SFU-10-N1-WP

W-Band Balanced Up-Converter

SFU-10-N1-WP is a W-Band balanced up-converter that utilizes high performance GaAs Schottky beam-lead diodes and a balanced circuit configuration to offer superior RF performance. The up-converter supports the full waveguide band operation for RF frequencies from 75 to 110 GHz with an extremely broad IF input from DC to 35 GHz. The up-converter offers a conversion loss of 12 dB typical and a high RF to LO port isolation of 30 dB.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Frequency	75 GHz		110 GHz
LO Frequency	75 GHz		95 GHz
IF Frequency	DC		35 GHz
LO Pumping Power	+10 dBm	+13 dBm	+15 dBm
Conversion Loss		12 dB	
IF Input P_{1dB}		-5 dBm	
RF to LO Isolation		30 dB	
Combined IF and LO Power			+18 dBm
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

Mechanical Specifications:

Item	Specification
RF Ports	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
LO Ports	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
IF Port	K (F)
Case Material	Aluminum
Finish	Gold Plated
Weight	0.8 Oz
Outline	FB-NW-A

ECCN

EAR99

FEATURES

- Full Waveguide Band Coverage
- Low Conversion Loss
- High IF Frequency up to 35 GHz

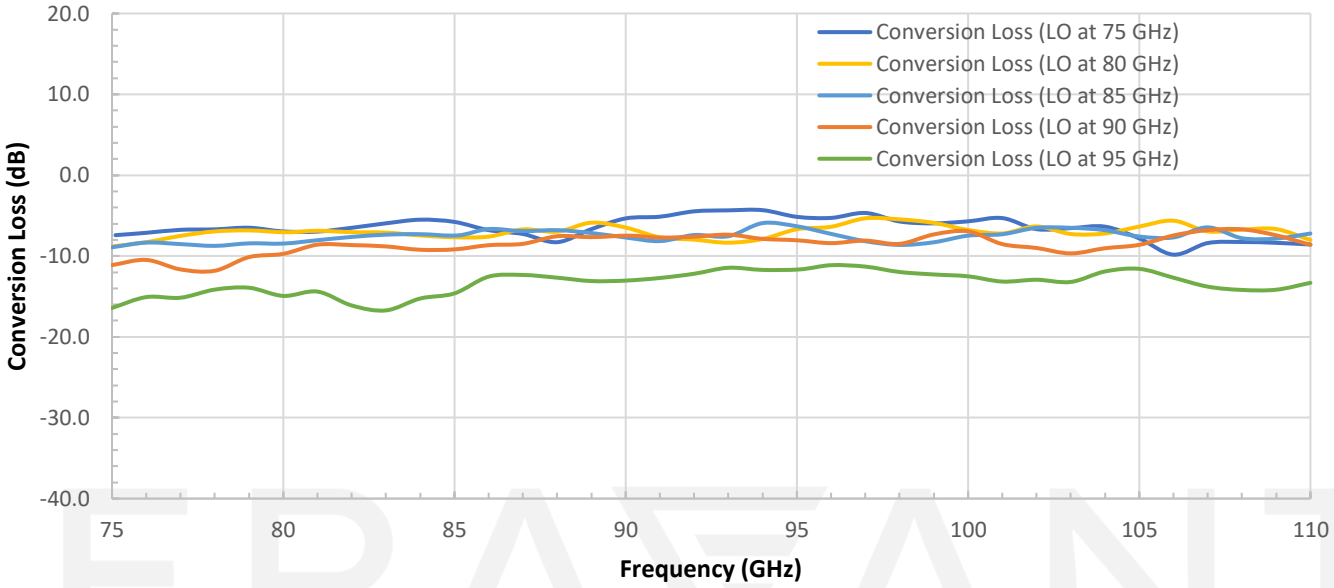
APPLICATIONS

- Radar Systems
- Communication Systems
- Test Equipment

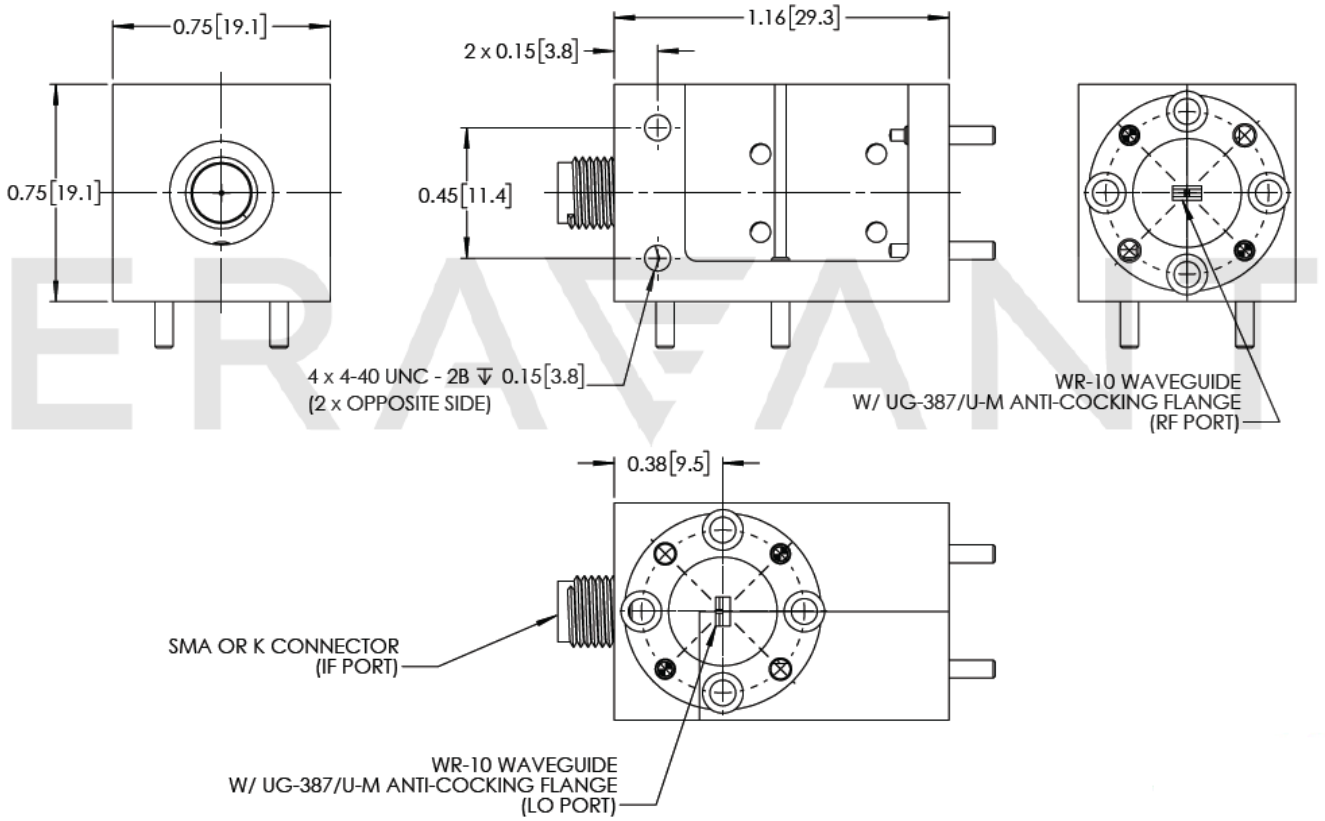
SUPPLEMENTAL DETAILS

Measured Conversion Loss vs. Frequency

RF: -20 dBm; LO: +13 dBm



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



NOTE:

- A DC block at IF port may be required when connecting to a device, such as an IF low noise amplifier or a base band mixer which input port is DC coupled.
- Eravant reserves the right to change the information presented without notice.

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 IF port of the mixer is DC coupled. Use a DC block when connecting to other devices.
- **Never apply an external bias voltage to the IF port because the mixer will be damaged.**
- 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.

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