STC-N14-12-S1-C

E-Band ACCESS Down-Converter, Compact

STC-N14-12-S1-C is an E-Band down-converter that converts millimeterwave signals from a frequency range of 55 to 95 GHz to an output of 10 MHz to 20 GHz. It is compatible with modern Spectrum Analyzers that support external mixers such as Anritsu, Keysight, and Rohde & Schwarz. The down-converter requires 9.17 to 15.83 GHz at +0 dBm input power as its LO, which can be obtained from a standard 20 GHz synthesizer, such as Eravant signal generator model **STL-SG-022203-S1**. The down-converter has low harmonic, low spurious levels and excellent gain flatness, making it a good candidate to extend low frequency test equipment for millimeterwave testing purposes.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Input Frequency	55 GHz		95 GHz
IF Frequency Output	10 MHz		20 GHz
LO Input Frequency	9.17 GHz		15.83 GHz
LO Power	-3 dBm	+0 dBm	+5 dBm
Conversion Loss		14 dB	
Harmonic Suppression		-20 dBc	
Multiplication Factor		6	
RF Input Power Damage Level			+15 dBm
Power Supply (AC Adapter Provided)	100 V_{AC}		240 V_{AC}
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

Mechanical Specifications:

Item	Specification
RF Port	WR-12 Waveguide with UG-387/U Anti-Cocking Flange
LO Port	K (F)
IF Port	SMA (F)
Memory Port	USB-C (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

ECCN

3A001.b.7

FEATURES

- 55-95 GHz Extended Coverage
- Built-in Memory Cal Data
- Compact Form Factor
- Forced Air Cooling
- Input Voltage: 100 to 240 V_{AC}

APPLICATIONS

- Spectrum Analyzer Frequency Extension
- Frequency Down-conversion
- mmW Receiver
- Antenna Range
- Noise Figure Testing

RECOMMENDED PAIRINGS

- Synthesizer STL-SG-022203-S1
- Waveguide Quick Connects
- Cable: SCW-SMSM040-F1-A-PM
- Coax Adapters
  Waveguide to Coax Adapters

RECOMMENDED RESOURCES

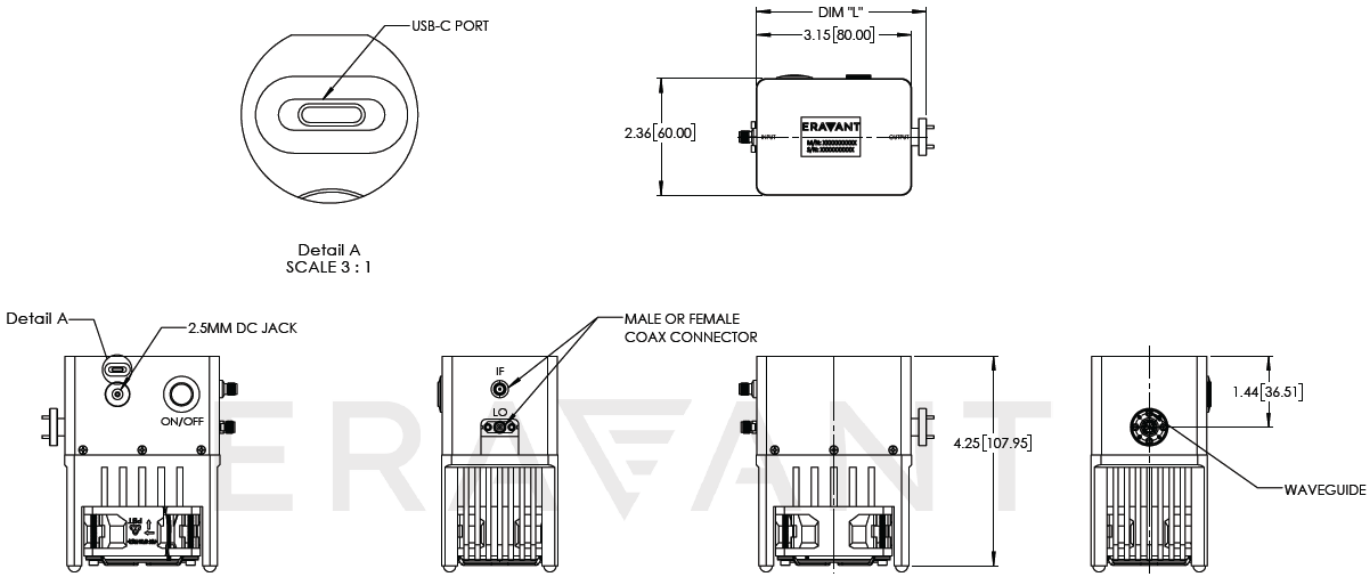
- Proxi-Flange: Conference Papers

Components Included:

Item	Eravant Model Number	Quantity
Proxi-Flange™ Contactless Flange, 1.0” Long	STQ-WG-12010-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

Note: Connecting cables are not included. Eravant coaxial cable, model **SCW-SMSM040-F1-A**, is highly recommended.

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



DIM "L"	WAVEGUIDE FLANGES	
3.45[87.7]	WR-15	W/ UG-385/U ANTI-COCKING FLANGE
3.40[86.5]	WR-12	W/ UG-387/U ANTI-COCKING FLANGE
3.31[84.1]	WR-10	W/ UG-387/U-M ANTI-COCKING FLANGE

NOTE:

- Performance plots shown above represent a sample lot performance. Actual data may show some unit-to-unit variation.
- Eravant offers calibration services. It is recommended that calibration be performed every 12 months to ensure equipment compliance.
- Connecting cables are not included. The use of Eravant coaxial cables (model **SCW-SMSM040-F1-A**) is highly recommended.
- Coaxial adapters may be necessary, depending on the connector type of the signal source. Appropriate Eravant adapters are recommended.
- To test a DUT with a coaxial interface, use suitable Eravant waveguide-to-coaxial adapters.
- Operation outside the specified frequency range may result in degraded performance.
- Eravant reserves the right to modify product information without prior notice.

CAUTION:

- Any foreign objects in the waveguide may cause performance degradation and damage the unit.
- Exceeding the absolute maximum ratings of the device may cause permanent damage to 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.

ERAVANT
MAKING MILLIMETERWAVE ACCESSIBLE