LTCC Multi Layer Ceramic Chip Antenna- 5220 size

– AMANT5220110A0T

FEATURES

1. Surface Mounted Devices with a small dimension of 5.2 x 2.0 x 1.1 mm^3 meet future miniaturization trend.
2. Embedded and LTCC (Low Temperature Co-fired Ceramic) technology is able to future integrate with system design as well as beautifying the housing of final product.
3. High Stability in Temperature / Humidity Change
4. Automotive, Qualified to AECQ-200

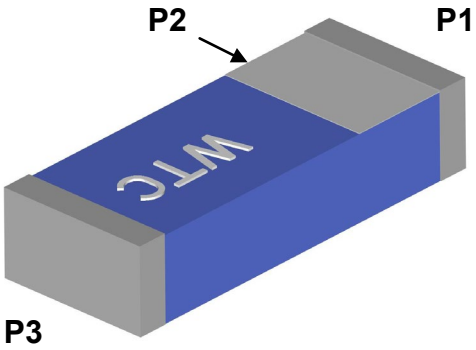
APPLICATIONS

1. Bluetooth
2. Wireless LAN
3. HormRF
4. ISM band 2.4GHz wireless applications

Recommanded Link Parts

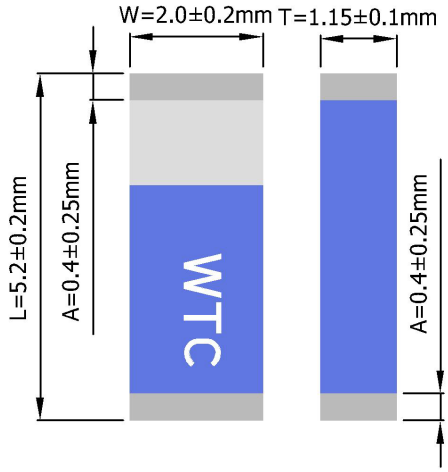
Product Category	Walsin PN	Remark
capacitor	RTxxN	high Q MLCC for fine tune matching (automotive version)
chip antenna	AMANT2012090A0T	2.0 x 1.25mm, automotive version
chip antenna	AMANT3216120A5T	3.2 X 1.6mm, automotive version

CONSTRUCTION



PIN	Connection
1	Feeding
2	Identification Mark
3	Soldering terminal

DIMENSIONS

Figure	Symbol	Dimension (mm)
	L	5.20 ± 0.20
	W	2.00 ± 0.20
	T	1.15 ± 0.10
	A	0.40 ± 0.25

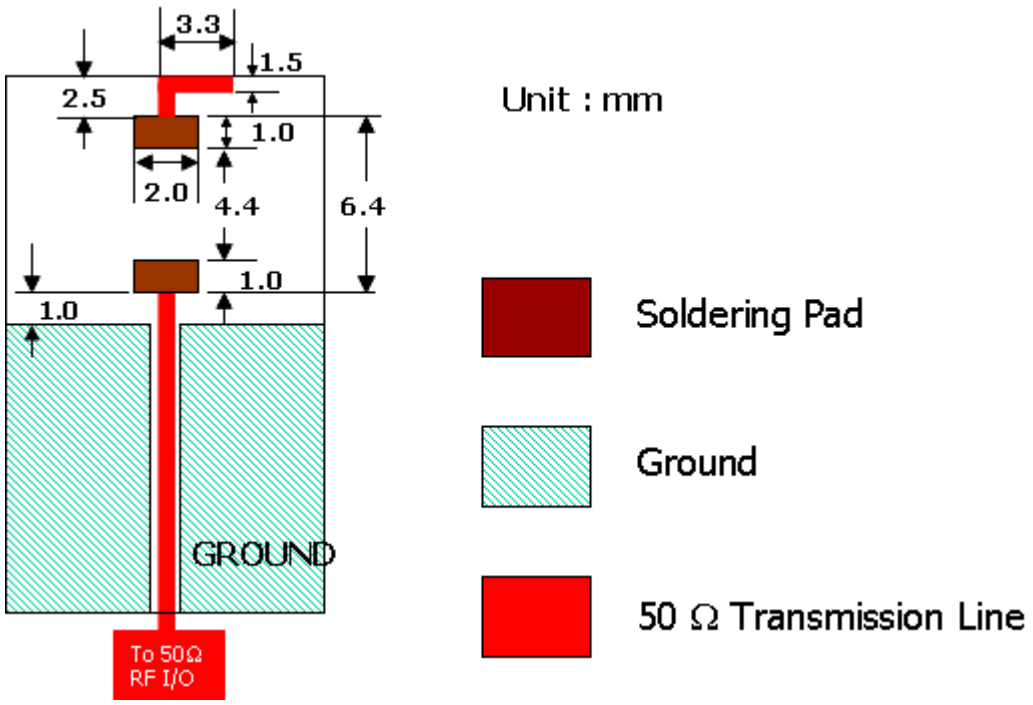
ELECTRICAL CHARACTERISTICS

AMANT5220110A0T	Specification
Working Frequency Range	2.4 GHz ～ 2.5GHz
Gain	2 dB (Typical)
VSWR	2 max.
Polarization	Linear
Azimuth Beamwidth	Omni-directional
Impedance	50Ω
Rated Power (max.)	3 Watts
Maximum Input Power	5 Watts for 5 minutes
Operation Temperature	-40˚C ~ +85˚C

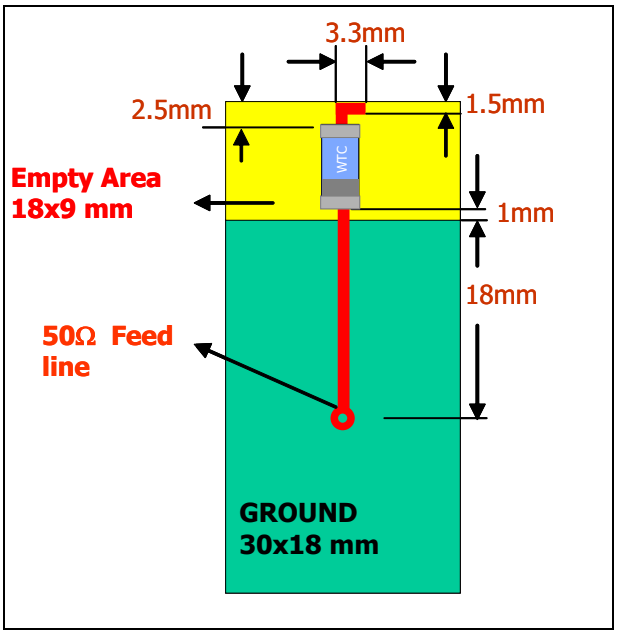
Remark: The specification is defined based on the test board dimension as in below

SOLDER LAND PATTERN DESIGN

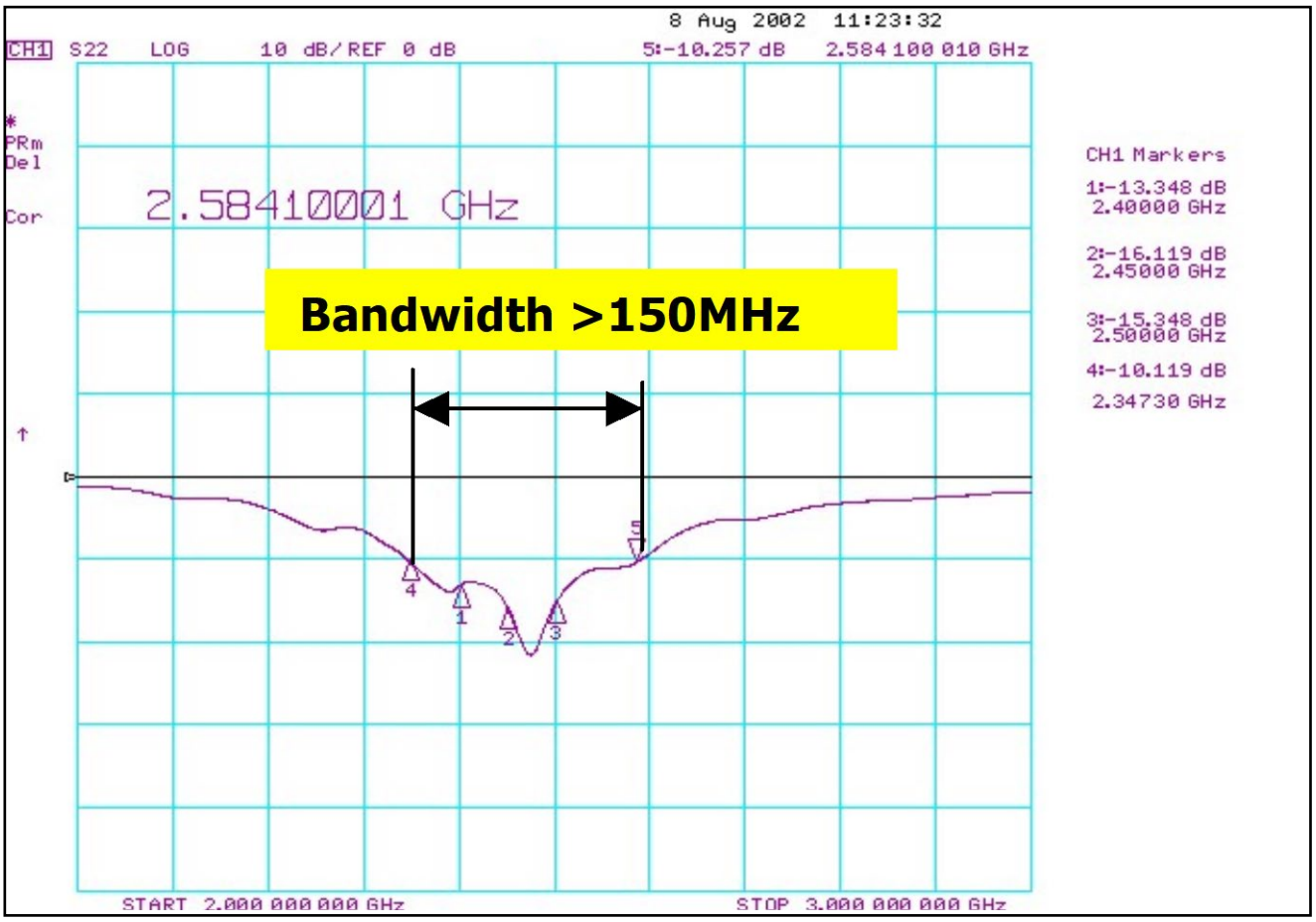
Figure



Antenna on Test Board (FR4 Thickness 0.8mm)

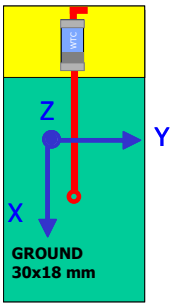


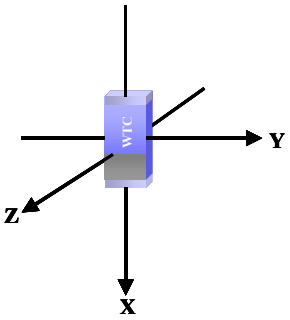
Antenna S11 on Test Board

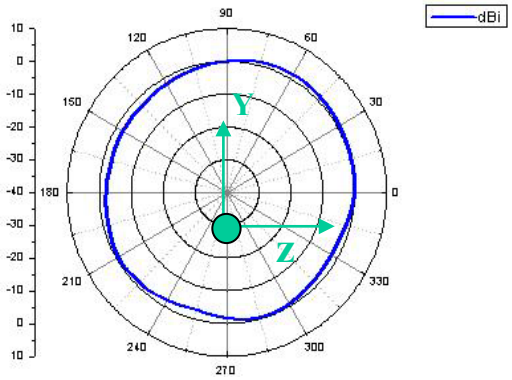
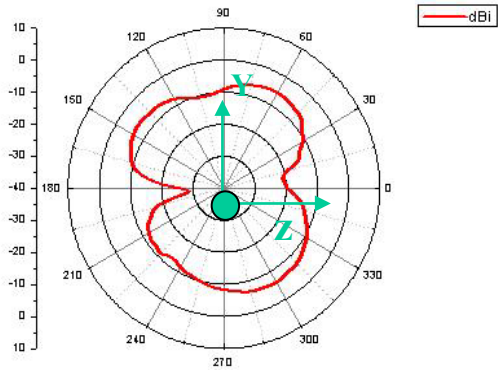
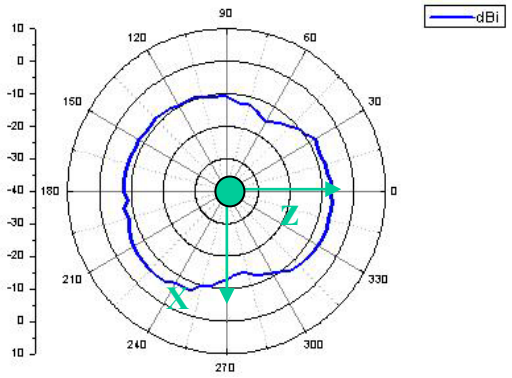
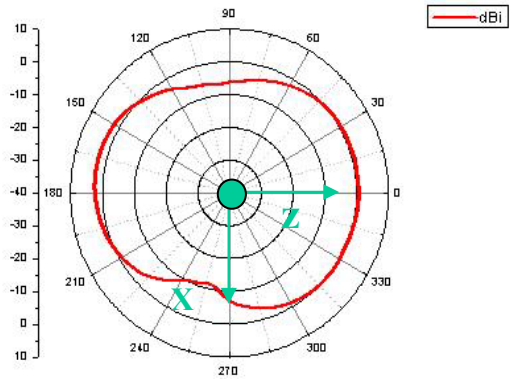
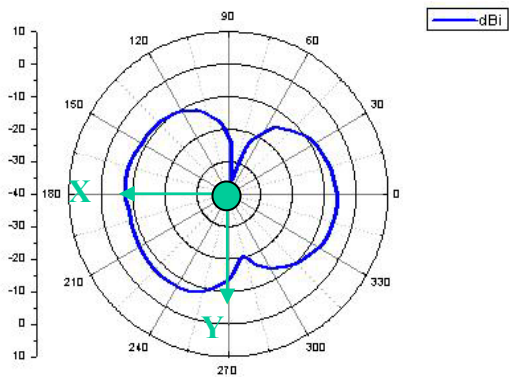
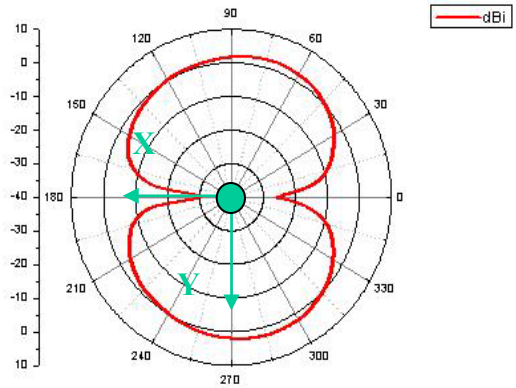


RADIATION PATTERN

Radiation Pattern and Gain were dependent on measurement board design. The specification of AMANT5220110A0T antenna was measured based on the PCB size and installation position as shown in the below figure Test Board





	Vertical	Horizontal
Y - Z Plane Average Gain= -0.82 dBi	 Peak Gain = 1.69 dBi Average Gain =-3.22 dBi	 Peak Gain= -5.42 dBi Average Gain=-8.98 dBi
X - Z Plane Average Gain=-0.91 dBi	 Peak Gain= -5.97 dBi Average Gain=-3.24dBi	 Peak Gain= 2.66 dBi Average Gain= -8.61 dBi
X - Y Plane Average Gain= -0.68 dBi	 Peak Gain= -5.97 dBi Average Gain=-3.12 dBi	 Peak Gain= 2.59 dBi Average Gain= -9.24 dBi