WR15 | WR12 | WR10 | WR08 | **WR06** | WR05 | WR03 | WR02.2

M06H6BDC Series
WR06 Harmonic Mixer Module
110 to 170 GHz

DESCRIPTION

The M06H6BDC 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-06 (110-170 GHz).

HIGHLIGHTS

- Useful tool to extend measurements to mm-wave
- 25 dB Typical Noise Figure
- 6 GHz IF Bandwidth
- Portable Field & Lab Solution
- Industry waveguide compatibility
- CE & KCC Compliance

APPLICATIONS

- 6G
- Radio Astronomy
- Space Research
- Satellite

ELECTRICAL AND PERFORMANCE SPECIFICATIONS (+25°C)

After a 5 minute warm-up period, the M06H6BDC will satisfy the following specifications.

RoHS

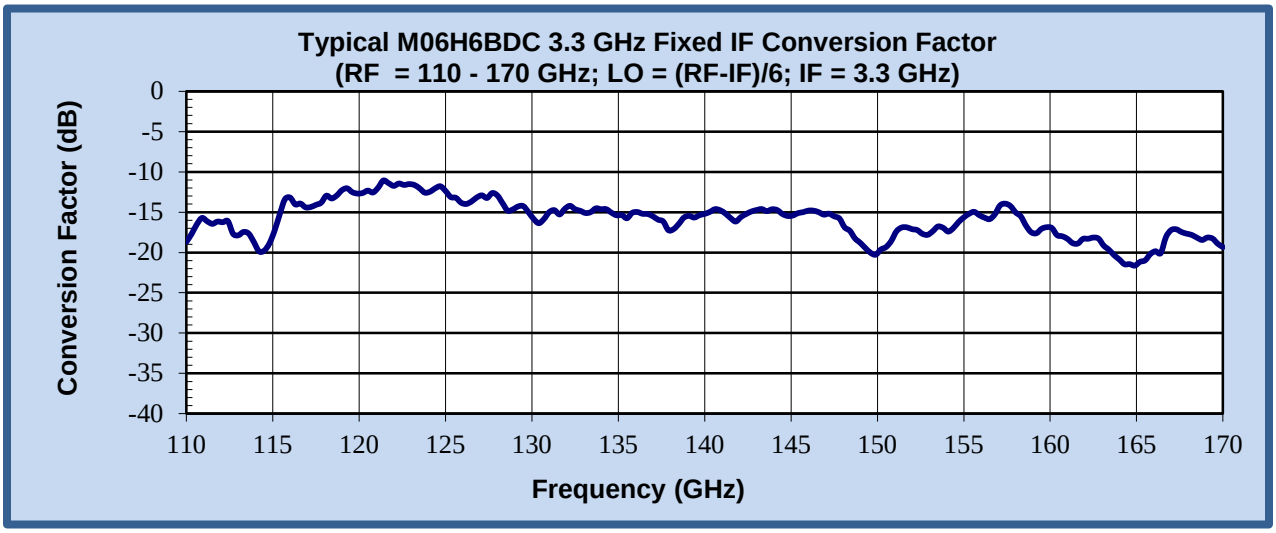
Electrical Characteristics[1]	MIN	TYP	MAX
RF Input Frequency Range (GHz)	110	--	170
IF Frequency Range (GHz)	0.3		6.5
LO Harmonic Number	--	6	--
LO Input Frequency Range[2] (GHz)	17.78	--	27.78
LO Input Power (dBm)	-12	-8	-5
Conversion Factor (dB)	--	-19	--
Noise Figure [Nominal](dB)[3]	--	25	--
Sensitivity [Nominal] (dBm)[4]	--	-149	--
Gain Compression P1dB [Nominal] (dBm)	--	-13	--
VSWR [nominal]) RF Input LO Input IF Output		 2.5:1 2.3:1 1.2:1	
Operating Temperature Range (°C)	-10°	25°	55°
Storage Temperature Range (°C)	-35°		75°
Relative Humidity Operating	45-80% (non-condensing)		
Altitude Operating (ft [m])	<10,000 [3048]		

Module Characteristics[1]	Description
RF Input Waveguide Interface[5]	WR-06
LO Input Interface	2.92mm(f)
IF Output Interface	2.92mm(f)
DC Power	5V @ .45 A Max.
Maximum RF Input Power (dBm)	+13 dBm (20 mW)
Maximum LO Input Power (dBm)	+10 (20mW)
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 = 3300 MHz IF.
[3] Noise figure includes diplexer and internal IF amplifier
[4] Calculate Sensitivity (RBW of 1 Hz) = -174 dBm + noise figure; represents theoretical minimum discernable signal
[5] Test Port Flange Configuration is compatible with MIL-DTL-3922/67E (UG-387/UM)
[6] Excludes input connectors, waveguide output flange and bumper guard

TYPICAL PERFORMANCE

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



ORDER INFORMATION

Model Number	Description
M06H6BDC[1]	WR-06 Harmonic Mixer Module, 110 to 170 GHz with Carrying Case & DC Bias Cable.
Options	
M06H6BDC -100[2]	WR-06 Harmonic Mixer Module with 2 ea. 2.92mm(m)/2.4mm(f) Adapter
Accessories:	
V00DCUSBS1	DC Bias Cable, USB(m) to 90° SMB(f), 12” Lg
M00KM24F	Adapter, 2.92mm(m) to 2.4mm(f)
M06RH	Horn Antenna, WR-06
MC2151	Carrying Case, Micro Converter, Clear

[1] Base model includes a Carrying Case (MC2151) & DC bias cable (V00DCUSBS1)
[2] Add accessories for “direct connect” between OML module & FieldFox with NMD 2.4mm(m) Test Ports

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