泰莱微波
Talent Microwave

Suzhou Talent Microwave,Inc
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IQ Mixer

RF:2-18 GHz/LO:2-18 GHz/IF:DC-3 GHz

Model: TLIQ-0218-03-S

TLIQ-0218-03-S is an ultra-broadband mixer spanning 2 to 18 GHz on the RF and LO ports with an IF from DC to 3 GHz.Up to 20 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 : 2-18 GHz
- IF operation : DC-3 GHz
- Conversion loss: 15dB Typ
- LO power : 15dBm Typ
- Image Rejection : 20dBc Typ

Applications:

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

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
RF Frequency	2		18	GHz
LO Frequency	2		18	GHz
LO-Input power	13	15	20	dBm
IF Frequency	DC		3	GHz
Image Rejection @RF/LO:2-18GHz,I+Q:0.091GHz		20		dBc
Conversion Loss @RF/LO:2-18GHz,I/Q:DC-3GHz		15		dB
IF Input P1dB		11		dBm
Input IP3 @I/Q= 0.091 GHz		20		dBm
Input IP3 @IF = 0.091 GHz		23		dBm
LO to IF Isolation		23		dB
LO to RF Isolation		45		dB
RF to IF Isolation		30		dB

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Mechanical Specifications:

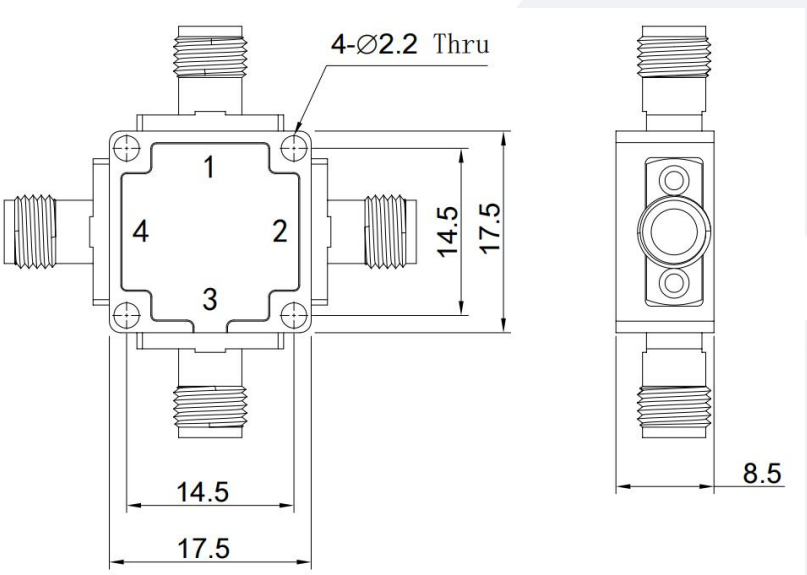
Parameter	Value	Units
RF Connector	SMA Female	
LO Connector	SMA Female	
IF Connector	SMA Female	
Size	17.5*17.5*8.5(Without Connector)	mm

Absolute Maximum Ratings:

Parameter	Value
LO Input Power	+20 dBm
RF/IF Input Power	+20 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm



Port	Value
1	LO
2	I
3	Q
4	RF

ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

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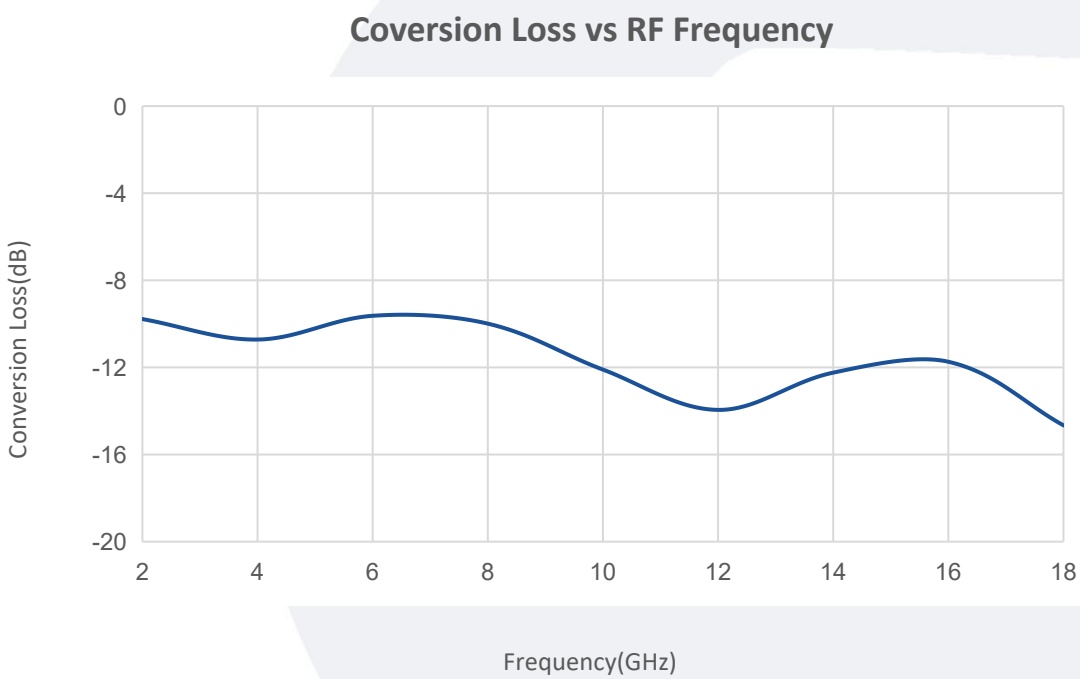
Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	℃
Non-operating Temperature	-55		+100	℃
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
TLIQ-0218-03-S	Image Rejection or I/Q Mixer RF:2-18GHz,LO:2-18GHz,IF:DC-3GHz	Rev.1.2

Typical Performance Data:



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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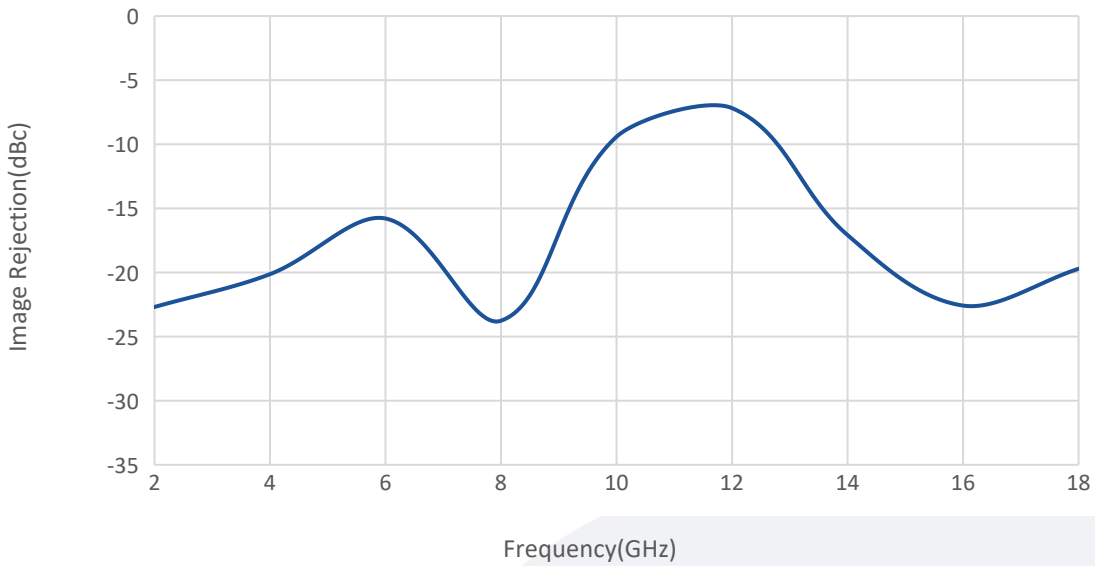
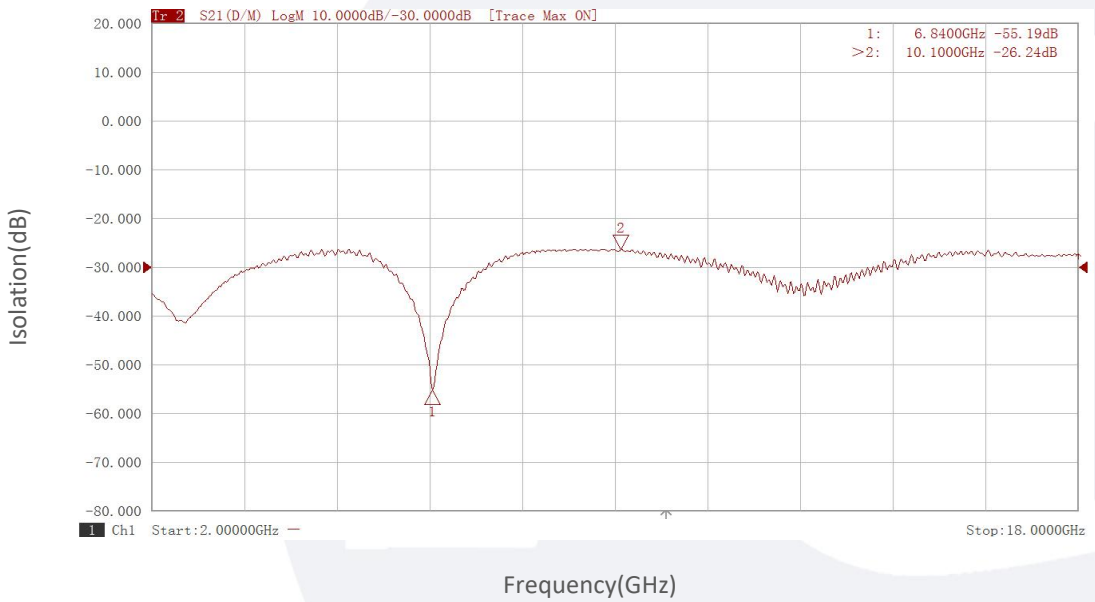
Typical Performance Data:

Image Rejection vs LO Frequency

I+Q=0.5GHz



LO to I Isolation vs Frequency



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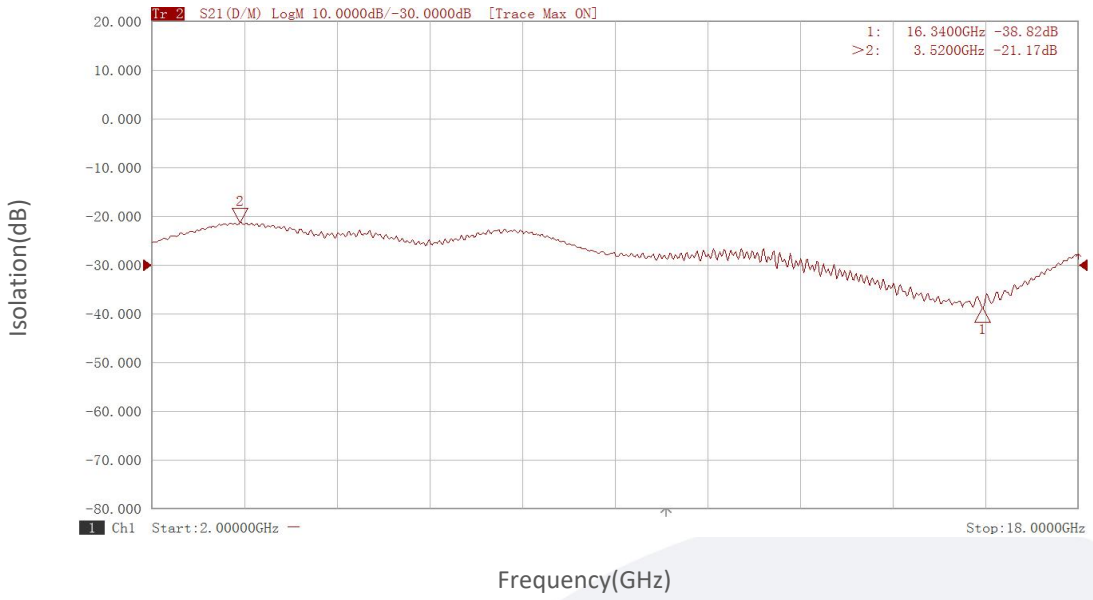
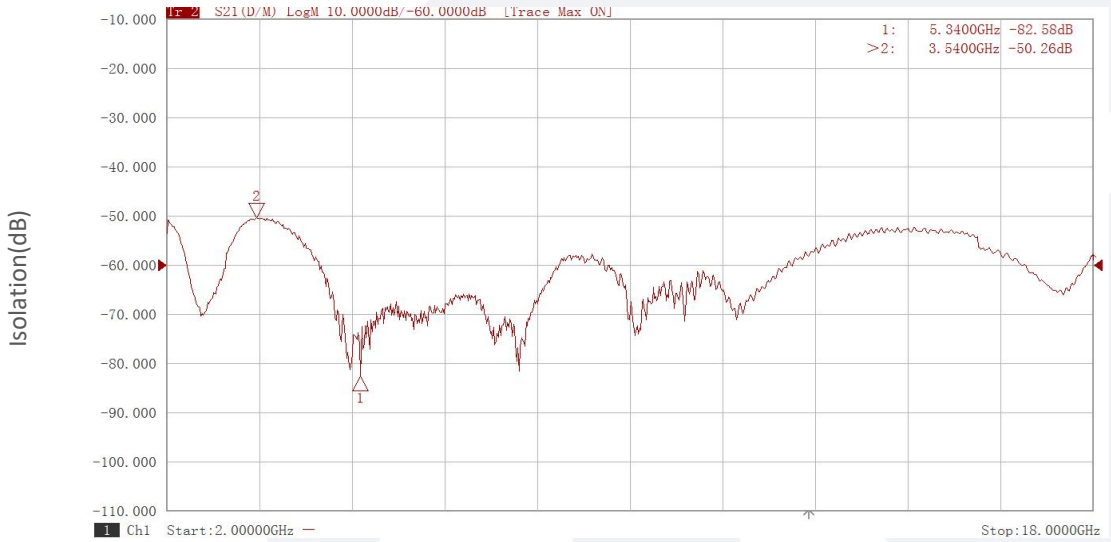
Typical Performance Data:

LO to Q Isolation vs Frequency



LO to RF Isolation vs Frequency



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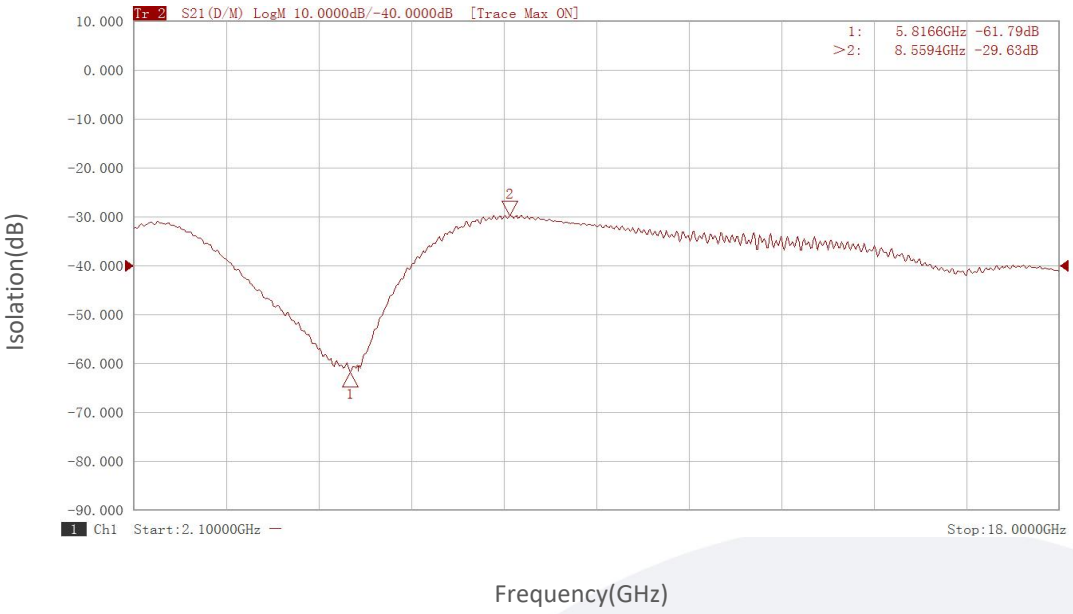
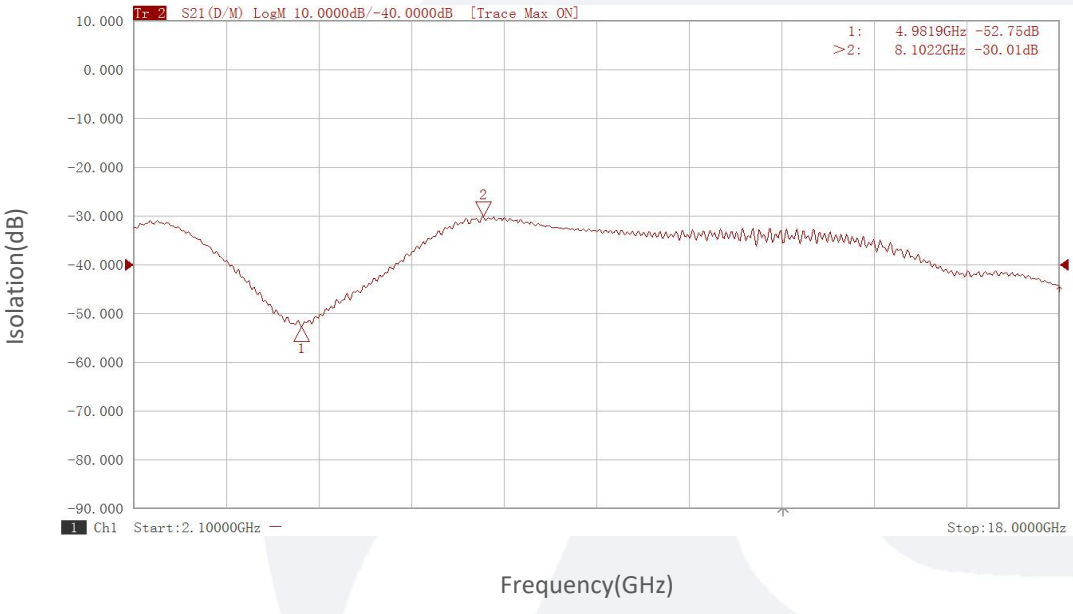
Typical Performance Data:

RF to I Isolation vs Frequency



RF to Q Isolation vs Frequency



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