

STO-1220313-CMC-B2

E-Band ACCESS VNA Frequency Extender Set For Copper Mountain BFX-02

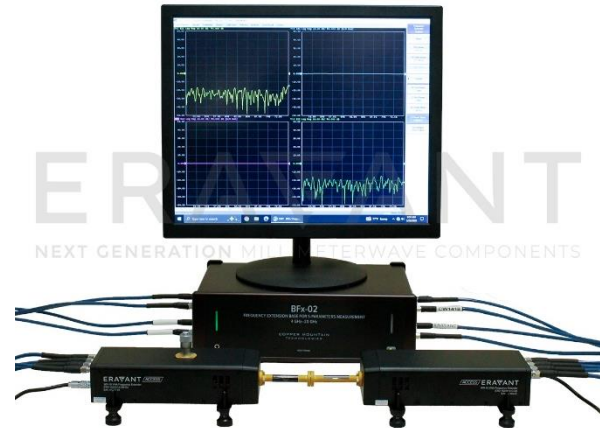
(1) Tx/Rx Module with Attenuator and (1) Tx/Rx Module

STO-1220313-CMC-B2 is a E-Band frequency extender pair designed for full 2-port S-parameter measurements from 55 to 95 GHz. It includes one Tx/Rx module with a precision micrometer-adjustable attenuator and one standard Tx/Rx module, providing 120 dB dynamic range for demanding measurements. When integrated with the Copper Mountain Technologies **BFX-02 Frequency Extension Base**, the extender pair creates a cost-effective millimeter-wave measurement solution without requiring a traditional full-featured VNA. This combination is ideal for R&D, qualification, and production-test applications where both performance and total system cost are critical. The extenders are also compatible with Copper Mountain Technologies' **22 GHz A2202-Fx and A2202-DFx VNAs**.

Along with a pair of extender modules, An AC to DC Power adapter and **Proxi-Flange™ Contactless Flanges (STQ-WG-12010-FB-CF & STQ-WG-12025-FB-CF)**, are included. The **Eravant Calibration Kit (STQ-TO-12-S1-CKIT1)** and **Wave-Glide™ Rail System (STQ-TL-RW-S10-M1)** are highly recommended to complete the test set. VNA extender is packaged individually in a rugged equipment box with additional hardware and tools. The BFX-02 must be purchased separately from Copper Mountain Technologies.

Electrical Specifications:

Parameter		Minimum	Typical	Maximum
Frequency Range	Standard	60 GHz		90 GHz
	Extended	55 GHz		95 GHz
Test Port Output Power			+13 dBm	
Output Power Control Range			30 dB	
Dynamic Range @ 10 Hz BW	Standard	100 dB	120 dB	
	Extended		95 dB	
Test Port Match			25 dB	
Directivity			30 dB	
RF Source Input Frequency		9.17 GHz		15.83 GHz
RF Source Input Power		-3 dBm	0 dBm	+6 dBm
LO Source Input Frequency		9.17 GHz		15.83 GHz
LO Source Input Power		0 dBm	+3 dBm	+6 dBm
IF Frequency Range		10 MHz		1000 MHz
Multiplication Factor			6	
Magnitude Stability @ 300 Hz BW			±0.1 dB	
Phase Stability @ 300 Hz BW			±2°	
Specification Temperature		+20°C		+30°C
Operating Temperature		0°C		+50°C



ECCN

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FEATURES

- 55-95 GHz Extended Coverage
- High Dynamic Range
- Built-in Memory for Cal Data
- Input Voltage: 100 to 240 V_{AC}

APPLICATIONS

- VNA Frequency Extension
- S-Parameter Characterization

RECOMMENDED PAIRINGS

- Cal-Kit: STQ-TO-12-S1-CKIT1
- Rail System: Wave-Glide™
- Waveguide Quick Connects
- Cable: SCW-SMSM040-F1-A-PM
- Coax Adapters
- Waveguide to Coax Adapters

RECOMMENDED RESOURCES

- User Manual
- VNA Extender Configuration Guide
- Contactless WG Flange & mmWTHz
- Proxi-Flange: Conference Papers



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Mechanical Specifications:

Item	Specification
Test Port	WR-12 Waveguide with UG-387/U-M Precision Anti-Cocking Flange
RF and LO Source Input Ports	SMA (F), SMA (F)
IF Output Port	SMA (F)
IF Reference Port	SMA (F)
Memory Port	USB-C Socket
DC Power Receptacle	LEMO EGG.0B.304.CLL
Finish	Black Anodized
Weight (Per Module)	2.8 lb
Size (Without Adjustable Feet)	8.00" (L) x 3.00" (W) x 1.90" (H)
Outline	TO-SE-A-M-2 (with Attenuator) TO-SE-A-2

Accessories Included:

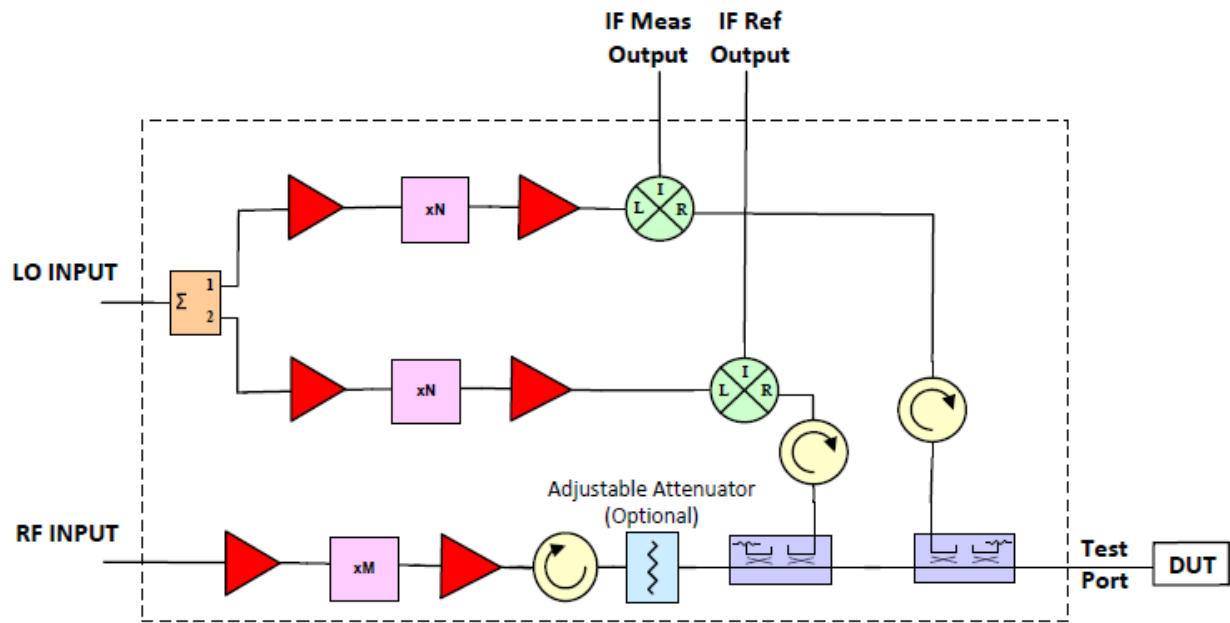
Item	Eravant Model Number	Quantity
Proxi-Flange™ Contactless Flange, 1.0" Long	STQ-WG-12010-FB-CF	2
Proxi-Flange™ Contactless Flange, 2.5" Long	STQ-WG-12025-FB-CF	2
Waveguide Screws, 3/32 Hex Head	SWH-332-SS-10	1 (10 Screws Total)
Waveguide Screwdriver, 3/32 Hex Head	SWH-332-DS	1
Waveguide Screws, 5/64 Hex Head	SWH-564-SS-10	1 (10 Screws Total)
Waveguide Screwdriver, 5/64 Hex Head	SWH-564-DS	1
SMA Connector Torque Wrench	SCH-08008-S1	1
AC-to-DC Power Adapter	STU-110006005-HF	2

Note: Connecting cables are not included. Eravant coaxial cable, model [SCW-SMSM040-F1-A-PM](#), is highly recommended. A total of eight (8) are required for complete setup.

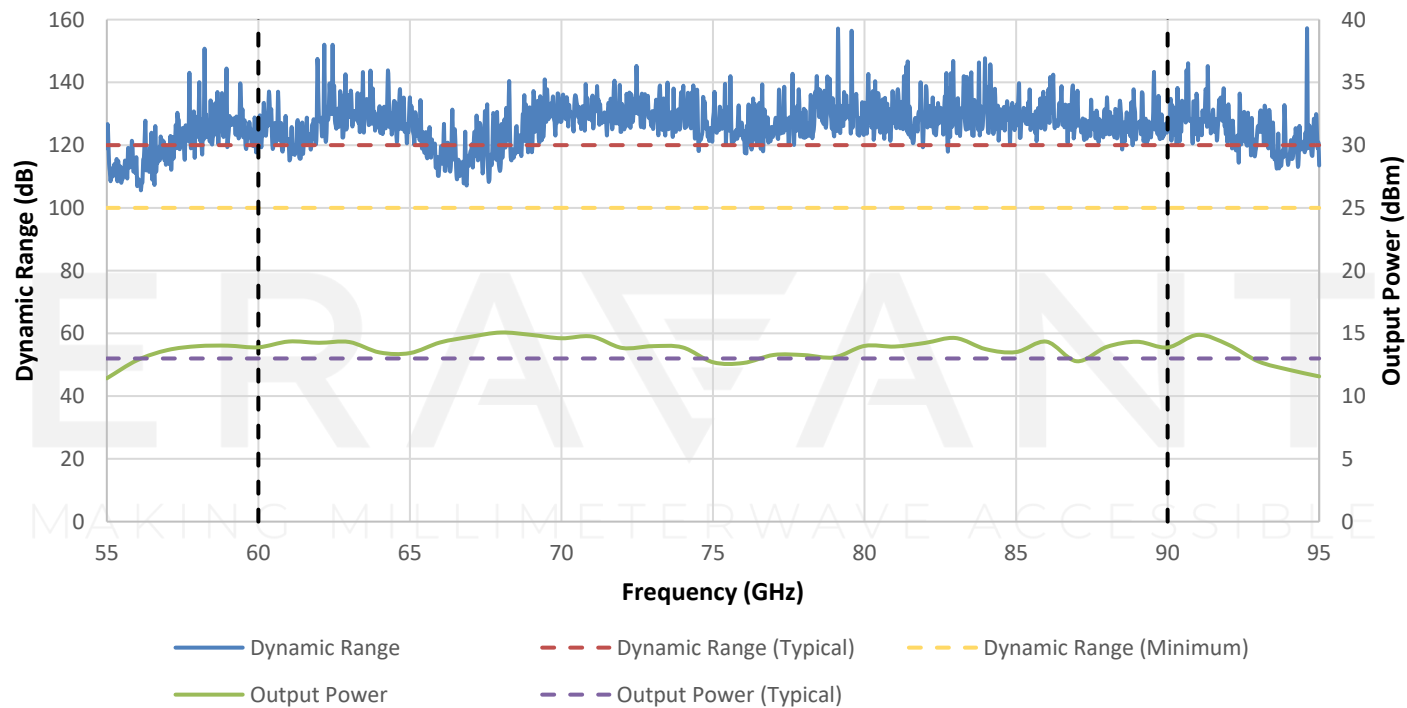
Absolute Maximum Ratings:

Parameter	Rating
RF Source Input Damage Level	+15 dBm
LO Source Input Damage Level	+15 dBm
Test Port Input Damage Level	+25 dBm
Operating Temperature	+ 50 °C

Simplified Block Diagram:

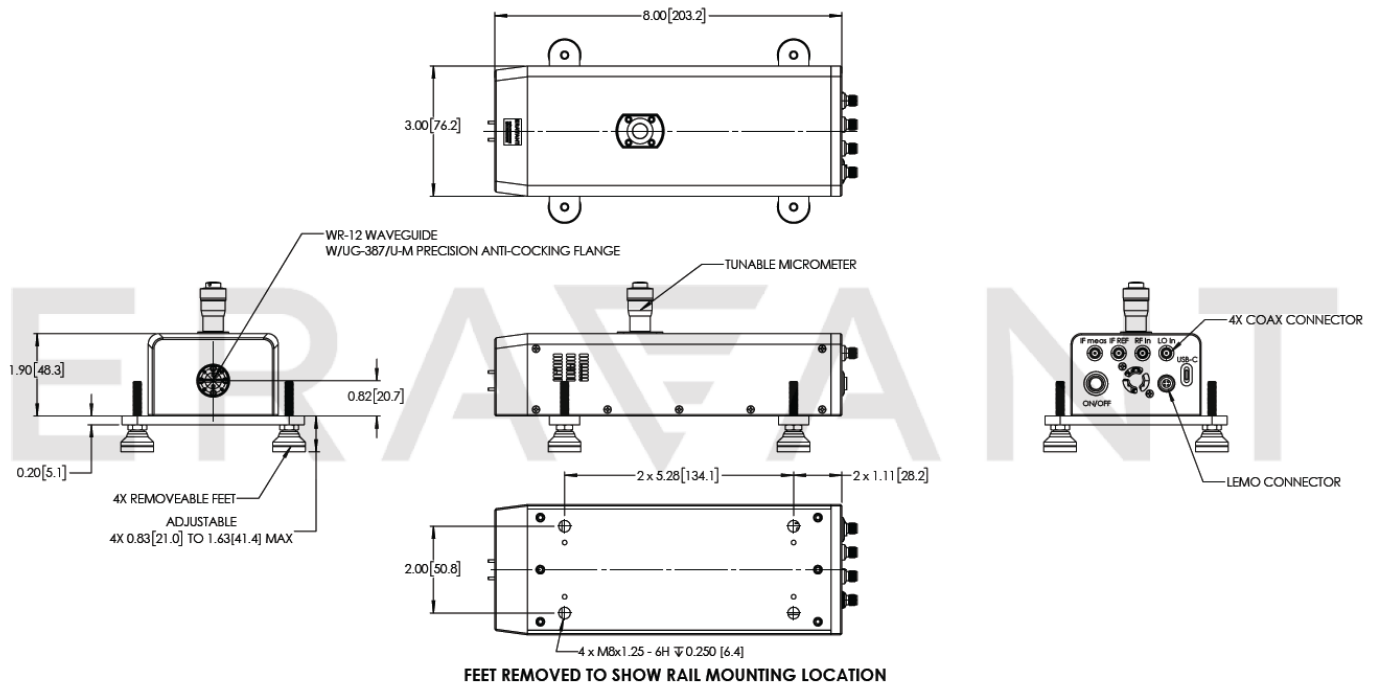


Typical Performance vs Frequency

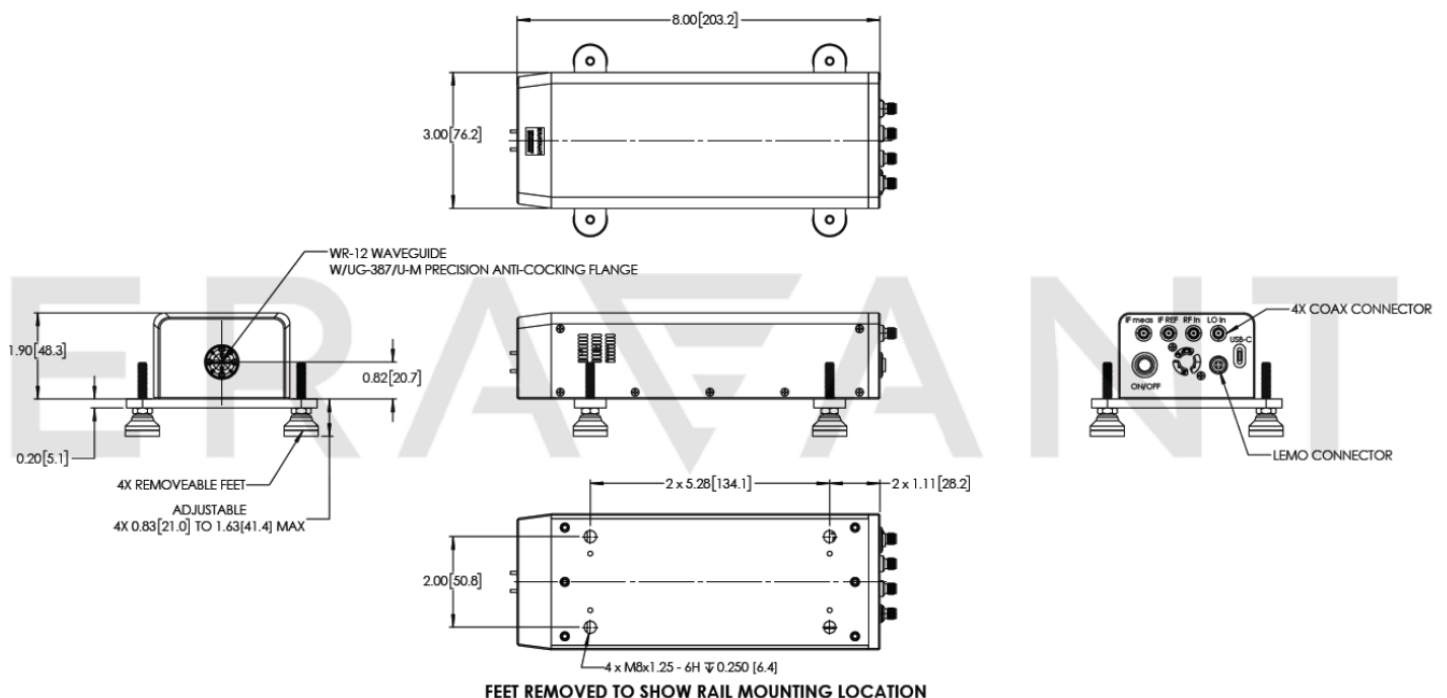


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Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])
TO-SE-A-M-2 (With Attenuator)



TO-SE-A-2



NOTE:

- **One pair of extender modules (1 Tx/Rx module with Attenuator and 1 Tx/Rx Module) are included in STO-1220313-CMC-B2.**
- Eravant offers calibration service. It is **recommended** that factory calibration be performed every 12 months to ensure proper operation.
- Refer to Copper Mountain Technologies website for more information related to **BFx-02**, **A2202-Fx**, **A2202-DFx** and other products compatible with frequency extenders.
- Eravant reserves the right to change the information presented without notice.
- Extended frequency band operation will have specifications degradation outside the nominal frequency range. Please consult the provided data plots for more information.

CAUTION:

- Exceeding absolute maximum ratings of the device will damage the extenders.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model SCH-08008-S1 is highly recommended.
- Any foreign objects in the waveguide will cause performance degradation or damage the device.

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