

SAW Duplexer

Band 1

- Balanced
- Low insertion attenuation and low passband ripple
- High isolation between Tx and Rx
- RoHS compatible

P/N: **SPSD01B03A**

Date: Aug. 13, 2021

Version: 1.0

Sapland Microelectronics

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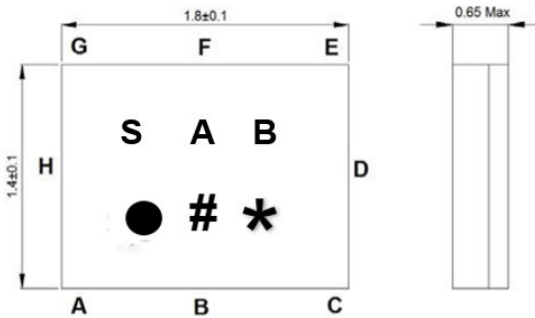
www.sapland.com

SPSD01B03A (Band1 Duplexer /Balanced/1814)

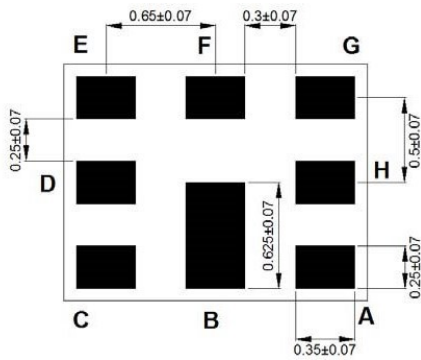
Revision Number	Date	Description
[Series]_v1.0	Aug-18-2021	Initial Release

- Operating temperature : -20 to +85 deg.C
- Storage temperature : -40 to +85 deg.C
- Input Power : +29 dBm 5000h 50 deg.C
- D.C. Volatage between the terminals : 3V (25+/-2 deg.C)

Package Dimensions (PKG Size: 1.8×1.4×0.65mm)

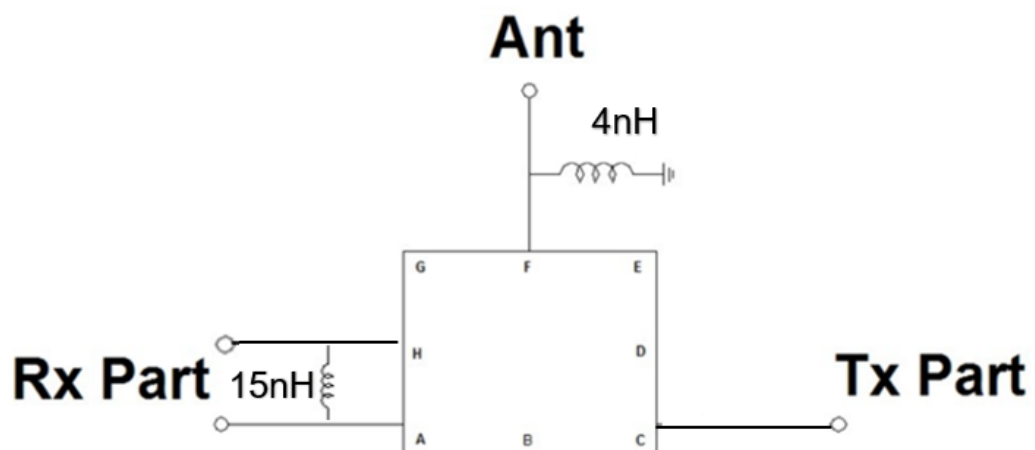


Marking Descriptions	
S	SAPPLAND
A	BAND
B	Version
# *	Date



Pin Description	
B D E G	GROUND
F	ANT
C	Tx (1950MHz)
A H	Rx (2140MHz)

Testing Environment



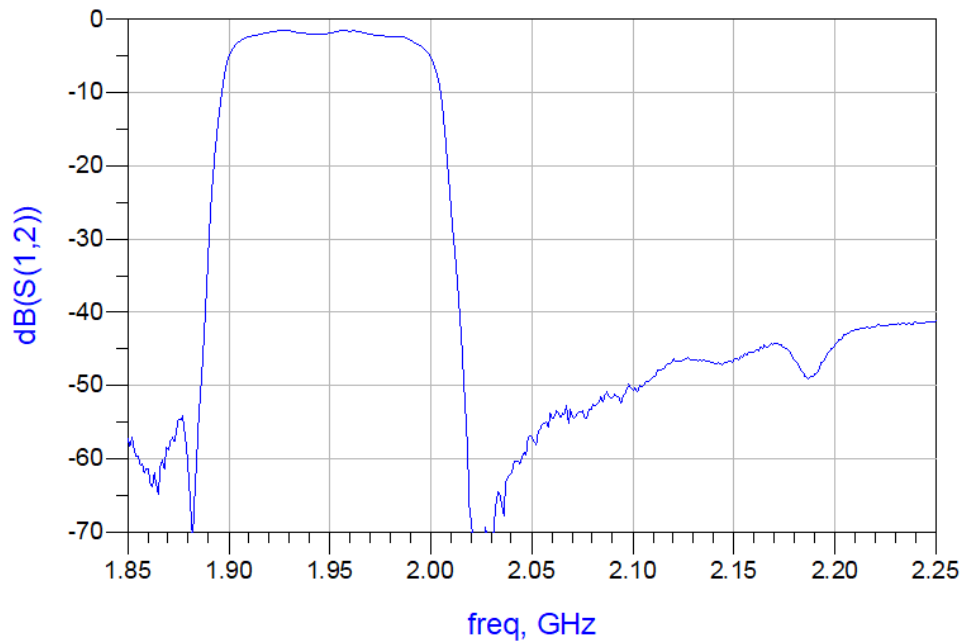
Electrical Characteristic

Item		Condition MHz			Characteristic			Unit
					Min.	Typ.*	Max.	
Tx to ANT	fc	——				1950.0		MHz
	Insertion loss	1920.0	...	1980.0		1.8	2.4	dB
	Amplitude ripple	1920.0	...	1980.0		0.4	1.3	dB _{p-p}
	VSWR	Tx	...	1980.0		1.7	2.3	
	VSWR	ANT	...	1980.0		1.5	2.2	
	Absolute attenuation	824.0	...	849.0	40	47		dB
		869.0	...	894.0	40	46		dB
		880.0	...	915.0	40	46		dB
		925.0	...	960.0	38	45		dB
		1565.42	...	1605.88	36	42		dB
		1805.0	...	1880.0	30	40		dB
		2010.0	...	2025.0	10	20		dB
		2110.0	...	2170.0	40	45		dB
		2400.0	...	2500.0	40	48		dB
		3840.0	...	3960.0	30	35		dB
		4900.0	...	5950.0	25	30		dB
ANT to Rx	fc	——				2140.0		MHz
	Insertion loss	2110.0	...	2170.0		2.2	2.9	dB
	Amplitude ripple	2110.0	...	2170.0		0.6	1.4	dB _{p-p}
	Phase Balance	2110.0	...	2170.0	-20	-11/+1.5	+20	deg
	Amplitude Balance	2110.0	...	2170.0	-20	0.1/+1.0	+2.0	dB
	VSWR	Rx	...	2170.0		1.5	2.2	
	VSWR	ANT	...	2170.0		1.9	2.2	
	Absolute attenuation	824.0	...	849.0	45	58		dB
		880.0	...	915.0	42	50		dB
		1710.0	...	1785.0	40	48		dB
		1920.0	...	1980.0	44	47		dB
		1980.0	...	2025.0	35	43		dB
		2400.0	...	2500.0	30	40		dB
		4900.0	...	5950.0	40	48		dB
Tx to Rx	Isolation	1920.0	...	1980.0	49	55		dB
		2110.0	...	2170.0	46	52		dB

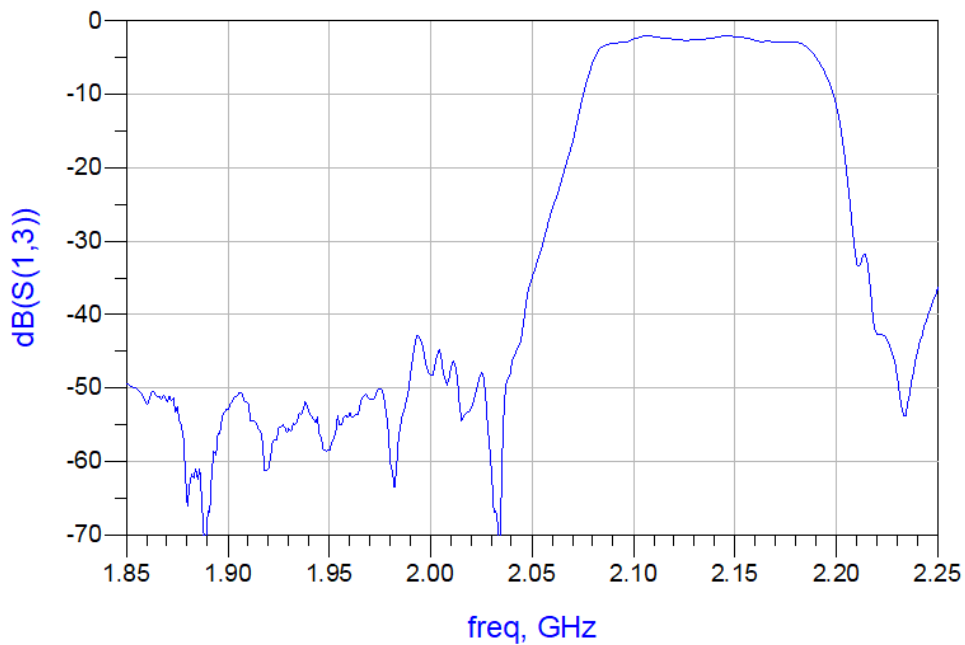
*: Typical value at 25±2deg.C

Frequency response

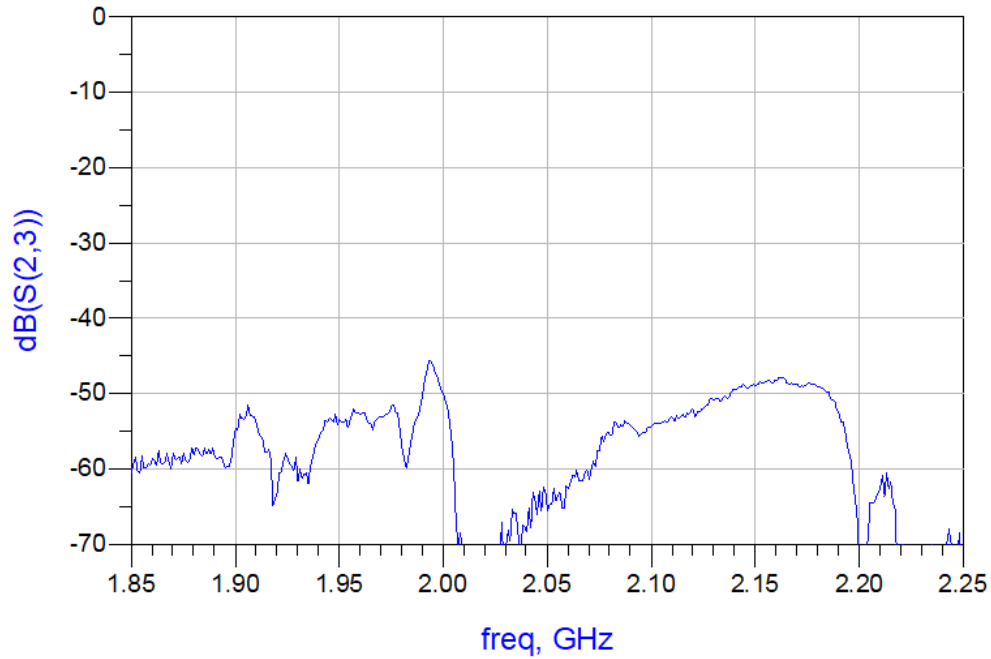
Tx- ANT



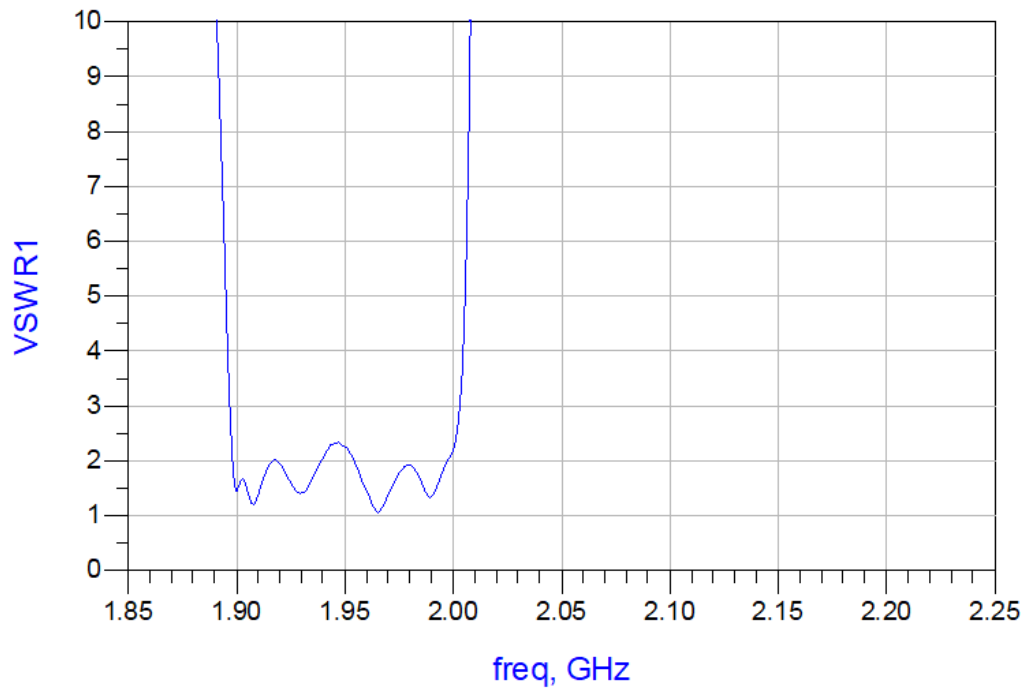
ANT-RX

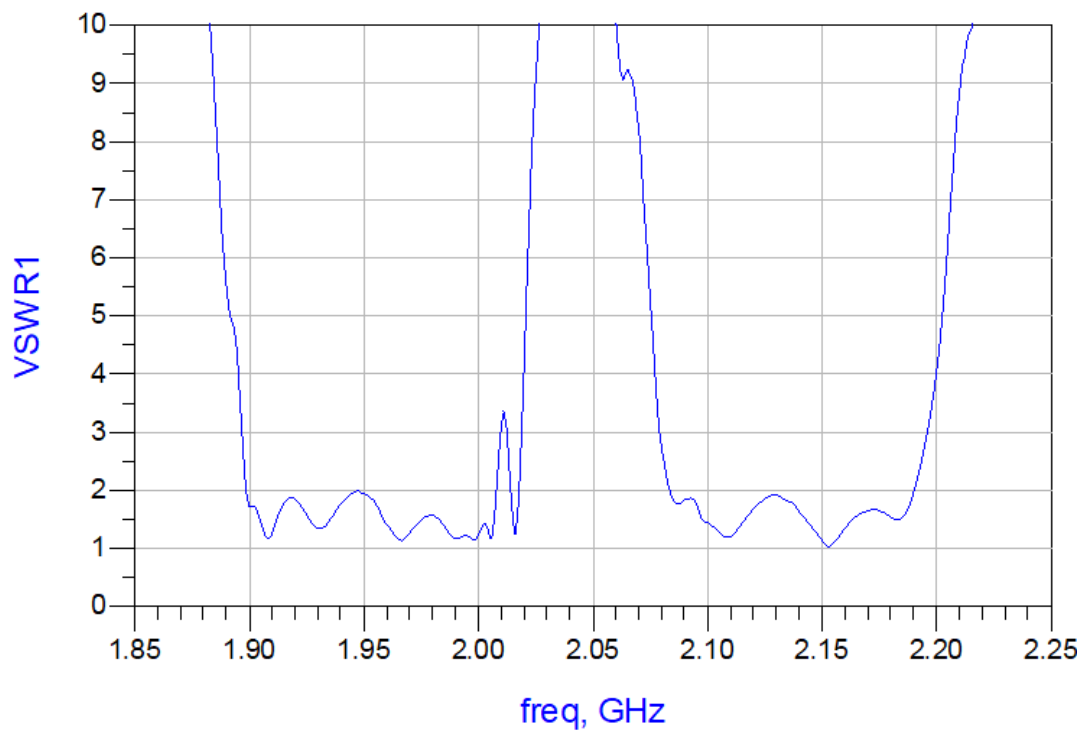
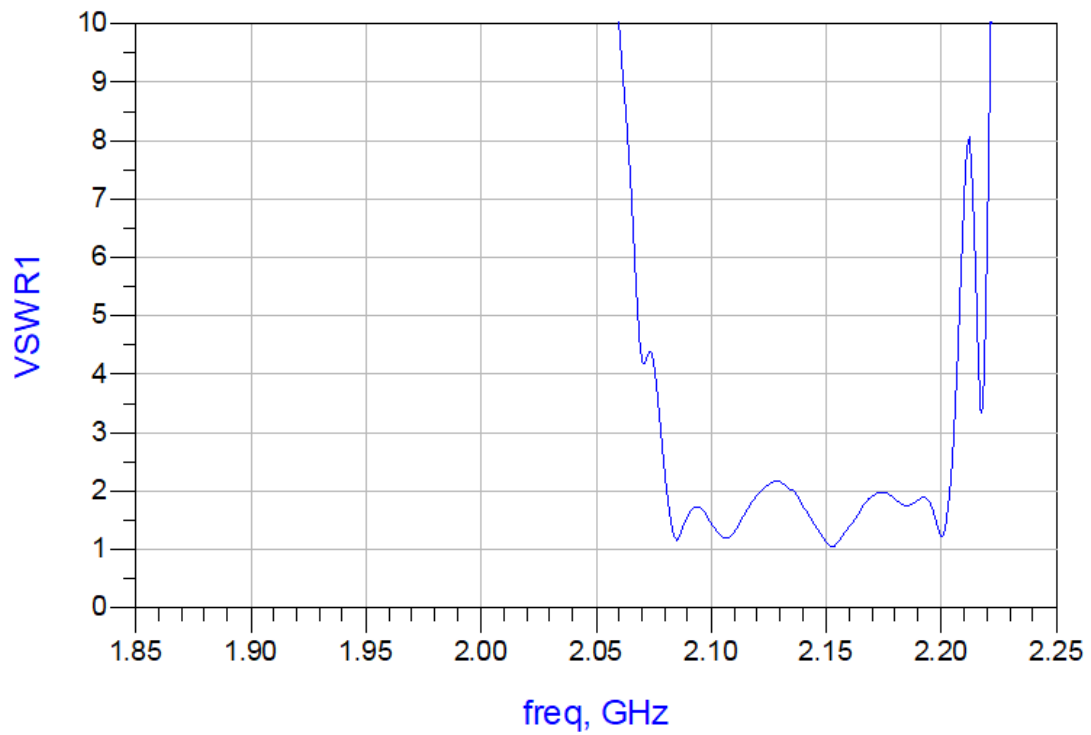


TX- RX isolation

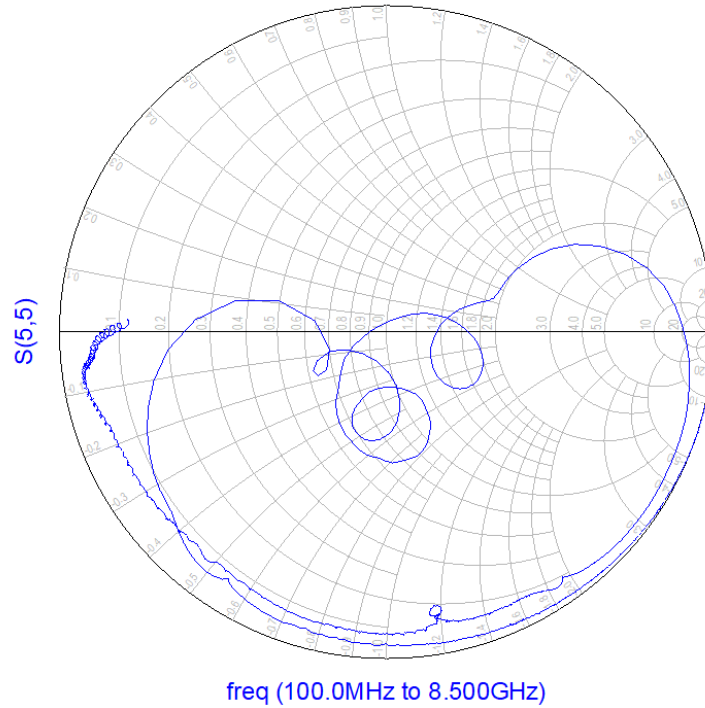


VSWRs at TX, RX and Antenna

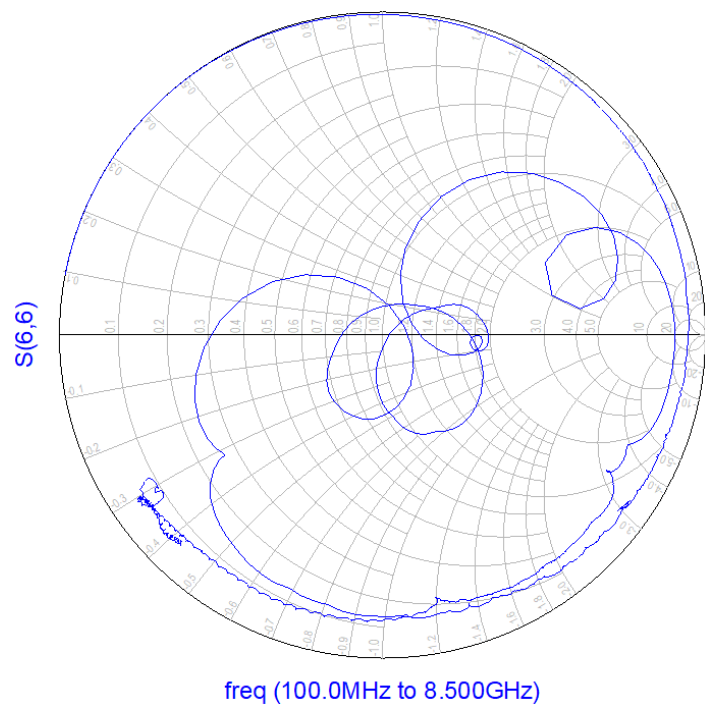




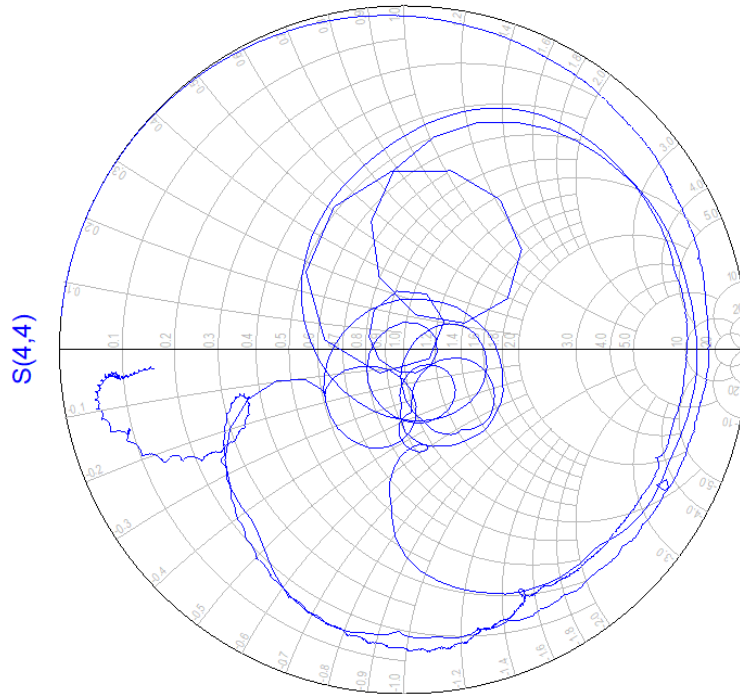
Smith Chart(Tx Port)



Smith Chart(Rx Port)

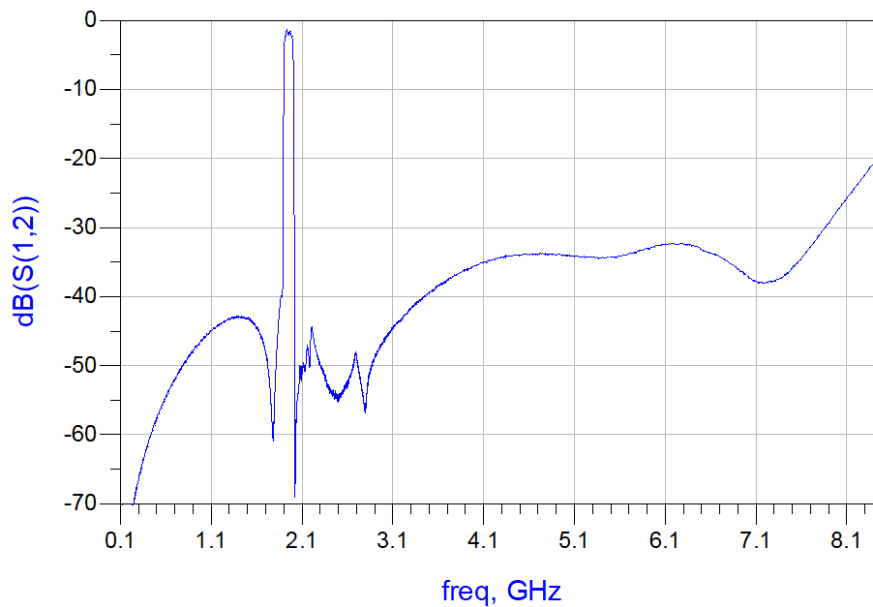


Smith Chart(Ant Port)

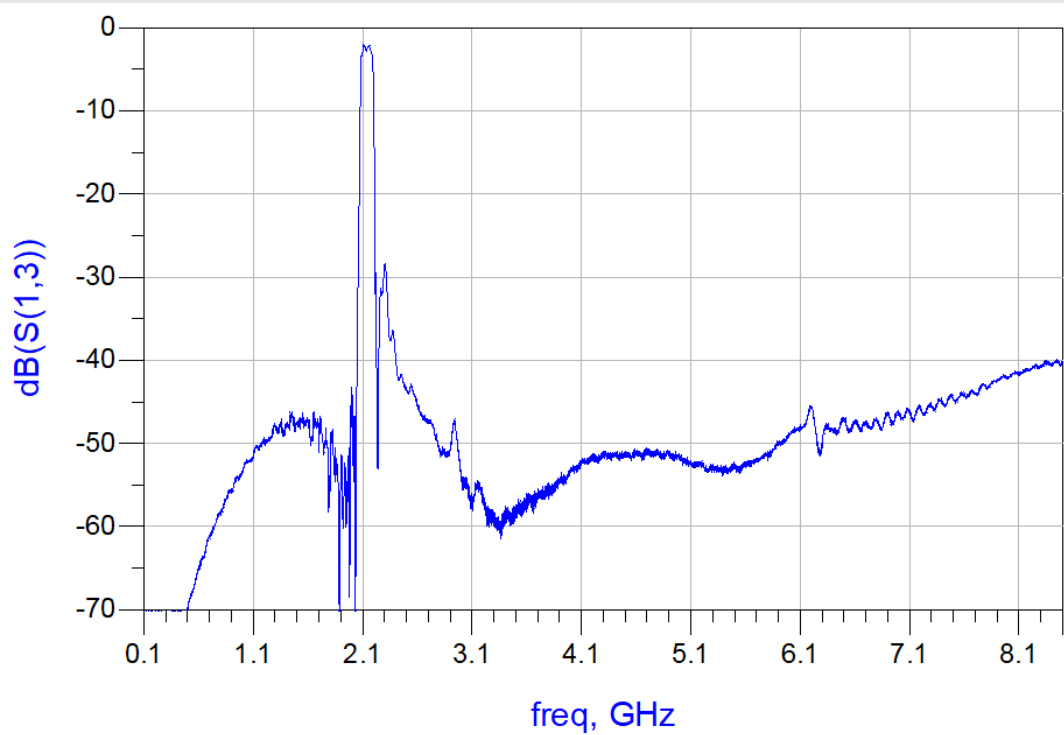


freq (100.0MHz to 8.500GHz)

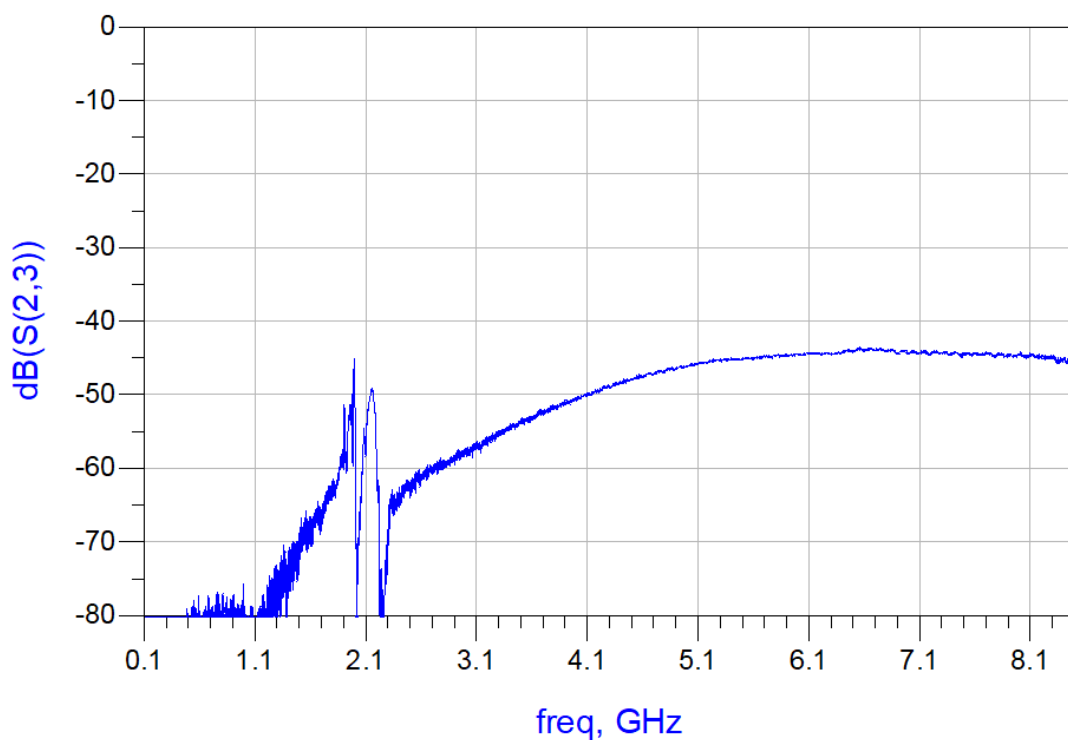
Wide Span



TX



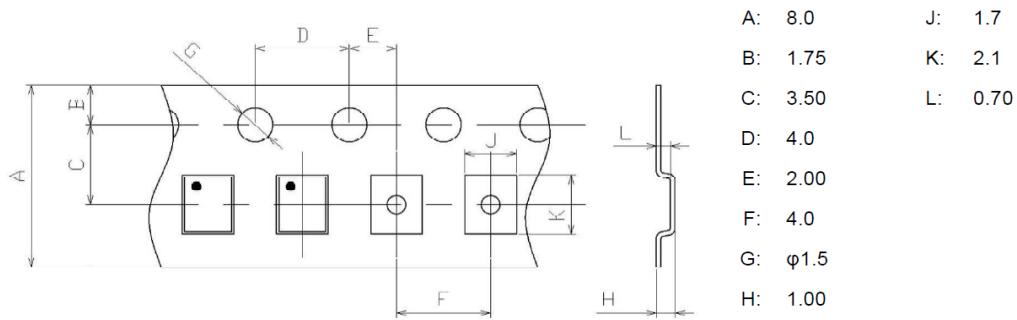
RX



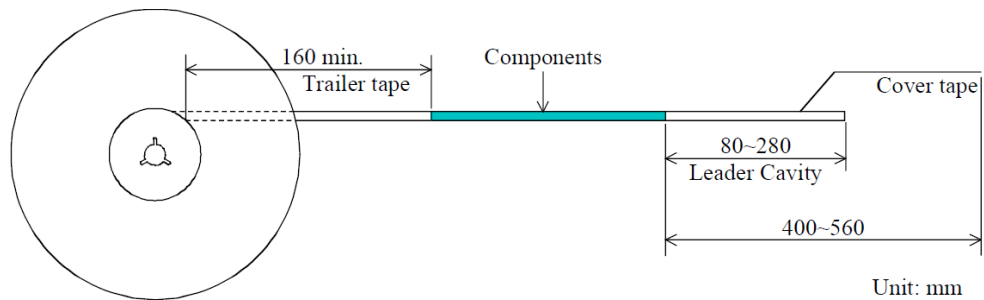
ISO

Tape and Reel

Carrier Tape



Tape



Reel

