Bluetooth / WiFi / Dual Band Chip Antenna 2.4 ~ 5.4GHz



5.0 x 2.0 x 1.2 mm

ACA-103-T

RoHS / RoHS II Compliant

Moisture Sensitivity Level (MSL) – MSL = 1

FEATURES:

- Chip Antenna constructed from solid dielectric ceramic material
- Suitable for RoHS compliant reflow
- Gain -1.37 (Peak) / -4.53 (Average) [dBi]
- VSWR 1.0 ~ 3.0 : 1
- Smallest size – 5.0 x 2.0 x 1.2mm (0.08 x 0.048 x 0.04 inch)
- Non Ground Mounting type.
- Linear Polarization
- Matched to 50 Ohm.

APPLICATIONS:

- Dual Band Wireless applications
- Single or Multi feed options
- Bluetooth / WLAN (2.445GHz) & WLAN (5.487GHz)
- High density applications
- Alternative to larger PCB solution

STANDARD SPECIFICATIONS

Maximum Ratings

Item	Value
ESD Voltage	15Kv [HBM Class 3B]
Operating Temperature Range	-40ºC to + 85ºC
Storage Temperature Range	-40ºC to + 85ºC

Electrical Characteristics

Item				Spec
Frequency Range				Bluetooth : 2400 ~ 2485 / WiFi : 5150 ~ 5825
VSWR				3.0 : 1 (Typ 2.5 : 1)
Polarization				Linear
Input Impedance [Ω]				50 Ohm
Directivity				Omni directional
Gain [dBi] Bluetooth	Total Gain (Peak / Avg) [dBi]			-1.37 / -4.53
	Azimuth	Theta	Peak	-0.20
			Average	-3.39
		Phi	Peak	0.35
			Average	-4.14
	Elevation 1	Theta	Peak	0.62
			Average	-1.60
		Phi	Peak	-10.87
			Average	-14.76
	Elevation 2	Theta	Peak	-15.06
			Average	-19.92
		Phi	Peak	0.29
			Average	-2.71
Gain [dBi] WiFi	Total Gain (Peak / Avg) [dBi]			-2.79 / -6.52
	Azimuth	Theta	Peak	-2.00
			Average	-6.02
		Phi	Peak	-1.74
			Average	-6.25
	Elevation 1	Theta	Peak	-0.53
			Average	-3.14
		Phi	Peak	-11.56
			Average	-17.48
	Elevation 2	Theta	Peak	-9.40
			Average	-16.32
		Phi	Peak	-1.06
			Average	-4.92

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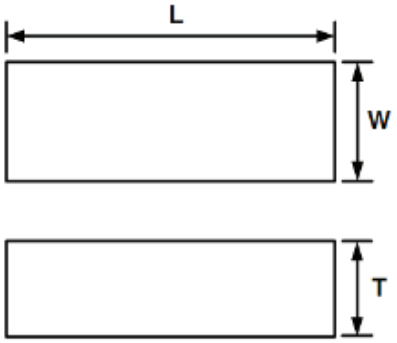
PART IDENTIFICATION:

ACA-103-[ ]

Packaging
Blank: Bulk
T: Tape and Reel

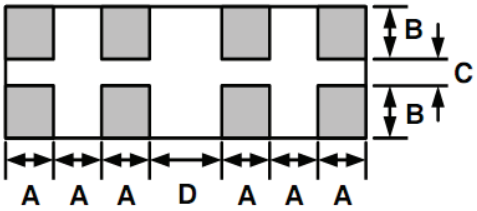
OUTLINE DIMENSIONS:

Chip Antenna Dimension

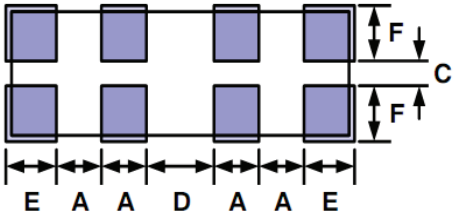


Recommended Land Pattern

Chip Antenna
Soldering Pad Dimension



PCB
Soldering Land Dimension



Parameter	L	W	T	A	B	C	D	E	F
Value [mm]	5.0 ± 0.1	2.0 ± 0.1	1.2 ± 0.1	0.6	0.8	0.4	1.4	0.7	0.9

(Unless Specified tolerances are ± 0.005mm)

(Dimensions: mm)

30332 Esperanza, Rancho Santa Margarita, California 92688
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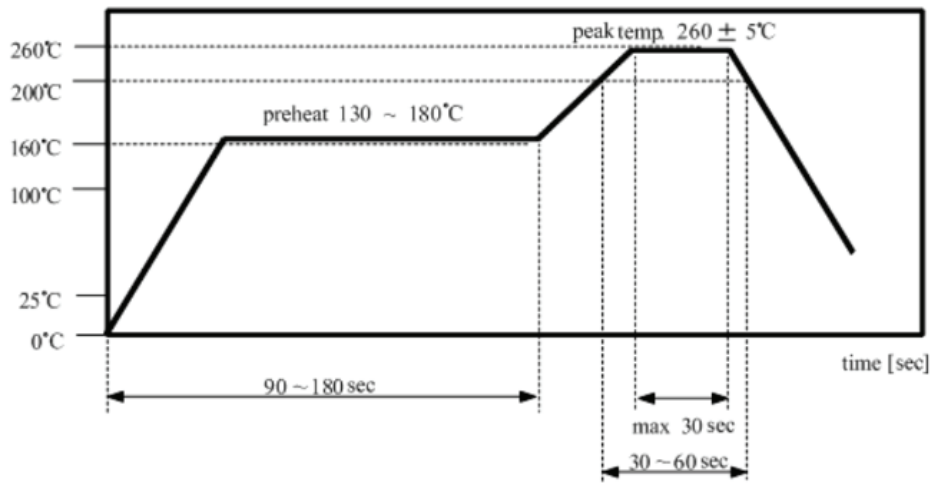


5.0 x 2.0 x 1.2 mm

ANTENNA EFFICIENCY:

3D	Peak [dBi]	Average [dBi]	Efficiency [%]	Isolation [dB]
2400MHz	1.26	-1.65	68.44	-22.4
2445MHz	2.28	-0.74	84.34	-15.9
2485MHz	0.59	-2.63	54.63	-14.8
5150MHz	2.54	-1.97	63.52	-21.0
5500MHz	2.62	-2.19	60.43	-17.6
5825MHz	3.22	-2.14	57.35	-21.9

REFLOW PROFILE:



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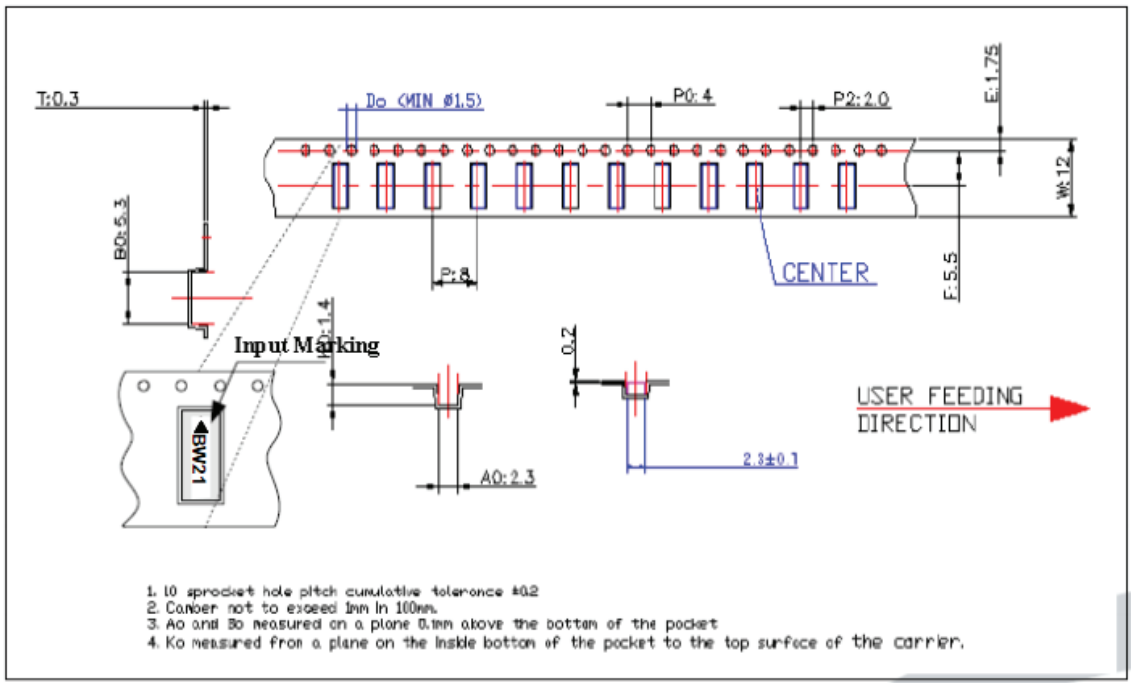
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5.0 x 2.0 x 1.2 mm

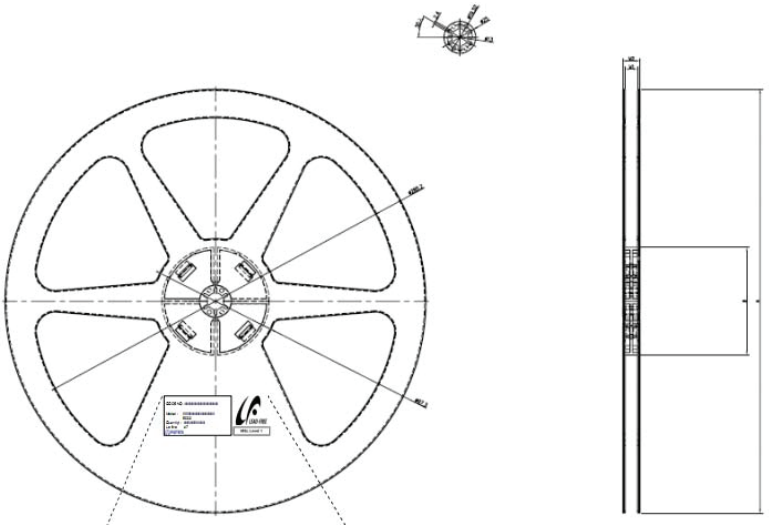
TAPE & REEL:

Packaging: 1,000 Units Per Reel



W	12.0±0.2
E	1.75±0.1
F	5.5±0.1
D0	1.5±0.1
P	8.0±0.1
P0	4.0±0.1
P2	2.0±0.1
A0	2.3±0.1
B0	5.3±0.1
K0	1.4±0.1
T	0.3±0.05

Reel Dimensions:



W1	13.5
W2	17.5

(Dimensions: mm)

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