

IQ Mixer

RF:5-20 GHz/LO:5-20 GHz/IF:DC-6 GHz

Model: TLIQ-5G20G-06-S

TLIQ-5G20G-06-S is an ultra-broadband mixer spanning 5 to 20 GHz on the RF and LO ports with an IF from DC to 6 GHz. Up to 35 dBc of image rejection is available due to the excellent phase and amplitude balance of its on-chip LO quadrature hybrid.

Features:

- RF/LO coverage : 5-20 GHz
- IF operation : DC-6 GHz
- Conversion loss: 14dB Typ
- LO power : 9dBm Typ
- Image Rejection : 35dBc Typ

Applications:

- Single Sideband and Image Rejection Mixing
- IQ Modulation / Demodulation
- Vector Amplitude Modulation
- Band Shifting

电气特性 Electrical Characteristics:

参数 Parameter	Min	Typ	Max	单位 Units
RF频率 RF Frequency	5		20	GHz
LO频率 LO Frequency	5		20	GHz
LO 驱动功率 LO-Input power	5	9	13	dBm
IF频率 IF Frequency	DC		6	GHz
镜像抑制 Image Rejection @RF/LO:5-20GHz,I/Q:DC-0.2GHz		35		dBc
变频损耗 Conversion Loss @RF/LO:5-20GHz,I/Q:DC-0.2GHz		13	15	
变频损耗 Conversion Loss @RF/LO:5-20GHz,I/Q:0.2-6GHz		15		dB
输入P1dB压缩点,I Input 1 dB Gain Compression Point,I		2		dBm
输入P1dB压缩点,Q Input 1 dB Gain Compression Point,Q		3		
LO to IF 隔离 LO to IF Isolation		45		dB
LO to RF 隔离 LO to RF Isolation		45		dB
RF to IF 隔离 RF to IF Isolation		35		dB

机械特性 Mechanical Specifications:

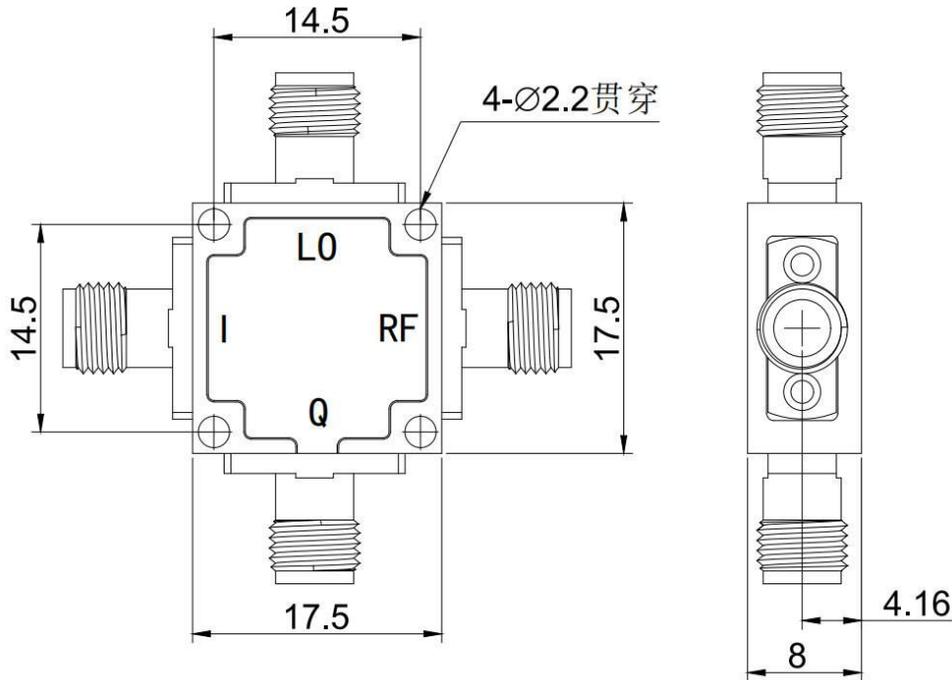
参数 Parameter	指标 Value	单位 Units
RF接口 RF Connector	2.92mm Female	
LO接口 LO Connector	2.92mm Female	
IF接口 IF Connector	SMA Female	
尺寸 Size	17.5*17.5*8(Without Connector)	mm

绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
所有接口输入功率 Power Handling, at any Port	+25 dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V

外形图 Outline Drawing:

Unit:mm



温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature	-45		+85	°C
存储温度 Non-operating Temperature	-55		+100	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

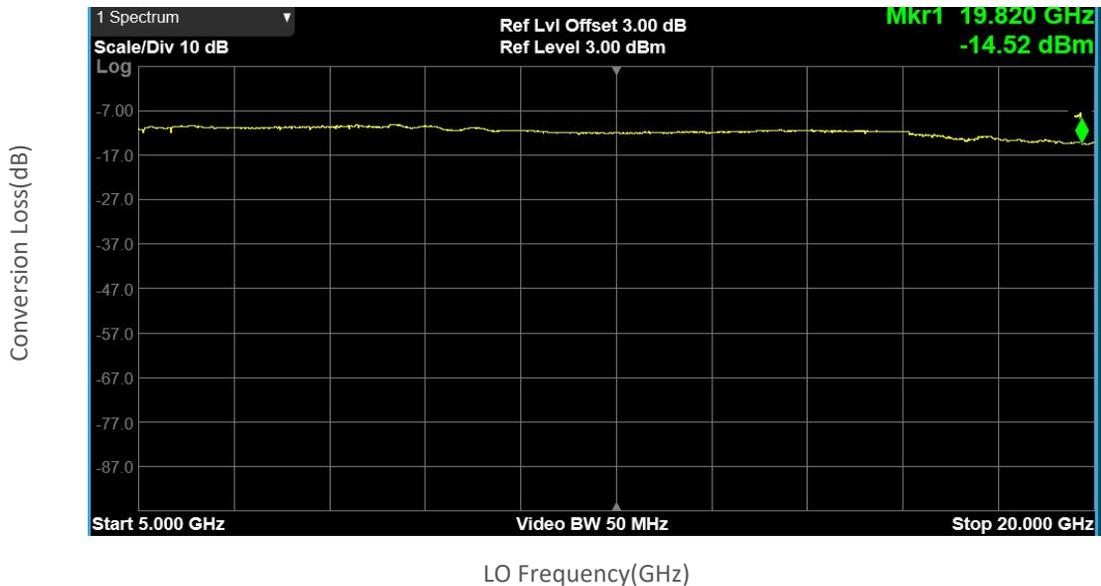
订货信息 Ordering Information:

标准型号 Base Number	描述 Description	版本号 Revision
TLIQ-5G20G-06-S	Image Rejection or I/Q Mixer RF:5-20GHz,LO:5-20GHz,IF:DC-6GHz	Rev.1.1

典型曲线 Typical Performance Data:

Conversion Loss vs LO Frequency

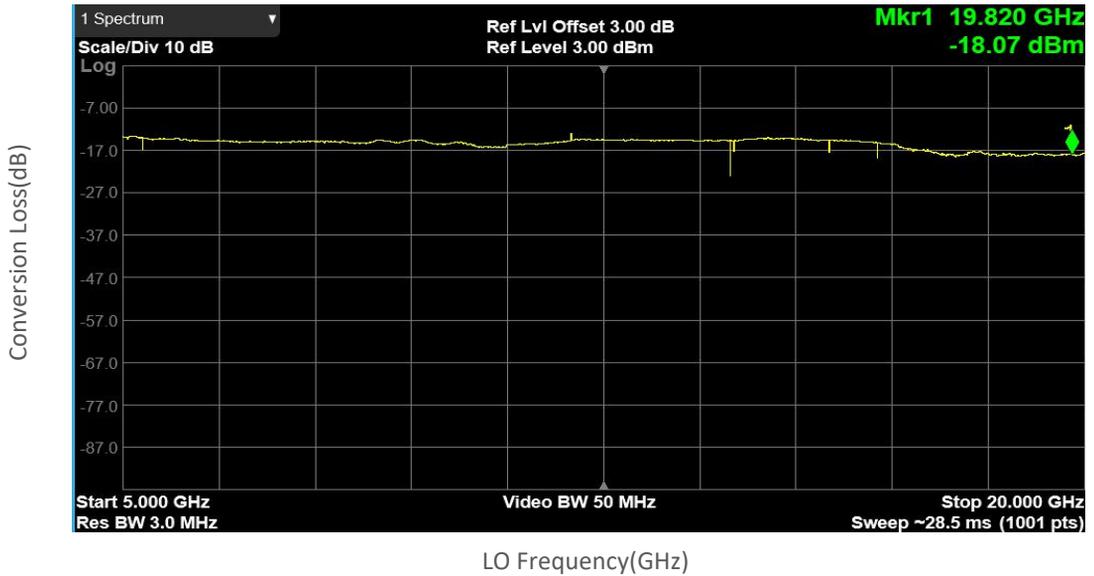
I=200MHz



典型曲线 Typical Performance Data:

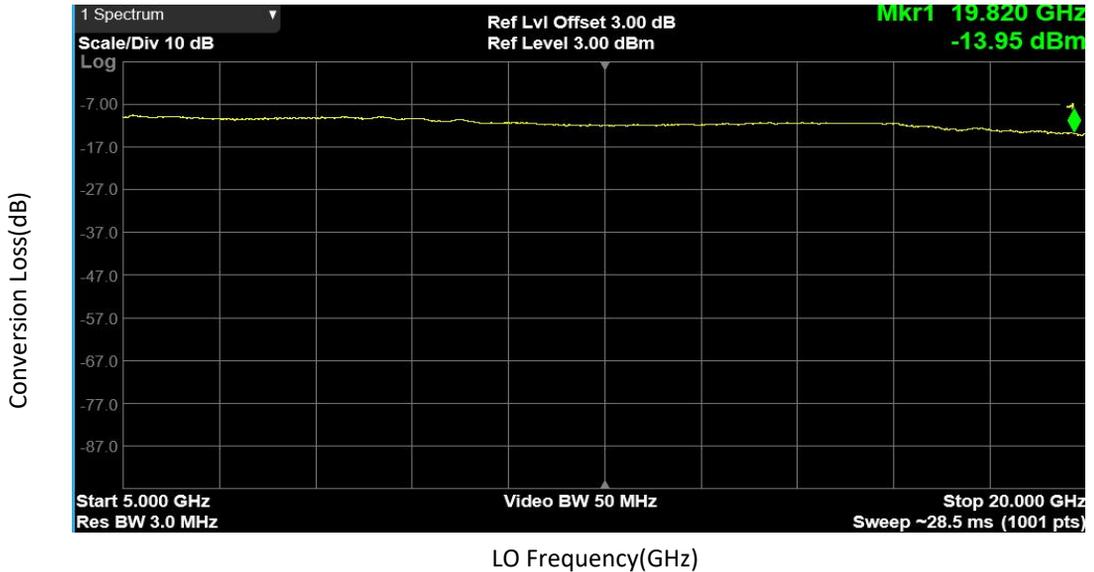
Conversion Loss vs LO Frequency

I=6GHz



Conversion Loss vs LO Frequency

Q=200MHz



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.

典型曲线 Typical Performance Data:

Conversion Loss vs LO Frequency

Q=6GHz

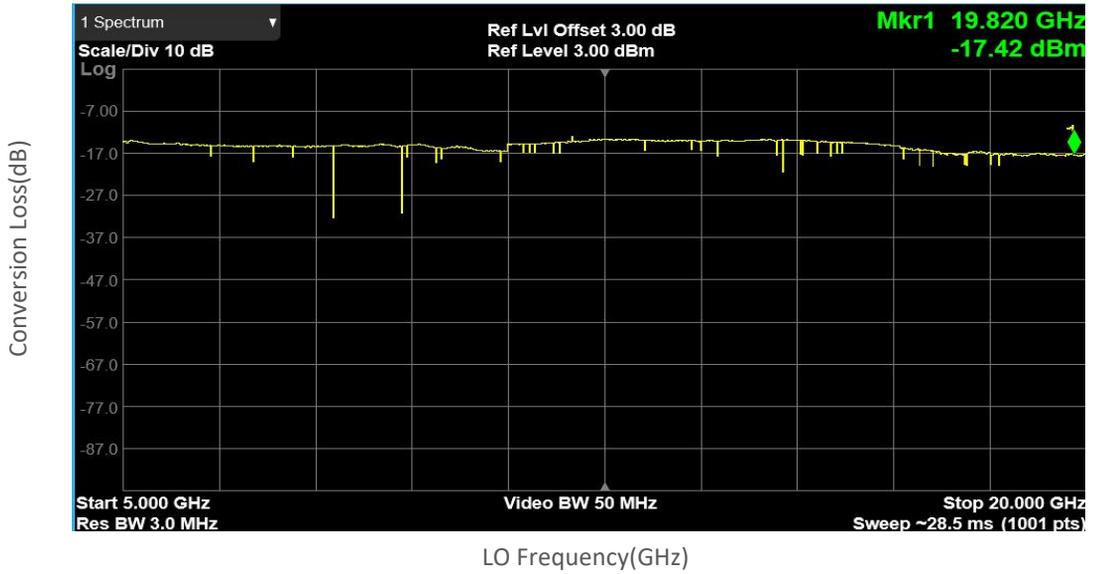
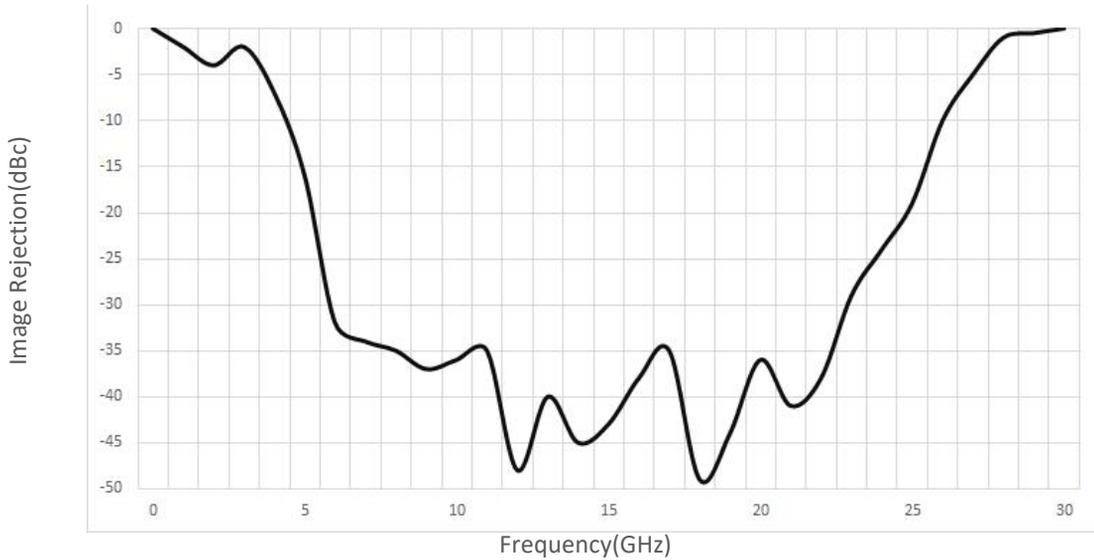


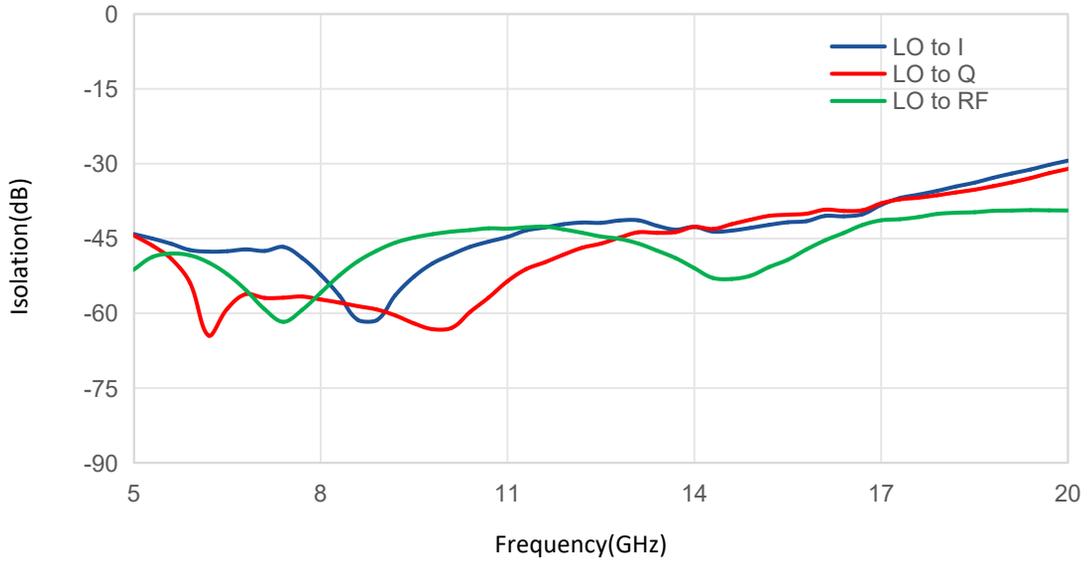
Image Rejection vs Frequency



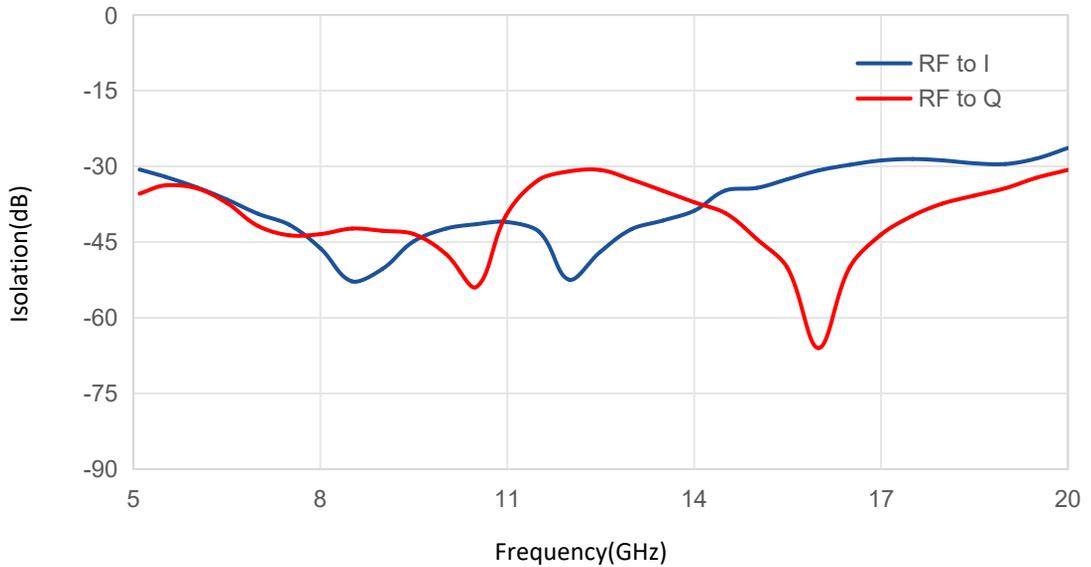
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典型曲线 Typical Performance Data:

Isolation vs Frequency



Isolation vs Frequency



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