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： 董春玲	Date： 2022.11.22	Add：	Room 405, Building R3-A, South District, Nanshan Science and Technology Park, Shenzhen
		Tel:	0755-86503881
		Fax:	0755-27801677

VERSION INFORMATION

Version	DATE	REVISION DESCRIPTION	PREPARED	CHECKED	APPROVED
V1.0	2022.11.22	Original Issue	董春玲	杨永成	陈建尤

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	Impendence	50Ω
6	Polarization	Linear polarization
2. Mechanical parameters		
1	Measure	FPC:41.5*10.0mm/ Cable: 71.0mm*Φ1.13mm
2	Colour	Black

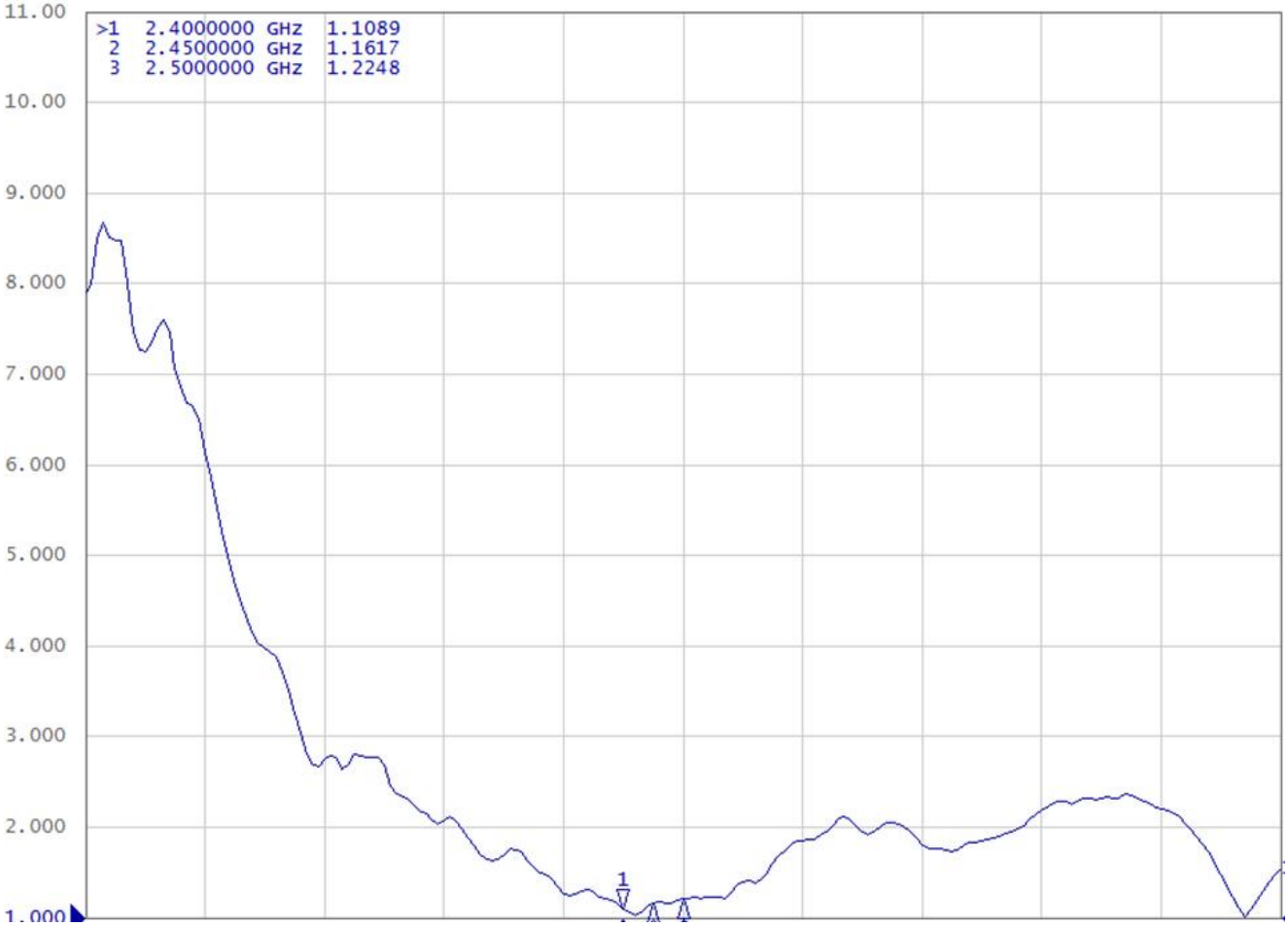
3. Environment Condition

1	Working Temp	-30℃~80℃

TESTING CURVE

1. Performance test

1.1 V.S.W.R



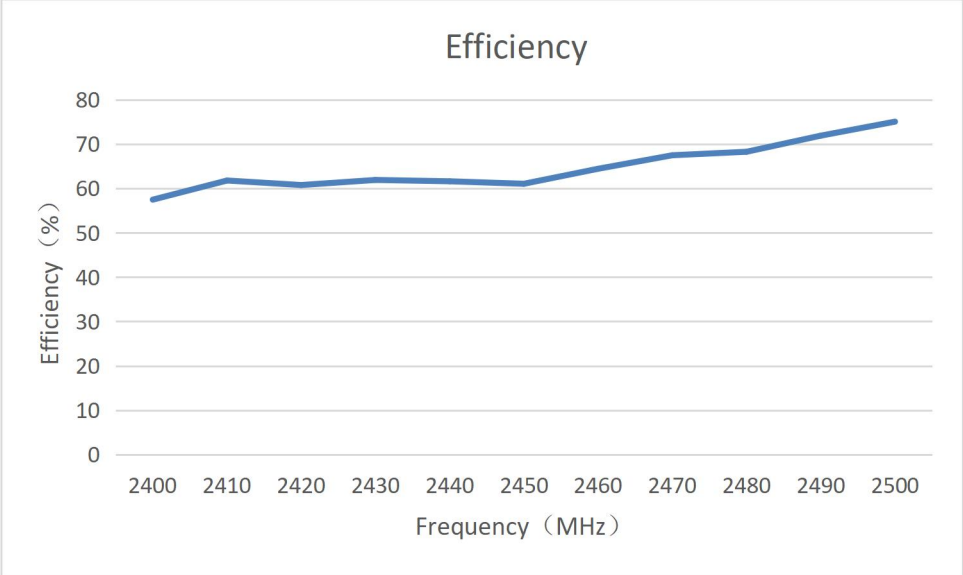
Data list

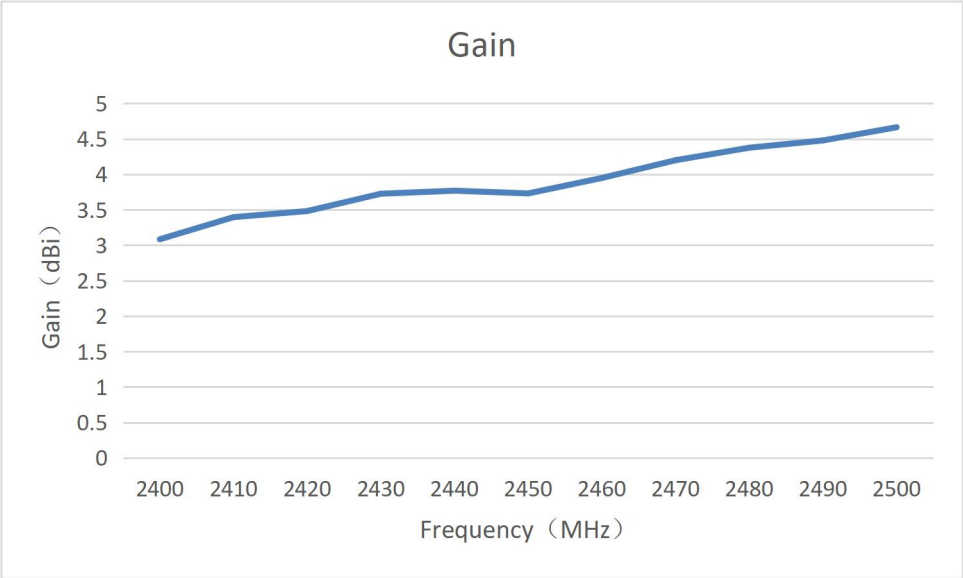
Freq	2.4	2.45	2.5
VSWR	1.10	1.61	1.22

TESTING CURVE

2. Passive testing

2.1 Efficiency and Gain





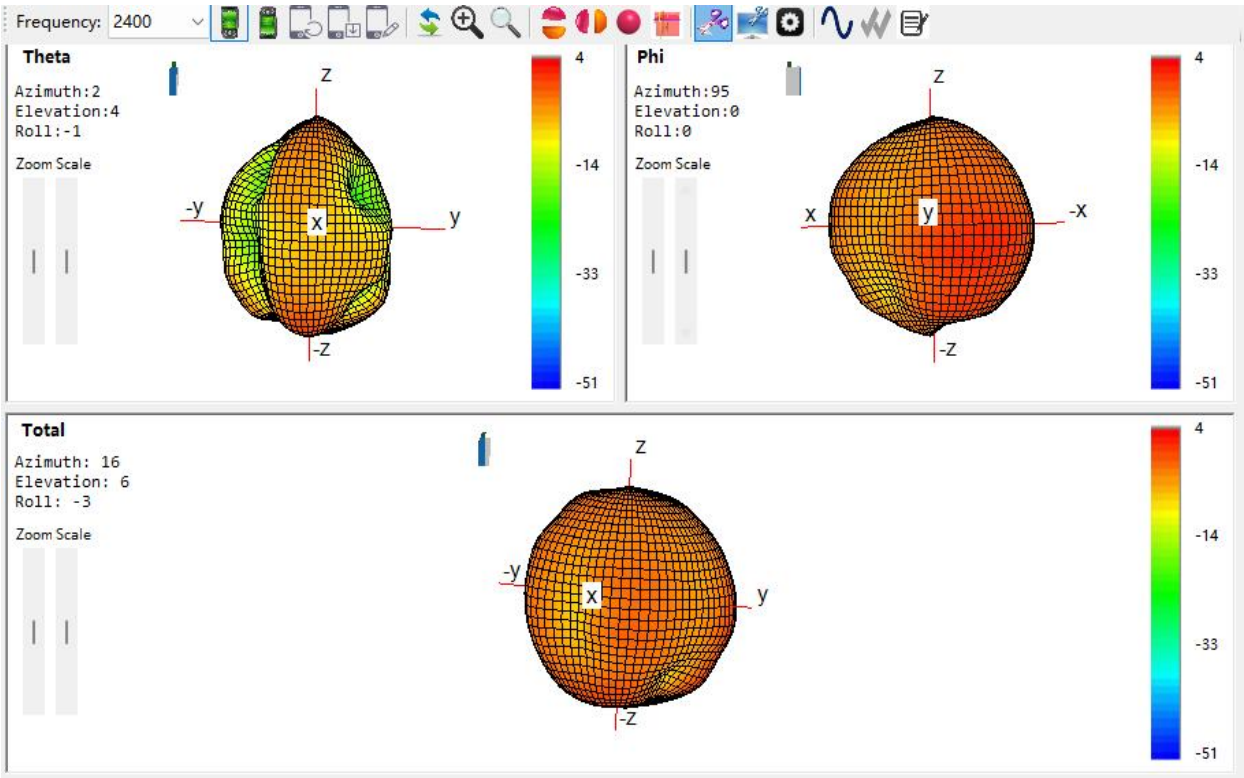
Data list

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

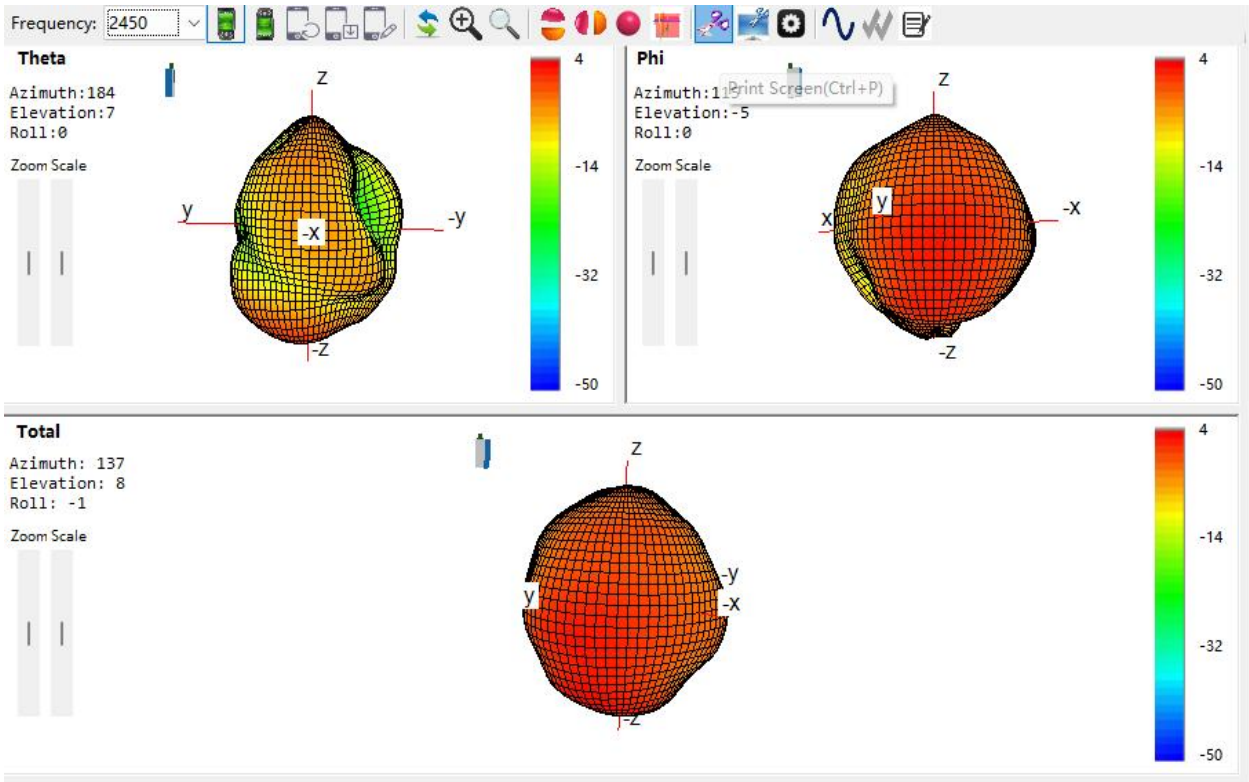
TESTING CURVE

2.2 3D Map

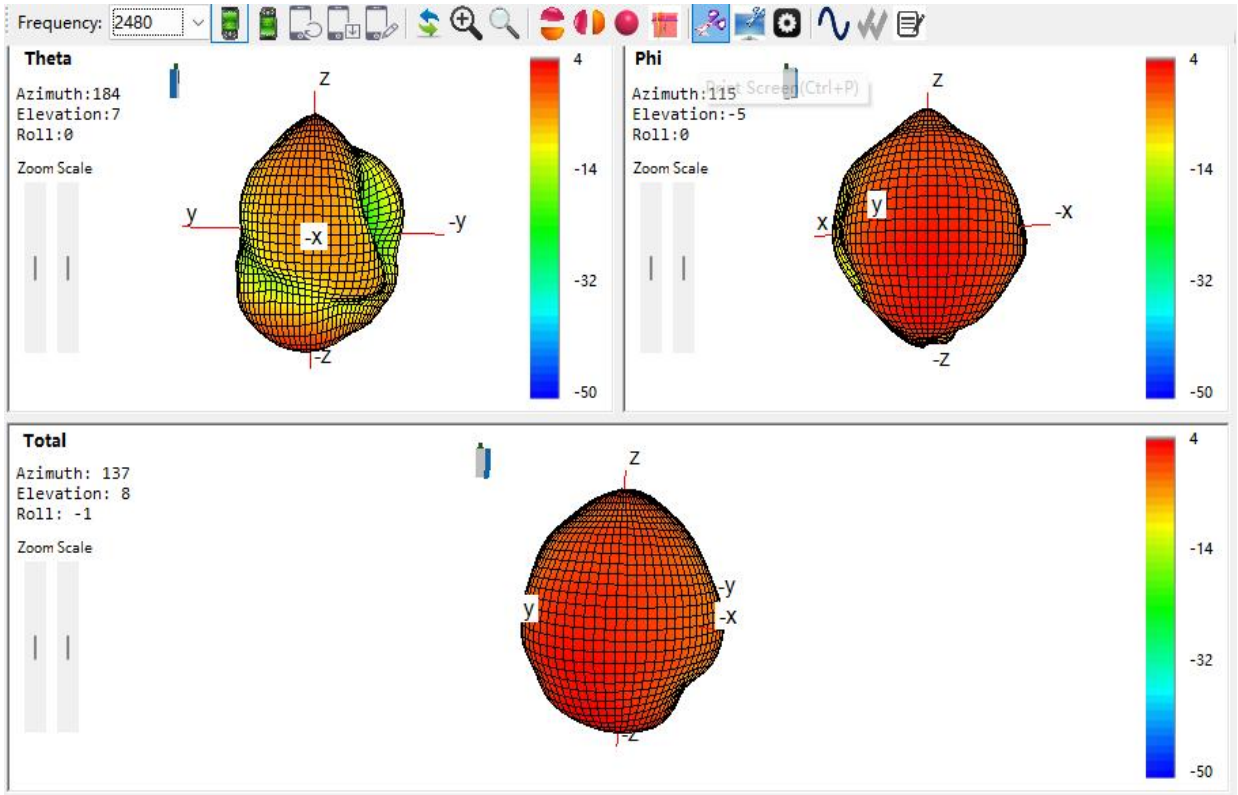
2400MHz Gain=3.08dBi



2450MHz Gain=3.73dBi

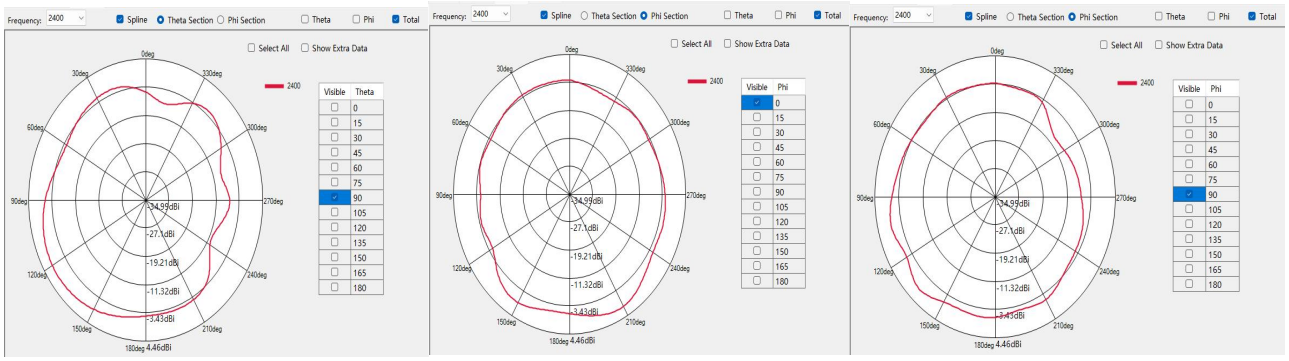


2480MHz Gain=4.37dBi

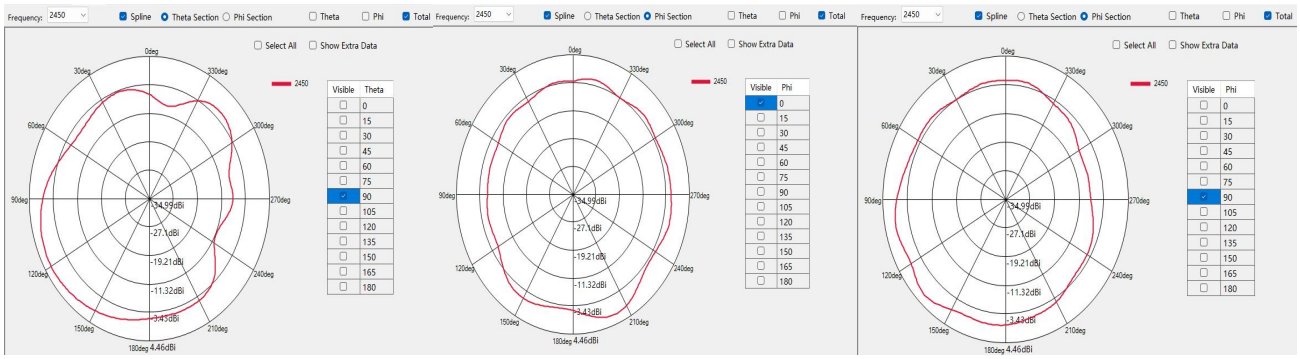


2.3 2D Figure

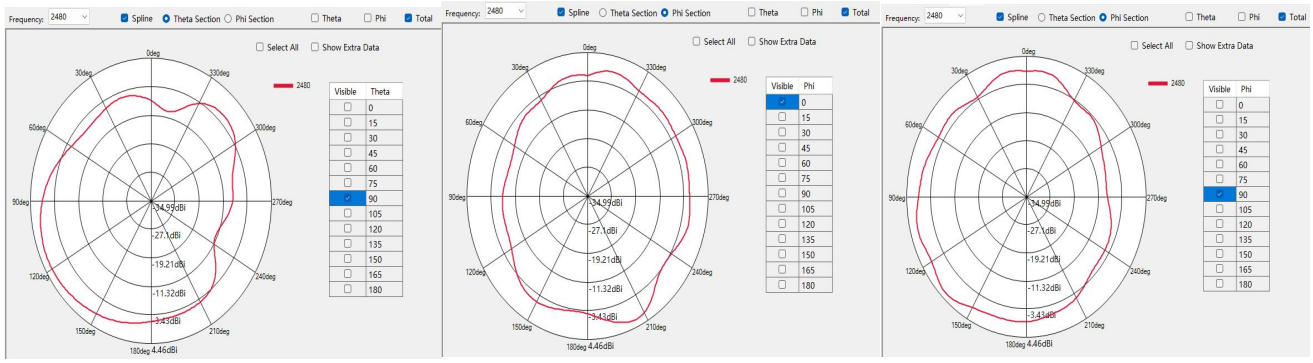
2400MHz Gain=3.08dBi



2450MHz Gain=3.73dBi



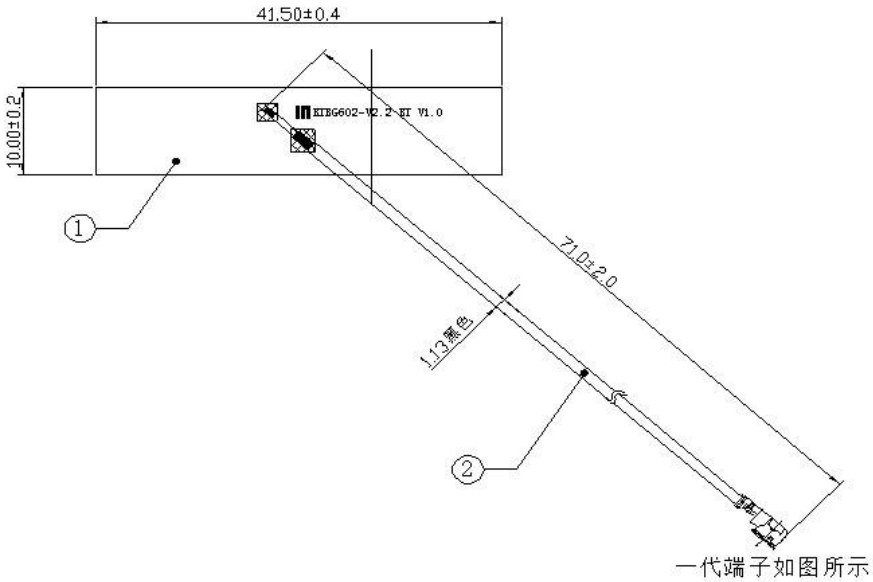
2480MHz Gain=4.37dBi



SCHEDULE DRAWING

Rev	Description	Date	Remark
A	New drawing	20221122	

RoHS Compliant GP



备注:

1. 频率范围：2400-2500MHz
2. 阻抗:50Ω
3. 驻波:≤2.0
4. 最大增益:4.66dBi
5. 极化:全向
6. 温度范围:-30℃-80℃
7. 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	Φ1.13*71.0	1	

Third Angle				Project	KTBG602-V2.2	Date			
0～10	±0.05	○	0.02	Part Name	BT天线	Designed by			
10～18	±0.10	◎	Φ0.03	Part No.	M01-0601130R0A	Checked by	MD		
18～30	±0.12	⊥	0.02	Material			RF		
30～40	±0.15	▱	0.04	Treatment		Approved by			
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					prepared by	赵艳
			Version	A	File Name	HCBG01 BLE Antenna			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	
EXplaination：□ Indicates operation and processing；◇Indicates confirmation, inspection, judgment, and approval；▽ Indicates storage; 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							