

SPEC NO.	SP03AB24504-0180	ISSUED DATE	2018.09.27	PUBLISHED BY
PRODUCT NAME	PA025FDPI02	VERSION	01	
		PAGE	1/9	

SPECIFICATION

SPEC NO.	:	SP03AB24504-0180
PART NO.	:	03A15B620E70320
PRODUCT NAME	:	PA025FDPI02
DESCRIPTION	:	Ceramic Patch Antenna(25×25×4.5mm) On 24.8×24.8×0.8mm PCB With 150mm I-PEX(MHF) Cable ROHS Compliant Product

REVISION STATUS

VERSION	DATE	PAGE	REVISION DESCRIPTION	PREPARED	CHECKED	APPROVED
01	2018.09.27	Whole	New Issued.	徐嫚君	江哲宏	吴佳宗

Prepared By	Checked By	Approved By
徐嫚君	江哲宏	吴佳宗

SPEC NO.	SP03AB24504-0180	ISSUED DATE	2018.09.27	PUBLISHED BY
PRODUCT NAME	PA025FDPI02	VERSION	01	
		PAGE	2/9	

CIROCOMM TECHNOLOGY.

PART NUMBER: 03A15B620E70320

1 SCOPE

This specification covers the dielectric Patch antenna for **WIFI**.

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.

Table 1

No	Parameter	Specification
1	Work Frequency	2450 ± 50 MHz
2	Center Frequency (With PCB)	2451±5MHz
3	Dimension	Patch Antenna: 25×25×4.5mm PCB: 24.8×24.8×0.8mm
4	VSWR	2450MHz : <2.5
5	Peak Gain	>0.5 dBi
6	Polarization	RHCP
7	Impedance	50 Ohm
8	Operating Temperature	-40~105℃
9	Termination	Ag (Environmentally-Friendly Pb Free)
10	Connector	Ø1.37 150mm I-PEX(MHF) Cable

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

4 Environmental conditions

4-1 Operating conditions

The antenna has the electrical characteristics given in Tables 1 in the temperature range of -40℃ to +105℃ and under the environmental conditions of +40℃ and 0-95% r.h..

4-2 Storage temperature range

The storage temperature range of product is -40℃ to +105℃.



SPEC NO.	SP03AB24504-0180	ISSUED DATE	2018.09.27	PUBLISHED BY
PRODUCT NAME	PA025FDPI02	VERSION	01	
		PAGE	3/9	

4-3 Feed pin temperature range

Maximum temperature for soldering of feed pin is +290°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°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°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 \rightleftharpoons +85°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.

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.

5-7 Soldering heat resistance test

The lead pins of the unit are soaked in solder bath at $260 \pm 5^\circ\text{C}$ for 10 seconds. After this test, examine its appearance and functions.

SPEC NO.	SP03AB24504-0180	ISSUED DATE	2018.09.27	PUBLISHED BY
PRODUCT NAME	PA025FDPI02	VERSION	01	
		PAGE	4/9	

5-8 Adhesion test

The device is subjected to be soldered on test PCB. Then apply 0.5Kg (5N) of force for 5 ± 1 seconds in the direction parallel to the substrate. (The soldering should be done by reflow and be conducted with care so that the soldering is uniform and free of defect by stress such as heat shock).

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 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.

8 Others

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

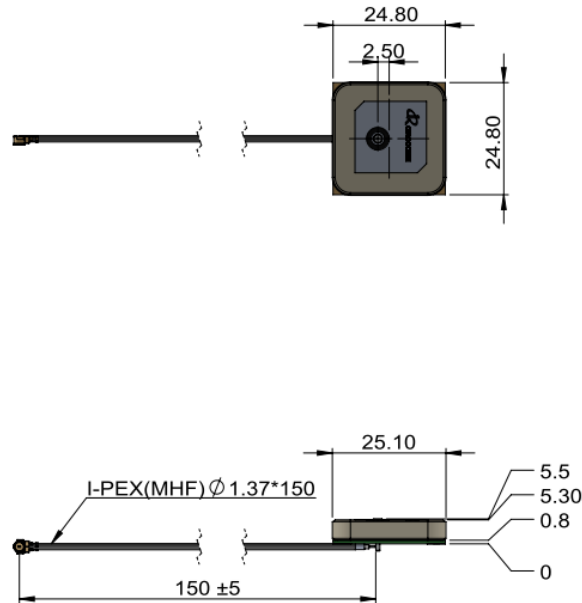
9 Precautions for Use

- 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.

SPEC NO.	SP03AB24504-0180	ISSUED DATE	2018.09.27	PUBLISHED BY
PRODUCT NAME	PA025FDPI02	VERSION	01	
		PAGE	5/9	

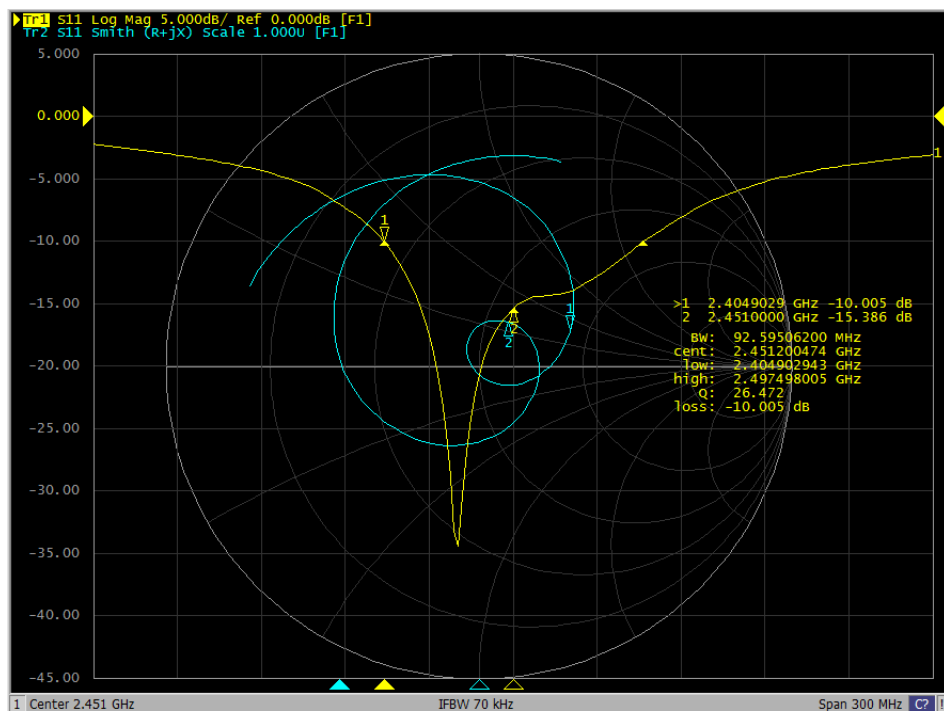
10 Drawings

Shape and Dimension



11 Typical Electrical Characteristics (T=25°C)

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

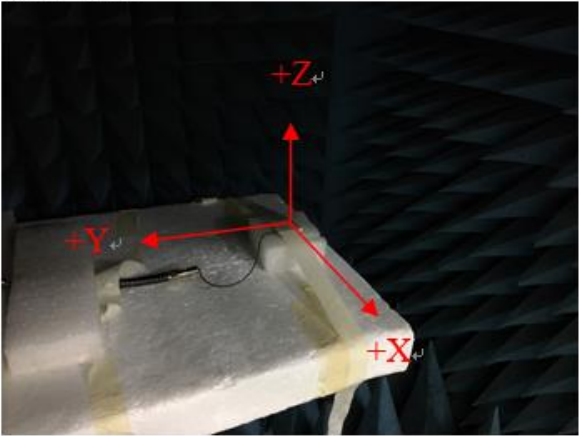


(With PCB)

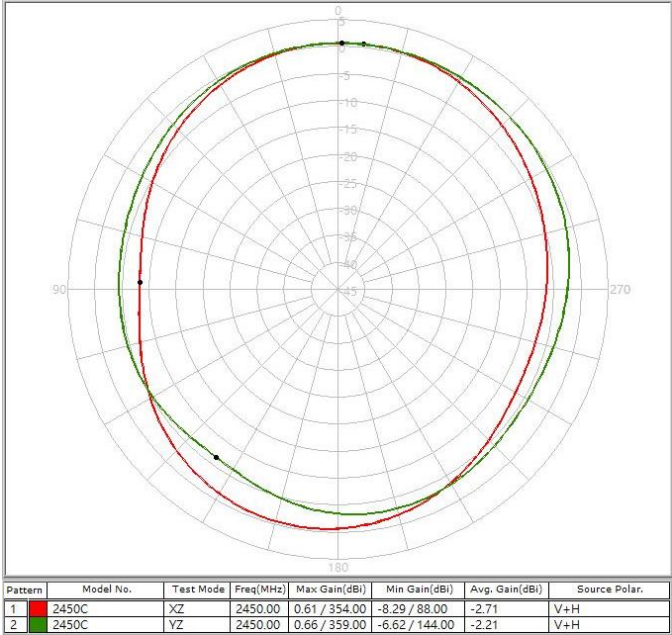
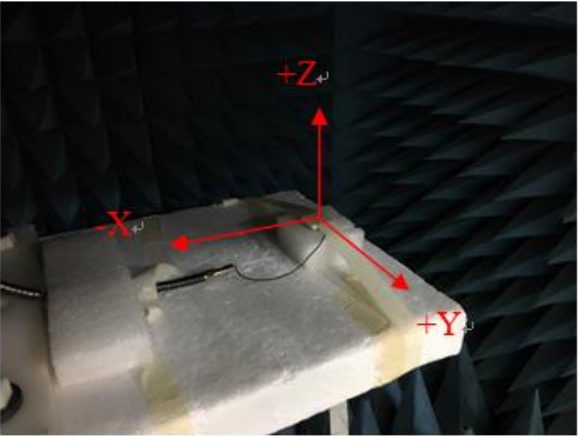
SPEC NO.	SP03AB24504-0180	ISSUED DATE	2018.09.27	PUBLISHED BY
PRODUCT NAME	PA025FDPI02	VERSION	01	
		PAGE	6/9	

12 2D Radiation Pattern

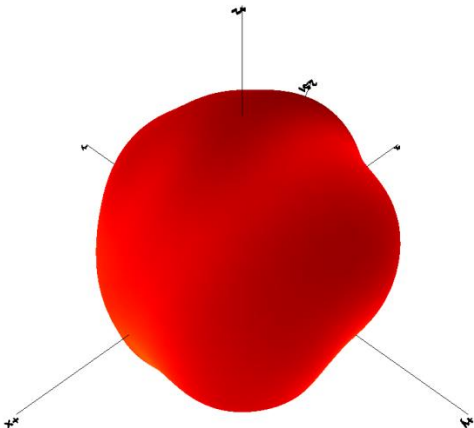
XZ-Plane



YZ-Plane

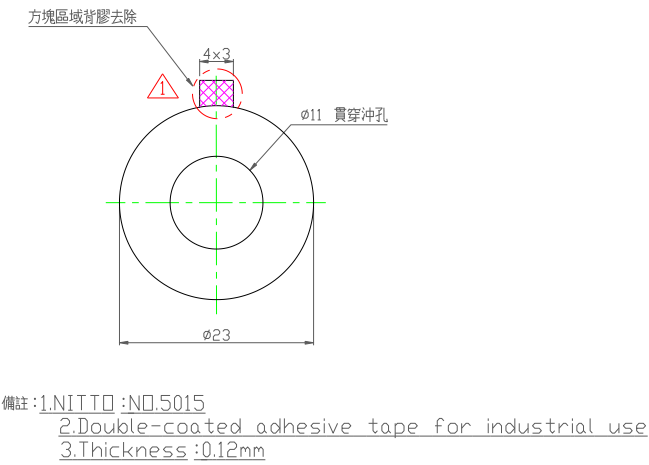


13 3D Radiation Pattern

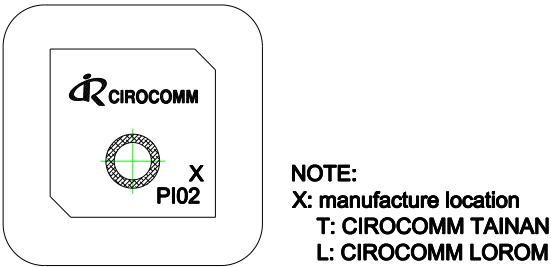


SPEC NO.	SP03AB24504-0180	ISSUED DATE	2018.09.27	PUBLISHED BY
PRODUCT NAME	PA025FDPI02	VERSION	01	
		PAGE	7/9	

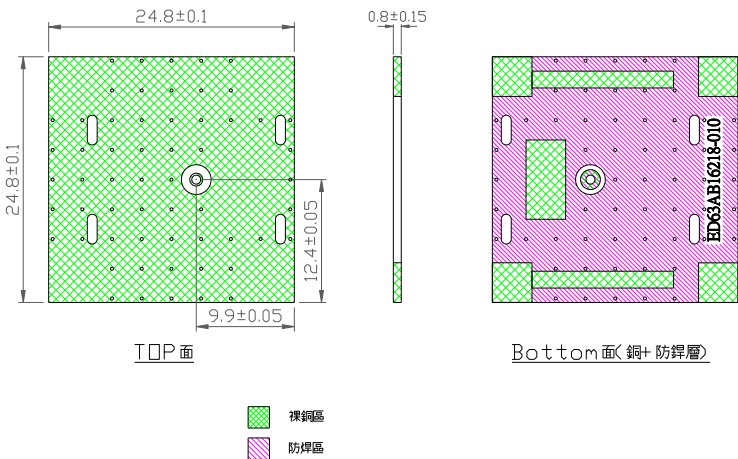
14 Tape Dimension



15 Mark

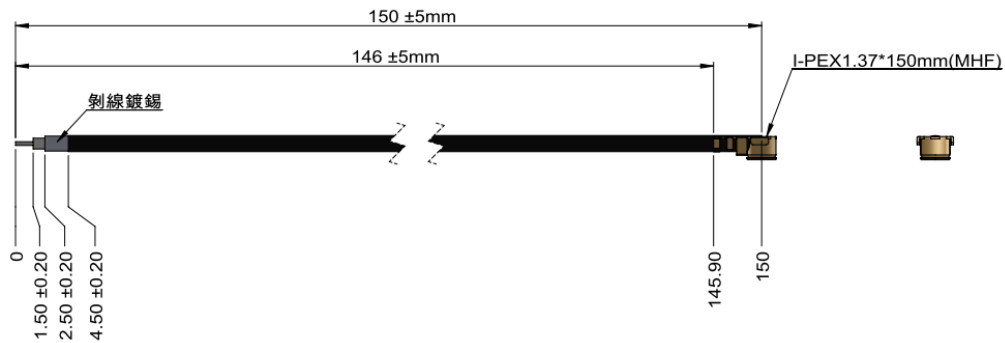


16 PCB



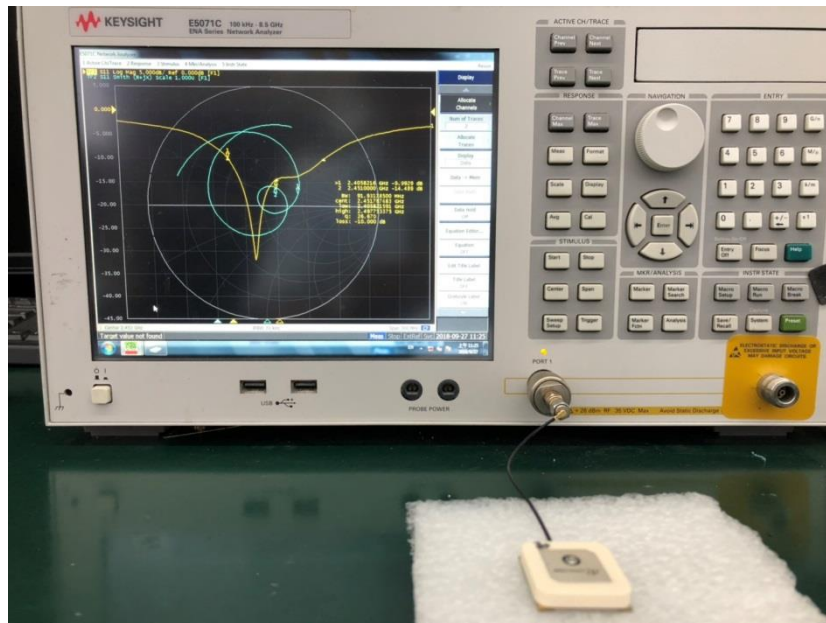
SPEC NO.	SP03AB24504-0180	ISSUED DATE	2018.09.27	PUBLISHED BY
PRODUCT NAME	PA025FDPI02	VERSION	01	
		PAGE	8/9	

17 Coaxial cable Dimension



Note:
1. 接頭型式I-PEX(MHF)
2. 線材: $\phi 1.37\text{mm} \pm 0.05\text{mm}$
3. 缸吸現象MAX:2mm
4. 單位:mm
5. 沾錫面需為亮面
6. 線材顏色:黑色
7. 符合RoHS,無PVC及溴化物
8. 未標示公差皆為0.2mm

18 Test Jig and Dimension (With PCB)



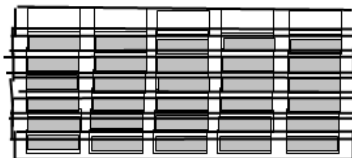
With 2 cm high EVA

SPEC NO.	SP03AB24504-0180	ISSUED DATE	2018.09.27	PUBLISHED BY
PRODUCT NAME	PA025FDPI02	VERSION	01	
		PAGE	9/9	

19 Patch Antenna Package Disassembly & Packing

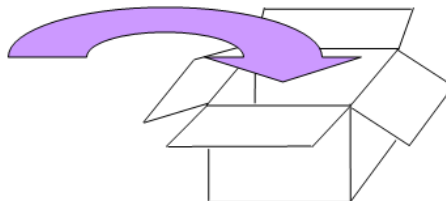
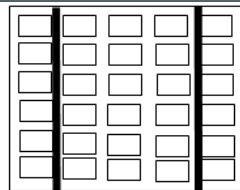


產品相對方式放置

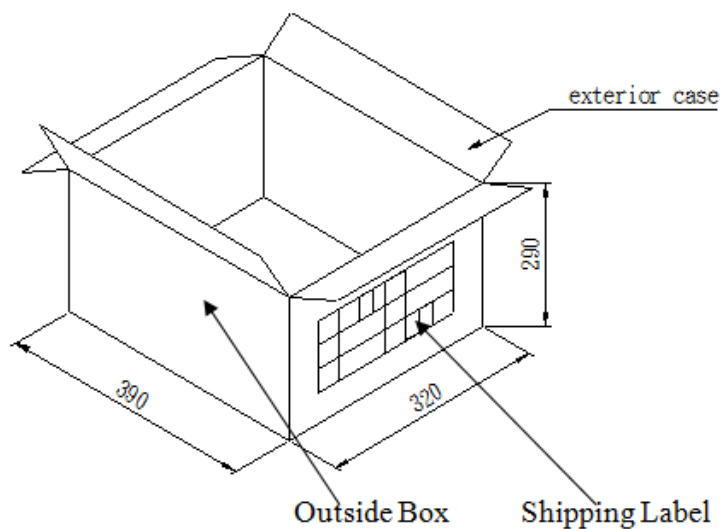


空盤
第6層
第5層
第4層
第3層
第2層
第1層

30pcs/盤 * 6層 = 180pcs/批量



180pcs/批量 * 3批 = 540pcs/箱



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.