

APPROVAL SHEET

DESCRIPTION : Chip series antenna 2.4 GHz

Bandwidth 100MHz

NOMINAL FREQ. : 2.4GHz

P/N : ACA-3216-ANT-00061

MODEL : 3216

REVISION : 01

DATE : 07/18/2019

Approved	Checked	Prepared

CUSTOMER: _____

Customer Signature

Approved: _____

Date: _____

REVISION HISTORY

Rev.	Revised Page	Revision Content	Date	Ref. No.	Reviser
01	N/A	Initial Released	07/18/2019	N/A	IrwinChen

1.SCOPE :This specification applies to Chip series antenna

2.Rating:

Operating Temperature : -25 °C ~ 125 °C
Storage Temperature : 20 °C ~ 25 °C R.H. 65% (For Reference)

3.Marking:



4.Standard Testing Condition:

	Unless otherwise specified	In case of doubt
Humidity	Ordinary Humidity(25 to 85% RH)	60 to 70 % RH
Temperature	Ordinary Temperature(15 to 35°C)	20±2°C

5.Configuration and Dimensions:

Figure	Dimensions(mm)	
	L	3.2±0.2
	W	1.6±0.2
	D	0.5±0.2
	T	0.5±0.2

TERMINAL CONFIGURATION

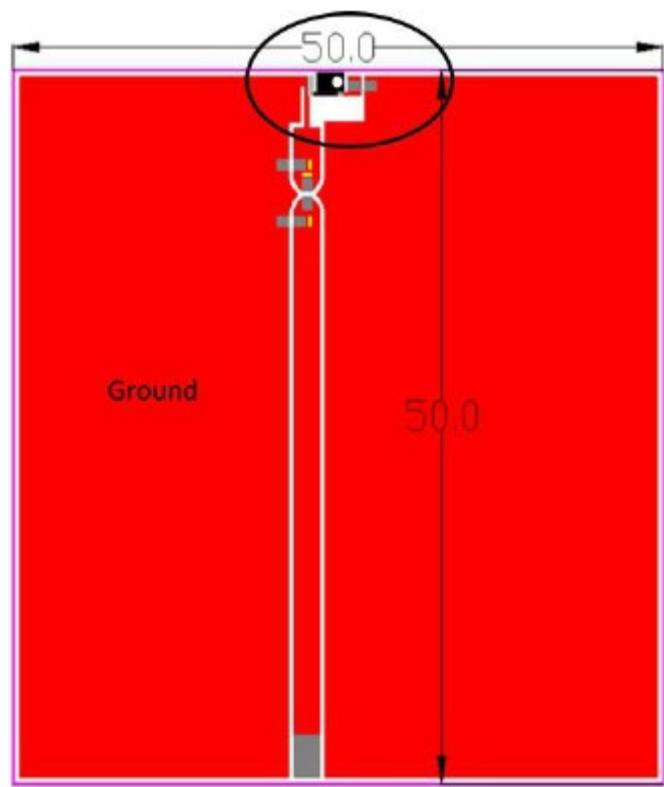


(1) Feed Termination
(2) Solder Termination

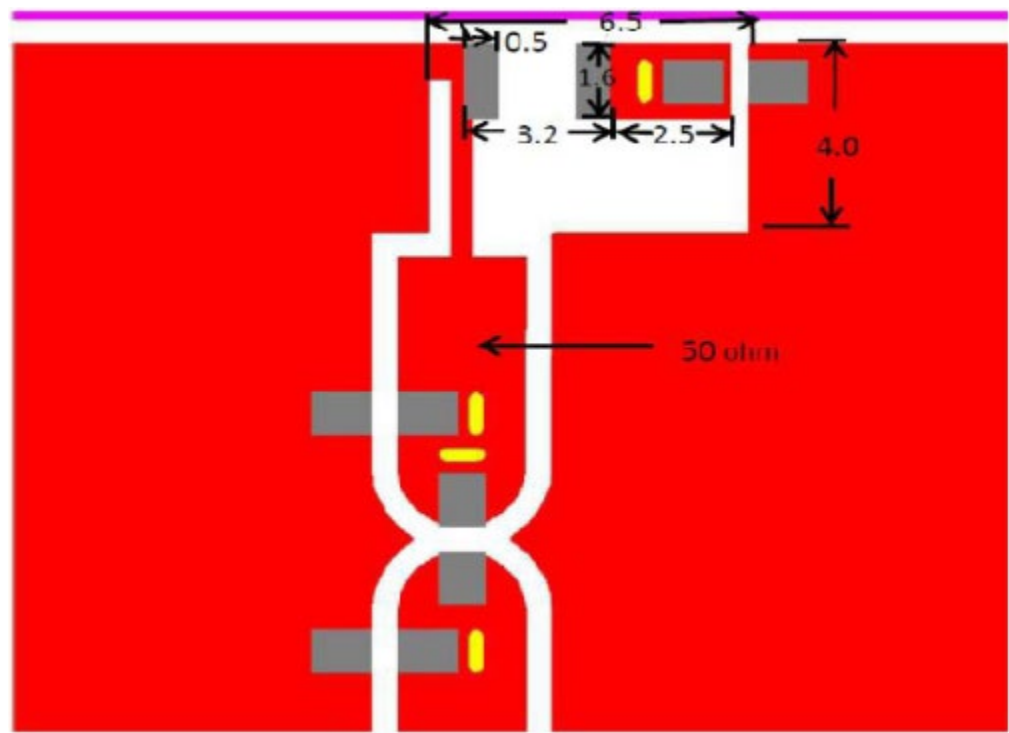
6. Electrical Characteristics:

	Impedance	Test Freq.	Bandwidth*	Peak Gain*	VSWR	Polarization
Part No.	(Ω)	(GHz)	(MHz)	(dBi)	(max)	(Linear)
ACA-3216-ANT-00061	50	2.4	100	2.72	2	Linear

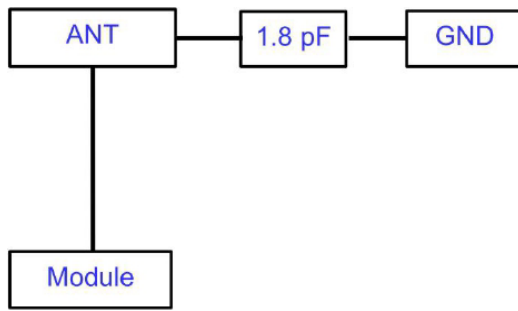
7.Dimensions and Recommended PC Board Pattern:



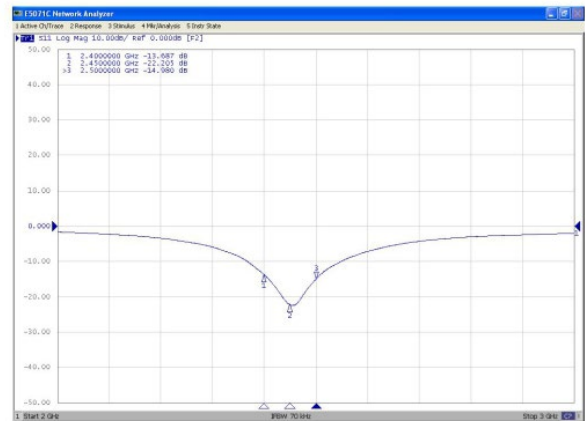
NOTE: Dimensions in mm



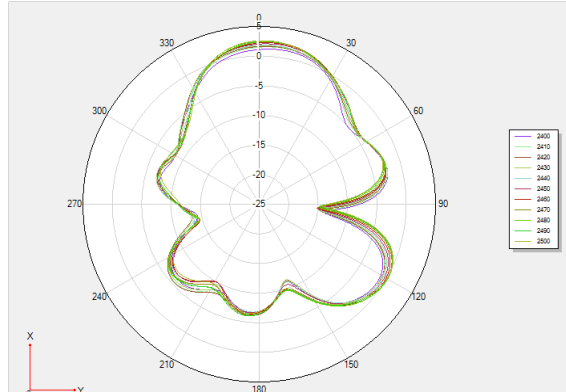
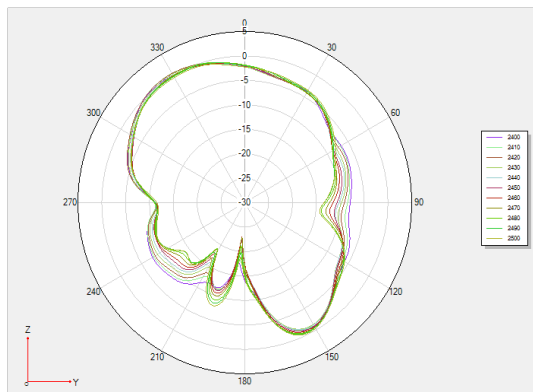
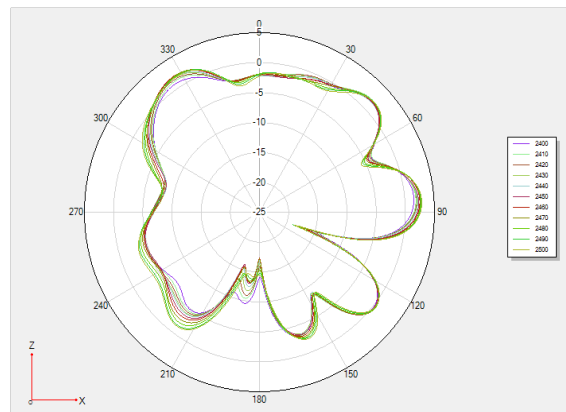
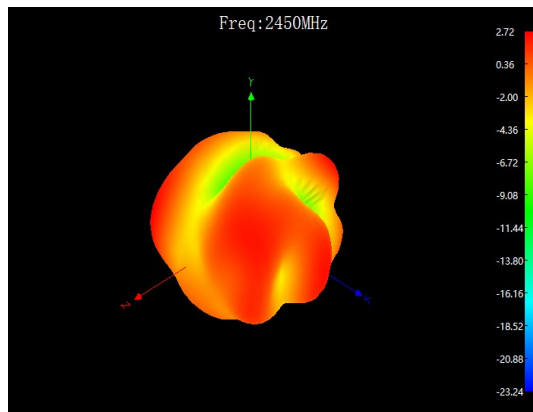
8. Matching Circuit:



Return Loss



2D/3D Gain Pattern

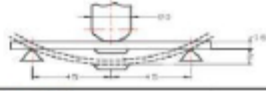


Efficiency And Peak Gain

Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)
2400	65.46	2.48
2420	66.12	2.69
2440	67.68	2.51
2450	68.61	2.72
2460	67.38	2.67
2480	67.28	2.34
2500	66.08	2.26

9.Dimensions and Recommended PC Board

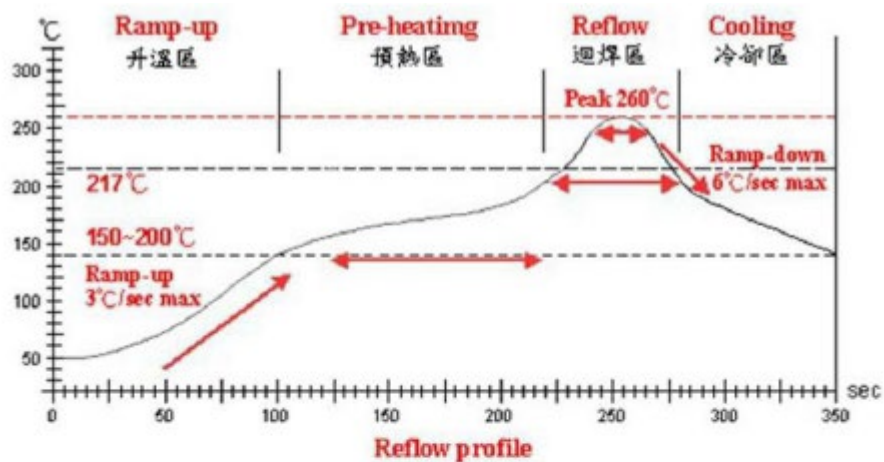
1-1.Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Board Flex	The forces applied on the right conditions must not damage the terminal electrode and the ferrite	Test device shall be soldered on the substrate Substrate Dimension: 100x40x1.6mm Deflection: 2.0mm Keeping Time: 60 sec 
1-1-2	Resistance to Soldering Heat	Meet the electrical Specification after test	Refer to MIL-STD-202 Method 210 Pre-heating: 150-200℃, 60-100 sec Above 217℃, 60-150 secs Peak Temperature: 260±5℃, 20-40 sec Cycles : 2 times
1-1-3	Solder ability	The electrodes shall be at least 95% covered with new solder coating	Refer to J-STD-002 Pre-heating: 150℃, 1min Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) Solder Temperature: 245±5℃ (Pb-Free) Immersion Time: 4±1sec
1-1-4	Terminal Strength Test	The chip must not damage the terminal electrode and the ferrite	Test device shall be soldered on the substrate Force 2N for 60±1 seconds for 0603 series Force 5N for 60±1 seconds for 1005 series Force 10N for 60±1 seconds for 1608 series Force 1.8Kg for 60±1 seconds for the other series. 
1-1-5	Vibration Test	Meet the electrical Specification after test	Refer to MIL-STD-202 Method 204 Vibration waveform: Sine waveform Vibration frequency: 10Hz~2000Hz Vibration acceleration: 5g 10Hz~20KHz and back to 10Hz should be down in 20 minutes Duration of test: 12 cycles each of 3 orientations, 20 minutes for each cycle, 12 hr total Vibration axes: X, Y & Z
1-1-6	Resistance to Solvent	There must be no change in appearance or obliteration of marking	Refer to MIL-STD-202 Method 215 Inductors must withstand 6 minutes of alcohol or water.

Dimensions and Recommended PC Board

1-2.Environmental Performance

No	Item	Specification	Test Method
1-2-1	Temperature Cycle	Meet the electrical Specification after test	Refer to JESD Method JA-104 Total cycles: 1000 cycles 30 minutes exposure to -40℃ 30 minutes exposure to 125℃ 1 min. maximum transition between temperatures Measured after exposure in the room condition for 24hrs
1-2-2	Biased Humidity Resistance		Refer to MIL-STD-202 Method 103 Temperature: 85±2℃ Relative Humidity:85% / Time: 1000hrs Measured after exposure in the room condition for 24hrs
1-2-3	High Temperature Exposure (Storage)		Refer to MIL-STD-202 Method 108 Temperature: 125±3℃ / Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs
1-2-4	Low Temperature Exposure (Storage)	Meet the electrical Specification after test	Refer to MIL-STD-202 Method 108 Temperature: -40±3℃ / Relative Humidity : 0% Applied Current: Rated Current/ Time: 1000hrs Measured after exposure in the room condition for 24 hrs



Lead-Free(LF) 標準溫度分析範圍

Refer to J-STD-020C

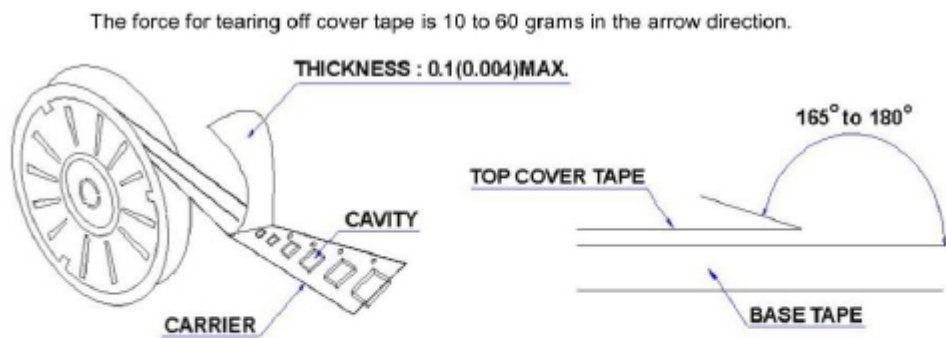
管制項目 Item.	升溫區 Ramp-up	預熱區 Pre-heating	迴焊區 Reflow	Peak Temp	冷卻區 Cooling
溫度範圍 Temp.scope	R.T. ~ 150℃	150℃ ~ 200℃	217℃	260±5℃	Peak Temp. ~ 150℃
標準時間 Time spec.	—	60 ~ 180 sec	60 ~ 150 sec	20 ~ 40 sec	—
實際時間 Time result	—	75 ~ 100 sec	90 ~ 120 sec	20 ~ 35 sec	—

NOTE :

1. Re-flow possible times : within 2 times
2. Nitrogen adopted is recommended while in re-flow

10. Packaging:

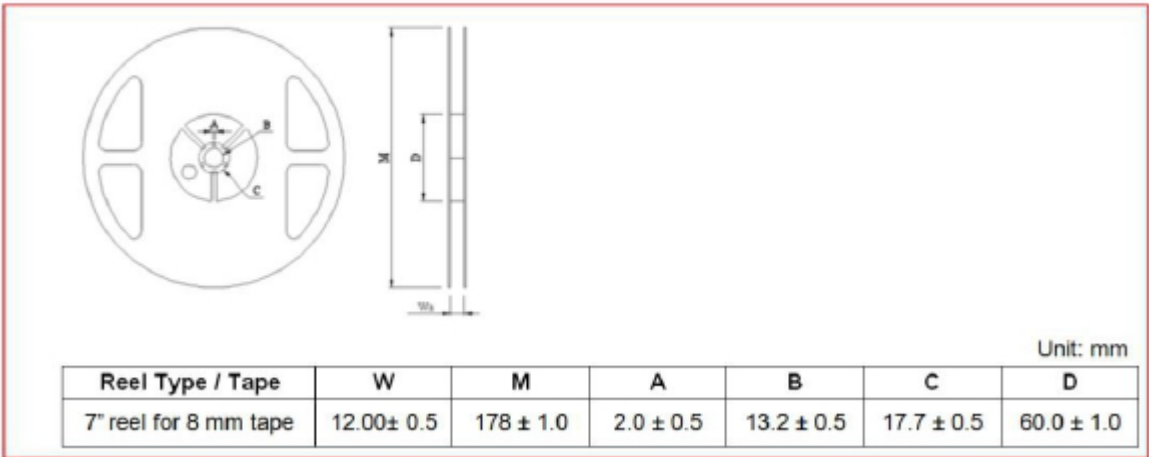
Packaging - Cover tape



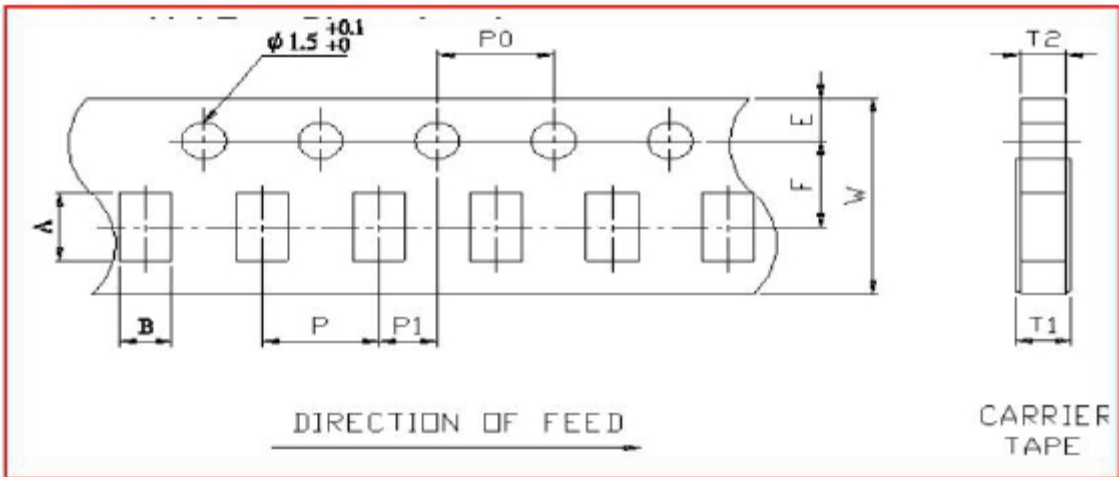
11.2 Packaging Quantity

TYPE	BULK	PCS/REEL
BTCA321605	X	5000

11.3 Reel Dimensions in mm



Tape Dimensions in mm



Unit: mm

Item	DIM.	A	B	W	E	F	T1	T2	P	P0	10*P0	P1
BTCA321605		3.50±0.20	1.90±0.20	8.0±0.20	1.75±0.10	3.5±0.05	0.75+0.2/-0	0.75±0.10	4.0±0.10	4.0±0.10	40.0±0.20	2.0±0.05

Note: The moisture sensitivity level (MSL) of products is classified as level 1.