

BLE ANTENNA SPECIFICATION FOR APPROVAL

CUSTOMER:

CUSTOMER PARTNO:

SUPPLIER:

PRODUCT MODEL: HCBG01

PRODUCT NAME: BT 2.4G Antenna

PRODUCT CODE: M01-0601130R0A

CUSTOMER SIGNATURE:

CUSTOMER SEAL:

SUPPLIER SIGNATURE:

SUPPLIER SEAL:

NOTE: PLEASE RETURN THIS COPY AS A CERTIFICATION OF YOUR APPROVAL

Prepared by:
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2022.11.22

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VERSION INFORMATION

[illegible]

PERFORMANCE PARAMETER

1. Electrical Characteristics

1	Frequency Range	2400MHz~2500MHz
2	V.S.W.R	≤2.0
3	Minimum Efficiency	75.02%
4	Maximum Gain	4.66dBi
5	Impedence	50Ω
6	Polarization	Linear polarization

2. Mechanical parameters

1	Measure	FPC:41.5*10.0mm/ Cable: 71.0mm*Φ1.13mm
2	Colour	Black

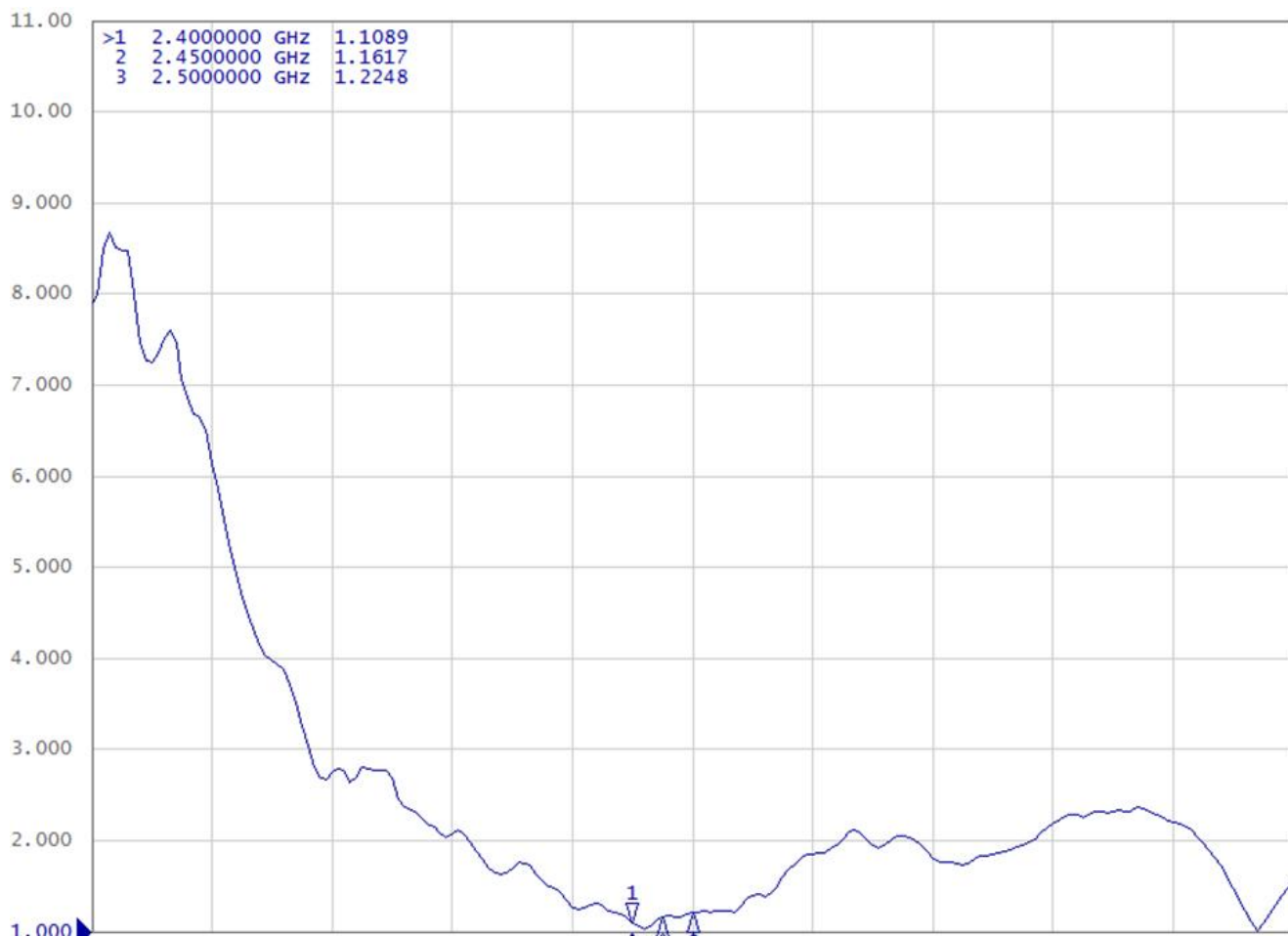
3. Environment Condition

1	Working Temp	-30℃~80℃
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TESTING CURVE

1. Performance test

1.1 V.S.W.R



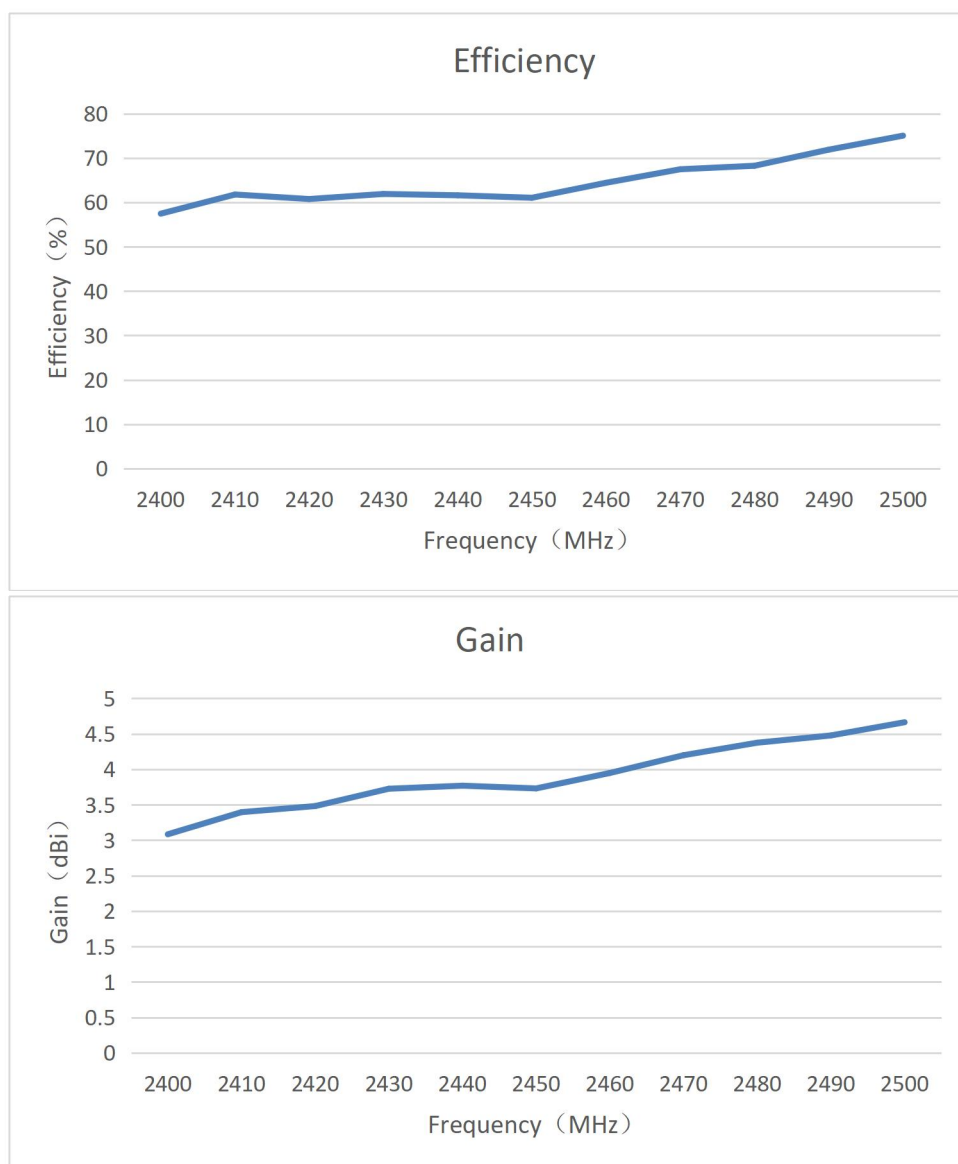
Data list

Freq	2.4	2.45	2.5
VSWR	1.10	1.61	1.22

TESTING CURVE

2. Passive testing

2.1 Efficiency and Gain



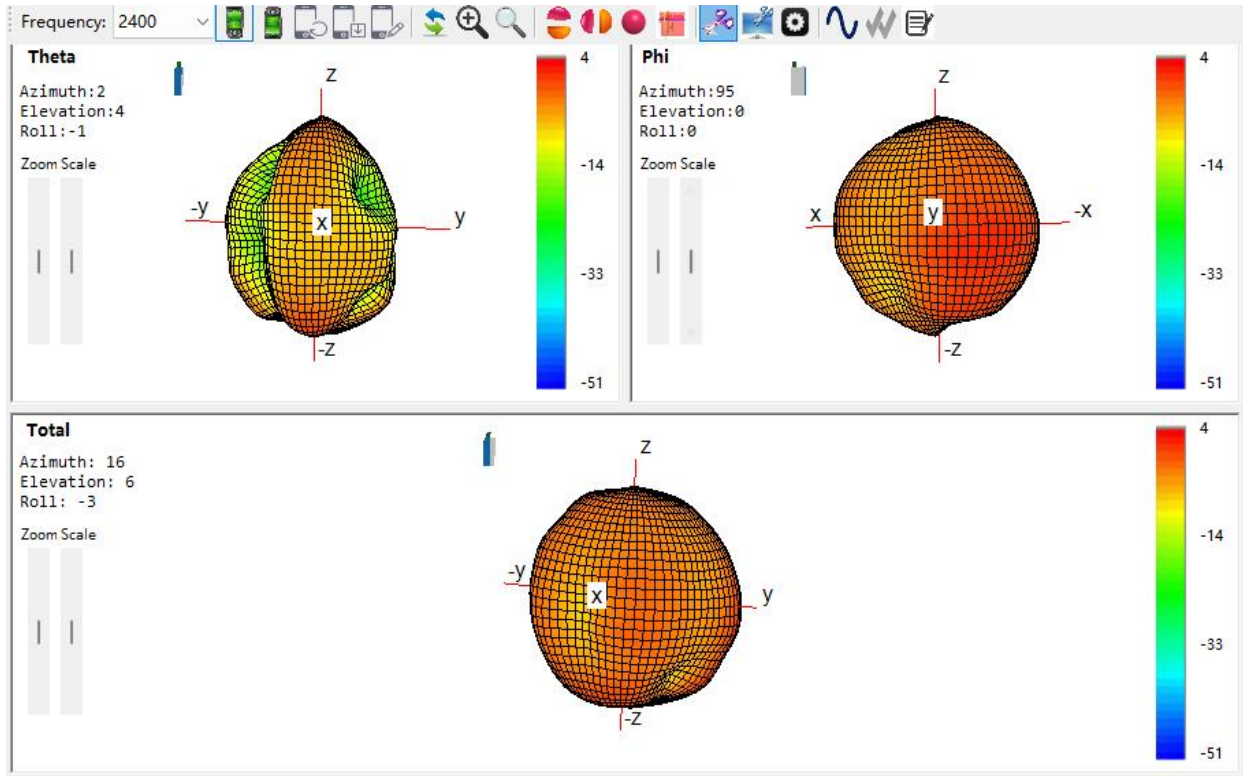
Data list

Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain (dBi)	3.08	3.39	3.48	3.73	3.77	3.73	3.95	4.20	4.37	4.48	4.66
Efficiency(%)	57.45	61.76	60.75	61.88	61.58	61.02	64.40	67.45	68.24	71.87	75.02

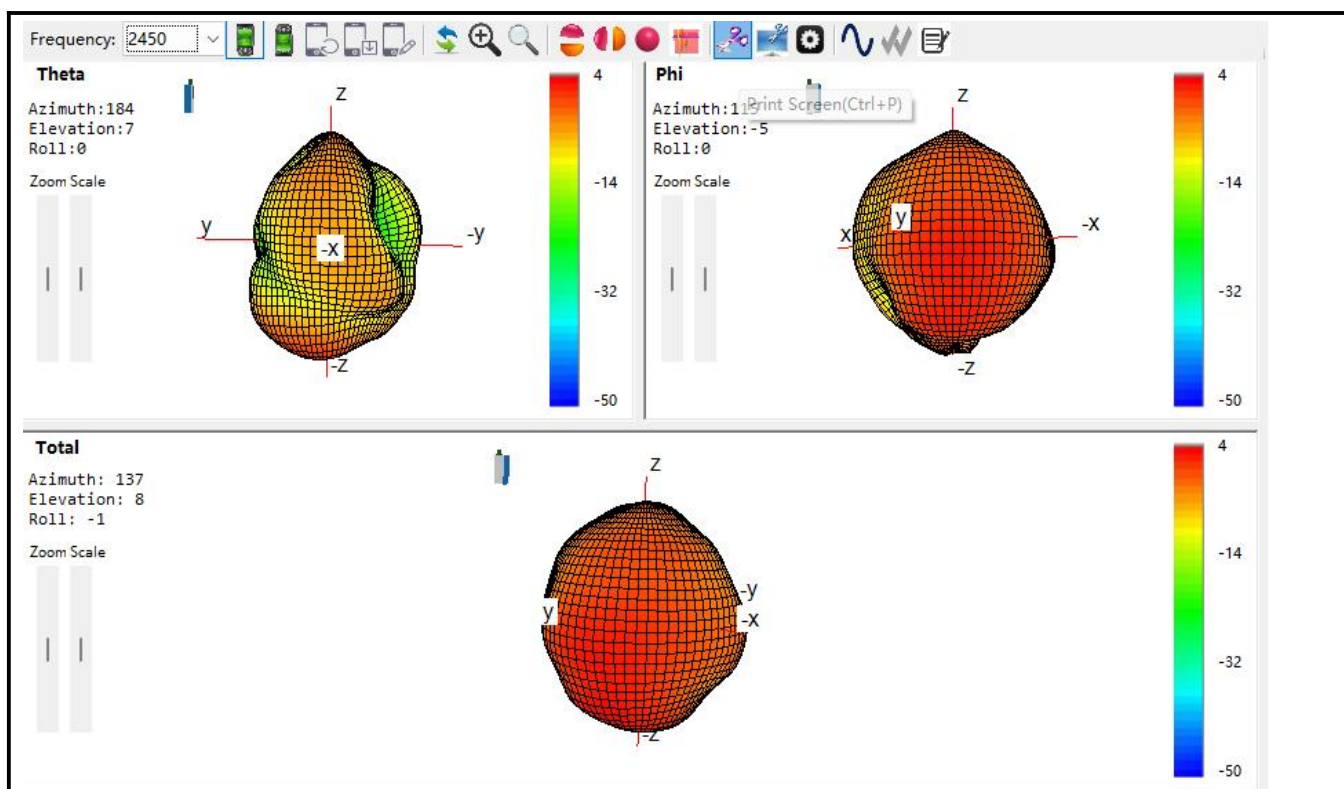
TESTING CURVE

2.2 3D Map

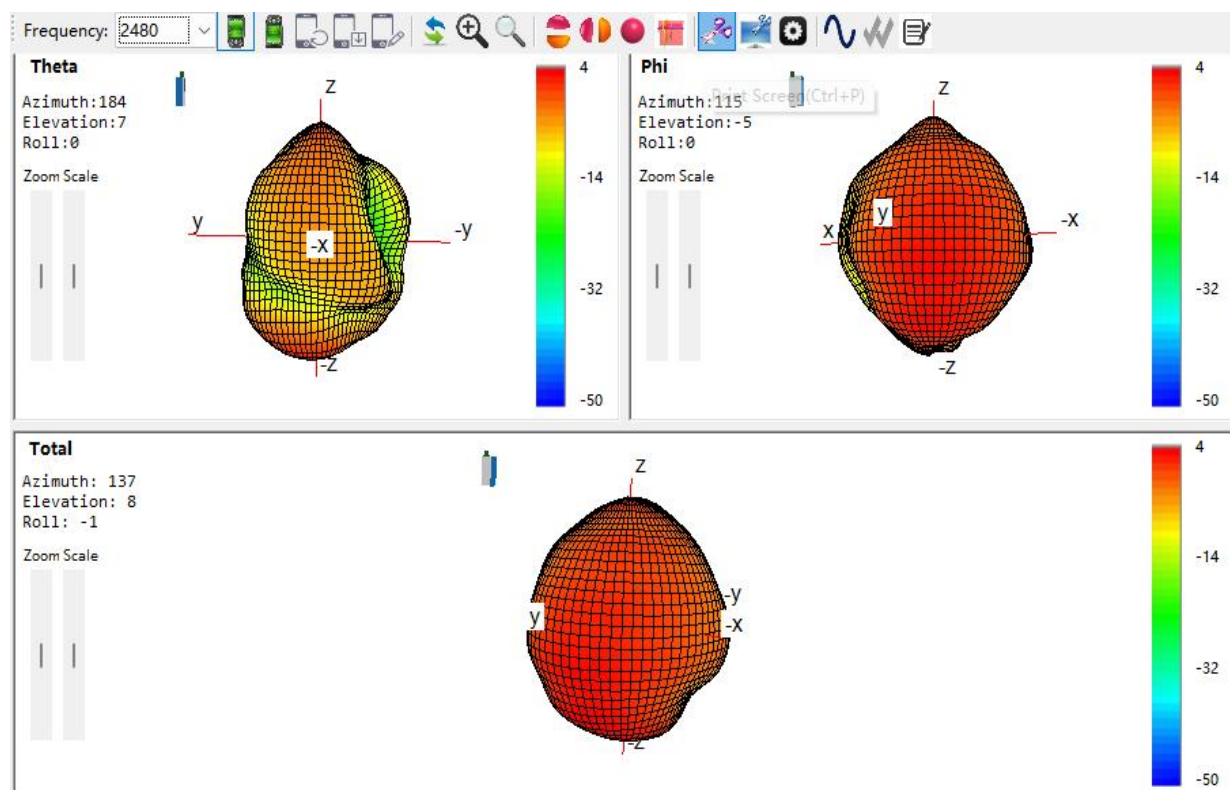
2400MHz Gain=3.08dBi



2450MHz Gain=3.73dBi

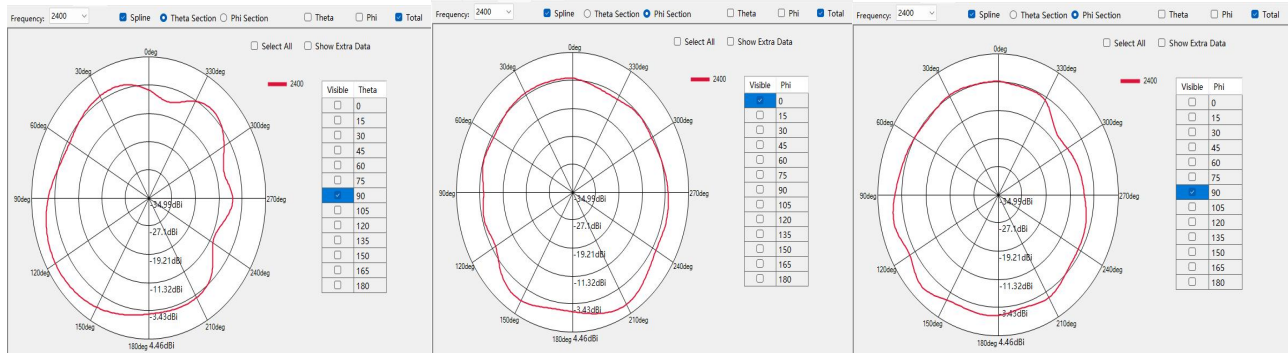


2480MHz Gain=4.37dBi

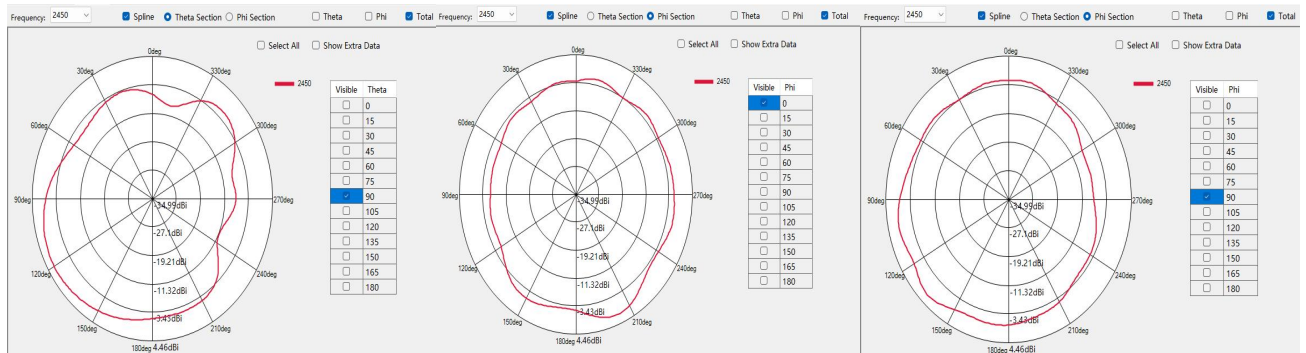


2.3 2D Figure

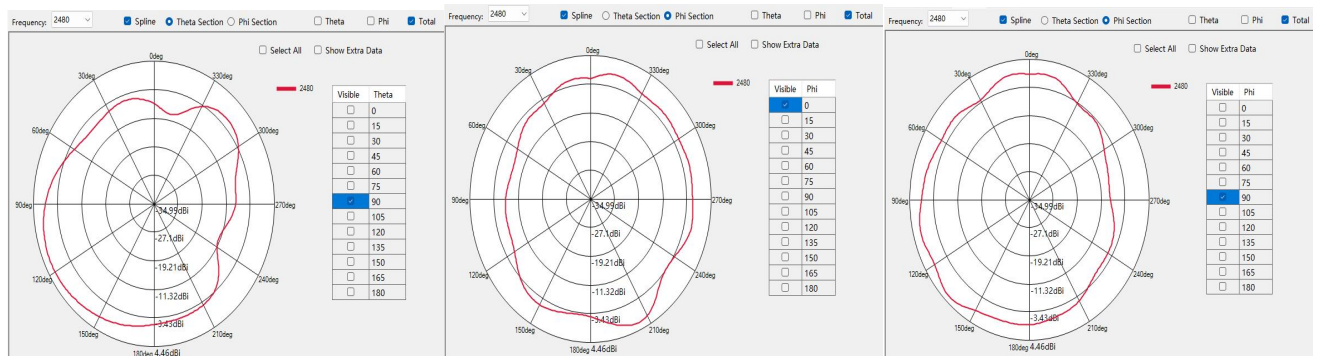
2400MHz Gain=3.08dBi



2450MHz Gain=3.73dBi



2480MHz Gain=4.37dBi



SCHEDULE DRAWING

Rev	Description	Date	Remark
A	New drawing	20221122	

RoHS
Compliant
GP

备注:

- 频率范围: 2400-2500MHz
- 阻抗: 50Ω
- 驻波: ≤2.0
- 最大增益: 4.66dBi
- 极化: 全向
- 温度范围: -30℃-80℃
- 各零件符合ROHS

No.	Name	Material	Color	Treatment	Amount	Remark
1	FPC		黑色	41.5*10.0	1	
2	同轴线		黑色	Φ 1.13*71.0	1	

Third Angle		Project	KTBG602-V2.2	Date
0~10	± 0.05	Part Name	BT天线	Designed by
10~18	± 0.10	Part No.	M01-0601130R0A	Checked by
18~30	± 0.12	Material		Approved by
30~40	± 0.15	Treatment		Unit
40~	± 0.20	Angle	± 0.5°	Color

Unit	mm	Scale	1:1	Rev	A

Certificate of Acceptance Sample Size Inspection Report

Project Name		HCBG01		Antenna Type	BLE Antenna	检验日期	2022-11-22			
Appearance inspection standards				1、 There is no abnormality on the antenna surface.						
Dimensional inspection standards				2 、 Within the tolerance range required by the drawing						
No.	Testing Items	Spec.	Testing Tools	Sample Qty	Result	Remark				
1	Appearance	As above standard	Eyes	4	OK					
2	Size	As shown in the following table	Vernier Caliper	4	OK					
3	Performance Test	VSWR	≤2.0							
No.	Testing items	Spec.	Testing Tools	Test results (including 6 data records of the highest and lowest values)						
				1	2	3	4	5	6	
1	Appearance/Size	41.5±0.3	Caliper	41.6	41.5	41.5	41.55	41.47		
2		10.0±0.2		10.12	10.0	10.0	10.09	10.2		
3		71.0±2.0		71.56	171.0	71.9	71.0	71.0		
4										
5										
Remark										
Approval: 杨永成			Confirm:陈建尤			Testing: 董春玲				

QC ENGINEERING DRAWING

QC ENGINEERING DRAWING			File No.		MA-QCW-2211-035		HCBG01 BLE Antenna			prepared by		赵艳		
			Version		A					File Name		Confirm		
			Release date		2022.11.22		Effective date		2022.11.22		page number		1/1	
											approve		徐茂元	
No.	Process	Process name	Process parameters/quality characteristics	Tools	Inspection Machine	Inspection Method	Checking frequency	Usage Record	Manager	Related documents				
1		Incoming inspection	Inspection standards/drawings	Caliper	/	Eyes	AQLRandom inspection	IQCInspection Report	IQC					
2		Welding coaxial line	Assembly drawings	soldering iron	/	/	/	/	Operator					
2		Packaging (bagging) quantity confirmation	/	/	/	Eyes	100% inspection	Production daily report	Operator					
3		Warehouse	Production order	/	/	/	/	Product Inventory Order	Warehouse keeper					
4		Pre-shipment inspection	/	/	/	/	Random inspection	Sampling report	OQC					
EXplanation: <input type="checkbox"/> Indicates operation and processing; <input checked="" type="checkbox"/> Indicates confirmation, inspection, judgment, and approval; <input type="checkbox"/> Indicates storage; <input type="checkbox"/> Indicates transportation;														
记号		Modifications					Version		Date		editor		confirm	
		Original Issue					A		2022.11.22		赵艳		徐茂元	

ROHS TEST REPORT

Project Name	Code	Report test sample name	Testing facility	Testing time	Test report number		Testing Result	Remark
HCBG01 BLE ANTENNA	M01-0601130R0A	FPC（Substrate）	SGS	2022/2/21	SHAEC2202460503		OK	
		FPC（Ink）	SGS	2022/8/5	ETR22705905		OK	
		FPC（Adhesive）	SGS	2022/1/12	CANEC2200386501		OK	
		Coaxial cable (tinned copper)	SGS	2022/7/29	CANEC2215893206		OK	
		Coaxial cable (FEP)	SGS	2022/1/15	TAOEC2107741702		OK	
Fiction: 董春玲		Confirm: 陈建尤		Date: 2022.11.22		Seal:		

PRODUCT VERIFICATION

Testing items	Test description/test standard	Target Requirements	Product Verification (PV)							Remark
			Sample		Test Location			Testing	Responsible	
			Qty	Type	Customer	Supplier	Third Party	Result		
Appearance Checking	The surface should not have defects such as dents, scratches, cracks, deformations, burrs, mildew spots, etc.; the surface coating should not bubble, crack, or fall off; metal parts should not have rust or other mechanical damage; the injection material should not overflow.	Appearance is Normal	100% inspection	Tooling parts		√		OK		
Size	According to drawing size	Within the size tolerance	3pcs	Tooling parts		√		OK		
Performance Checking	The product meets the requirements of the design specification	Short circuit and continuity test	100% inspection	Tooling parts		√		OK		
Insertion and extraction force	First generation terminal plugging and unplugging force	Pull-out test, the bearing capacity is less than 0.8KG	3pcs	Tooling parts						

Salt spray resistant	48 hours salt spray test	The surface is not rusted after cycle verification	3pcs	/						
Requirements for banned and restricted substances	Tested according to RoHs requirements	Products should comply with RoHs standards	/	/			√	OK		
Packaging rules	Place according to the drawing specifications	Visual inspection and placement as required	100% inspection	Tooling parts		√		OK		

BOM DETAILS

No.	Code	item	Version	Spec.	Color	Unit	Qty
1	F01-01020030R0A	FPC	V1.0	Black/FPC one-and-a-half material/front adhesive 3M9471/gold-plated 1U/41.5*10.0mm/RoHs	Black	PCS	1
2	X01-0205650R0A	Coaxial Cable	V1.0	Black/coaxial cable/stripped wire on one end (2.0/3.2/1.2)/first generation Zepu terminal on one end/1.13*71.0mm/RoHs	Black	PCS	1
3							
4							
5							