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PRODUCT NAME	PA018CQ0001	VERSION	02			
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SPECIFICATION

SPEC NO. : **SP03AB15921-0030**

PART NO. : **03A61B640020220**

PRODUCT NAME : **PA018CQ0001**

DESCRIPTION : **Patch Antenna(18x18x4mm)**
Halogen Free Compliant Product

REVISION STATUS

VERSION	DATE	PAGE	REVISION DESCRIPTION	PREPARED	CHECKED	APPROVED
01	2011.10.24	Whole	New Issued.	徐嫚君	林秉輝	黃信嘉
02	2013.02.21	P2、 P5、P8	Modify Center Frequency、Bandwidth；Modify Typical Electrical Characteristics、Test Jig and Dimension、Test Fixture Antenna Setup & Measurements	徐嫚君	林秉輝	黃信嘉

Prepared By	Checked By	Approved By
		



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CIROCOMM TECHNOLOGY CORP.

PART NUMBER : 03A61B640020220

1 SCOPE

This specification covers the dielectric antenna for GPS + GLONASS.

2 Name of the product

This product is named "Dielectric Antenna".

3 Electrical characteristics

3-1 Electrical characteristics of antenna

The antenna has the electrical characteristics given in Table 1 under the cirocomm standard installation conditions shown in the figure in Appendix

Table 1

No	Parameter	Specification	Notes
1	Range Of Receiving Frequency	GPS : 1575.42 ±1.023 MHz GLONASS : 1602±5MHz	
2	Center Frequency	1584MHz ± 3MHz	With 51.81x71.73mm GND Plane
3	Bandwidth	34MHz min	Return Loss@-10dB
4	VSWR	1.5 max	Center Frequency
5	Gain at Zenith	GPS : 1.5 dBi typ. GLONASS : 3.0 dBi typ.	
6	Gain at 10° Elevation	--	
7	Axial Ratio	--	
8	Polarization	RHCP	Right Hand Circular Polarization
9	Impedance	50 Ohm	
10	Frequency Temperature Coefficient (ƒ)	-40°C to +105°C	0 ± 20ppm / °C
11	Operating Temperature	-40°C to +105°C	

※Please follow the Golden Sample characteristics and compensation the instrument measurement value when IQC Inspection.





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4 Environmental conditions

4-1 Operating conditions

/The antenna has the electrical characteristics given in Tables 1 in the temperature range of -40°C to $+105^{\circ}\text{C}$ and under the environmental conditions of $+40^{\circ}\text{C}$ and 0-95% r.h.

4-2 Storage temperature range

The storage temperature range of product is -40°C to $+105^{\circ}\text{C}$

4-3 Feed pin temperature range

Maximum temperature for soldering of feed pin is $+290^{\circ}\text{C}$ for 3 second.

5 Reliability tests

5-1. Low-temperature test

Expose the specimen to -40°C for 400 hours and then to normal temperature/humidity for 24 hours or more. After this test, examine its appearance and functions.

5-2 High-temperature test

Expose the specimen to $+105^{\circ}\text{C}$ for 400 hours and then to normal temperature/humidity for 24 hours or more. After this test, examine its appearance and functions.

5-3 High-temperature/high-humidity test

Subject the object to the environmental conditions of $+60^{\circ}\text{C}$ and 90-95% r.h. for 96 hours, then expose to normal temperature/humidity for 24 hours or more. After this test, examine its appearance and functions.

5-4 Thermal shock test

Subject the object to cyclic temperature change (-40°C , 2 hours \leftrightarrow $+85^{\circ}\text{C}$, 2 hours) for 100 cycles, the expose to normal temperature/humidity for 24 hours or more.

5-5 Vibration test

5-5-1 Sinusoidal vibration test

Subject the object to vibrations of 5 to 200 to 5Hz swept in 10 minutes, 4.5G at maximum (2mm amplitude), in X and Y directions for two hours each and in Z direction for four hours. After this test, examine its appearance functions.

5-5-2 Vibration test in packaged condition

Subject the object, which is packaged as illustrated, to vibrations of 15 to 60 to 15Hz swept in 6 minutes, 4G at maximum (2mm amplitude at maximum), applied in X, Y and Z directions for two hours each, i.e. six hours in total. After this test, examine its appearance and functions.





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5-6 Free fall test in packaged condition

Drop the object, which is packaged as illustrated, to a concrete surface from the height of 90 cm, on one corner, three edges and six faces once each, i.e. 10 times in total. After this test, examine its appearance and functions.

6 Inspection

As for the examination during mass production, we place the antenna in the production fixture individually, using the network analyzer to compare its central frequency, bandwidth, and return loss with that of the golden sample.

7 Test Record

A Copy of test record filled with following contents shall be provided at time of delivery.

7-1 Quantity of delivery

7-2 Measurement of electrical characteristics :

Following data at normal temperature obtained by the method described in section 18.

7-3 Temperature and humidity of test

Quantity for sampling inspection shall be $n=5$ for any lot. In case quantity per lot is less than 5, the whole lot shall be inspected.

8 Warranty

If any defect occurs from the product during proper use within a year after delivery, it will be repaired or replaced free of charge.

9 Other

Any question arising from this specification manual shall be solved by arrangement made by both parties.

10 Precautions for use

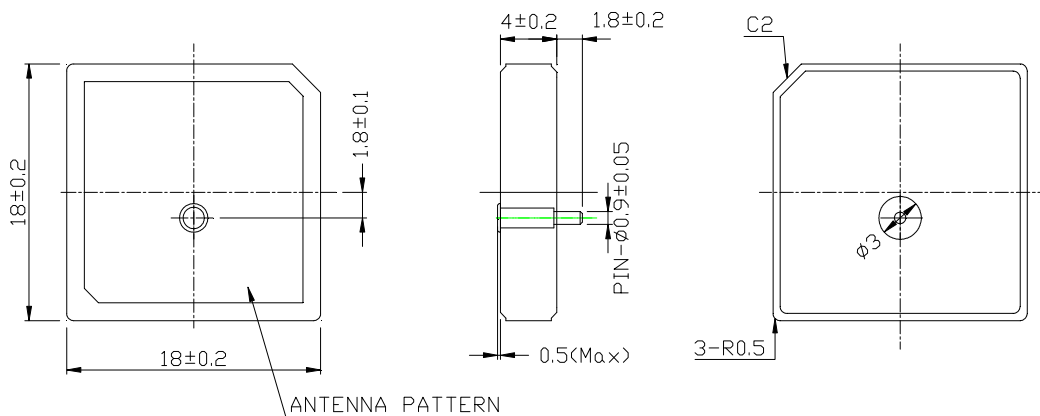
- Antenna pattern use a silver electrode.
- Please don't use the corrosion gas (sulfur gas, chlorine gas) in the atmosphere.
- Please don't direct solder onto the silver electrode of Antenna pattern.





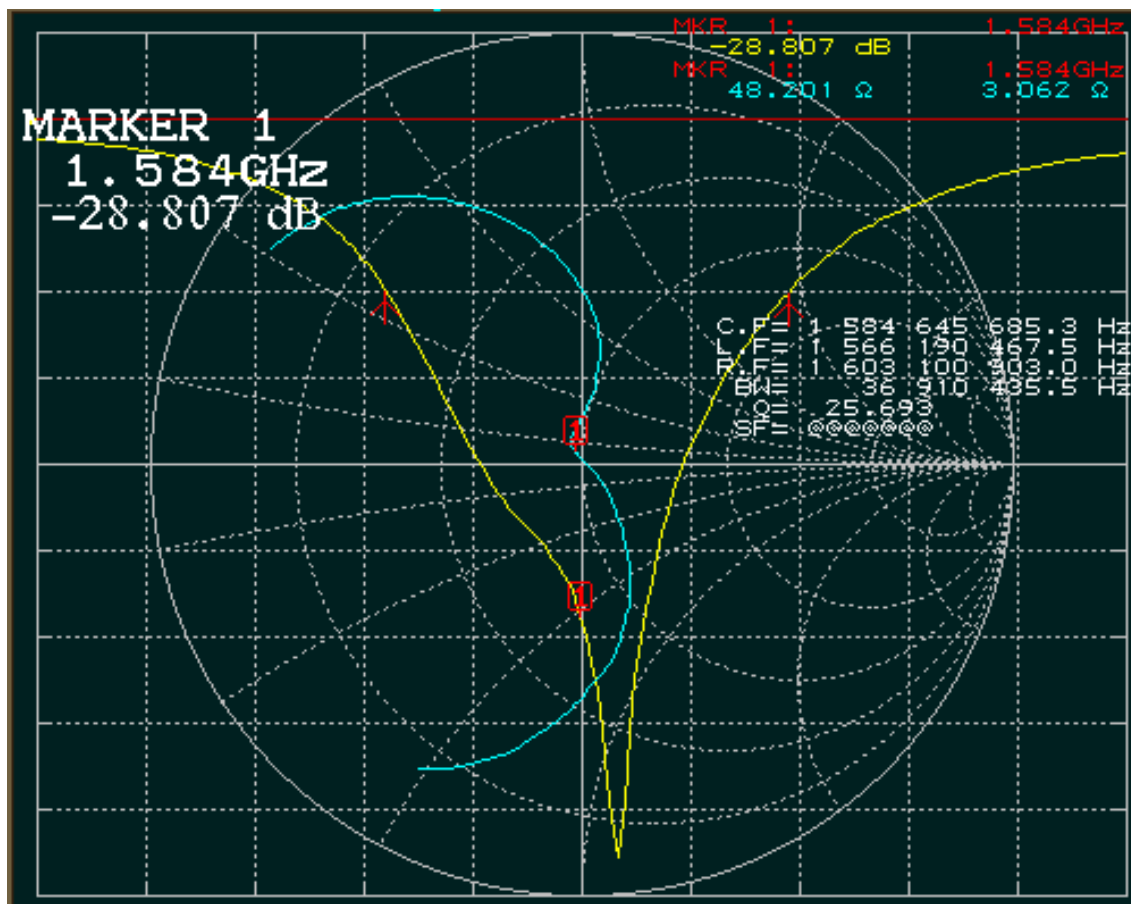
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11. Shape and Dimension



12. Typical Electrical Characteristics (T=25°C)

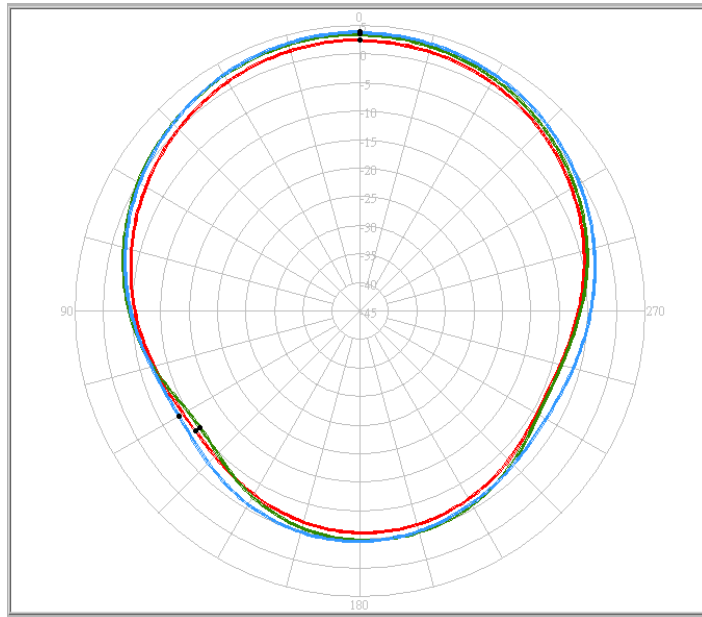
Return Loss, SWR, Impedance, measured on the test fixture.



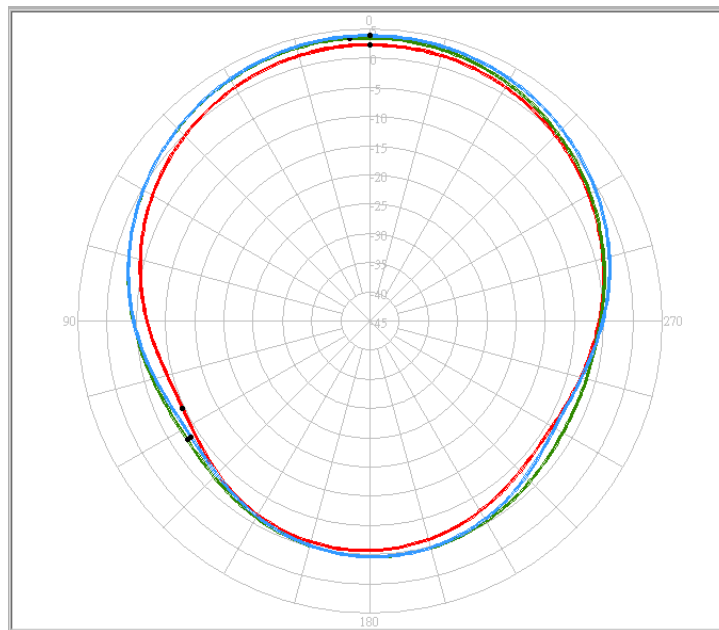


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13. 2D Radiation Pattern



XZ-Plane



YZ-Plane

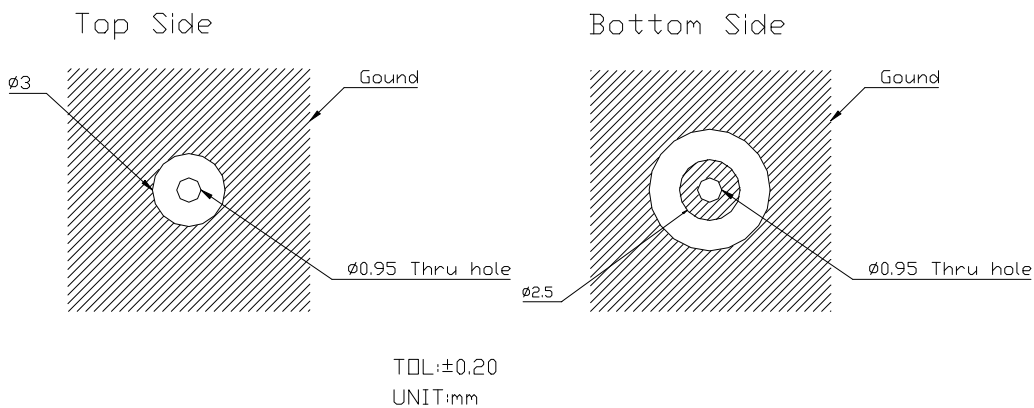
Item	XZ-plane	YZ-plane
1575 MHz	2.49 dBi	2.33 dBi
1592 MHz	3.47 dBi	3.49 dBi
1608 MHz	3.85 dBi	3.88 dBi



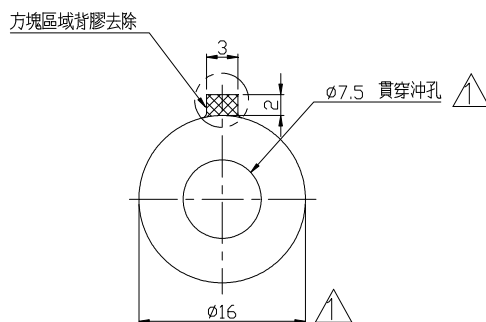


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14. Layout Dimension

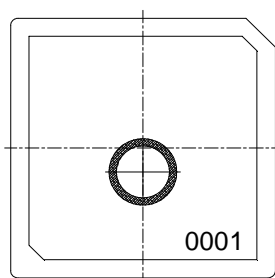


15. Tape Dimension



- 備註: 1. NITTO: NO.5015
- 2. Double-coated adhesive tape for industrial use
- 3. Thickness: 0.12mm
- 4. 未標示公差為 ±0.2

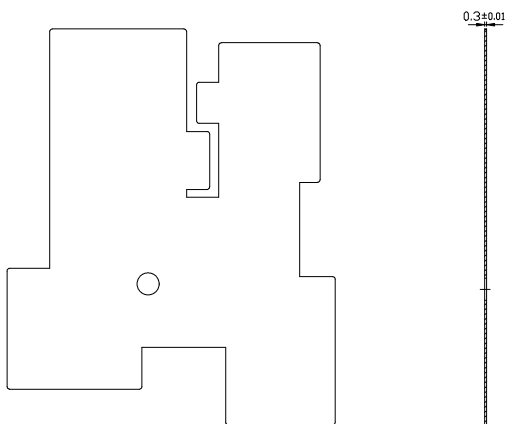
16. Mark



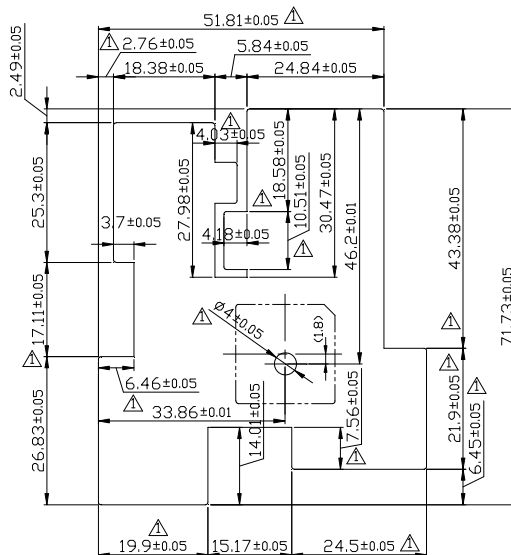


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17. Test Jig and Dimension



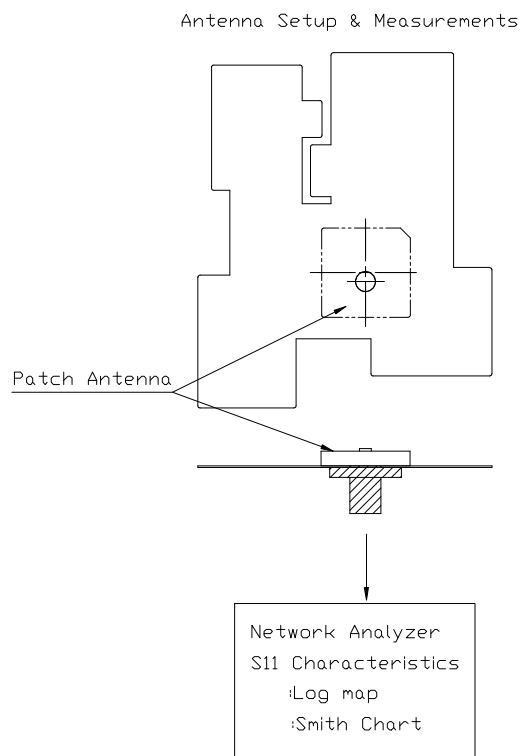
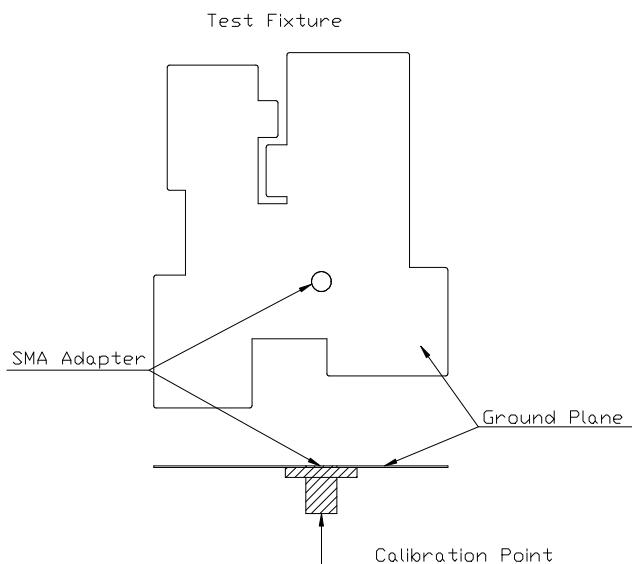
Bottom side



Top side

△ ** 註：未標示導角處尺寸為R0.5 **

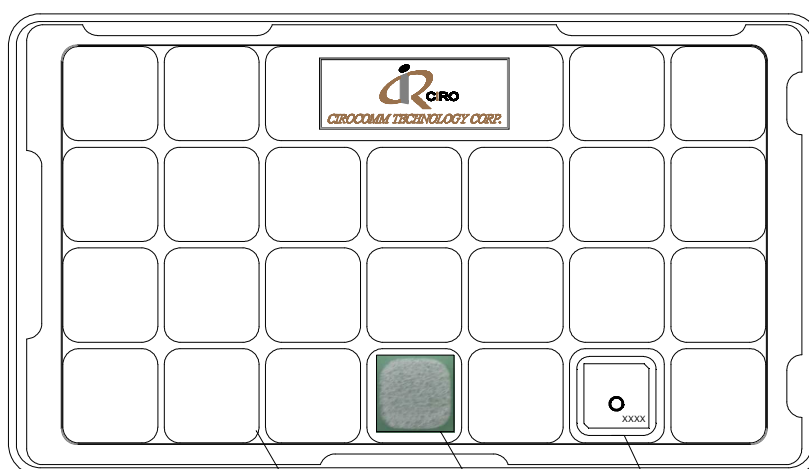
18. Test Fixture Antenna Setup & Measurements





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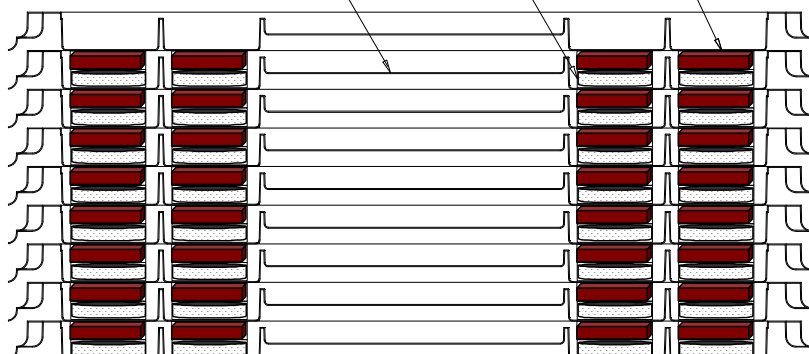
19.DA package disassembly



VACCUM

泡綿

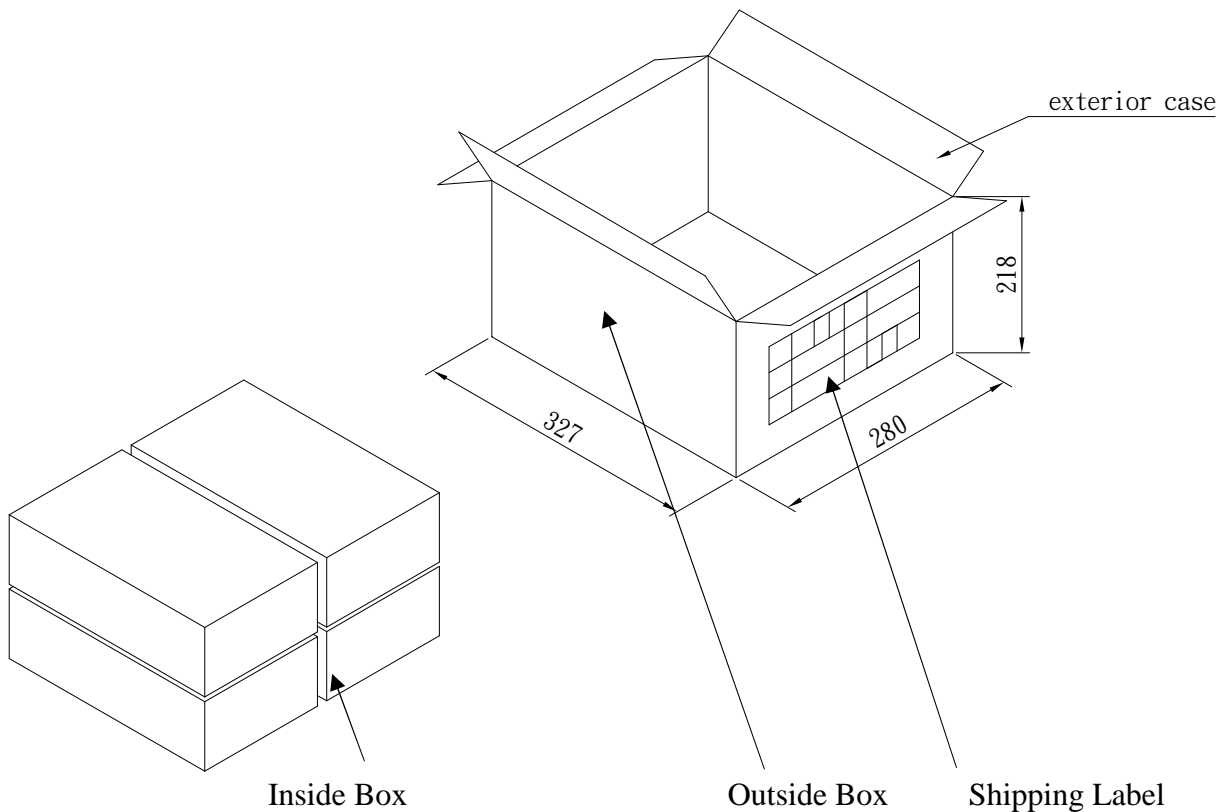
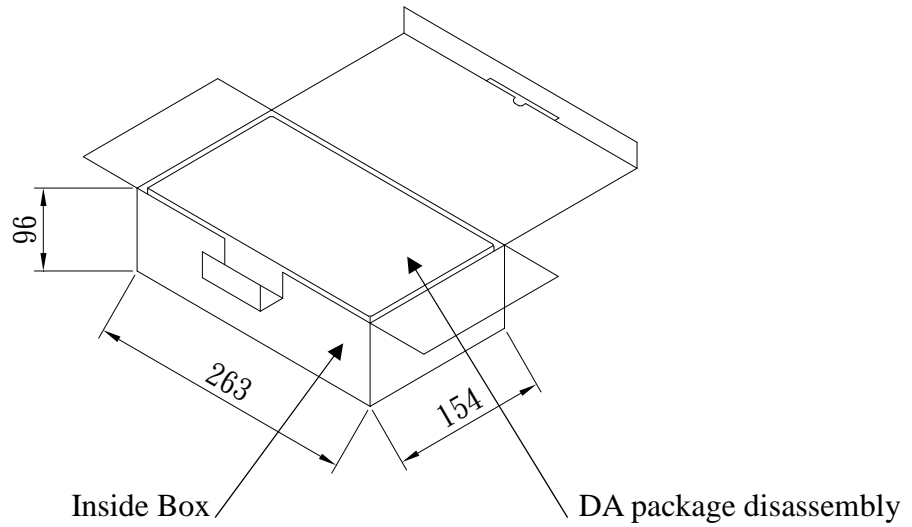
Antenna





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20.Packing



客戶訂單 Cust P/O#		客戶 Cust		太盟料號 CIROCOMM P/N#		批號 LOT#	
客戶料號 Cust Item#				品名規格 Item SPEC			
廠商名稱 MANUFACTURER	太盟光電科技股份有限公司 CIROCOMM TECH. CORP.			出貨日期 DELIVERY DATE		數量 QTY.	

