



WR19 WR15 WR12 WR10 WR08 WR06 WR05 WR03 WR02.2

**M19H4ADC Series
Harmonic Mixer Module
40 to 60 GHz**

DESCRIPTION

The M19H4ADC 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-19 (40-60 GHz).



HIGHLIGHTS

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

APPLICATIONS

- SATCOM
- Fixed & Mobile Radio Service
- Radionavigation
- Research

ELECTRICAL AND PERFORMANCE SPECIFICATIONS (+25°C)



After a 0.5 hour warm-up period, the M19H4ADC will satisfy the following specifications.

Electrical Characteristics ¹	MIN	TYP	MAX
RF Input Frequency Range (GHz)	40	--	60
IF Frequency Range (GHz)	0.3		6.5
LO Harmonic Number	--	4	--
LO Input Frequency Range (GHz)	9.6	--	15.0
LO Input Power (dBm)	-15	--	-3
Conversion Factor (dB)	--	3	--
Noise Figure (dB) ²	--	17	--
Sensitivity (dBm) ³	--	-157	--
Gain Compression P1dB (dBm)	--	-6	--
VSWR (nominal)			
RF Input		3.0	
LO Input		1.5	
IF Output		2.0	
Operating Temperature Range (°C)	20°	25°	30°
Storage Temperature Range (°C)	0°		50°
Relative Humidity Operating	45-80% (non-condensing)		
Altitude Operating (ft [m])	<10,000 [3048]		

Module Characteristics ¹	Description
RF Input Waveguide Interface (dB) ⁴	WR-19
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 ⁵ (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 Noise figure includes the internal IF amplifier

³ Calculate Sensitivity (RBW of 1 Hz) = -174 dBm + noise figure; represents theoretical minimum discernable signal

⁴ Test Port Flange Configuration is compatible with MIL-DTL-3922/67E (UG387/U)

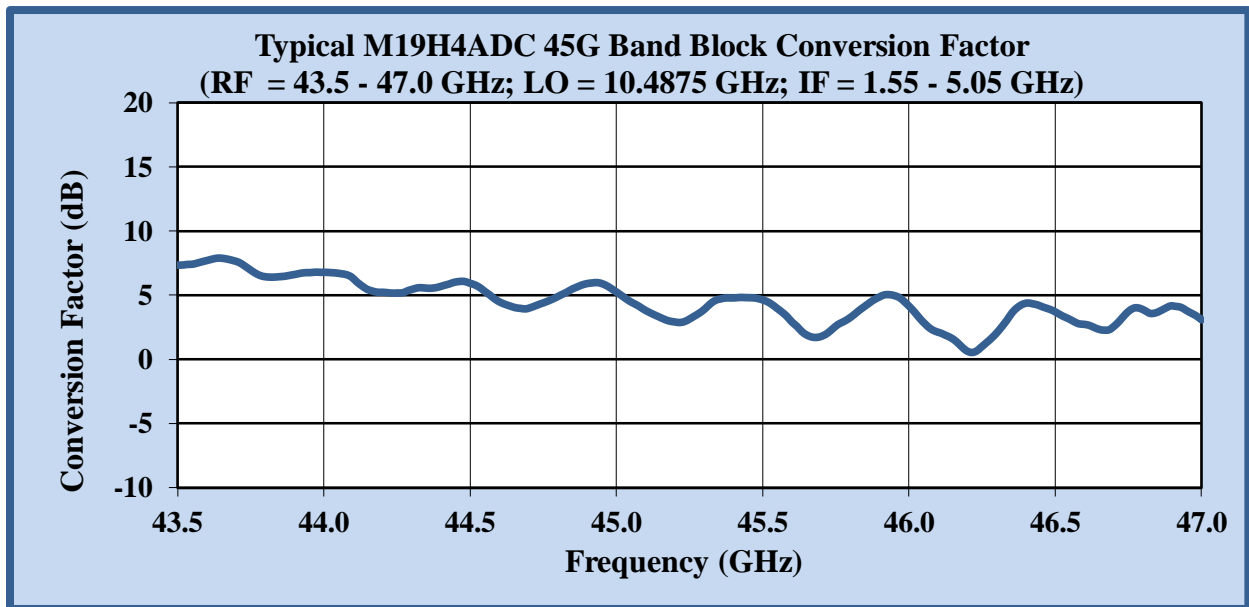
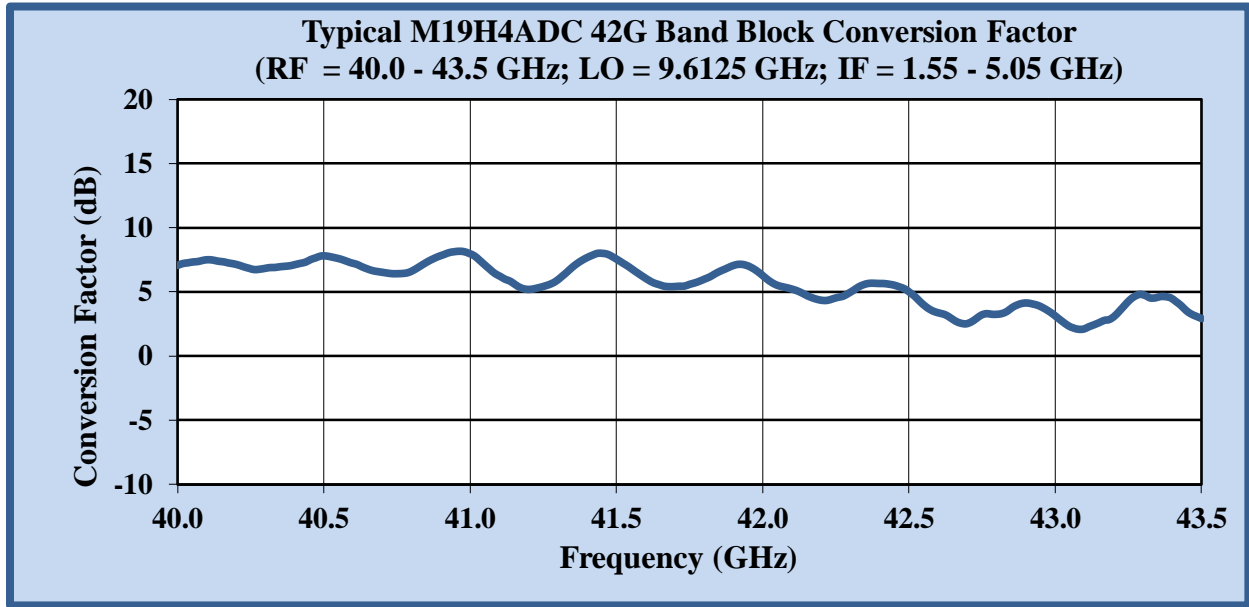
⁵ Excludes input connectors, waveguide output flange and bumper guard.

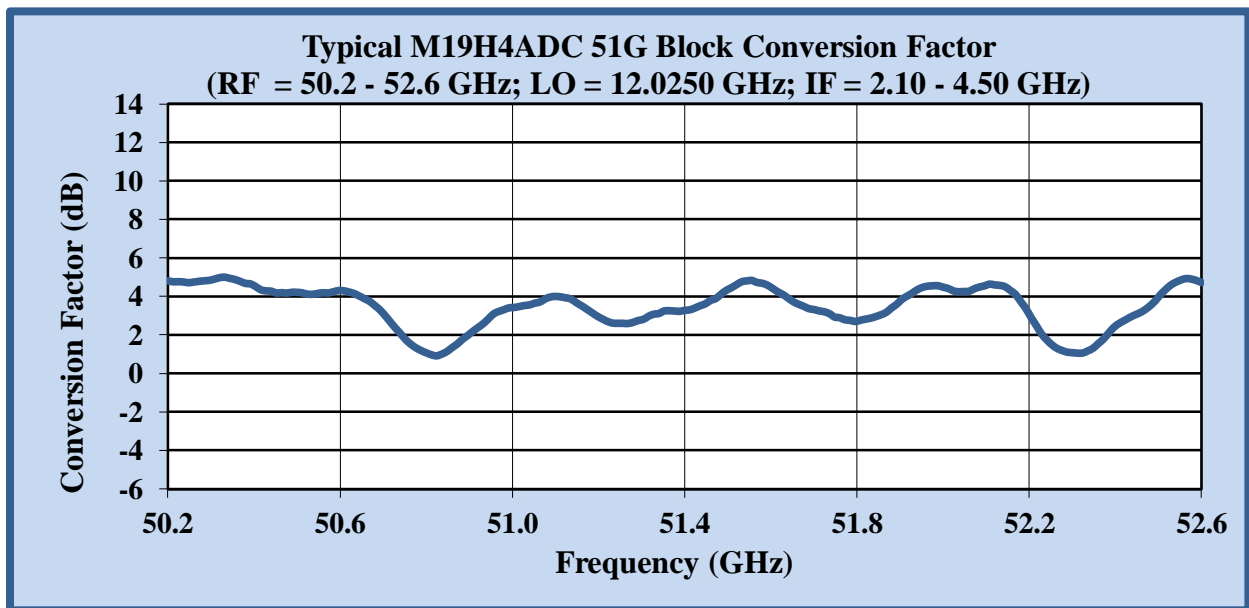
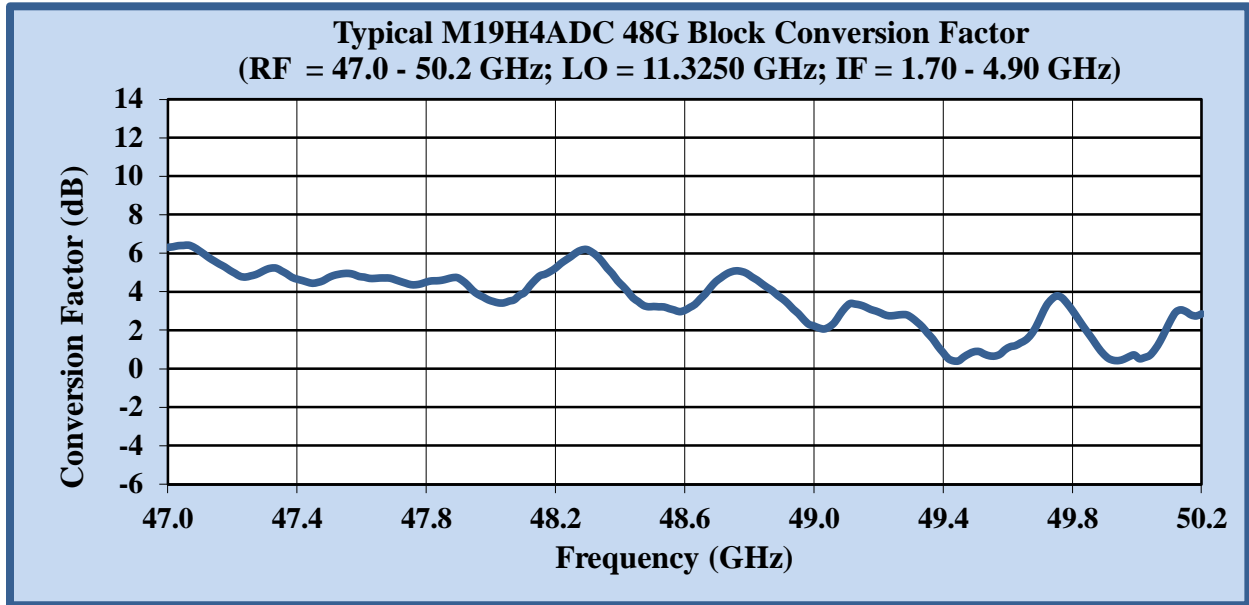


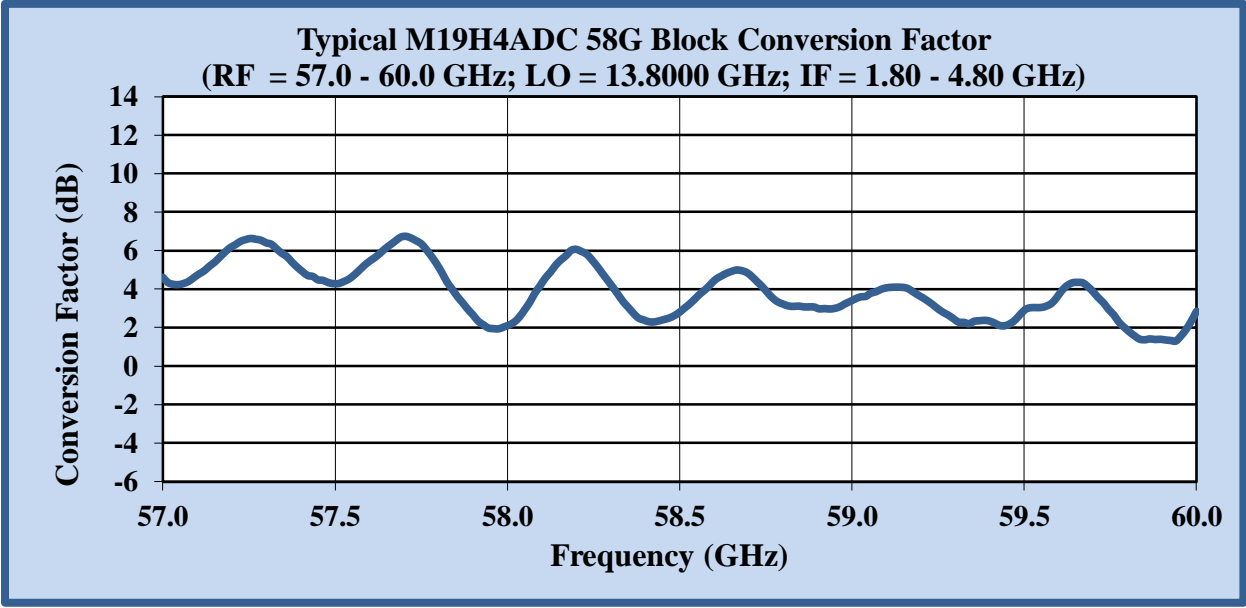
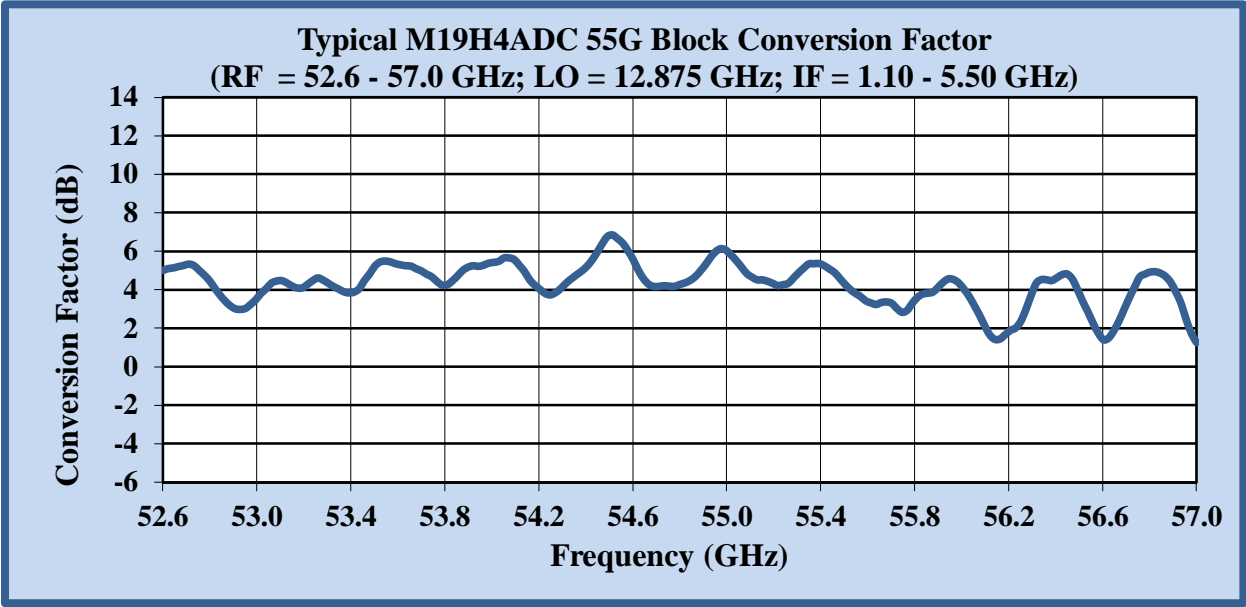


TYPICAL PERFORMANCE

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









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40 to 60 GHz

ORDER INFORMATION

Model Number	Description
M19H4ADC	WR-19 Harmonic Mixer Module, 40 to 60 GHz, with Carrying Case & DC Bias Cable
Options	
M19H4ADC-100 ¹	M19H4ADC with 2 ea. N(m)/SMA(m) Adapter
M19H4ADC-101 ²	M19H4ADC with 2 ea. SMA(m/f) Adapter
M19H4ADC-102 ³	M19H4ADC with 2 ea. N(m)/SMA(m), 2 ea. SMA(m/f) Adapter
M19H4ADC-103 ⁴	M19H4ADC with 2 ea. SMA (m)/2.4 mm(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)
WA18-18.5f	Adapter, End Launch, WR-19 to 1.85 (f)
M19RH	Horn Antenna, WR-19
MC2151	Carrying Case, Micro Converter, Clear

- ¹ Add accessories for “direct connect” between OML module & Fieldfox with Type N(f) Test Ports
- ² Add accessories for “direct connect” between OML module & Fieldfox with 3.5 mm(m) Test Ports
- ³ Add accessories for “direct connect” between OML module & Fieldfox with Type N(f) or with 3.5 mm(m) Test Ports
- ⁴ Add accessories for “direct connect” between OML module & Fieldfox with NMD 2.4 mm(m) Test Ports

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

