

## Precision Ultra-Wide Band Bias Tee, 50 kHz - 110 GHz, 1.00mm(f) input, 1.00mm(m) output, SMC(m) bias

The FMBT1661 is a Precision Ultra-Wide Band Bias Tee that operates from 50 KHz to 110 GHz. This high precision design incorporates Metrology-Grade quality with robust mechanical packaging. Bias Tee's are designed for applications where both DC and RF signals must be applied to the Device Under Test (DUT). The module is RoHS Compliant and designed for a 50 ohm input/output impedance with low insertion loss of 1.5 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) female connector at the RF input and a W1 (1.00mm) Male connector at the RF output. An SMC female connector is used for the DC Bias port. One (1) cable assembly (48 inch BNC male to SMC male) is included and used for making the DC Bias connection. Designed for high reliability the FMBT1661 is guaranteed and not tested to meet MIL-STD-202F environmental test conditions for Thermal Shock, Mechanical Shock, and Vibration.

### Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	50KHz		110	GHz
Impedance		50		Ohms
Return Loss		12		dB
Insertion Loss		1.5		dB
DC Voltage			16	Vdc
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	2.39 in [60.71 mm]
Width	1.33 in [33.78 mm]
Height	0.48 in [12.19 mm]
Weight	0.195 lbs [88.45 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:



### Configuration:

- RF Port Connector: 1.0mm Fe-male
- DC/RF Port Connector: BNC Male
- DC Port Connector: SMC Female

### Features:

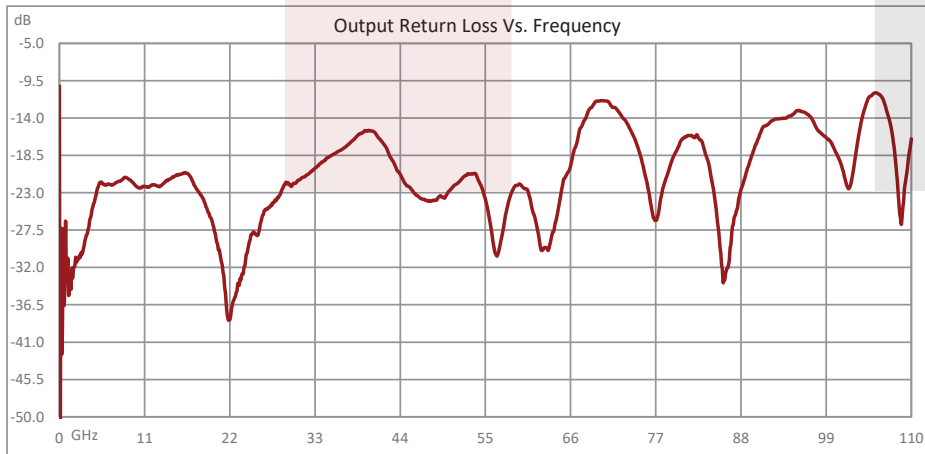
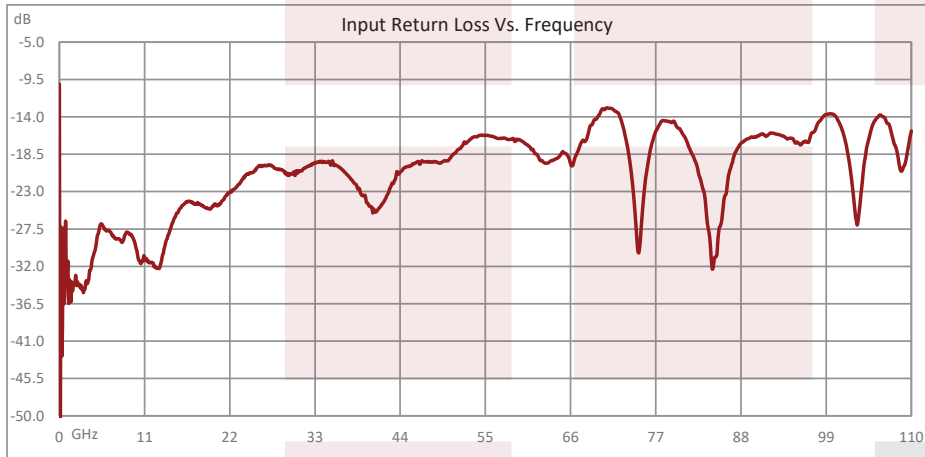
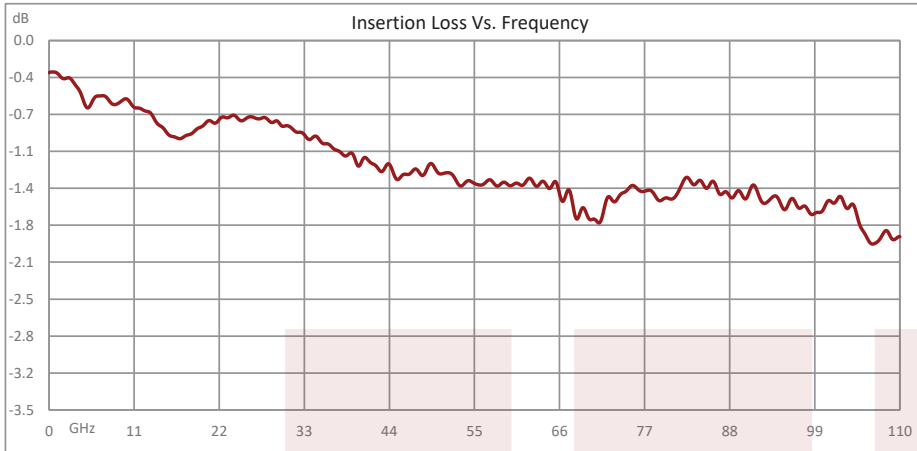
- Precision Ultra-Wide Band Bias Tee
- Metrology Grade
- 100 MHz to 110 GHz Frequency Range
- Insertion Loss: 1.5 dB typ
- Return Loss 12 dB typ
- Rating: 0.4A max DC Current and +16V max DC Voltage
- Rise Time 3.2 psec typ
- Group Delay 108 psec typ
- Leakage Current 80 pA typ
- RF Input Power Handling 1W max
- 50 Ohms Input and Output Matched
- W1 (1.0 mm) Female RF Input Connector
- W1 (1.0 mm) Male RF output Connector
- SMC Female Connector for DC Bias Port
- BNC Male to SMC Male Cable Assembly Included
- Meets MIL-STD-202F Environmental Test Conditions for Thermal Shock, Mechanical Shock, and Vibration
- RoHS Compliant Design

### Applications:

- High Frequency System

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**Typical Performance Data**



Precision Ultra-Wide Band Bias Tee, 50 kHz - 110 GHz, 1.00mm(f) input, 1.00mm(m) output, SMC(m) bias from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Precision Ultra-Wide Band Bias Tee, 50 kHz - 110 GHz, 1.00mm\(f\) input, 1.00mm\(m\) output, SMC\(m\) bias FMBT1661](#)

URL: <https://www.fairviewmicrowave.com/bias-tee-0.05-mhz-110-ghz-0-ma-16-volts-dc-fmbt1661-p.aspx>

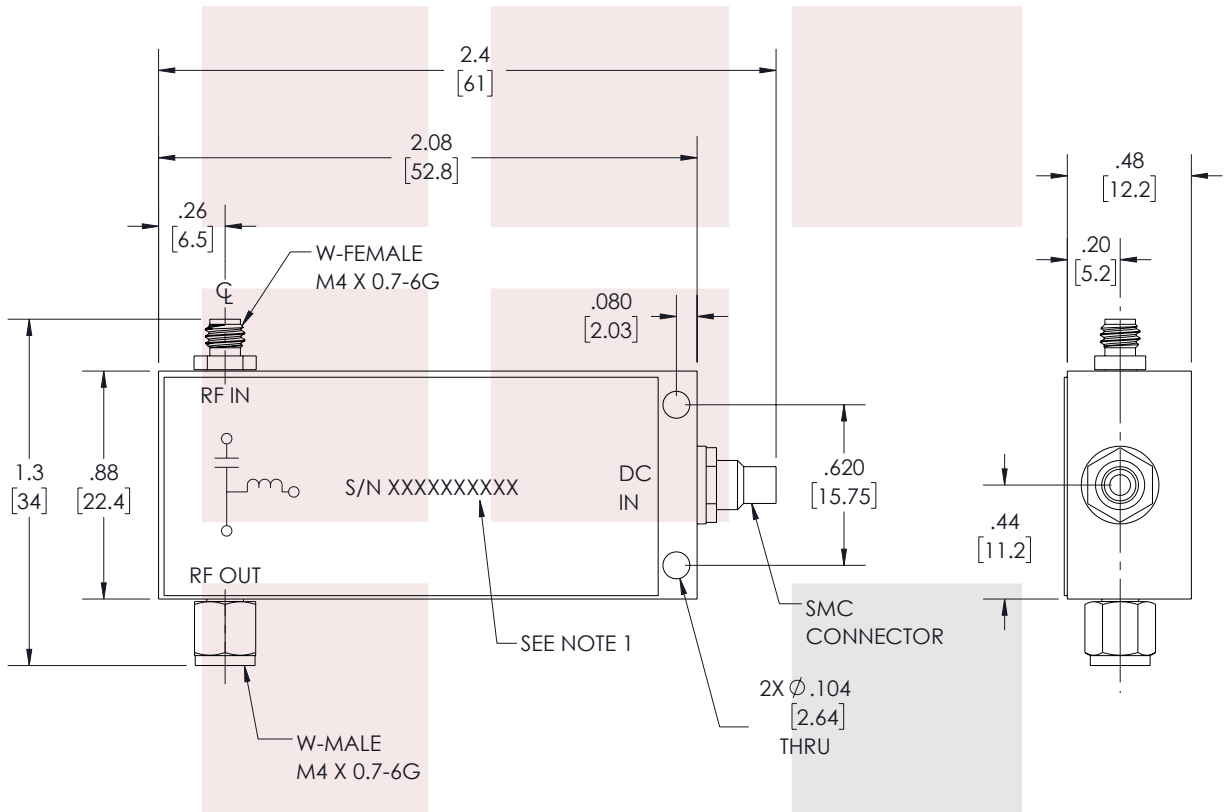
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.



REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	06/28/2022	TGALLA



SEE NOTE 2



**NOTES:**

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

**REGULATORY COMPLIANCE:**

EU RoHS DIRECTIVE (MOST RECENT RELEASED VERSION)

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TITLE

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

TOLERANCES: CABLE LENGTH (L) TOLERANCES:

.X = ±.2 [5.08]	FRACTIONS	L ≤ 12 [305] = +1 [25] / -0
.XX = ±.02 [.51]	± 1/32	12 [305] < L ≤ 60 [1524] = +2 [51] / -0
.XXX = ±.005 [.13]	ANGLES ± 1°	60 [1524] < L ≤ 120 [3048] = +4 [102] / -0
		120 [3048] < L ≤ 300 [7620] = +6 [152] / -0
		300 [7620] < L = +5%L / -0

THIRD-ANGLE PROJECTION



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SHEET 1 OF 1

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

SCALE N/A

SIZE A	CAGE CODE 3FKR5	DRAWN BY BPUCHASKI	ITEM NO. FMBT1661	REV A
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