

# Datasheet of LTCC Device

## Laminated Ceramic Antenna

2450 MHz

**P/N: FLT31A2450-8027G**

Manufacturer:FTR Technology Corporation  
Address:Room 333, 3rd Floor, Zone 3, Building B, Mingyou Procurement Center,  
Laodong Community, Xixiang Subdistrict, Bao'an District, Shenzhen City

**\*Contents in this sheet are subject to change without prior notice.**

## LTCC Antenna 3216 Size

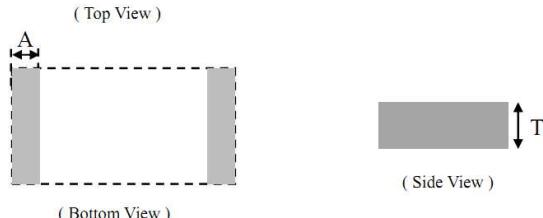
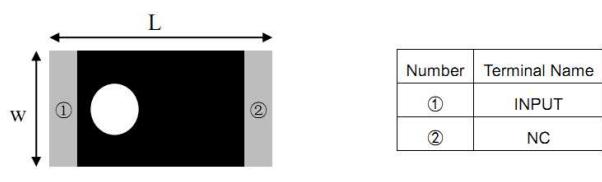
### 1、Features

Antenna Frequency for 2450 MHz

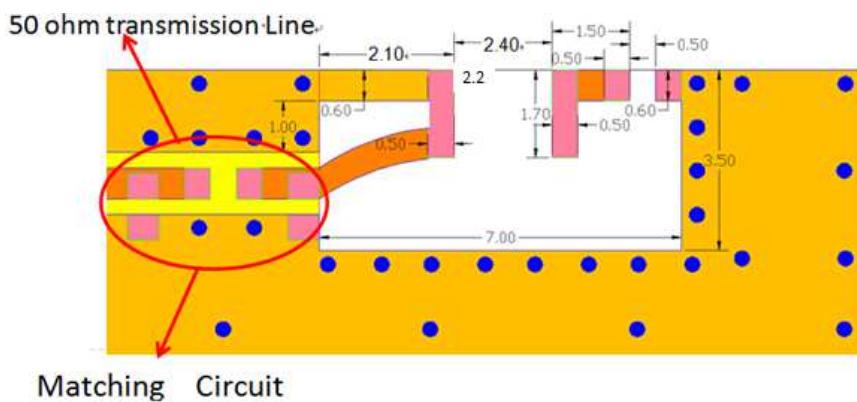
### 2、Applications

For Miniaturized Bluetooth System

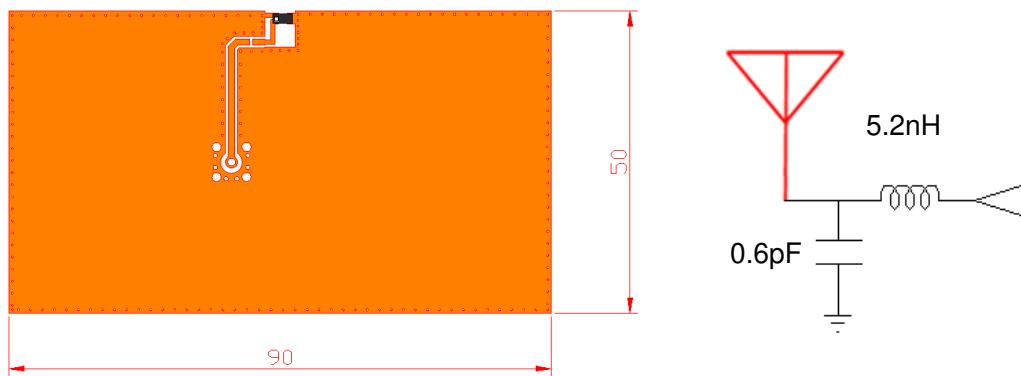
### 3、Shapes & Dimensions (mm)



Symbols	L	W	T	A
Dimensions	3.2+/-0.2	1.6+/-0.2	0.5+/-0.1	0.4+/-0.1



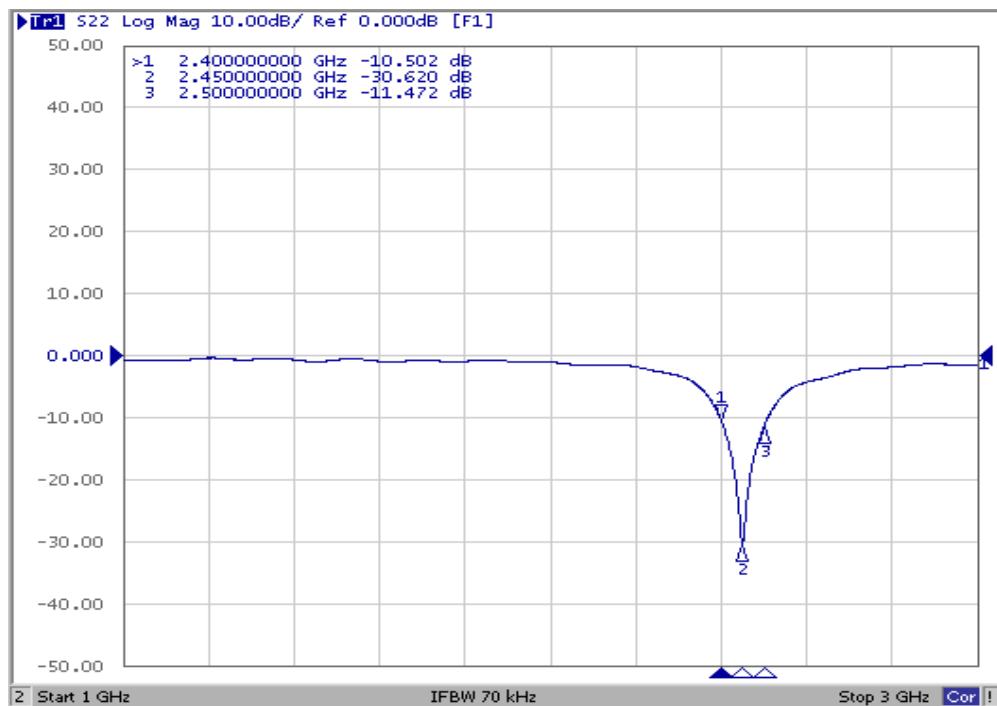
#### 4、Evaluation Board and Matching Circuits



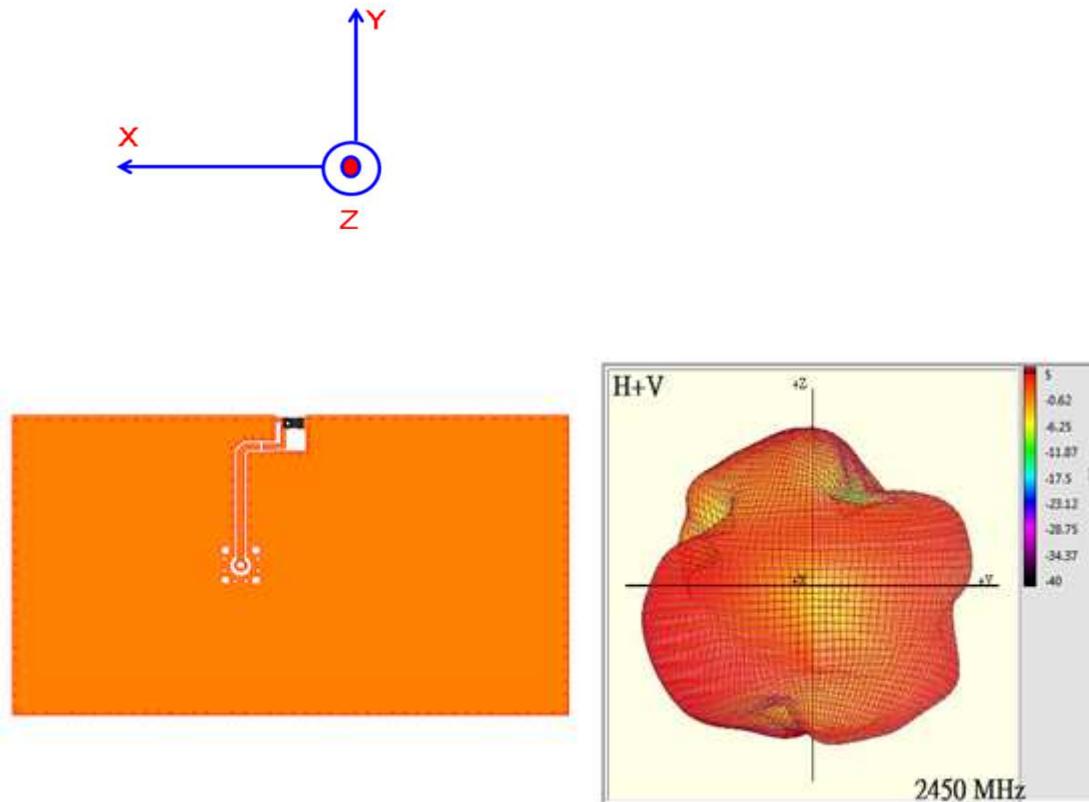
#### 5、Electrical Characteristics

Item	Specifications
Central Frequency	2450 MHz
Band Width	100 MHz typ.
Peak Gain	4.11 dBi
V.S.W.R	$\leq 2.0$
Polarization	Linear
Azimuth Beam width	Omni-directional
Impedance	50 $\Omega$

#### 6、Characteristic curve



## 7、Radiation Pattern & Efficiency

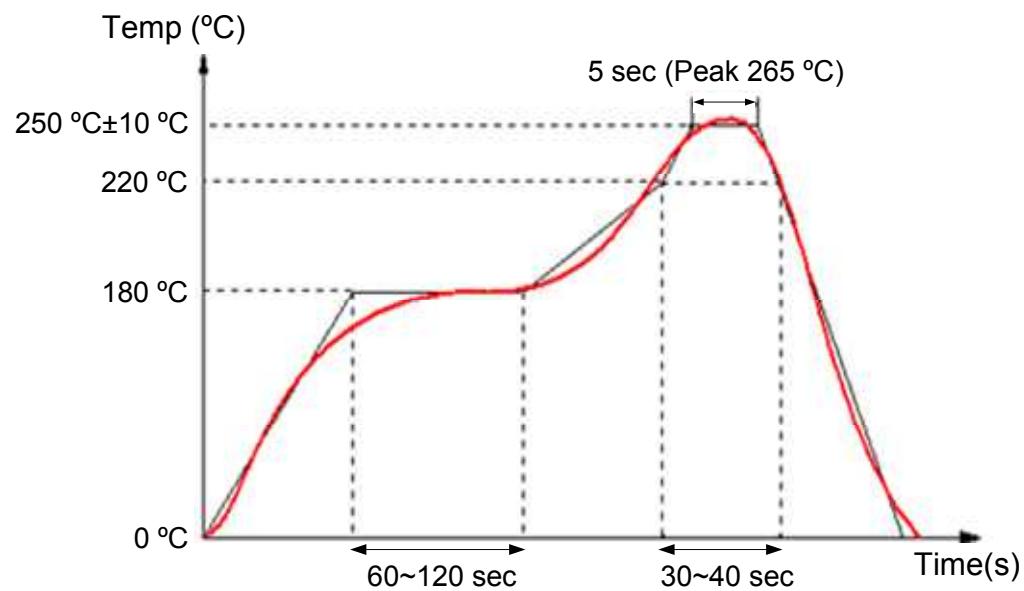


Frequency (MHz)	2400	2450	2500
Avg. Gain (dBi)	-1.89	-1.32	-1.51
Peck Gain (dBi)	1.77	4.11	2.55
Efficiency (%)	71.1	77.9	72.1

## 8、Post Dependability Tolerance

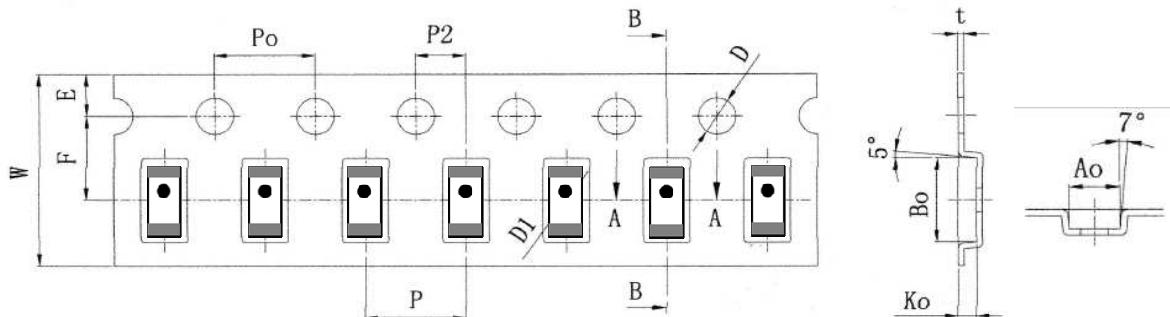
Item	Post Dependability Tolerance
Central Frequency	$\pm 5$ MHz
Band Width	$\pm 5$ MHz
Gain	$\pm 0.1$ dBi
V.S.W.R (in BW)	$\pm 0.1$

## 9、Reflow Soldering Standard Condition



## 10、Packaging and Dimensions 3216

### Plastic Tape

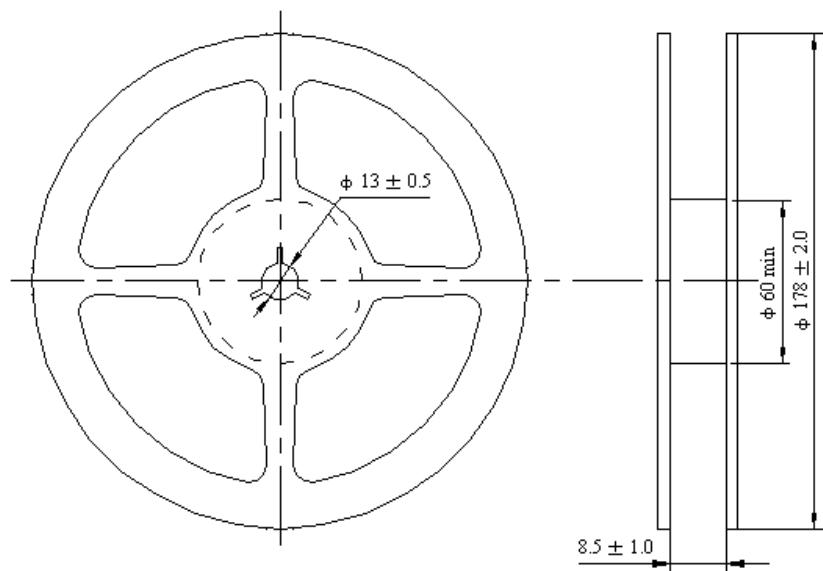


Appearance	Specification	Tolerance
W	8.00	$\pm 0.10$
P	4.00	$\pm 0.10$
E	1.75	$\pm 0.10$
F	3.50	$\pm 0.05$
P2	2.00	$\pm 0.05$
D	1.50	$+0.10$ $-0.00$
D1	1.00	$\pm 0.10$
Po	4.00	$\pm 0.10$
10Po	40.00	$\pm 0.20$

Appearance	Specification	Tolerance
Ao	1.85	$\pm 0.10$
Bo	3.50	$\pm 0.10$
Ko	0.73	$\pm 0.10$
t	0.23	$\pm 0.05$

**Remarks for Package**

Reserve a length of 150~200mm for the trailer of the carrier and 250~300 mm for the leader of the carrier and further 250mm of cover tape at the leading part of the carrier.

**Reel (6000 pcs/Reel)****Storage Period**

Oxidizable Material, 12 months in vacuum sealed bag, please repack within 168 hours by re-seal the package treatment after using.

Storage Temperature Range : <30 degree C, Humidity : <60%RH

## 10、Dependability Test

Test item	Test condition / Test method	Specification
Solderability IEC 60068-2-58 GB/T2423.28	*Solder bath temperature : 240±5°C *Immersion time : 2±0.5 sec Solder : Sn96.5 Ag3.0 Gu0.5 for lead-free.	At least 95% of a surface of each terminal electrode must be covered by fresh solder.
Leaching (Resistance to dissolution of metallization) JIS C5101	*Solder bath temperature : 260±5°C *Leaching immersion time : 10±1 sec Solder : Sn96.5 Ag3.0 Gu0.5 for lead-free.	Loss of metallization on the edges of each electrode shall not exceed 25%.
Resistance to soldering heat IEC 60068-2-58 GB/T2423.28	*Preheating temperature : 120~150°C, 1 minute. *Solder temperature : 260±5°C *Immersion time : 10±1 sec Solder : Sn 96.5 Ag 3.0 Gu0.5 for lead-free Measurement to be made after keeping at room temperature for 24±2 hrs.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature. Loss of metallization on the edges of each electrode shall not exceed 25%.
Drop Test IEC 60068-2-32 GB/T2423.8 Customer's specification.	*Height : 50 cm *Test Surface : Rigid surface of concrete or steel. *Times : 6 surfaces for each units ; 2 times for each side.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.
Vibration IEC 60068-2-6 GB/T 2423.10	*Frequency : 10Hz~55Hz~10Hz(1min) *Total amplitude : 1.5mm *Test times : 6hrs. (Two hrs each in three mutually perpendicular directions)	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.
Adhesive Strength of Termination IEC60068-2-21 GB/T 2423.6	*Pressurizing force : 5N(≤0603) ; 10N(>0603) *Test time:10±1 sec	No remarkable damage or removal of the termination.

Bending test IEC 60068-2-21 GB/T 2423.29	The middle part of substrate shall be pressurized by means of the pressurizing rod at a rate of about 1 mm/s per second until the deflection becomes 2mm and then pressure shall be maintained for $10\pm1$ sec. Measurement to be made after keeping at room temperature for $24\pm2$ hours.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.
Temperature cycle IEC60068-2-14 GB/T 2423.22	30 minutes at $-40^{\circ}\text{C}\pm2^{\circ}\text{C}$ . 10~15 minutes at room temperature. 30minutes at $+85^{\circ}\text{C}\pm2^{\circ}\text{C}$ . 10~15 minutes at room temperature. Total 100 continuous cycles Measurement to be made after keeping at room temperature for $24\pm2$ hrs.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.
High temperature IEC 60068-2-2 GB/T2423.2	*Temperature : $85^{\circ}\text{C}\pm2^{\circ}\text{C}$ . *Test duration : 500+24/-0 hours. Measurement to be made after keeping at room temperature for $24\pm2$ hrs.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics.
Humidity (steady conditions) IEC60068-2-3 GB/T 2423.3	*Humidity : $85\pm5\%$ R.H. *Temperature : $85\pm2^{\circ}\text{C}$ *Time : 500+24/-0 hrs. Measurement to be made after keeping at room temperature for $24\pm2$ hrs ※ 200hrs measuring the first data then 300hrs data.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.
Low temperature IEC 60068-2-1 GB/T2423.1	*Temperature : $-40^{\circ}\text{C}\pm2^{\circ}\text{C}$ *Test duration : 500+24/-0 hours Measurement to be made after keeping at room temperature for $24\pm2$ hrs.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.

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