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 Description: Dielectric Chip Antenna 2450MHz BW 100MHz Bluetooth/WLAN
Size3.2x1.6 mm

TST Parts No.: TQ0070AA0004 (This part is compliant with AEC-Q200)

Customer Parts No.:_____

Customer signature required

Company:_____

Division:_____

Approved by :_____

Date:_____

Checked by:_____ Nina Chen Nina Chen

Approved by:_____ Kazuma Lee Kazuma Lee

Date:_____ 2022/11/15

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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Dielectric Chip Antenna 2450MHz BW 100MHz Bluetooth/WLAN

Size3.2x1.6 mm

MODEL NO.: TQ0070AA0004 REV. NO.:1.0

A. Maximum Rating:

1. Operating Temperature: -40°C to +85°C
2. Storage Temperature: -40°C to +85°C
3. Moisture Sensitivity Level: Level 1 (**MSL 1**)

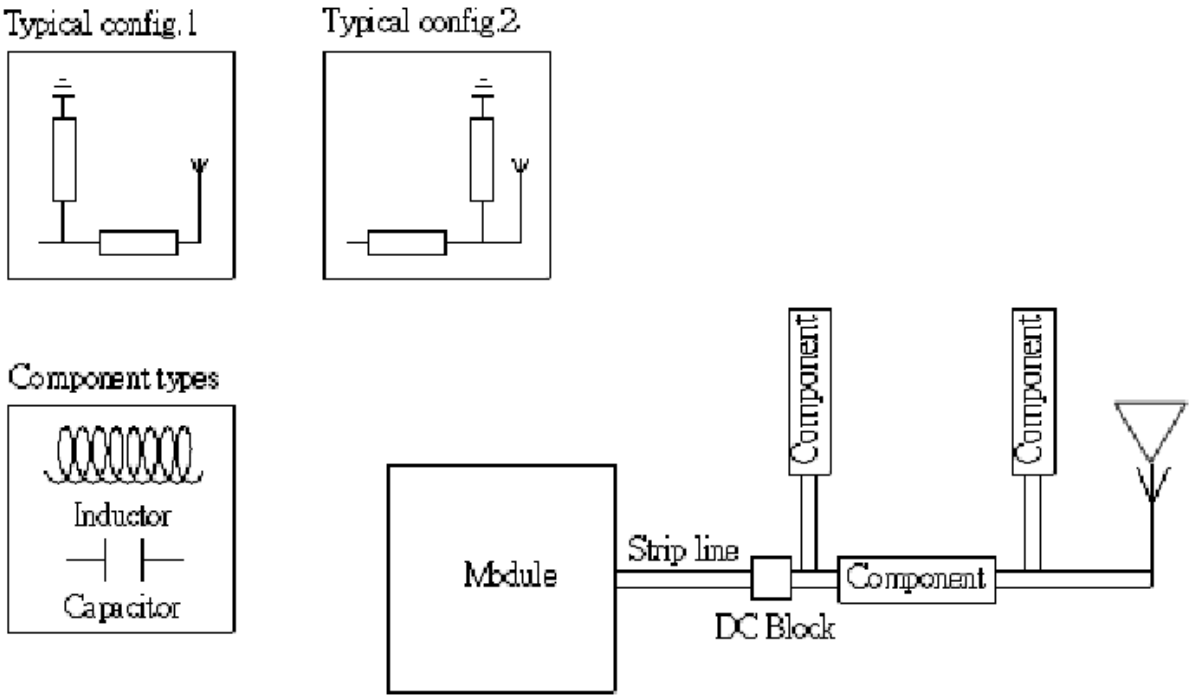
RoHS Compliant
Lead free
Lead-free soldering

Electrostatic Sensitive Device (**ESD**)

B. Electrical Characteristics:

Item		Unit	Typ	Remarks
Center frequency	2400~2500 MHz	MHz	2450	
Return Loss	2400 MHz	dB	14	
	2450 MHz	dB	20	
	2500 MHz	dB	19	
Effciency	2400 MHz	%	70.31	
	2450 MHz	%	66.91	
	2500 MHz	%	75.09	
Average gain	2400 MHz	dB	1.52	
	2450 MHz	dB	1.74	
	2500 MHz	dB	1.24	
Peak gain	2400 MHz	dBi	2.26	
	2450 MHz	dBi	2.01	
	2500 MHz	dBi	2.50	

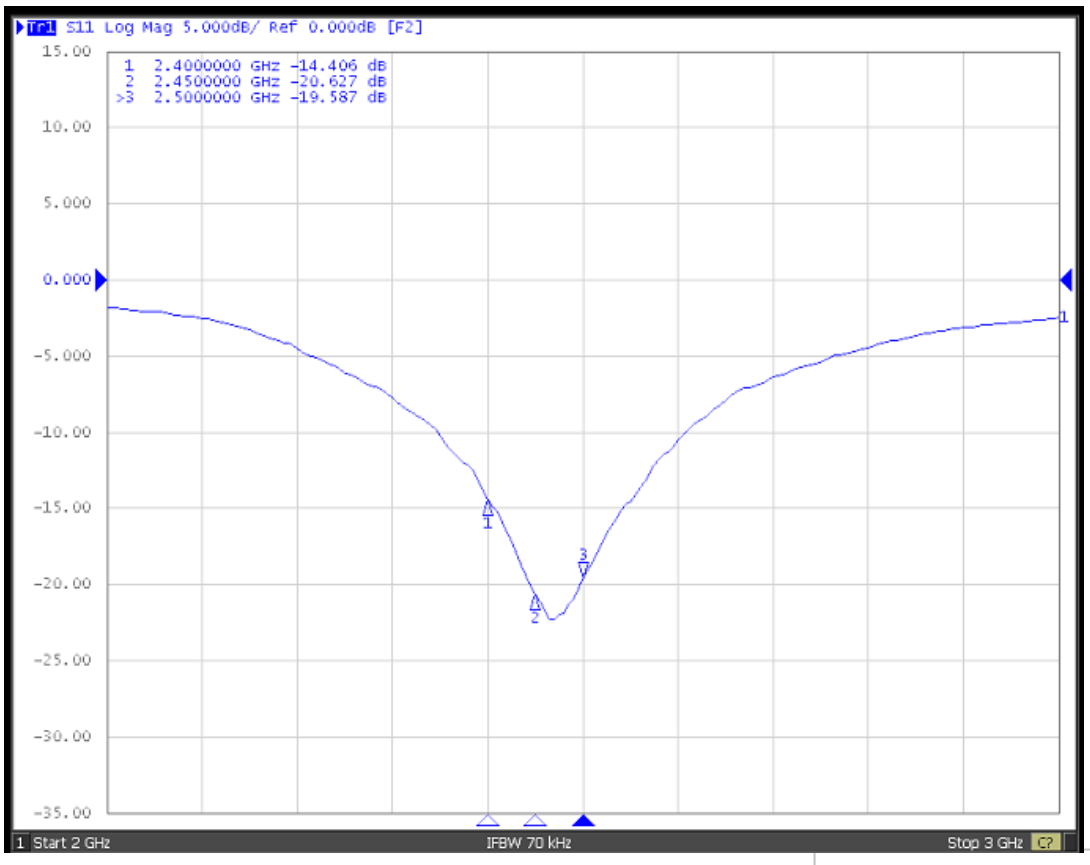
C. Transmission line and matching:



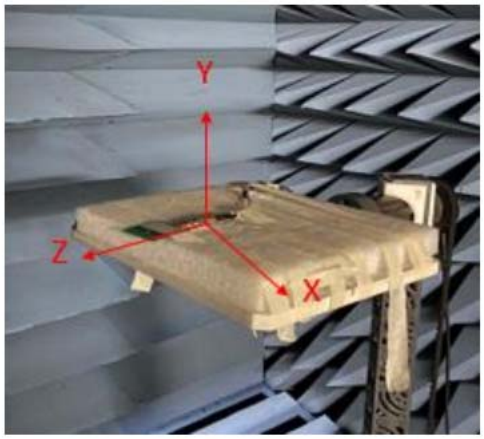
The matching network has to be individually designed using one,two or three components.

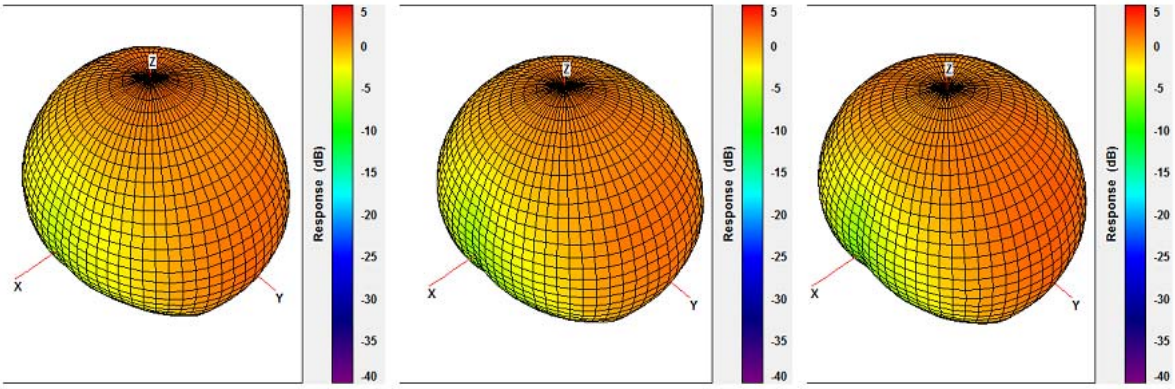
D. Frequency Characteristics:

Return Loss



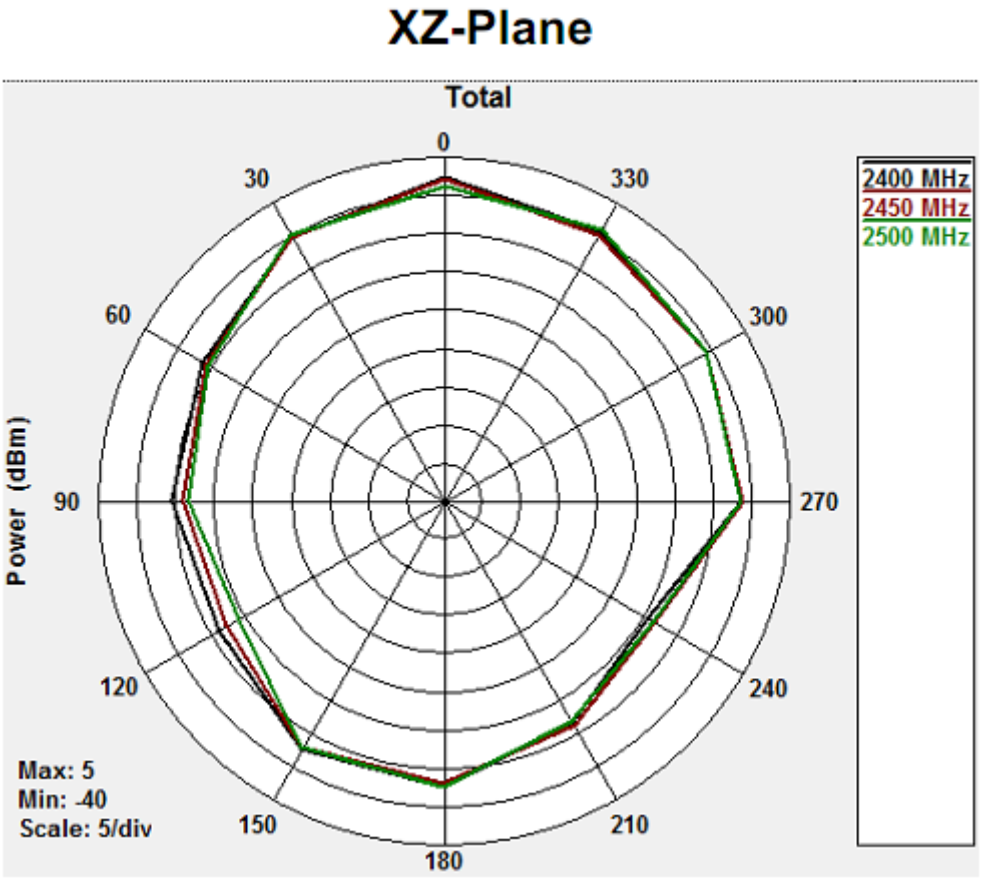
3D Pattern:



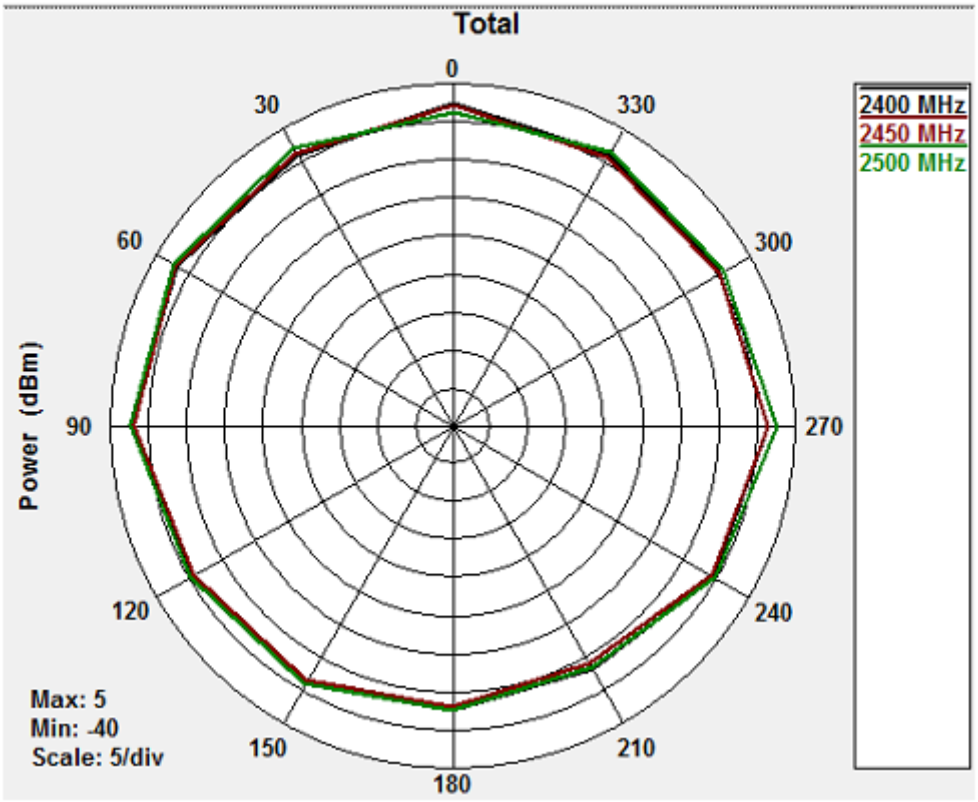


2400MHz 2450MHz 2500MHZ

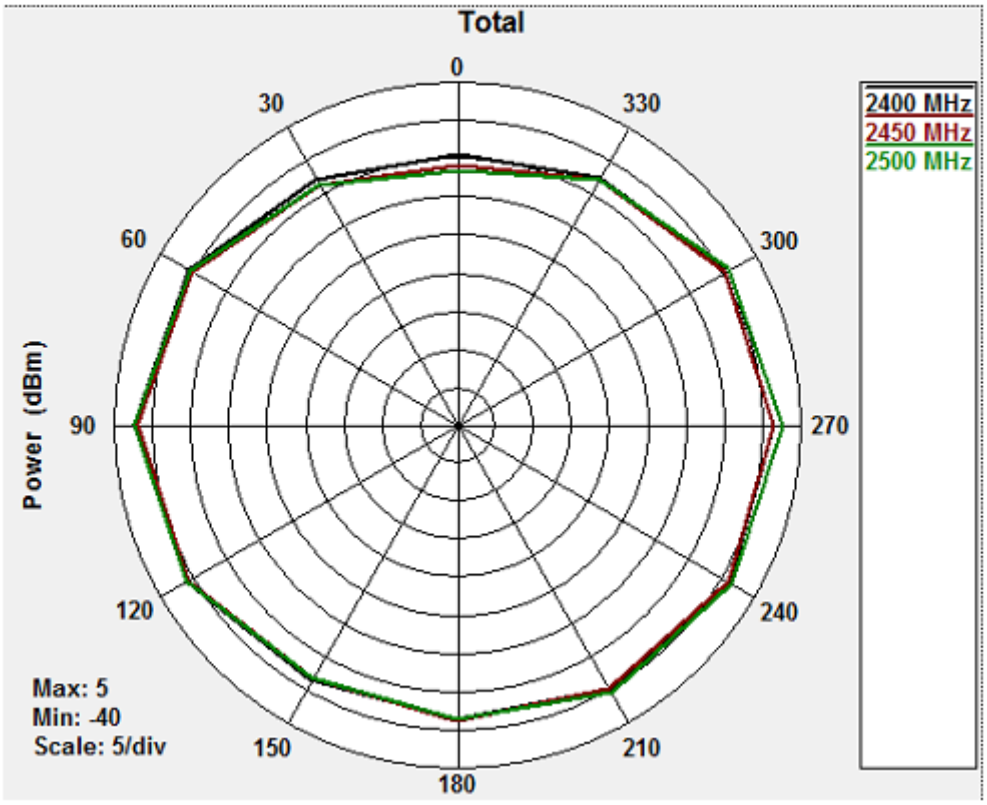
2D Radiation Pattern:



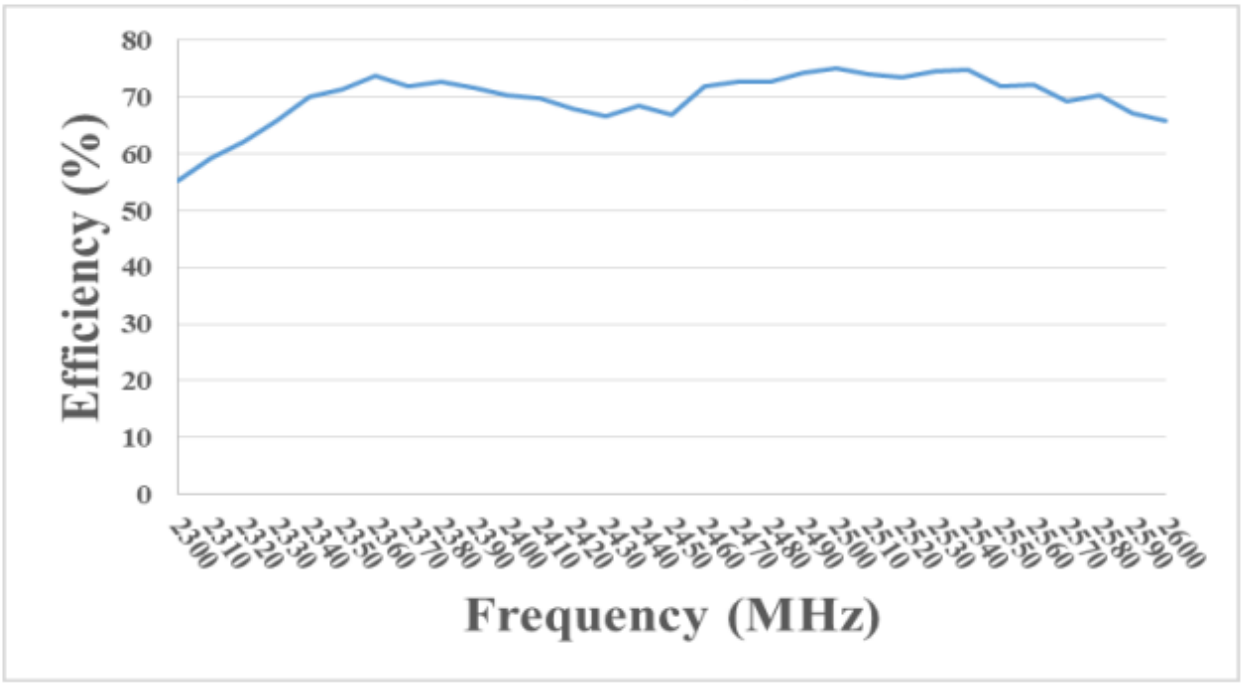
YZ-Plane



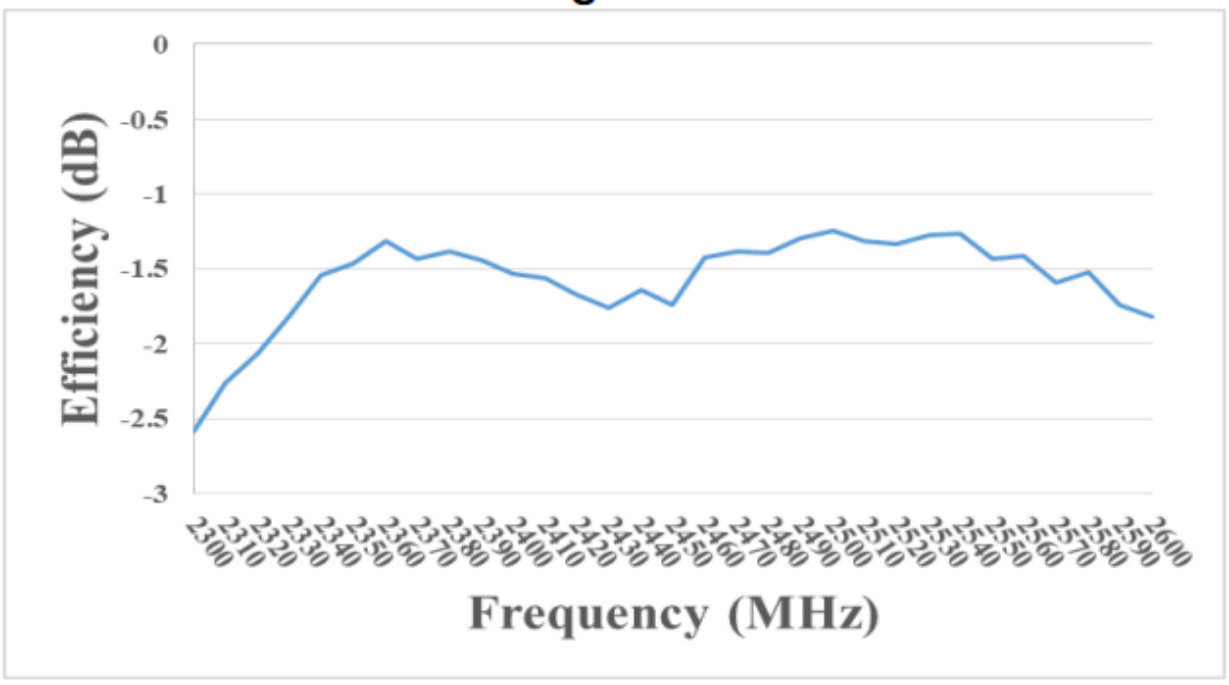
XY-Plane



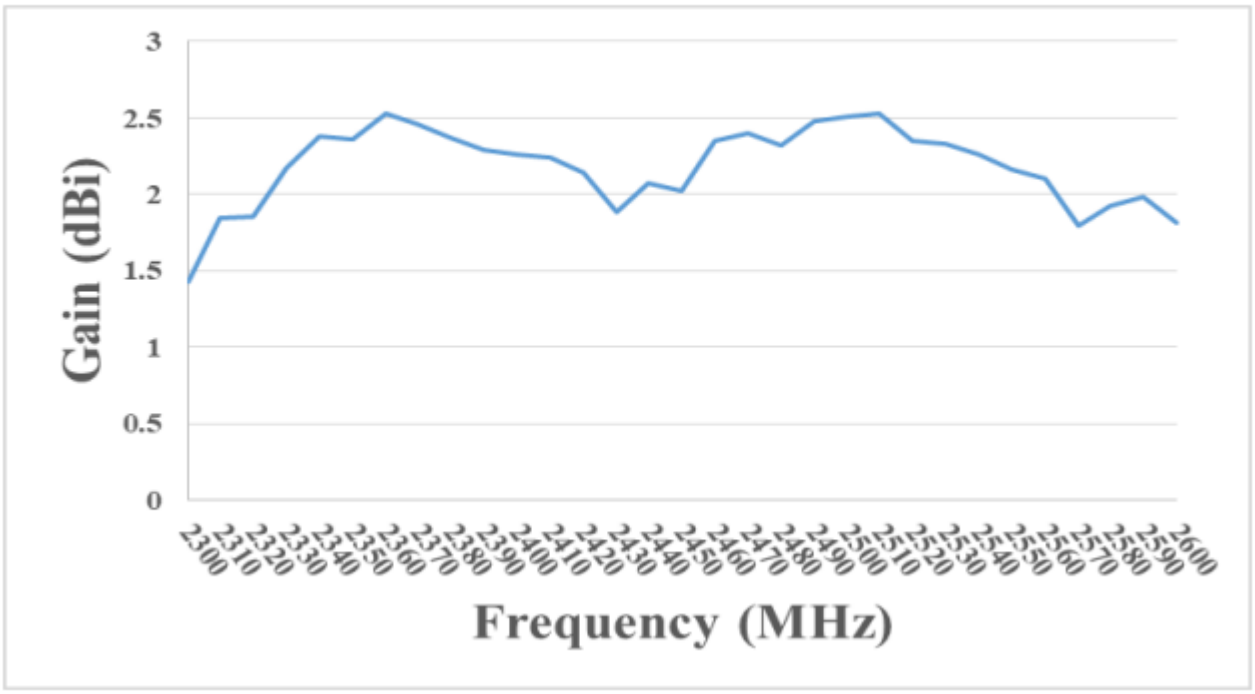
Efficiency：



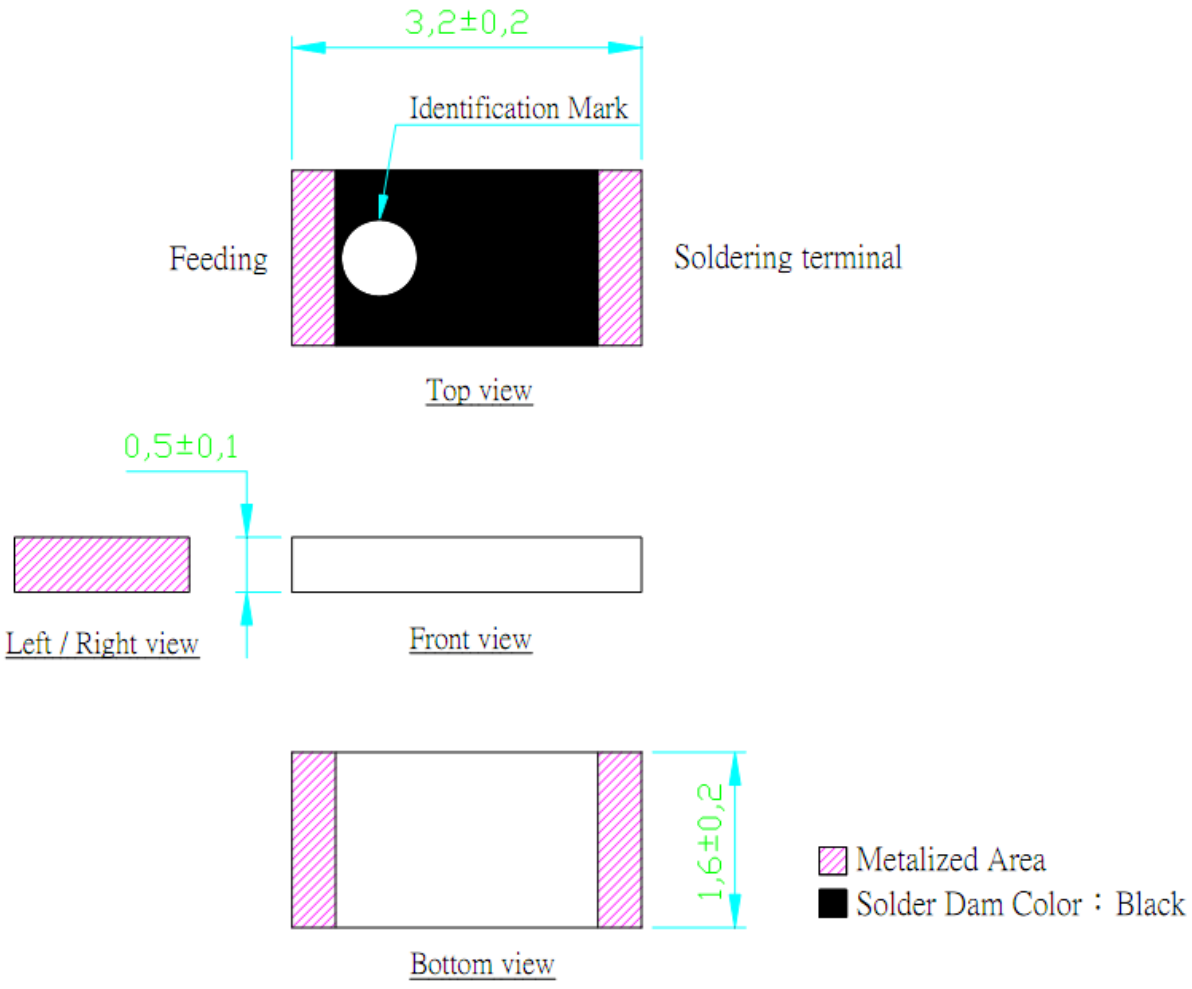
Average Gain：



Peak Gain :



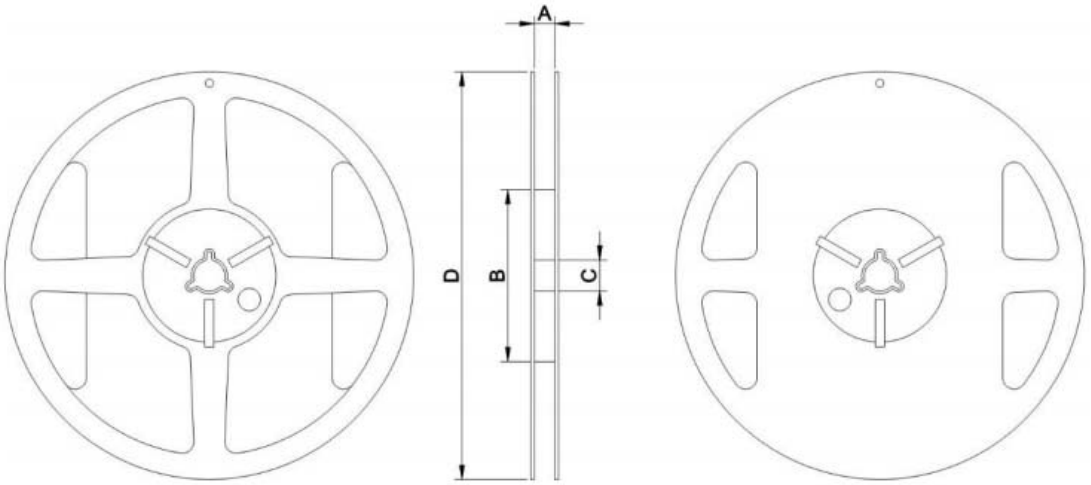
E. Demension:



Unit: mm

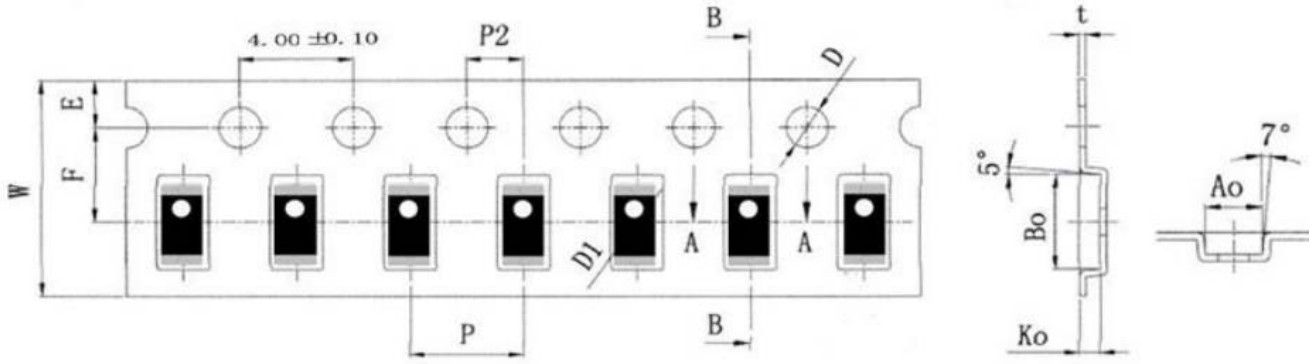
F. Packing:

1.Reel Dimension:



Tape Width(mm)	A(mm)	B(mm)	C(mm)	D(mm)	Chip/Reel(pcs)
8	8.5±1.0	60±2	13±0.5	178±2	6000

2.Tape Dimension:



Feature	Specifications	Tolerances
W	8.00	±0.10
P	4.00	±0.10
E	1.75	±0.10
F	3.50	±0.05
P2	2.00	±0.05
D	1.50	+0.10 -0.00
D1	1.00	±0.10
Po	4.00	±0.10
10Po	40.00	±0.20

Feature	Specifications	Tolerances
Ao	1.85	±0.10
Bo	3.50	±0.10
Ko	0.73	±0.10
t	0.23	±0.05

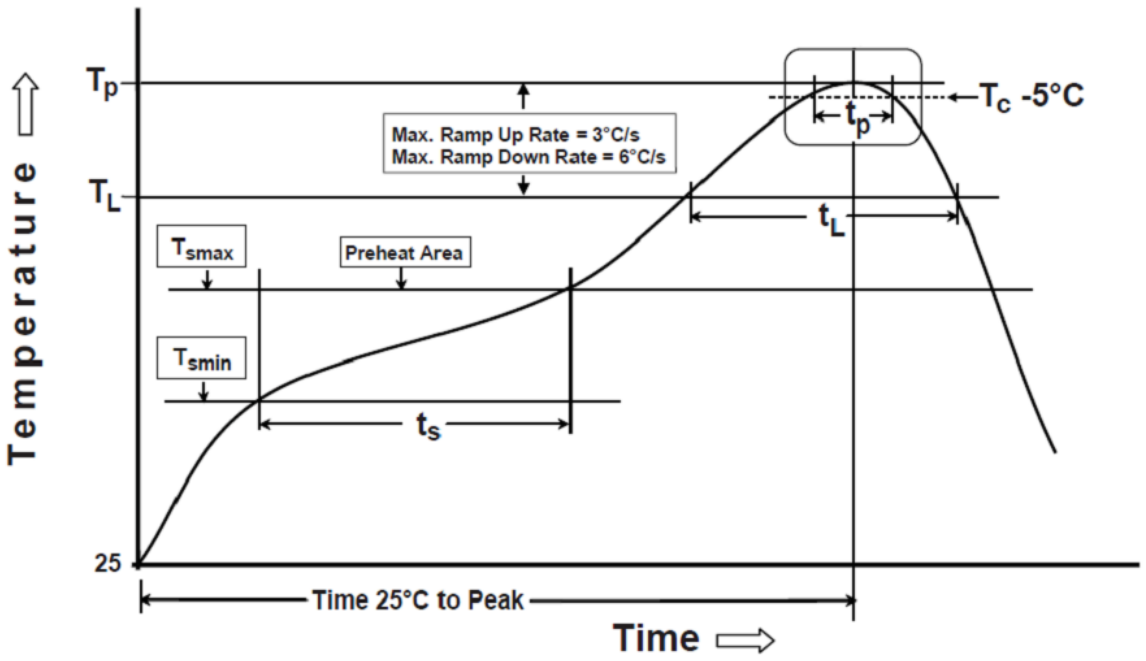
G. Recommended Solder Profile:

Products can be assembled following Pb-free assembly. According to the Standard IPC/JEDEC J-STD-020C, the temperature profile suggested is as follow:

Phase	Profile features	Pb-Free Assembly (SnAgCu)
PREHEAT	-Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(ts) form (Tsmin to Tsmax)	150℃ 200℃ 60-120 seconds
RAMP-UP	Avg. Ramp-up Rate (Tsmax to TP)	3℃/second(max)
REFLOW	-Temperature(TL) -Total Time above TL (t L)	217℃ 30-100 seconds
PEAK	-Temperature(TP) -Time(tp)	260℃ 5-10 second
RAMP-DOWN	Rate	6℃ / second max.
Time from 25℃ to Peak Temperature		8 minutes max.
Composition of solder paste		96.5Sn/3Ag/0.5Cu
Solder Paste Model		SHENMAO PF606-P26

Note：All the temperature measure point is on top surface of the component, if temperature over recommend, it will make component surface peeling or damage.

The graphic shows temperature profile for component assembly process in reflow ovens



Soldering With Iron:

Soldering condition : Soldering iron temperature 270±10 ℃.
Apply preheating at 120℃ for 2-3 minutes. Finish soldering for each terminal within 3 seconds, if soldering iron over temperature 270±10 ℃ or 3 seconds, it will make component surface peeling or damage.
Soldering iron can not leakage of electricity.