STE-SF1206-00-S1-C

D-Band, X12, Full Band Frequency Extender, 110 to 170 GHz, +2 dBm

STE-SF1206-00-S1-C is compact X12 frequency extender. The extender has an input frequency of 9.16 to 14.16 GHz with a typical input power of +3 dBm and an output frequency of 110 to 170 GHz with a typical output power of +2 dBm. The extender also has a typical harmonic suppression of -20 dBc. The DC power requirement for the multiplier is +8 V_{DC}/600 mA. The input port configuration is a female SMA connector and the output is a WR-12 waveguide with a UG-387/U anti-cocking flange. The compact design offers a practical solution for frequency extending. Self-stored calibration data with a USB-C port for fast, direct data access. Other port configurations are available under different model numbers.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Input Frequency	9.16 GHz		14.16 GHz
Input Power		+3 dBm	+20 dBm
Output Frequency	110 GHz		170 GHz
Output Power		+2 dBm	
Harmonic Suppression		-15 dBc	
Spurious		-60 dBc	
Port Return Loss		8 dB	
DC Voltage	+6 V_{DC}	+8 V_{DC}	+16 V_{DC}
DC Supply Current		600 mA	
Specification Temperature		+25°C	
Operating Temperature	0°C		+50°C

Mechanical Specifications:

Item	Specification
Input Port	SMA (F)
Output Port	WR-06 Waveguide with UG-387/U-M Anti-Cocking Flange
DC Bias	2.5 mm DC Jack (AC to DC power converter include)
Material	Various
Finish	Various
Weight	1.5 lbs
Size	2.36” (W) x 3.83” (L) x 4.17” (H)
Outline	TE-WG-A-C

ECCN

3A001.b.7

FEATURES

- Low Harmonic Emission
- Broad Band Coverage
- High Output Power
- Compact
- Calibration Data Stored in Memory

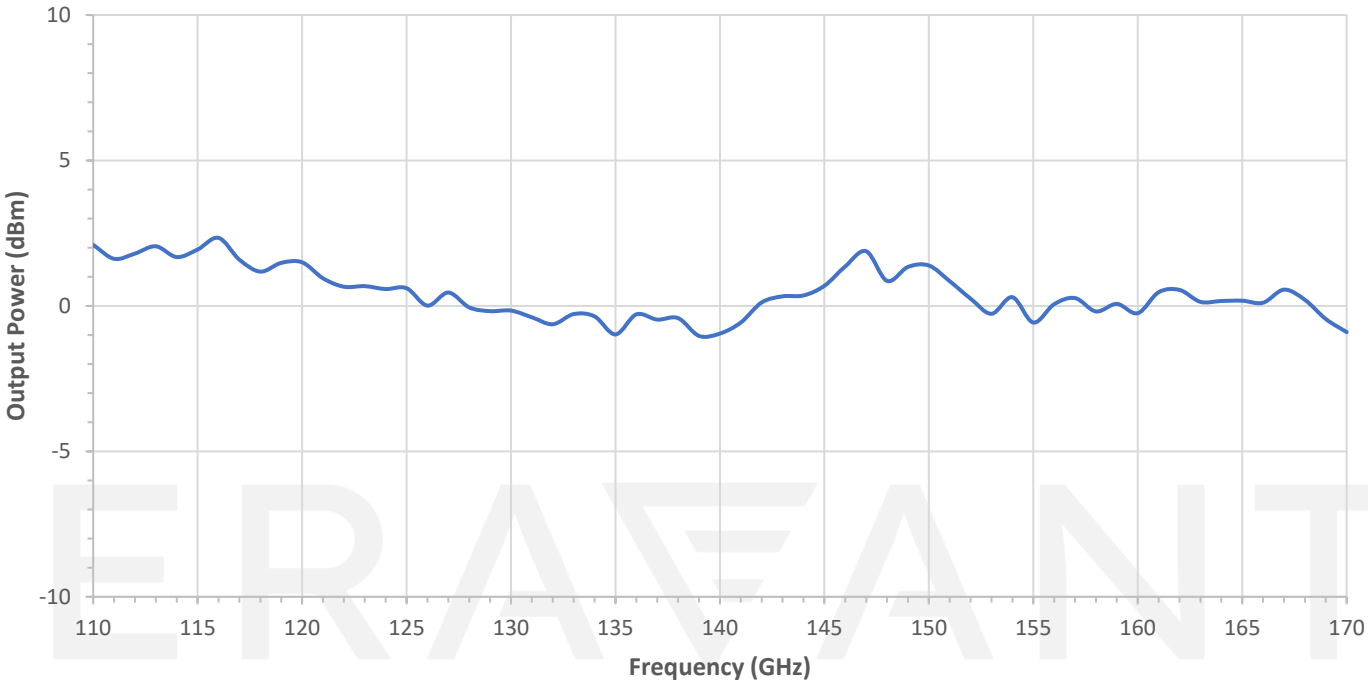
APPLICATIONS

- Frequency Extenders
- Source Modules
- Communication Systems
- Lab Instrumentation

SUPPLEMENTAL DETAILS

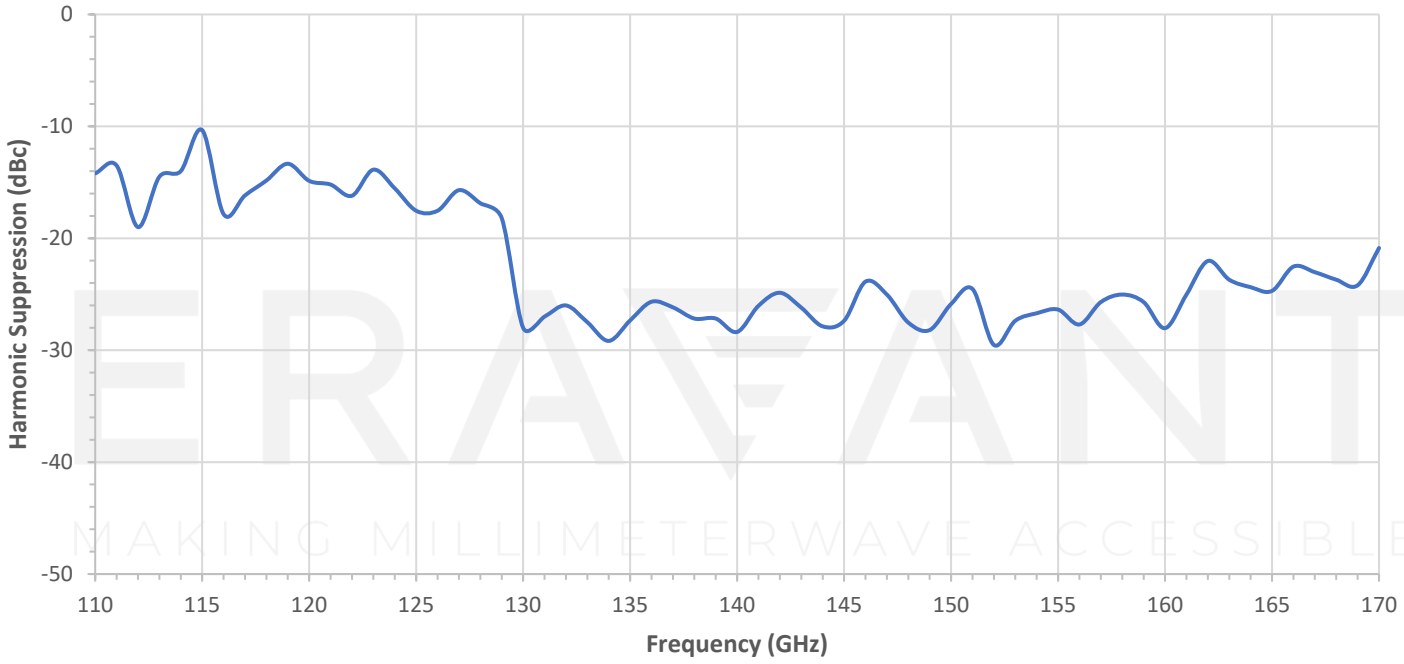
Output Power vs. Frequency

Bias: +8V_{DC}/653 mA RF Sat; Input Power = +5 dBm

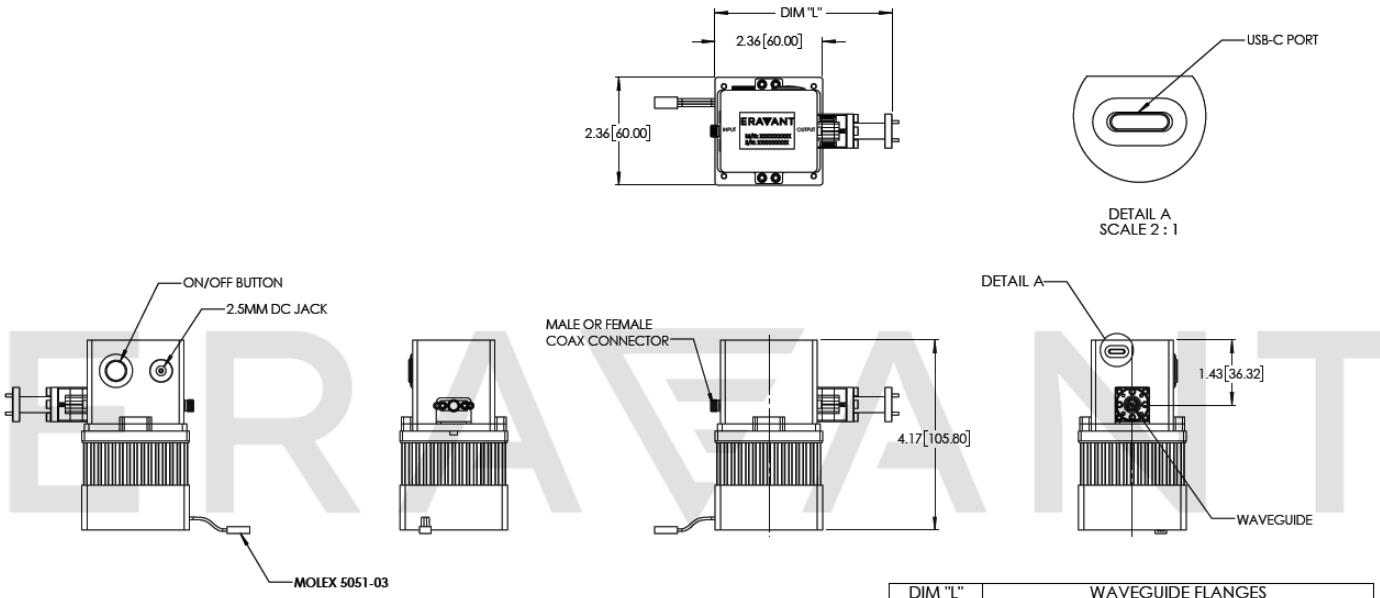


Harmonic Suppression vs. Frequency

Bias: +8V_{DC}/653 mA; Input Power = +3 dBm



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



FAN POWER DESIGNATIONS	
RED	+12Vdc
BLACK	GND
YELLOW	N/A or TACH

DIM "L"	WAVEGUIDE FLANGES	
3.88[98.6]	WR-15	W/ UG-385/U ANTI-COCKING FLANGE
3.83[97.3]	WR-12	W/ UG-387/U ANTI-COCKING FLANGE
3.74[95.0]	WR-10	W/ UG-387/U-M ANTI-COCKING FLANGE
3.58[90.1]	WR-08	W/ UG-387/U-M ANTI-COCKING FLANGE
3.63[92.2]	WR-06	W/ UG-387/U-M ANTI-COCKING FLANGE

NOTE:

- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- Eravant reserves the right to change the information presented without notice.
- Other mechanical configurations are available under different model numbers.

CAUTION:

- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- The case temperature of the device shall never exceed +50 ˚C. Use proper heatsink or fan if necessary.
- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- 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.