

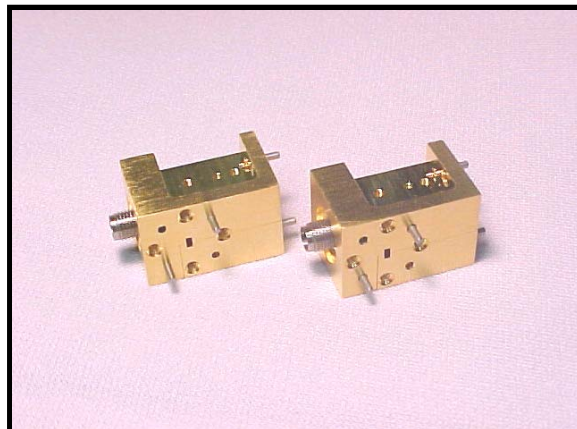
## Harmonic Mixers (Waveguide & Coaxial)

### FEATURES:

- ❖ Frequency Coverage From 2 to 140 GHz
- ❖ Low Conversion Loss
- ❖ Full Waveguide Band Coverage
- ❖ Extends the Useful Frequency Range of Spectrum Analyzers
- ❖ High Sensitivity

### APPLICATIONS:

- ❖ Instrumentation such as Spectrum Analyzers And Frequency Counter extenders
- ❖ Phase Lock Loop
- ❖ High Order Down Converters



### DESCRIPTION:

### CHM Series

Cernex's CHM series harmonic mixers are used to down-convert millimeter wave signals using a Schottky barrier mixer diode. Measurements can be made by mixing the harmonic of the LO with the desired RF signal and observing the resulting IF. The CHM series is designed for applications where a Diplexer can be added as an option.

### SPECIFICATIONS:

#### Sub-Harmonic:

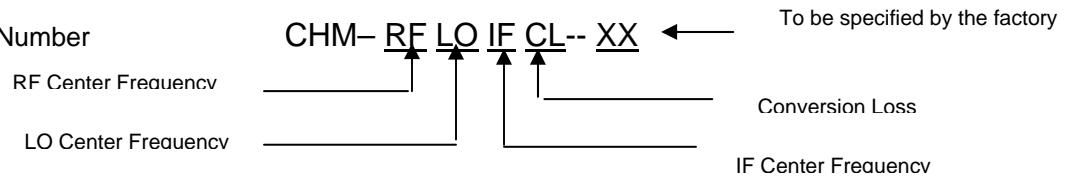
Model Number	RF (GHz)	LO (GHz)	IF (GHz)	CONVERSION LOSS (dB) Typ.	ISOLATIONS L-R(dB)	L-I(dB)	LO DRIVE LEVEL (dB) Typ.	Case Type
CHM12060205M	2 - 12	1 - 6	DC - 2	5.5	35	25	10	-
CHM20100206M	4 - 20	2 - 10	DC - 2	6.0	45	30	10	-
CHM21100310H	14 - 21	7 - 10.5	DC - 3	10.0	40	40	10	-
CHM25120309H	17 - 25	8.5-12.5	DC - 3	9.0	25	30	10	-
CHM30150610V	20 - 30	10 - 15	DC - 6	10.0	29	29	10	-
CHM32160303H	20 - 32	10 - 16	DC - 6	10.0	40	40	10	-
CHM32160303H	20 - 32	10 - 16	0.7 - 3	3.0	20	60	10	-
CHM40400312H	20 - 40	10 - 20	1 - 3	12.0	24	55	10	-
CHM26130112V	22-26.5	11-13.25	DC - 1	12.5	-	-	10	-
CHM33160209H	26 - 33	13 - 16.5	DC - 2.5	9.0	33	40	10	-
CHM33160311H	26 - 33	13 - 16.5	DC - 3	11.0	35	35	10	-
CHM42210310H	33 - 42	16.5 - 21	DC - 3	10.0	37	40	10	-
CHM64320312V	54-64	27-32	DC - 3	12.5	-	-	10	-

## Harmonic Mixers (Waveguide & Coaxial)

Waveguide Band	Ku	Ka	Q	U	V	E	W	F
Waveguide Size	WR42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10	WR-8
Frequency Range (GHz)	18 to 26.5	26.5 to 40	33 to 50	40 to 60	50 to 75	60 to 90	75 to 110	90-140
Flange		UG-599	UG-383	UG-383M	UG-385	UG-387	UG-387M	UG-387M
LO Band	2 – 4GHz, 4-8GHz, 8-150 GHz							
SSB Conversion Loss (dB)		18	20	22	24	27	30	40
Operating Specifications								
RF Input Power	+ 15 dBm, Max.							
LO Input Power	+ 18 dBm, Max.							
Storage Temperature	-55°C to +125°C							
Operating Temperature	0°C to +60°C							
Bias Requirements: Diode	-0.7 Vdc @ 5mA							

### HOW TO ORDER:

Specify Model Number



**Example:** To order WR-15 Harmonic mixer with 65 Ghz RF, 10 Ghz LO, & 500 Mhz IF, and 9 dB conversion loss, specify CHM-6510U509-XX

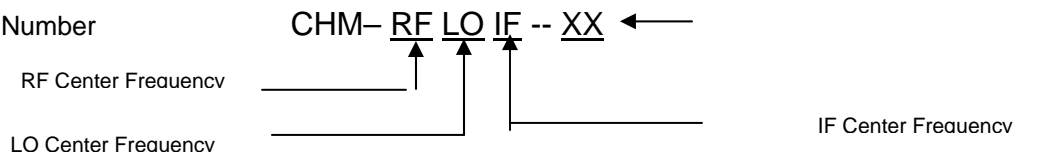
Waveguide Band						
RF Port:Waveguide Size	WR-6.5	WR-5.1	WR-4.3	WR-3.4	WR-2.8	WR-2.2
Frequency Range (GHz)	110 to 170	140 to 220	170 to 260	220 to 330	260 to 400	330 to 500
Flange	UG-387/UM	UG-387/UM	UG-387/UM	UG-387/UM	UG-387/UM	UG-387/UM
LO/IF Range (GHz)	0-40	0-40	0-40	0-40	0-40	0-40
LO & IF Port (w. Diplexer)	2.9mm-F	2.9mm-F	2.9mm-F	2.9mm-F	2.9mm-F	2.9mm-F

## Harmonic Mixers (Waveguide & Coaxial)

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### HOW TO ORDER:

Specify Model Number



**Example:** To order WR-6.5 Harmonic mixer with 140GHz RF, 20 GHz LO, & 20 GHz IF, specify CHM-1402020-XX

CERNEX RESERVE THE RIGHT TO CHANGE THE SPECIFICATIONS WITHOUT NOTICE