

## STC-N12-10-S1-IDP-C

### W-Band Full Waveguide Band Down-Converter

**STC-N12-10-S1-IDP-C** is a W-Band down-converter that converts millimeter wave signals from a frequency range of 75 to 110 GHz to the baseband at 1.875 GHz. The down-converter requires 6.25 to 9.17 GHz at +10 dBm input power as its LO. An internal diplexer is included resulting in a single connectorized port for LO and IF configured for compatible spectrum analyzers, such as [Anritsu's MS2850A](#). The down-converter has low harmonic levels and excellent gain flatness, making it a good candidate to extend low frequency test equipment for millimeter wave testing purposes.



### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Input Frequency	75 GHz		110 GHz
IF Frequency Output	10 MHz	1.875 GHz	2 GHz
LO Input Frequency	6.25 GHz		9.17 GHz
LO Power	+7 dBm		+18 dBm
LO Damage Power			+25 dBm
Conversion Loss		12 dB	
Harmonic Suppression		-20 dBc	
RF Input Power Damage Level			+10 dBm
Power Supply (AC Adapter Provided)	100 V <sub>AC</sub>		240 V <sub>AC</sub>
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

### Mechanical Specifications:

Item	Specification
RF Port	WR-10 Waveguide with UG-387/U-M Precision Anti-Cocking Flange
LO/IF Port	SMA (F)
DC Bias Port	2.5 mm DC Jack (AC-to-DC power converter included)
DC Bias Switch	On-Off Latching Switch with Indicator Light
Enclosure Material	Black Anodized Aluminum
Weight	1.5 lbs
Size	2.36" (W) x 3.15" (L) x 4.25" (H)
Outline	TC-WG-A-C-3

### ECCN

EAR99

### FEATURES

- Full Band Coverage

### APPLICATIONS

- Test Lab
- Instrumentations
- Auto Test Set
- [Anritsu MS2850A](#)

### SUPPLEMENTAL DETAILS



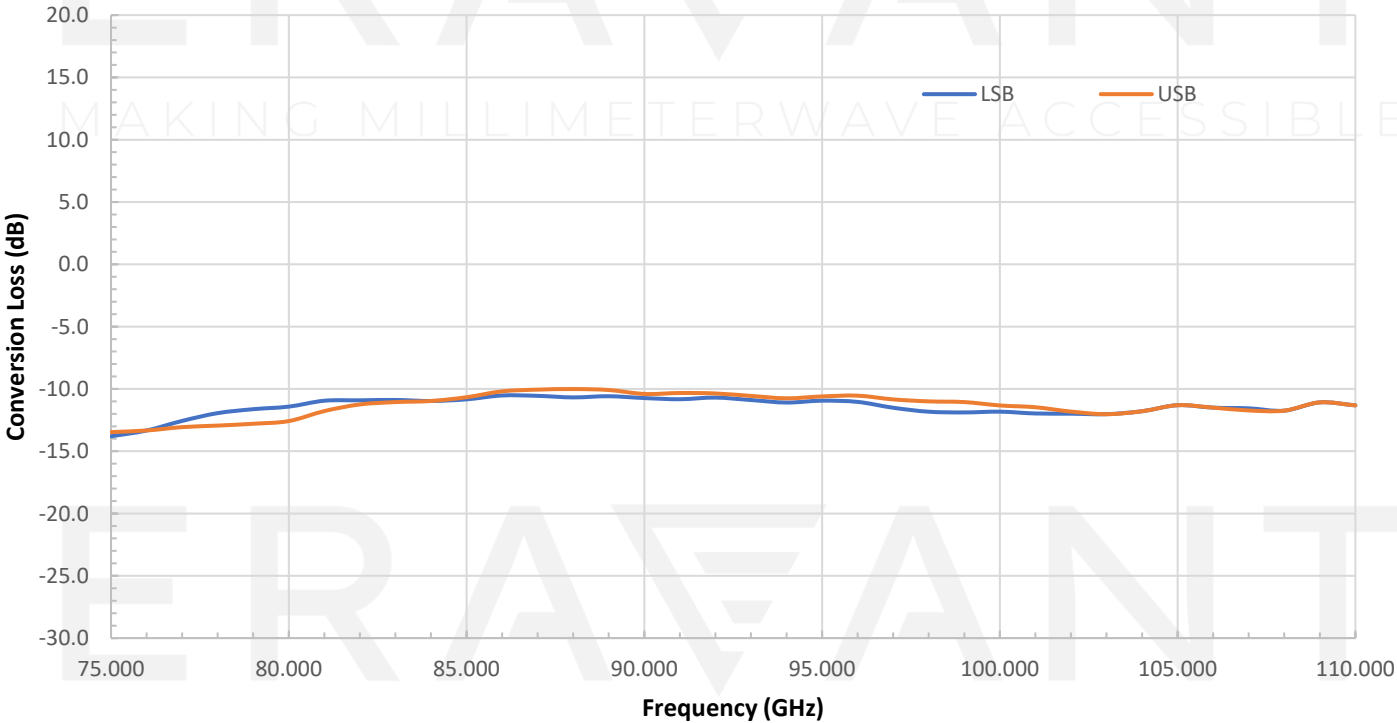
## STC-N12-10-S1-IDP-C

### Components Included:

Item	Eravant Model Number	Quantity
Proxi-Flange™ Contactless Flange, 1.0" Long	STQ-WG-10010-FB-CF	1
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 Screw, 5/64 Hex Head	SWH-564-SS-10	1 (10 Screws Total)
Waveguide Screwdriver, 5/64 Hex Head	SWH-564-DS	1
USB-C Cable	PES-AEUSUS164-1	1
Coax Connector Torque Wrench	SCH-08008-S1	1
AC-to-DC Power Adapter	PEP-PJ2555-1	1

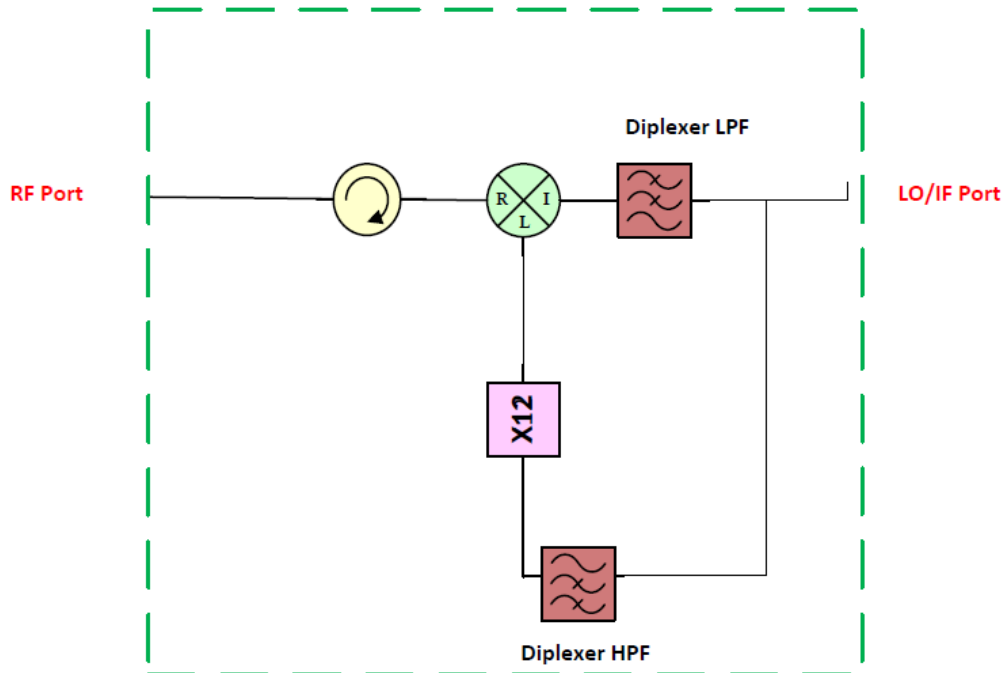
### Conversion Loss vs. Frequency

RF: -20 dBm; LO: +7 dBm

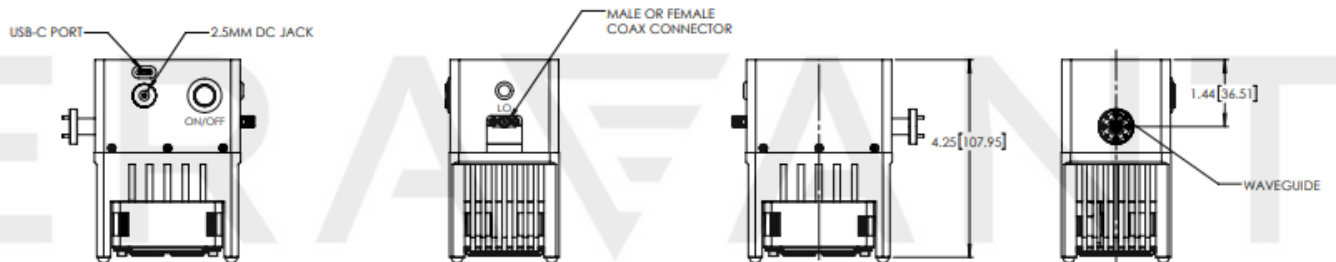
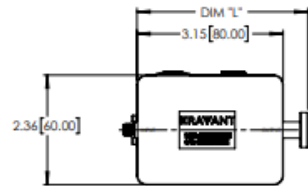


## STC-N12-10-S1-IDP-C

### Simplified Block Diagram:



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



DIM "L"		WAVEGUIDE FLANGES
3.82[97.1]	WR-15	W/ UG-385/U ANTI-COCKING FLANGE
3.77[95.8]	WR-12	W/ UG-387/U ANTI-COCKING FLANGE
3.68[93.5]	WR-10	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.
- On condition that simulated test data is provided, actual measured data may slightly vary.
- Eravant reserves the right to change the information presented without notice.

**CAUTION:**

- 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:  $8.0 \pm 0.15$  inch-pounds ( $0.90 \pm 0.02$  Nm). Torque wrench model SCH-08008-S1 is highly recommended.

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