



TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,
Taoyuan, 324, Taiwan, R.O.C.

TEL: 886-3-4690038 FAX: 886-3-4697532

E-mail: tstsales@mail.taisaw.com Web: www.taisaw.com

Product Specifications Approval Sheet

Product Description: SAW DPX 1880/1960 MHz LTE Band 2 SMD 1814

TST Part No.: TF0121AN

Customer Part No.: _____

Customer signature required
Company: _____
Division: _____
Approved by : _____
Date: _____

Checked by: _____ Nina Chen *Nina Chen*

Approved by: _____ Kazuma Lee *Kazuma Lee*

Date: _____ 2023/06/05

1. Customer signed back is required before TST can proceed with sample build and receive orders.
2. Orders received without customer signed back will be regarded as agreement on the specifications.
3. Any specifications changes must be approved upon by both parties and a new revision of specifications shall be released to reflect the change



TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,
Taoyuan, 324, Taiwan, R.O.C.

TEL: 886-3-4690038 FAX: 886-3-4697532

E-mail: tstsales@mail.taisaw.com Web: www.taisaw.com

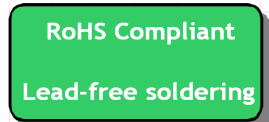
SAW DPX 1880/1960 MHz LTE Band 2 SMD 1814 (59.04 MHz BW)

MODEL NO.:TF0121AN

REV.No.:2

A. MAXIMUM RATING:

1. Operating temperature range: -30 °C to +105 °C
2. Storage temperature range: -30 °C to +105 °C
3. Input power : 29dBm (Ta=+50degC,50kh,CW)
4. Maximum DC Voltage: +/-3 V
5. Moisture Sensitivity Level: Level 1
6. ESD 50V(MM) 100V(HBM)



Electrostatic Sensitive Device (ESD)

B. ELECTRICAL CHARACTERISTICS:

Terminating impedance (Tx Port): 50 Ω (Single-ended)

Terminating impedance (Rx Port): 50 Ω (Single-ended)

Terminating impedance (Ant Port): 50//3.9nH Ω (Single-ended)

Tx to ANT (f_{T0}=1880 MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	1850.48~1909.52MHz	dB(*1)	-	1.9	3.0	-20 to+105 °C
	1852.4~1907.6MHz(*2)	dB(*1)	-	1.7	2.7	-20 to+105 °C
	1851.25~1908.75MHz(*3)	dB(*1)	-	1.8	2.9	
	1909.52MHz	dB(*1)	-	1.9	2.3	+25°C
Amplitude ripple	1850.48~1909.52MHz	dB	-	1.5	2.2	
VSWR	ANT	-	-	1.6	2.0	
	Tx	1850.48~1909.52MHz	-	-	1.6	2.1
Attenuation:						
1570~1580 MHz		dB	35	38	-	
1930.48~1989.52 MHz		dB	42	51	-	-20 to+85 °C
1931.25~1988.75 MHz(*3)		dB	41	51	-	
3700~3820 MHz		dB	20	34	-	
5550~5730 MHz		dB	15	27	-	

ANT to Rx (f_{T0}=1960 MHz)

Parameters		Description	Unit	Min	Typ	Max	Remarks
Insertion Loss	1930.48~1989.52MHz		dB(*1)		2.5	5.0	-20 to+105 °C
	1932.4~1987.6MHz(*2)		dB(*1)		2.2	3.8	-20 to+105 °C
	1930.48~1989.52MHz		dB(*1)		2.5	3.3	-20 to+85 °C
	1932.4~1987.6MHz(*2)		dB(*1)		2.2	3.2	-20 to+85 °C
	1931.25~1988.75MHz(*3)		dB(*1)		2.3	3.2	
Amplitude ripple		1930.48~1989.52MHz	dB		1.5	2.3	
VSWR	ANT	1930.48~1989.52MHz			1.6	2.1	
	Rx				1.9	2.2	
Attenuation:							
1850.48~1909.52MHz			dB	42	53	-	-20 to+85 °C
2412~2484 MHz				45	40		
1851.25~1908.75MHz(*3)			dB	43	53	-	

Tx to Rx

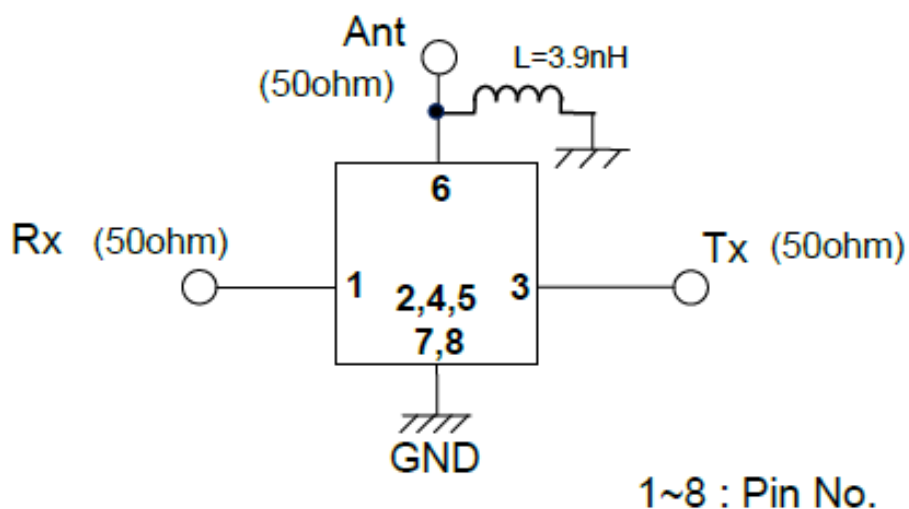
Isolation	1850.48~1909.52 MHz		dB	51	54	-	-20 to+85 °C
	1851.25~1908.75 MHz(*3)		dB	51	54	-	
	1930.48~1989.52 MHz		dB	48	54	-	-20 to+25 °C
			dB	51	54	-	+25 to+85 °C
	1932.4~1987.6 MHz(*2)		dB	50	54	-	-20 to+25 °C
			dB	51	54	-	+25 to+85 °C
	1931.25~1988.75 MHz(*3)		dB	47	54	-	-30 to+25 °C
			dB	51	54	-	+25 to+85 °C

(*1) Specification of insertion loss excludes loss that comes from the test board.

(*2) The integrated loss over any 3.84MHz(+/- 1.92MHz) channel within the band.

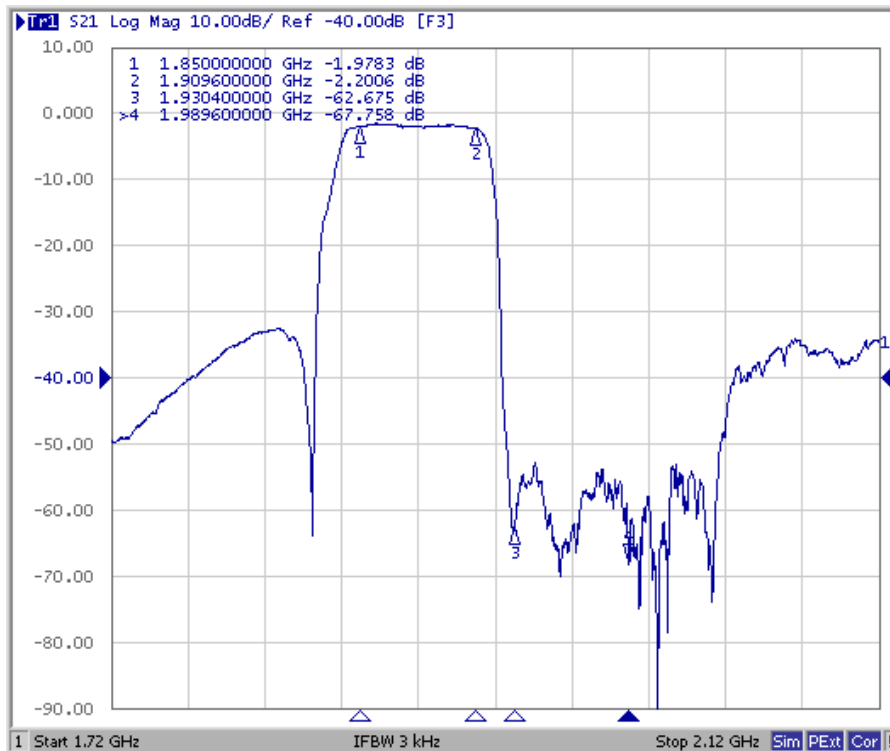
(*3) The integrated loss over any 1.25MHz(+/- 0.625MHz) channel within the band.

C. EVALUATION CIRCUIT:

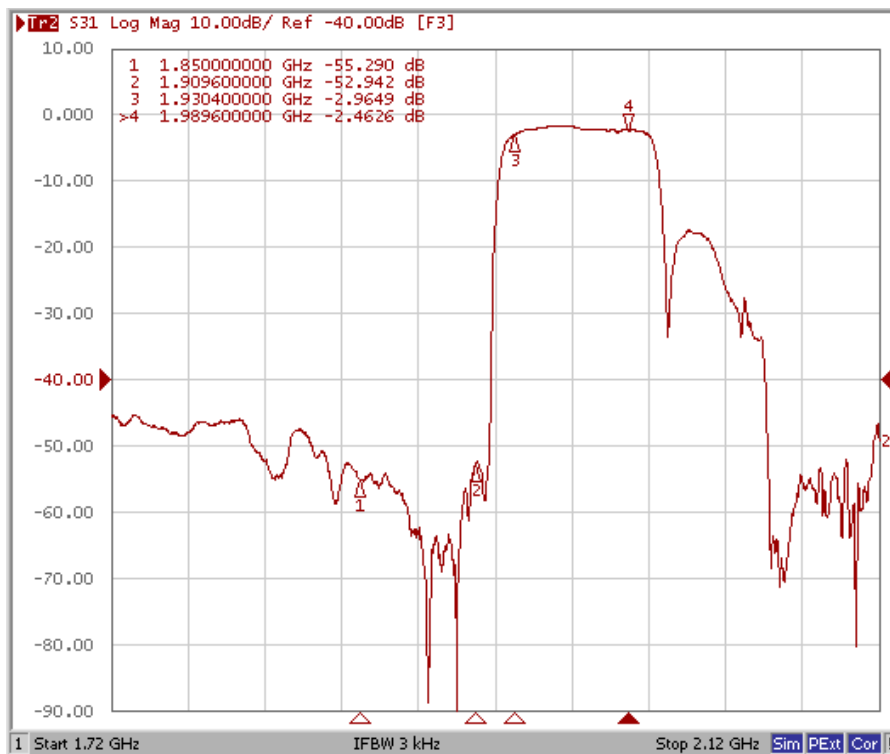


D. FREQUENCY CHARACTERISTICS:

Tx to Ant

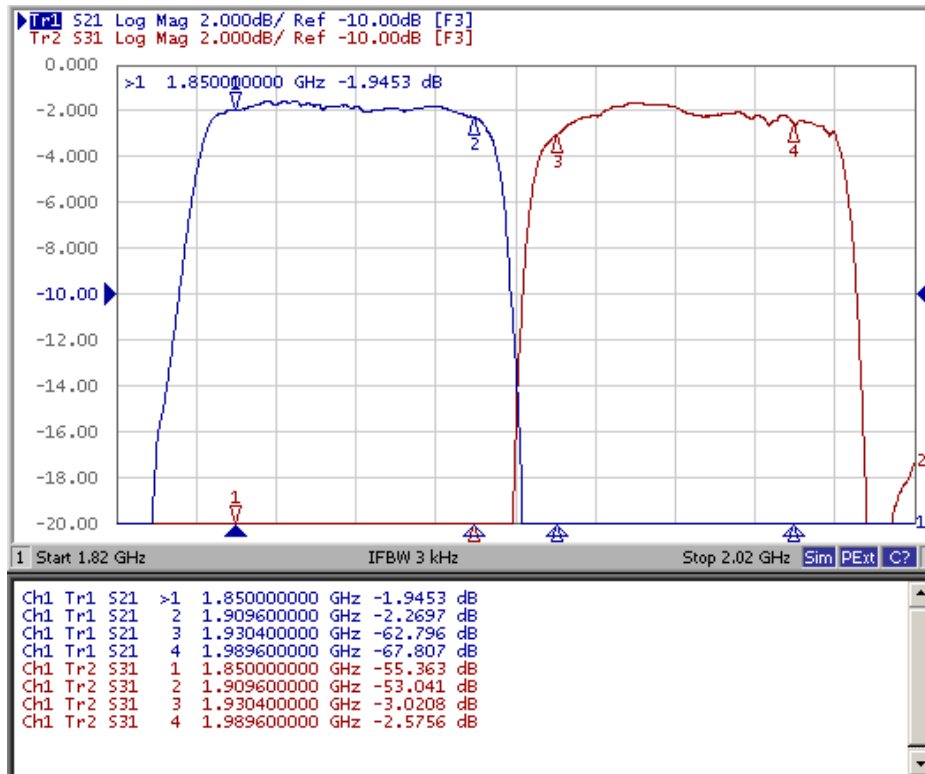


Ant to Rx

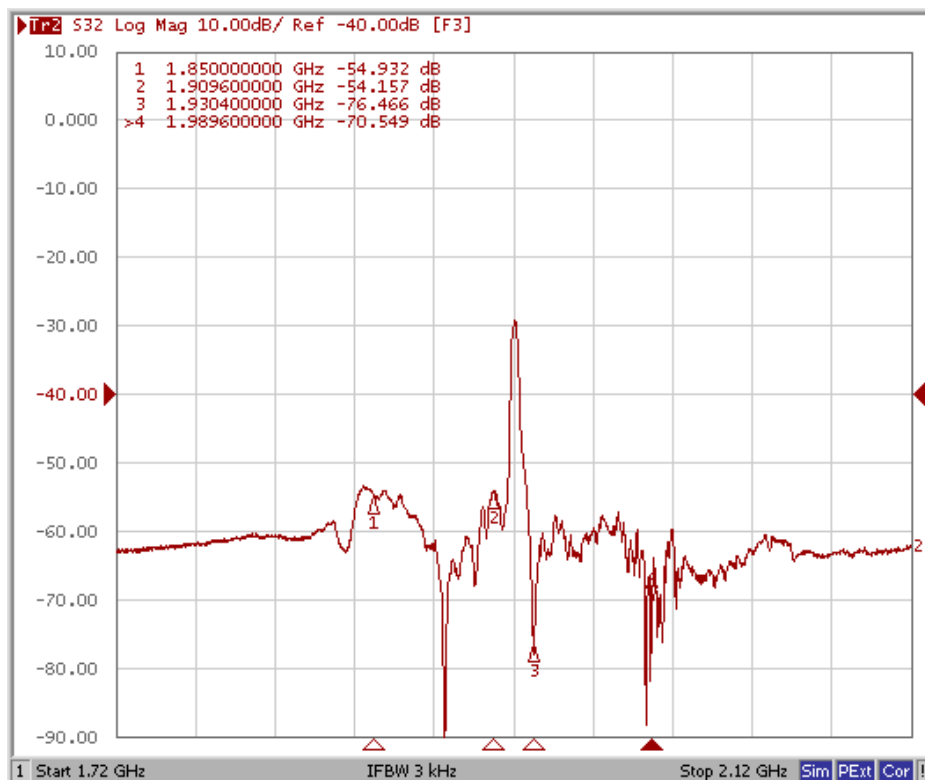


These data exclude loss that comes from the test board.

Tx to Ant ,Ant to Rx

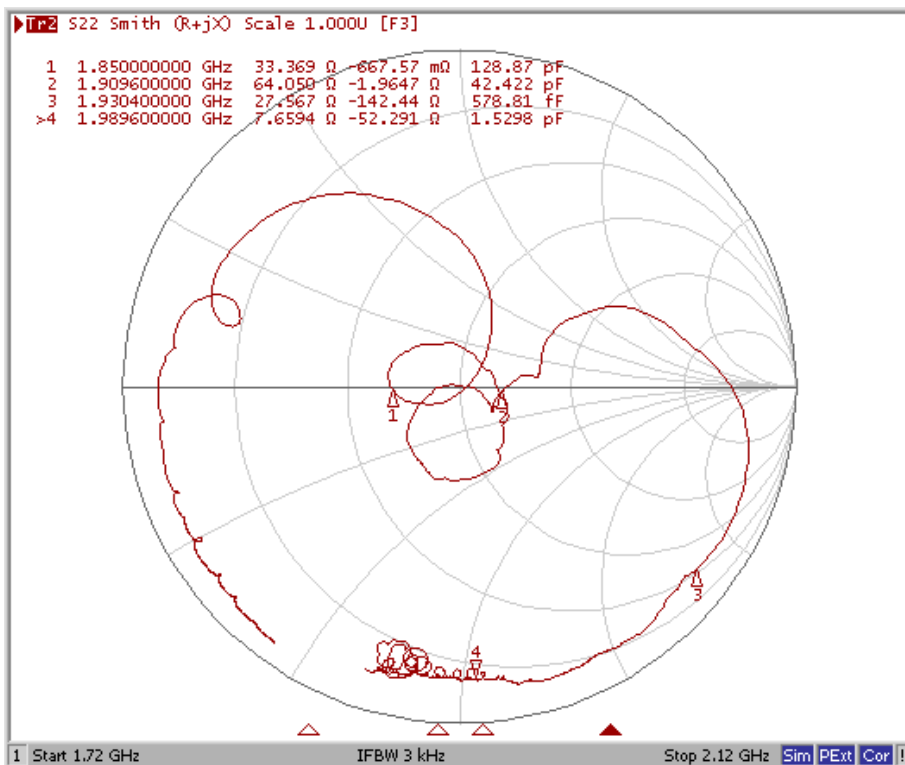
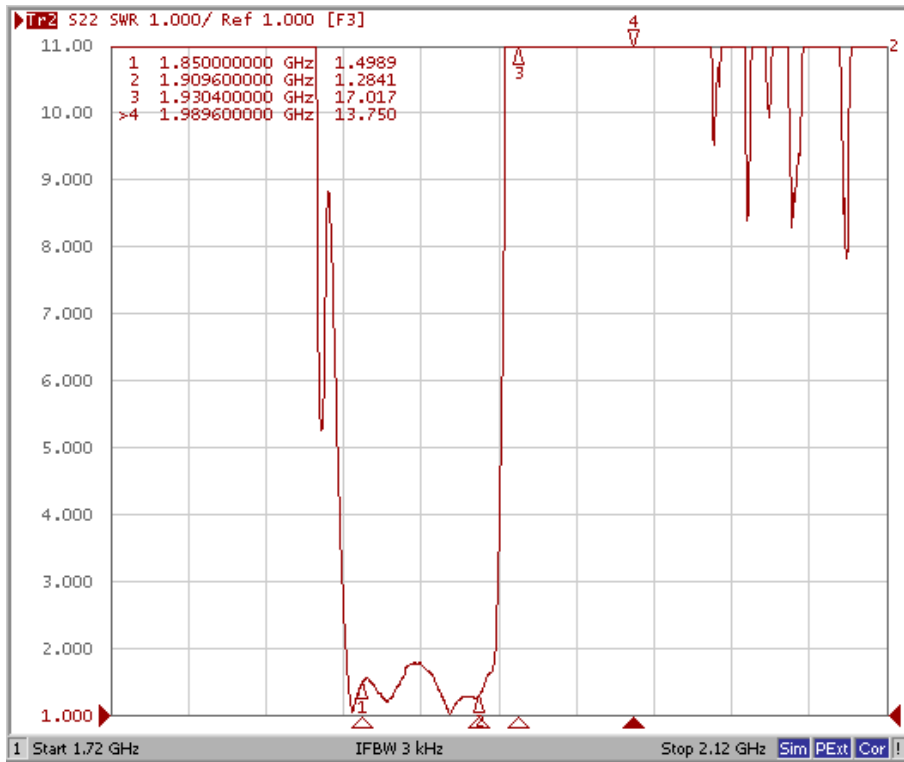


Tx to Rx Isolation

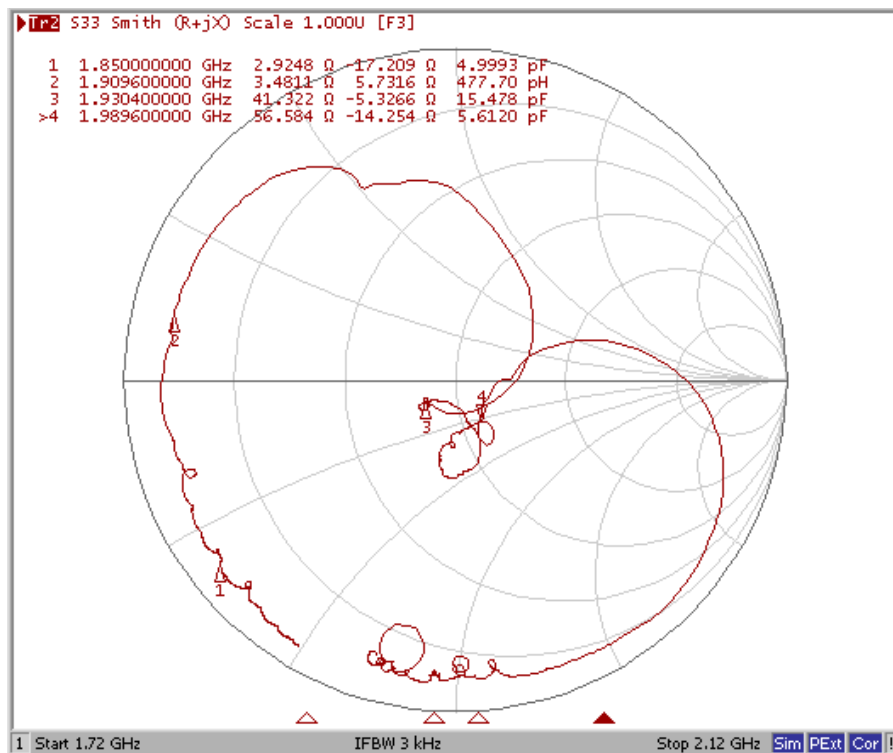
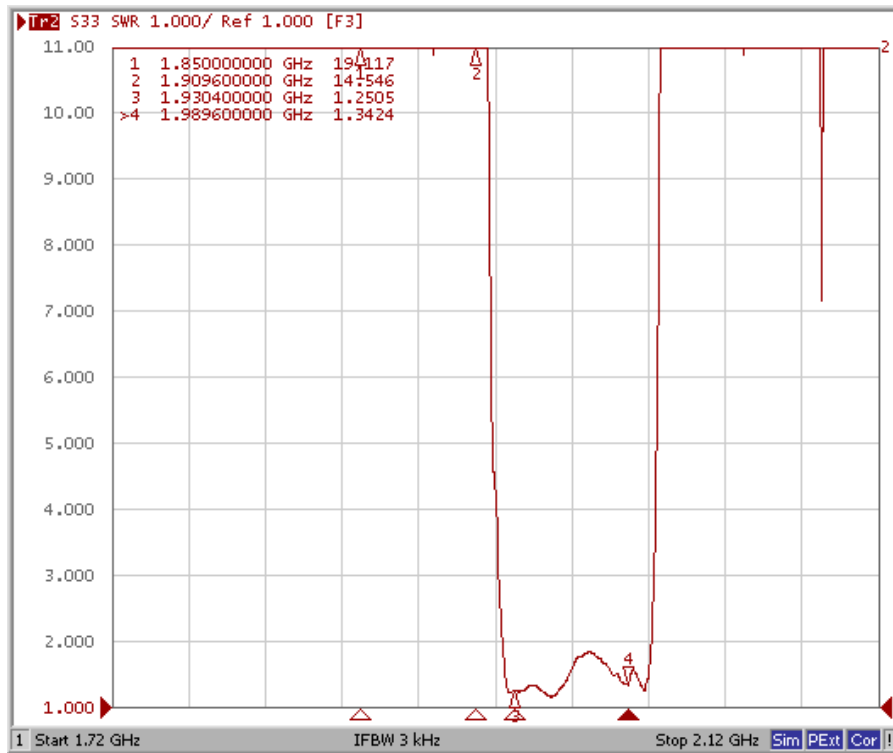


These data exclude loss that comes from the test board

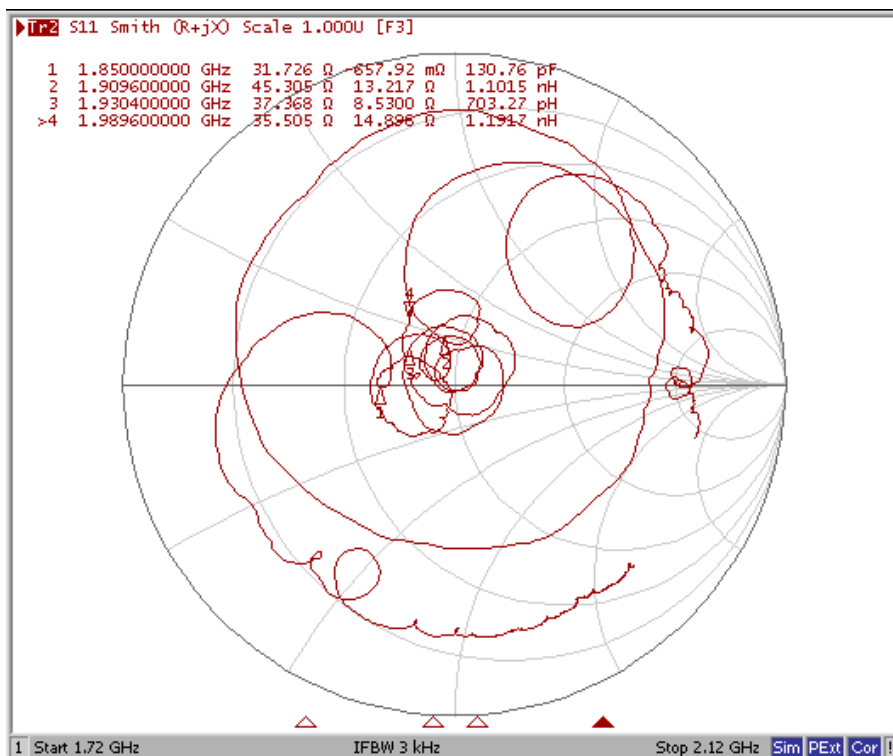
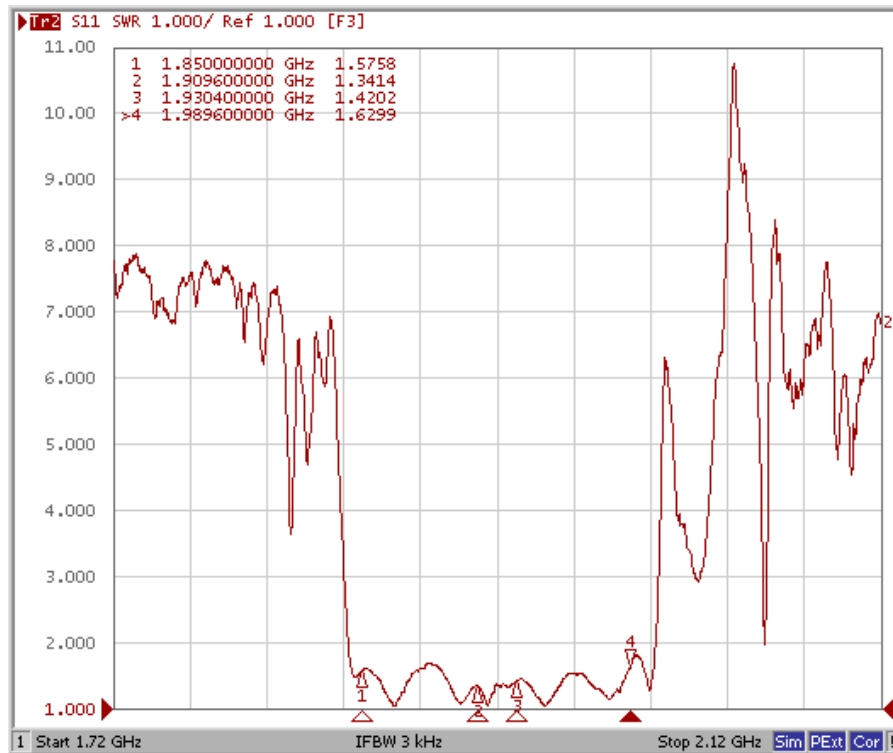
Tx Port



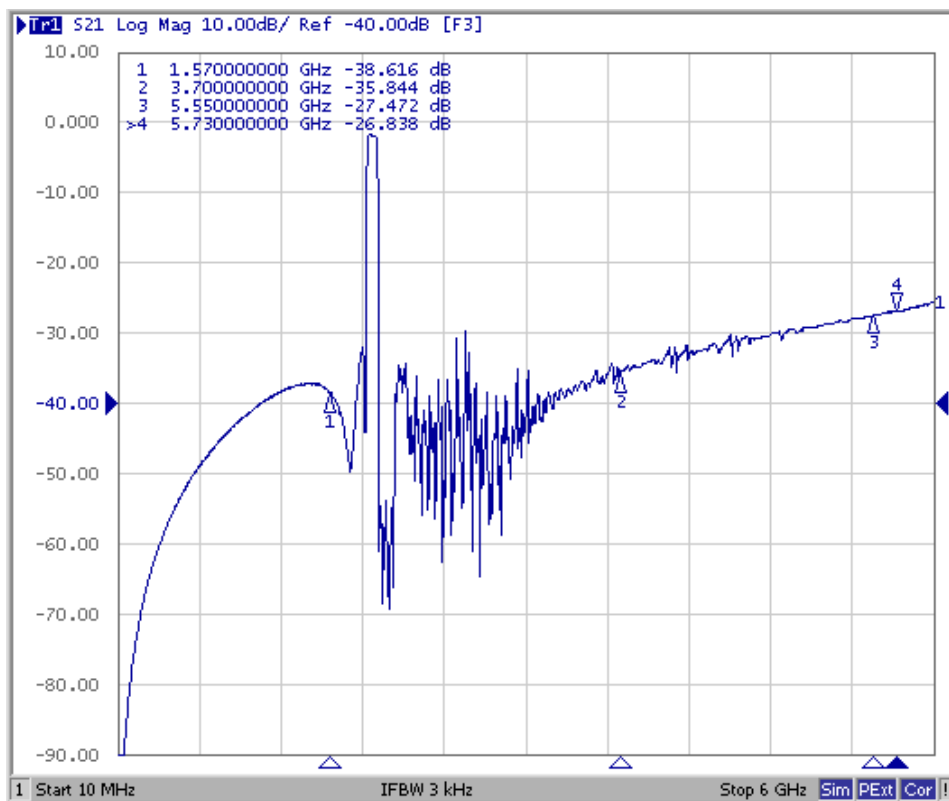
Rx Port



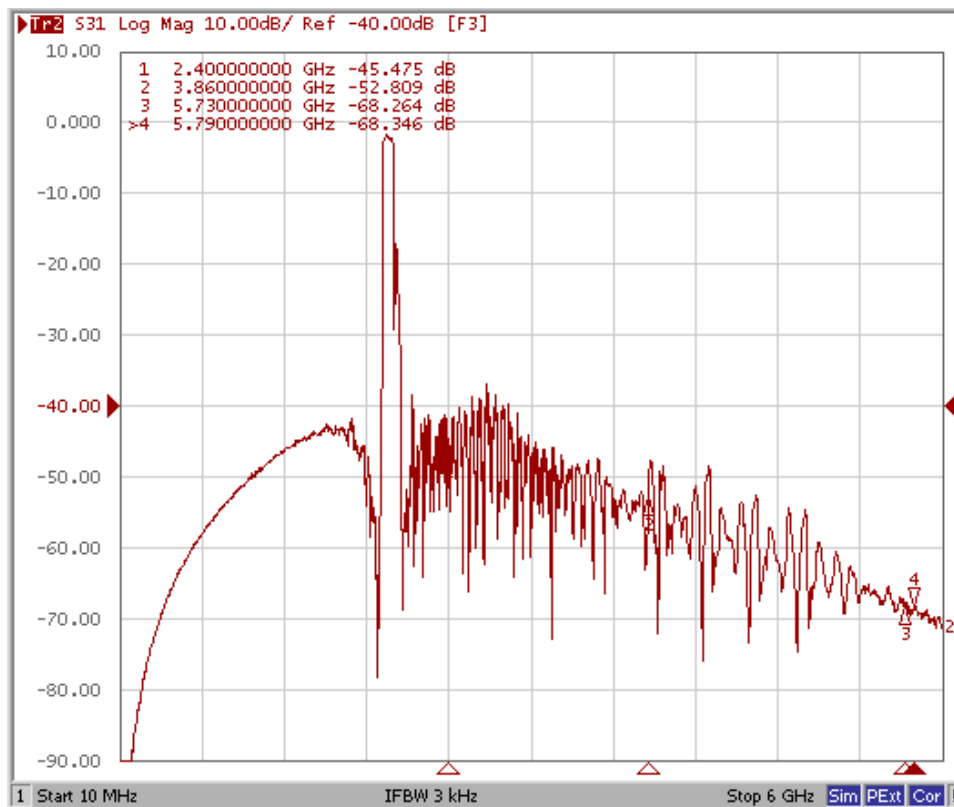
Ant Port



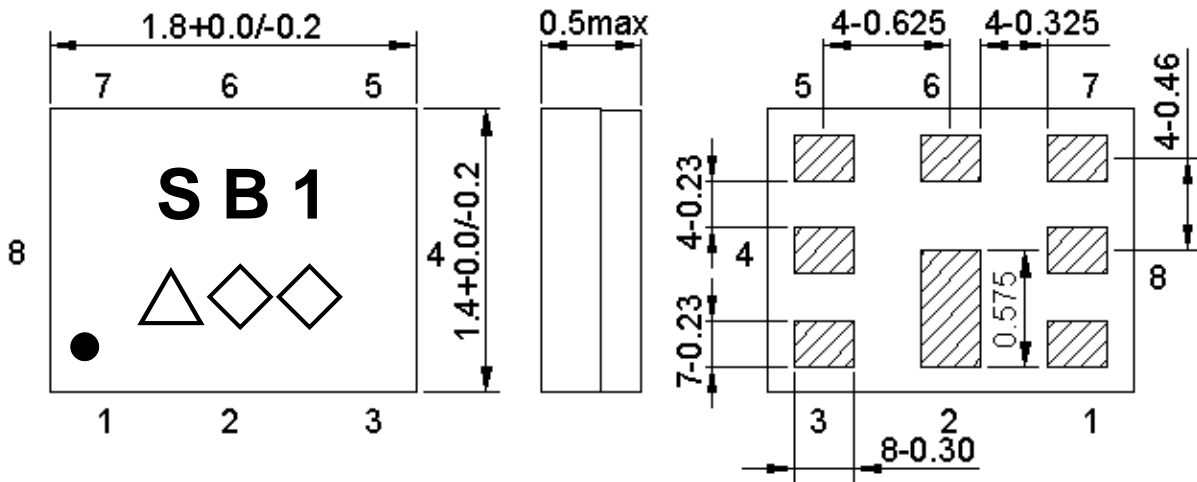
Tx to Ant (Wide span)



Ant to Rx (Wide span)



E. OUTLINE DRAWIN: (Mass Production)



Marking name : **SB1**

△: Date code(2016 May → s ,....., 2019 Dec→m.)

◇◇: Lot Code.

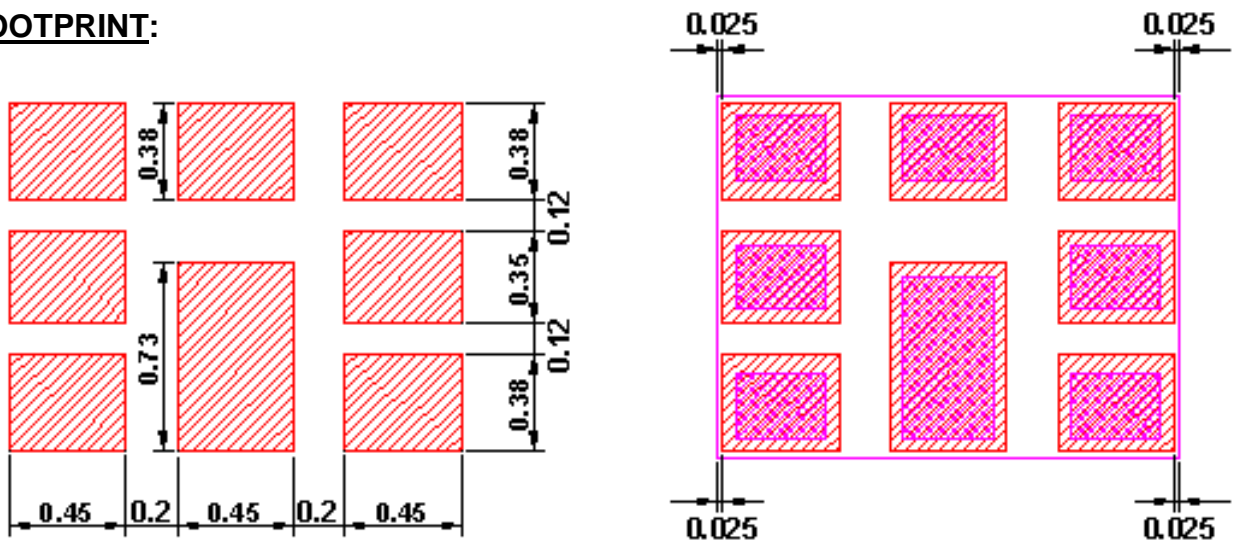
Product Date Code. Follow below table.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020/2024	n	p	q	r	s	t	u	v	w	x	y	z
2021/2025	A	B	C	D	E	F	G	H	J	K	L	M
2022/2026	N	P	Q	R	S	T	U	V	W	X	Y	Z
2023/2027	a	b	c	d	e	f	g	h	j	k	l	m

Pin Configuration:

Pin No.	Pin Name	Description
1	Rx	Receive Pin
2	GND	Ground Pin
3	Tx	Transmitter Pin
4	GND	Ground Pin
5	GND	Ground Pin
6	ANT	Antenna Pin
7	GND	Ground Pin
8	GND	Ground Pin

F. FOOTPRINT:



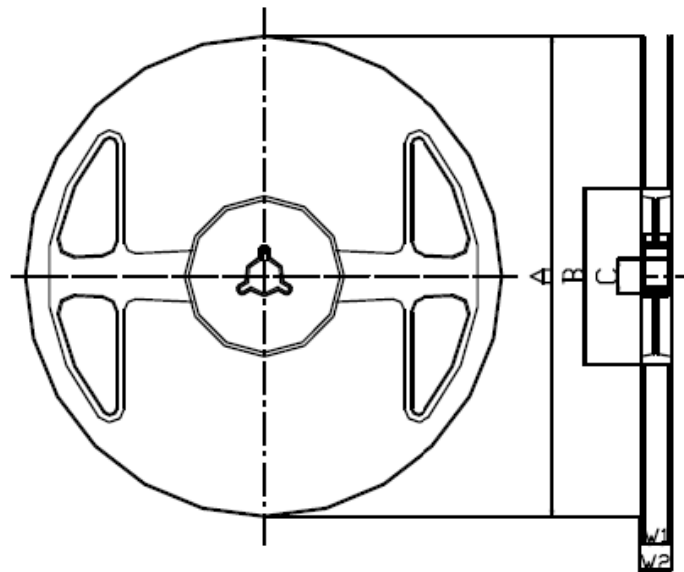
▨: Pad pattern

▨: Resist pattern

G. PACKING:

1. REEL DIMENSION

(Please refer to FR-75D10 for packing quantity)



Materials of Reel

Material : Polystyrene + Carbon

Characteristics : Conforms to EIAJ-ET-7200A

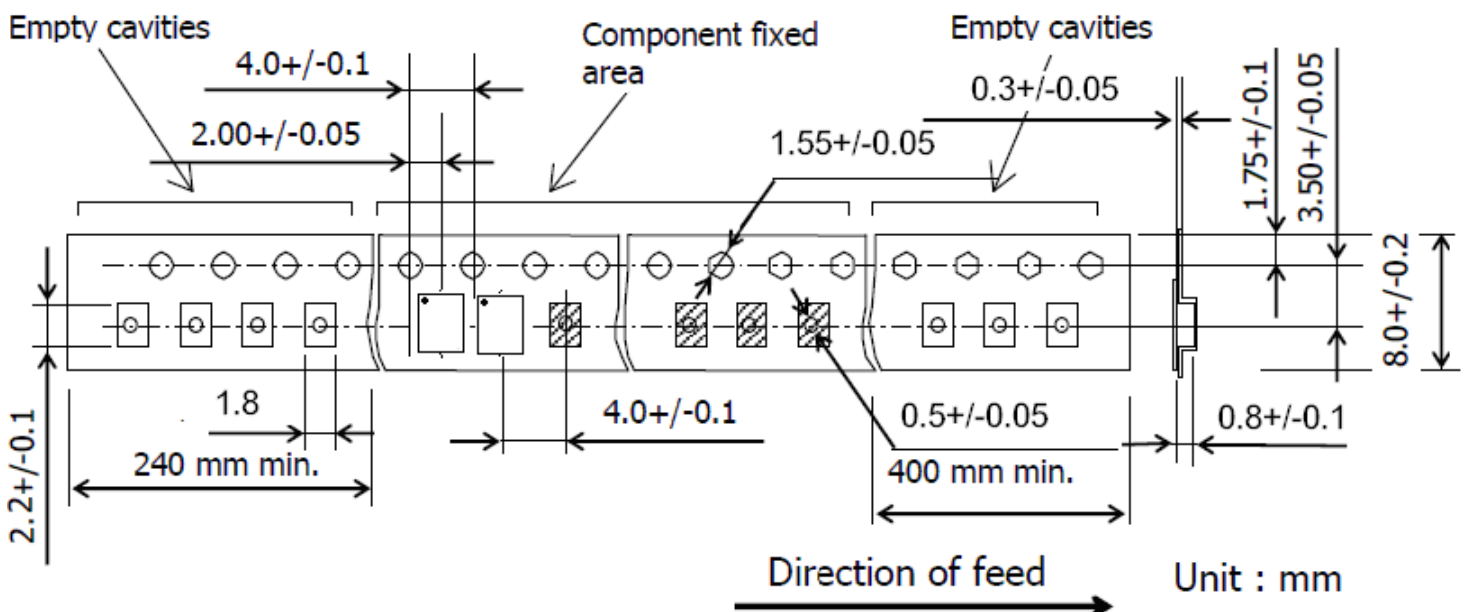
Color : Black

Surface resistance (reference value) : $10^9\Omega/\text{sq}$ Max.

Unit : mm

Code	Quantity	A	B	C	W1	W2
Z	3,000 pcs	$\phi 180.0 +0.0/-1.5$	$\phi 66.0 +/-0.5$	$\phi 13.0 +/-0.2$	$9.0 +1.0/-0.0$	$11.4 +/-1.0$

2. TAPE DIMENSION



H. RECOMMENDED REFLOW PROFILE :

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 245~260°C peak (min. 10sec).
4. Time : 2 times.

