



**M12H6DC Series**  
**WR12 Frequency Converter Extenders**  
**60 to 90 GHz**

WR15 WR12 WR10 WR08 WR06 WR05 WR03 WR02.2

**DESCRIPTION**

The M12H6DC Series is designed specifically for handheld spectrum analyzers as a portable solution for millimeter wave spectrum analysis measurement. Utilizing the handheld spectrum analyzer tracking generator as an LO source and the built-in DC supply, this harmonic mixer provides millimeter wave measurements in WR-12 (60-90 GHz).



**HIGHLIGHTS**

- Useful tool to extend measurements to mm-wave
- 26 dB Typical Noise Figure
- Portable Field & Lab Solution
- Industry waveguide compatibility

**APPLICATIONS**

- E Band Backhaul
- Collision Avoidance Radar
- 5G, WiGig
- Military & Defense



**ELECTRICAL AND PERFORMANCE SPECIFICATIONS (+25°C)**

After a 0.5 hour warm-up period, the M12H6DC will satisfy the following specifications.

Electrical Characteristics <sup>1</sup>	MIN	TYP	MAX
RF Input Frequency Range (GHz)	60	--	90
IF Frequency Range (GHz)	DC	.5	2
LO Harmonic Number	--	6	--
LO Input Frequency Range (GHz) <sup>2</sup>	9.92	--	14.92
LO Input Power (dBm)	-3	--	0
Conversion Factor (dB) IF = 0.5 GHz	--	-6	--
Noise Figure (dB) <sup>3</sup>	--	26	--
Sensitivity (dBm) <sup>4</sup>	--	148	--
Gain Compression P1dB (dBm)	--	-5	--
Operating Temperature Range (°C)	20°	25°	30°

Module Characteristics <sup>1</sup>	Description
RF Input Waveguide Interface (dB) <sup>5</sup>	WR-12
LO Input Interface	SMA (f)
IF Output Interface	SMA (f)
DC Power	5V @ .25 A Max.
Maximum RF Input Power (dBm)	+20 dBm (100 mW)
Size (L x W x H)	2.86" x 3.72" x 1.64"
Weight	<14 oz.

<sup>1</sup> Specifications are typical and subject to change without notice

<sup>2</sup> LO frequency is calculated with IF = 500 MHz IF

<sup>3</sup> Noise figure includes the internal IF amplifier

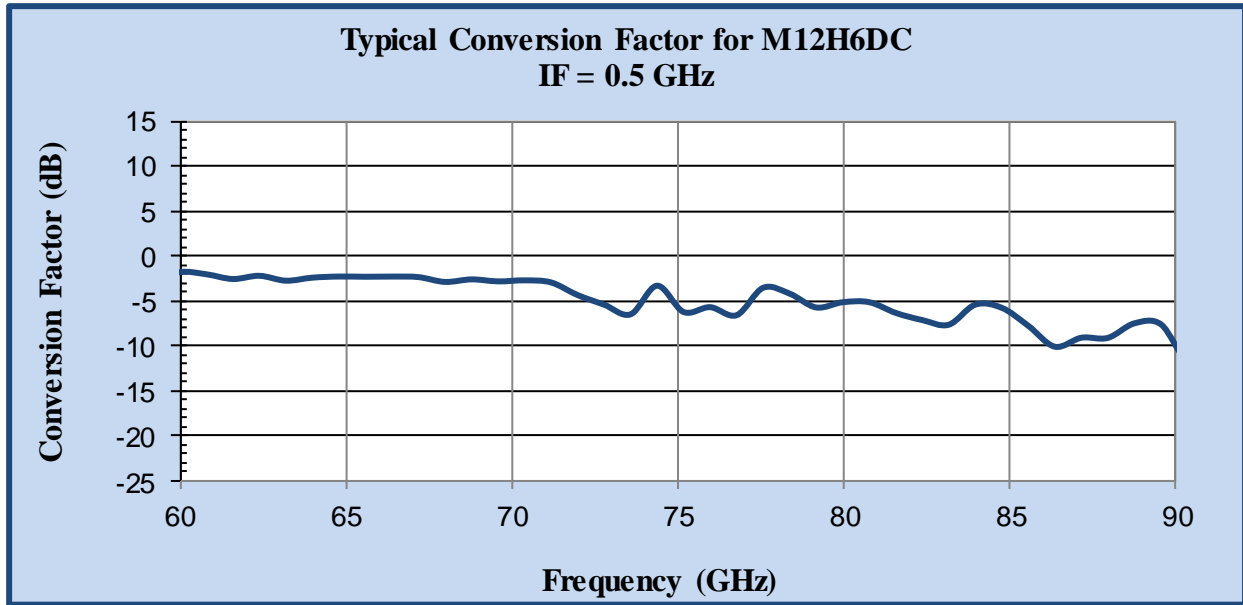
<sup>4</sup> Calculate Sensitivity (RBW of 1 Hz) = -174 dBm + conversion loss; represents theoretical minimum discernable signal

<sup>5</sup> Test Port Flange Configuration is compatible with MIL-DTL-3922/67E



**TYPICAL PERFORMANCE**

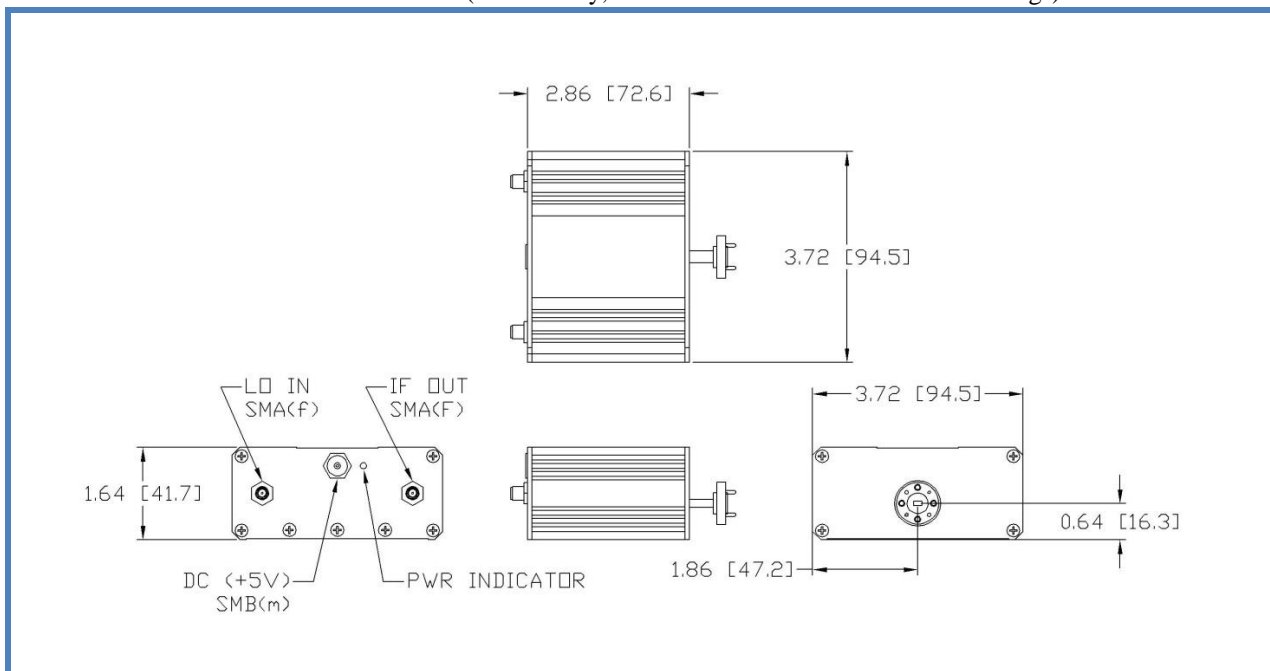
The following typical performance is available when used with the Keysight FieldFox.



**ORDER INFORMATION**

Model Number	Description
M12H6DC	WR-12 Harmonic Mixer, 60 to 90 GHz
M12H6DC5694	WR-12 Harmonic Mixer, 56 to 94 GHz
<b>Accessories:</b>	
M00NSM	Adapter, "N"(m) to SMA(M)
V00DCSMB1	DC Cable, 12", SMB(m) to SMB(m)
M00DLP	SMA(m) - SMA(m) Adapter

**MECHANICAL DIMENSIONS** (If necessary, contact OML for more detailed drawings)



\*Dimensions in inches [mm]