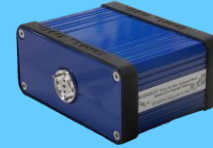




DESCRIPTION

The M10H6ADC 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-10 (75-100 GHz).



HIGHLIGHTS

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

APPLICATIONS

- Satellite
- Space Research
- Radio Astronomy
- Radiolocation
- Radio Navigation

ELECTRICAL AND PERFORMANCE SPECIFICATIONS (+25°C)



After a 0.5 hour warm-up period, the M10HA6DC will satisfy the following specifications.

Electrical Characteristics ¹	MIN	TYP	MAX
RF Input Frequency Range (GHz)	75	--	110
IF Frequency Range (GHz)	.3		6.5
LO Harmonic Number		6	
LO Input Frequency Range (GHz) ²	12.5	--	18.33
LO Input Power (dBm)	-14	--	-4
Conversion Factor (dB)	--	23	--
Noise Figure (dB) ³	--	28	--
Sensitivity (dBm) ⁴	--	-146	--
Gain Compression P1dB (dBm)	--	-8	--
VSWR (nominal)			
RF Input		2.4	
LO Input		1.8	
IF Output		2.2	
Operating Temperature Range (°C)	-10°	25°	55°
Storage Temperature (°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 (dB) ⁵	WR-10
LO Input Interface	SMA (f)
IF Output Interface	SMA (f)
DC Power	5V @ .45 A Max.
Maximum RF Input Power (dBm)	+20 dBm
Maximum LO Input Power (dBm)	+20 dBm
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 18GHz FieldFox "B" model software is configured for full WR-10 waveguide band

³ Noise Figure includes the internal IF amplifier

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

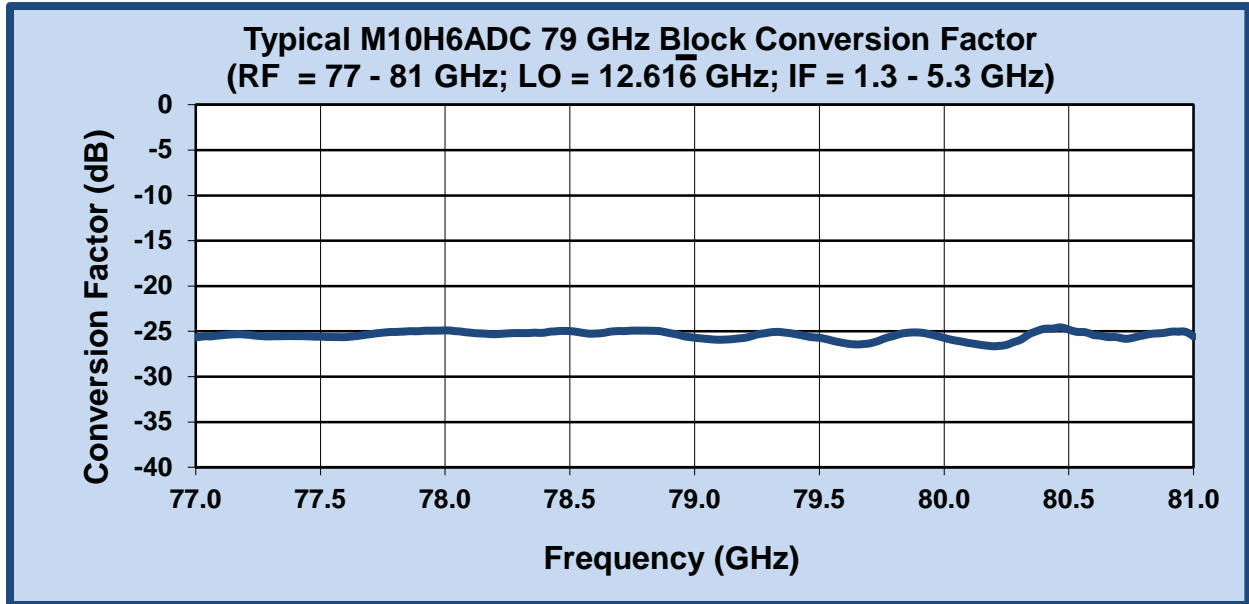
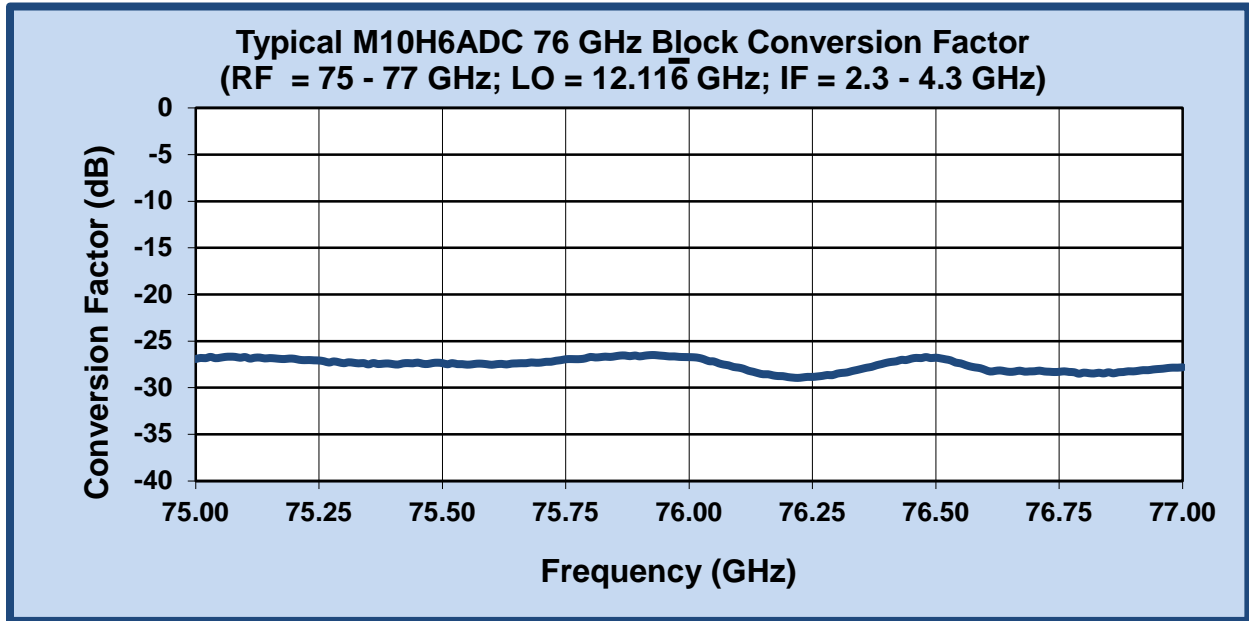
⁵ Test Port Flange Configuration is compatible with MIL-DTL-3922/67E (UG-387/UM)

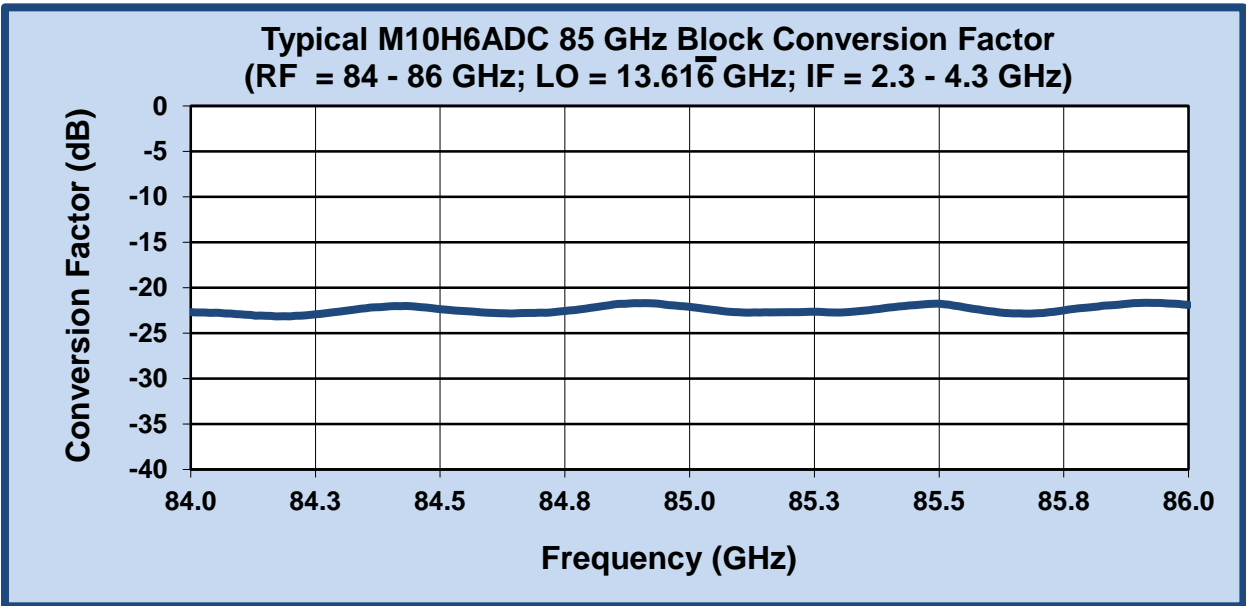
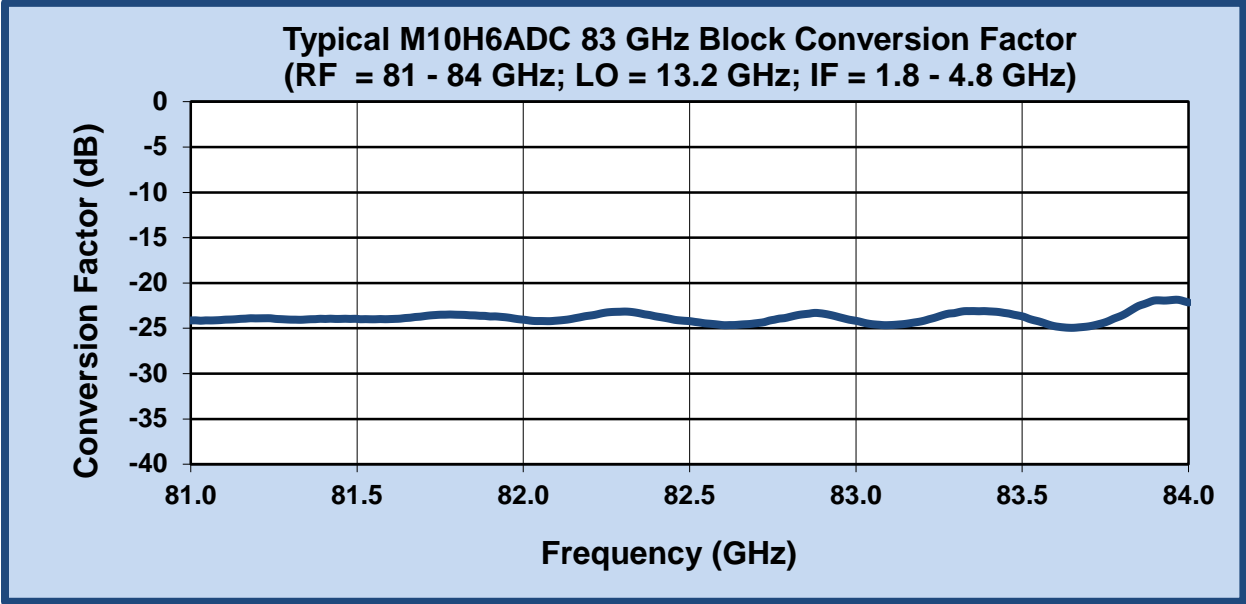
⁶ Excludes input connectors, waveguide output flange and bumper guard

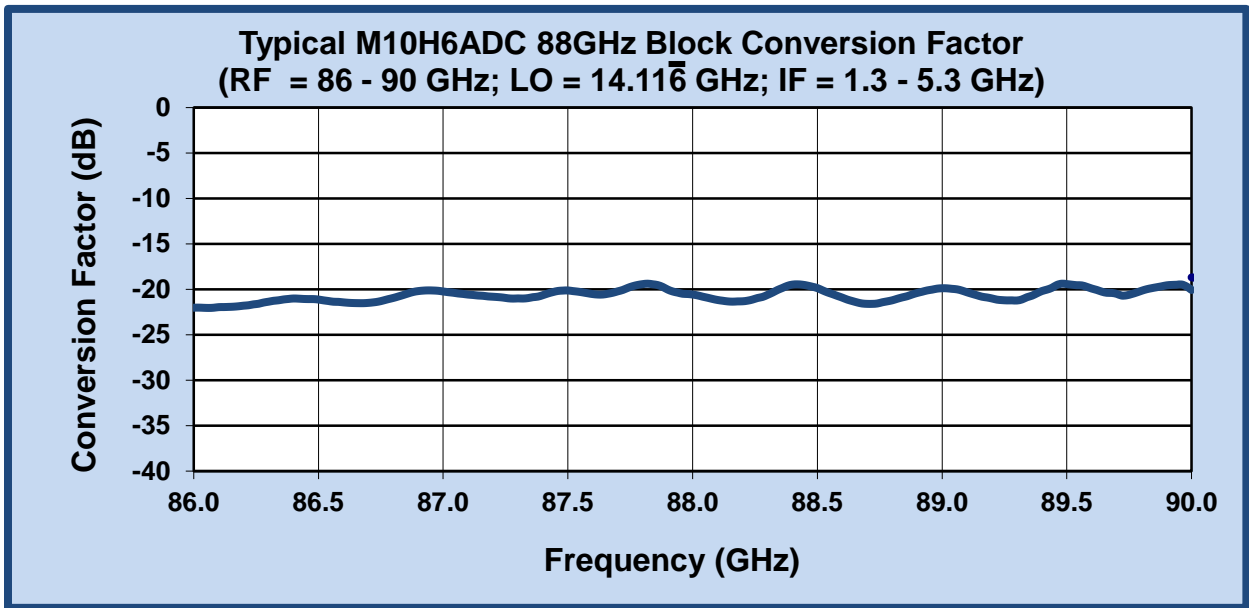
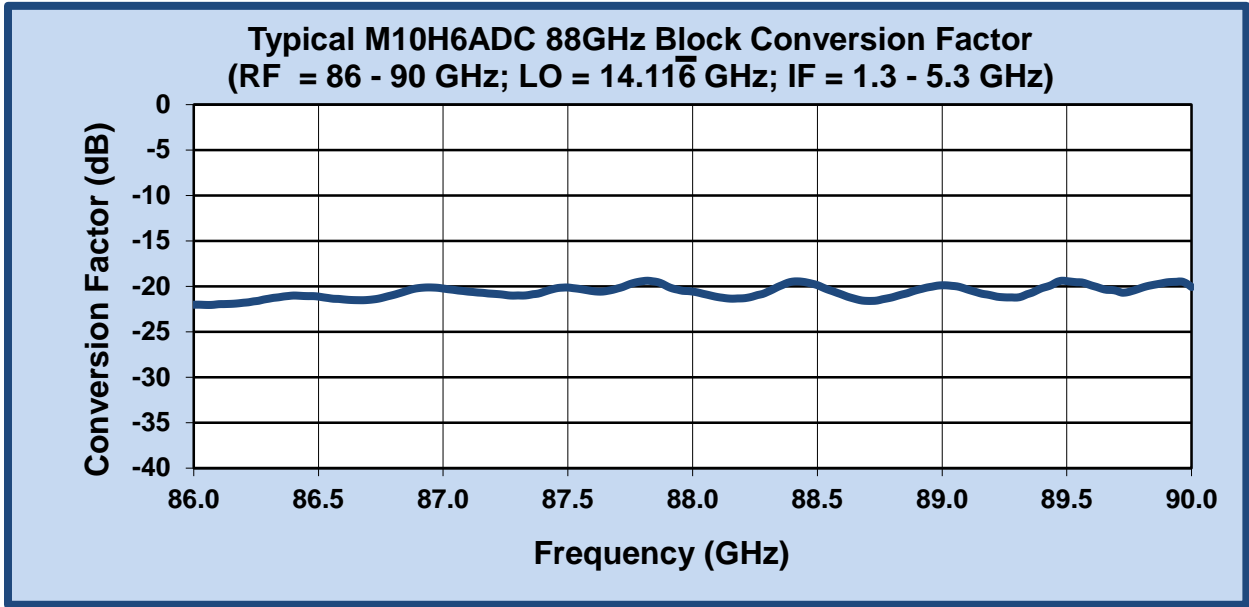


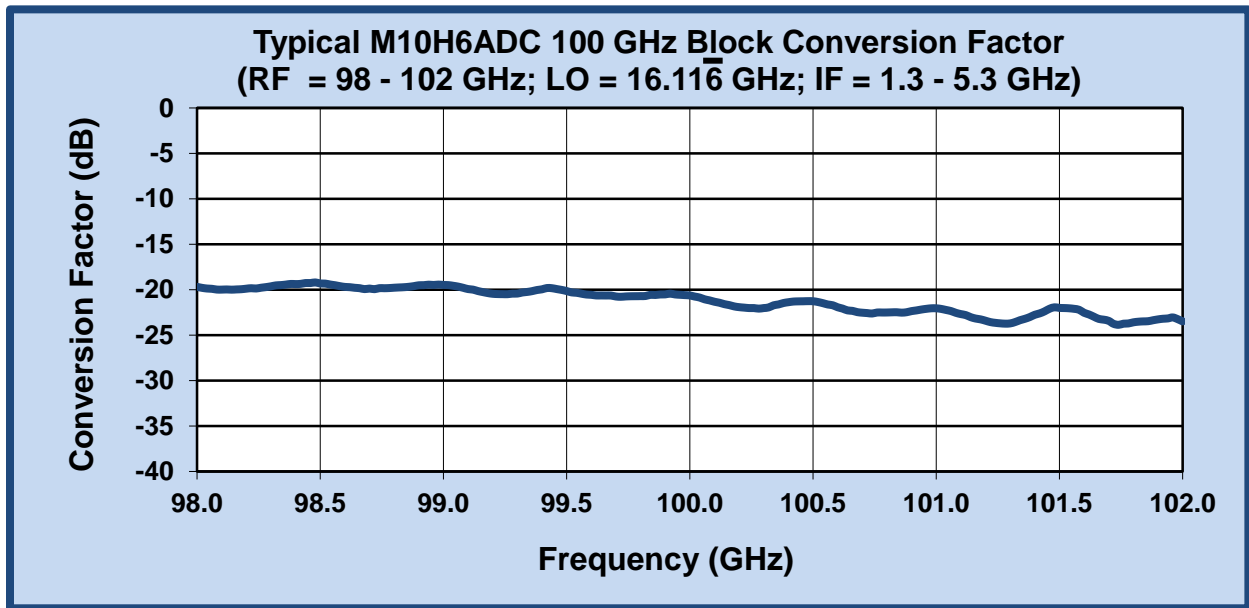
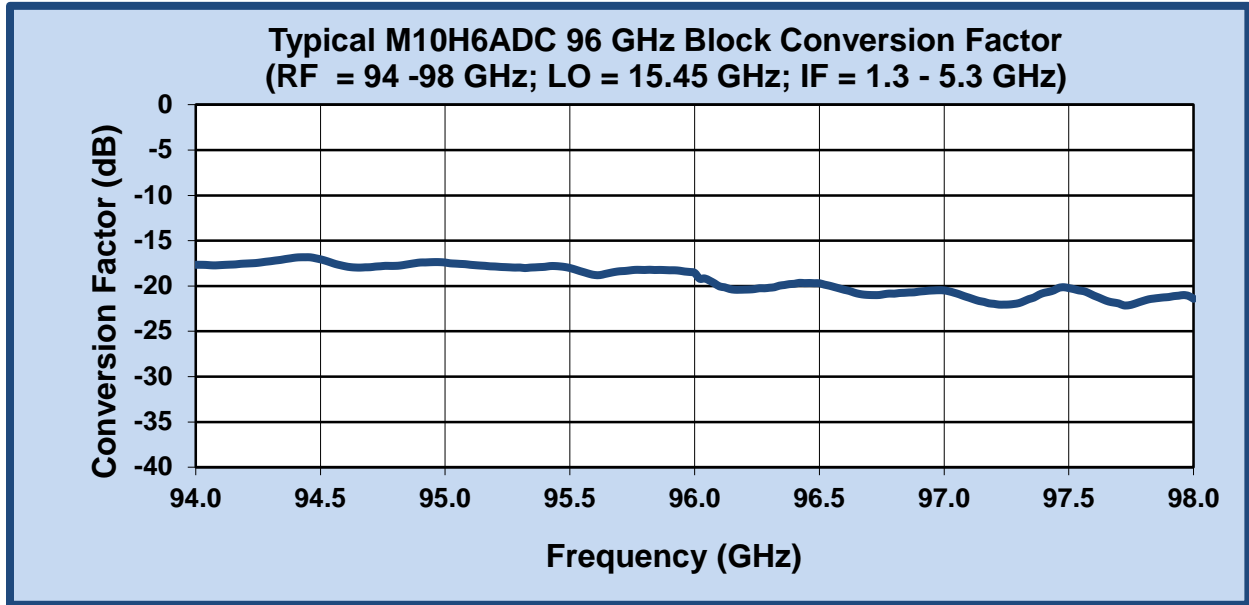
TYPICAL PERFORMANCE

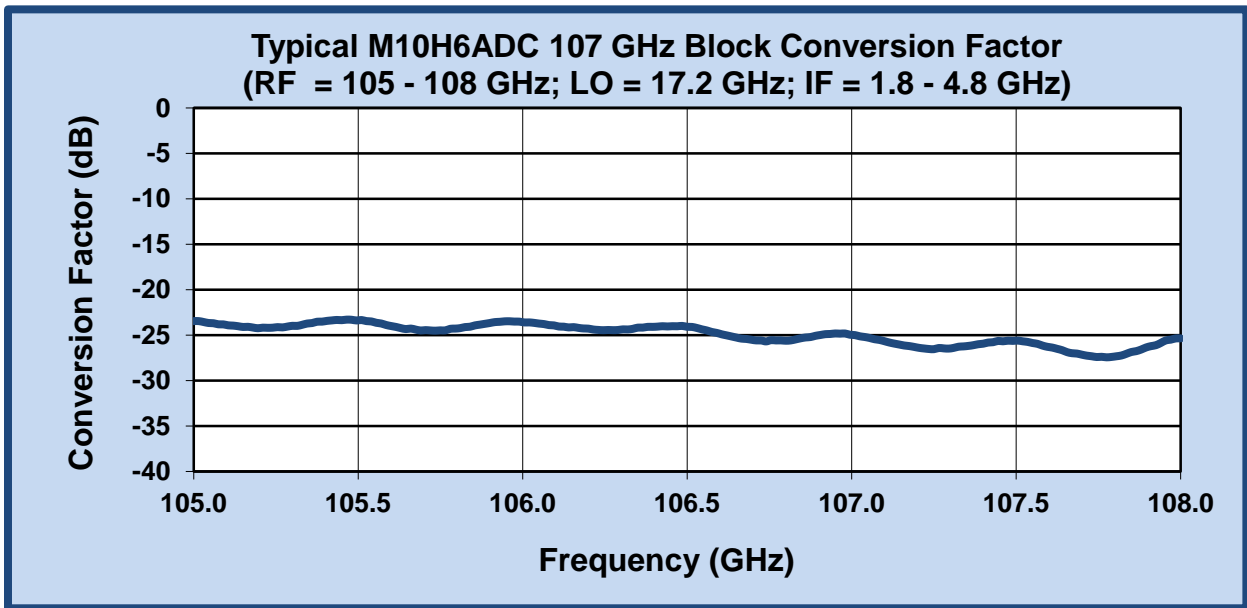
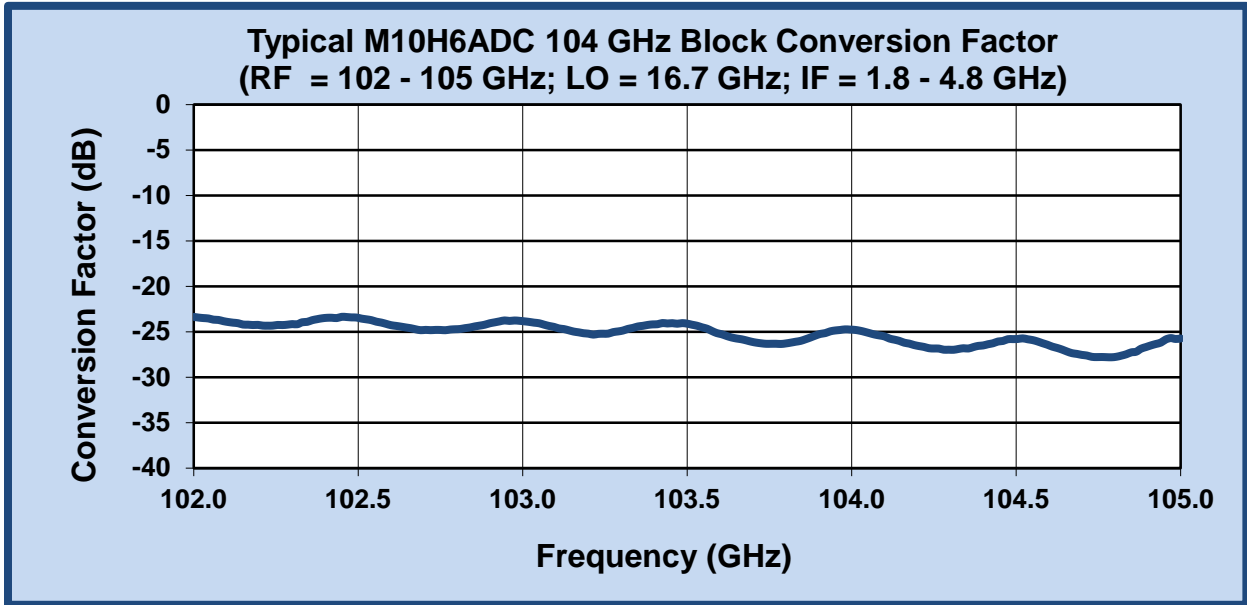
The following typical performance is available when used with the Keysight FieldFox “B” Models.

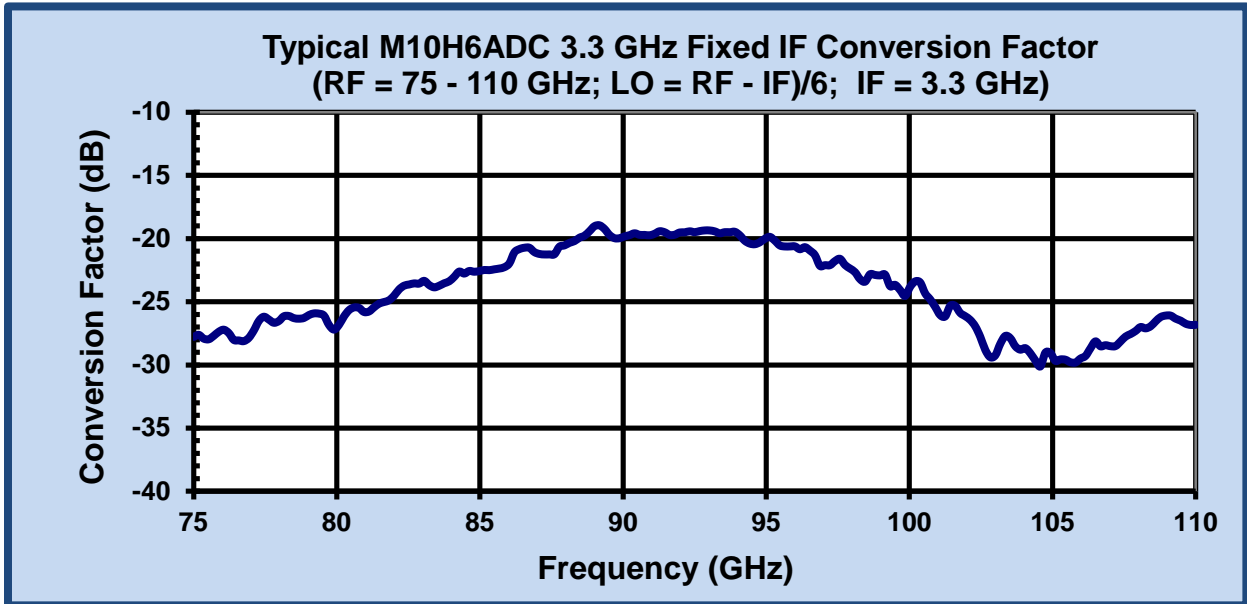
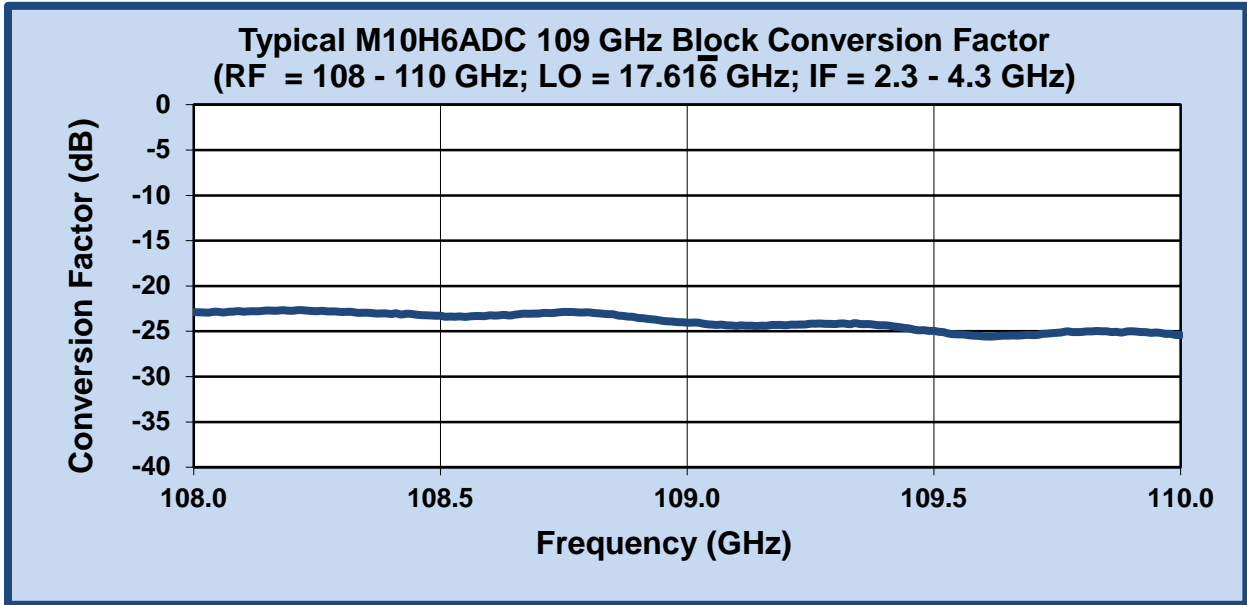














ORDER INFORMATION

Model Number	Description
M10H6ADC ¹	WR-10 Harmonic Mixer Module, 70 to 110 GHz with DC Bias Cable & Carrying Case
Options	
M10H6ADC-100 ²	WR-10 Harmonic Mixer Module with 2 ea. N(m)/SMA(f) Adapter
M10H6ADC-101 ³	WR-10 Harmonic Mixer Module with 2 ea. SMA(m/f) Adapter
M10H6ADC-102 ^{2,3}	WR-10 Harmonic Mixer Module with 2 ea. N(m)/SMA(f), 2 ea. SMA(m/f) Adapter
M10H6ADC-103 ⁴	WR-10 Harmonic Mixer Module with 2 ea. SMA(m) to 2.4mm(f) Adapter
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)
M10RH	Horn Antenna, WR-10
MC2151	Carrying Case, Micro Converter Clear

- ¹ Base model includes a DC bias cable (V00DCUSBS1) & Carrying Case (MC2151)
- ² Add accessories for "direct connect" between OML module & FieldFox with Type N(f) Test Ports
- ³ Add accessories for "direct connect" between OML module & FieldFox with 3.5 mm(m) Test Ports
- ⁴ Add accessories for "direct connect" between OML module & FieldFox with NMD 2.4 mm(m) Test Port

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

