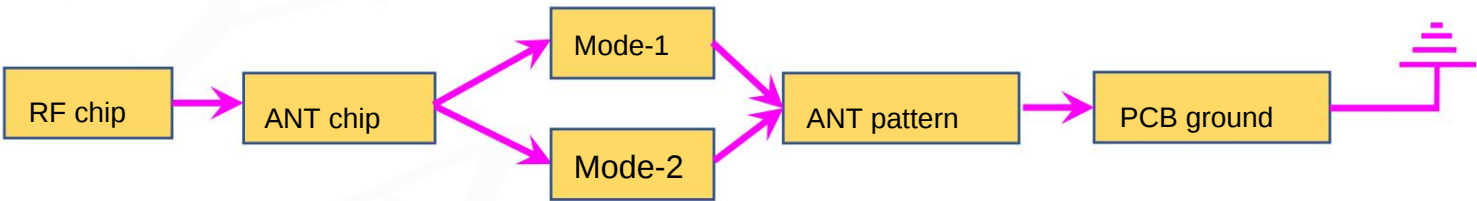




P/N: HY160808 SRF09

Features:

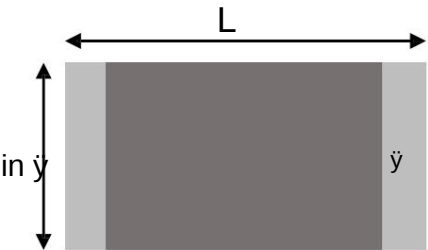
- 1. Surface mounted element with a small dimension of $1.6 \times 0.8 \times 0.8$ mm meet future miniaturization trend.
- 2. Embedded and LTCC (low temperature co-fired ceramic) technology is able to integrate with system design as well as beatifying the housing of final product.
- 3. Miniaturization, wideband, high stability, low ESR, and low tolerance.
- 4. Dual-band resonances in the dominant and harmonic modes enables multiband operations.
- 5. Novel ground-radiation technique enables radiation from both the antenna and the ground plane.



Applications:

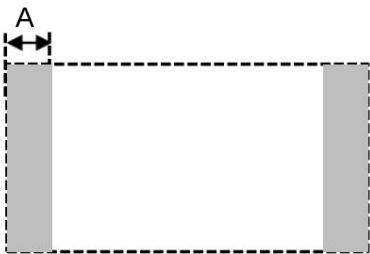
- 1. Bluetooth
- 2. Dual-band WLAN
- 3. ISM and UWB

Dimensions (Unit: mm)

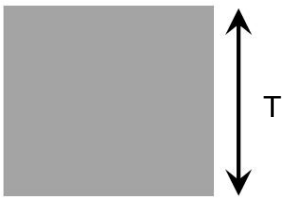


(Top View)

Number	Terminal Name
1	INPUT
2	NC



(Bottom View)



(Side View)

Symbols	L	IN	T	A
Dimensions	1.60±0.20	0.80±0.20	0.80±0.20	0.30±0.10

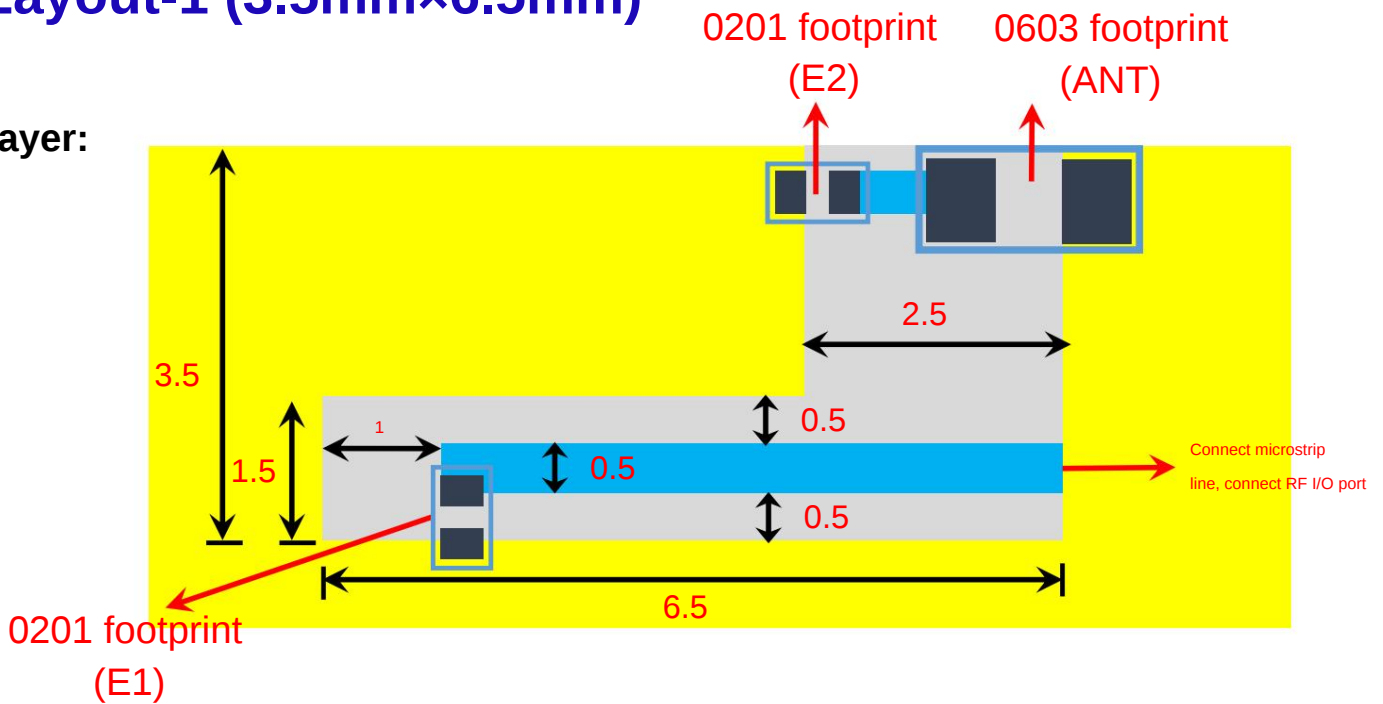
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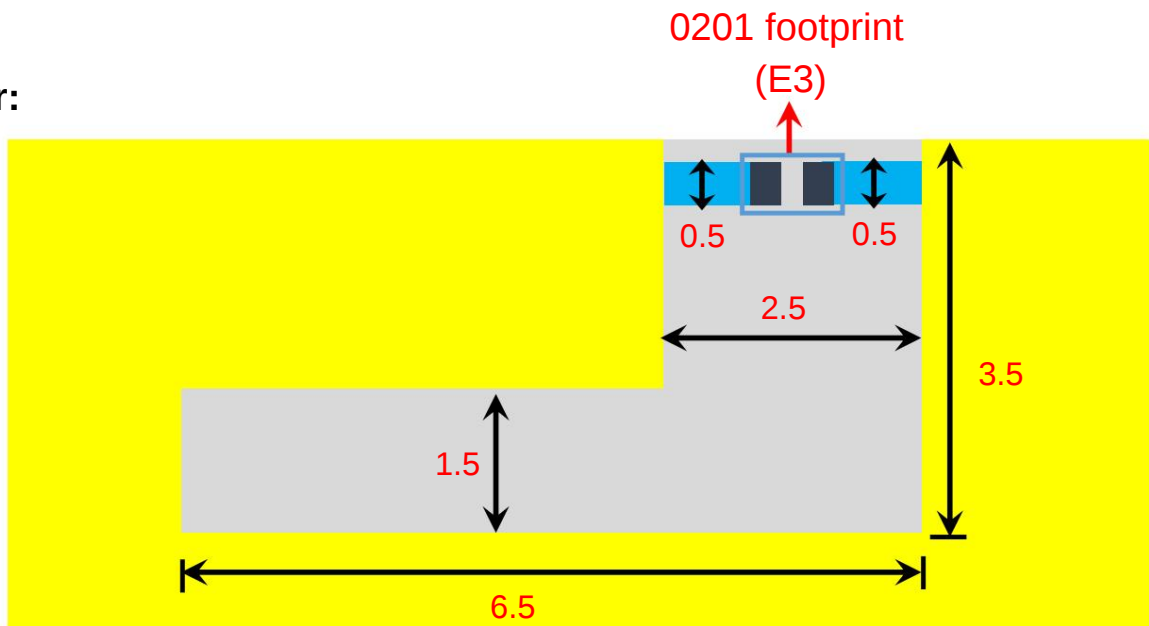
P/N: HY160808 SRF09

Layout-1 (3.5mm×6.5mm)

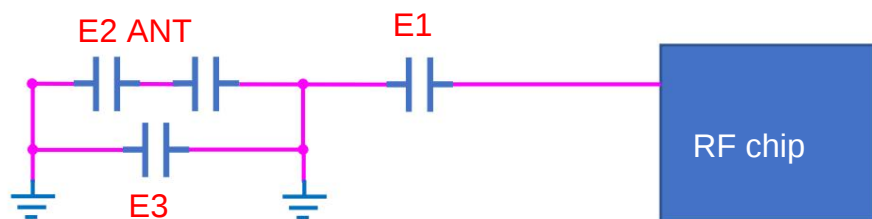
Top layer:



Bottom layer:



Equivalent circuit:

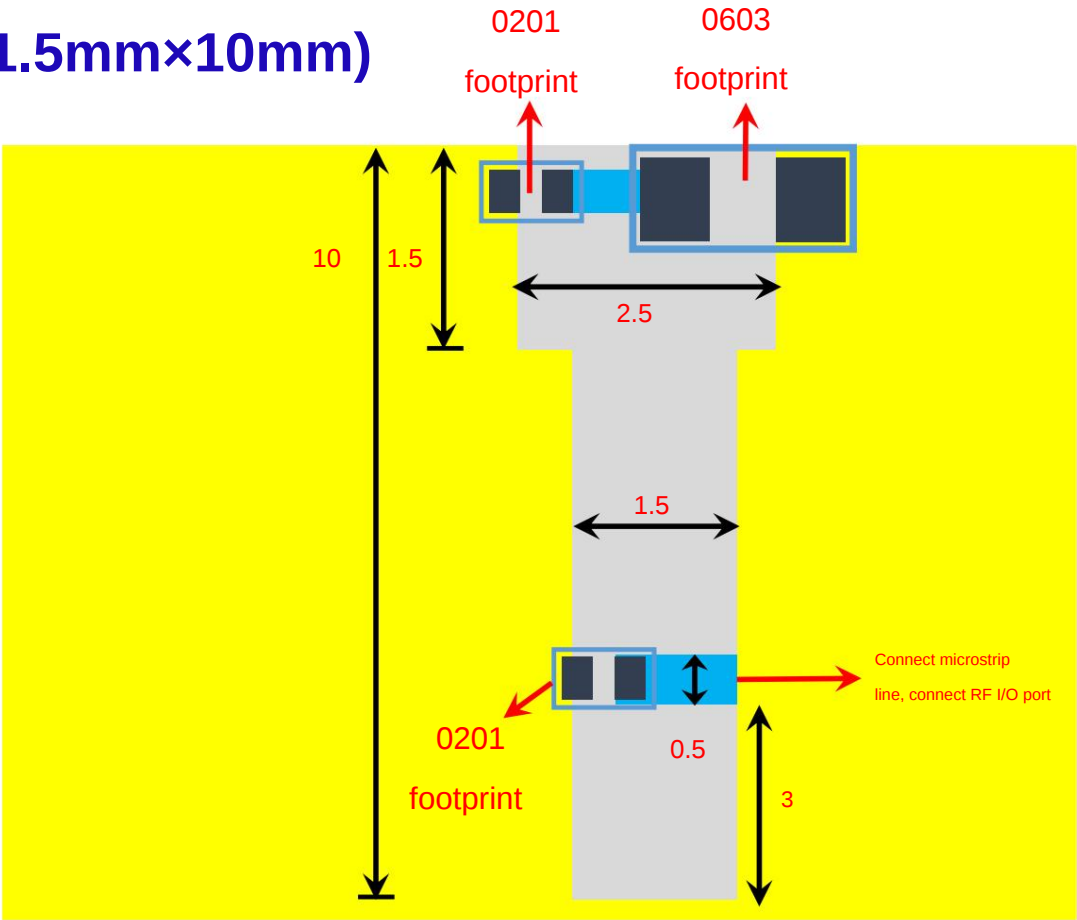




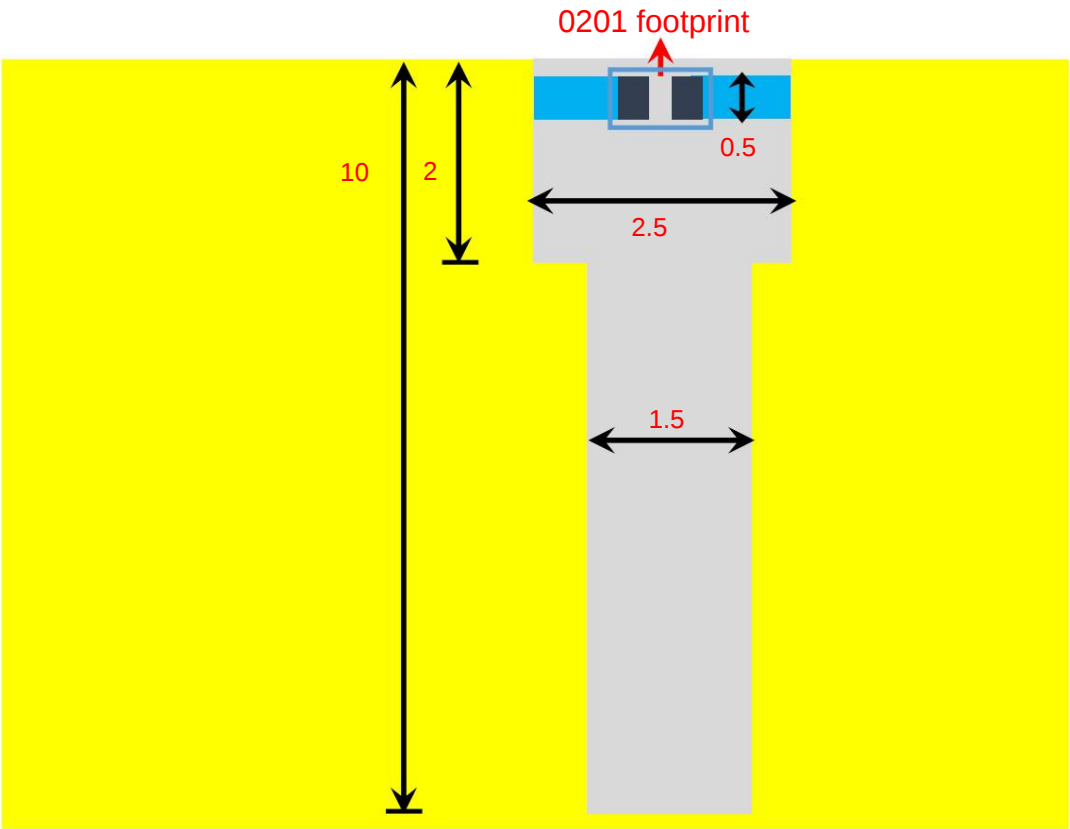
P/N: HY160808 SRF09

ý Layout-2 (1.5mm×10mm)

Top layer:



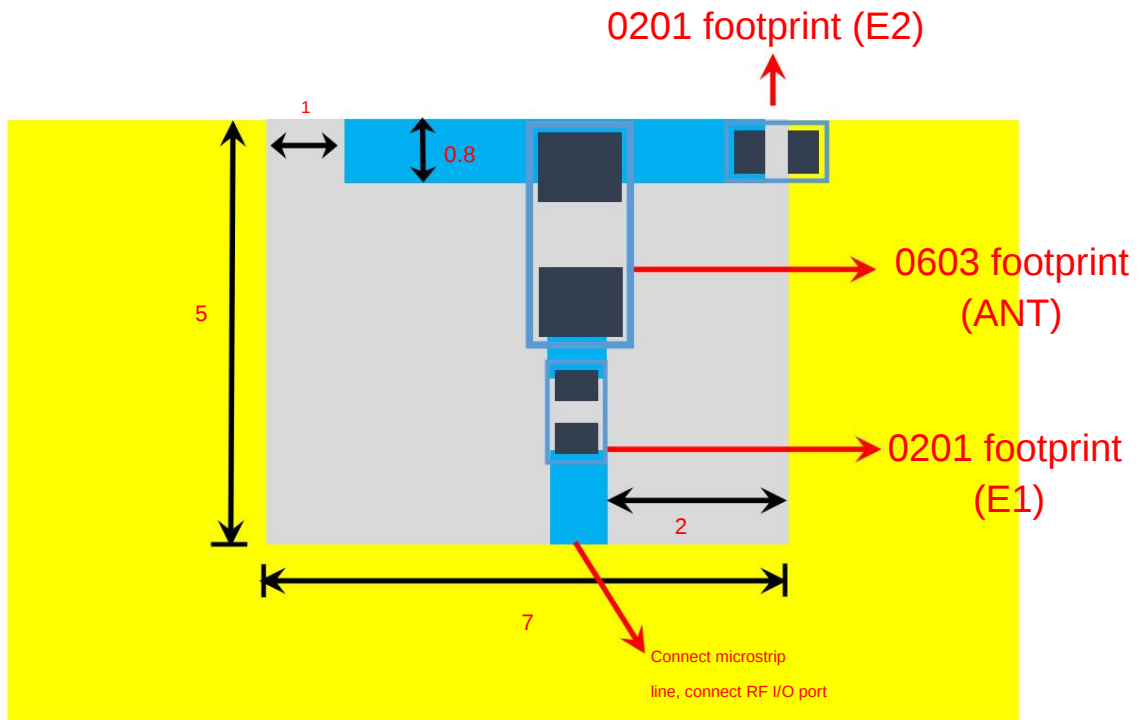
Bottom layer:



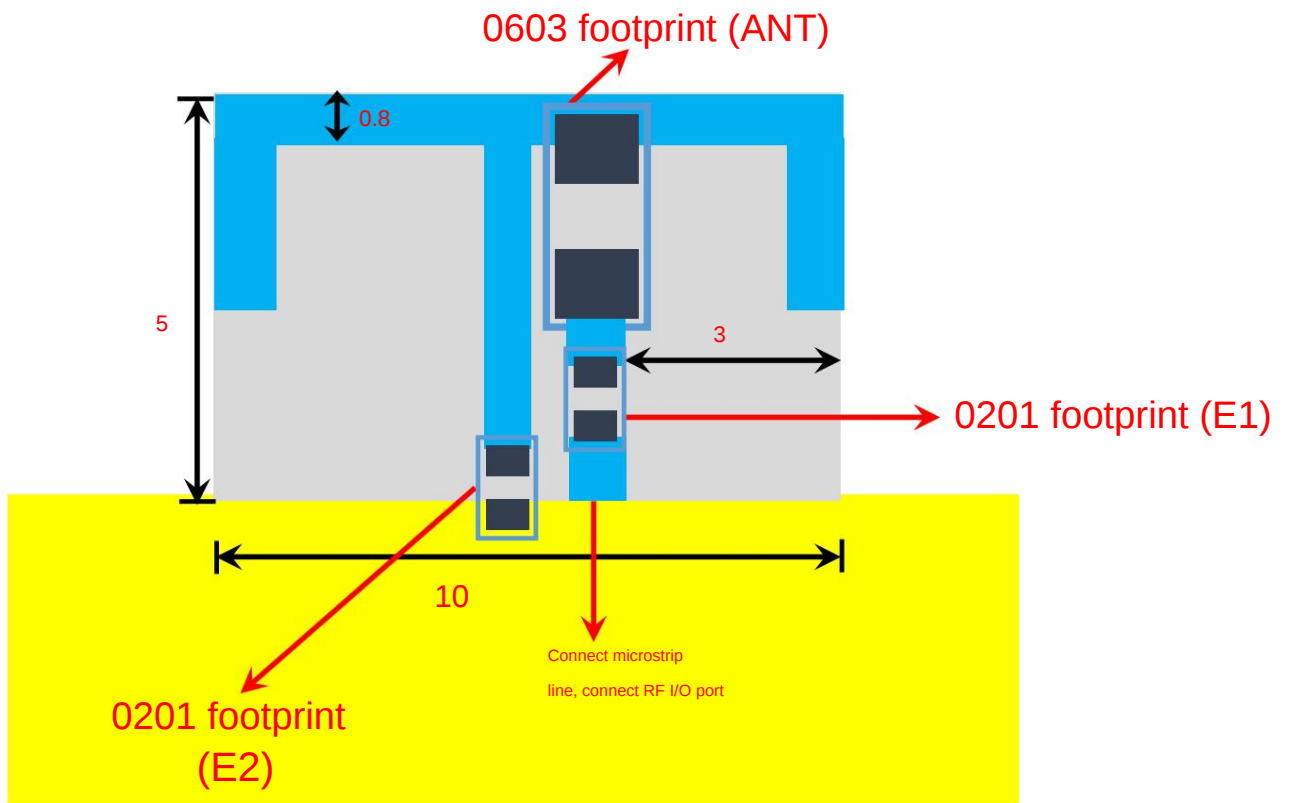


P/N: HY160808 SRF09

ý Layout-3 (5mm×7mm)



ý Layout-4 (5mm×10mm)



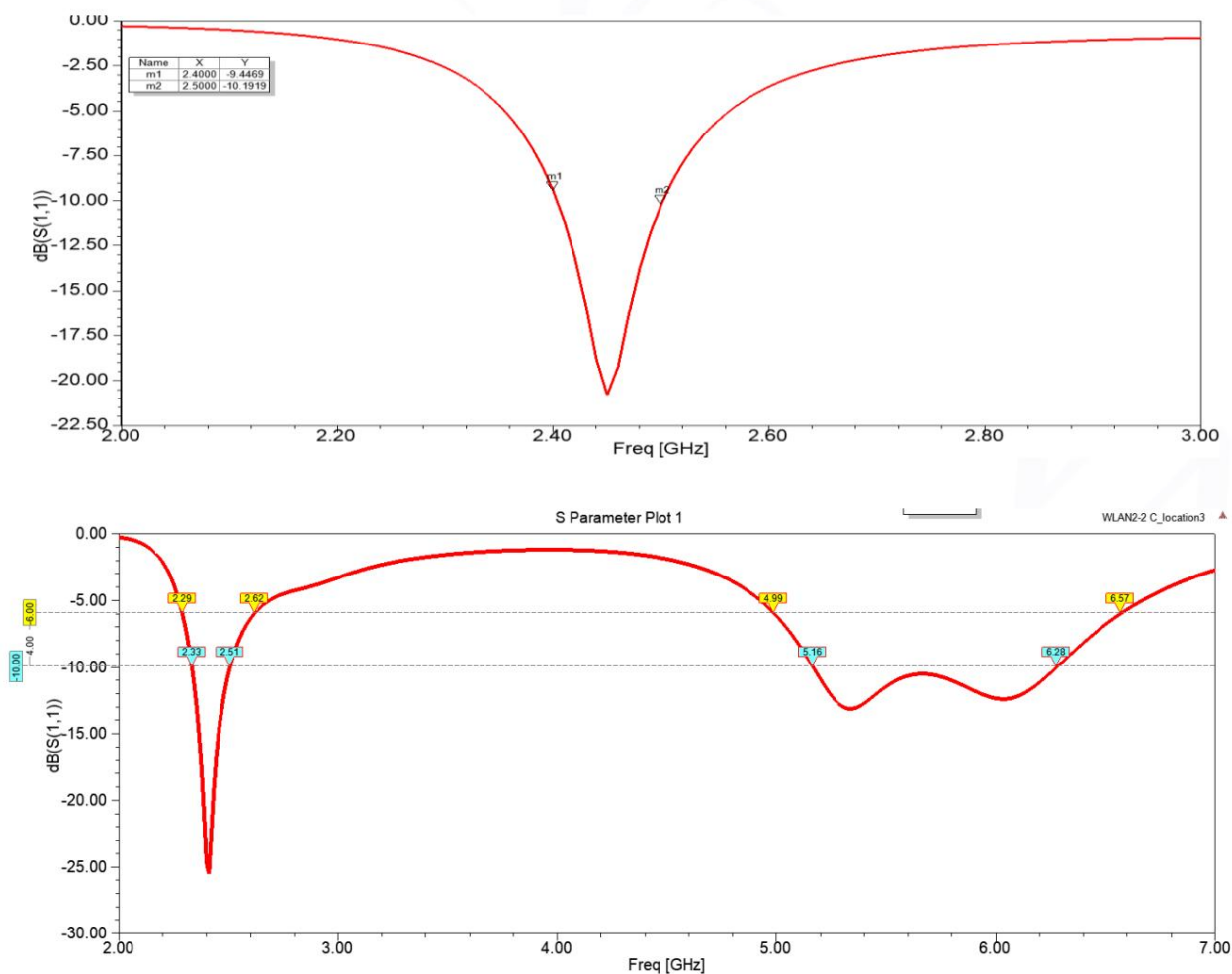


P/N: HY160808 SRF09

Electrical Characteristics:

	Feature	Specification
1	Central frequency	2.45GHz&5.5GHz
2	Bandwidth	>150MHz
3	Peak gain	2~3dBi
4	VSWR	<2
5	Polarization	Linear
6	Azimuth beamwidth	Omnidirectional
7	Impedance	50 Ω

Characteristic Curves:

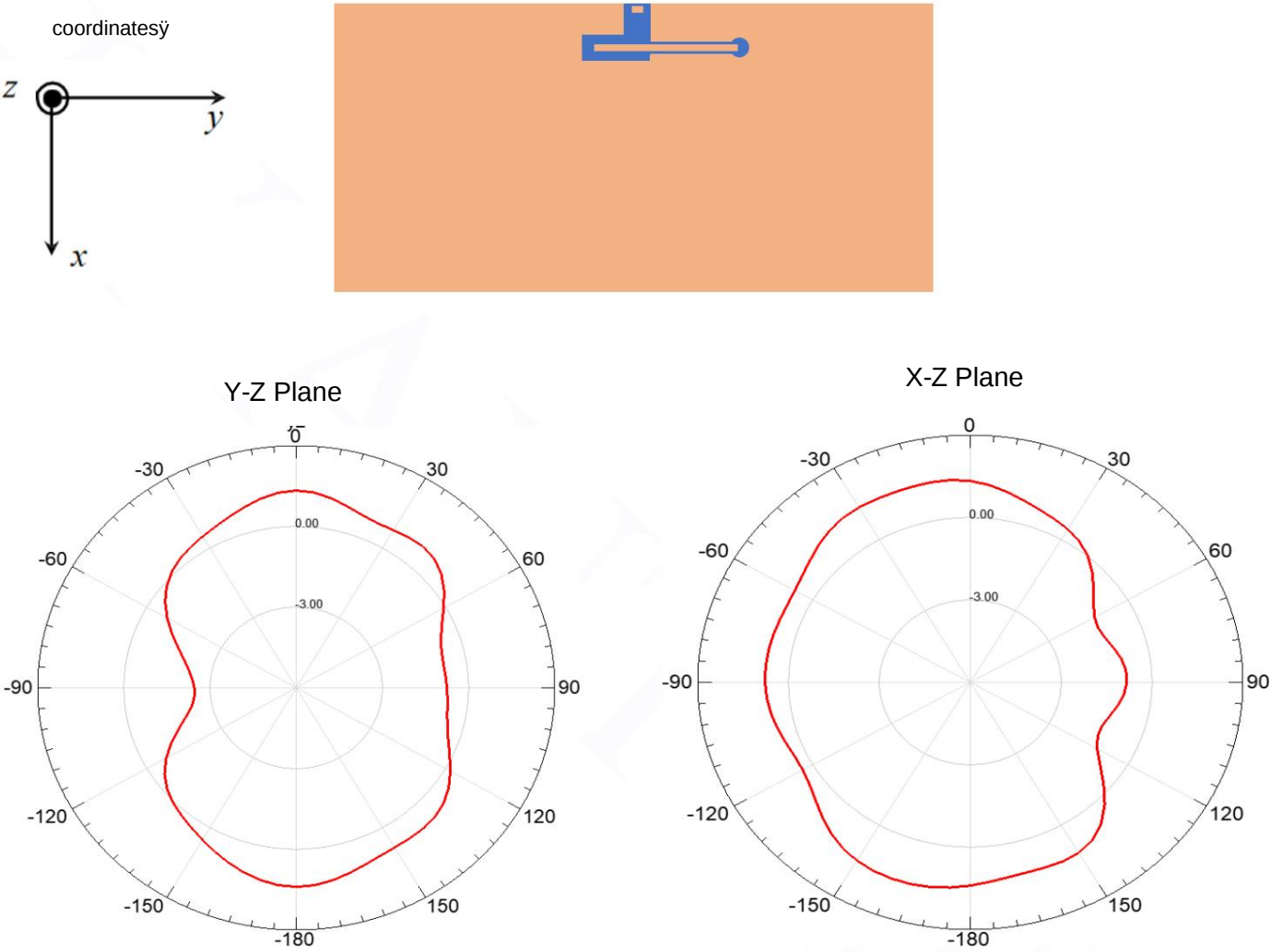


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ý Radiation Pattern:



ý Radiation Performance:

Frequency	2450MHz	5500MHz
Avg. gain	-0.85	-1.30
Peak gain	3.0	3.5
Efficiency	82%	78%



P/N: HY160808 SRF09

Dependability Test

Test Temperature	25 $\pm$ 5 $\circ$
Operating Temperature	-25 $\circ$ ~+125 $\circ$
Temperature	5~40 $\circ$
Relative Humidity	20~70%

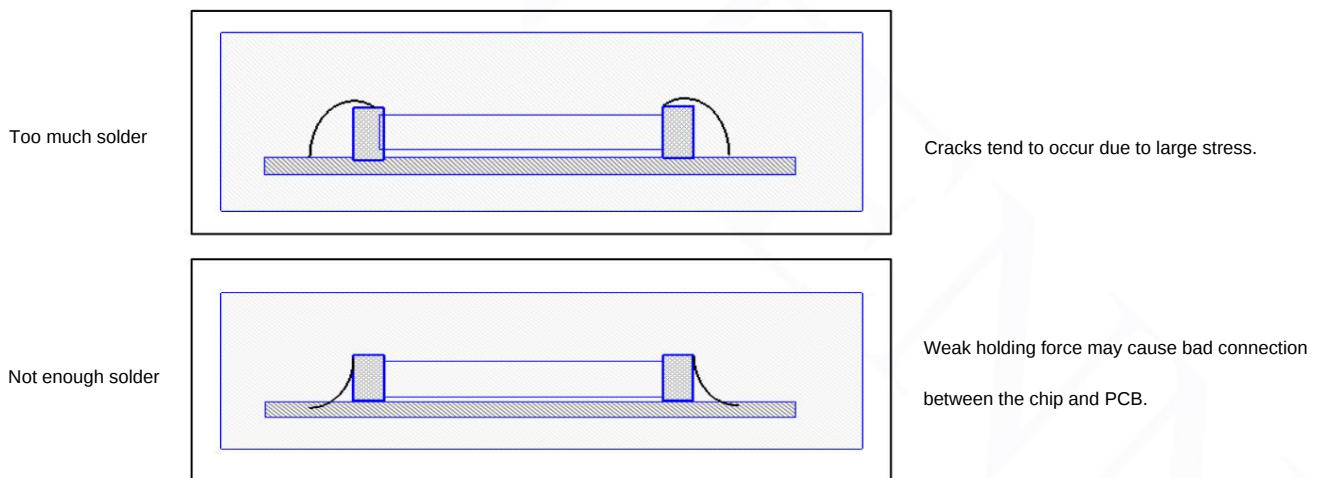
Moisture Proof

Temperature 40 $\pm$ 2 $\circ$ Humidity 90~95%RH
Duration 500h
Recovery conditions Room temperature Recovery Time 24h (Class1) or 48h (Class2)

Solderability

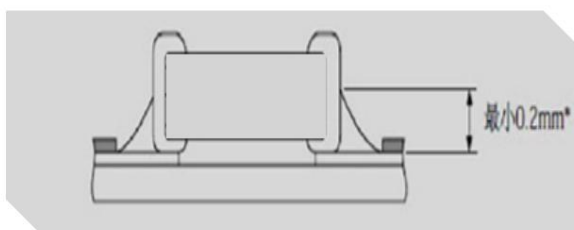
At least 95% of the terminal electrode is covered by new solder.
Preheating conditions: 80 to 120 $\circ$; 10~30s.
Solder Temperature: 235 $\pm$ 5 $\circ$ Duration: 2 $\pm$ 0.5s Solder Temperature: 245 $\pm$ 5 $\circ$ Duration: 2 $\pm$ 0.5s

Optimum Solder Amount for Reflow Soldering

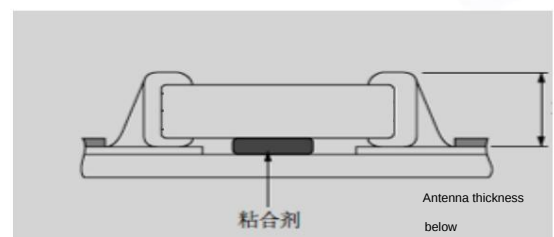


Recommended Soldering Amounts

The optimal solder fillet amounts for re-flow soldering



The optimal solder fillet amounts for wave soldering





P/N: HY160808 SRF09

Temperature Cycle Test

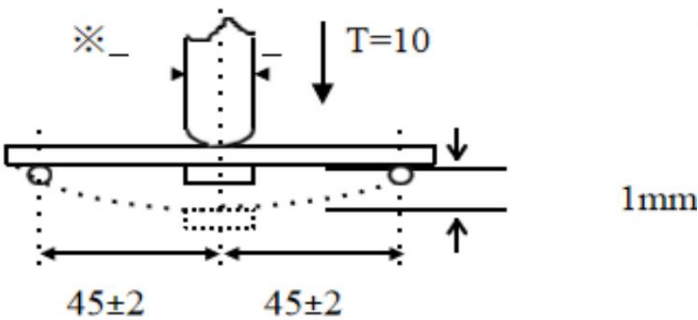
10±1S Applied Force: 5N Duration: 10±1S
Preheating conditions: up-category temperature, 1h
Recovery time: 24±1h
Initial Measurement
Cycling Times: 5 times, 1 cycle, 4 steps:

阶段	温度 (℃)	时间 (分钟)
第 1 步	下限温度(NPO/X7R/X7S/X6S/X5R-55 Y5V-25 Z5U-10)	30
第 2 步	常温 (+20)	2~3
第 3 步	上限温度(NPO/X7R/X7S: +125 Y5V/Z5U/X5R-85 X6S-105)	30
第 4 步	常温 (+20)	2~3

Resistance to Soldering Heat

Preheating 80 to 120°C; 10~30s.SolderTemperature:235±5°C; Duration:2±0.5s; SolderTemperature:245±5°C
Duration:2±0.5s;Preheating100 to200°C;10±2min.
Solder Temperature: 265±5°C; Duration: 10±1s
Clean the capacitor with solvent and examine it with a 10X(min.) microscope.
Recovery Time: 24±2h
Recovery condition: Room temperature

Resistance to Flexure of Substrate

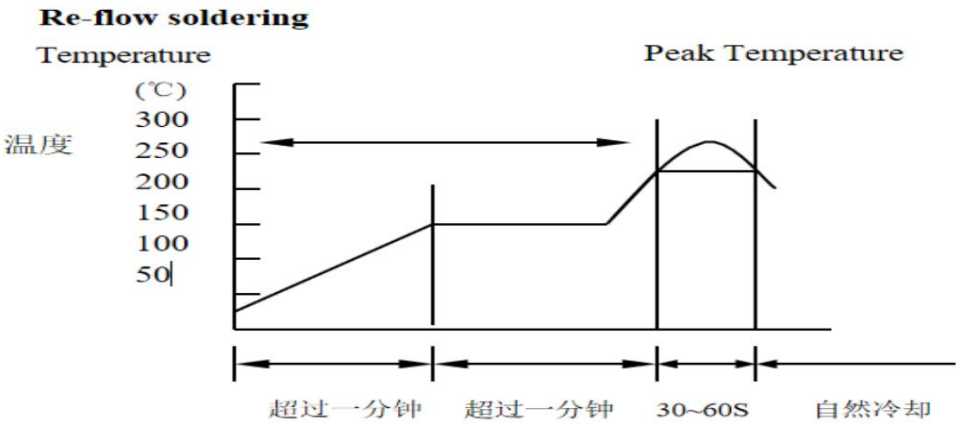


Test Board: Al2O3 or PCB Warp: 1mm Speed: 0.5mm/sec.
Unit: mm
The measurement should be made with the board in the bending position.



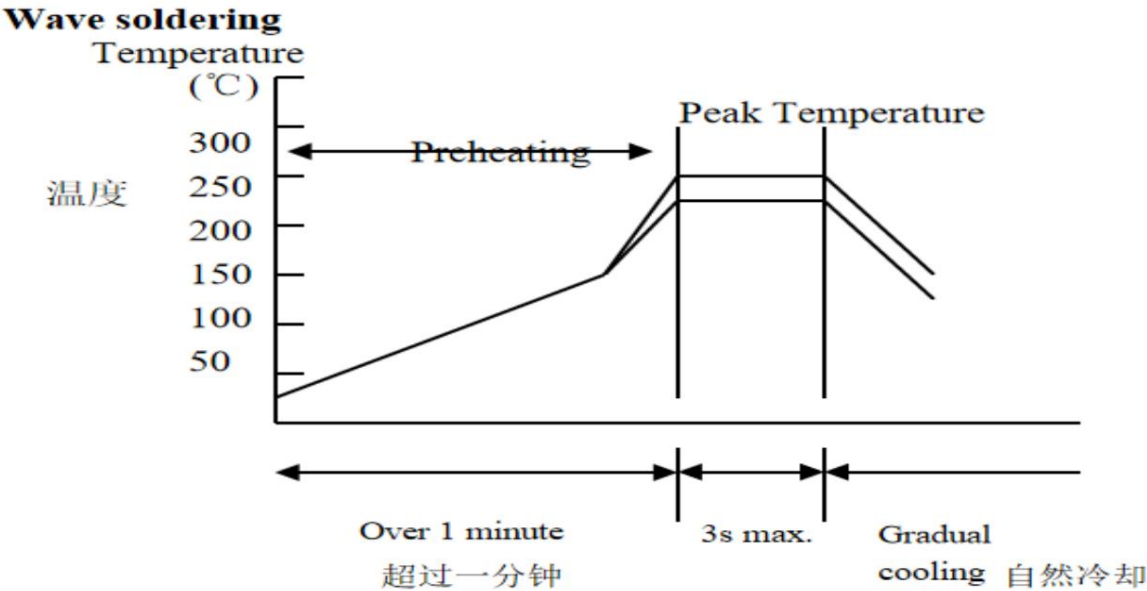
P/N: HY160808 SRF09

The temperature profile for soldering



	Pb-Sn 焊接 Pb-Sn soldering	无铅焊接 Lead-free soldering
尖峰温度 Peak temperature	230℃~250℃	240℃~260℃

While in preheating, please keep the temperature difference between soldering temperature and surface temperature of chips as: T_y150_y.

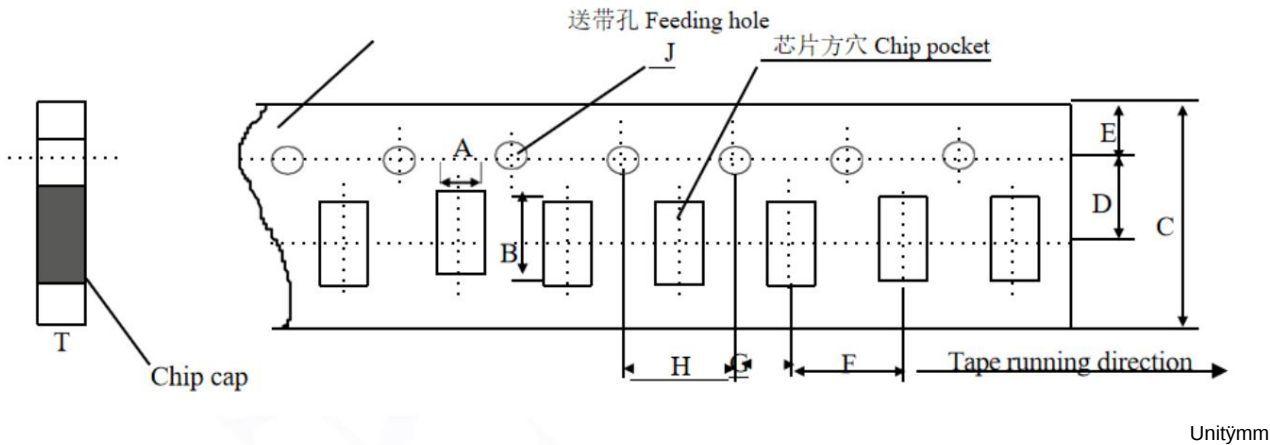


	Pb-Sn 焊接 Pb-Sn soldering	无铅焊接 Lead-free soldering
尖峰温度 Peak temperature	230℃~260℃	240℃~270℃



P/N: HY160808 SRF09

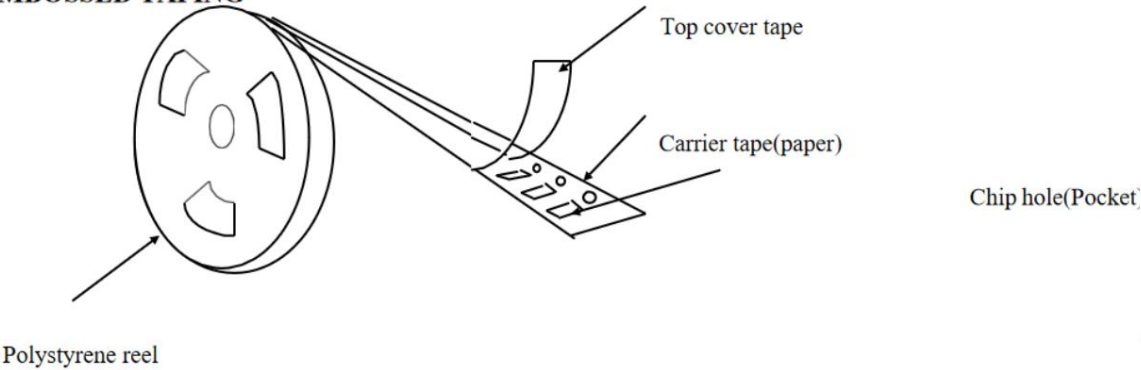
Dimensions of paper taping



代号Code 纸带规格 papersize	A	B	C	D*	E	F	G*	H	J	T
size	1.10 ±0.10	1.90 ±0.10	8.00 ±0.10	3.50 ±0.05	1.75 ±0.10	4.00 ±0.10	2.00 ±0.10	4.00 ±0.10	1.50 ±0.10	1.10 Max

Reel4000 pcs/Reel

EMBOSED TAPING



Storage Period

The guaranteed period for solderability is 6 months (Under deliver package condition).
Temperature:5~40 /Relative Humidity:20~70%