



M15H6DC Series
WR15 Frequency Converter Extenders
50 to 75 GHz

WR15 WR12 WR10 WR08 WR06 WR05 WR03 WR02.2

DESCRIPTION

The M15H6DC 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-15 (50-75 GHz).



HIGHLIGHTS

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

APPLICATIONS

- 60 GHz ISM Band
- WiGig (IEEE 802.11ad)
- 5G
- Military & Defense



ELECTRICAL AND PERFORMANCE SPECIFICATIONS (+25°C)

After a 0.5 hour warm-up period, the M15H6DC will satisfy the following specifications.

Electrical Characteristics¹	MIN	TYP	MAX
RF Input Frequency Range (GHz)	50	--	75
IF Frequency Range (GHz)	.05		2
LO Harmonic Number	--	6	--
LO Input Frequency Range (GHz) ²	8.25	--	12.58
LO Input Power (dBm)	-3	--	0
Conversion Factor (dB) IF = 0.5 GHz	--	-3	--
Noise Figure (dB) ³	--	24	--
Sensitivity (dBm) ⁴	--	150	--
Gain Compression P1dB (dBm)	--	-5	--
Operating Temperature Range (°C)	20°	25°	30°

Module Characteristics¹	Description
RF Input Waveguide Interface (dB) ⁵	WR-15
LO Input Interface	SMA (f)
IF Output Interface	SMA (f)
DC Power	5V @ .45 A Max.
Maximum RF Input Power (dBm)	+20 dBm (100 mW)
Size ⁶ (L x W x H)	2.86" x 3.72" x 1.64" (72.7 mm x 94.5 mm x 41.7 mm)
Weight	≤ 14 oz (397 g)

¹ Specifications are typical and subject to change without notice

² LO frequency is calculated with IF = 500 MHz IF

³ Noise figure includes the internal IF amplifier

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

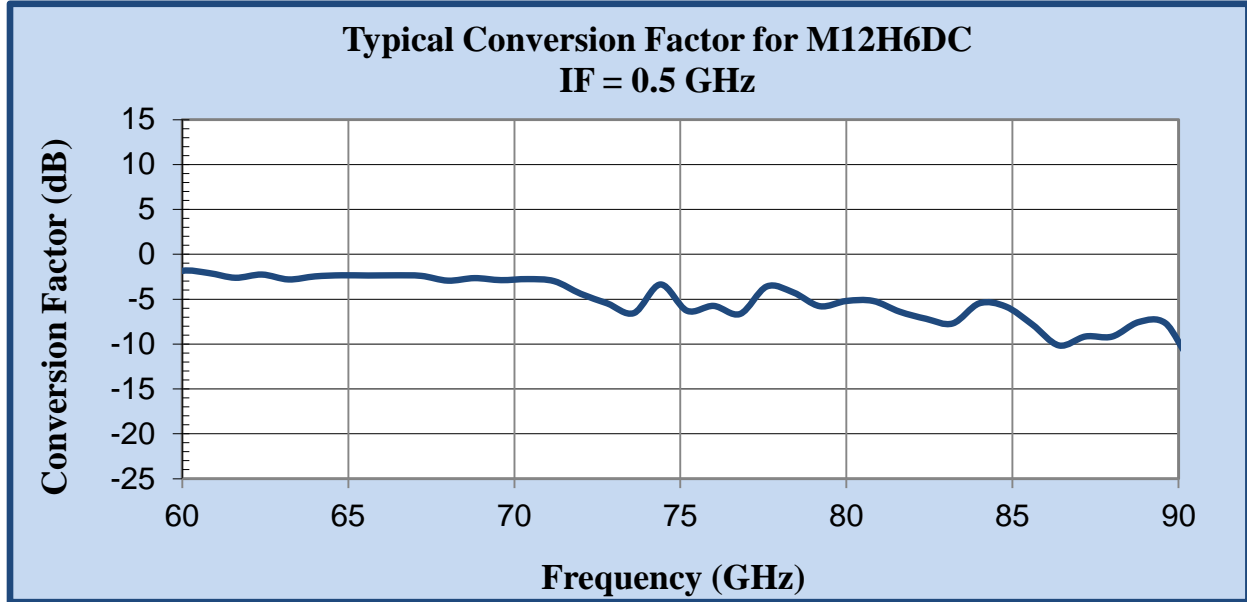
⁵ Test Port Flange Configuration is compatible with MIL-DTL-3922/67E (UG387/U)

⁶ Excludes SMA connector & Waveguide output flange



TYPICAL PERFORMANCE

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



ORDER INFORMATION

Model Number	Description
M15H6DC ¹	WR-15 Harmonic Mixer Module, 60 to 90 GHz
Options	
M15H6DC-100	WR-15 Harmonic Mixer Module with 2 ea. N(m)/SMA(f) Adapter
M15H6DC-101	WR-15 Harmonic Mixer Module with 2 ea. N(m)/SMA(f) Adapter & a WR-15 24 dBi Horn Antenna
M15H6DC-102	WR-15 Harmonic Mixer Module with 2 ea. SMA(m)/SMA(f) Adapter
M15H6DC-103	WR-15 Harmonic Mixer Module with 2 ea. SMA(m)/SMA(f) Adapter & a WR-15 24 dBi Horn Antenna
M15H6DC-104	WR-15 Harmonic Mixer Module with 2 ea. SMA(m)/2.4mm(f) Adapter
M15H6DC-105	WR-15 Harmonic Mixer Module with 2 ea. SMA(m)/2.4mm(f) Adapter & a WR-15 24 dBi Horn Antenna
Accessories:	
V00DCUSBS1	DC Bias Cable, USB(m) to 90° SMB(f), 12" Lg
M00NMSM	Adapter, Type-N(m) to SMA(m)
M00SMSF	Adapter, SMA(m) to SMA(f)
M00SM2.4F	Adapter, SMA(m) to 2.4mm(f)
M15RH	Horn Antenna, WR-15, 24 dBi

¹ Base model includes a DC bias cable (V00DCUSBS1)



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

