








EWM7601ZZ

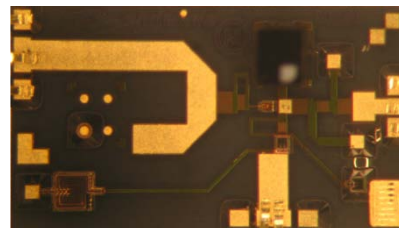
November 2009 – Rev . 1

Production

Features

-  Sub-harmonically Pumped Mixer (2LO)
-  Broadband Performance: 71 - 76 GHz
-  Input P1dB: +8 dBm
-  Conversion Loss: 11 dB typical
-  LO Drive Level: +18 dBm typical
-  100% RF and DC tested
-  Die size: 1.49 x 2.59 x 0.227 mm, height includes flipped diodes
-  MLMS™ Technology Provides Excellent Performance and Repeatability

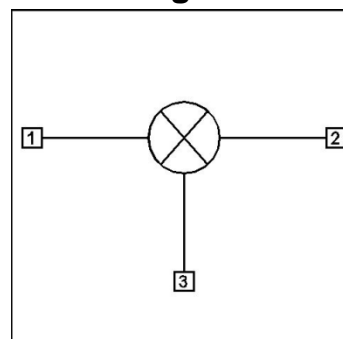
Device Photo



Description

The Endwave *EWM7601ZZ* is a high performance MLMS™ sub-harmonic mixer which provides conversion loss of 11 dB, RF return loss at better than 13 dB, and excellent performance repeatability. The chip may be used for a wide range of E-band applications from defense electronics to commercial communication systems. All chips are visually inspected using Mil-Std-883 Method 2010.

Block Diagram



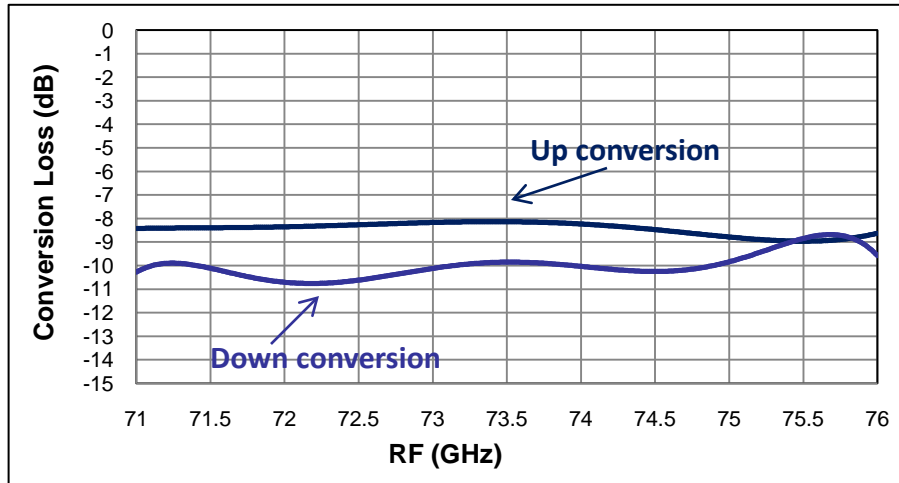
Electrical Characteristics (Temperature = +25 °C)

Parameter	Min.	Typ.	Max.	Units
Frequency Range, RF	71		76	GHz
Frequency Range, IF	DC		15	GHz
Frequency Range, LO	20		40	GHz
Conversion Loss ^(1,2)		11		dB
Output P1dB Compression		-2		dBm
LO Drive Power		17		dBm
IF Return Loss		6		dB
LO Return Loss		7		dB
RF Return Loss		13		dB

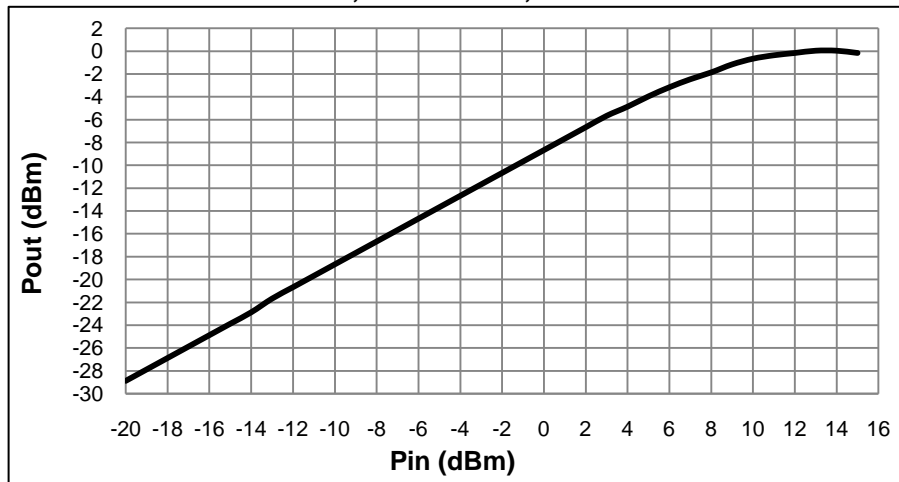
Note1: Measured as Upconverter

Note2: Measured as Downconverter

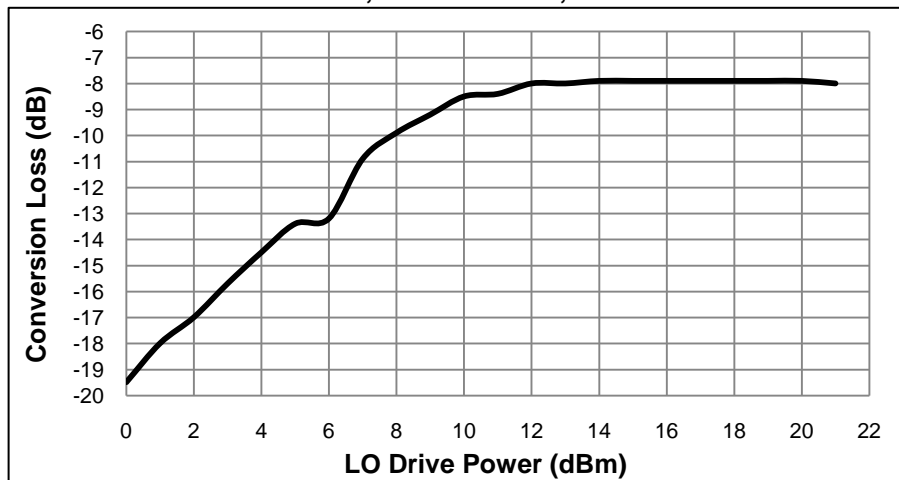
Low Band Mixer: Conversion Loss vs. Frequency
 LO = 32 GHz and IF = 7 to 12 GHz



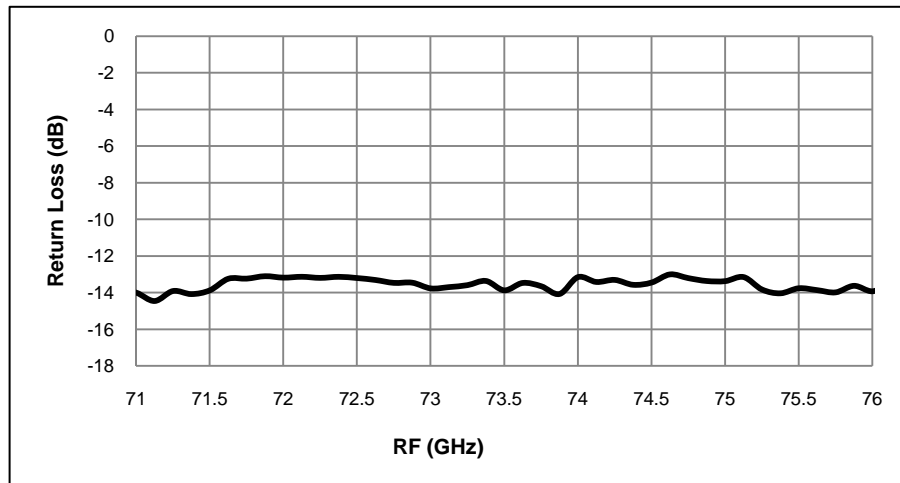
Low Band Mixer: Pin vs. Pout
 RF = 76 GHz , LO = 34 GHz, and IF = 8 GHz



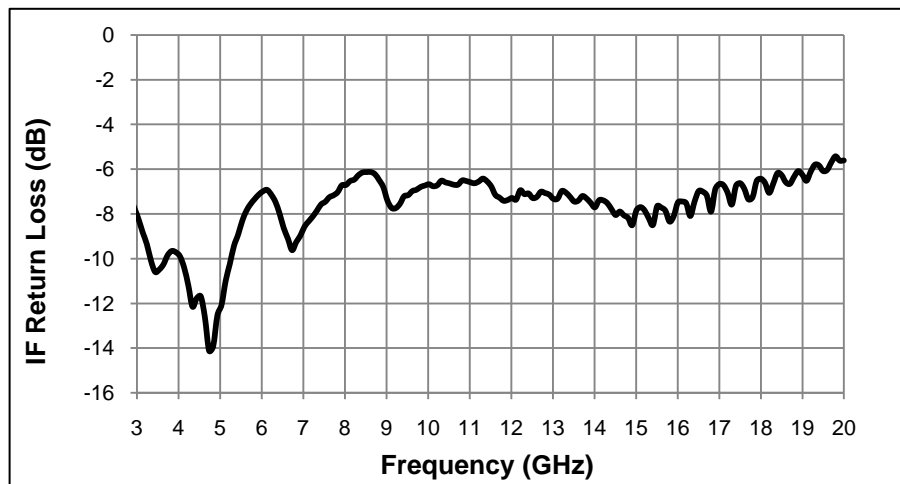
Low Band Mixer: Conversion Loss vs. LO Driver Power
 RF = 73.6 GHz, LO = 35.2 GHz, and IF = 3.2 GHz



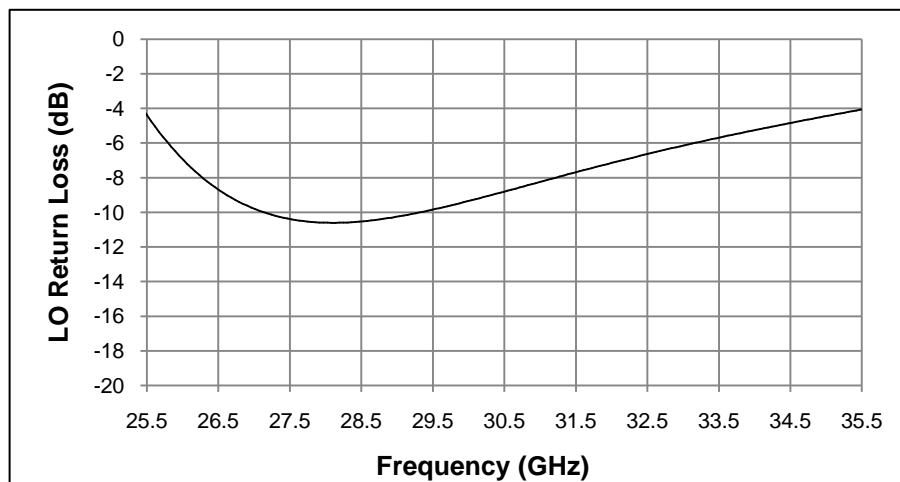
Low Band Mixer: RF Return Loss vs. Frequency



IF Return Loss



LO Return Loss

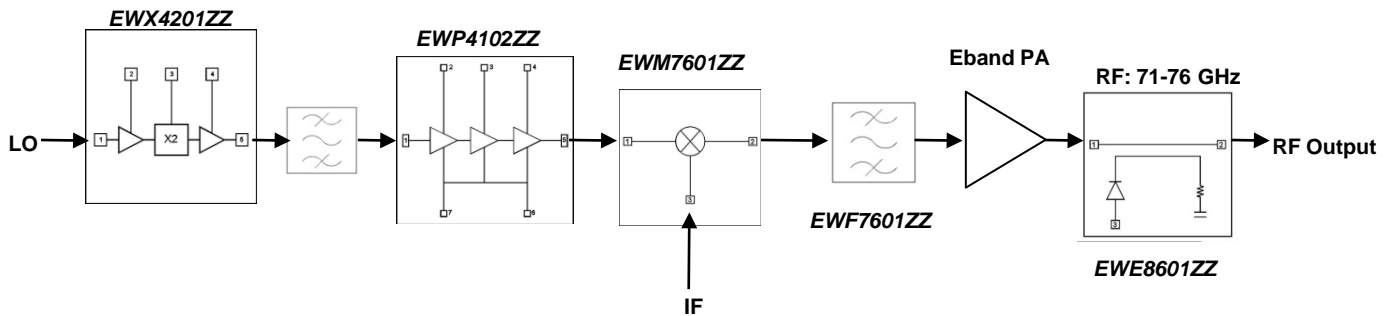


MLMS™ Mixers -- Chip

Absolute Maximum Ratings

IF Input Power	+ 21 dBm
LO Input Power	+ 21 dBm
RF Input Power	+ 21 dBm
Storage Temperature	-65° to +150°C
Operating Temperature	-40° to +85°C

Typical Upconverter Application



Support Documentation

Support documentation including Assembly Notes, Application Notes and Qualification Procedures can be found on our website at www.endwave.com.

Ordering Information

Part Number	Description
EWM7601ZZ	RoHS compliant bare die in waffle or gel packs