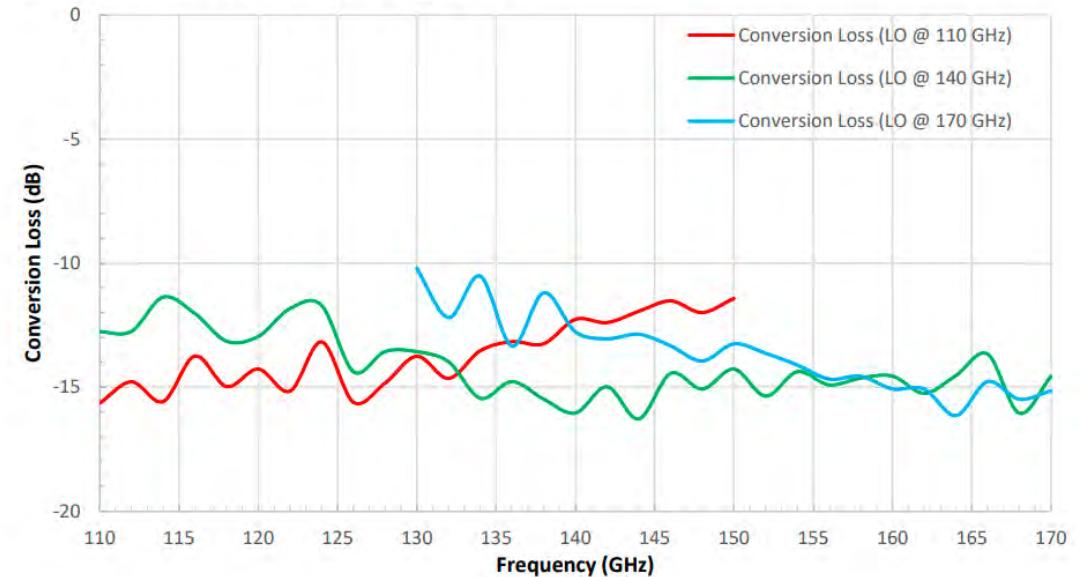
SFB-10-N1
75 to 110 GHz



SFB-22-N1
33 to 50 GHz

Typical Conversion Loss vs. Frequency

RF: -20 dBm; LO: +3 dBm, Bias: +5 V_{DC}/1 mA



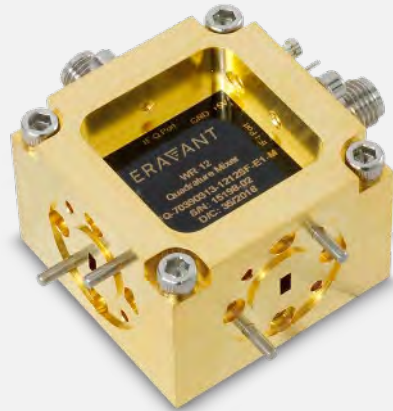
QUADRATURE MIXER

FAMILY: SFS
20 to 112 GHz

More Than 25 Models



SFQ-11411415-0808SF-N1
110 to 112 GHz



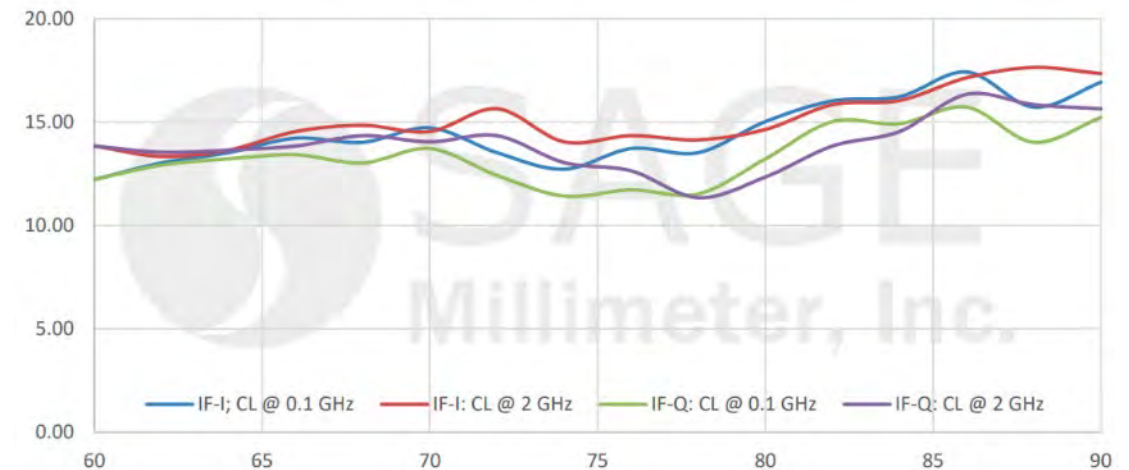
SFQ-60390315-1212SF-E1-M
60 to 90 GHz



SFQ-40360312-1919SF-N1-M
40 to 60 GHz

Typical Conversion Loss vs. LO Frequency

Bias: +5Vdc/1mA, RF= -20 dBm, LO= +10 dBm



DETECTORS

BROADBAND AMPLITUDE DETECTOR

FAMILY: SFD
18 to 220 GHz

More Than 20 Models: Full Waveguide Bandwidth



SFD-144224-05SF-N1
140 to 220 GHz

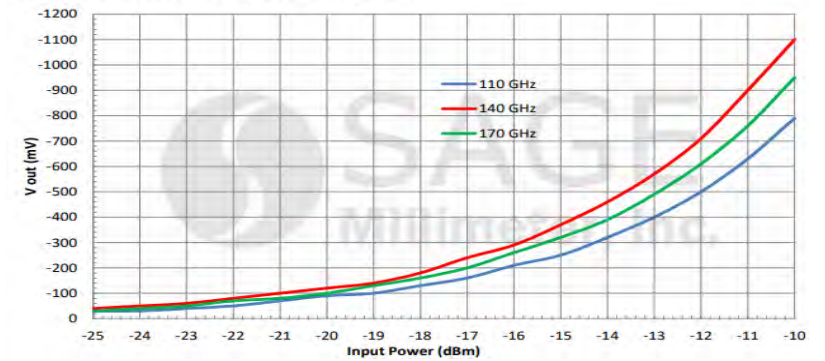


SFD-753114-10SF-N1
75 to 110 GHz

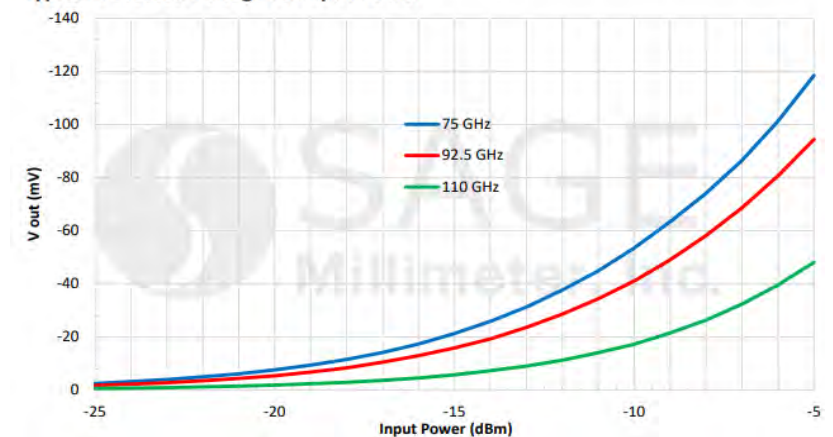


SFD-114174-06SF-N1
110 to 170 GHz

Typical Detected Voltage vs. Input Power



Typical Detected Voltage vs. Input Power

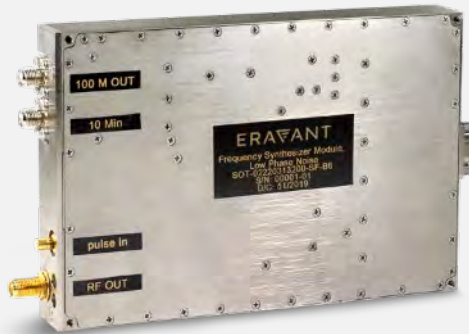


SYNTHESIZERS

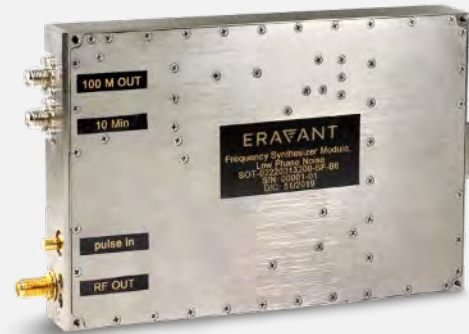
FREQUENCY SYNTHESIZER

FAMILY: SOT
100 MHz to 20 GHz

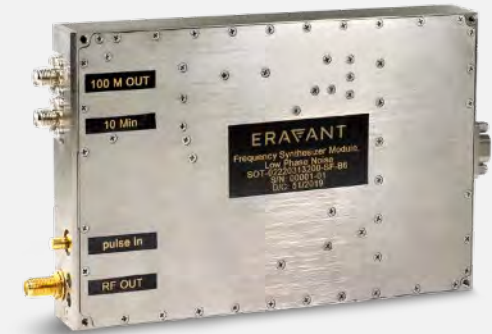
3 Models: Two-Decade Bandwidth



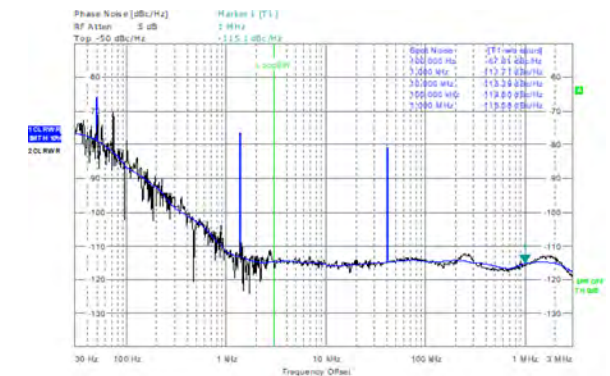
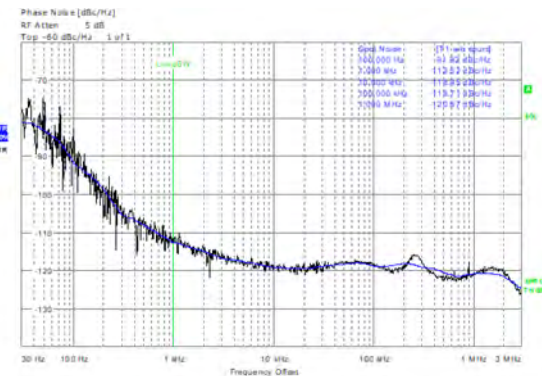
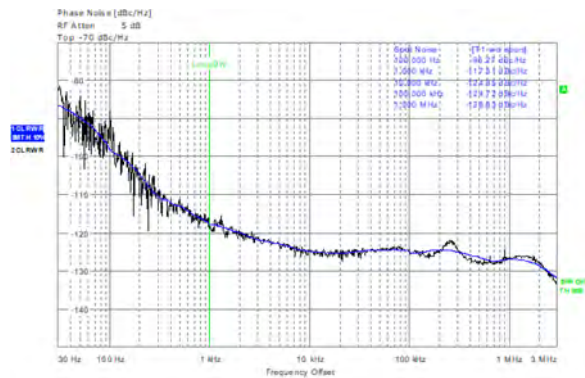
SOT-01210313200-SF-B6
100 MHz to 10 GHz
Low Phase Noise



SOT-02215300200-SF-E6
200 MHz to 20 GHz
High Speed



SOT-02220313200-SF-B6
200 MHz to 20 GHz
Low Phase Noise



CONTROL DEVICES

PIN DIODE ATTENUATOR

FAMILY: SKA
18 to 110 GHz

More Than 20 Models: Full Waveguide Bandwidth



SKA-7531142520-1010-A1
75 to 110 GHz

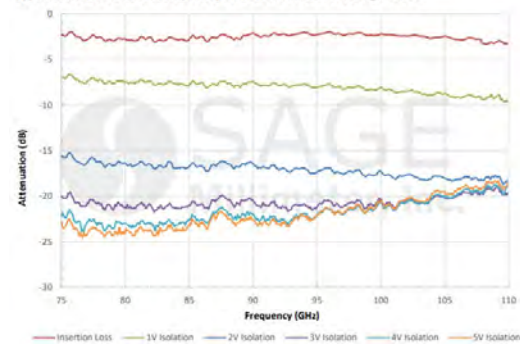


SKA-6039033030-1212-A1
60 to 90 GHz

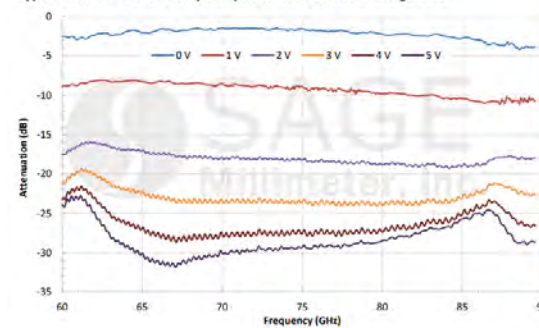


SKA-5037533030-1515-A1
50 to 75 GHz

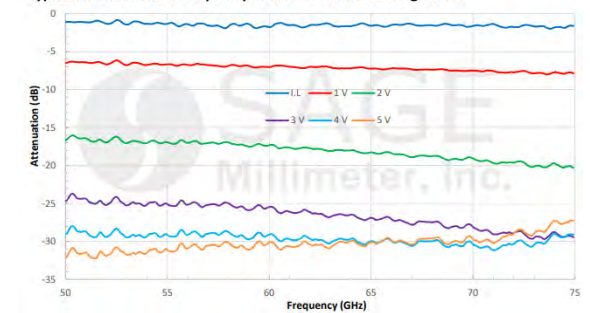
Typical Attenuation vs. Frequency at Various Control Voltage Value



Typical Attenuation vs. Frequency at Various Control Voltage Value



Typical Attenuation vs. Frequency at Various Control Voltage Value



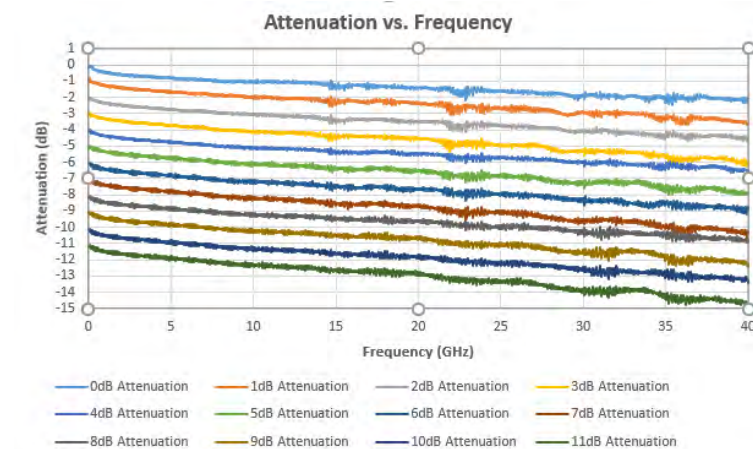
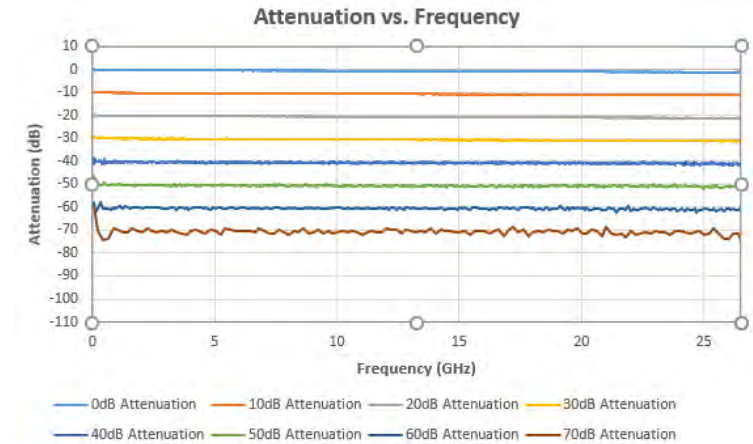
COAXIAL PROGRAMMABLE ATTENUATOR

FAMILY: STA
DC to 50 GHz, Up to 110 dB

More Than 15 Models: 1 dB, 5 dB, 10 dB Step Size

Features:

- DC to 50 GHz Coverage
- High Attenuation Value up to 110 dB
- Step Size, 1 dB, 5 dB and 10 dB Available
- TTL Control via Logic Table
- Low DC Power Once Latching



WAVEGUIDE DIRECT READING AND PROGRAMMABLE ATTENUATOR

FAMILY: STA
50 to 330 GHz

More Than 10 Models: Full Waveguide Bandwidth



STA-40-03-S1
220 to 330 GHz

Parameter	Minimum	Typical	Maximum
Frequency Range	220 GHz		330 GHz
Insertion Loss		4.5 dB	
Attenuation Range	0 dB		40 dB
Attenuation Accuracy	0.25 dB or 4.5% of reading, whichever is larger, up to 40 dB		
Attenuation Resolution	0.1 dB from 0 to 10 dB, 0.2 dB from 10 to 30 dB, 0.5 dB from 30 to 40 dB		
Return Loss		15 dB	
Operating Voltage	+24 V _{DC} (100 to 240 V _{AC} Adapter is Supplied)		
Power Handling			10 mW (CW)
Specification Temperature		+25 °C	
Operating Temperature	+5 °C		+35 °C

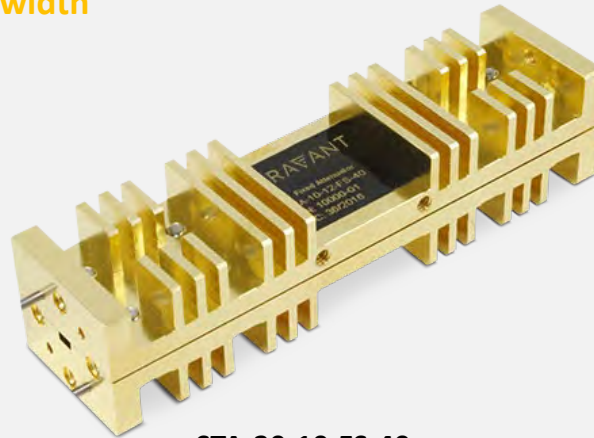
WAVEGUIDE FIXED ATTENUATOR

FAMILY: STA
18 to 330 GHz

More Than 140 Models: Full Waveguide Bandwidth



STA-30-03-F1
220 to 330 GHz, 30 dB

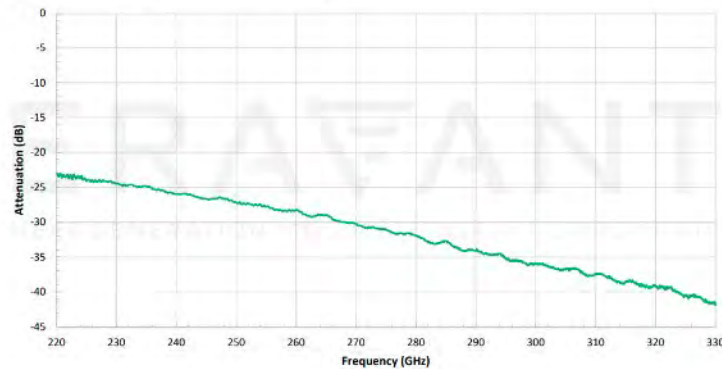


STA-30-10-FS-40
75 to 110 GHz, 10 Watts



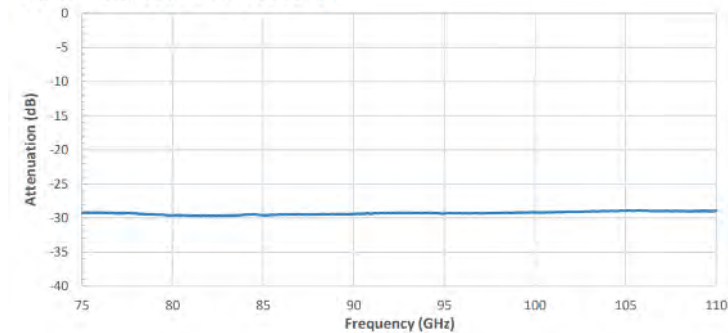
STA-30-28-F2
26.5 to 40 GHz, 30 dB

Typical Measured Attenuation vs Frequency



W-Band Fixed Attenuator, 30 dB, 10 Watts

Typical Attenuation vs. Frequency



PIN DIODE SPST SWITCH

FAMILY: SKS
0.5 to 290 GHz

More Than 10 Models: Full Waveguide Bandwidth



SKS-2242946035-0303-R1-M
220 to 290 GHz



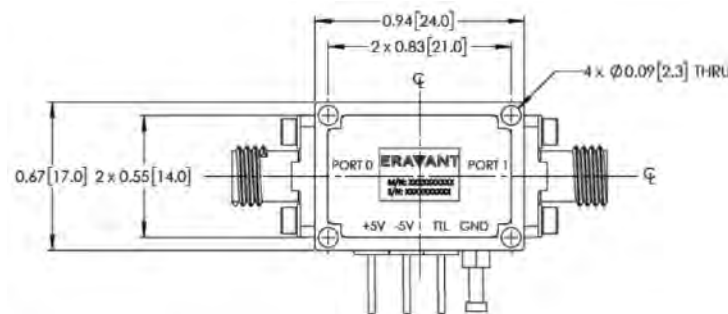
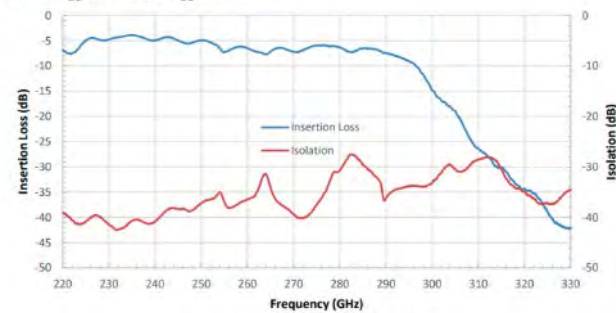
SKS-0525035050-2F2F-A3
0.5 to 50 GHz



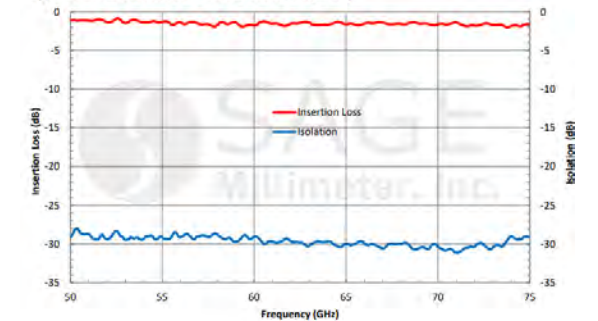
SKS-5037533030-1515-R1
50 to 75 GHz

Insertion Loss and Isolation vs. Frequency

Bias: +1 V_{DC}/3 mA and -2 V_{DC}/ <0 mA



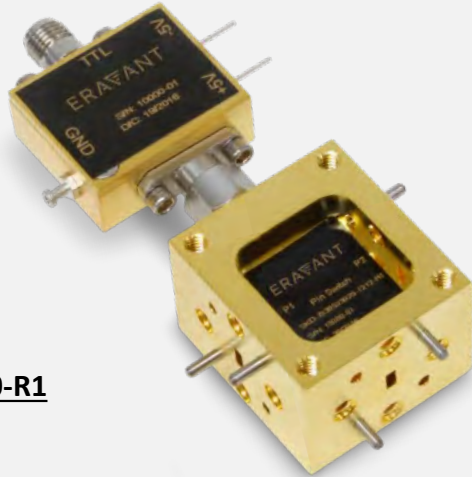
Typical Insertion Loss and Isolation vs. Frequency



PIN DIODE SPDT SWITCH

FAMILY: SKD
0.5 to 110 GHz

More Than 15 Models: Full Waveguide Bandwidth

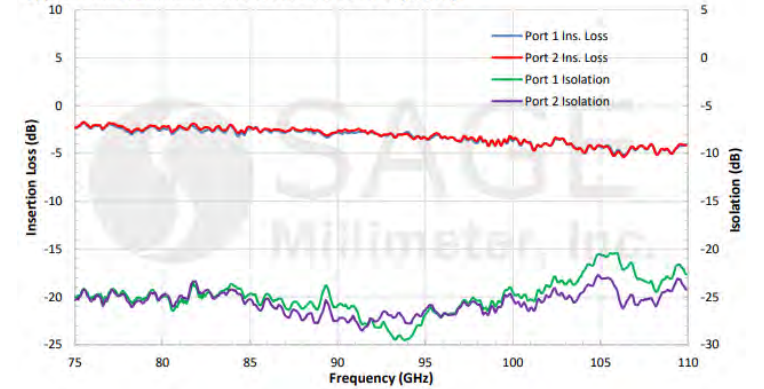


SKD-7531144020-1010-R1
75 to 110 GHz

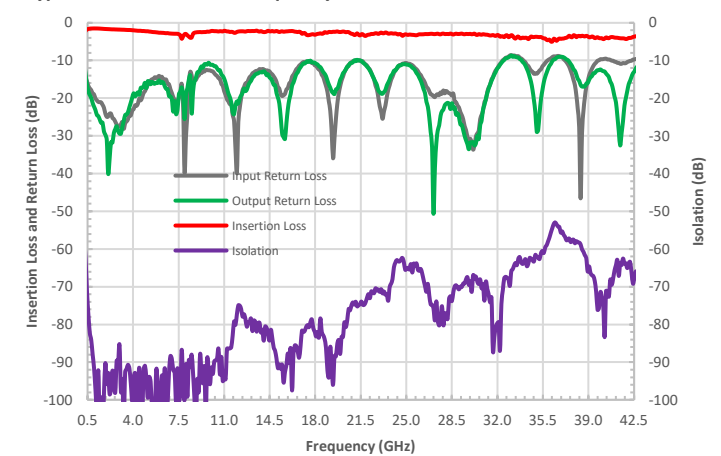


SKD-0524334560-KFKF-A3
0.5 GHz to 43 GHz

Typical Insertion Loss and Isolation vs. Frequency



Typical Performance vs. Frequency



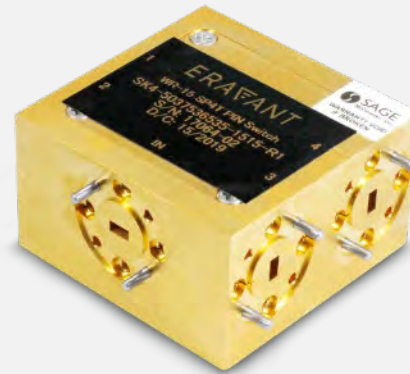
PIN DIODE SP4T SWITCH

FAMILY: SK4
0.5 to 90 GHz

More Than 10 Models: Full Waveguide Bandwidth



SK4-6039038030-1212-R1-M
60 to 90 GHz

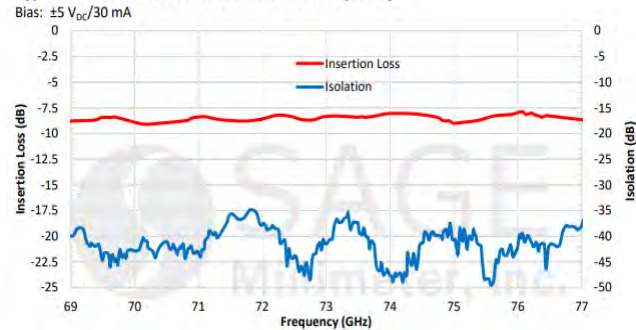


SK4-5037536535-1515-R1-M
50 to 75 GHz

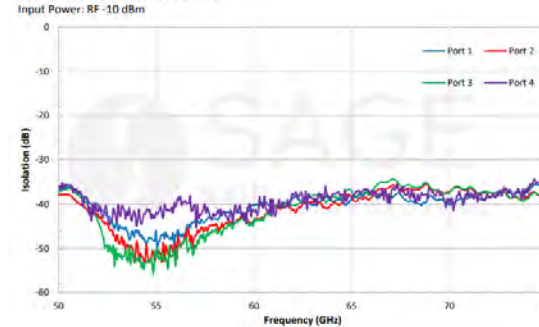


SK4-0524335060-KFKF-A3
0.5 GHz to 43 GHz

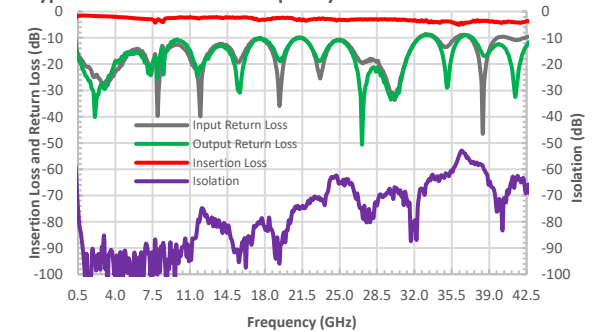
Typical Insertion Loss and Isolation vs. Frequency



Typical Isolation vs. Frequency



Typical Performance vs. Frequency



PIN DIODE SP8T SWITCH

FAMILY: SK8
0.5 to 40 GHz

2 Models: 0.5 to 40 GHz Bandwidth

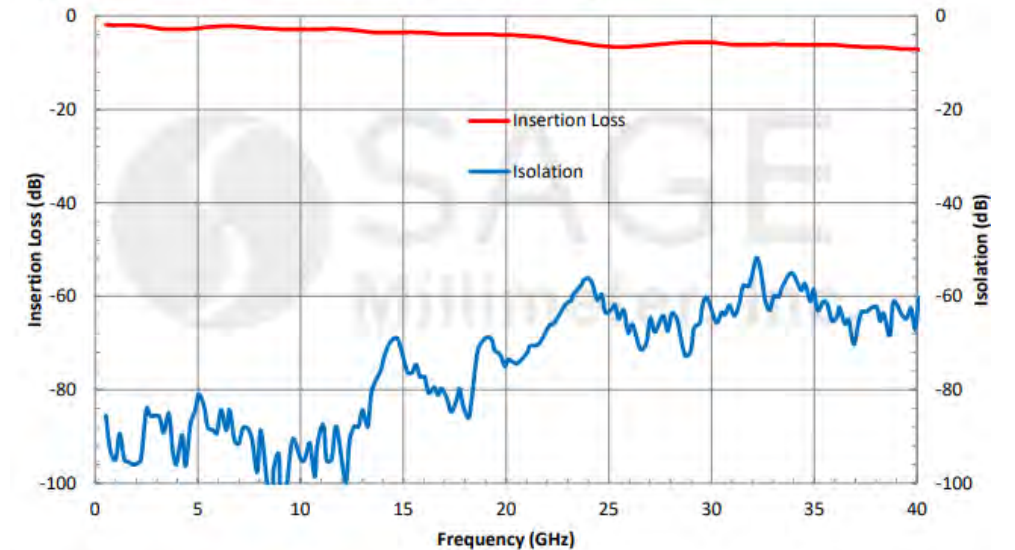
Features:

- Low Insertion Loss
- High Isolation
- Absorptive
- TTL Controlled



SK4-6039038030-1212-R1-M
0.5 to 40 GHz

Typical Insertion Loss and Isolation vs. Frequency



WAVEGUIDE MOTORIZED SWITCH

FAMILY: SWJ
18 to 220 GHz

11 Models: Full Waveguide Bandwidth



SWJ-05-T1
140 to 220 GHz

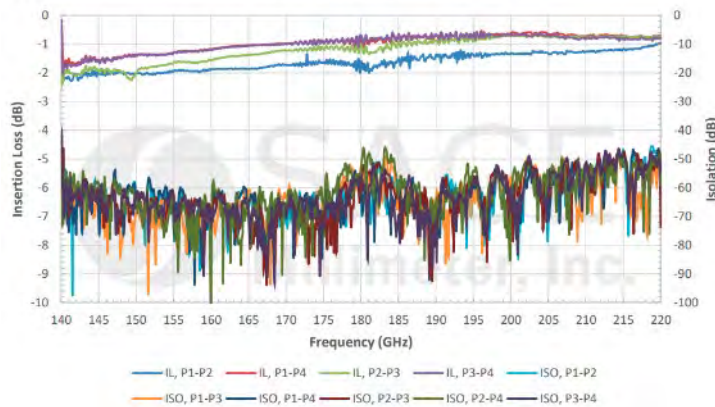


SWJ-15-T1
50 to 75 GHz

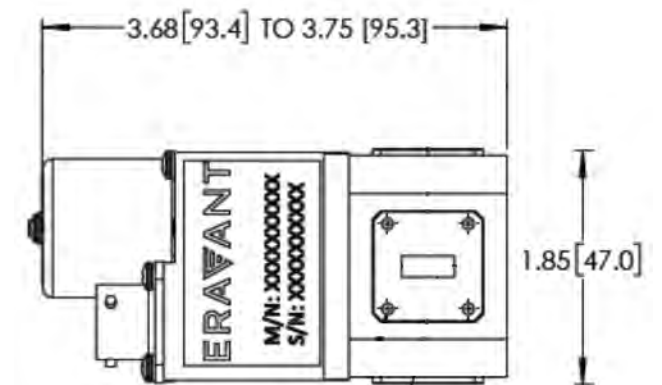
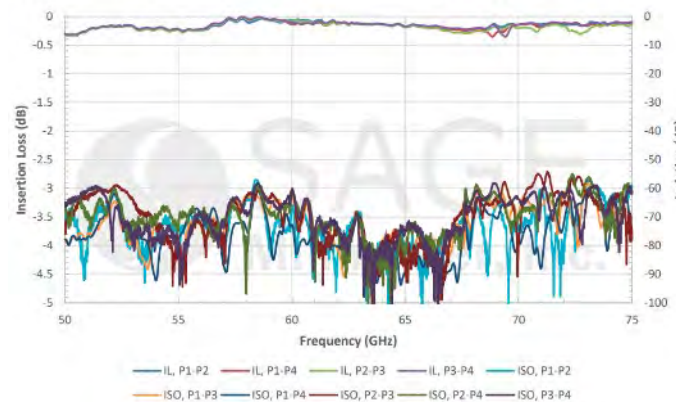


SWJ-42-T1
18 to 26.5 GHz

Typical Measured Insertion Loss and Isolation vs Frequency



Typical Measured Insertion Loss and Isolation vs Frequency



FERRITE DEVICES

FARADAY ISOLATOR

FAMILY: STF
18 to 260 GHz

More Than 20 Models: Full Waveguide Bandwidth



STF-04-S1
170 to 260 GHz

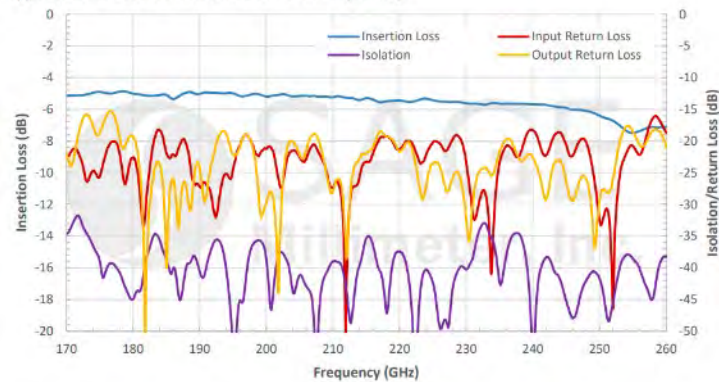


STF-06-S1
110 to 170 GHz

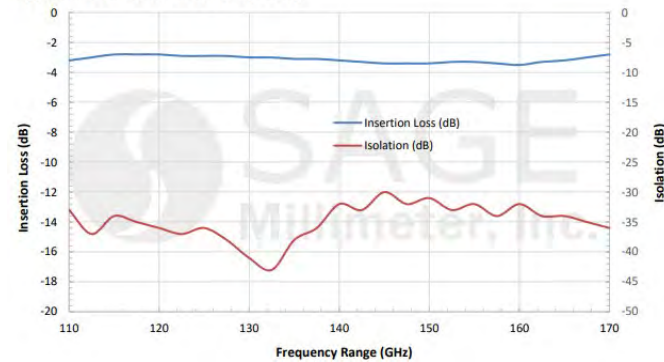


STF-10-S1
75 to 110 GHz

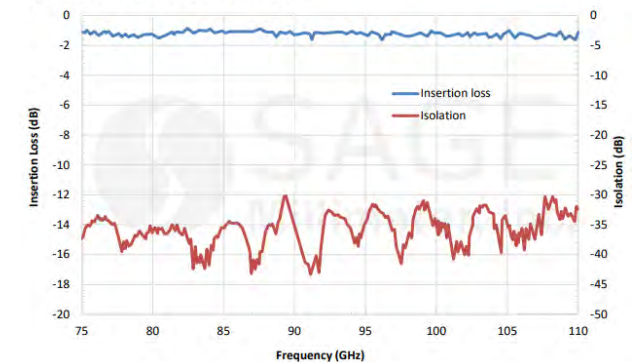
Typical Measured Performance vs Frequency



Typical Performance vs. Frequency



Typical Performance vs. Frequency



COMPACT FARADAY ISOLATORS

FAMILY: STF
18 to 265 GHz

More Than 10 Models: Full Waveguide Bandwidth



STF-04-S1-M
170 to 260 GHz

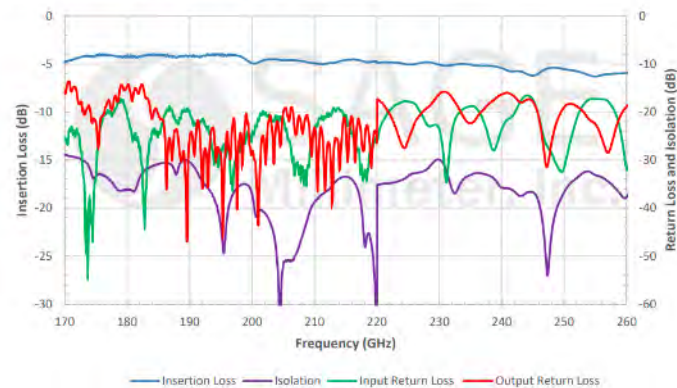


STF-06-S1-C
110 to 170 GHz

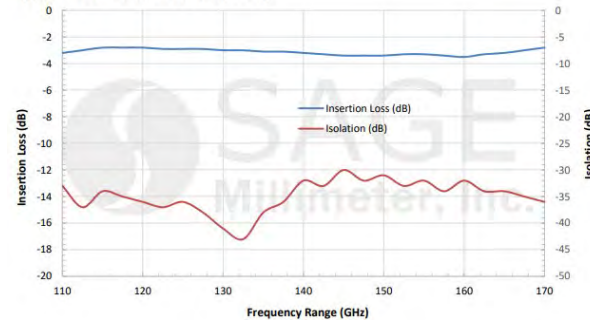


STF-10-S1-C
75 to 110 GHz

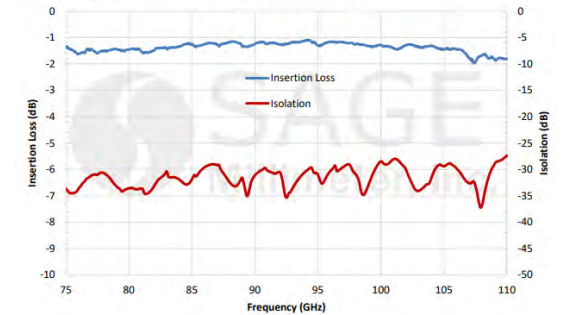
Typical Measured Performance vs Frequency



Typical Performance vs. Frequency



Typical Insertion Loss and Isolation vs. Frequency



PASSIVE WAVEGUIDE COMPONENTS

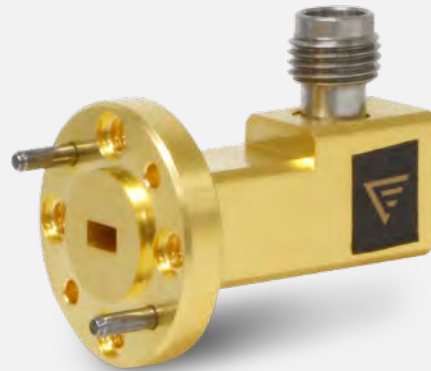
WAVEGUIDE TO COAX ADAPTER (RIGHT ANGLE)

FAMILY: SWC
8.2 to 110 GHz

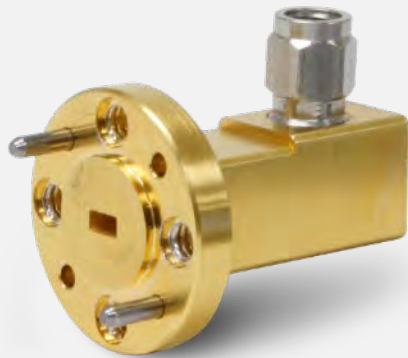
More Than 60 Models: Full Waveguide Bandwidth



SWC-101F-R1
75 to 110 GHz

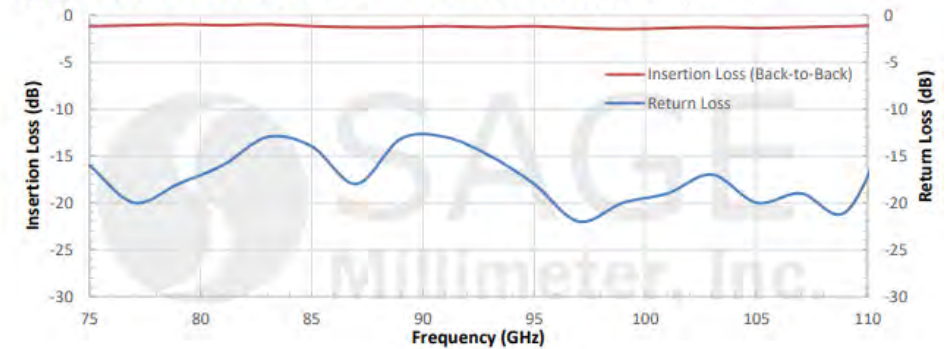


SWC-15VF-R1
50 to 75 GHz

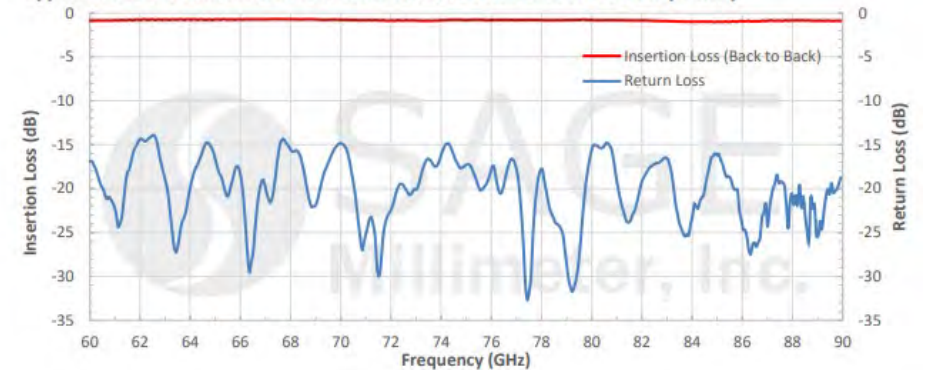


SWC-121M-R1
60 to 90 GHz

Typical Return Loss and Back-to-Back Insertion Loss vs. Frequency



Typical Return Loss and Back to Back Insertion Loss vs. Frequency



WAVEGUIDE TO COAX ADAPTER (END LAUNCH)

FAMILY: SWC
8.2 to 110 GHz

More Than 60 Models: Full Waveguide Bandwidth

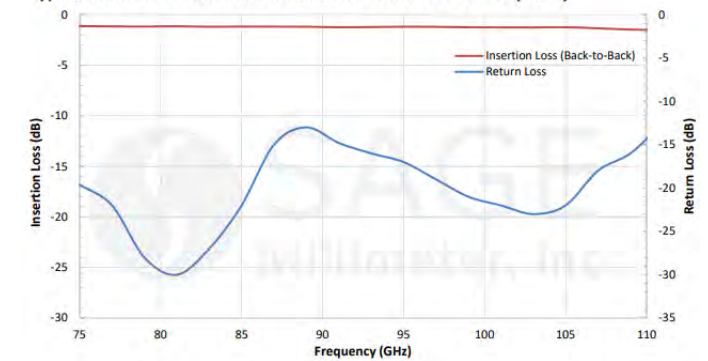


SWC-15VM-E1
50 to 75 GHz

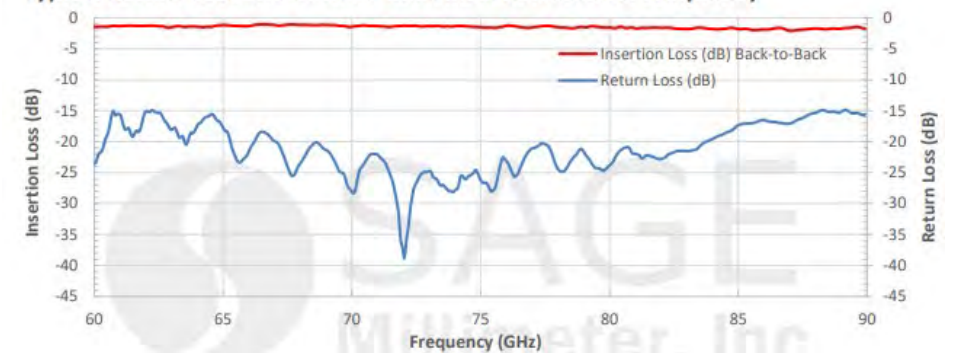


SWC-121M-R1
60 to 90 GHz

Typical Return Loss and Back-to-Back Insertion Loss vs. Frequency



Typical Return Loss and Back-to-Back Insertion Loss vs. Frequency



WAVEGUIDE DIRECTIONAL COUPLER

FAMILY: SWD
18 to 330 GHz

More Than 180 Models: Full Waveguide Bandwidth

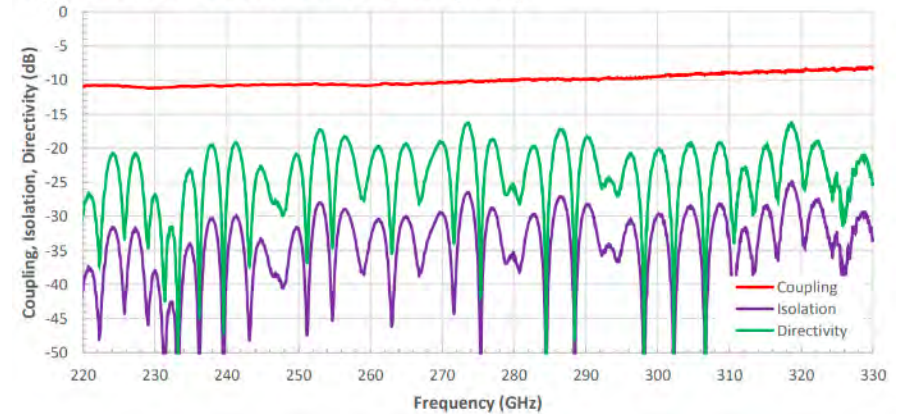


SWD-1020H-03-SB
220 to 330 GHz, 10 dB

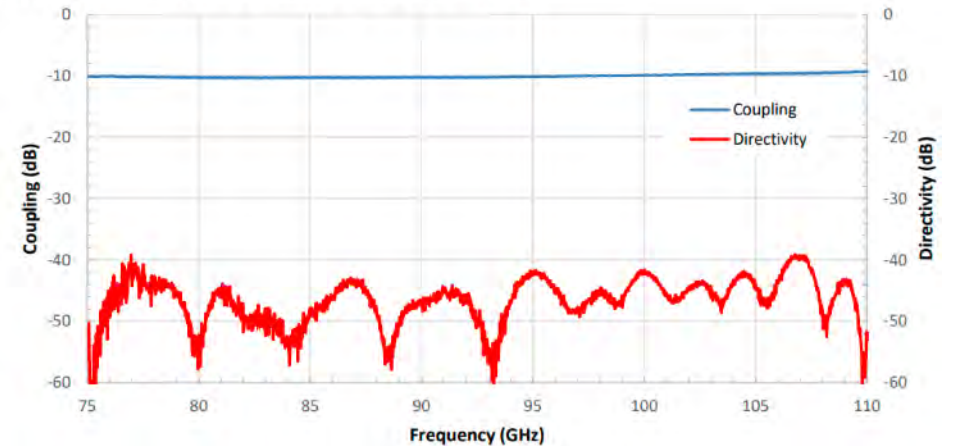


SWD-1040H-10-DB
75 to 110 GHz, 10 dB

Typical Measured Performance vs Frequency



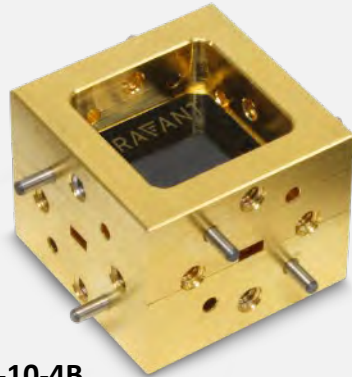
Typical Coupling and Directivity vs Frequency



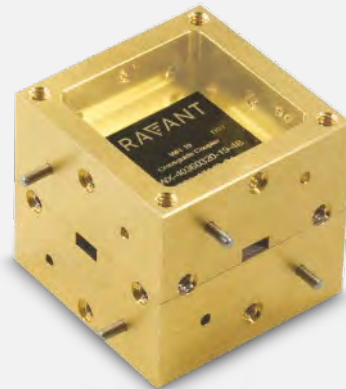
WAVEGUIDE CROSSGUIDE COUPLER

FAMILY: SWX
26.5 to 110 GHz

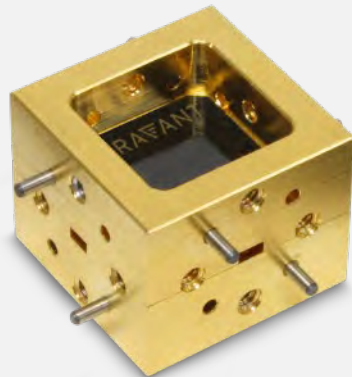
More Than 30 Models: Full Waveguide Bandwidth



SWX-75311420-10-4B
75 to 110 GHz, 20 dB

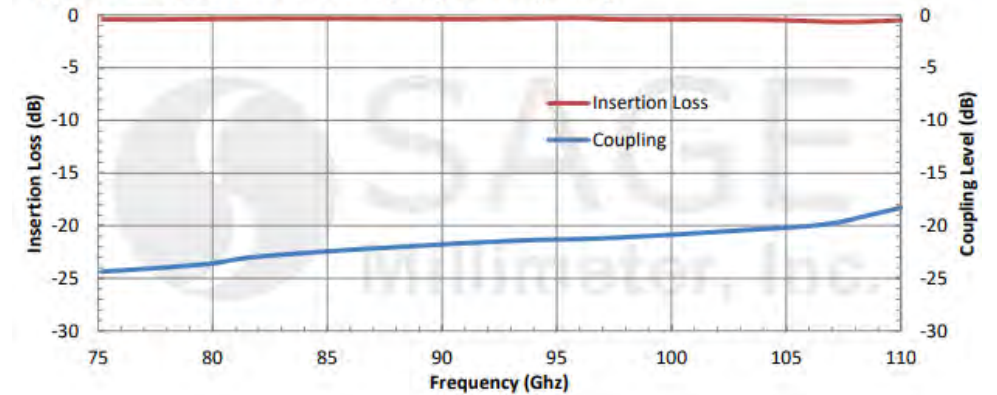


SWX-40360320-19-4B
40 to 60 GHz, 20 dB

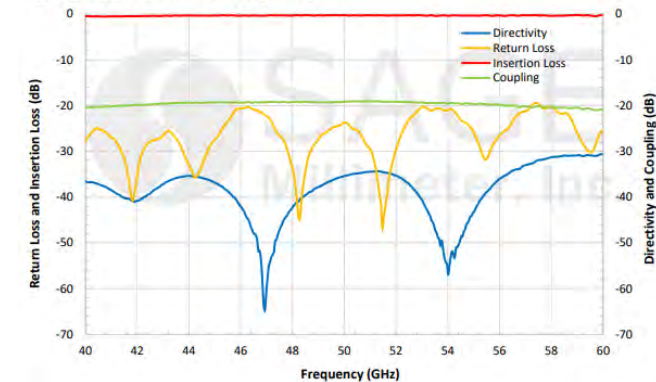


SWX-50375330-15-4B
50 to 75 GHz, 30 dB

Typical Insertion Loss and Coupling vs. Frequency



Typical Performance vs. Frequency



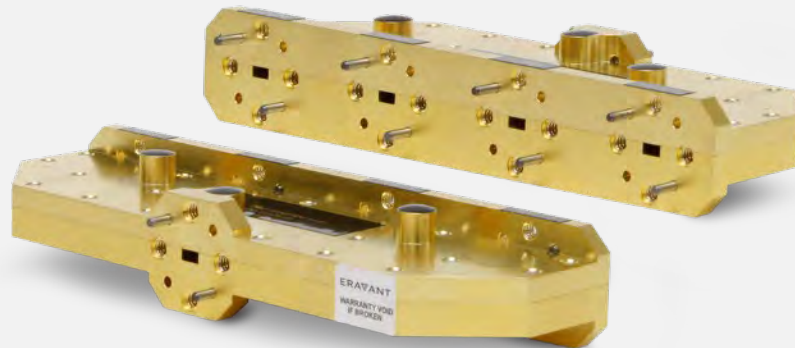
WAVEGUIDE POWER DIVIDERS

FAMILY: SWP
18 to 330 GHz

More Than 35 Models: Full Waveguide Bandwidth

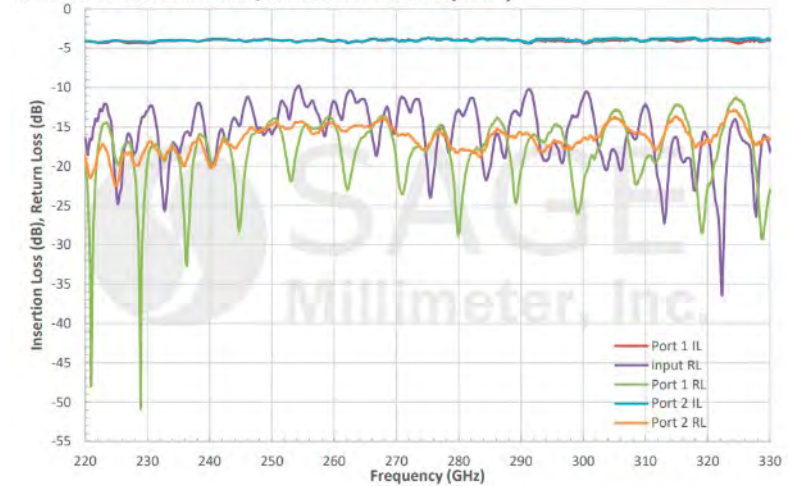


SWP-22433402-03-S1
220 to 330 GHz, 2 Ways



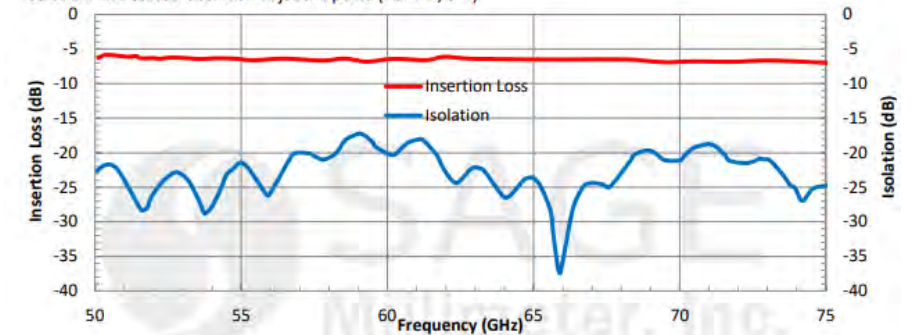
SWP-50375304-15-E1
50 to 75 GHz, 4 Ways

Measured Insertion Loss, Return Loss Vs Frequency



Typical Insertion Loss and Isolation vs. Frequency

Isolation was tested between adjacent ports (i.e. 1-2, 3-4)



RECTANGULAR WAVEGUIDE (RIGID)

FAMILY: SWG
18 to 325 GHz

More Than 500 Models: WR-03 to WR-42



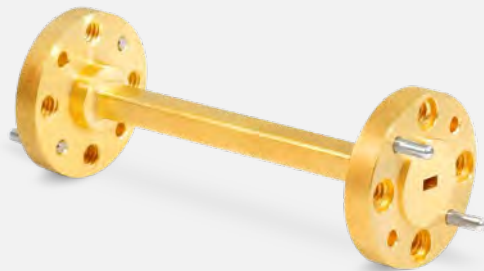
SWG-03010-FB
WR-03 Straight Section, 1"



SWB-06090-EB
WR-06 E-Plane Bend, 90°



SWB-10090-TB
WR-10 Twist, 90°



SWG-10020-FB
WR-10 Straight Section, 2"



SWB-10090-HB
WR-10 H-Plane Bend, 90°



SWB-12090-TB
WR-12 Twist, 90°

RECTANGULAR WAVEGUIDES (FLEXIBLE)

FAMILY: SWG
7.05 to 110 GHz

More Than 50 Models: WR-10 to WR-112



SWG-10020-FB-F
WR-10 Length 2"

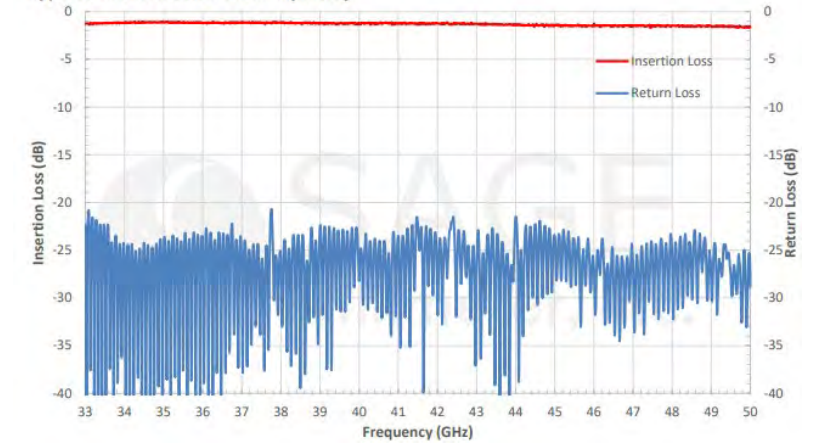


SWG-28059-FB-FT-G
WR-28 Length 5.9"

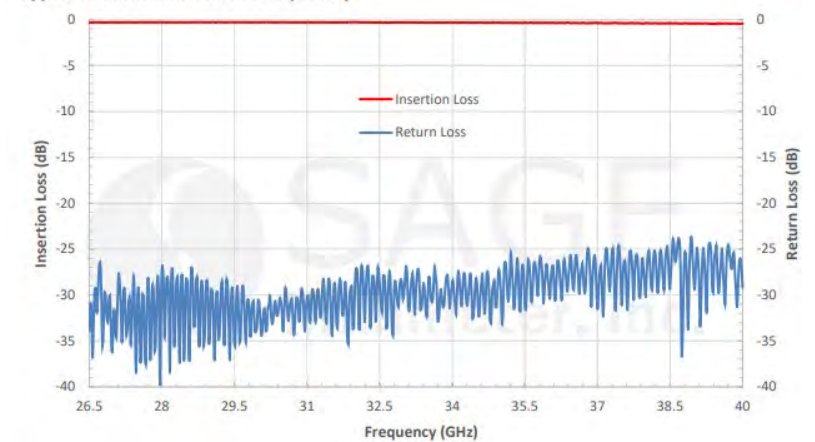


SWG-22236-FB-FT-A-G
WR-22 Length 23.6"

Typical Performance vs. Frequency



Typical Performance vs. Frequency



PASSIVE COAXIAL COMPONENTS

COAXIAL DIRECTIONAL COUPLERS

FAMILY: SCD
1 to 50 GHz, 10 to 67 GHz

More Than 25 Models: Broad Bandwidth

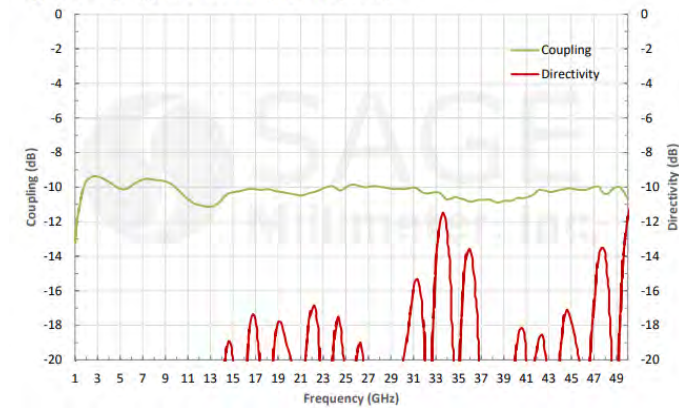


SCD-0136731008-VF-SA
1 to 67 GHz, 10 dB

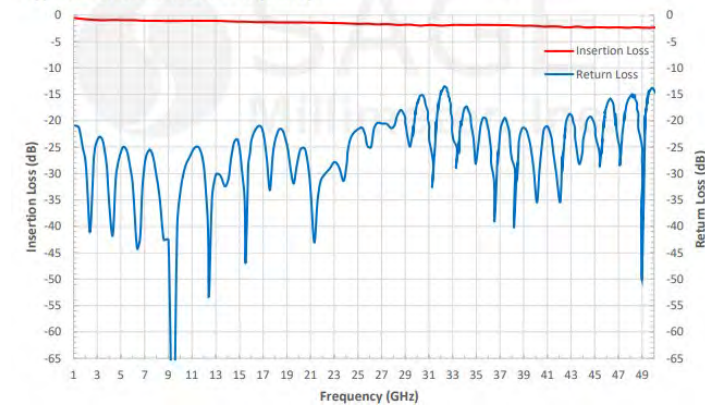


SCD-0135032008-2F-SA
1 to 50 GHz, 20 dB

Typical Coupling and Directivity vs. Frequency



Typical Performance vs. Frequency



COAX POWER DIVIDERS

FAMILY: SCS
1 to 65 GHz

More Than 50 Models: 2 Way, 4 Way, 8 Way, 16 Way



SCS-0134031215-KFKF-22
1 to 40 GHz, 2 Way

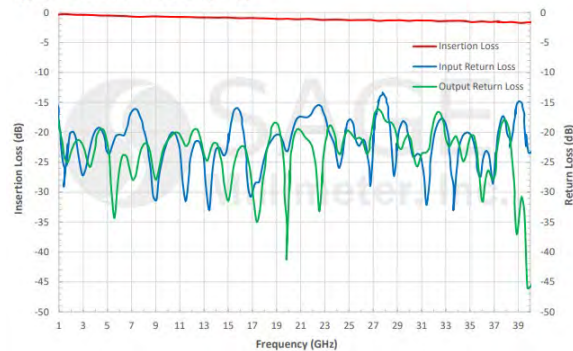


SCS-0134035014-KFKF-42
1 to 40 GHz, 4 Way

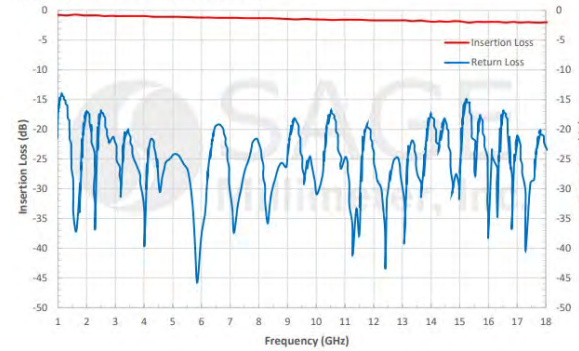


SCS-1034032615-KFKF-82
10 to 40 GHz, 8 Way

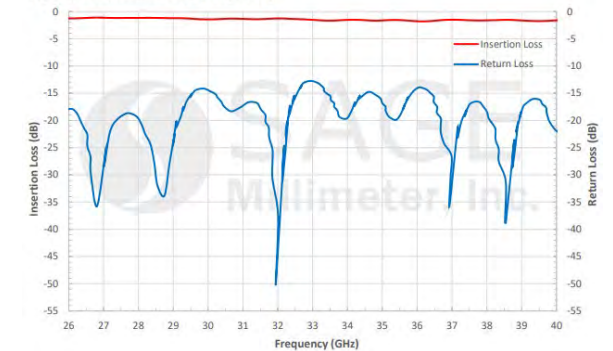
Typical Performance vs. Frequency



Typical Performance vs. Frequency



Typical Performance vs. Frequency



COAXIAL ADAPTER (IN SERIES)

FAMILY: SCT
DC to 110 GHz

More Than 60 Models: 1 mm, 1.85 mm, 2.4 mm, 2.92 mm

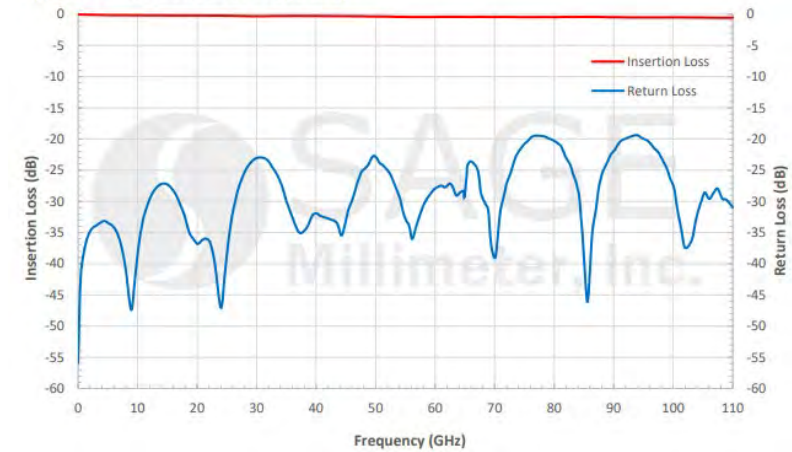


SCT-1F1F-UB
DC to 110 GHz

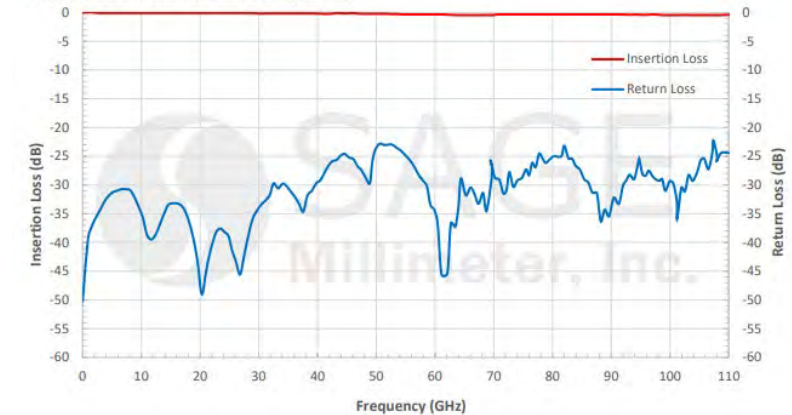


SCT-1M1M-UB
DC to 110 GHz

Typical Performance vs. Frequency



Typical Performance vs. Frequency



COAXIAL ADAPTER (BETWEEN SERIES)

FAMILY: SCT
DC to 90 GHz

More Than 90 Models: 1 mm, 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm

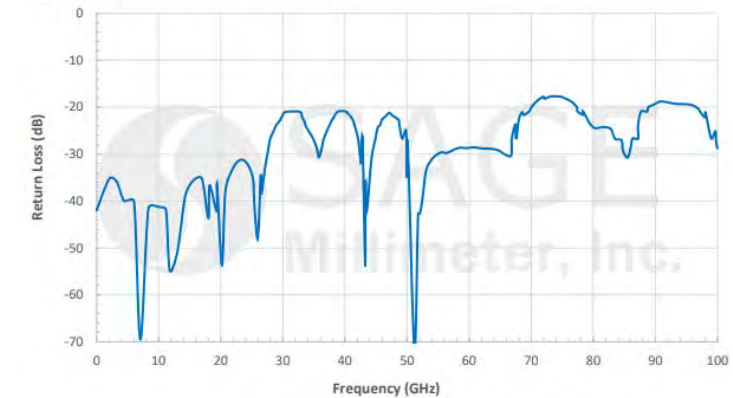


SCT-AF1M-UB
DC to 100 GHz

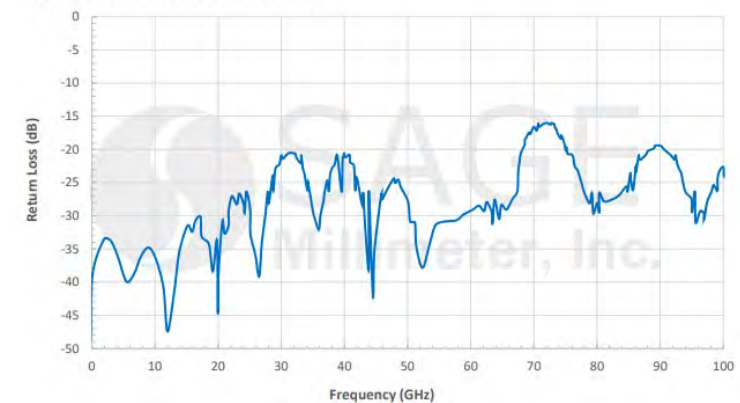


SCT-AF1F-UB
DC to 100 GHz

Typical Return Loss vs. Frequency



Typical Return Loss vs. Frequency



COAXIAL CABLE (FLEXIBLE)

FAMILY: SCW
DC to 110 GHz

More Than 100 Models: 1 mm, 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm

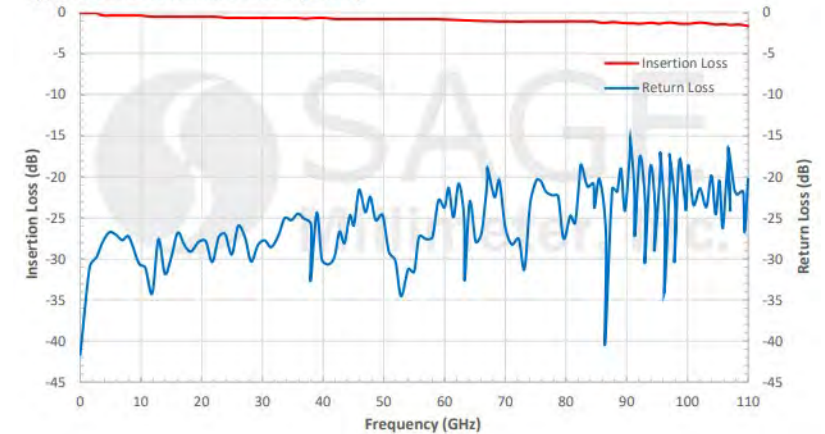


SCW-1M1M003-F1
DC to 110 GHz, 3"

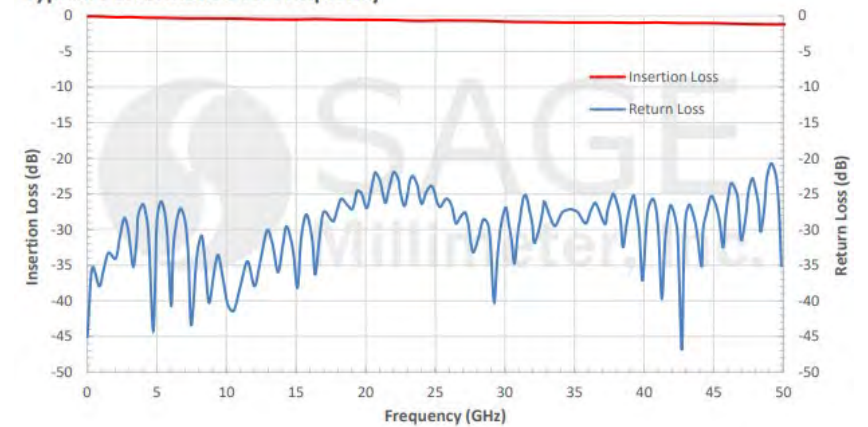


SCW-2M2M006-F1
DC to 50 GHz, 6"

Typical Performance vs. Frequency



Typical Performance vs. Frequency



COAXIAL CABLE (SEMI-RIGID)

FAMILY: SCW
DC to 110 GHz

More Than 50 Models: 1 mm, 1.85 mm, 2.4 mm, 2.92 mm

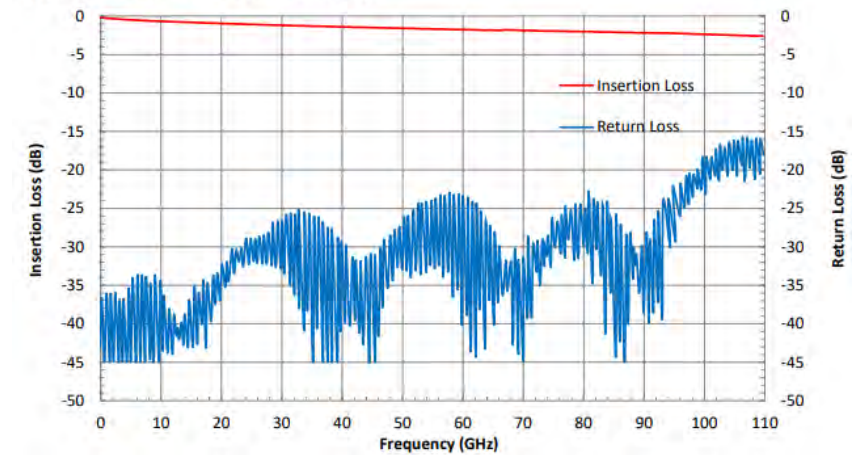


SCW-1M1M006-S1
DC to 110 GHz, 6"

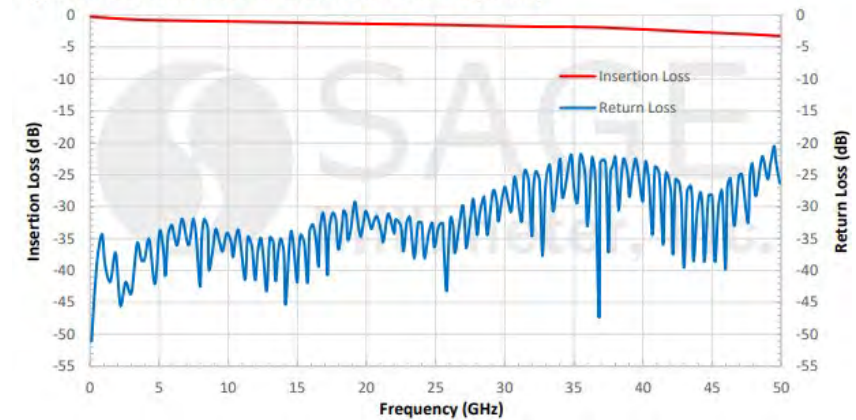


SCW-2M2M012-S1
DC to 50 GHz, 12"

Typical Performance vs. Frequency



Typical Insertion Loss & Return Loss vs. Frequency



TEST EQUIPMENT

WAVEGUIDE NOISE SOURCES

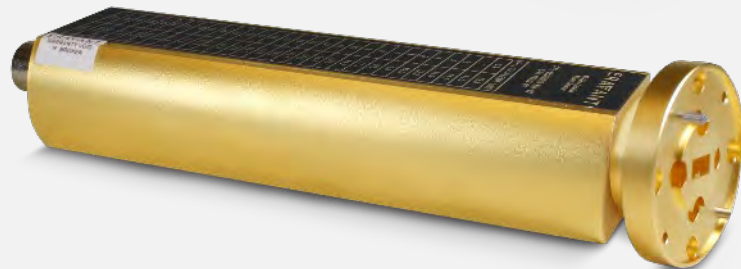
FAMILY: STZ
26.5 to 170 GHz

More Than 20 Models: Full Waveguide Bandwidth

STZ-06-I1
110 to 170 GHz

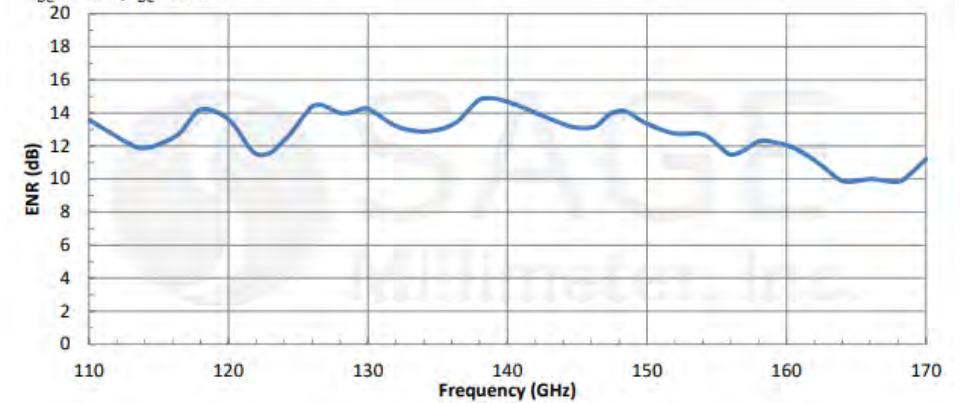


STZ-19-02
40 to 60 GHz



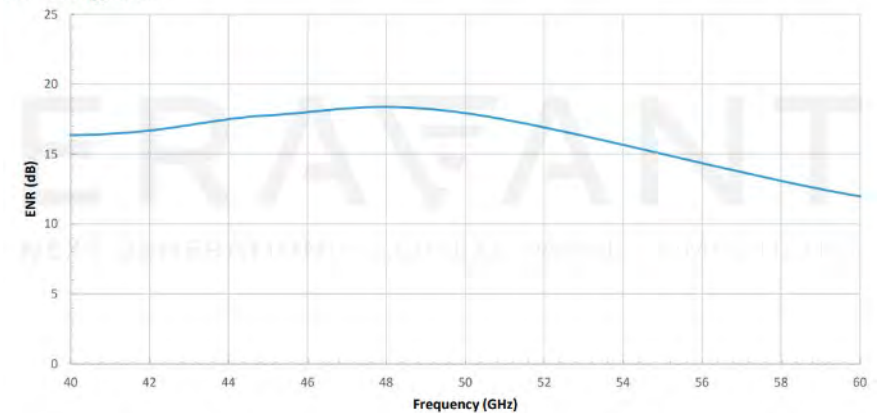
Typical ENR vs. Frequency

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



ENR vs. Frequency

Bias: $+28\text{ V}_{DC}/18\text{ mA}$



COAXIAL NOISE SOURCES

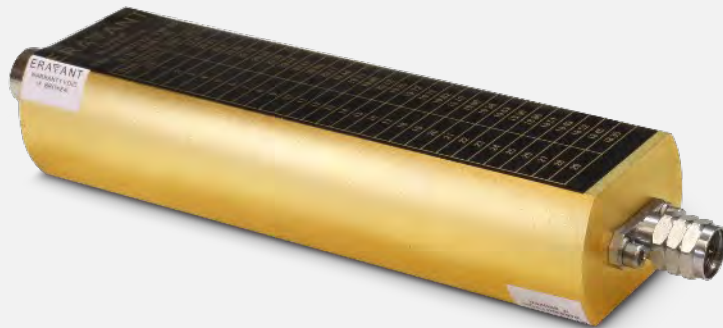
FAMILY: STZ
0.5 to 67 GHz

Wide Bandwidth: 1.85 mm, 2.4 mm, 2.92 mm

STZ-05267313-VM-0T2
0.5 to 67 GHz

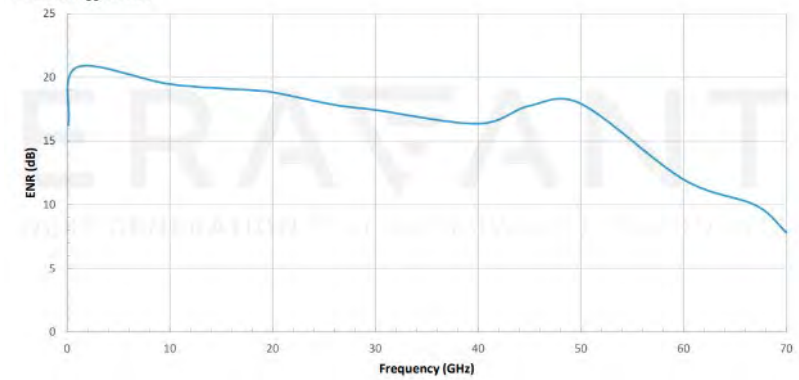


STZ-05240318-KM-02
0.5 to 40 GHz



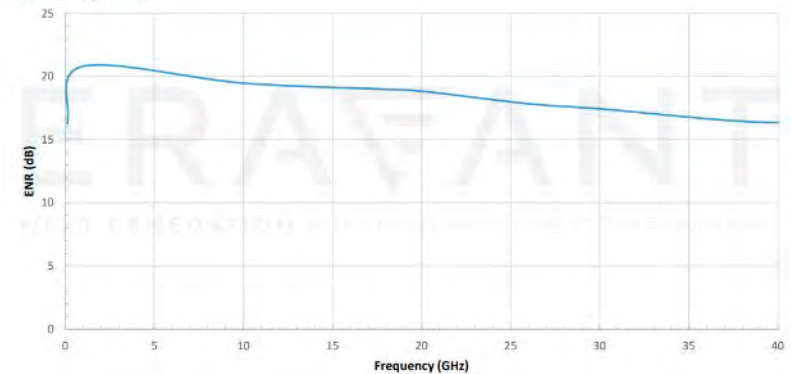
ENR vs. Frequency

Bias: +28 V_{DC}/18 mA



ENR vs. Frequency

Bias: +28 V_{DC}/18 mA



SPECTRUM ANALYZER HARMONIC MIXER

FAMILY: STH
18 to 170 GHz

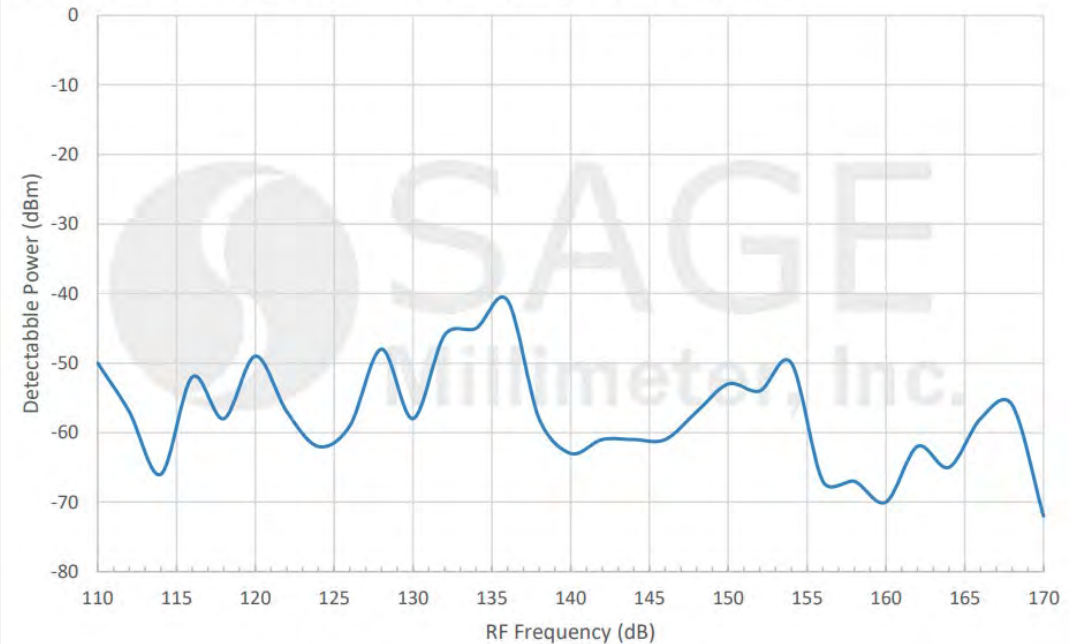
More Than 8 Models: Full Waveguide Bandwidth

STH-06SF-S1
110 to 170 GHz



Detectable Power versus RF Frequency

Test Condition: LO Frequency: RF/30; LO Power: +16 dBm; IF: 300 MHz



COAXIAL VNA CALIBRATION KIT

FAMILY: STQ-TO
DC to 67 GHz

4 Models: Each Kit Includes Male & Female Shorts, Opens and Loads, Adapters, Torque Wrench and Calibration Data



STQ-TO-VFVM-U3-CKIT1
1.85 mm, DC to 67 GHz



STQ-TO-KFKM-U3-CKIT1
2.92 mm, DC to 40 GHz



STQ-TO-2F2M-U3-CKIT1
2.4 mm, DC to 50 GHz



STQ-TO-3F3M-U3-CKIT1
DC to 26.5 GHz

WAVEGUIDE VNA CALIBRATION KIT

FAMILY: STQ-TO
18 to 220 GHz

More Than 20 Models: Optional Equipment Includes Proxi-Flange™ Contactless Waveguide Adapters



STQ-TO-05-S1-CKIT1-CF
140 to 220 GHz with Proxi-Flange™



Contactless Flanges Speed Up VNA Calibration and Measurements

SYNTHESIZER/SWEEPER FREQUENCY EXTENDER

FAMILY: STE
40 to 220 GHz

9 Models: WR-05 to WR-19 Bands



STE-154224KF1205-N03-S1
140 to 220 GHz, 0 dBm

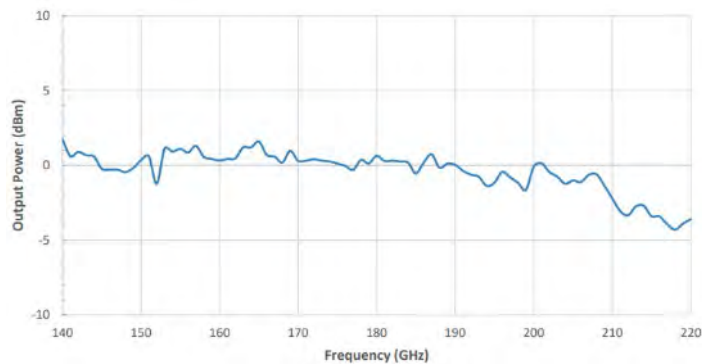


STE-SF610-S1
75 to 110 GHz, +16 dBm

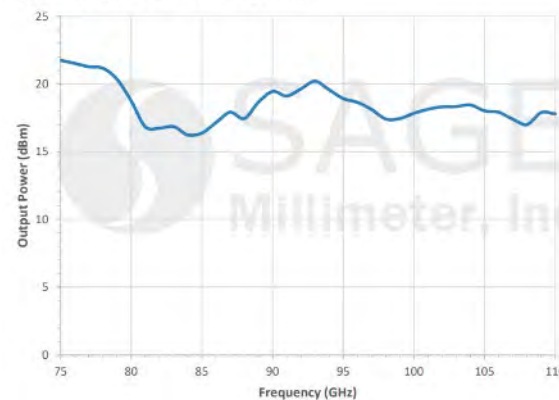


STE-SF419-S1
40 to 60 GHz, +20 dBm

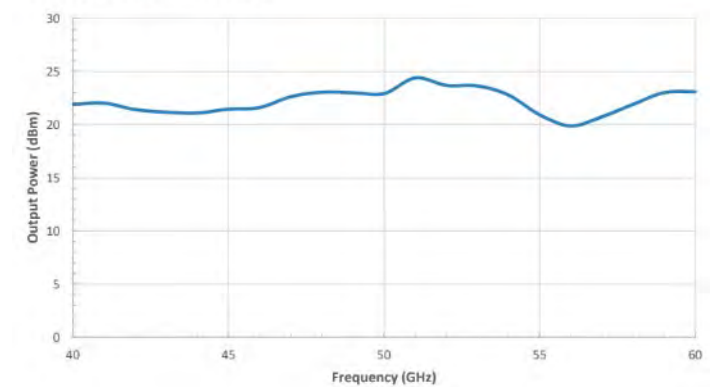
Output Power vs. Frequency



Typical Output Power vs. Frequency



Output Power vs. Frequency



FREQUENCY DOWN- CONVERTERS

FAMILY: STC
26.5 to 220 GHz

More Than 20 Models: WR-05 to WR-28 Bands



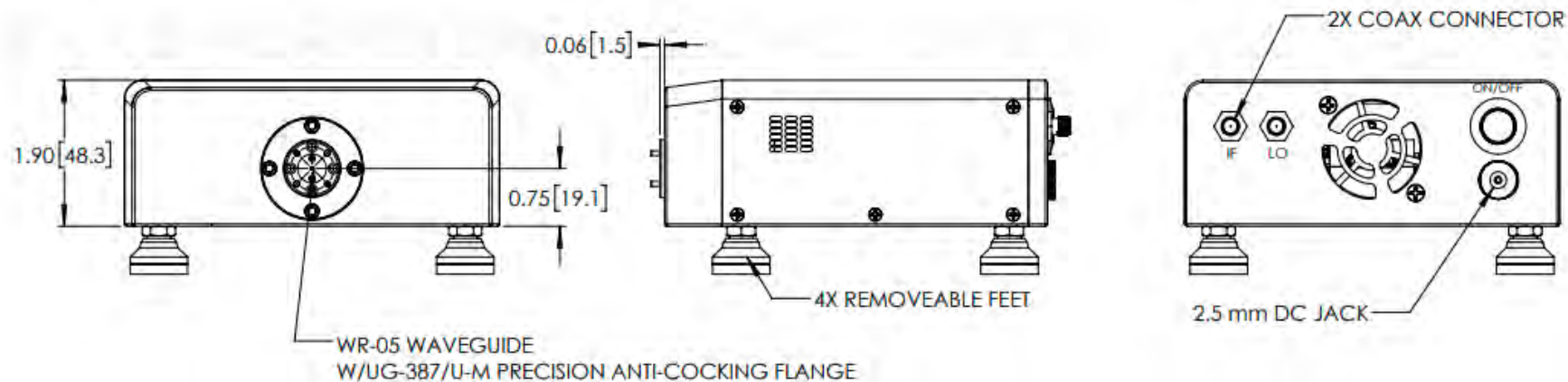
STC-N15-05-S1
140 to 220 GHz



STC-N15-06-S1
110 to 170 GHz



STC-N12-15-S1
50 to 75 GHz



NOISE FIGURE & GAIN TEST EXTENDER

FAMILY: STG
26.5 to 170 GHz

More Than 8 Models: WR-06 to WR-28 Bands



STG-06-S1
110 to 170 GHz



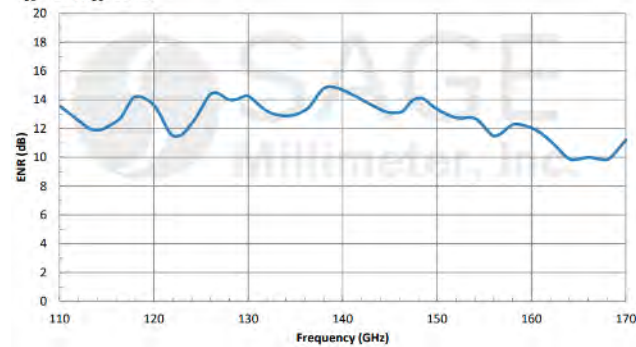
STG-10-S1
75 to 110 GHz



STG-15-S1
50 to 75 GHz

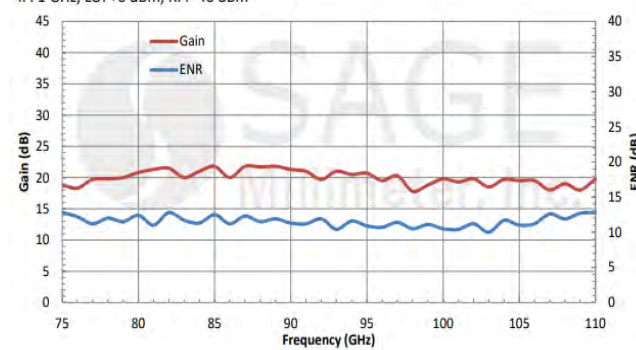
Typical ENR vs. Frequency

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



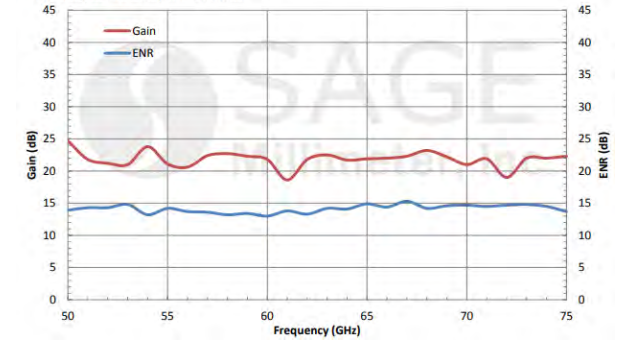
Typical Performance vs. Frequency

IF: 1 GHz, LO: +0 dBm, RF: -40 dBm



Typical Performance vs. Frequency

IF: 1 GHz, LO: +0 dBm, RF: -50 dBm



COAX CABLE (VECTOR NETWORK ANALYZER)

FAMILY: STQ-CW
DC to 67 GHz

More Than 10 Models: 1.85 mm, 2.4 mm, 2.92 mm, 3.5 mm

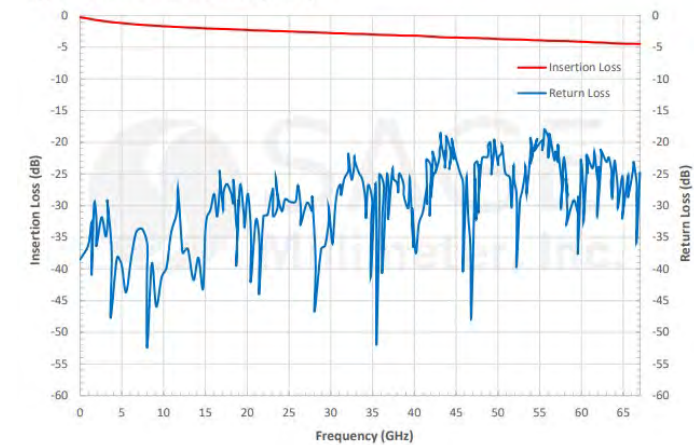


STQ-CW-VFVF025-F1
DC to 67 GHz, 25"

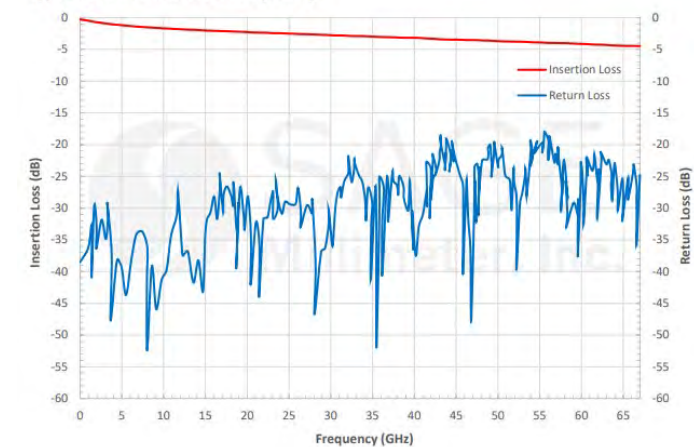


STQ-CW-VFVM025-F1
DC to 67 GHz, 25"

Typical Performance vs. Frequency



Typical Performance vs. Frequency



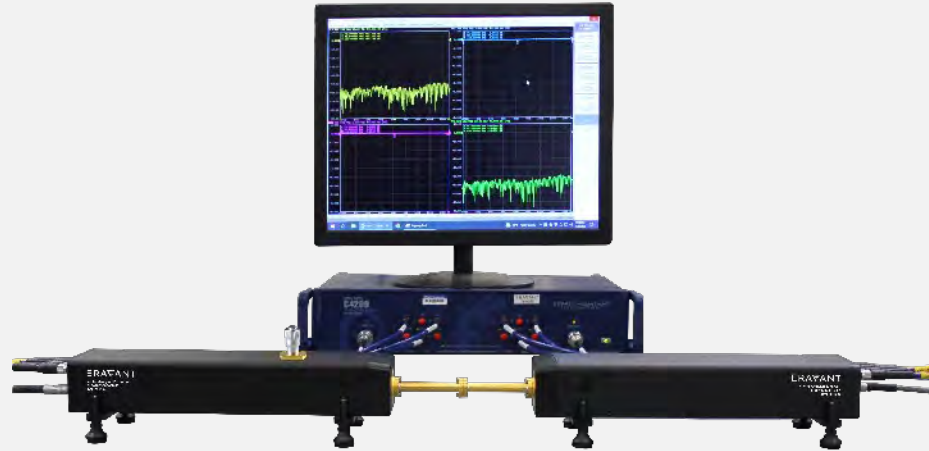
VECTOR NETWORK ANALYZER FREQUENCY EXTENDER

FAMILY: STO
50 to 330 GHz

Waveguide Bands: WR-03 to WR-15



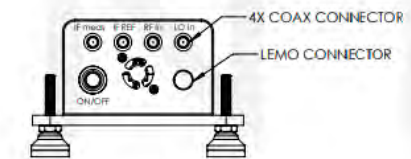
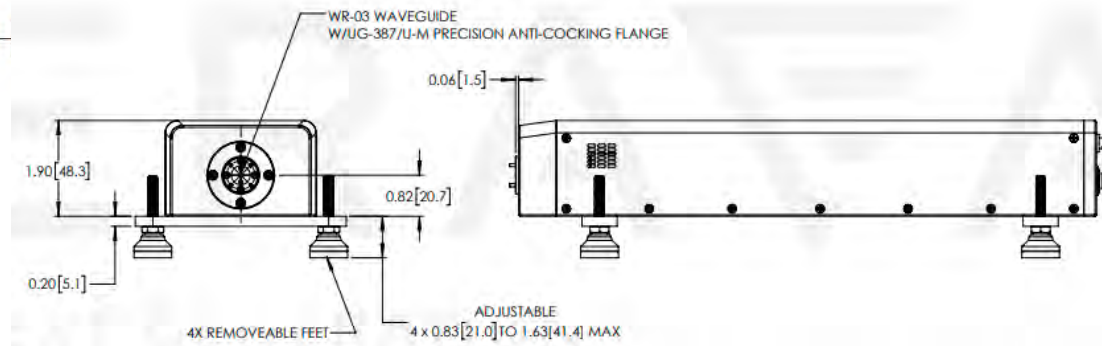
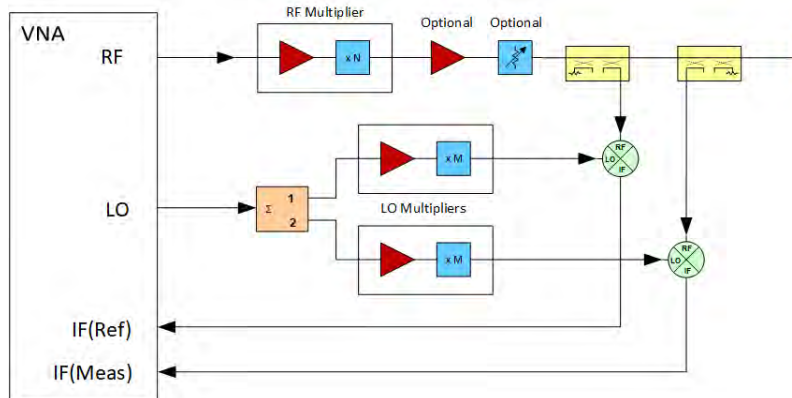
STO-1020313-CMC-S1
75 to 110 GHz



STO-03203N05-CMC-S1
220 to 330 GHz



STO-1520315-CMC-S1
50 to 75 GHz



PROXI-FLANGE™ CONTACTLESS WAVEGUIDE FLANGE

FAMILY: **STQ-WG**
18 to 330 GHz

Waveguide Bands: WR-03 to WR-42

STQ-WG-03025-FB-CF
220 TO 330 GHz

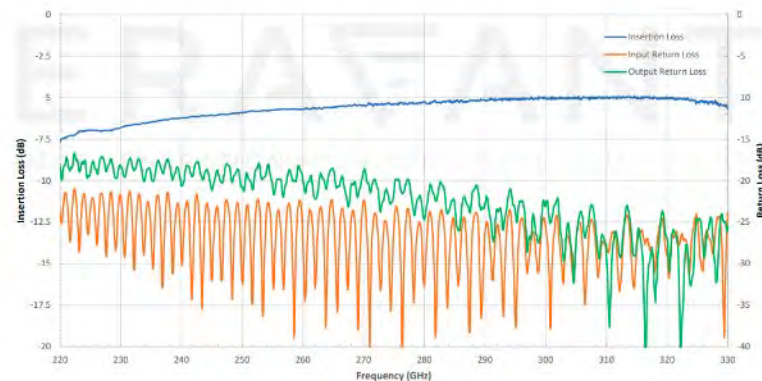


STQ-WG-34025-FB-CF
22 to 33 GHz



Typical Measured Performance vs Frequency

(Note: Data presented was taken with a shim inserted between connecting flanges to create a 0.0015" air gap)



**No Waveguide Screws Required During
Calibration and Testing**

**No Damage To Waveguide Interfaces
On Test System or Components**

WAVE-GLIDE™ RAIL SYSTEM FOR VNA FREQUENCY EXTENDERS

FAMILY: STQ-TL

Compatible With All Industry Standard VNA Frequency Extenders



STQ-TL-RW-S10-M1

**Maintains Alignment Between
VNA Frequency Extender Test Ports**

**Streamlines and Simplifies Calibration
and Testing Procedures**

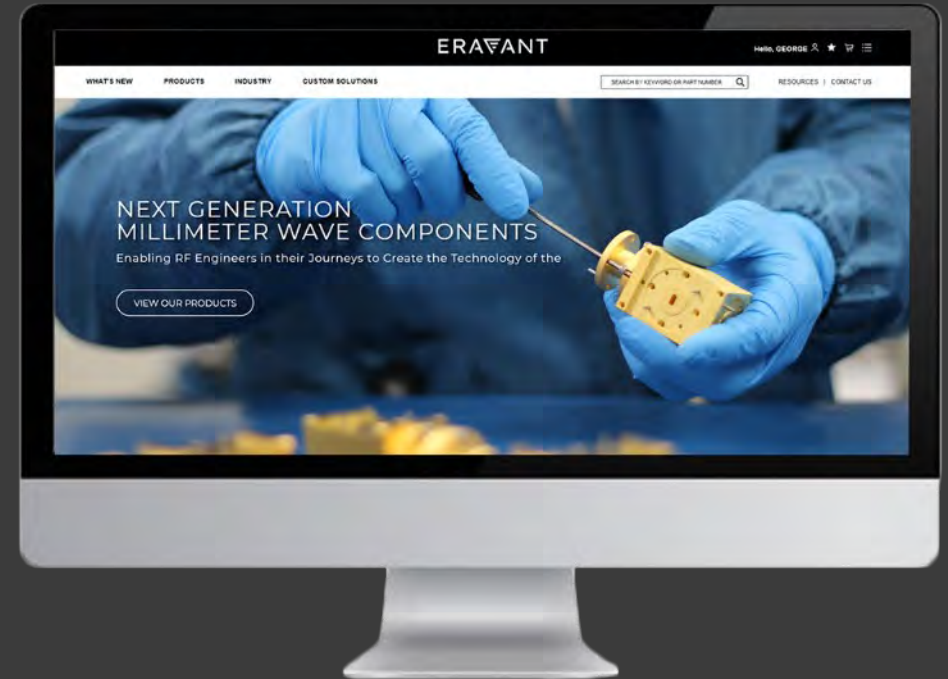
ERAANT

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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	50 GHz	+10 dBm	WR-05 Waveguide	WR-12 Waveguide	Datasheet	View
SFP-06310-U8	110 GHz	170 GHz	-3 dBm	38.67 GHz	56.67 GHz	+20 dBm	WR-06 Waveguide	WR-10 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-242423303-28SF-S1	24 GHz	42 GHz	+3 dBm	8 GHz	14 GHz	+20 dBm	WR-28 Waveguide	SMA (F)	Datasheet STEP File	View
SFP-2635F-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-273403205-28SF-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-2235F-S1	33 GHz	50 GHz	+3 dBm	11 GHz	16.67 GHz	+20 dBm	WR-22 Waveguide	SMA (F)	Datasheet STEP File	View
SFP-222VF-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-363873303-19SF-V1	37 GHz	38 GHz	+3 dBm	12 GHz	19 GHz	+20 dBm	WR-19 Waveguide	SMA (F)	Datasheet STEP File	View
SFP-192VF-S1	40 GHz	60 GHz	+5 dBm	20 GHz	30 GHz	+20 dBm	WR-19 Waveguide	2.92 mm (F)	Datasheet STEP File	View