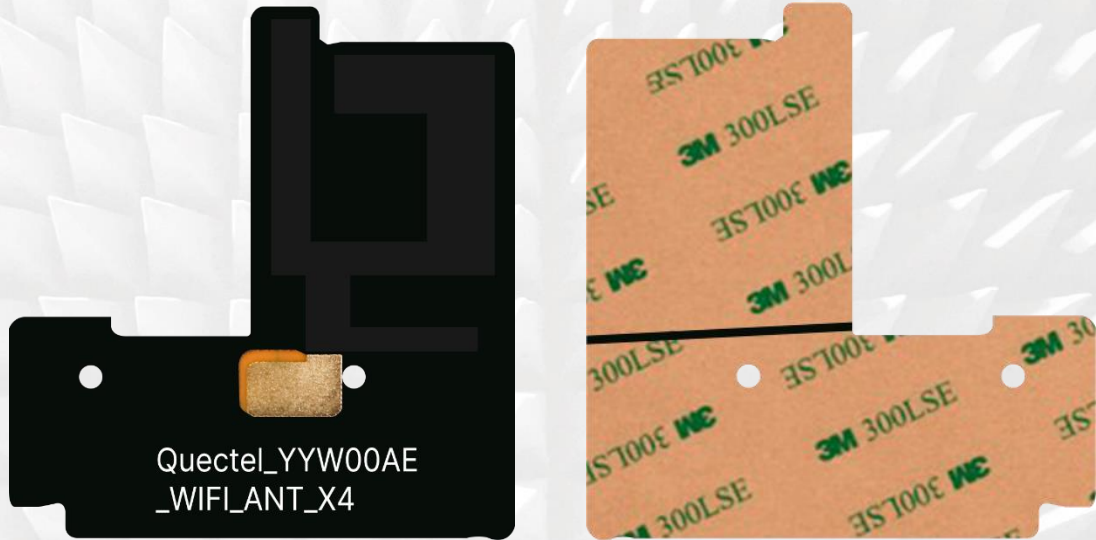




物料承认书

APPROVAL SHEET

项目	CV200				
料号	QK1027200299				
供应商名称	上海移远通信技术股份有限公司				
物料规格	YYW00AECA				
物料描述	WIFI 2.4/5.8G				
送样日期	2023.07.26				
主要性能 <input type="checkbox"/>	图纸 <input checked="" type="checkbox"/>	测量报告 <input type="checkbox"/>	关键材质 <input type="checkbox"/>	可靠性报告 <input type="checkbox"/>	包装信息 <input type="checkbox"/>
审核	研发部	项目部	采购部	质量部	
	上海移远通信技术股份有限公司 天线产品发行章				



Antenna Datasheet

Product OC: YYW00AECA

Version: 1.0

Date: 2023-07-21

Status: Released

Product Name: WIFI FPC Antenna

Key Features:

Frequency Band: 2400–2500 MHz, 5150–5850 MHz

Dimensions: 26.28 × 24.98 × 0.11 mm

Efficiency: Up to 55.7%

RoHS Compliant

Overview

Quectel Wi-Fi antenna covers 2.4 GHz and 5 GHz dual-bands, fully satisfying customers' requirements for Wi-Fi 5 and Wi-Fi 6. There are various antenna types, including built-in FPC/PCB antenna, ceramic patch antenna, and other external antennas of different shapes or sizes. The antenna performance meets the customers' demands for efficiency, gain, and radiation and ensures the superior experience of the customers' products in use.

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1 Specification

Test Condition: Assembled in test device

1.1. Electrical

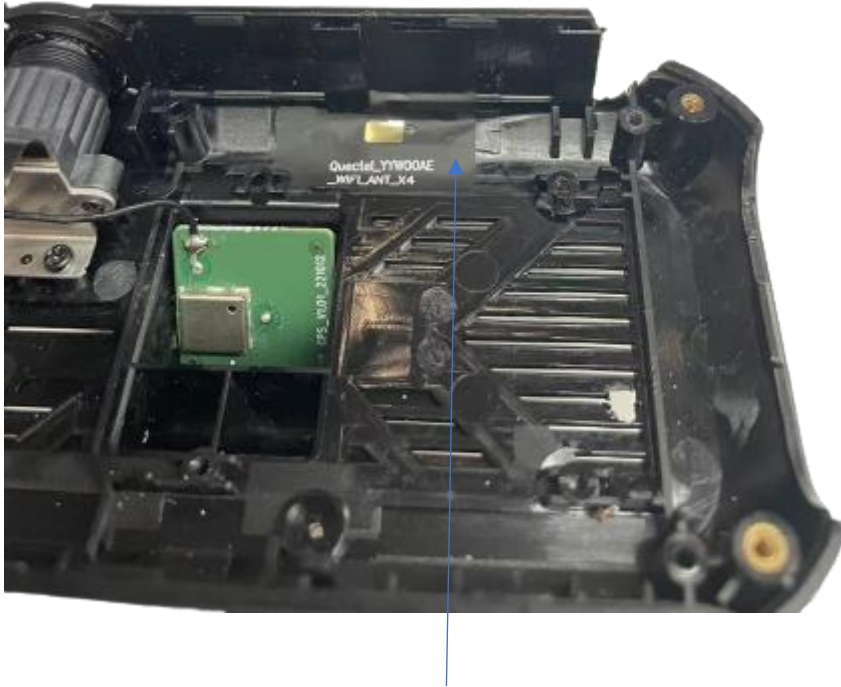
Electrical	
Frequency Range	2400-2500 MHz, 5150-5850 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional

Electrical - Detail												
SPEC	Band	B71	B12 /B13 /B28	B5 /B8 /B26	N74 /N75 /N76	B1 /B2 /B3	B40	Wi-Fi 2G	B38 /B41	B42 /B48 /N77	N79	Wi-Fi 5G
	Freq. (MHz)	600– 700	700– 810	820– 960	1420– 1520	1700– 2170	2300– 2400	2400– 2500	2500– 2690	3300– 4200	4400– 5000	5150– 5850
Max. VSWR	-	-	-	-	-	-	-	2.7	-	-	-	2.7
Max. Return Loss (dB)	-	-	-	-	-	-	-	-6.7	-	-	-	-6.8
AVG Eff. (%)	-	-	-	-	-	-	-	26.6	-	-	-	46.4
AVG Gain (dB)	-	-	-	-	-	-	-	-5.8	-	-	-	-3.4
Max. Peak Gain (dBi)	-	-	-	-	-	-	-	-1.5	-	-	-	2.6
VSWR	≤ 2.7											
Return Loss	≤ -6.7 dB											
Peak Gain	≤ 2.6 dBi											

1.2. Mechanical, Environmental & Storage

Mechanical	
Antenna Dimensions	26.28 × 24.98 × 0.11 mm
Material & Color	FPC & Black
Weight	Typ. 0.29 g
Mounting Type	Adhesive
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
RoHS Compliant	Yes

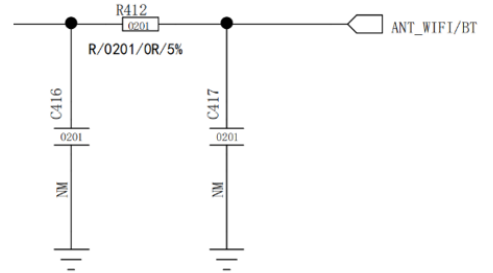
1.3. Antenna Assembly



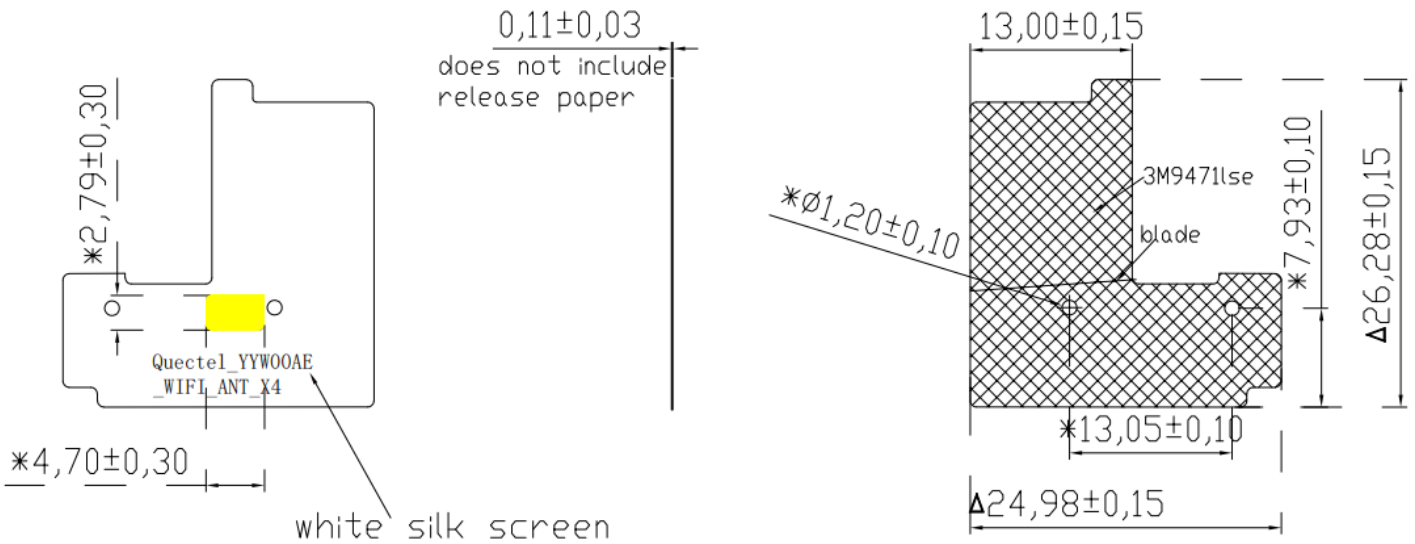
Antenna installation

1.4. Matching Circuit

C416	R412	C417		
NC	1pF	NC		



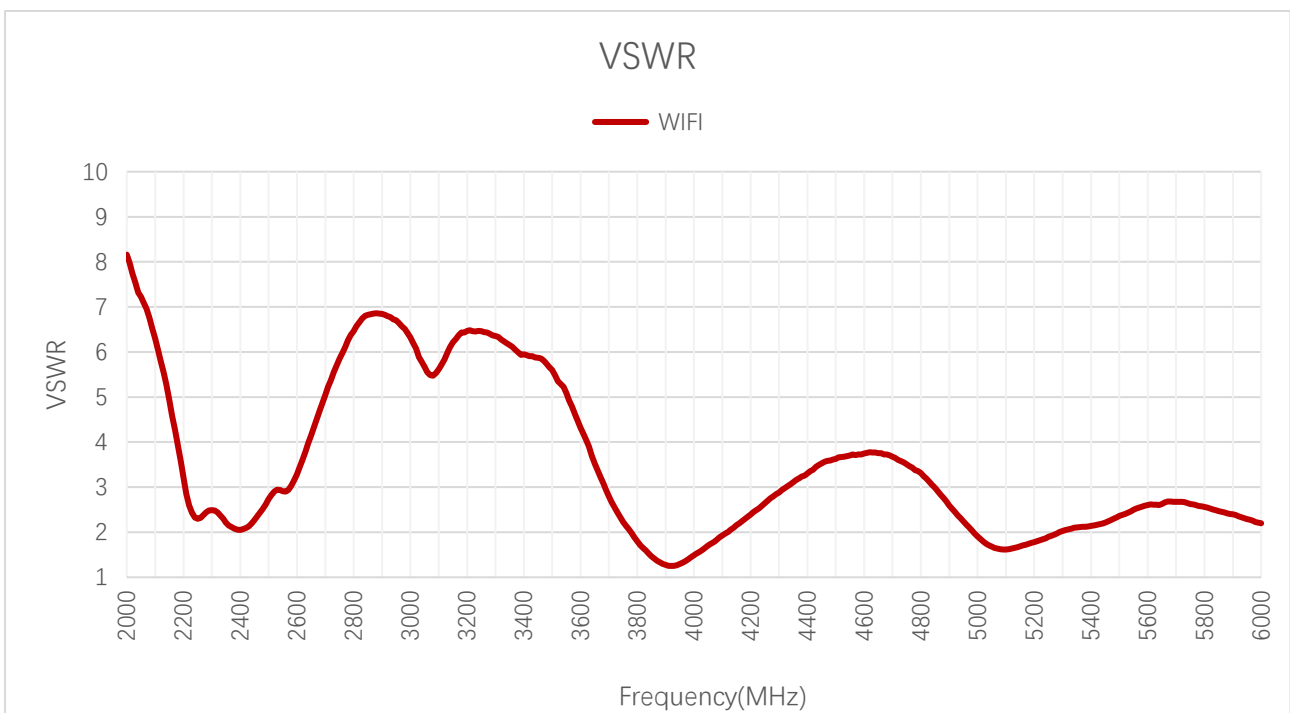
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

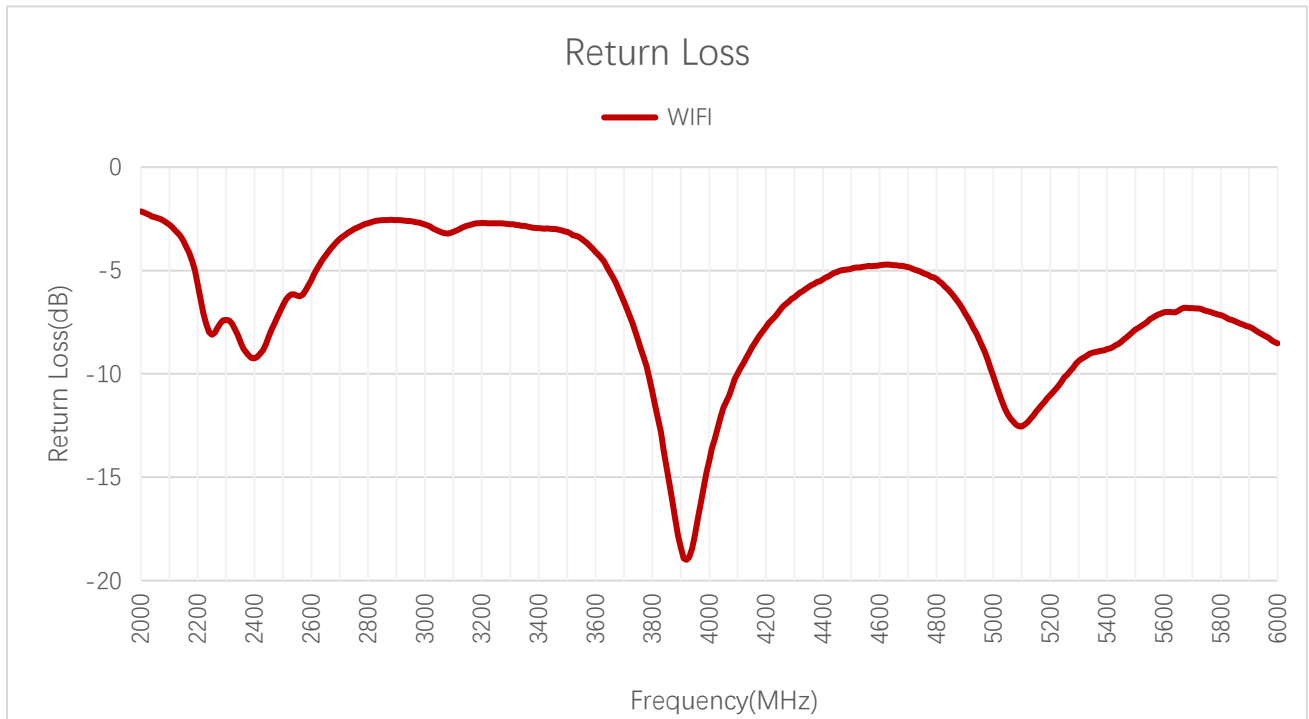
3.1.1. VSWR



VSWR

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
VSWR	2.1	2.3	2.7	1.7	2.4	2.5	-	-	-	-

3.1.2. Return Loss

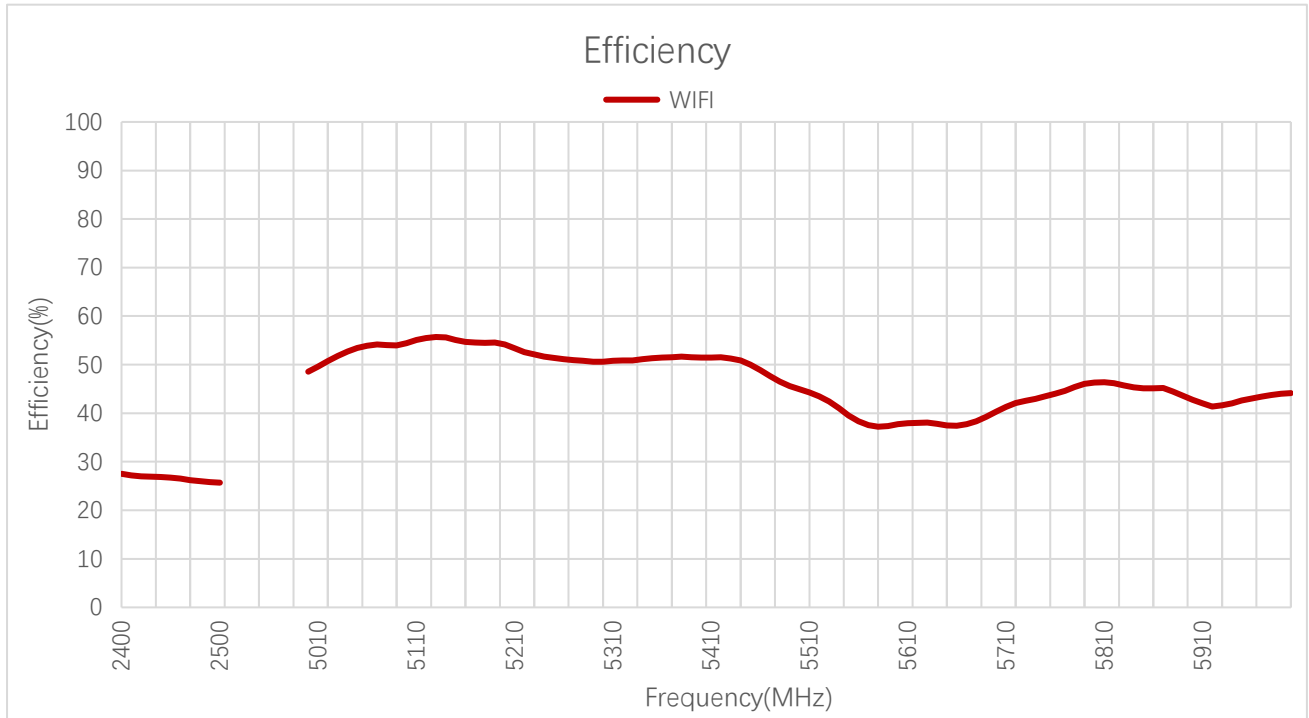


Return Loss (dB)

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Return Loss (dB)	-9.2	-8.2	-6.7	-11.8	-7.9	-7.5	-	-	-	-

3.2. Radiation Performance Test

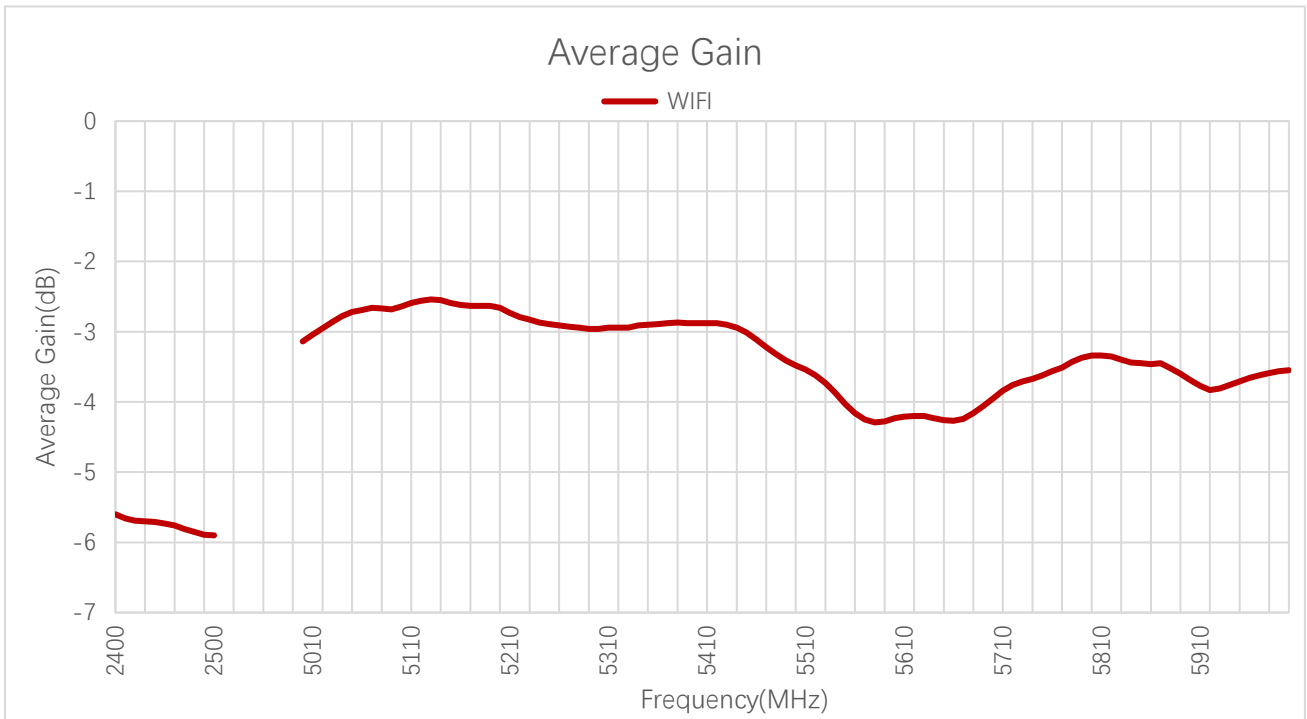
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Efficiency (%)	27.5	26.7	25.7	55.1	44.9	45.1	-	-	-	-

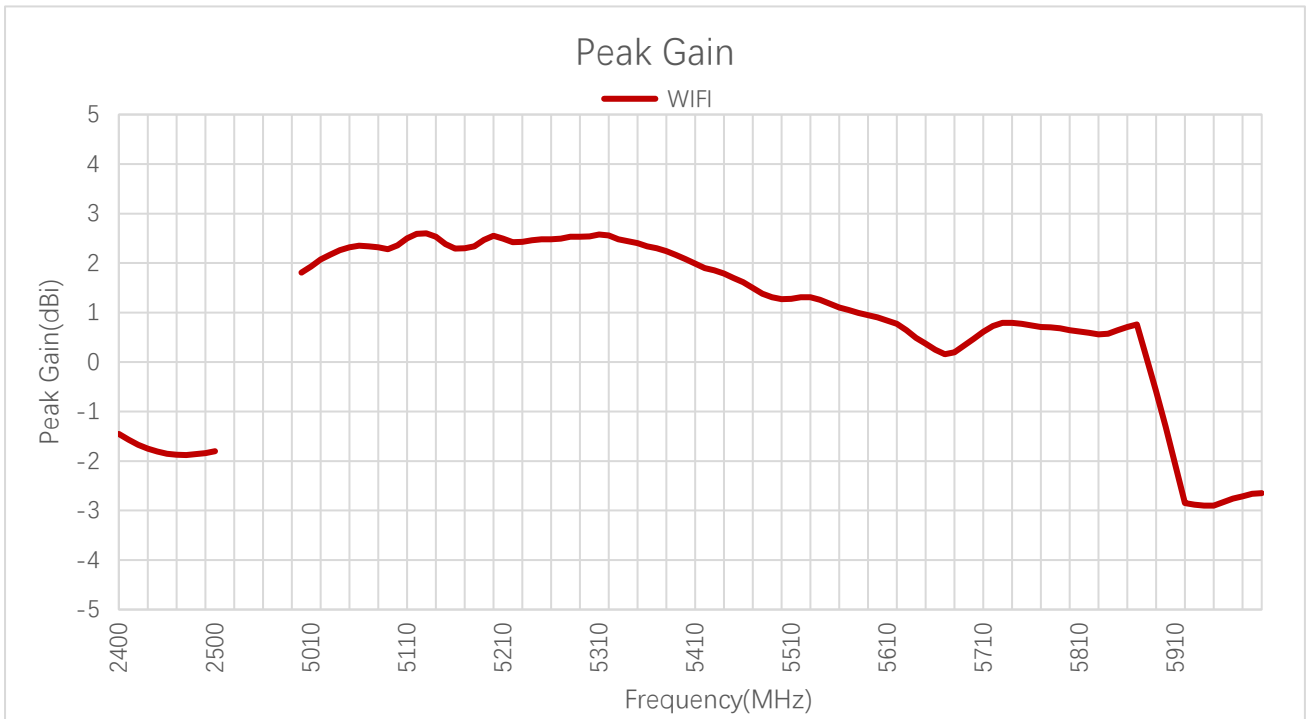
3.2.2. Average Gain



Average Gain (dB)

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Average Gain (dB)	-5.6	-5.7	-5.9	-2.6	-3.5	-3.5	-	-	-	-

3.2.3. Peak Gain

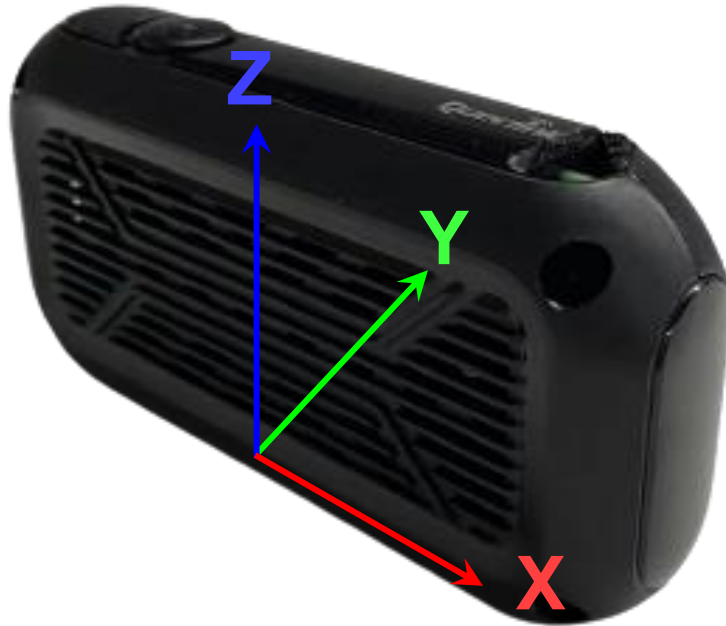


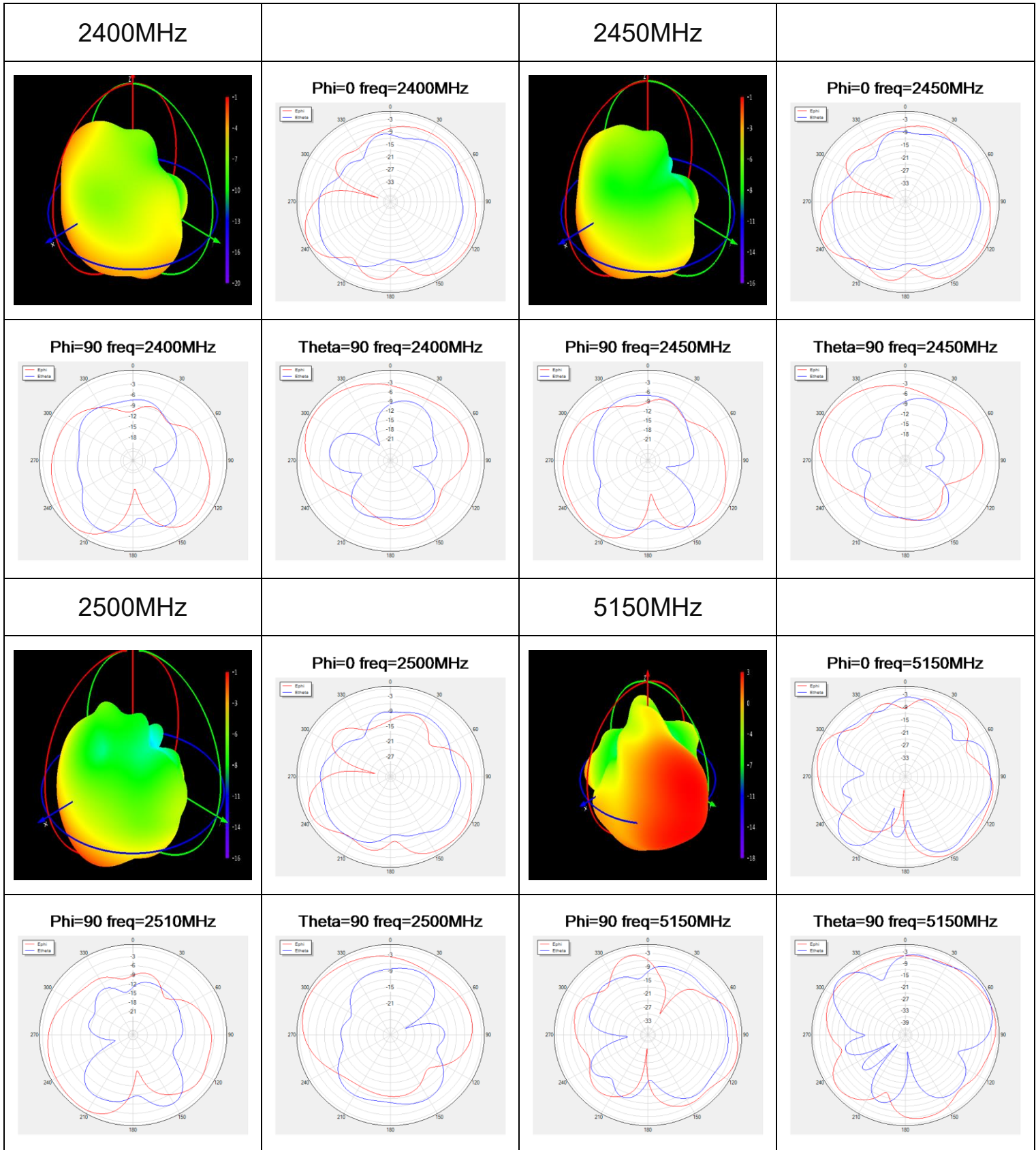
Peak Gain (dBi)

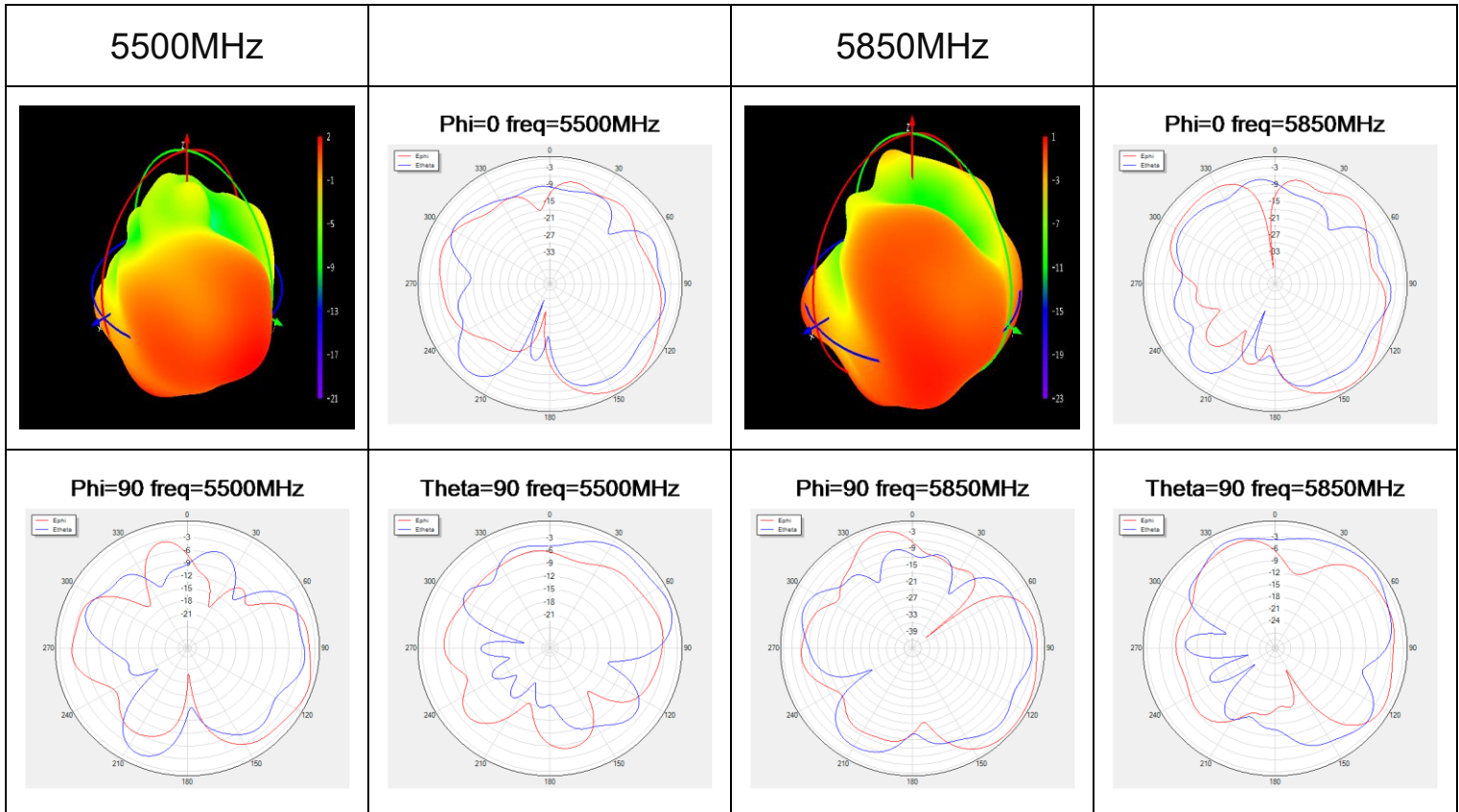
Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Peak Gain (dBi)	-1.5	-1.9	-1.8	2.4	1.3	0.64	-	-	-	-

3.2.4. 3D & 2D Radiation Pattern

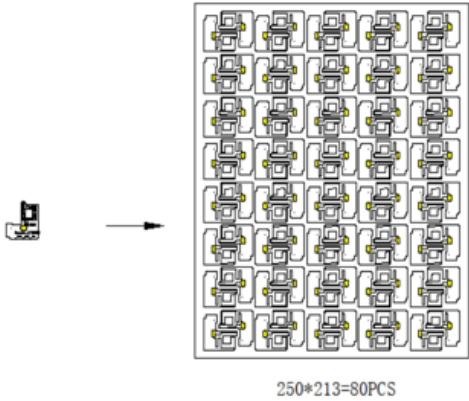
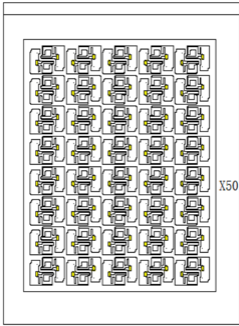
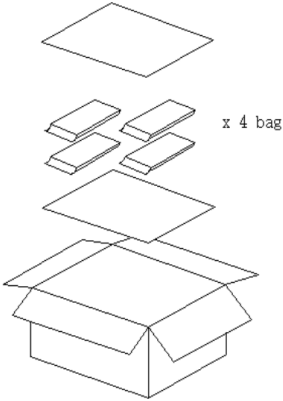
- Test Condition: Assembled in test device
- Test Chamber: SZ-S-1

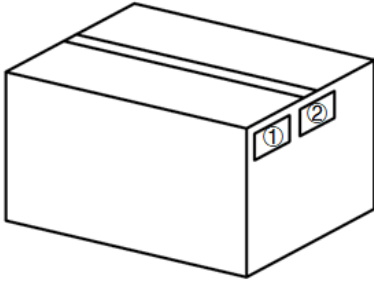
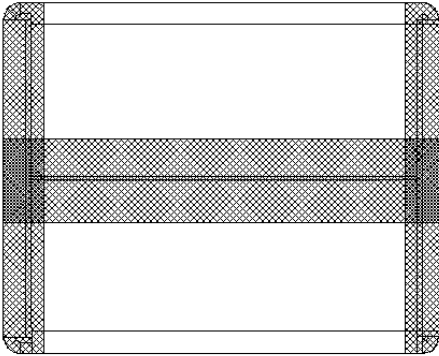






4 Packaging

Step	Packaging Picture / 2D Picture	Description
1	 <p style="text-align: center;">250*213=80PCS</p>	<p>80 pcs Antenna products in Micromucosa (80 pcs Antenna / Per Micromucosa)</p> <p><u>Micromucosa Size: L*W=250X213mm</u></p>
2	 <p style="text-align: center;">4000pcs/bag</p>	<p>4000 pcs Antenna products in a big PE bags; (4000 pcs Antenna / Per PE Bag)</p> <p><u>Big Pe bag Size: L*W=220X330mm</u></p>
3	 <p style="text-align: center;">x 4 bag</p>	<p>Place a clapboard at the bottom and top, 4 Big PE Bags / Per Carton Box) (16000pcs Antenna / Per Carton Box)</p> <p><u>Carton Size: L*W*H=325*325*200mm</u></p>

4	 A 3D perspective drawing of a rectangular carton. On the front face, there are two small rectangular labels. The left label is marked with a circled '1' and the right label is marked with a circled '2'.	<p>Position for Attaching Labels---</p> <ul style="list-style-type: none">① Carton Label② Quality Label
5	 A 3D perspective drawing of a rectangular carton. The top and bottom edges of the front and back faces are sealed with a textured, cross-hatched material. This material also extends across the top and bottom edges of the side faces, forming a continuous seal around the perimeter of the carton.	<p>Sealing Cartons---</p> <p>“\perp” type sealing cartons</p>

Contact US

At Quectel, our aim is to provide timely and comprehensive services to our customers. If you require any assistance, please contact our headquarters:

Quectel Wireless Solutions Co., Ltd.

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China

Tel: +86 21 5108 6236

Email: info@quectel.com

Or our local offices. For more information, please visit:

<http://www.quectel.com/support/sales.htm>.

For technical support, or to report documentation errors, please visit:

<http://www.quectel.com/support/technical.htm>.

Or email us at: support@quectel.com.

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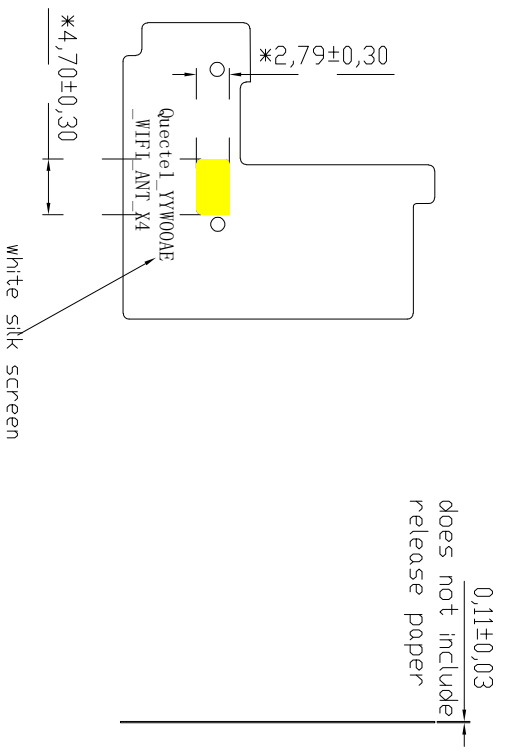
Revision History

Version	Date	Author	Note
-	2023-03-31	Jialin Chen/ Shea Li/ David Liu/ Bunny Zhang	Creation of the document
1.0	2023-07-21	Jialin Chen/ Shea Li/ David Liu/ Bunny Zhang	First official release

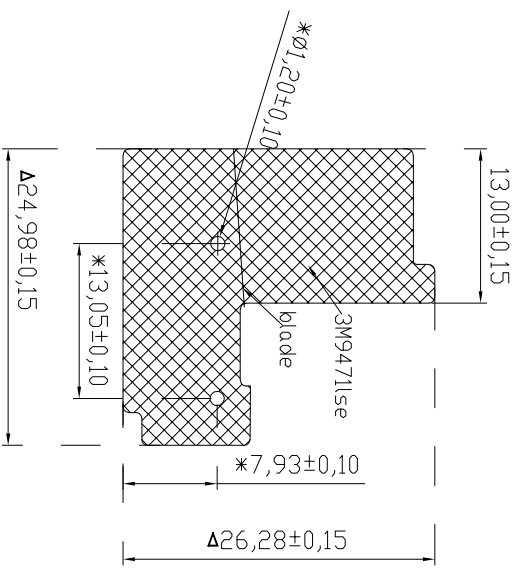
QUECTEL

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REV	DESCRIPTION	AUTHOR	DATE
X1	first edition	shea	2022.12.27
X3	Antenna modification	shea	2023.3.7



0,11±0,03
does not include
release paper



技术要求:	
1. FPC基材规格:	基材: 12.5um 铜箔(单面胶): 18um 双面胶: 3M30LSE-9471
2. 电镀规格:	镀层: 27um 基材油层颜色: 哑光黑色 印刷字体颜色: 亮白色
3. 表面油墨要求:	1. 可靠性测试: 盐雾腐蚀测试(48H)或霉菌测试(恒温恒湿测试)冷热冲击测试. 2. 油墨表面要求: 对折不开裂, 油墨需均匀, 不可有污染物, 擦伤, 黑点, 起皱, 镀金不良等现象.
4. 可靠性要求:	1. 外形公差±0.15; 2. 铜箔厚度公差±0.10; 3. 铜箔到外形的位置±0.15; 4. 孔距位置公差±0.10; 孔距到外形位置公差±0.15; 5. 金手指尺寸公差±0.30 6. 其他未注尺寸按2D电子图档为准, 公差按自由公差管控.
5. 公差要求:	*标注尺寸为重厚尺寸, Δ标注尺寸为0.05mm (0.05<Δ<0.15), 其它参照0.1mm, 未注尺寸以标准片公差为准(按标准公差表R0.1)
6. 重点管控尺寸:	R0.05, 0.1
7. 环保要求:	整版出货
8. 出货包装要求:	

 Build a Smarter World 上海移远通信技术股份有限公司		Part Name: YYW00AECA_WIFI_ANT_R1	
供应商规格		Part No.: QY0027200172	
0-10	±0.05	DRAWN	shea
10-30	±0.10	CHKD	kenny
30-80	±0.15	APPD	
≥ 80	±0.20	DATE	2023.3.7
Angle	±1°		
Tolerance		Third	Unit mm
		Size A4	Scale 1:1
		REV X4	Sheet 1 of 1



Quectel Wireless Solutions Co.,Ltd.
Inspection Report : First Article/ Vendor Sample Evaluation

Part Name: YYW00AECA Part No.: _____ Mold No.: N/A Material Type: N/A Rev NO.: _____
 Customer Supplier _____ Project Name: _____ Color: N/A Sub. No. 1 Page 1 of 1

Dimensional Inspection

No.	Specification					Shot No.	01 PATTERN RF Golden (After cutting)										Disposition			Remark
	Print Zone	Sign	Nominal	+	-		01 PATTERN	02 PATTERN	03 PATTERN	04 PATTERN	05 PATTERN	/	/	EQPT	Acc	Con. Acc	Rej			
1		CPK	26.28	0.15	0.15		26.240	26.370	26.290	26.220	26.310			OMM	√					
2		CPK	24.98	0.15	0.15		25.100	25.090	25.020	25.030	25.020			OMM	√					
3			13.00	0.15	0.15		13.080	13.010	13.000	12.970	13.020			OMM	√					
4		*	13.05	0.10	0.10		13.090	13.050	13.010	12.990	13.060			OMM	√					
5			7.93	0.10	0.10		7.960	7.920	7.880	7.910	7.930			OMM	√					
6		*	Ø1.2	0.10	0.10		1.230	1.250	1.190	1.220	1.160			OMM	√					
7			0.11	0.03	0.03		0.120	0.121	0.109	0.110	0.109			OMM	√					
8		*	2.79	0.30	0.30		2.790	2.850	2.710	2.680	2.810			OMM	√					
9		*	4.70	0.30	0.30		4.850	4.760	4.680	4.730	4.620			OMM	√					
10														OMM						
11														OMM						
12														OMM						
13														OMM						
14														OMM						
15														OMM						

Equipment ID:

DC-"Digital Caliper" PLG - "Plug Gauge" RG-"Radii Gauge"
 DI-"Dial Indicator" LG - "Loop Gauge" PP-"Profile Projector"
 PLG - "Plug Gauge" PG-"Pin Gauge" OMM-"Objective Measuring Machine"

Disposition:

Acc - "Accept"
 Rej - "Reject"
 Con. Acc - "Conditional Accept (faulty, but accept)"

ME Engineer: Shea LI Inspector _____ Date _____ QA Approval _____ Date 2023/7/10