TAOGLAS.

INCX

睿生光電股份有限公司

Document No.: APS-22-8-055

Approval Sheet Rev.: A

Spec. Rev. : A

APPROVAL SHEET

Product Model No. /產品品名：**PC143.54.0470A**

Customer No. /客戶料號：

Issue Date / 發行日期： 2022 / 02 / 11

Approved Date / 承認日期：

Approved by customer: (signing or stamping here)

TAOGLAS®

Datasheet

[InnoCare™ PCB Dual-band 2.4/5.8 GHz Antenna]

Part No:
[PC143.54.0470A]

Description

[2.4/5.8GHz PCB Antenna 470mm 1.13 black cable IPEX MHF4L]

Features:

Customized antenna
2.4/ 5.8GHz Dual Bands for WiFi Antenna.
IP65 Waterproof Enclosure
Dims: 70.0mm * 9.6mm * 1.0mm
470mm O.D 1.13mm coaxial cable with I-PEX MHF4L(M) connectors
Custom Cables and Connectors Available
RoHS & Reach Compliant

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Ireland ISO 9001: 2015 Certified
Taiwan ISO 9001: 2015 Certified

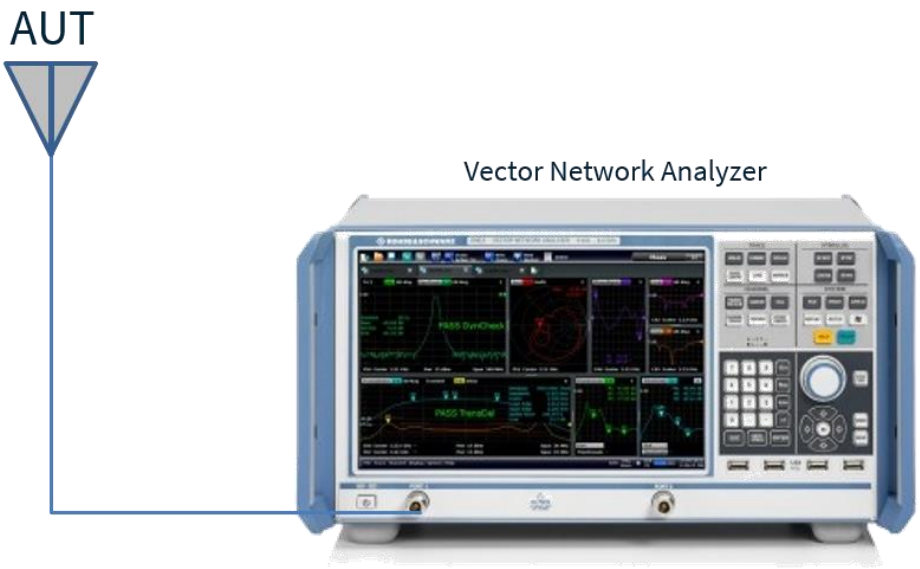
Specification

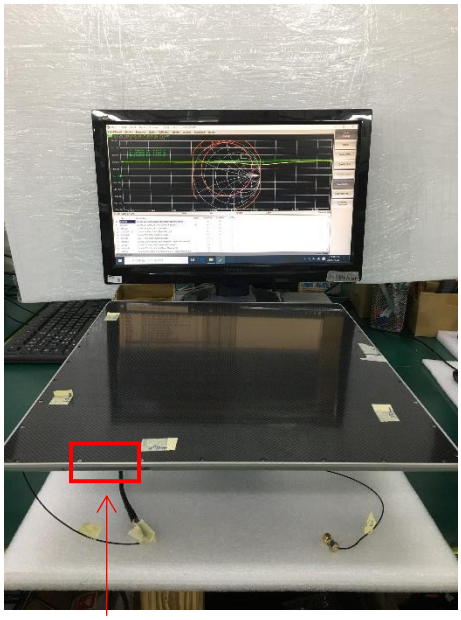
WIFI		
Frequency (MHz)	2.4GHz	5.8GHz
	2400-2500	5150-5825
Efficiency (%)		
PC143.54.0470A	19.8	6.5
Average Gain (dB)		
PC143.54.0470A	-7.04	-11.85
Peak Gain (dBi)		
PC143.54.0470A	-0.68	-0.89
Impedance	50 Ω	
Polarization	Linear	
Radiation Pattern	Omni	
Input power	5 W	

Mechanical	
Dimensions (mm)	70.0 x 9.6 x 1.0
Weight (g)	2.8
Material	FR-4
Connector	IPEX MHF4L(M)
Cable	Black_470mm_ ϕ 1.13 (mm) coaxial cable
Environmental	
Temperature Range	-40°C to 85°C
Humidity	Non-condensing 65°C 95% RH

Test Setup

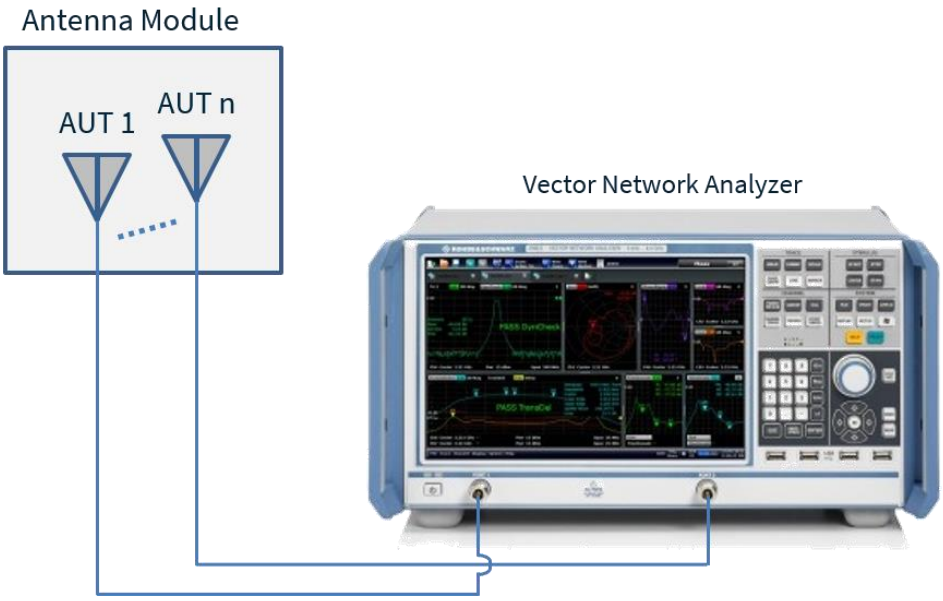
S11 / VSWR / Return Loss

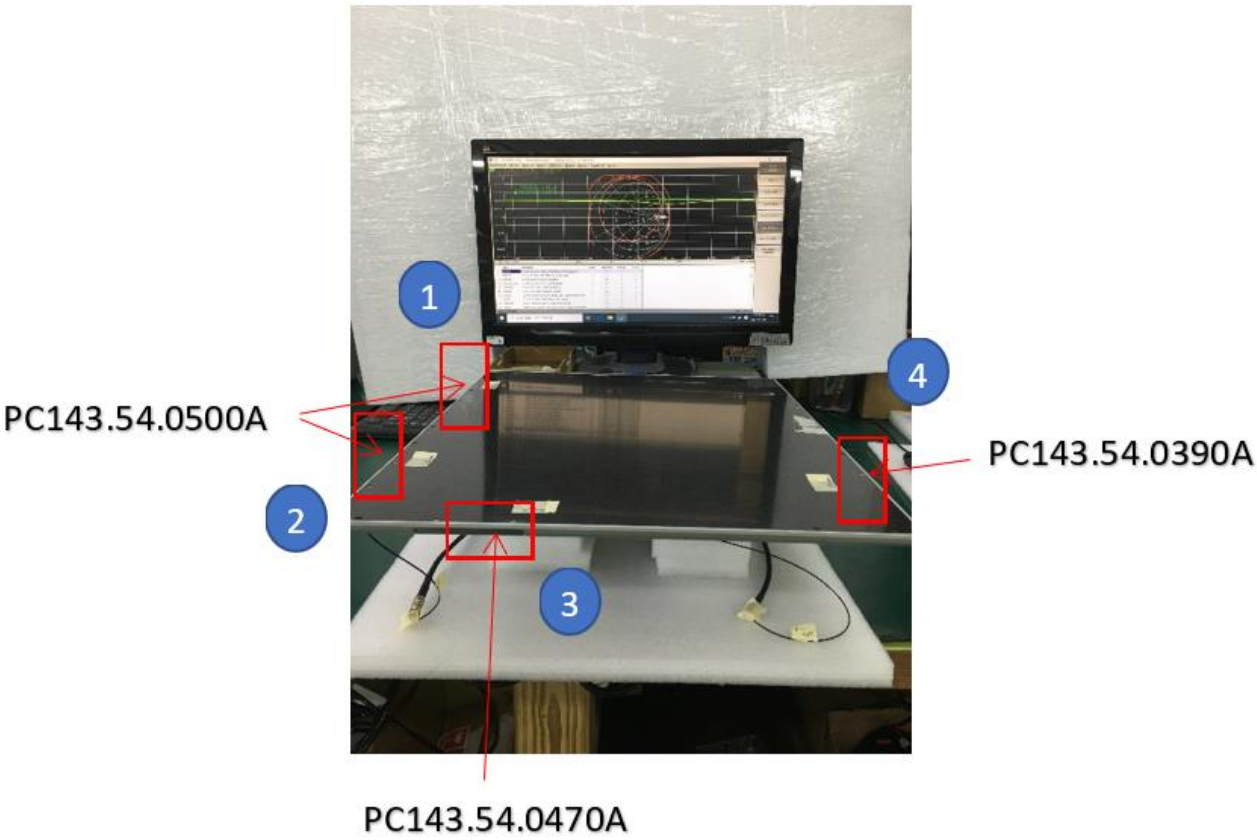




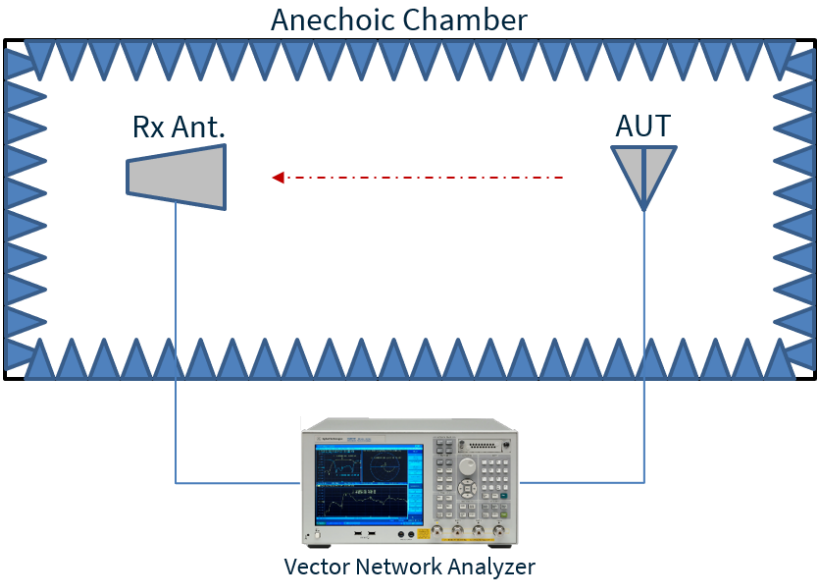
PC143.54.0470A

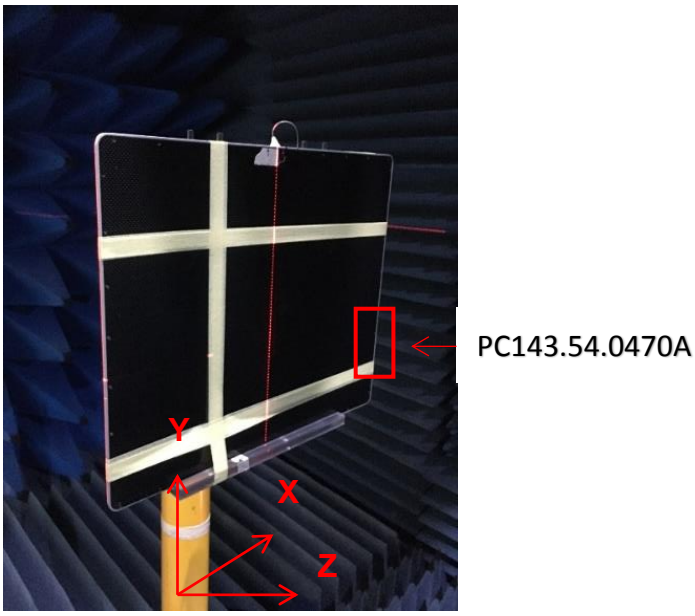
S12 / Isolation





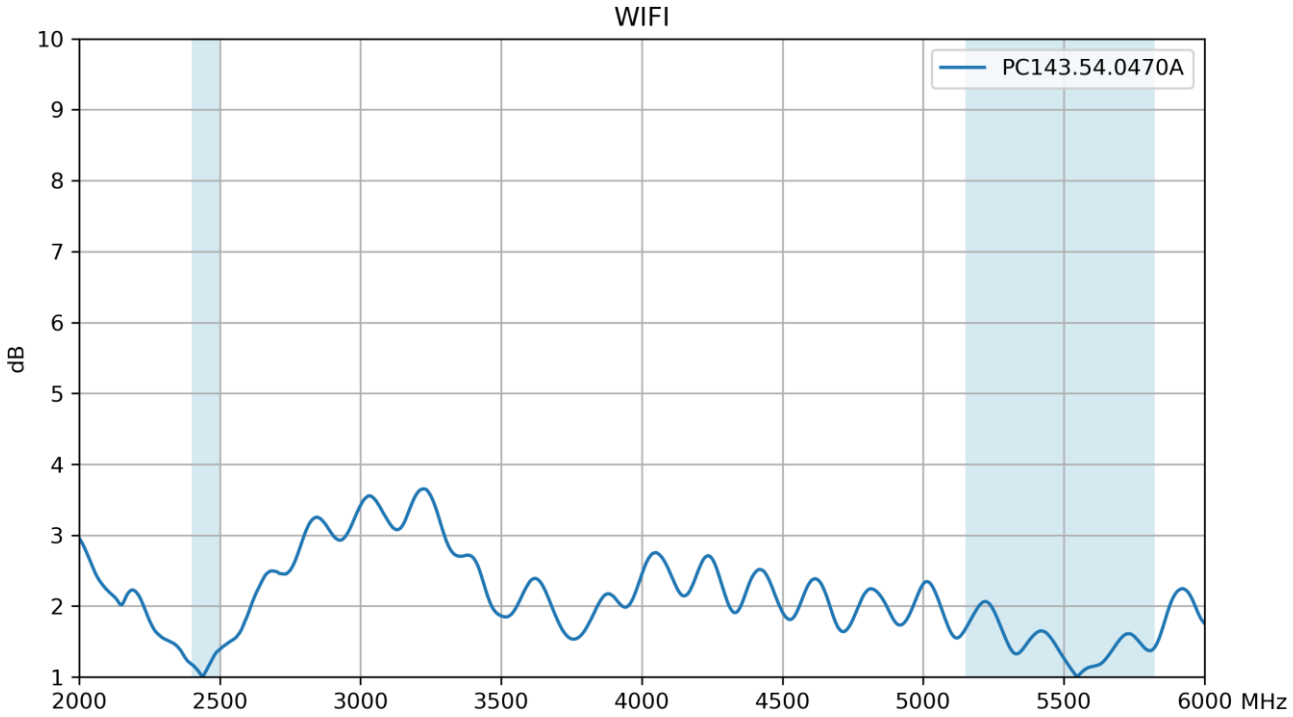
Radiation Performance



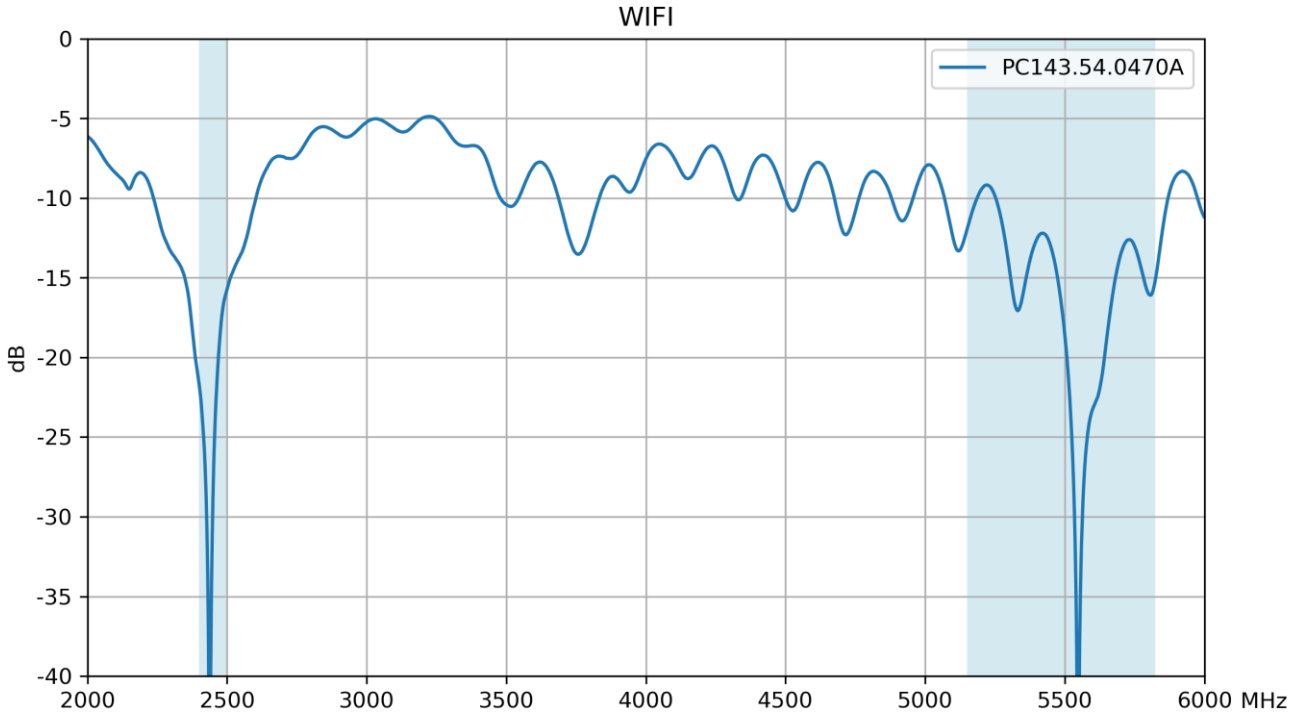


Antenna Characteristics

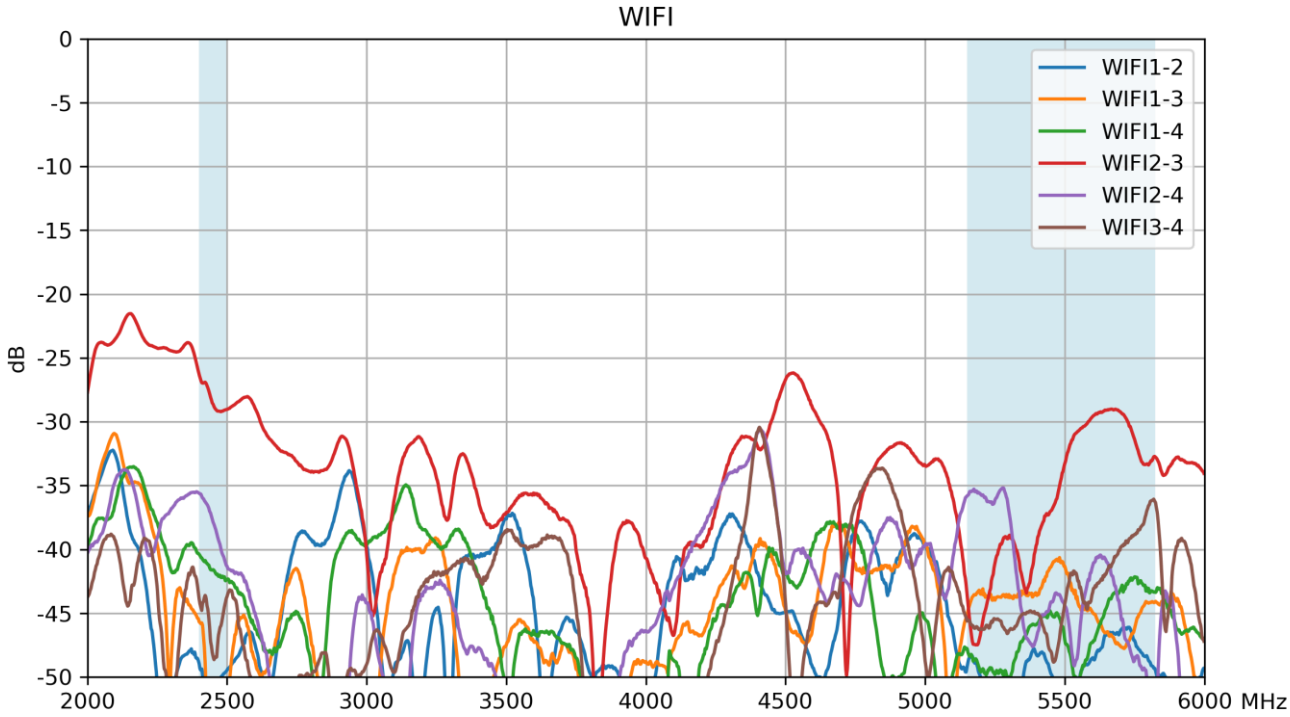
VSWR



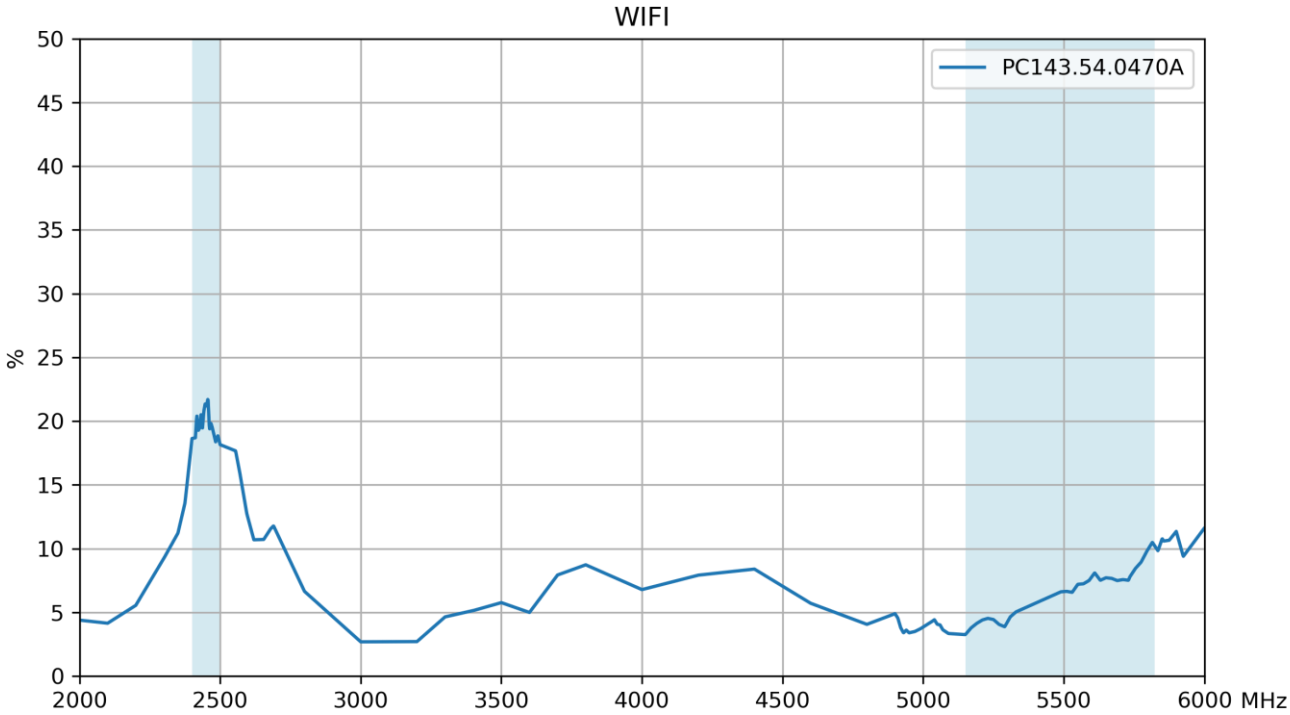
Return Loss



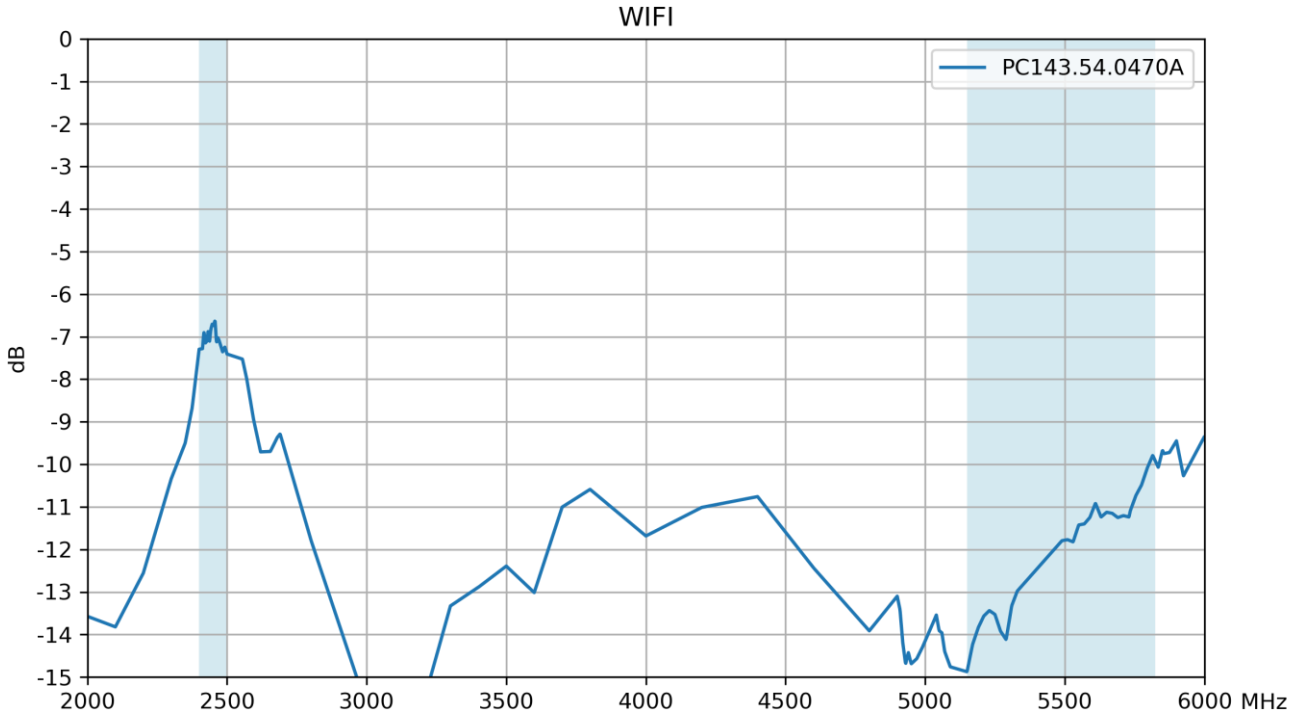
Isolation



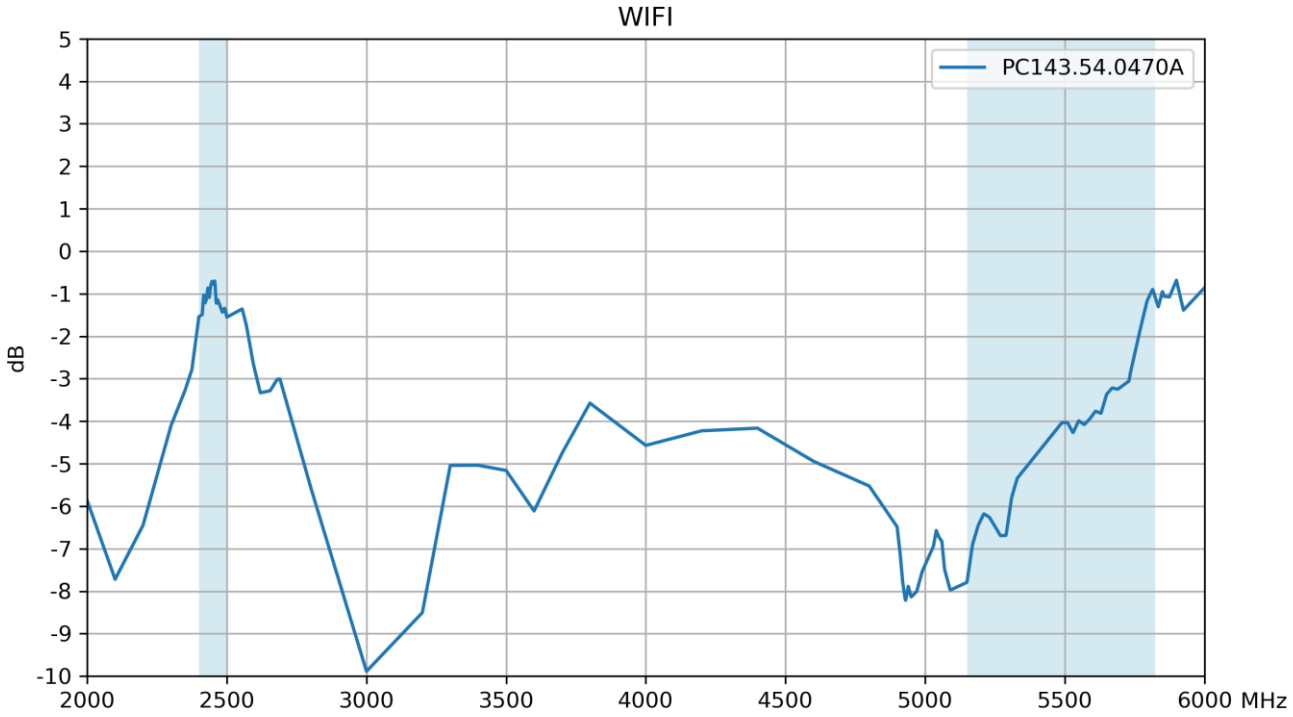
Efficiency



Average Gain



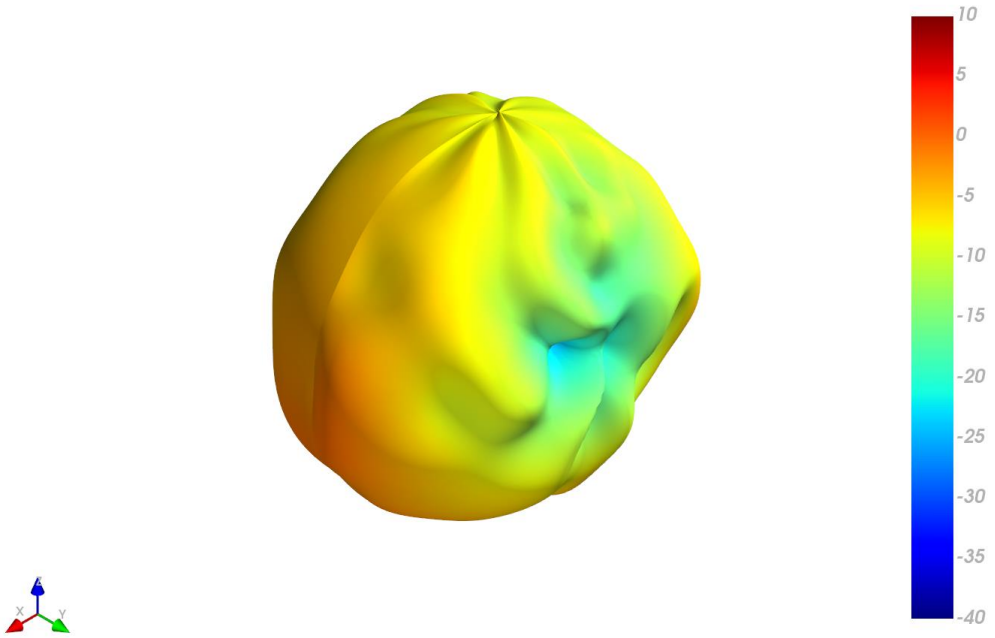
Peak Gain



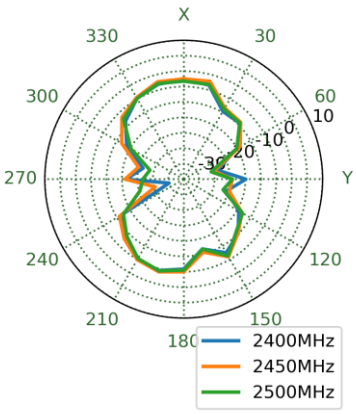
Radiation Patterns

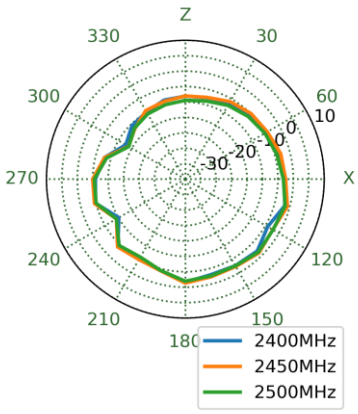
WIFI PC143.54.0470A 3D and 2D Radiation Patterns

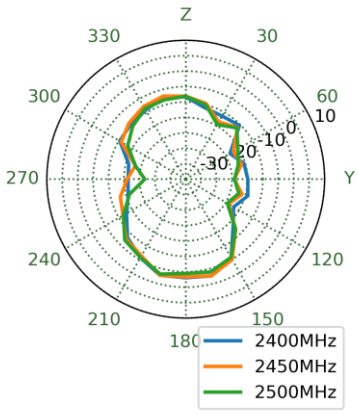
Gain total, 2450MHz



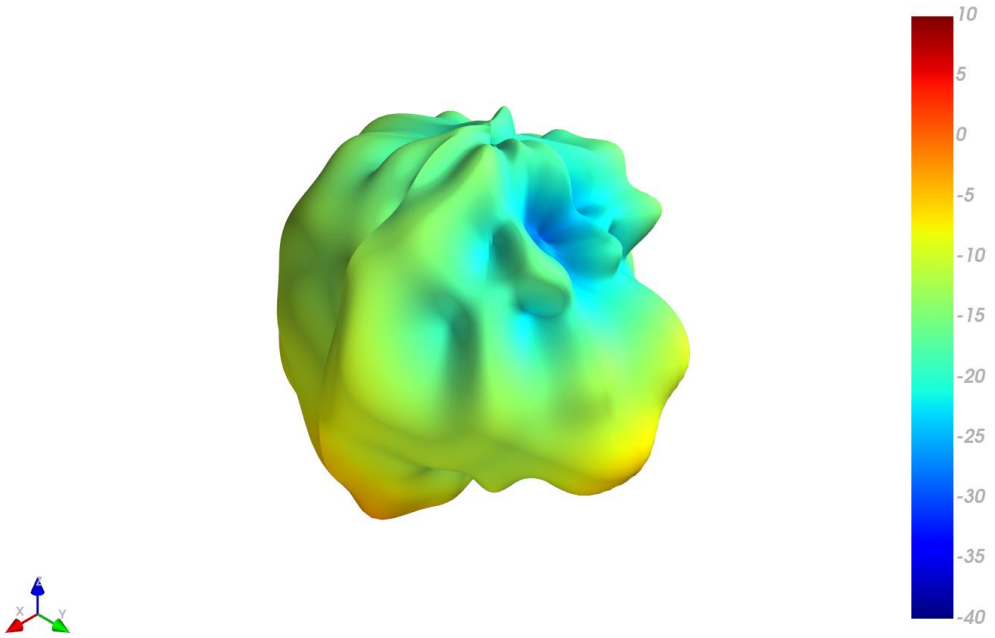
XY Plane	XZ Plane	YZ Plane



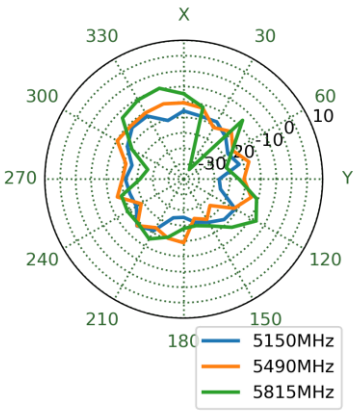


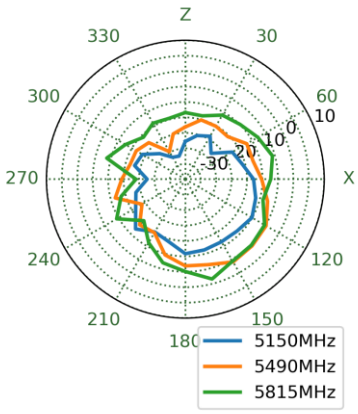


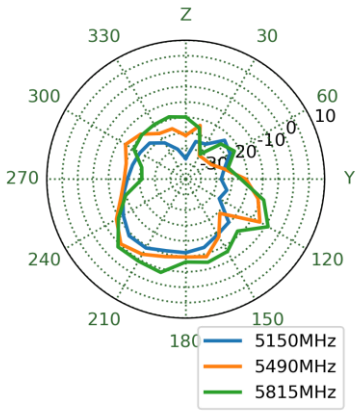
Gain total, 5490MHz



XY Plane	XZ Plane	YZ Plane



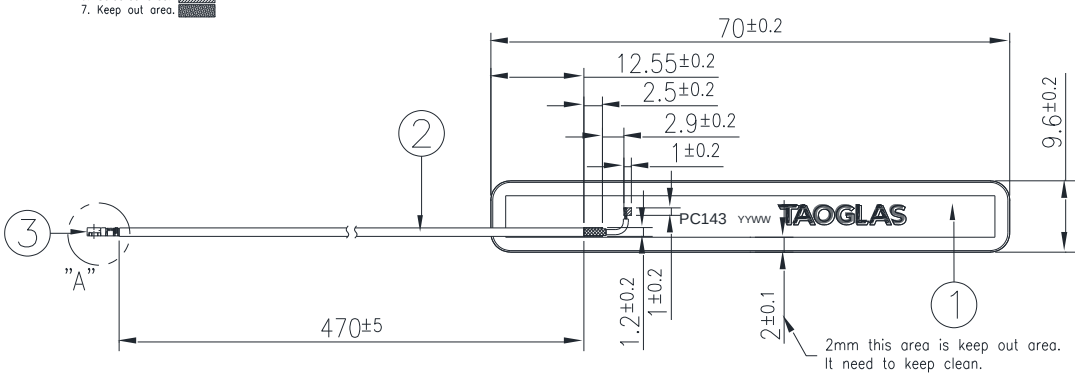


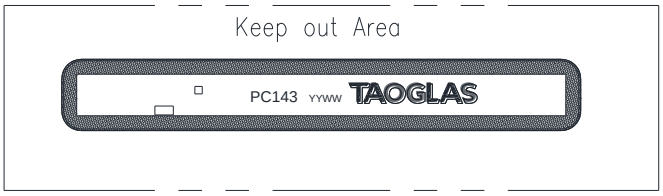


Mechanical Drawing

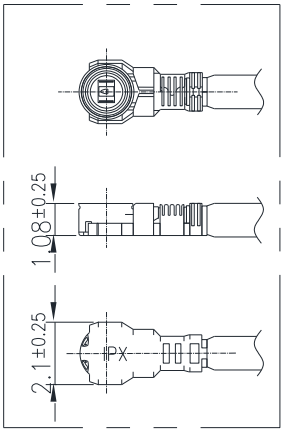
ISO NO.: EDW-21-8-1325
STATE: Release
NOTES:
1. No dregs or insufficient soldering. Solder thickness 0.3 ~1.7mm.
2. The solder must be smooth and full to the edges of the pad. The solder must not extend outside of the pad area.
3. The connector position has special orientation to the PCB as per drawing.
4. All material must be RoHS compliant.
5. Open/short QC, VSWR required.
6. Soldered area.
7. Keep out area.

REV.	DESCRIPTION	ENG.	APPROVED	DATE
D01	Initial Design	Ruby	Aaron	2021/11/03





IPEX MHF4L



Detail A
Scale:4:1

	Name	Material	Finish	QTY
1	PC143 PCB	Composite 1.0t	Black	1
2	1.13 Coaxial Cable	FEP	Black	1
3	IPEX MHF4L	Copper Alloy	Au/Ni Plated	1

APPROVED BY:	Aaron
CHECK BY:	Aaron
DRAWN BY:	Ruby
DATE:	2021/11/03
UNLESS OTHERWISE SPECFIED TOLERANCES ON:	XX.±0.5 X.±0.3 .X±0.2 .XX±0.1 .XXX±0.05
THIRD ANGLE PROJECTION	

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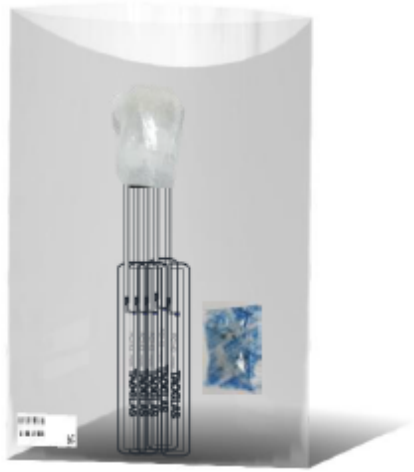
TITLE : 2.4/5GHz PCB Antenna 470mm 1.13 black cable IPEX MHF4L

PART NO. : PC143.54.0470A

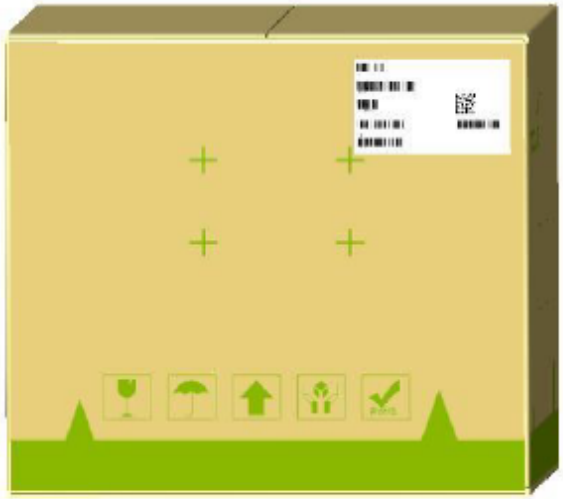
UNIT:	SCALE:	PAGES:	REV.
mm	1.25:1	1/1	D01

Packaging



- ☑ 100 PCS/ Vacuum PE bag
- ☑ 100 PCS / Bubble cloth
- ☑ tape
- ☑ 1 PCS / 3g Desiccant
- ☑ SPQ Label

(Based on the number of finished products)



- ☑ 2000 PCS / Carton
- ☑ Carton(mm): 320x250x230
- ☑ Carton Label

電性規範辦法

Electrical Specification Standard

PC143.54.0470A

Patch Antenna

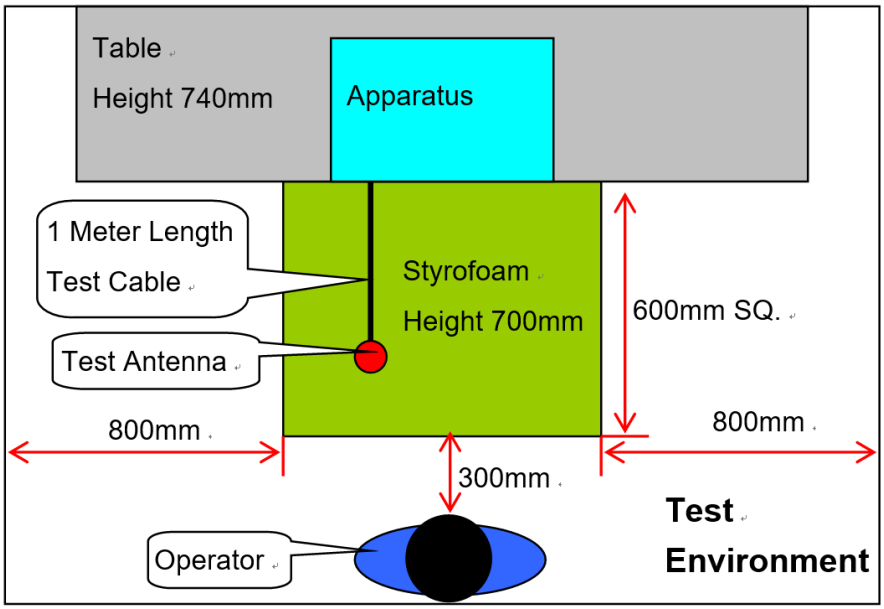
Revised History

Date	Version	Author	Revised Record
2021/11/30	D01	Amos	**Released<Reference>**

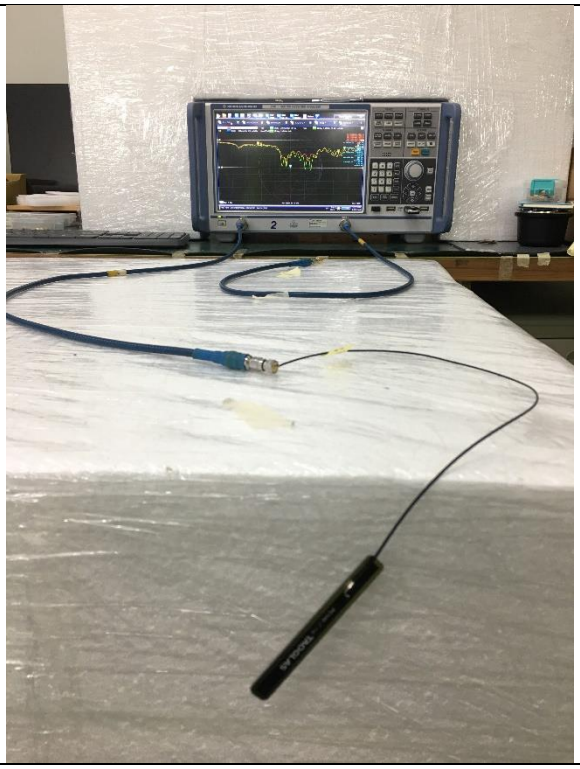
1 電器規格【Electrical Characteristics Limited】

1.1 生產時依照量產治具作為測試依據，請依下列電性作為測試標準

【Measure the electrical characteristics with calibrated network analyzer. The electrical properties listed below should be followed.】

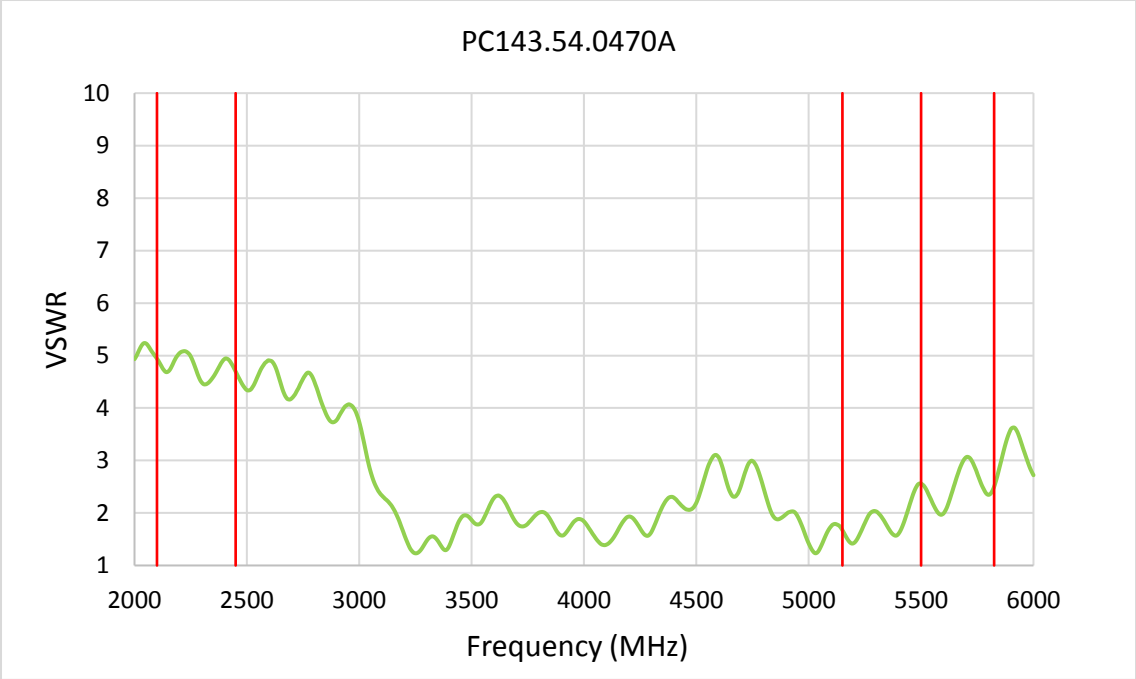


1.2 Measure Environment

Function-1


1.3 Limit Values - Test setup:

- Free Space
- Sweep Points: 801 points
- Start Frequency: 2,000 MHz
- Stop Frequency: 6,000 MHz
- Antenna Parameter (VSWR)



- PC143.54.0470A (2400-2500MHz/ 5150-5825MHz)

Test Freq.(MHz)	2,100	2,450	5,150	5,500	5,825
VSWR(USL)	6.0	5.3	2.2	3.1	3.1
VSWR(LSL)	4.0	1	1	1	1

- Golden Sample Data

Test Freq.(MHz)	2,100	2,450	5,150	5,500	5,825
Sample 1	5.05	4.80	1.66	2.54	2.49
Sample 2	4.94	4.65	1.67	2.45	2.52
Sample 3	5.00	4.72	1.69	2.47	2.53
Sample 4	4.97	4.69	1.68	2.47	2.52
Sample 5	4.94	4.70	1.67	2.56	2.50

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