



TAI-SAW TECHNOLOGY CO., LTD.

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

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Product Specifications Approval Sheet

Product Name: SAW DPX 1950/2140 MHz Band 1 SMD 2.0x1.6 mm (BW=60 MHz)

TST Parts No.: TF0104B (This part is compliant with AEC-Q200)

Customer Part No.: _____

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

Checked by: _____ Anne Chen *Anne Chen*

Approved by: _____ Andy Yu *Andy Yu*

Date: _____ 2019/12/13

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 changes



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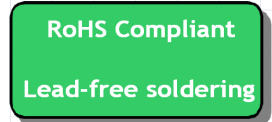
SAW DPX 1950/2140 MHz

MODEL NO.:TF0104B

REV. NO.:3.0

A. MAXIMUM RATING:

1. Input Power Level (1920.48~1979.52 MHz): 29 dBm (50k hours Max.)
2. DC Voltage: +/-5 V
3. Operating Temperature: -40 °C to +85 °C
4. Storage Temperature: -40 °C to +100 °C
5. Moisture Sensitive Level: Level 1 (MSL1)
6. ESD: 50 V(MM), 100 V(HBM)



Electrostatic Sensitive Device (ESD)

B. ELECTRICAL CHARACTERISTICS:

Terminating impedance (Tx port): 50//4.3nH Ω

Terminating impedance (Rx port): 50//7.5nH Ω

Terminating impedance (Ant port): 50//3.3nH Ω

Tx to Ant

Item	Unit	Min.	Typ.	Max.	Remark
Insertion Loss (1920.48~1979.52 MHz)	dB(*1)	-	1.9	2.2	-
Amplitude Ripple (1920~1980 MHz)	dB	-	0.6	1.0	-
VSWR Ant (1920~1980 MHz)	-	-	1.5	2.0	-
VSWR Tx (1920~1980 MHz)	-	-	1.5	2.0	-
Attenuation (Reference level from 0 dB)					
420 ~ 494 MHz	dB	44	60	-	-
843 ~ 894 MHz	dB	30	42	-	-
1565.42 ~ 1573.374 MHz	dB	38	43	-	-
1573.374 ~ 1585.42 MHz	dB	40	45	-	-
1597.5515 ~ 1605.886 MHz	dB	40	50	-	-
1605.886 ~ 1805 MHz	dB	25	40	-	-
1805 ~ 1865 MHz	dB	15	27	-	-
1865 ~ 1880 MHz	dB	10	20	-	-
2010 ~ 2025 MHz	dB	18	21	-	+15~+85 °C
2110 ~ 2170 MHz	dB	38	42	-	-
2400 ~ 2500 MHz	dB	36	42	-	-
3840 ~ 3960 MHz	dB	10	22	-	-

Ant to Rx

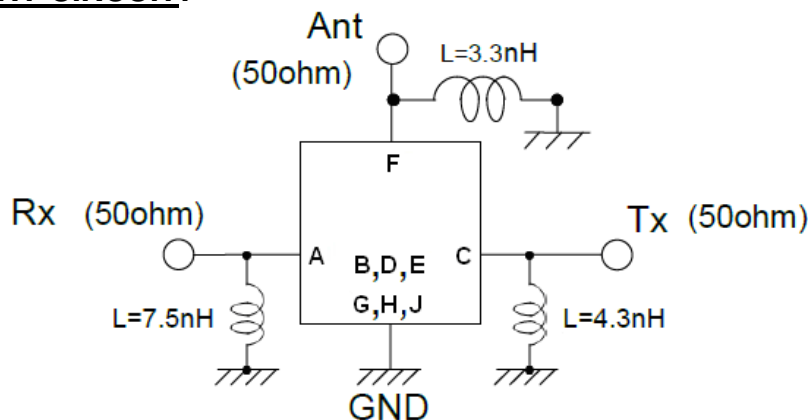
Item	Unit	Min.	Typ.	Max.	Remark
Insertion Loss (2110~2170 MHz)	dB(*1)	-	1.9	2.5	-
Amplitude Ripple (2110~2170 MHz)	dB	-	0.5	1.2	-
VSWR Ant (2110~2170 MHz)	-	-	1.5	2.0	-
VSWR Rx (2110~2170 MHz)	-	-	1.7	2.1	-
Attenuation (Reference level from 0 dB)					
190 MHz	dB	50	75	-	-
814 ~ 849 MHz	dB	40	65	-	-
880 ~ 915 MHz	dB	40	63	-	-
1447 ~ 1463 MHz	dB	40	49	-	-
1730 ~ 1790 MHz	dB	40	55	-	-
1920 ~ 1980 MHz	dB	45	50	-	-
2015 ~ 2075 MHz	dB	13	17	-	-
2400 ~ 2500 MHz	dB	40	46	-	-
4030 ~ 4150 MHz	dB	40	51	-	-
4220 ~ 4340 MHz	dB	40	51	-	-
4340 ~ 6000 MHz	dB	15	48	-	-
4900 ~ 5950 MHz	dB	40	47	-	-
5950 ~ 6130 MHz	dB	40	48	-	-
6130 ~ 6330 MHz	dB	35	48	-	-
6330 ~ 6510 MHz	dB	35	48	-	-

Tx to Rx

Item	Unit	Min.	Typ.	Max.	Remark
Isolation (Reference level from 0 dB)	1920 ~ 1980 MHz	dB	53	56	-
	2110 ~ 2170 MHz	dB	50	55	-

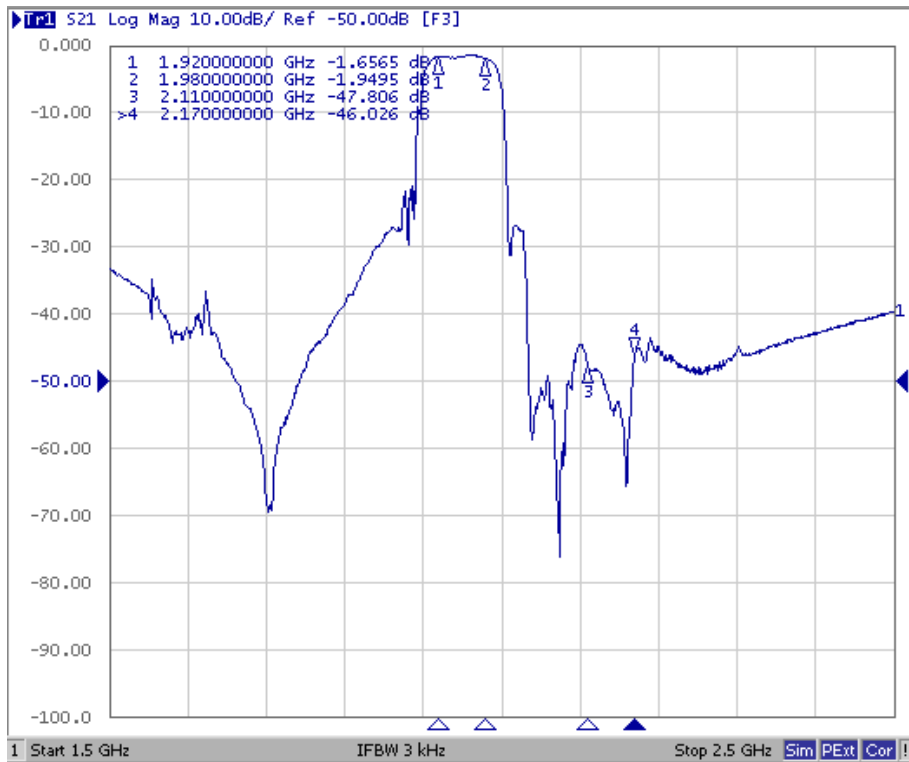
(*1) Specification of insertion loss excludes loss that comes from the test board.

C. MEASUREMENT CIRCUIT:

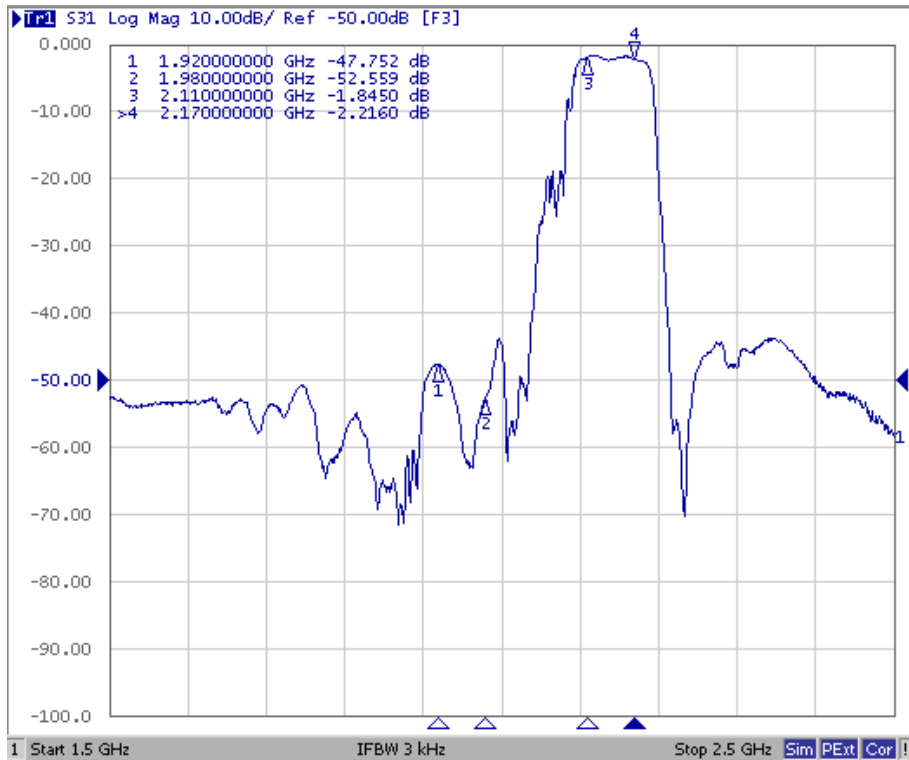


D. FREQUENCY CHARACTERISTICS:

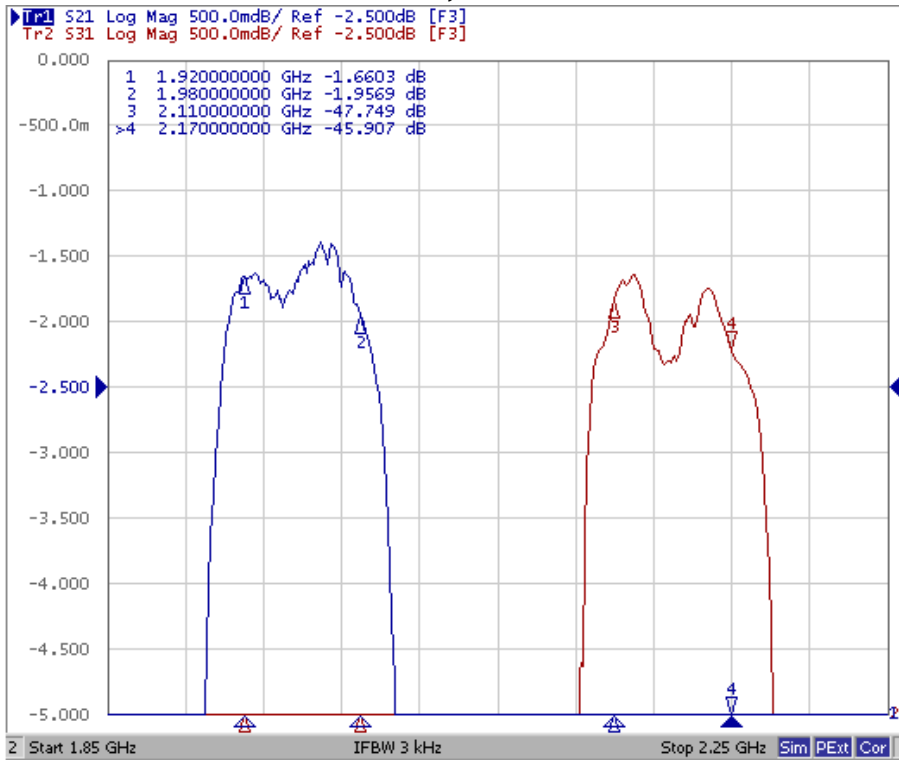
Tx to Ant



Ant to Rx



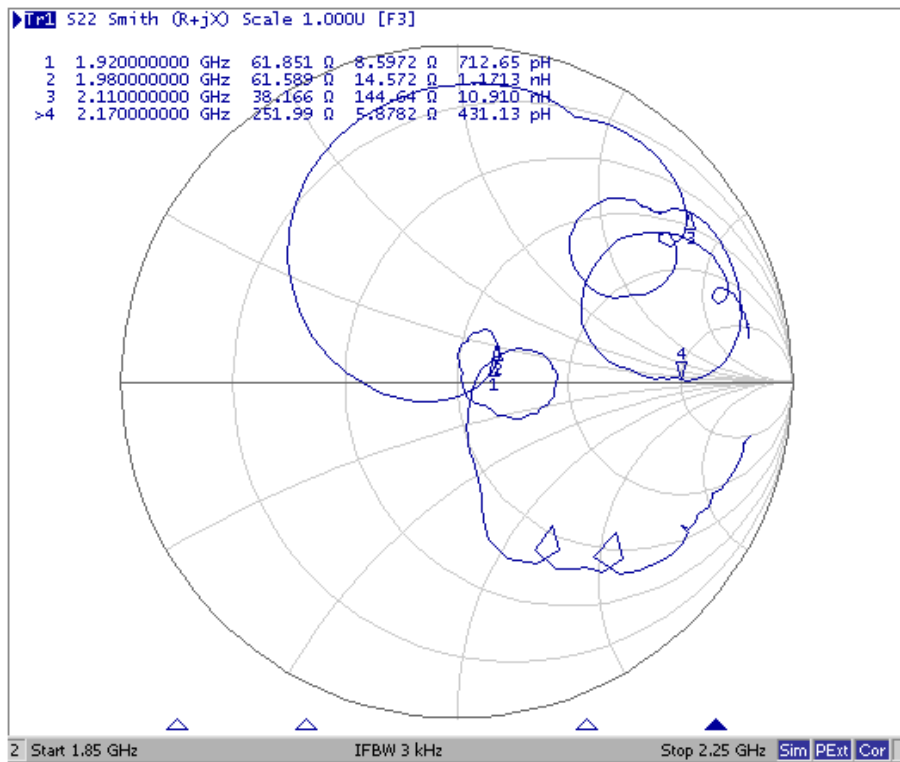
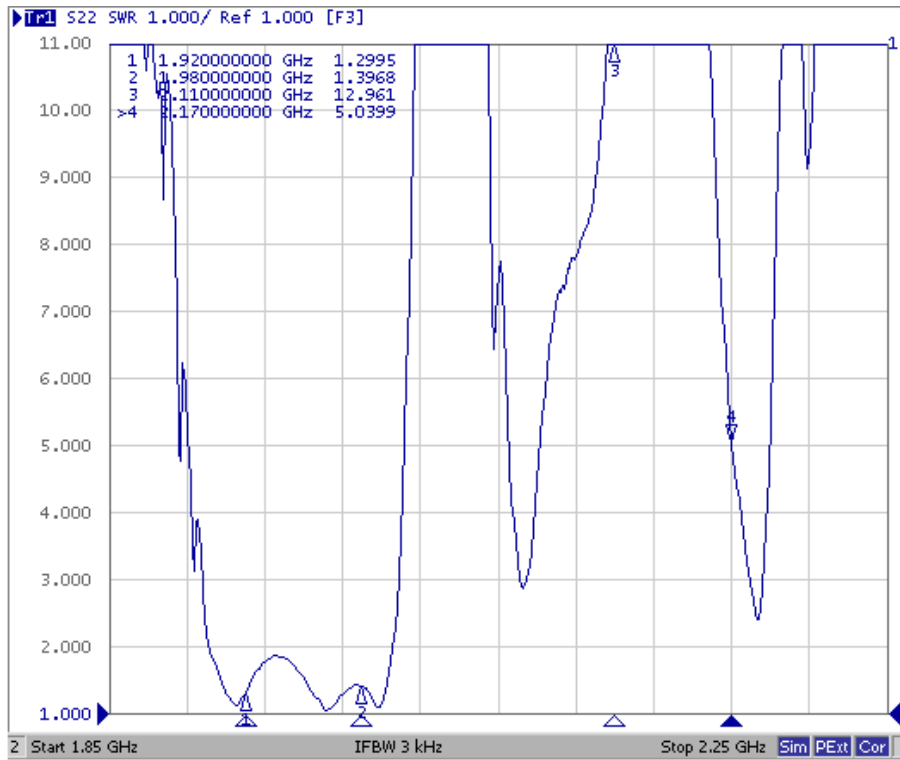
Tx to Ant, Ant to Rx



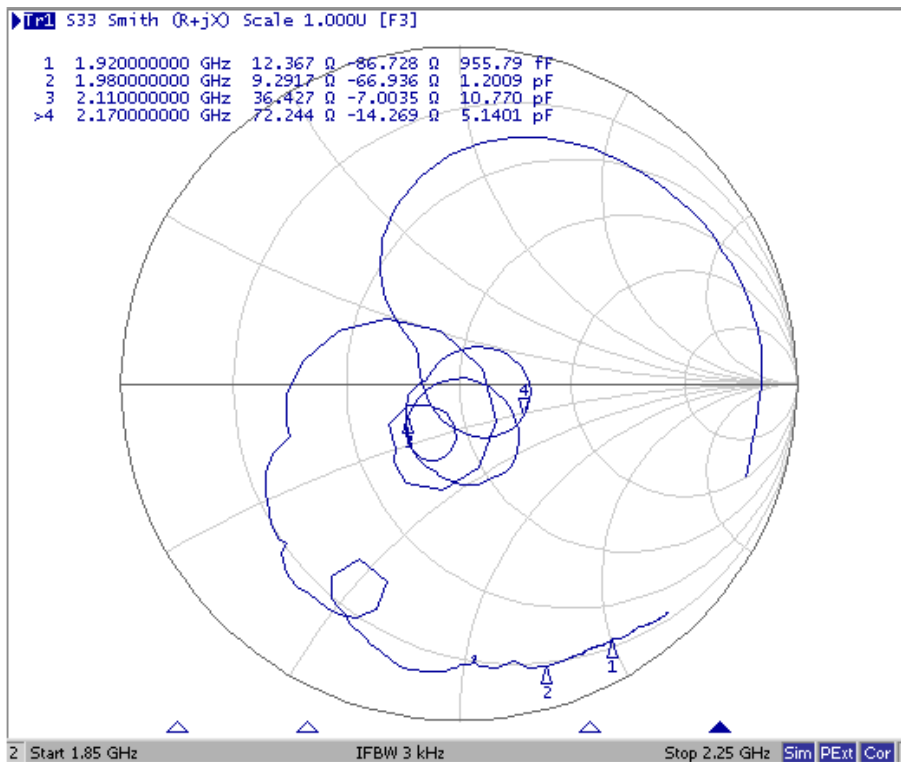
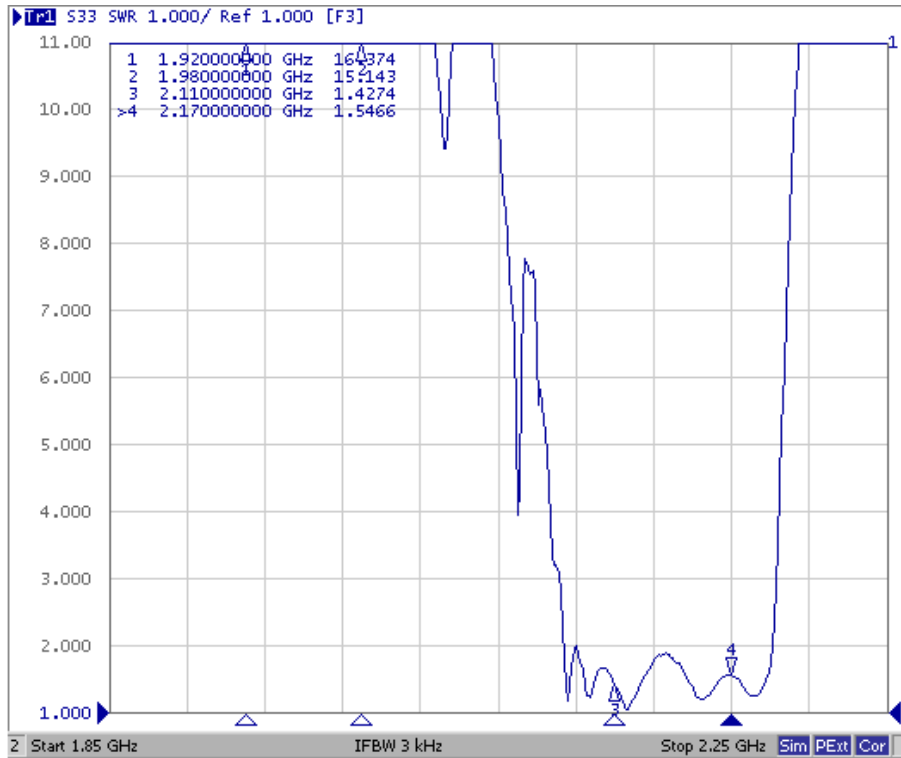
Tx to Rx Isolation



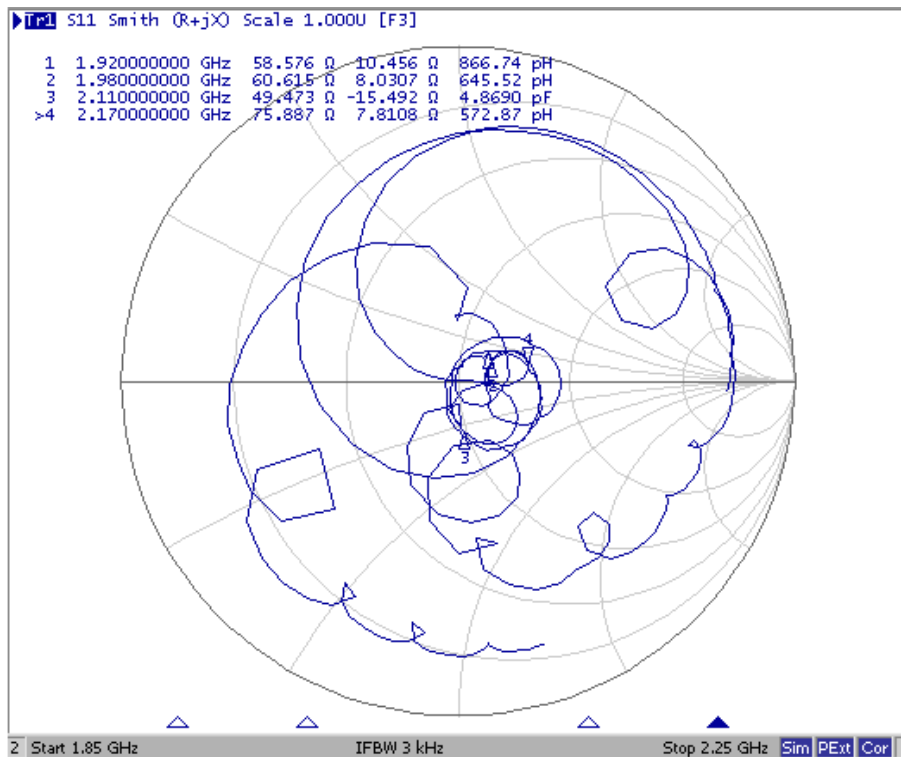
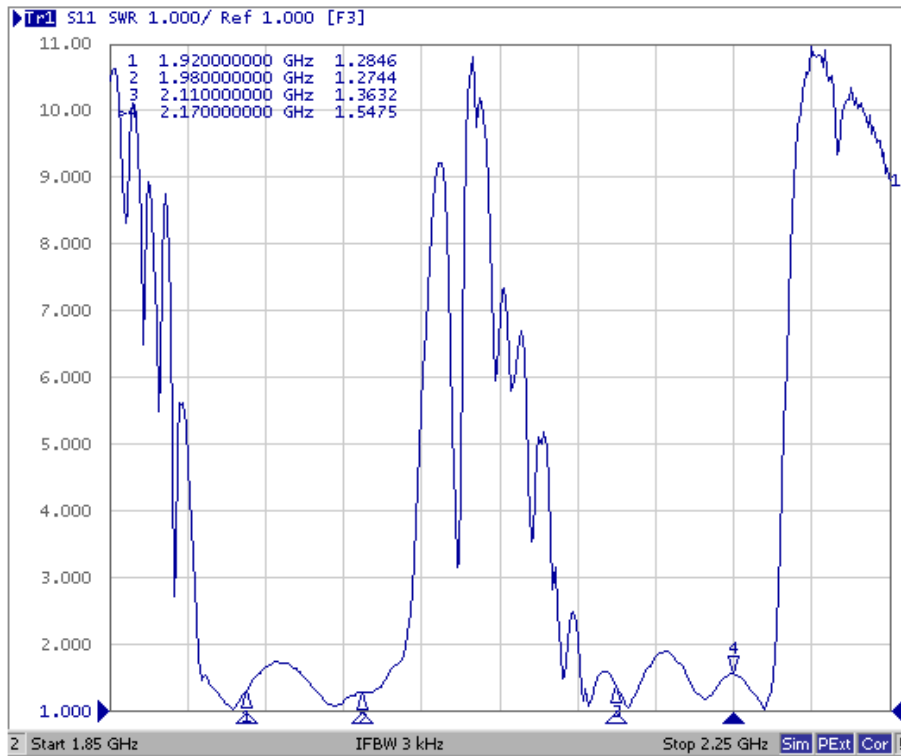
Tx Port



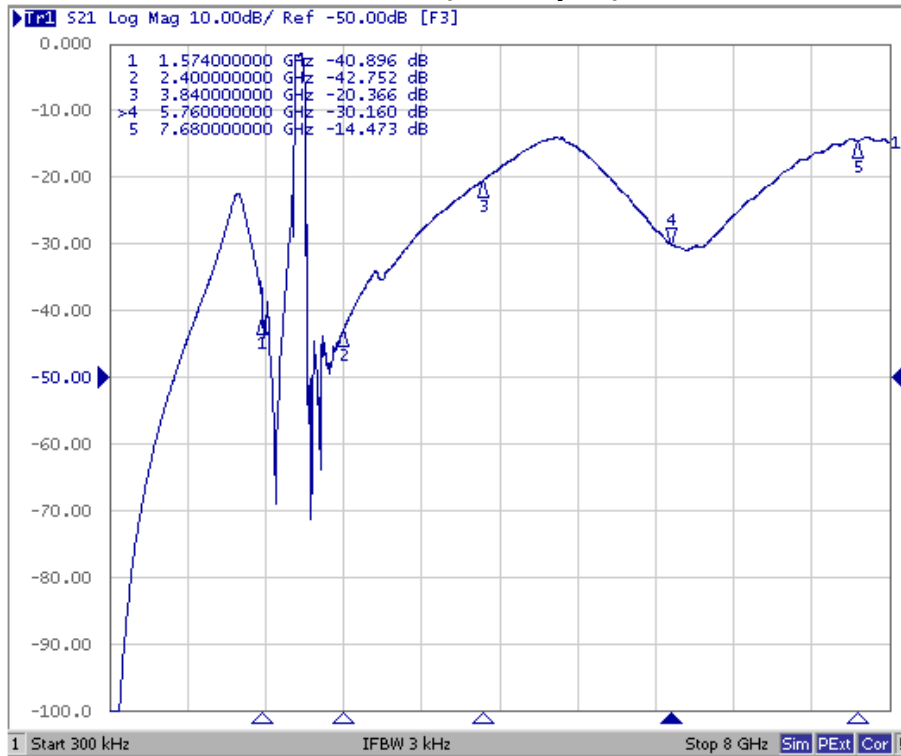
Rx Port



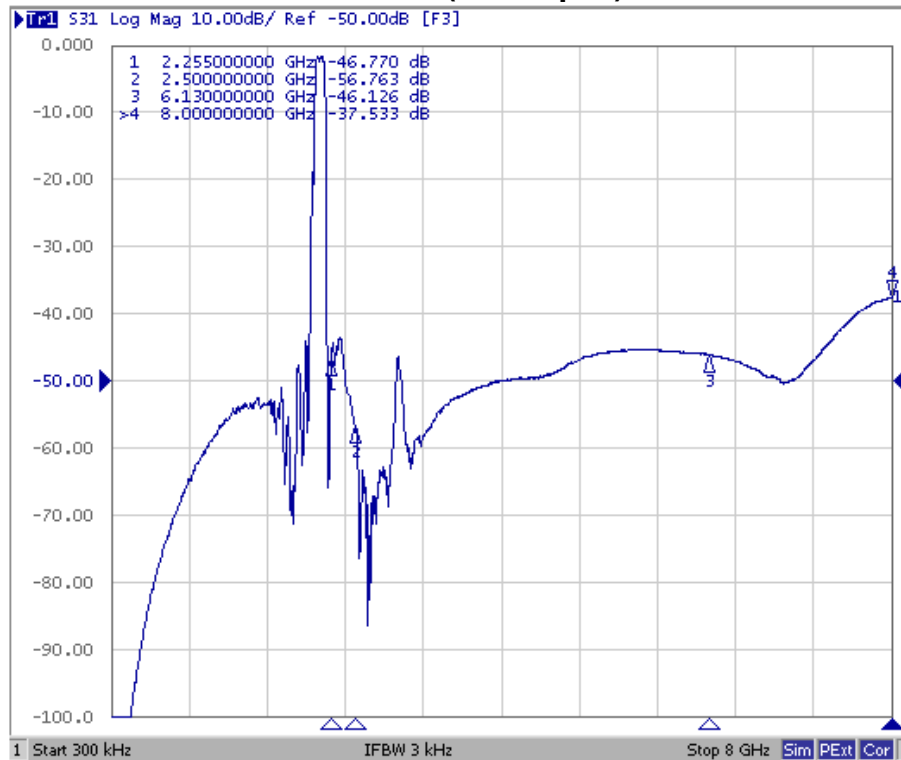
Ant Port



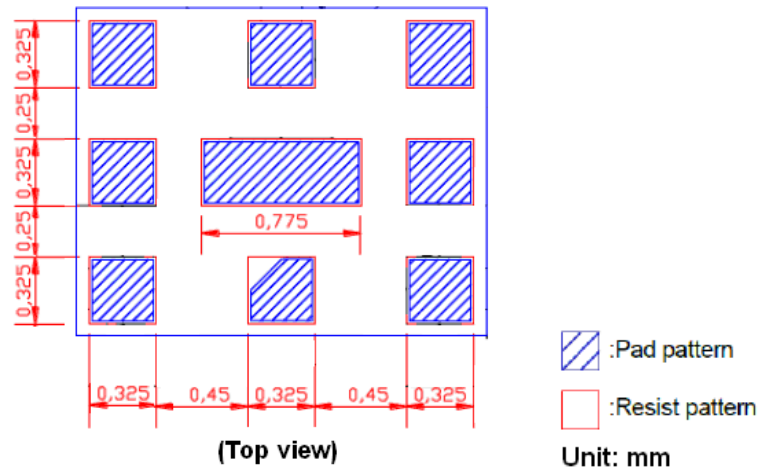
Tx to Ant (Wide span)



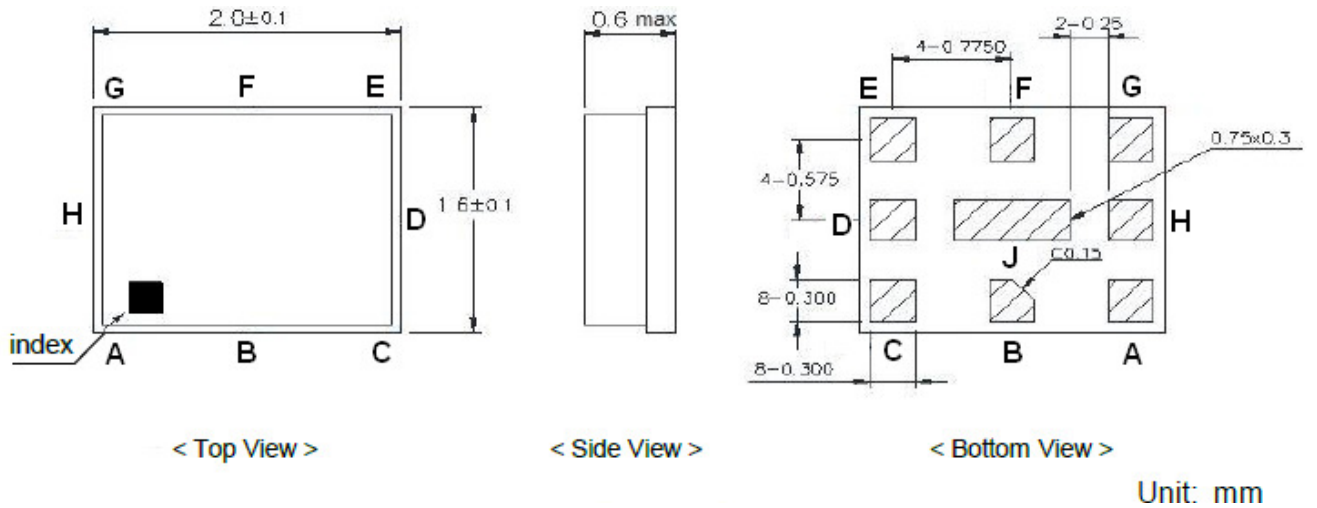
Ant to Rx (Wide span)



E. PCB Footprint:



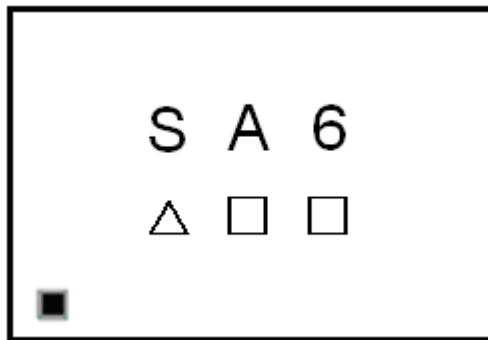
F. OUTLINE DRAWING:



Pin Configuration

Pin No.	Symbol	Function
A	RX	Receiver
B	GND	Ground
C	TX	Transmitter
D	GND	Ground
E	GND	Ground
F	ANT	Antenna
G	GND	Ground
H	GND	Ground
J	GND	Ground

Top View (Mass Production):



△ : Date Code

□ : Lot No. (Indicated by 0~9 or A to Z and a to z, except I, O, i, o and l)

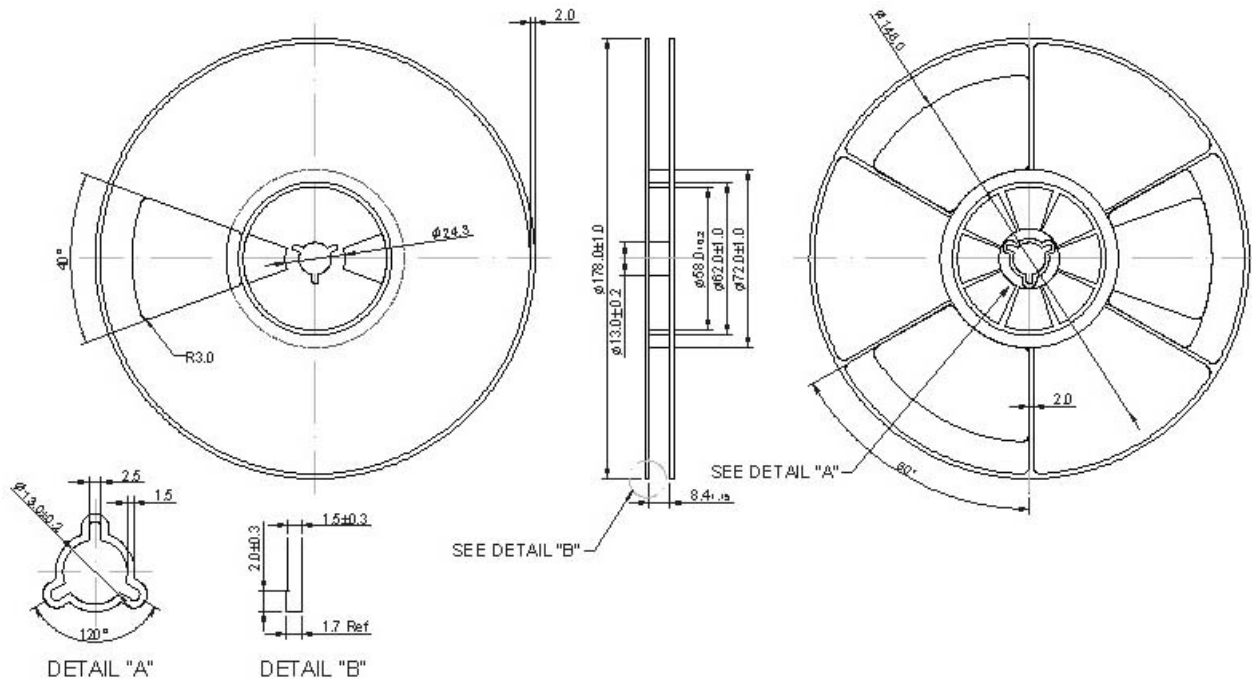
Date Code: Follow below table. (4-year cycle)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019 / 2023	a	b	c	d	e	f	g	h	j	k	l	m
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

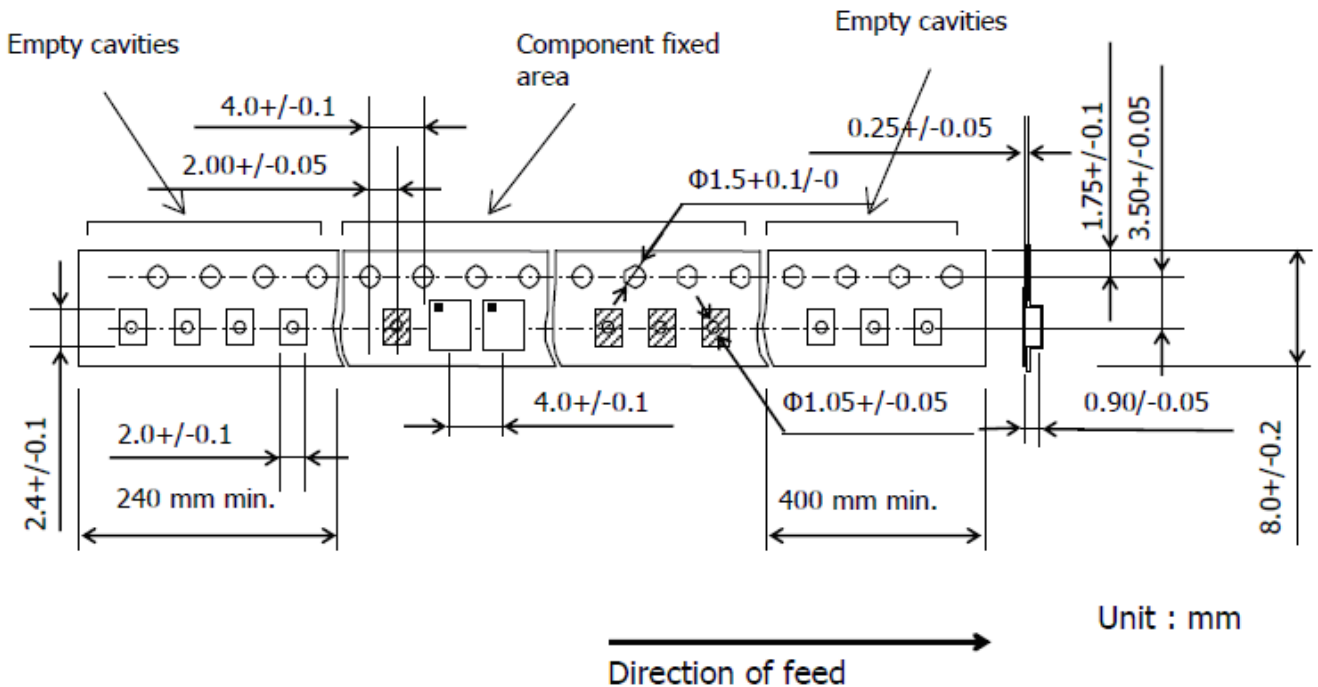
G. PACKING: (Ref: WI-75M03)

1. REEL DIMENSION

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



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 260°C +0/-5°C peak (20~40sec).
4. Time: 2 times.

