



Ultra-Wide Band Kelvin Bias Tee, 100 MHz -110 GHz,
1.00mm(m) input, 1.00mm(f) output, SMC(m) bias and sense

Bias Tees Technical Data Sheet

PE1660

Features

- Precision Ultra-Wide Band Kelvin Bias Tee
- Metrology Grade
- 100 MHz to 110 GHz Frequency Range
- Insertion Loss: 2 dB typ
- Return Loss 12 dB typ
- Rating: 0.4A max DC Current and +16V max DC Voltage
- Rise Time 3.2 psec typ
- Group Delay 108 psec typ
- Leakage Current 80 pA
- RF Input Power Handling 1W max
- 50 Ohms Input and Output Matched
- W1 (1.0 mm) Male RF Input Connector
- W1 (1.0 mm) Female RF output Connector
- SMC Female Connectors for DC Bias and Sense Ports
- BNC Male to SMC Male Cable Assemblies Included
- Meets MIL-STD-202F Environmental Test Conditions for Thermal Shock, Mechanical Shock, and Vibration
- RoHS Compliant Design

Applications

- High Frequency System and Instrumentation
- Base Stations and Radios
- Remote Antenna Amplifiers and other Devices

Description

The PE1660 is an Ultra-Wide Band Kelvin Bias Tee that operates from 100 MHz to 110 GHz. This high precision design incorporates Metrology-Grade quality with robust mechanical packaging. Kelvin connection Bias Tees are designed for applications where both DC and RF signals must be applied to the Device Under Test (DUT) and precision DC measurements are required. A high resistance DC coil results in a voltage drop that leads to a DC biasing voltage error in the measurements. A Kelvin connection Bias Tee is used to eliminate DC biasing errors as the sense coil allows accurate measurement of the DC Voltage applied across the DUT. The module is RoHS Compliant and designed for a 50 ohm input/output impedance with insertion loss of 2 dB typ and good return loss of 12 dB typ. The Bias Tee is rated for 0.4 Amps max DC current and +16V maximum DC voltage. Maximum RF input power handling is 1W. The compact package uses a W1 (1.00mm) Male connector at the RF input and a W1 (1.00mm) Female connector at the RF output. SMC female connectors are used for DC Bias and Sense ports. Two (2) cable assemblies (48 inch BNC male to SMC male) are included and used for making the DC Bias and Sense connections. Designed for high reliability the PE1660 is guaranteed and not tested to meet MIL-STD-202F environmental test conditions for Thermal Shock, Mechanical Shock, and Vibration.

Configuration

RF Port Connector	1.0mm Male
DC/RF Port Connector	BNC Male
DC Port Connector	SMC Female

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.1		110	GHz
Impedance		50		Ohms
Return Loss		12		dB
Insertion Loss		2		dB
DC Voltage			16	Vdc

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Ultra-Wide Band Kelvin Bias Tee, 100 MHz -110 GHz, 1.00mm\(m\) input, 1.00mm\(f\) output, SMC\(m\) bias and sense PE1660](#)



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DC Current	0.4	mA
Input Power (CW)	1	Watt
Rise Time	3.2	ps
Leakage Current	80	pA
Group Delay	108	ps

Mechanical Specifications

Size

Length	1.56 in [39.62 mm]
Width	1.34 in [34.04 mm]
Height	0.41 in [10.41 mm]
Weight	0.325 lbs [147.42 g]

Environmental Specifications

Temperature

Operating Range	-20 to +60 deg C
Storage Range	-25 to +65 deg C

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

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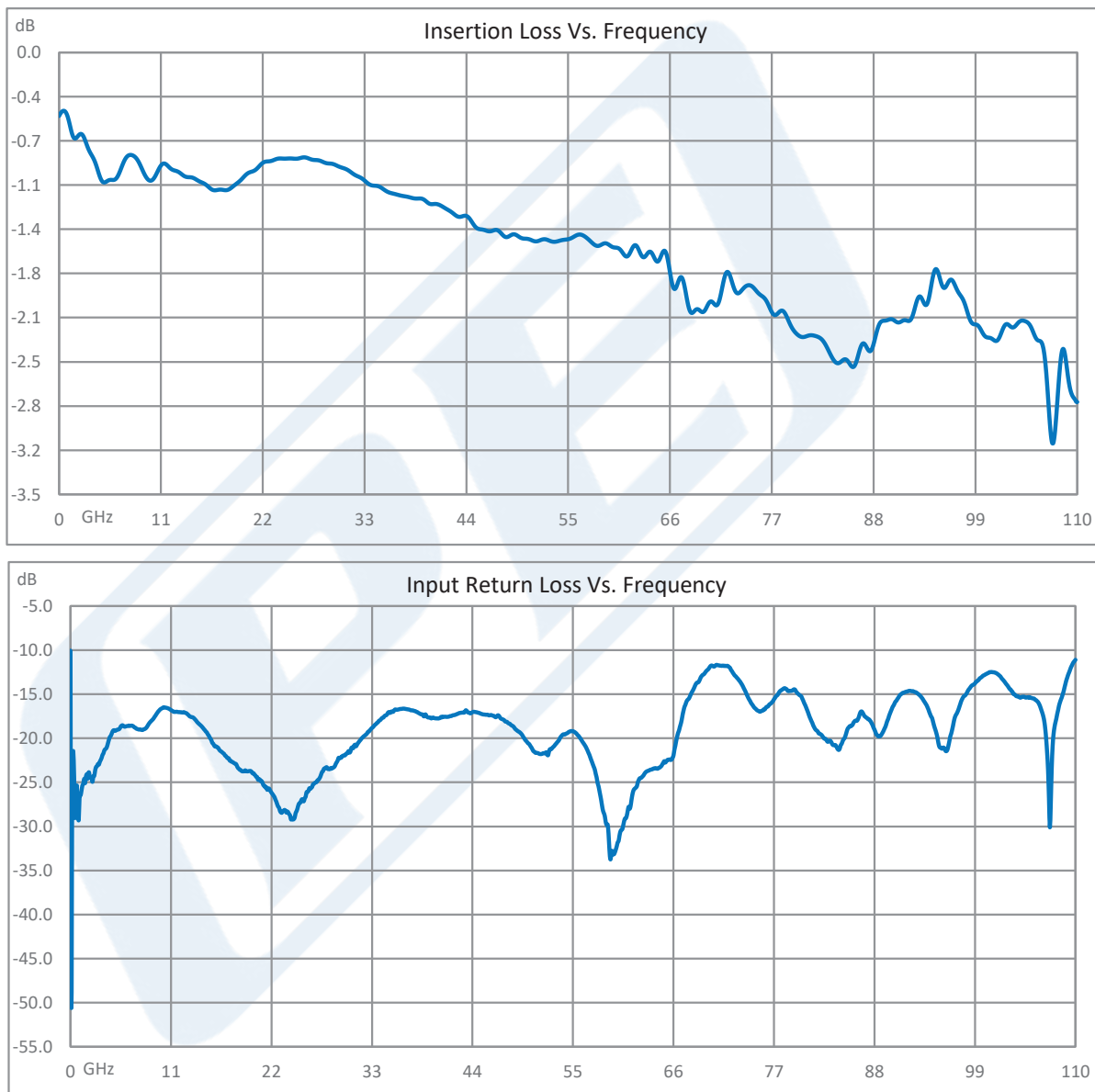


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Typical Performance Data



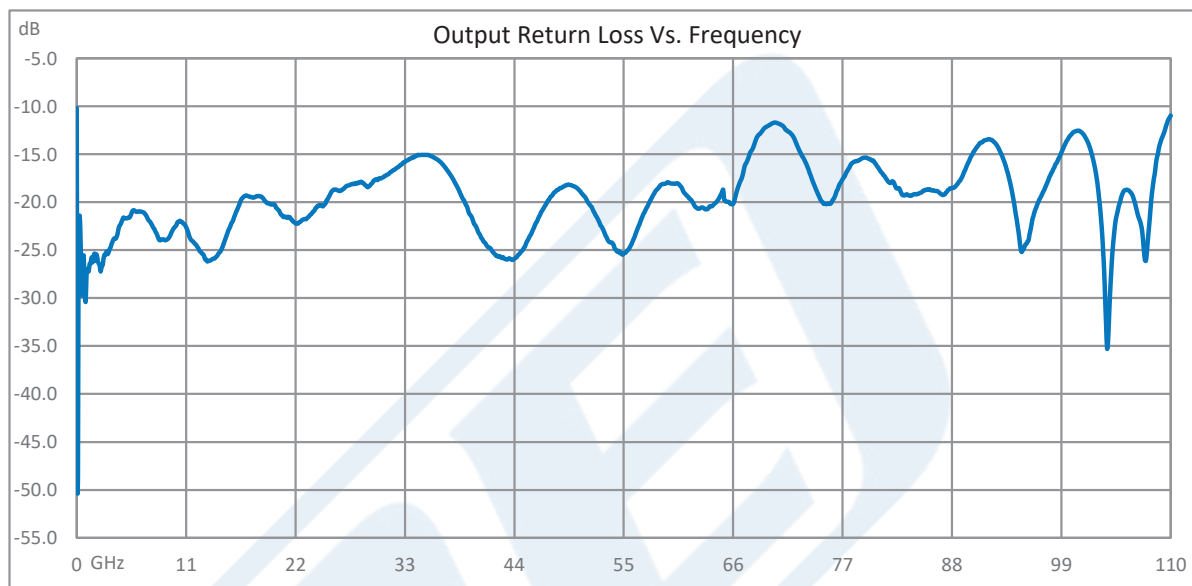
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Ultra-Wide Band Kelvin Bias Tee, 100 MHz -110 GHz, 1.00mm(m) input, 1.00mm(f) output, SMC(m) bias and sense from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Ultra-Wide Band Kelvin Bias Tee, 100 MHz -110 GHz, 1.00mm\(m\) input, 1.00mm\(f\) output, SMC\(m\) bias and sense PE1660](https://www.pasternack.com/100-mhz-110-ghz-bias-tee-0-ma-16-volts-dc-pe1660-p.aspx)

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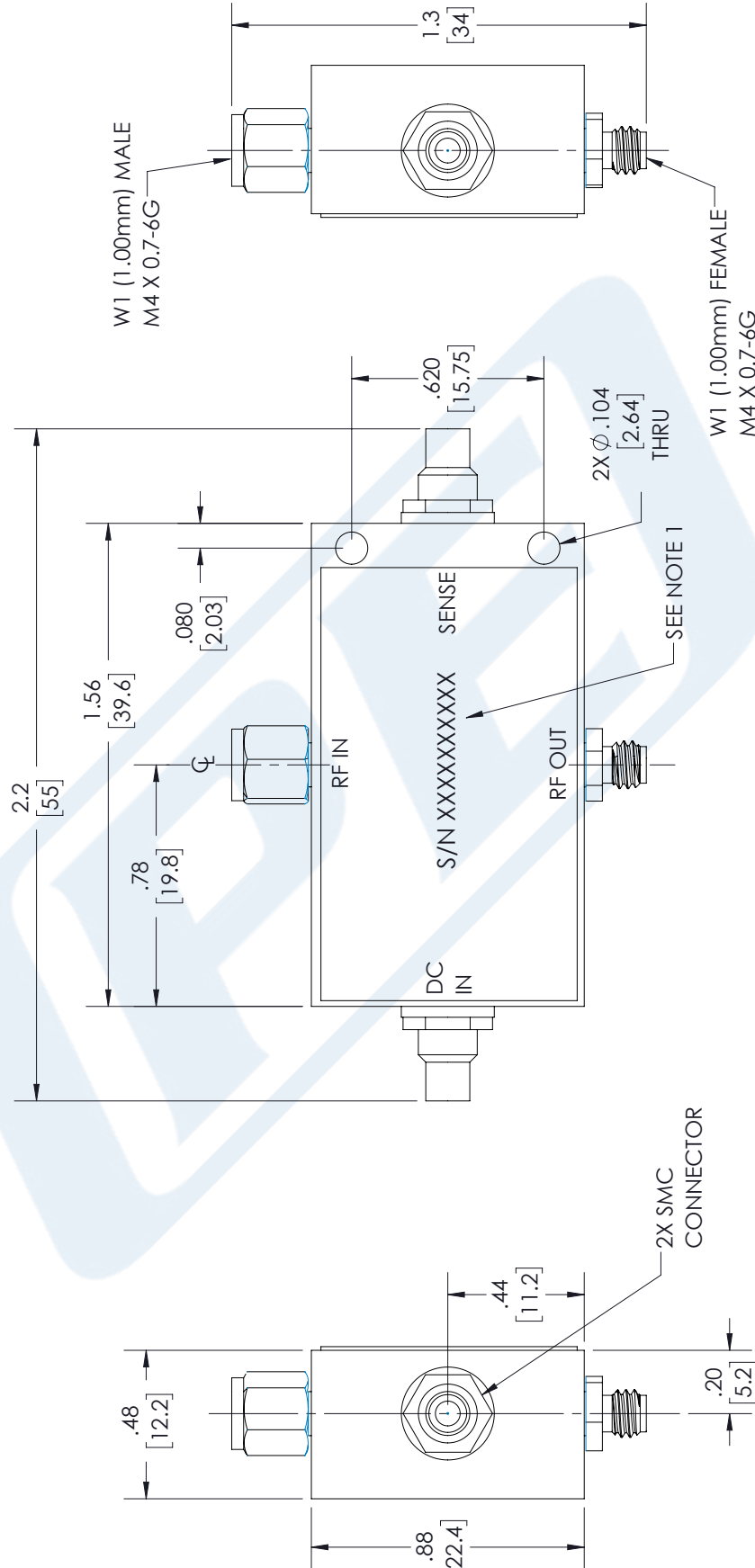
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PE1660 CAD Drawing

Ultra-Wide Band Kelvin Bias Tee, 100 MHz -110 GHz, 1.00mm(m)
input, 1.00mm(f) output, SMC(m) bias and sense



SEE NOTE 2



UNLESS OTHERWISE SPECIFIED
LEADING DIMENSIONS ARE INCHES
DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES:

X = ± .2	[5.08]	FRACTIONS
.XX = ± .02	[.51]	± 1/32
.XXX = ± .005	[.13]	ANGLES ± 1°

CABLE LENGTH (L) TOLERANCES:

L ≤ 12 [305]	± .1 [25]	/ -0
12 [305] < L ≤ 60 [1524]	± .2 [51]	/ -0
60 [1524] < L ≤ 120 [3048]	± .4 [102]	/ -0
120 [3048] < L ≤ 300 [7620]	± .6 [152]	/ -0
300 [7620] < L	± .5%	/ -0

ALL DIMENSIONS SHOWN
ARE FOR REFERENCE ONLY.

PE PASTERNAK
an INFINITI brand

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SHEET 1 OF 1

SCALE N/A

REV A

ITEM NO. PE1660

DRAWN BY BPUCHASKI

CAGE CODE 53919

NOTES:

- SERIAL NUMBER AND DATE CODE ARE COMBINED, EX. 2022310002
- 2X 48 INCH CABLE ASSEMBLY PROVIDED

REGULATORY COMPLIANCE:
EU RoHS DIRECTIVE (MOST RECENT RELEASED VERSION)

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