

## D-Band IQ-subharmonic mixer

RF:120-160 GHz/LO:60-80 GHz/IF:DC-30 GHz

Model: TMIQ-120160-0230-06

TMIQ-120160-0230-06 is a subharmonic IQ mixer in the 120-160 GHz frequency band suitable for D-band point-to-point communication, instrumentation, sensing, security and high resolution imaging applications. The mixer has high image rejection, low input/output return loss and flat conversion response

### Features:

- RF Frequency:120-160GHz
- Compact Package
- Low Conversion Loss

### Applications:

- Point-to-point communication
- Instrumentation

### Electrical Characteristics:

Parameter	Min	Typ	Max	Units
RF Frequency	120		160	GHz
LO Frequency	60		80	GHz
IF Frequency	DC	20	30	GHz
LO-Input power	8	10	12	dBm
SSB Conversion Loss		11		dB
I/Q Amplitude Balance		±0.6		dB
I/Q Phase Balance		±4		°
RF VSWR		1.5		:1
LO VSWR		3.0		:1

### Mechanical Specifications:

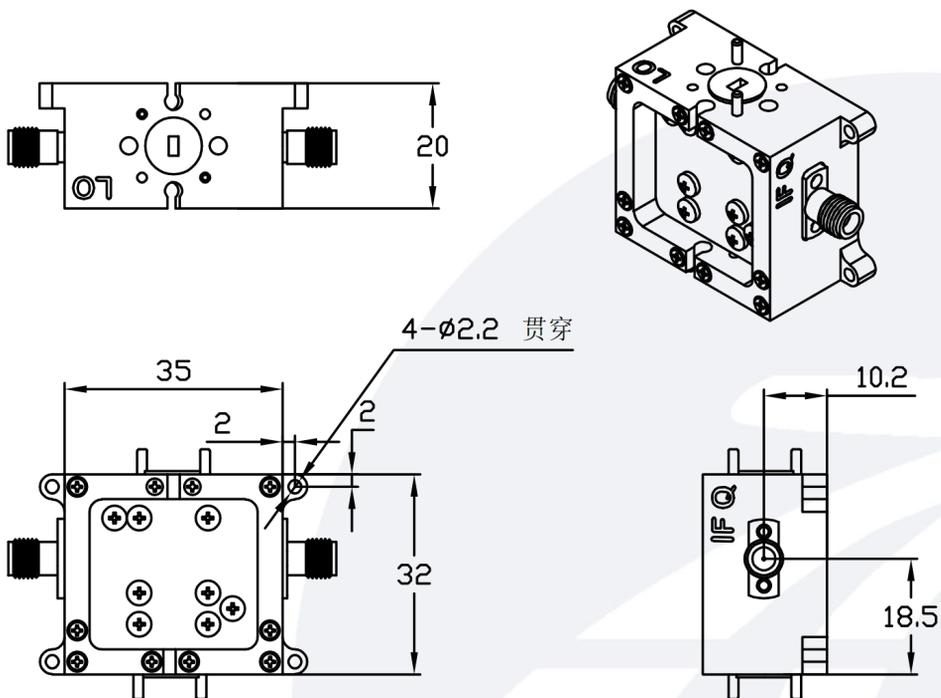
Parameter	Value	Units
RF Connector	WR-6.5/UG-387/U	
LO Connector	WR-12/UG-387/U	
IF Connector	2.92mm Female	
Size	35*32*20	mm

### Absolute Maximum Ratings:

Parameter	Value
RF Input Power	0 dBm
IF Input Powe	0 dBm
LO Input Powe	13 dBm
ESD sensitivity (HBm)	TBD

### Outline Drawing:

Unit:mm



### Environmental Conditions:

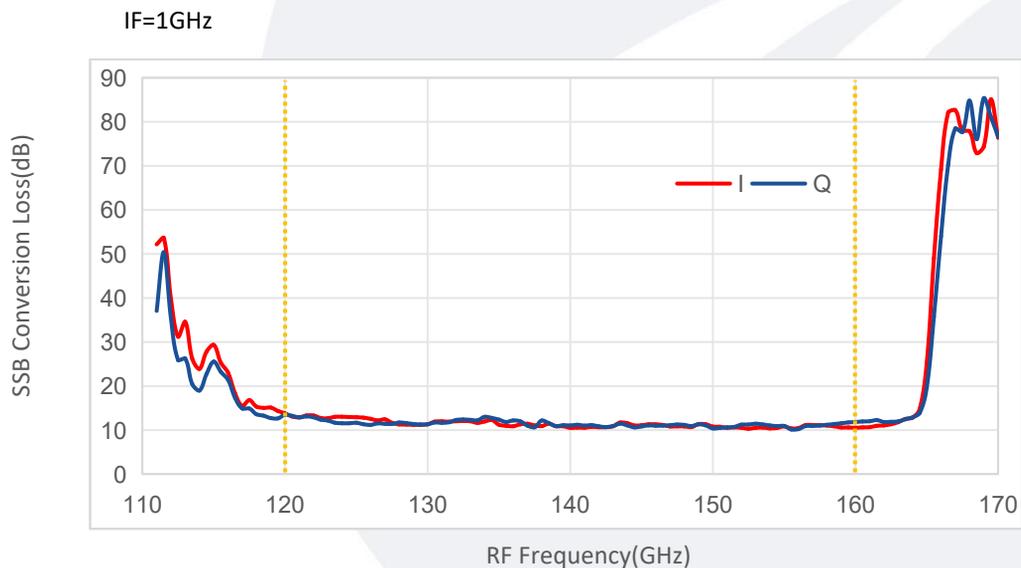
Parameter	Min	Typ	Max	Units
Operating Temperature	-10		+65	°C
Non-operating Temperature	-45		+85	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

### Ordering Information:

Base Number	Description	Revision
TMIQ-120160-0230-06	D-Band IQ-Subharmonic Mixer RF:120-160GHz,LO:60-80GHz,IF:DC-30GHz	Rev.1.1

### Typical Performance Data:

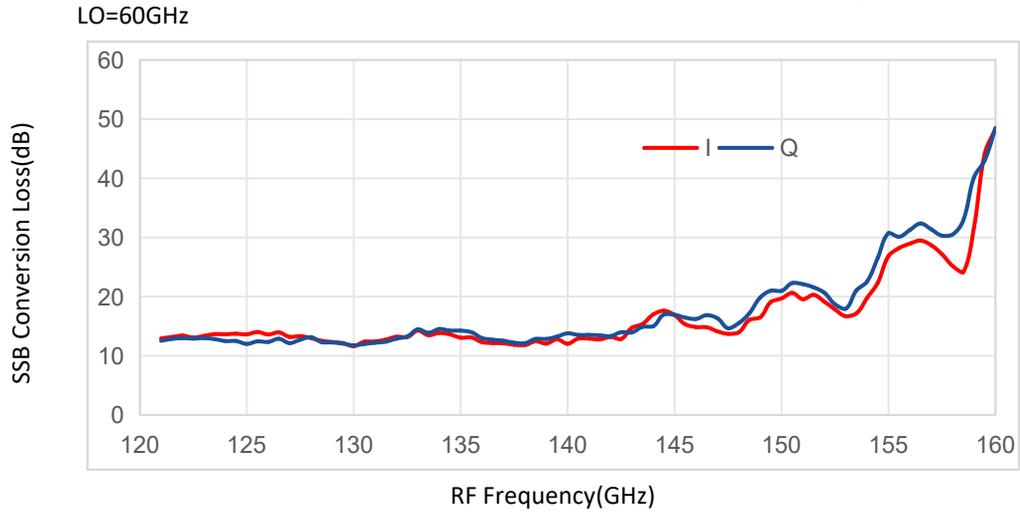
#### SSB Conversion Loss vs RF Frequency



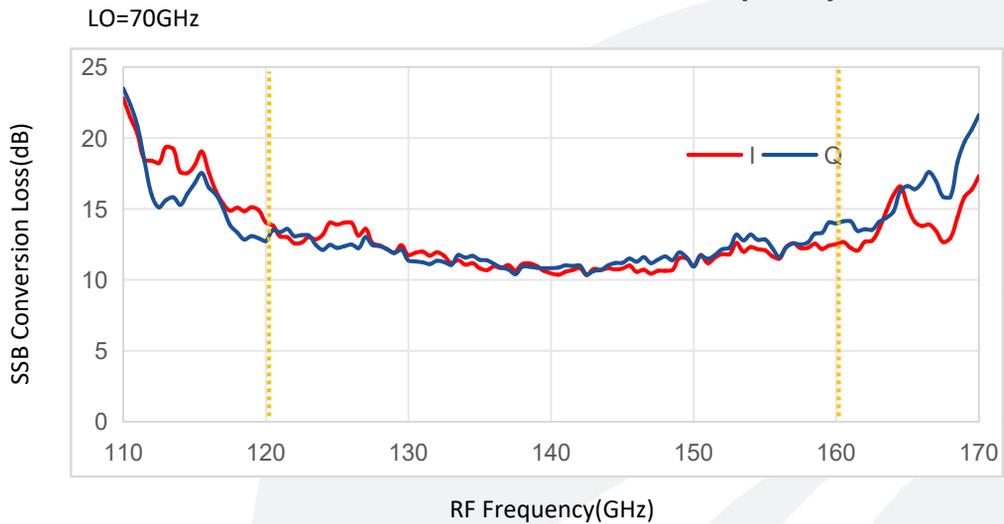
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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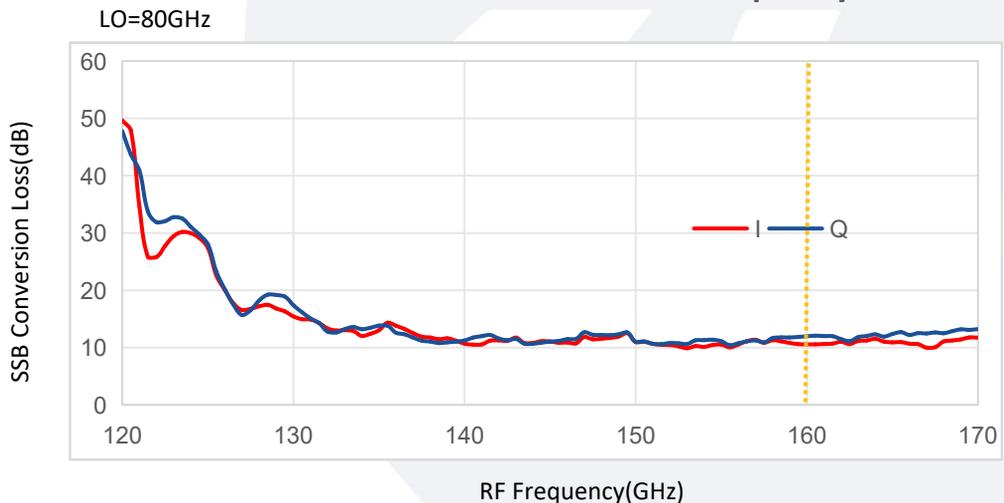
**SSB Conversion Loss vs RF Frequency**



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