



#### HARMONIC MIXER SERIES

[WHMB-28 - 26.5-40GHz](#)

[WHMB-19 - 40-60GHz](#)

[WHMB-15 - 50-75GHz](#)

[WHMB-12 - 60-90GHz](#)

[WHMB-10 - 75-110GHz](#)

[WHMB-08 - 90-140GHz](#)

[WHMB-06 - 110-170GHz](#)

[WHMB-05 - 140-220GHz](#)

[WHMB-03 - 220-325GHz](#)

[WHMB-02 - 325-500GHz](#)

**Datasheet**
**Description**

A high performance harmonic mixer series offering low conversion loss with no bias required. Suitable for use with Agilent and Rohde & Schwarz spectrum analysers for frequency extension applications.

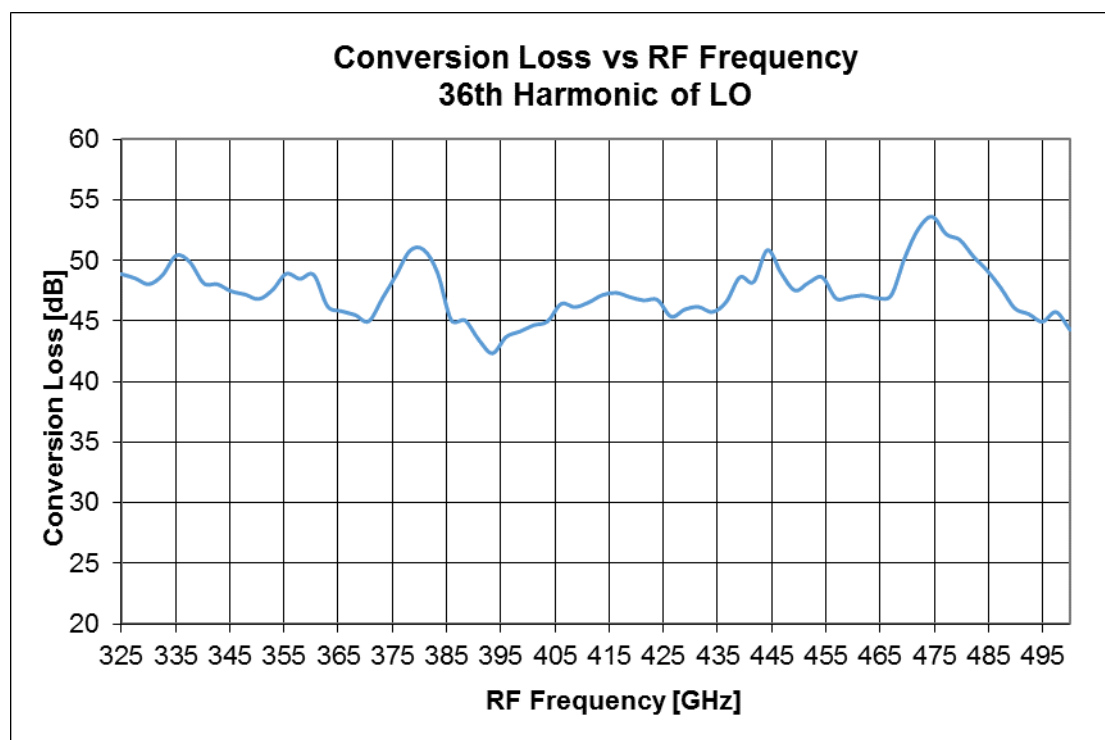

**Features**

- Low conversion loss
- Flat frequency response
- Frequency coverage up to 500 GHz
- Unbiased anti-parallel diode pair

**Applications**

- Spectrum analysis
- mm-Wave instrumentation
- Signal processing
- Phased locked loops

Specification (Agilent)	Unit	Min	Typ	Max
Frequency Range	GHz	325		500
Waveguide Designation		WR-2.2		
IF Frequency Range	MHz	DC-1000		
LO Harmonic Number		36		
LO Frequency Range	GHz	9.03 – 13.89		
Conversion Loss (typ.)	dB	55		
LO Level	dBm	14	15	+16.5
Flange		UG387/U-M		
Output Connector		K-female		
Bias Required		None		
CW RF Input Level				0
RF Input VSWR		<3.6:1		

**Datasheet****Notes:**

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A high performance harmonic mixer series offering low conversion loss with no bias required. Suitable for use with Keysight Technologies and Rohde & Schwarz spectrum analysers for frequency extension applications.

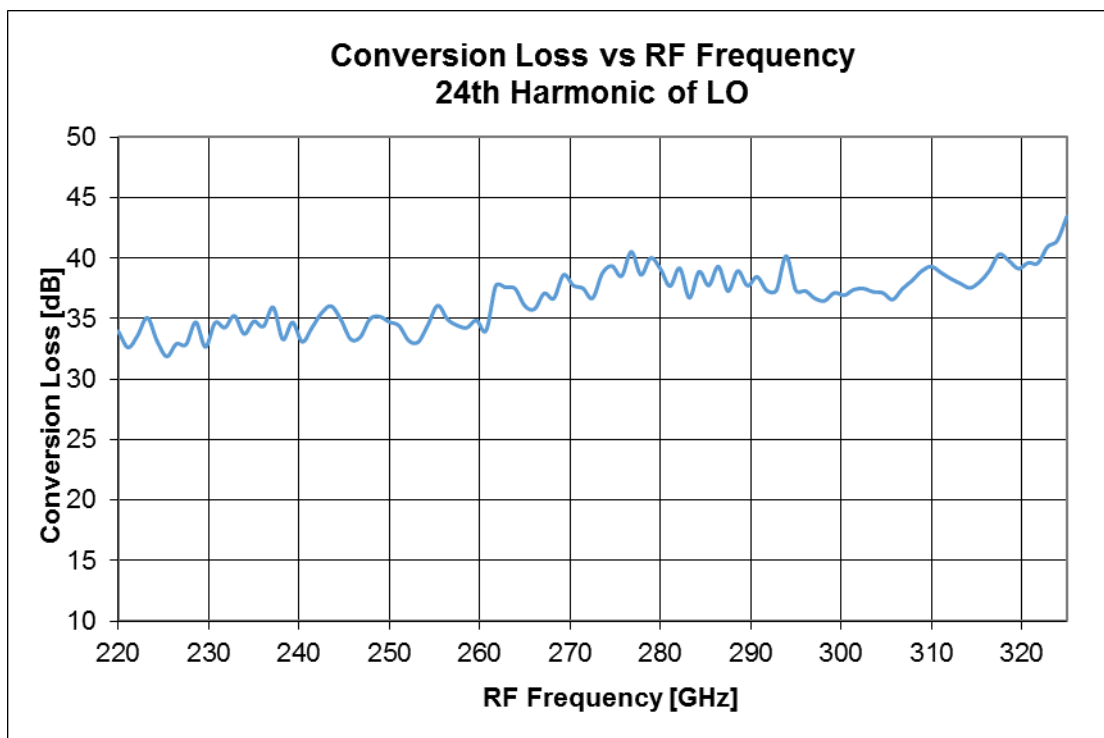

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<b>Specification (Agilent)</b>	<b>Unit</b>	<b>Min</b>	<b>Typ</b>	<b>Max</b>
Frequency Range	GHz	220		325
Frequency Band		J		
Waveguide Designation		WR-3		
IF Frequency Range	MHz	DC-1000		
LO Harmonic Number		24		
LO Frequency Range	GHz	9.16		13.54
Conversion Loss	dB	45		
LO Level	dBm			+18
Flange		UG387/U-M		
Output Connector		K-female		
Bias Required		None		
CW RF Input Level				0
RF Input VSWR		<3.6:1		

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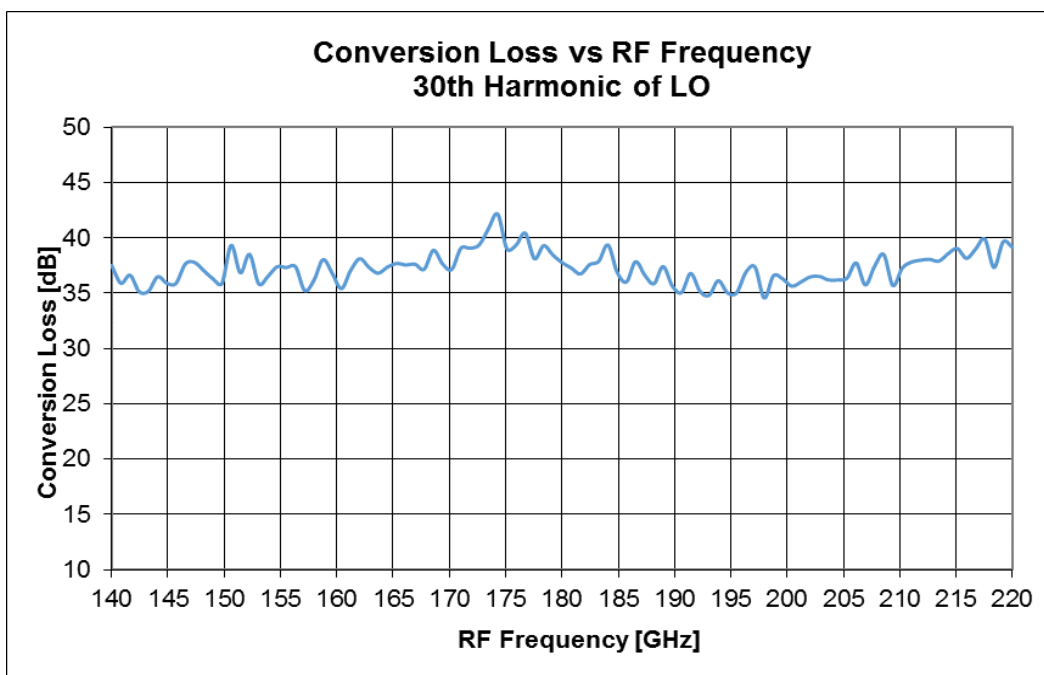
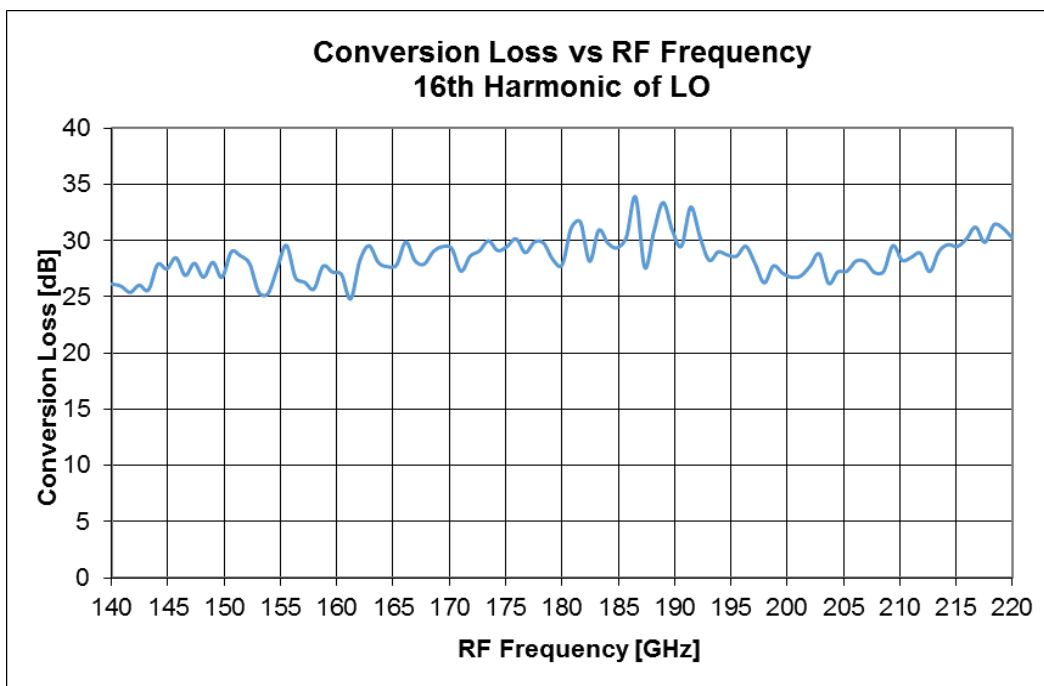

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Specification (Agilent)	Unit	Min	Typ	Max
Frequency Range	GHz	140		220
Frequency Band		G		
Waveguide Designation		WR-5		
IF Frequency Range	MHz	DC-1000		
LO Harmonic Number		30 [16]		
LO Frequency Range	GHz	4.6 [8.75]		7.3 [13.75]
Conversion Loss	dB	50 [40]		
LO Level	dBm			+13
Flange		UG387/U-M		
Output Connector		K-female		
Bias Required		None		
CW RF Input Level				0
RF Input VSWR		<3.6:1		
Rohde & Schwarz Specifications in Brackets				

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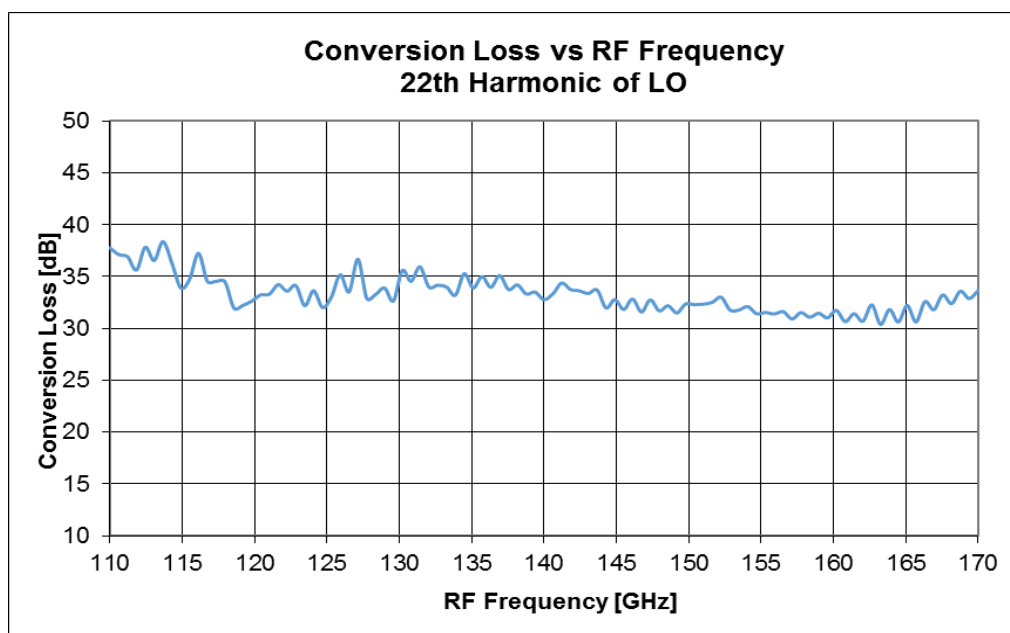
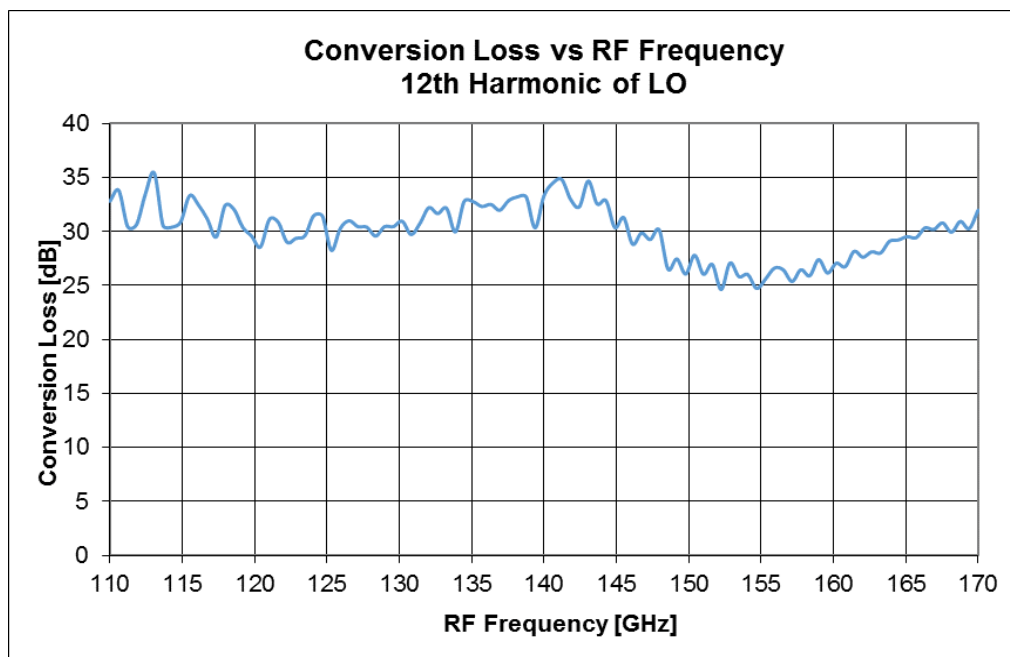
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Specification (Agilent)	Unit	Min	Typ	Max
Frequency Range	GHz	110		170
Frequency Band		D		
Waveguide Designation		WR-6		
IF Frequency Range	MHz	DC-1000		
LO Harmonic Number		22 [12]		
LO Frequency Range	GHz	5 [9.17]		7.7 [14.66]
Conversion Loss	dB	46 [40]		
LO Level	dBm			+13
Flange		UG387/U-M		
Output Connector		K-female		
Bias Required		None		
CW RF Input Level				0
RF Input VSWR		<3.6:1		
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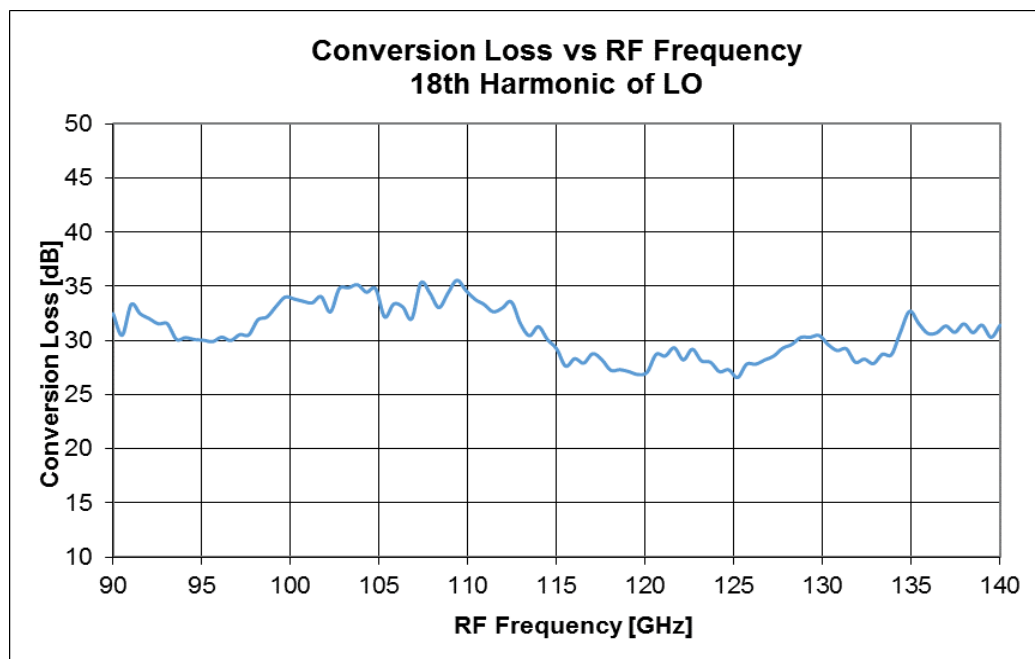
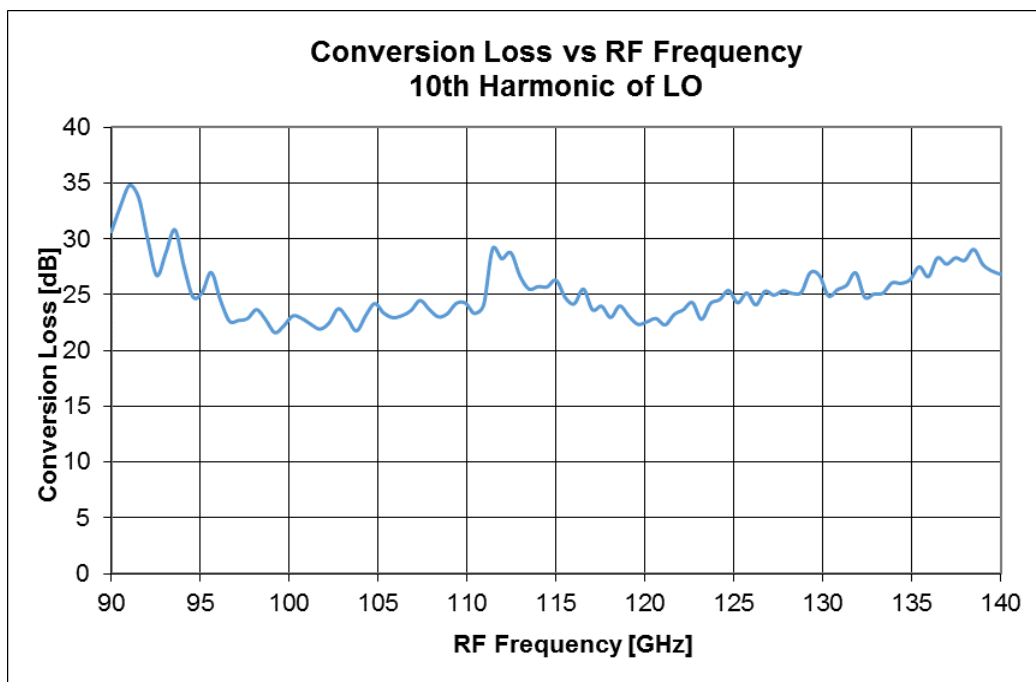

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Specification (Agilent)	Unit	Min	Typ	Max
Frequency Range	GHz	90		140
Frequency Band		F		
Waveguide Designation		WR-8		
IF Frequency Range	MHz	DC-1000		
LO Harmonic Number		18 [10]		
LO Frequency Range	GHz	4.95 [9]		7.82 [14]
Conversion Loss	dB	40 [35]		
LO Level	dBm	+12		+15
Flange		UG387/U-M		
Output Connector		K-female		
Bias Required		None		
CW RF Input Level				0
RF Input VSWR		<3.6:1		
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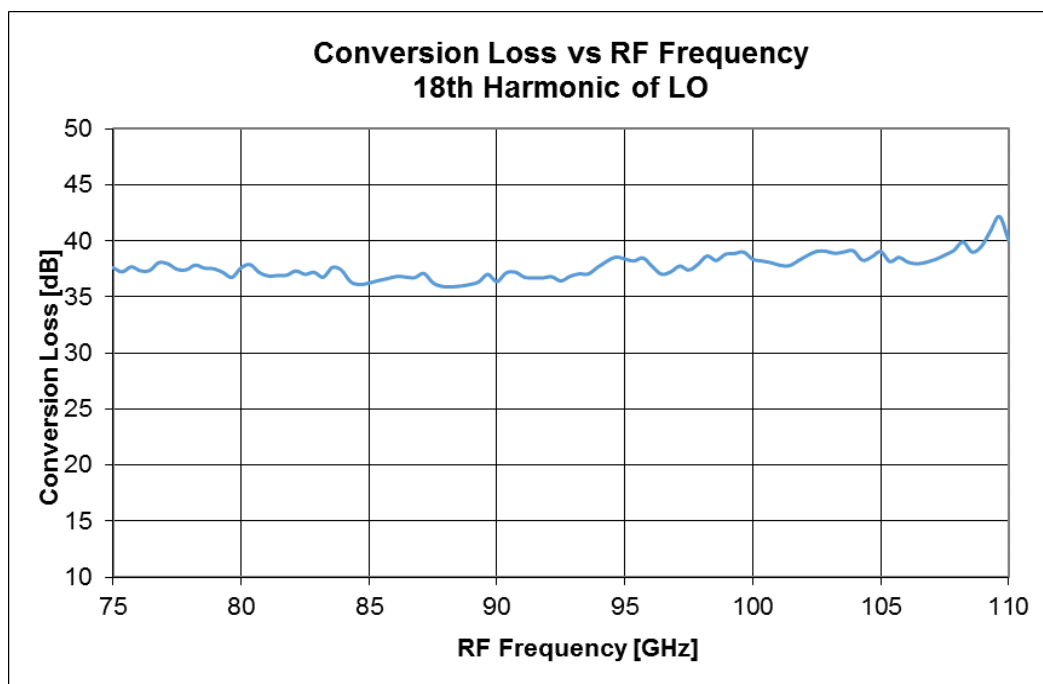
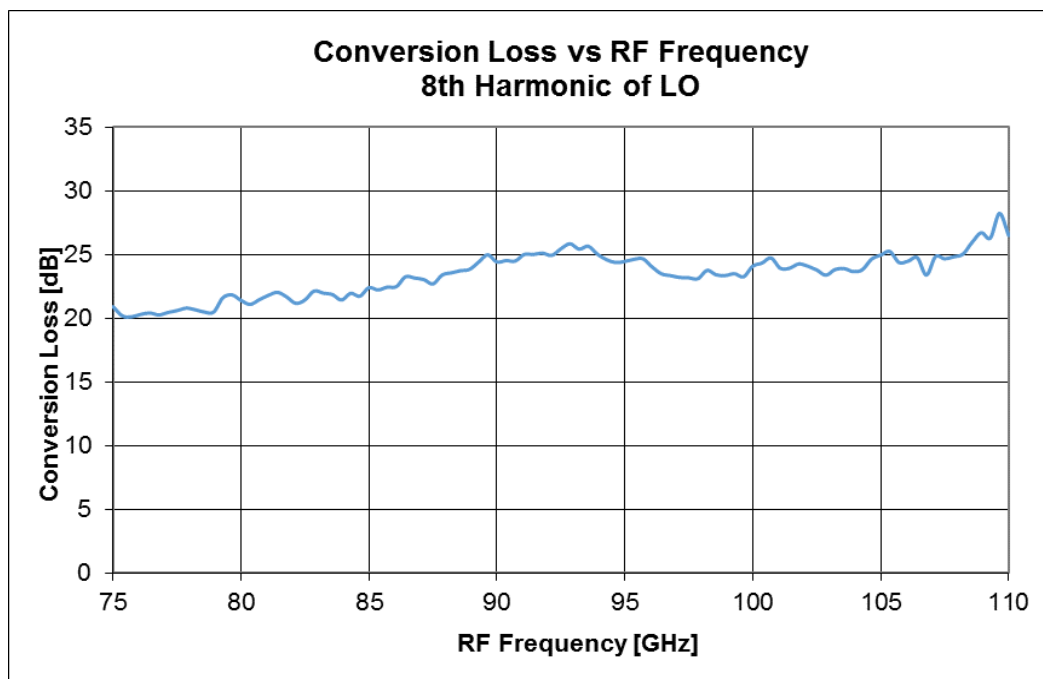
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Specification (Agilent)	Unit	Min	Typ	Max
Frequency Range	GHz	75		110
Frequency Band		W		
Waveguide Designation		WR-10		
IF Frequency Range	MHz	DC-1000		
LO Harmonic Number		18 [8]		
LO Frequency Range	GHz	4.1 [9.38]		6.1 [13.75]
Conversion Loss	dB	45 [30]		
LO Level	dBm			+15
Flange		UG387/U-M		
Output Connector		SMA-F		
Bias Required		None		
CW RF Input Level				0
RF Input VSWR		<3.6:1		
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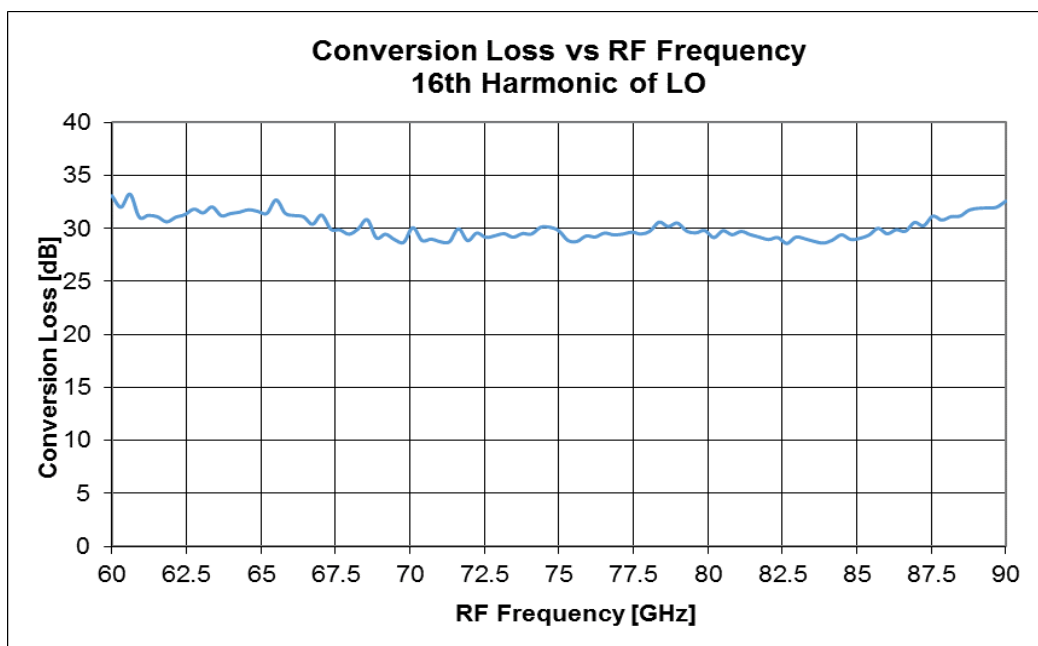
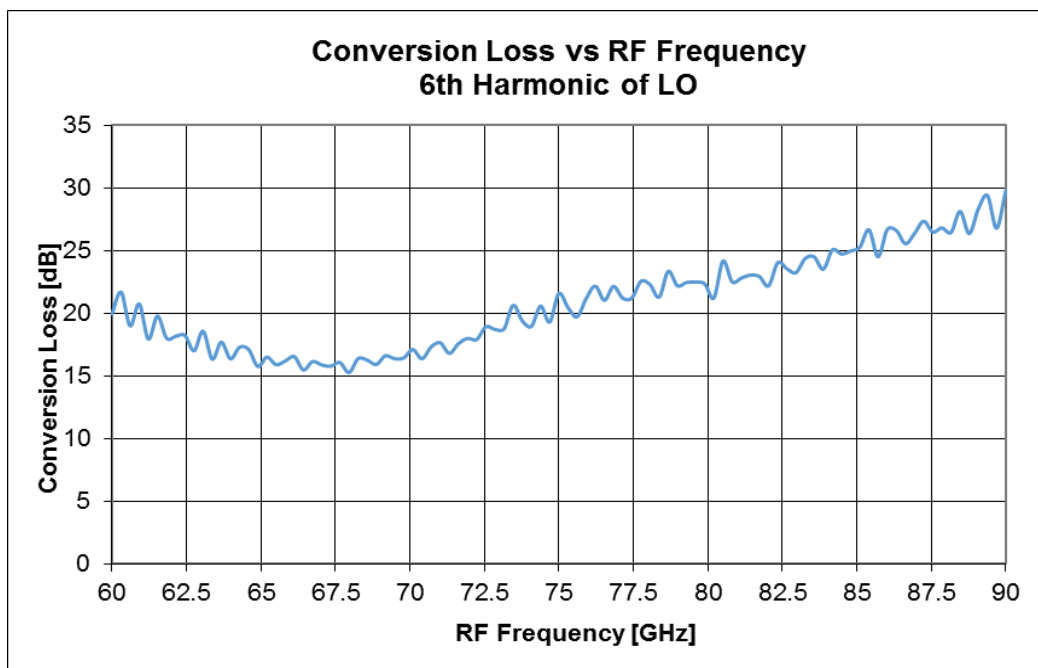
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Specification (Agilent)	Unit	Min	Typ	Max
Frequency Range	GHz	60		90
Frequency Band		E		
Waveguide Designation		WR-12		
IF Frequency Range	MHz	DC-1000		
LO Harmonic Number		16 [6]		
LO Frequency Range	GHz	3.75 [10]		5.6 [15]
Conversion Loss	dB	40 [32]		
LO Level	dBm			+18
Flange		UG387/U-M		
Output Connector		SMA-F		
Bias Required		None		
CW RF Input Level				+16
RF Input VSWR		<3.6:1		
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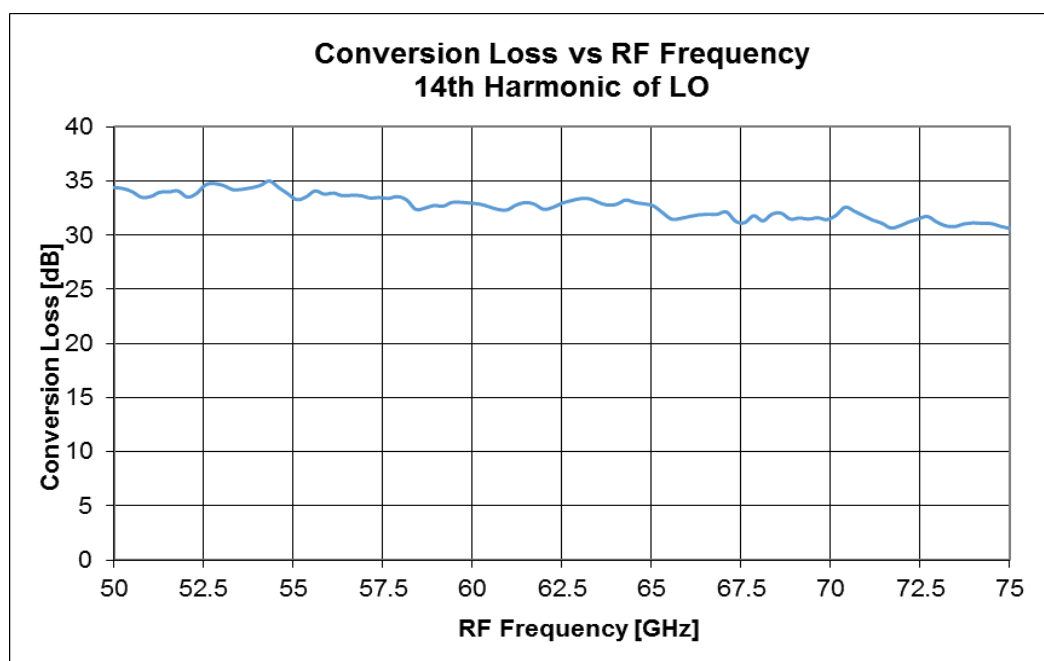
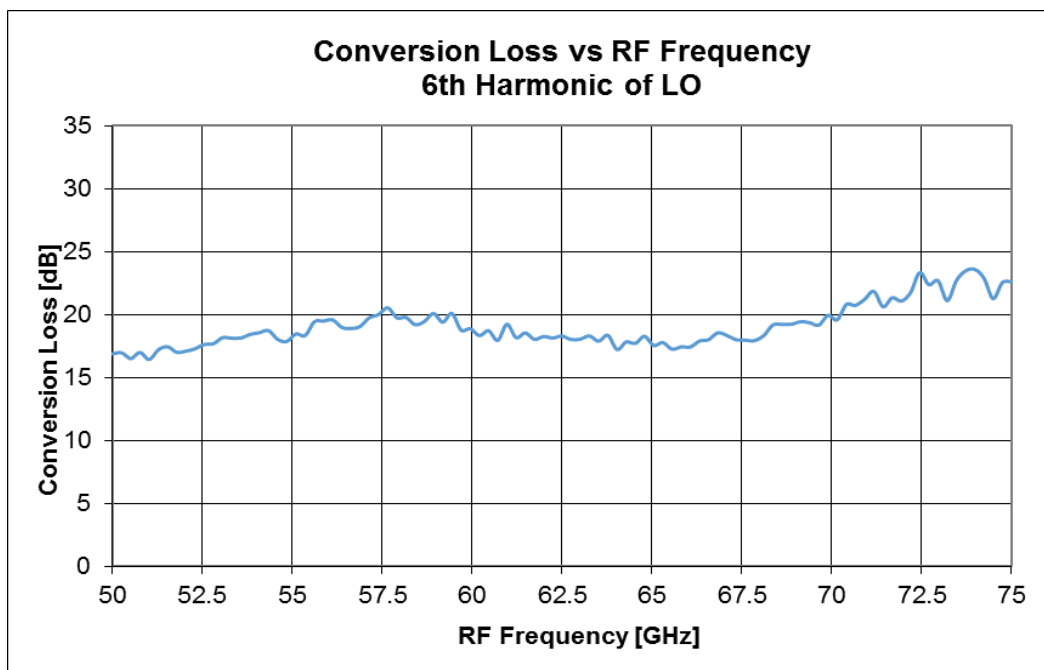
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Specification (Agilent)	Unit	Min	Typ	Max
Frequency Range	GHz	50		75
Frequency Band		V		
Waveguide Designation		WR-15		
IF Frequency Range	MHz	DC-1000		
LO Harmonic Number		14 [6]		
LO Frequency Range	GHz	3.5 [8.33]		5.3 [12.5]
Conversion Loss	dB	40 [25]		
LO Level	dBm			+18
Flange		UG385/U		
Output Connector		SMA-F		
Bias Required		None		
CW RF Input Level				+16
RF Input VSWR		<3.5:1		
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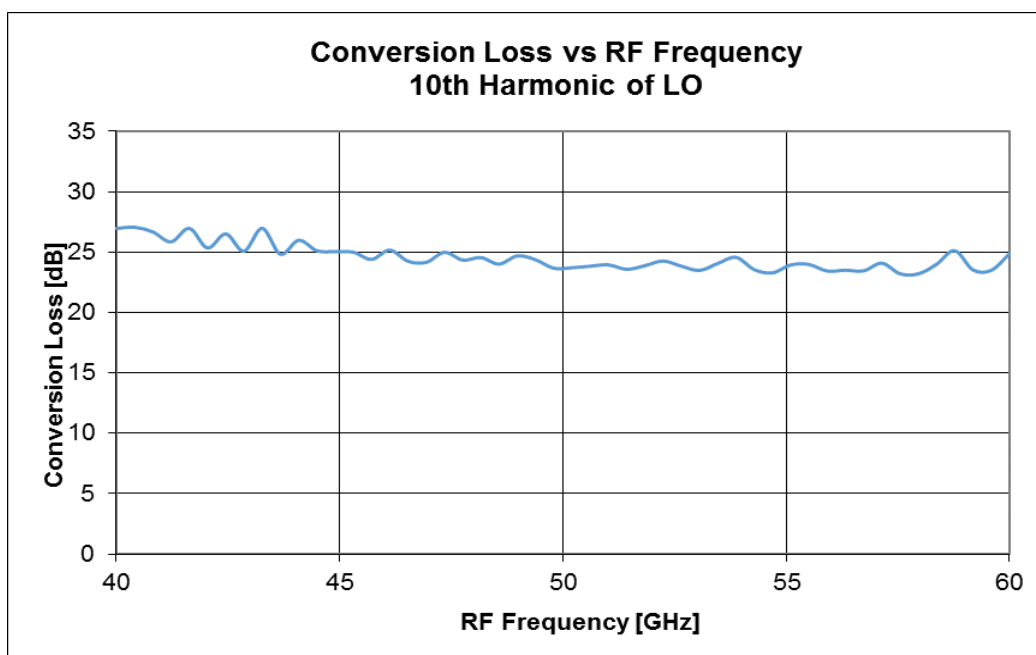
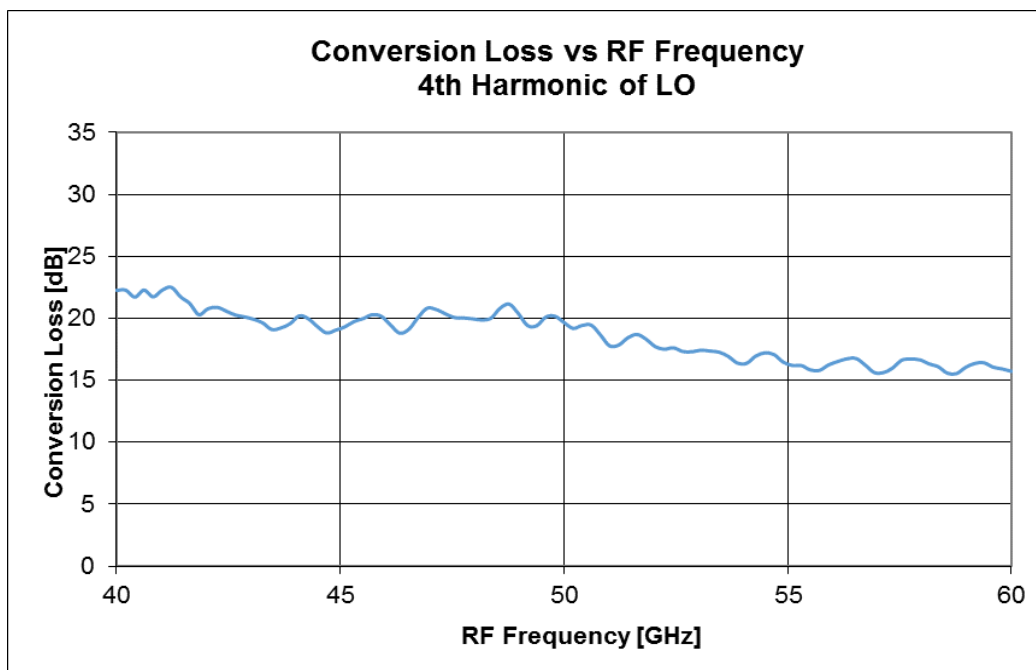

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Specification (Agilent)	Unit	Min	Typ	Max
Frequency Range	GHz	40		60
Frequency Band		U		
Waveguide Designation		WR-19		
IF Frequency Range	MHz	DC-1000		
LO Harmonic Number		10 [4]		
LO Frequency Range	GHz	4 [10]		6 [15]
Conversion Loss	dB	35 [20]		
LO Level	dBm			+18
Flange		UG383/U-M		
Output Connector		SMA-F		
Bias Required		None		
CW RF Input Level				+16
RF Input VSWR		<3.5:1		
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Specification (Agilent)	Unit	Min	Typ	Max
Frequency Range	GHz	26.5		40
Frequency Band		Ka		
Waveguide Designation		WR-28		
IF Frequency Range	MHz	DC-1000		
LO Harmonic Number		8 [4]		
LO Frequency Range	GHz	3.3 [6.6]		5 [10]
Conversion Loss	dB		30 [25]	
LO Level	dBm			+18
Flange		UG599/U		
Output Connector		SMA-F		
Bias Required		None		
CW RF Input Level				+16
RF Input VSWR		<3.5:1		
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