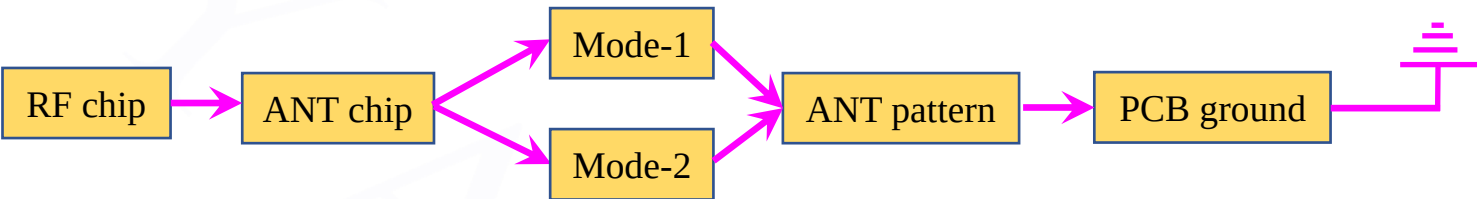




P/N: HY160808 SRF09

✓ **Features:**

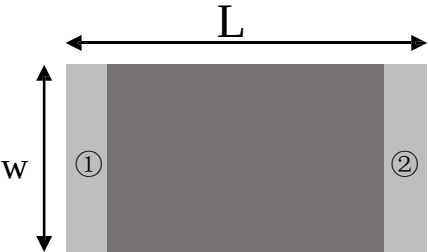
- 1. Surface mounted element with a small dimension of $1.6 \times 0.8 \times 0.8$ mm meet future miniaturization trend.
- 2. Embedded and LTCC (low temperature co-fired ceramic) technology is able to integrate with system design as well as beatifying the housing of final product.
- 3. Miniaturization, 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:**

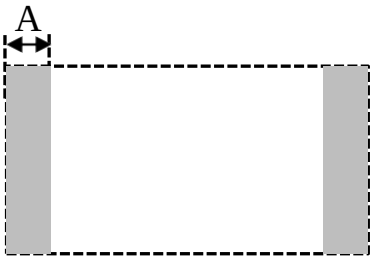
- 1. Bluetooth
- 2. Dual-band WLAN
- 3. ISM and UWB

✓ **Dimensions (Unit: mm)**

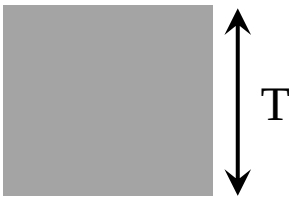


(Top View)

Number	Terminal Name
①	INPUT
②	NC



(Bottom View)



(Side View)

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

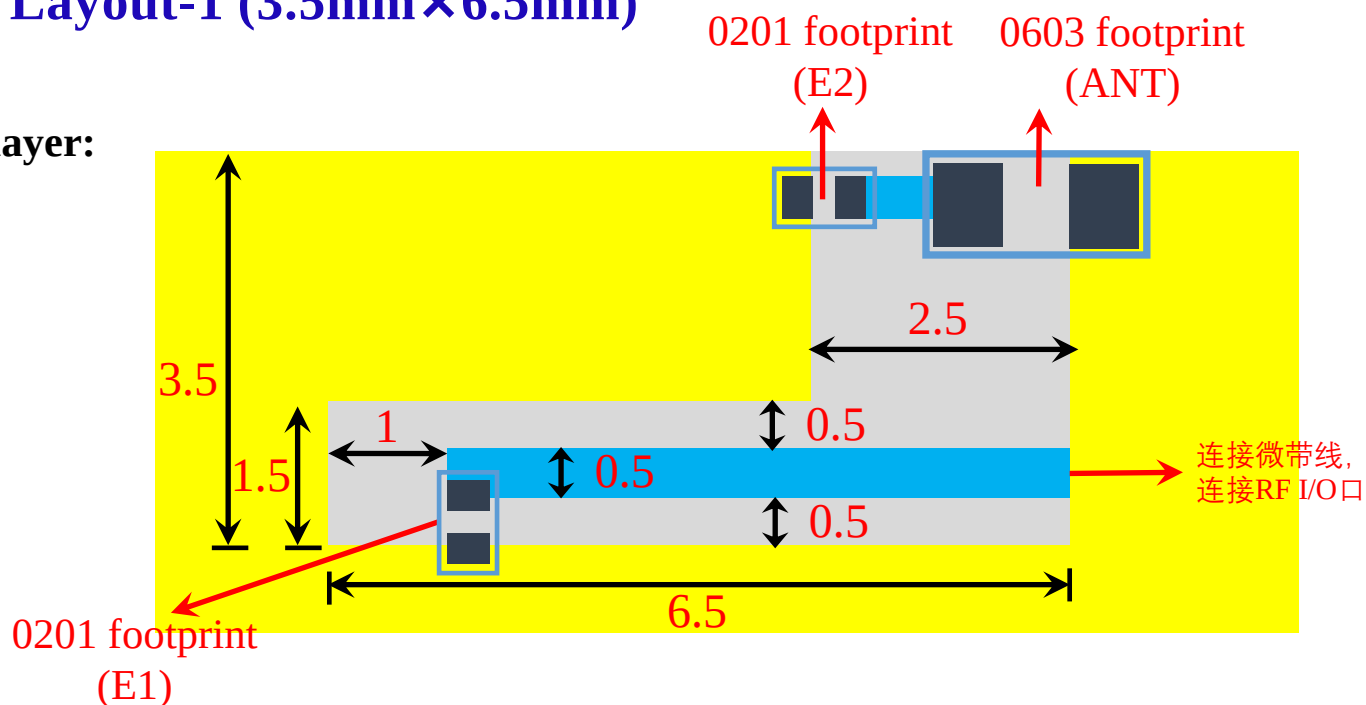
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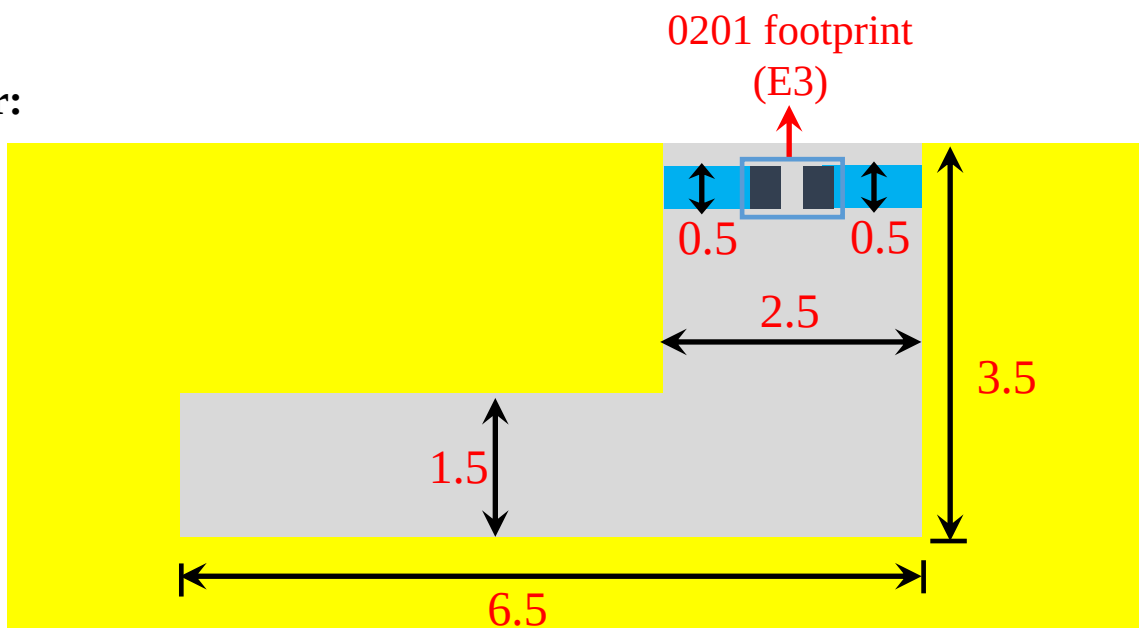
P/N: HY160808 SRF09

✓ Layout-1 (3.5mm×6.5mm)

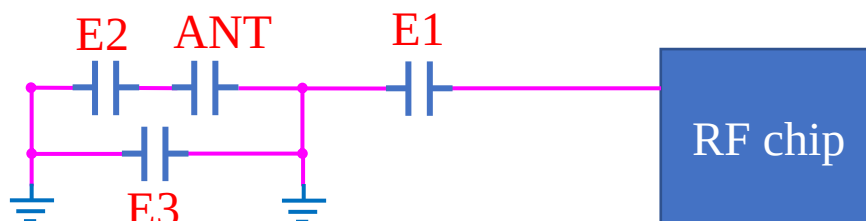
Top layer:



Bottom layer:



Equivalent circuit:

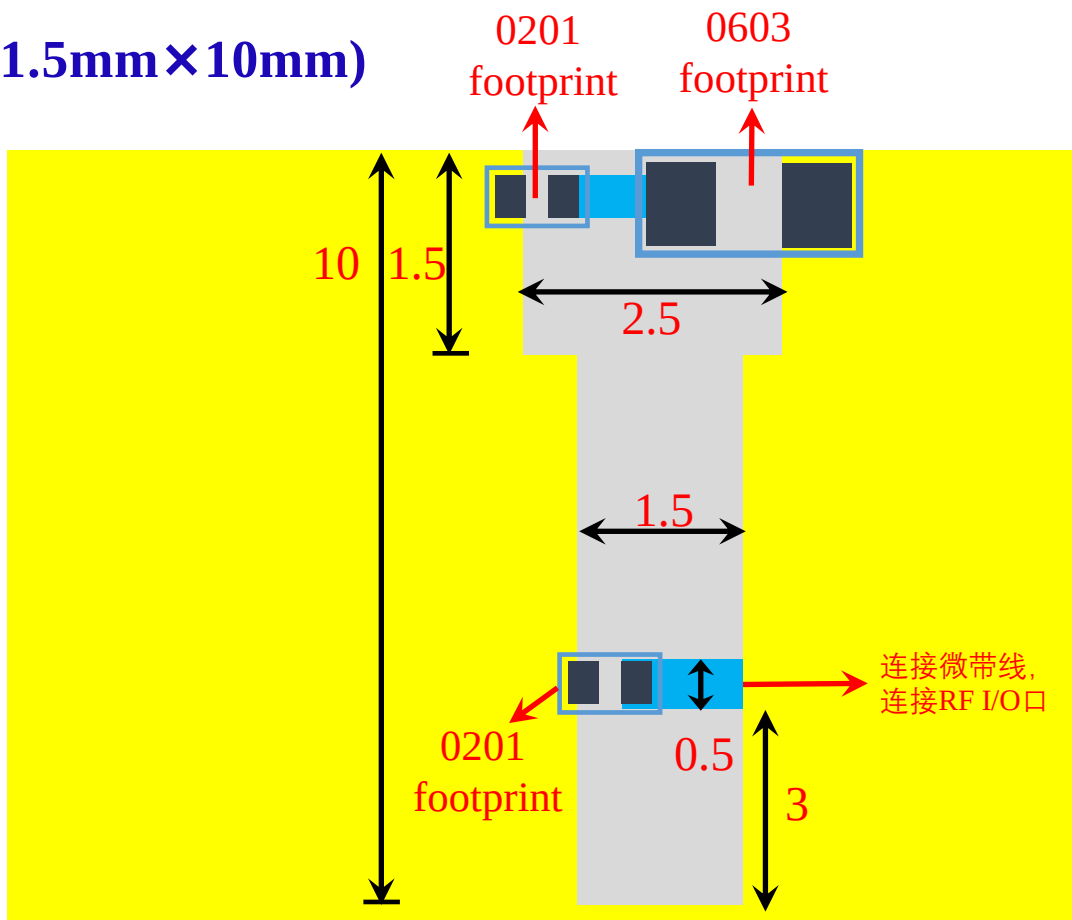




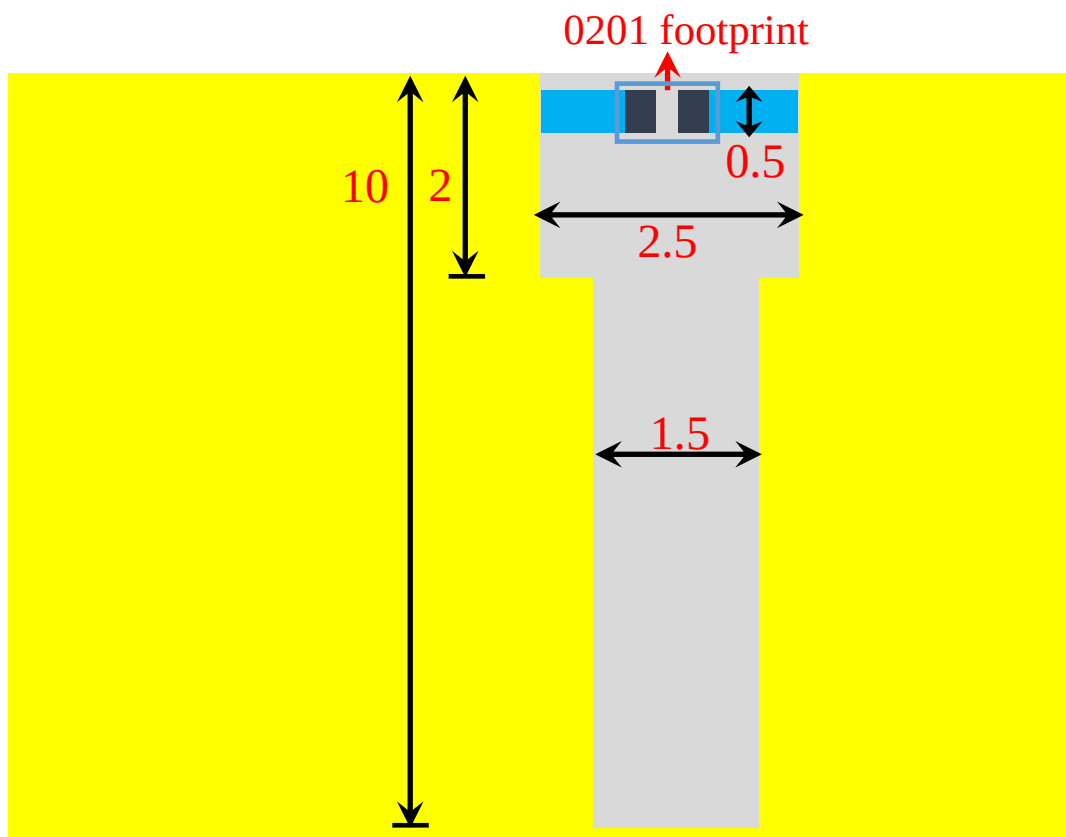
P/N: HY160808 SRF09

✓ Layout-2 (1.5mm×10mm)

Top layer:



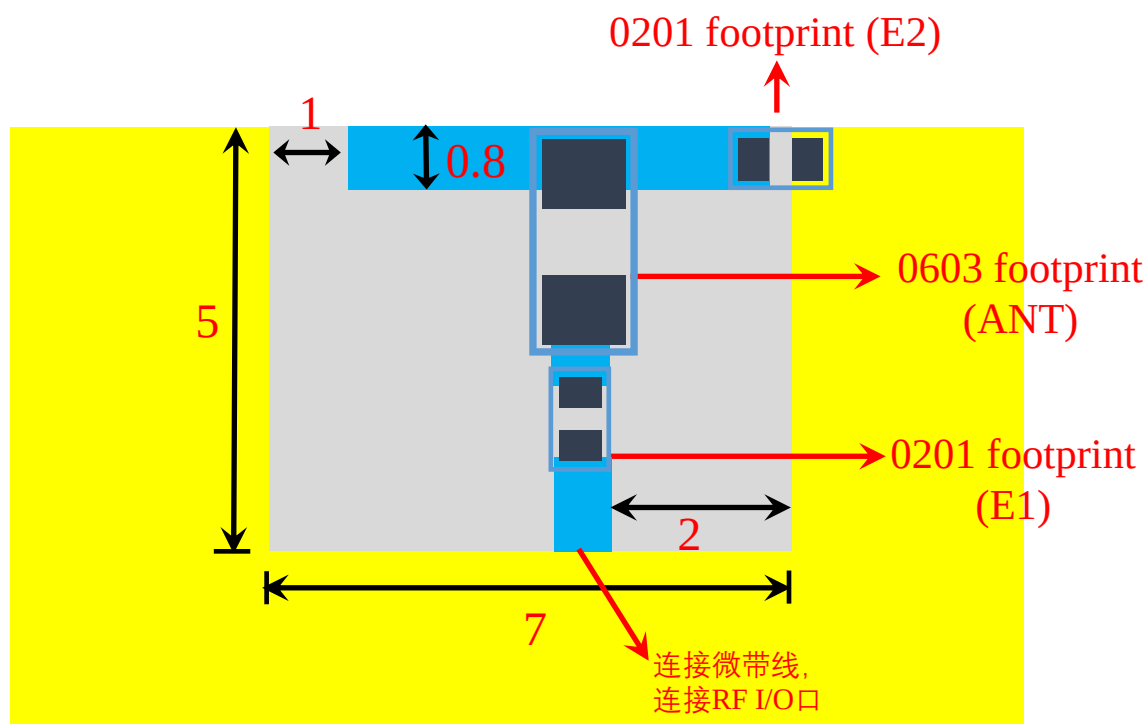
Bottom layer:



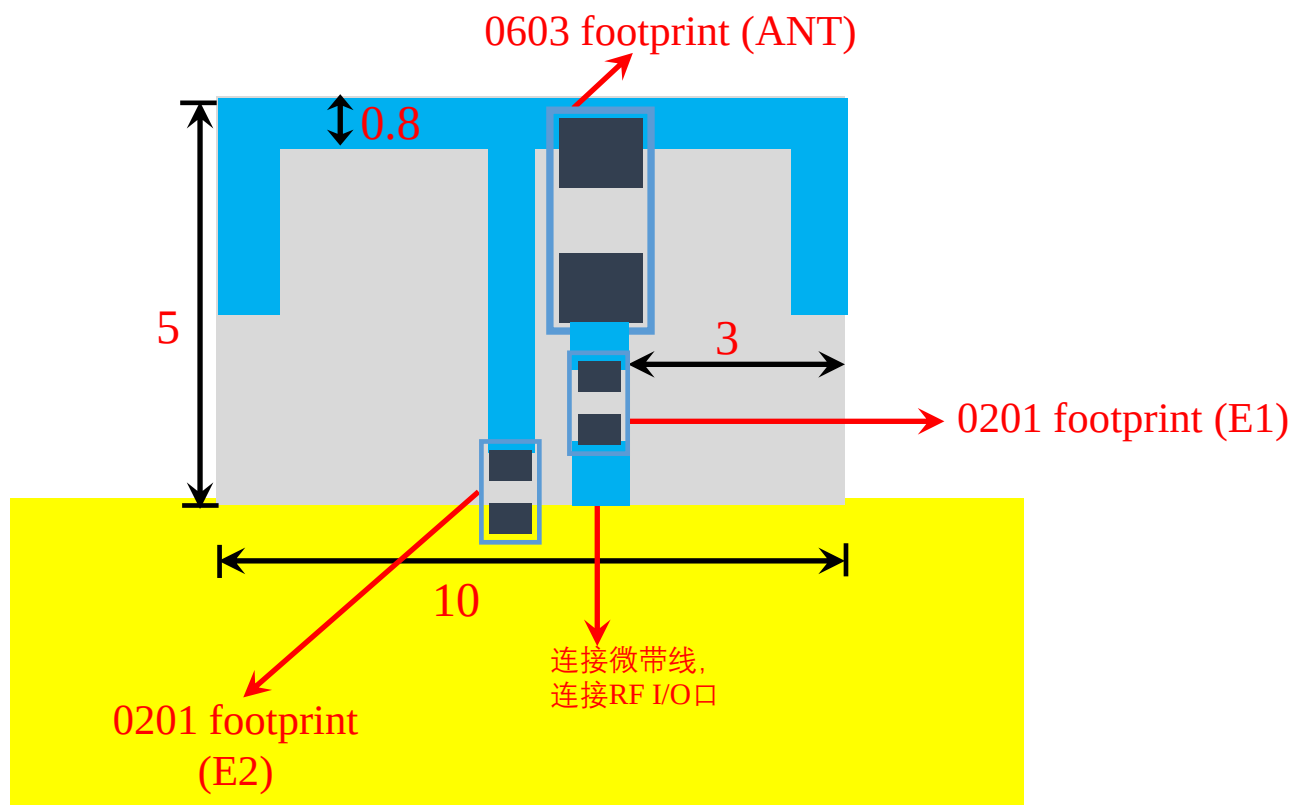


P/N: HY160808 SRF09

✓ Layout-3 (5mm×7mm)



✓ Layout-4 (5mm×10mm)



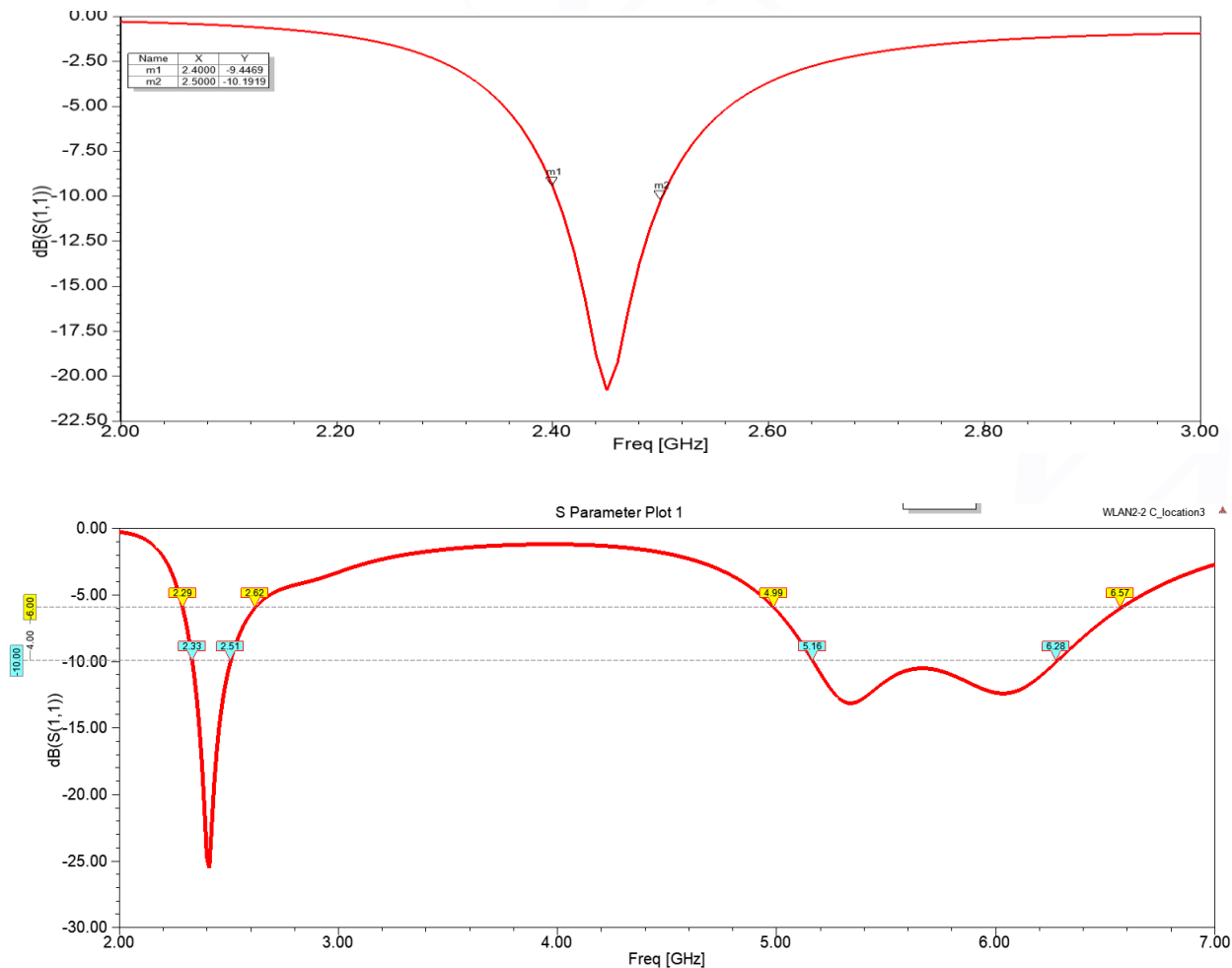


P/N: HY160808 SRF09

✓ Electrical Characteristics:

	Feature	Specification
1	Frequency	2.4GHz to 5.85GHz
2	Bandwidth	>150MHz
3	Peak gain	3dBi for 2.45GHz
4	VSWR	<2
5	Polarization	Linear
6	Azimuth beamwidth	Omnidirectional
7	Impedance	50 Ω

✓ Characteristic Curves:

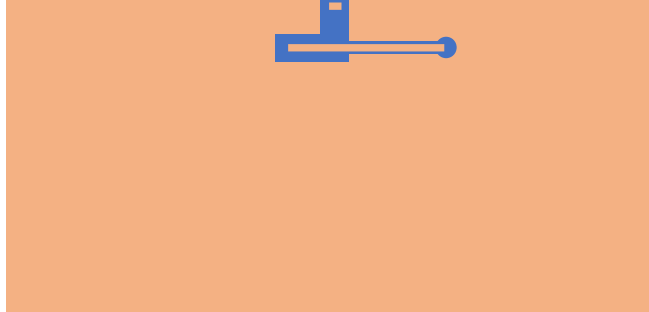
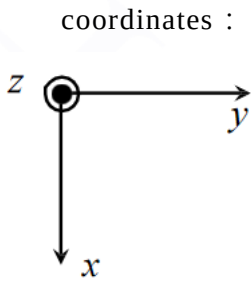


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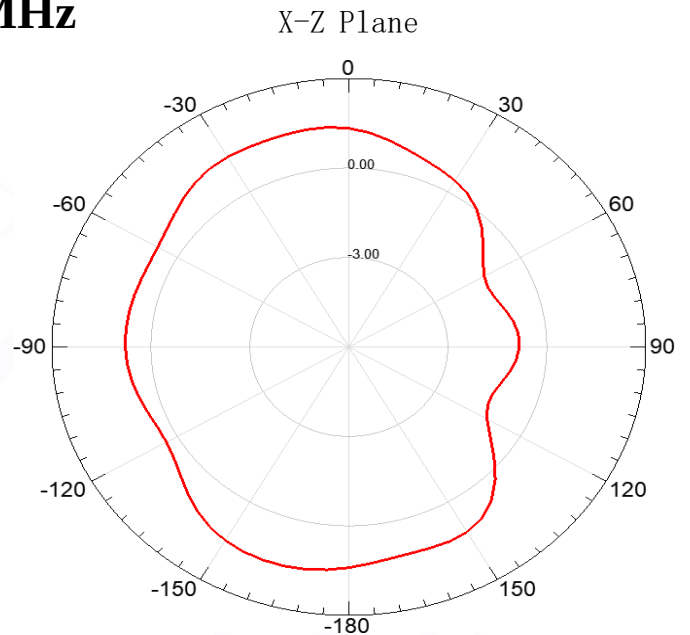
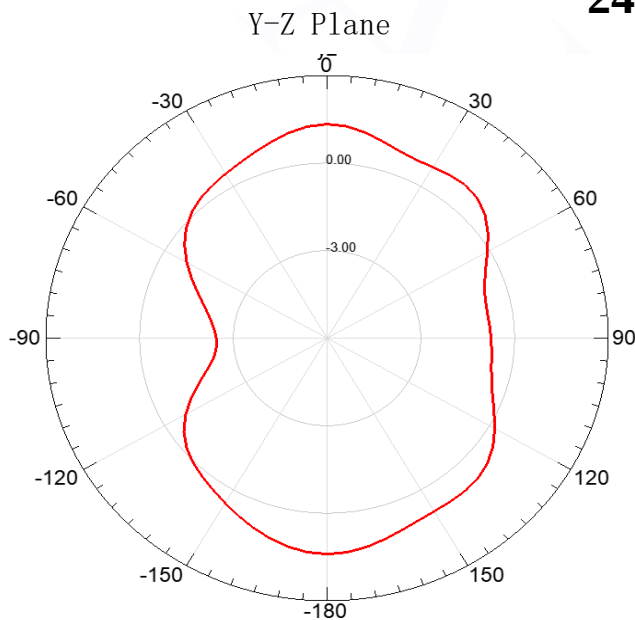


P/N: HY160808 SRF09

✓ Radiation Pattern:



2450MHz



✓ Radiation Performance:

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



P/N: HY160808 SRF09

✓ Dependability Test

Test Temperature	25°C ± 5°C
Operating Temperature	-25°C ~ +125°C
Temperature	5~40°C
Relative Humidity	20~70%

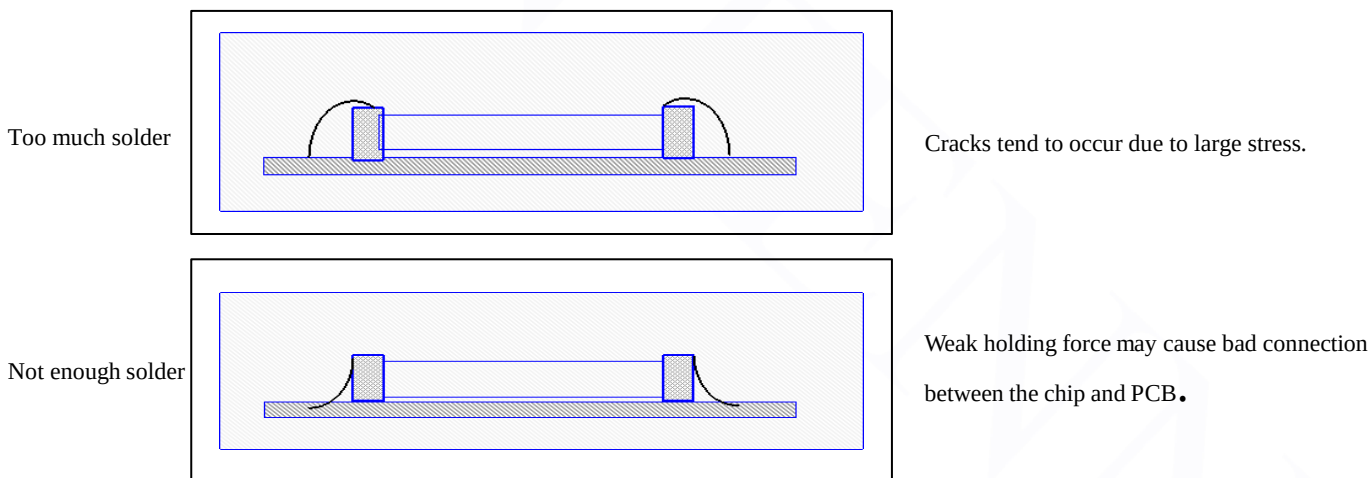
✓ Moisture Proof

Temperature: 40 ± 2°C Humidity: 90~95%RH
Duration: 500h
Recovery conditions: Room temperature Recovery Time: 24h (Class1) or 48h (Class2)

✓ Solderability

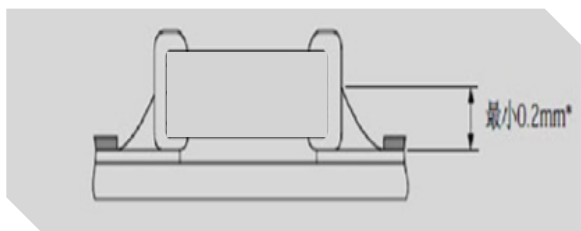
At least 95% of the terminal electrode is covered by new solder.
Preheating conditions: 80 to 120°C; 10~30s.
Solder Temperature: 235 ± 5°C Duration: 2 ± 0.5s, Solder Temperature: 245 ± 5°C Duration: 2 ± 0.5s

✓ Optimum Solder Amount for Reflow Soldering

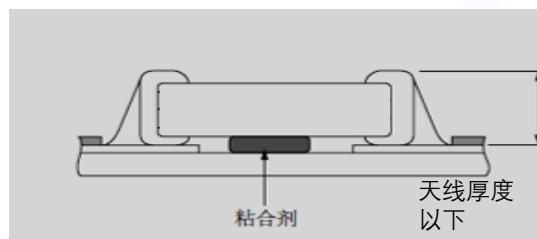


✓ Recommended Soldering Amounts

The optimal solder fillet amounts for re-flow soldering



The optimal solder fillet amounts for wave soldering



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P/N: HY160808 SRF09

✓ Temperature Cycle Test

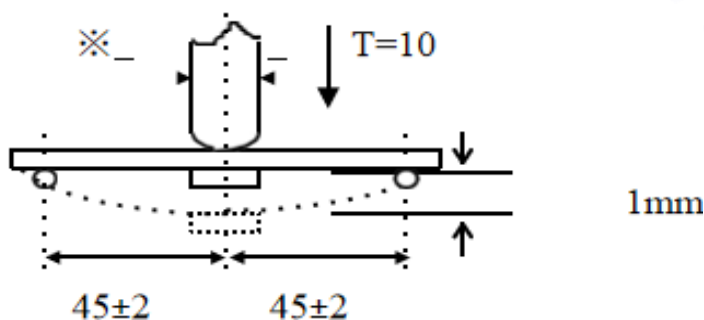
10±1S Applied Force: 5N Duration: 10±1S
Preheating conditions: up-category temperature, 1h
Recovery time: 24±1h
Initial Measurement
Cycling Times: 5 times, 1 cycle, 4 steps:

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

✓ Resistance to Soldering Heat

Preheating 80 to 120°C; 10~30s. Solder Temperature: 235±5°C; Duration: 2±0.5s; Solder Temperature: 245±5°C
Duration: 2±0.5s; Preheating 100 to 200°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



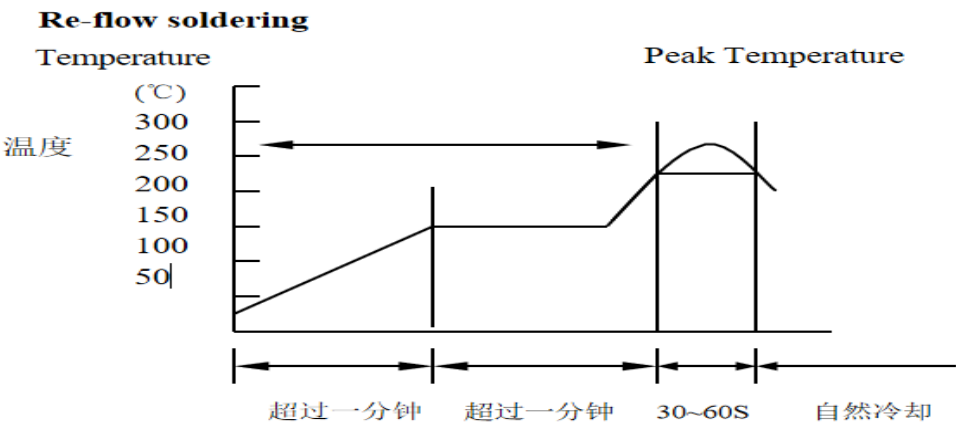
Test Board: Al₂O₃ or PCB Warp: 1mm Speed: 0.5mm/sec.
Unit: mm

The measurement should be made with the board in the bending position.



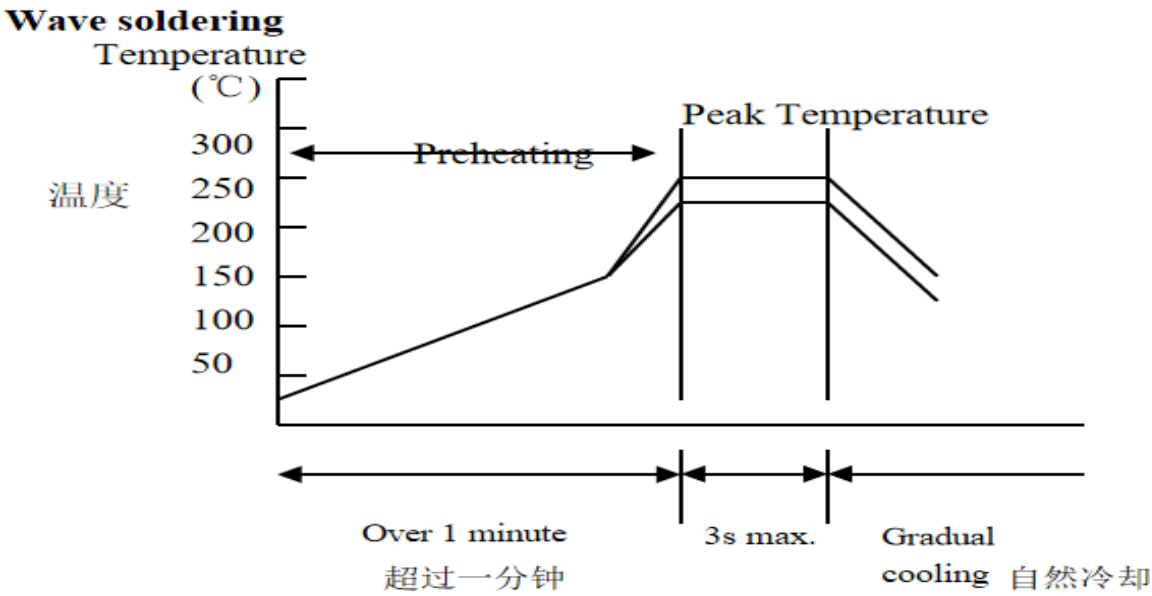
P/N: HY160808 SRF09

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: $T \leq 150^{\circ}\text{C}$.

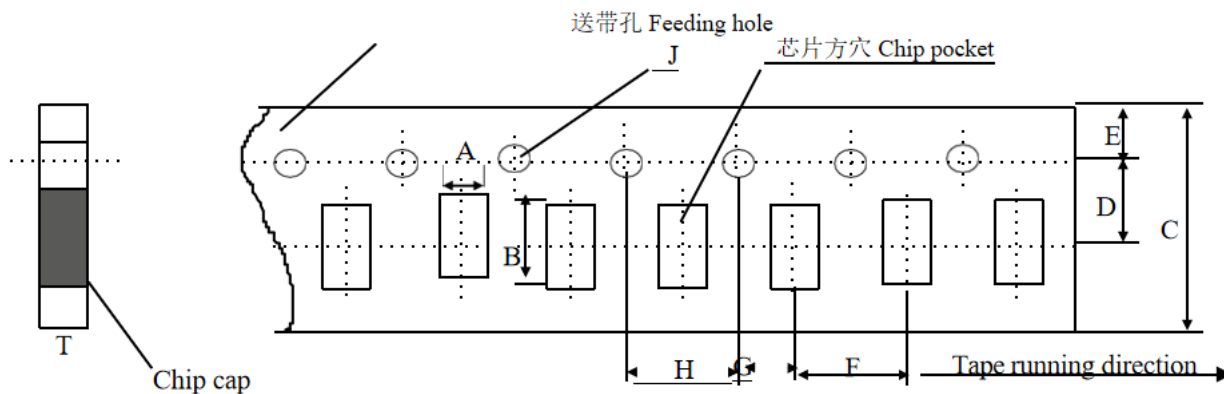


	Pb-Sn 焊接 Pb-Sn soldering	无铅焊接 Lead-free soldering
尖峰温度 Peak temperature	230℃~260℃	240℃~270℃



P/N: HY160808 SRF09

✓ Dimensions of paper taping

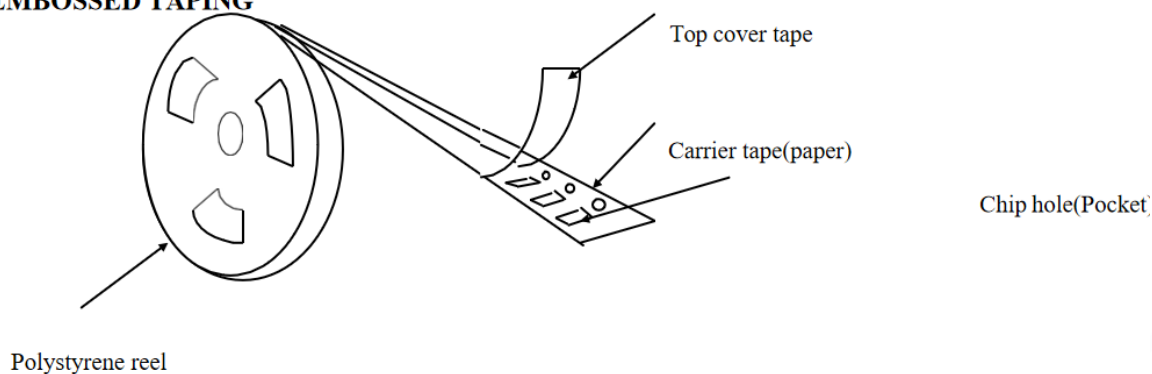


Unit: mm

代号Code 纸带规格 papersize	A	B	C	D*	E	F	G*	H	J	T
尺寸	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/+0.10	1.10 Max

Reel (4000 pcs/Reel)

EMBOSED TAPING



✓ Storage Period

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

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