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SMD Antenna Specification

CrossAir[™] SMD Antenna Series RoHS Compliant

PN: CA-C03

2.4 GHz ISM Band Antenna

specificities

- 1. Small SMD antenna m e a s u r i n g only 5.5 X 2.0 X 1.0 mm³.
- $\label{eq:lower} \textbf{2.} \ \text{Low energy loss, high antenna efficiency.}$
- **3.** High stability in case of temperature and humidity changes.

appliance

- 1. 2.4GHz ISM Band Antenna Applications
- $\textbf{2.} \hspace{0.1 cm} \text{Bluetooth, } \textbf{ZigBee}, \text{wireless applications, smart home applications, etc.}$
- **3.** WIFI (2.4G only)

framework



sizes

three views	notation	Dimension(mm)
W = 2.0 (mm) $W = 2.0 (mm)$ $L = 5.5 (mm)$ $T = 1.0 (mm)$	L	5.5 \pm 0.2
	w	2.0± 0.1
	т	1.0± 0.1
	а	0.5± 0.1

Electrical Characteristics

CA-C03	Specification		
Working Frequency Range	2450±50MHz		
Initial frequency band (GHz)	2.7GHz		
Band Width	>100MHz		
Impedance	50 Ω		
Gain(dBi)	4.3 (peak)		
VSWR	<2		
Operation Temperature	-40°C ~+95°C		
Power Capacity	3W		





Antenna Test on Test Board (Board Thickness 1.0mm)



CA-C03 Specification



Efficiency and radiation maps

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Efficiency, radiation pattern, gain and other properties are obtained based on the test board design. The specification characteristic test data of CA-CO3 antenna

is

CA-C03 Specification

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Based on test PCB board dimensions and test orientation shown below. The following data was tested in the ETS 3D microwave darkroom.



Gain and efficiency	Bandwidth 2.4G-2.5GHz
Peak Gain	4.3dBi
Average in-band gain	4.1dBi
Average Gain across the band	
In-band gain range	3.9dBi~4.3dBi
Gain Range across the band	
Peak Efficiency	81.7%
Average in-band efficiency	80.2%
Average Eniciency across the band	70 60/~01 70/
In-band efficiency range	/0.0% 81./%
Efficiency Range across the band	





Welding conditions

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Typical welding specifications for reliable and non-destructive welding are shown below:



Phase	Profile features	Pb-Free assembly (SnAgCu) 3 °C / second (max.) 150 °C 200 °C 60-180 seconds 217 °C 60-150 seconds	
RAMP-UP	Avg. Ramp-up Rate (Tsmax to Tp)		
PREHEAT	 Temperature Min (Tsmin) Temperature Max (Tsmax) Time (tsmin to tsmax) 		
REFLOW	- Temperature (TL) - Total Time above TL (tL)		
PEAK	- Temperature (Tp) - Time (tp)	260 °C 20-40 seconds	
RAMP-DOWN	Rate	6 °C/second max	
Time from 25 °C to Peak Temperature		8 minutes max	

wrap



Index	Ao	Во	ΦD	т	w
Dimension (mm)	3.0±0.1	6.0±0.1	1.55 \pm 0.05	1.6± 0.1	16± 0.2
Index	E	F	Ро	P1	P2
Dimension (mm)	1.75± 0.1	7.0±0.1	4.0± 0.1	4.0±0.1	2.0± 0.1

Reel Size



Standard quantity: 3000 PCS/disk.

Storage environment

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The following conditions should be met when storing the product: Temperature : -10°C ~+40°C

Humidity 30% to 70% relative humidity

Do not place the product in a location where it will come into contact with corrosive gases such as sulfur. Chlorine gas or acid may cause the The product should be placed in a toolbox and protected from heat, vibration and direct sunlight. The product should be placed in a toolbox and protected from moisture and dust. Products should be stored in a warehouse and protected from heat, vibration and direct sunlight. The product should be stored under airtight conditions.