LTCC Multi Layer Ceramic chip antenna- 2012 (0805) size

– RFANT2012060L4T

FEATURES

1. Surface Mounted Devices with a small dimension of 2.0 X 1.2 X 0.6 mm^3 meet future miniaturization trend.
2. LTCC process.
3. High stability in Temperature / Humidity Change.
4. Superb performance to place on the middle of PCB edge and excellent peak/average gain observed by field test application.
5. Reel Packaging.

APPLICATIONS

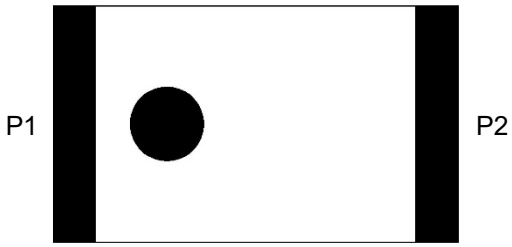
1. WiFi 6E(802.11ax).
2. Bluetooth、Zigbee.

Recommanded Link Parts

Product Category	Walsin PN	description	Remark
capacitor	RFxxN	high Q MLCC	matching circuit
chip antenna	AMANT2012060L4T	automotive version, 2.0 X 1.2mm	other choice
chip antenna	RFANT1608050L0T	2.4 / 5.5 GHz, 1.6 X 0.8mm	other choice

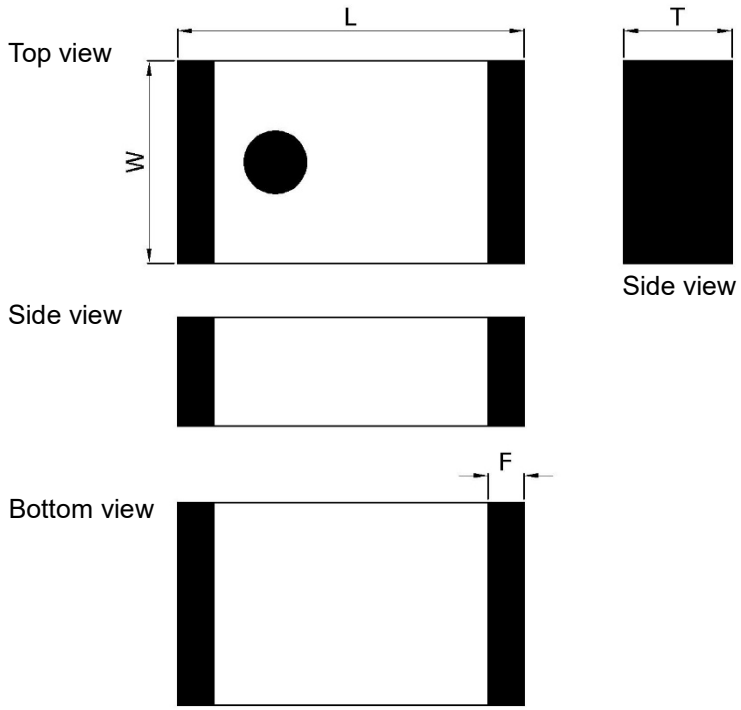
CONSTRUCTION

Top view



PIN	Connection
P1	Feeding
P2	Soldering Terminal

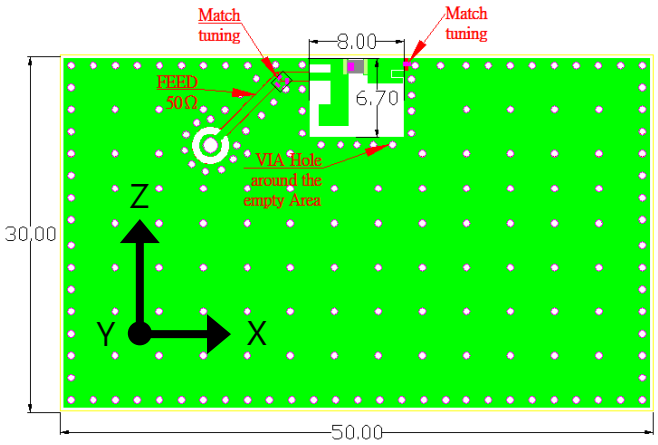
DIMENSIONS

Figure	Symbol	Dimension (mm)
	L	2.0 ± 0.15
	W	1.20 ± 0.15
	T	0.60 ± 0.10
	F	0.20 ± 0.10

SOLDER LAND PATTERN DESIGN

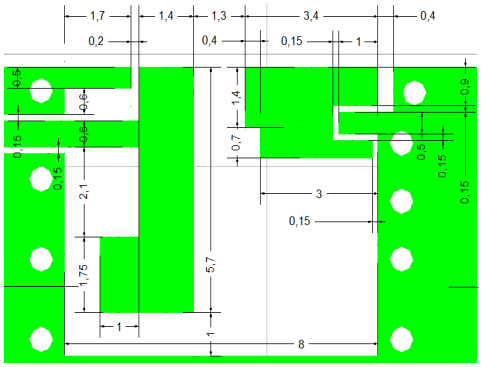
Figure (Empty Space 8.0 mm x 6.7 mm)

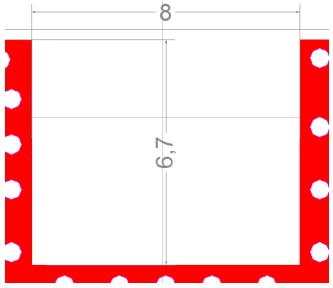
Unit : mm



Antenna on Test Board (Thickness 0.8mm)

Top





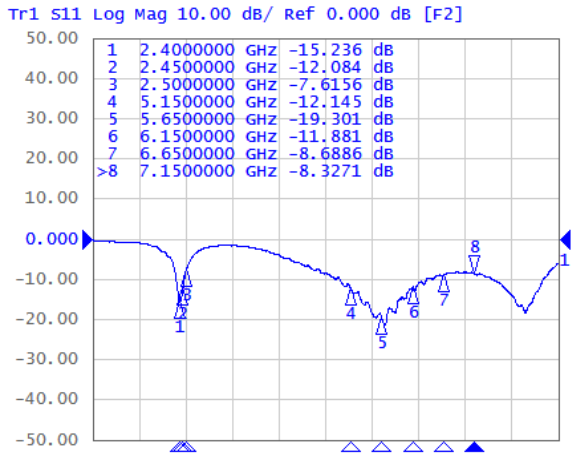
Bottom

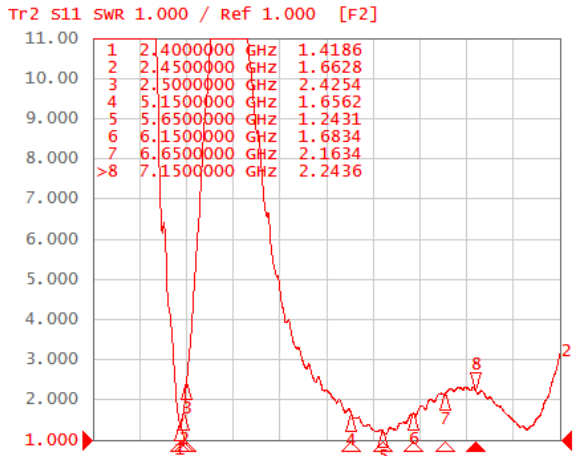
ELECTRONIC CHARACTERISTICS

Item	Specification
Working Frequency Range	2.4~2.5 / 5.15~7.15 GHz (Note-1)
Gain	1.5 / 4.5 dBi (Typical)
VSWR	2.4~2.5 / 5.15~7.15 GHz ≦ 3 : 1
Polarization	Linear
Azimuth Bandwidth	Omni-directional
Impedance	50Ω
Moisture sensitivity levels	MSL is LEVEL 1 (Refer to : IPC/JEDEC J-STD-020)
HBM ESD	Pass 1KV on all pins (Base on AEC-Q200-002)
MM ESD	Pass 200V (Base on EIA/JESD22-A115)
Operating & Storage Condition (Component) Operation Temperature Range: -40°C ~ +85°C Storage Temperature Range: -40°C ~ +85°C	
Storage Condition before Soldering (Included packaging material) Storage Temperature Range: +5 ~ +40 ℃ Humidity: 30 to 70% relative humidity	

*Note 1. Central Frequency should be defined after customers' application approval.

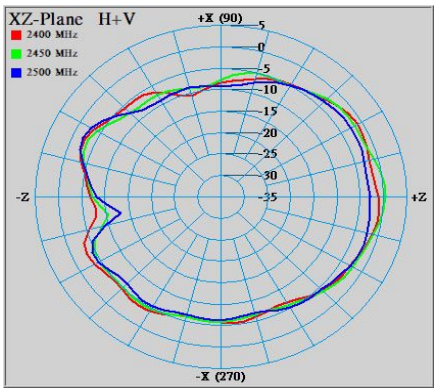
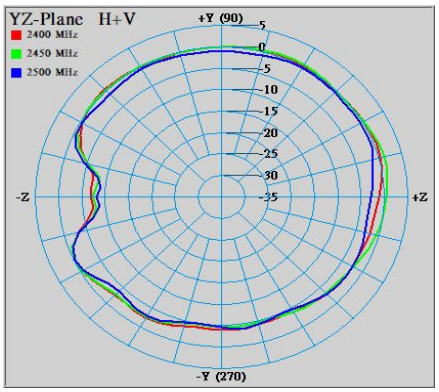
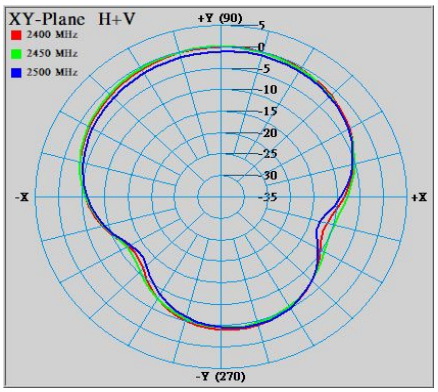
Antenna S11 on Test Board





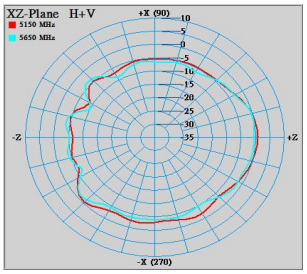
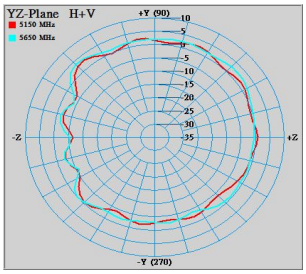
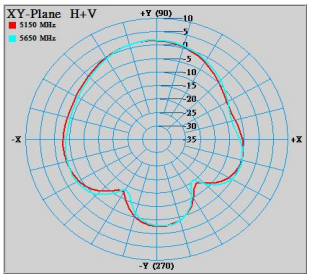
RADIATION PATTERN

2400 ~ 2500 MHz

(XZ plane)	(YZ plane)	XY plane
		

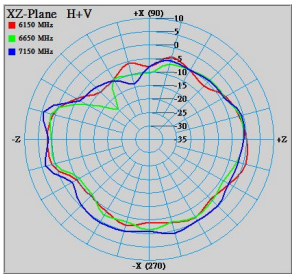
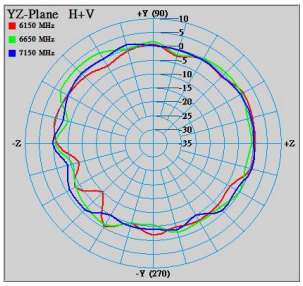
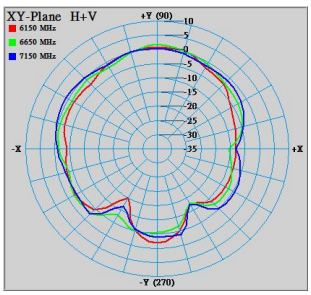
	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
2400	-0.813	-4.242	0.47	-1.458	-0.015	-3.612
2450	0.399	-4.186	1.244	-1.273	0.007	-3.592
2500	-2.255	-5.074	-0.216	-2.167	-0.955	-4.313

5150 ~ 5800 MHz

(XZ plane)	(YZ plane)	XY plane
		

	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
5150	0.798	-3.017	3.189	-0.563	1.719	-3.095
5650	-0.013	-3.657	3.88	0.074	1.877	-3.106

5800 ~ 7150 MHz

(XZ plane)	(YZ plane)	XY plane
		

	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
6150	1.783	-2.362	1.674	-1.21	0.772	-3.263
6650	1.578	-3.007	3.215	-0.403	1.728	-2.698
7150	4.366	-0.95	1.779	-0.756	0.999	-2.135

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