

Admit it

The product description:	The manufacturer: Welletronics Communication Technology Limited The name of the material: Bluetooth RF antenna Material code: 3.01.208BTF1000 The version number: V1.0	Project type: ID208BT Specification/Color: black Sign the sample date: 2022.01.20 note:				
The attachment:	☒ Description of electrical and mechanical properties (Specification) ☒ Manufacturing flow chart ☒ QC Engineering drawing ☒ The sample ☒ CPK report ☒ Full size measurement report ☒ Reliability test report ☒ The packing way ☒ Raw material list report /RoHS report/HF/REACH					
Supplier sign and approve	artificial: _____ audit: _____ approval: _____					
The above shall be filled in by the supplier and the following shall be filled in by Aidu						
	department	Confirm the content	Verify the results	Confirm person/date		
Technical confirmation column	Supplier quality	☐ RoHS material ☐ no RoHS material	☐ Meet REACH requirements ☐ Meet halogen-free requirements ☐ Other Environmental Requirements			
	ID of Design Department	☐ The customer request ID ☐ Color confirmation	☐ Surface process confirmation ☐ Shell, hardware, key material			
	Structural engineer	☐ Confirm the size of 2D drawing files ☐ Specifications and technical requirements	☐ Focus on size marking control ☐ Electrical performance parameter ☐ Adapter validation ☐ function	☐ Shell, hardware, key material ☐ The effect		
	Hardware engineer	☐ Confirm the size of 2D drawing files ☐ Specifications and technical requirements	☐ Focus on size marking control ☐ Electrical performance parameter ☐ Adapter validation ☐ function	☐ Shell, hardware, key material ☐ The effect		
	R&d quality	☐ Test standard confirmation ☐ appearance	☐ Standardization of dimension marking (key dimensions) ☐ Reliability verification ☐ Adapter validation	☐ function ☐ The effect		
Final confirmation	Project Manager	☐ Acknowledge the completeness of the documents ☐ Standardization of dimension marking (key dimensions)	☐ Specifications and technical requirements ☐ appearance ☐ Electrical performance parameter ☐ function ☐ The effect			
Admitted conditions:	☐ Official recognition ☐ Set limit to admit ☐ Refuse to admit					
Distribution department:	☐ IQC ☐ supplier ☐ The customer ☐ after-sales ☐ SQE/ Document control ☐ other _____					

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Three 、 Change history**Change of resume**

Serial number	Date of change	entry name	Edition	Change content	Remarks
1	Jan 20, 2022	ID208BT BT antenna	V1.0	nothing	New issue

Four、 Electrical characteristics

1. Antenna Structure



Figure antenna structure

2. Test Results

BT-Return Loss/VSWR



3. Test Repor No source by space test efficiency/pattern

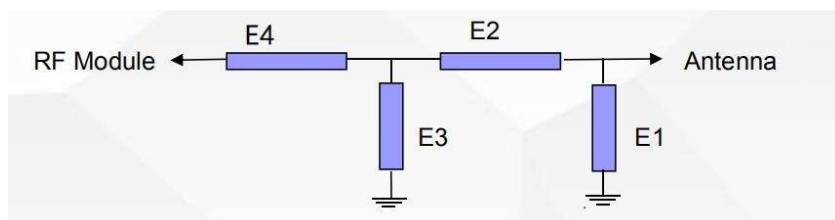
Free space

Add the arm

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	23.32	-6.32	-1.71
2410	24.02	-6.19	-1.56
2420	25.19	-5.99	-1.33
2430	26.09	-5.83	-1.08
2440	26.39	-5.79	-1.02
2450	25.96	-5.86	-1.04
2460	26.18	-5.82	-0.83
2470	25.9	-5.87	-0.75
2480	25.08	-6.01	-0.61
2490	23.98	-6.2	-0.85
2500	23.3	-6.33	-0.7

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	6.94	-11.59	-6.72
2410	7.16	-11.45	-6.88
2420	7.44	-11.29	-6.91
2430	7.39	-11.31	-6.95
2440	7.31	-11.36	-7.18
2450	7.43	-11.29	-7.18
2460	7.39	-11.31	-7.31
2470	7.41	-11.3	-7.46
2480	7.35	-11.34	-7.61
2490	7.44	-11.28	-7.6
2500	7.47	-11.27	-7.57

Match hasn't changed

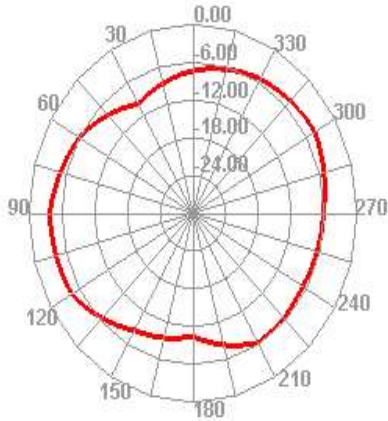


The antenna	Element	Value
	E1	NC
	E2	OR
	E3	NC
	E4	

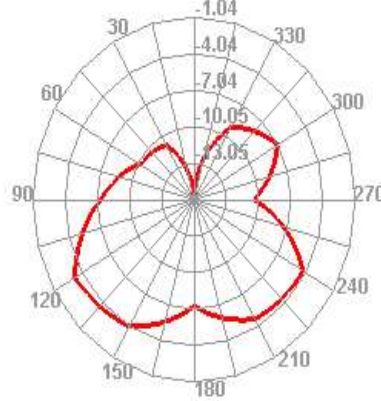
4. The direction of figure

Free space

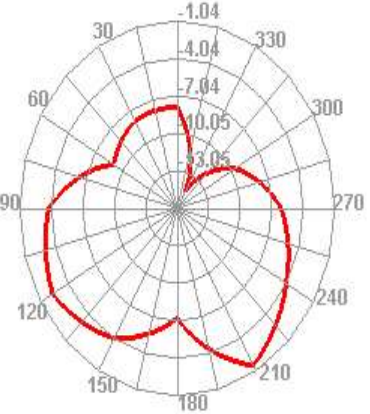
2450.000MHz H



2450.000MHz E1

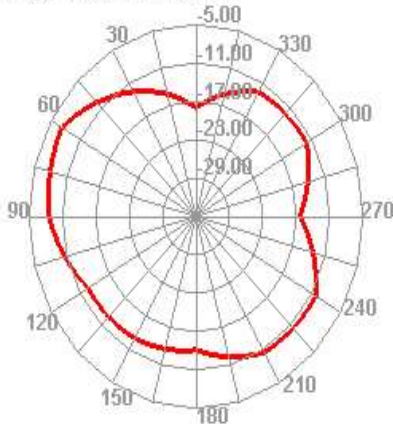


2450.000MHz E2

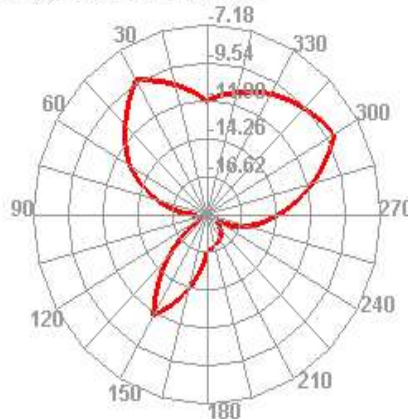


Add the arm

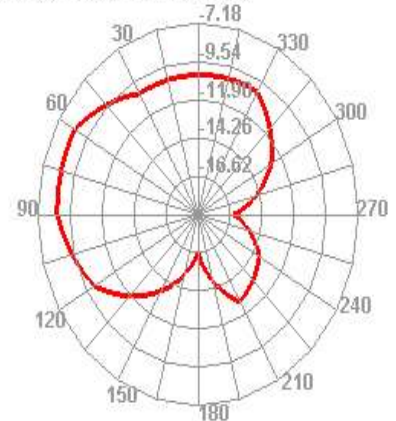
2450.000MHz H



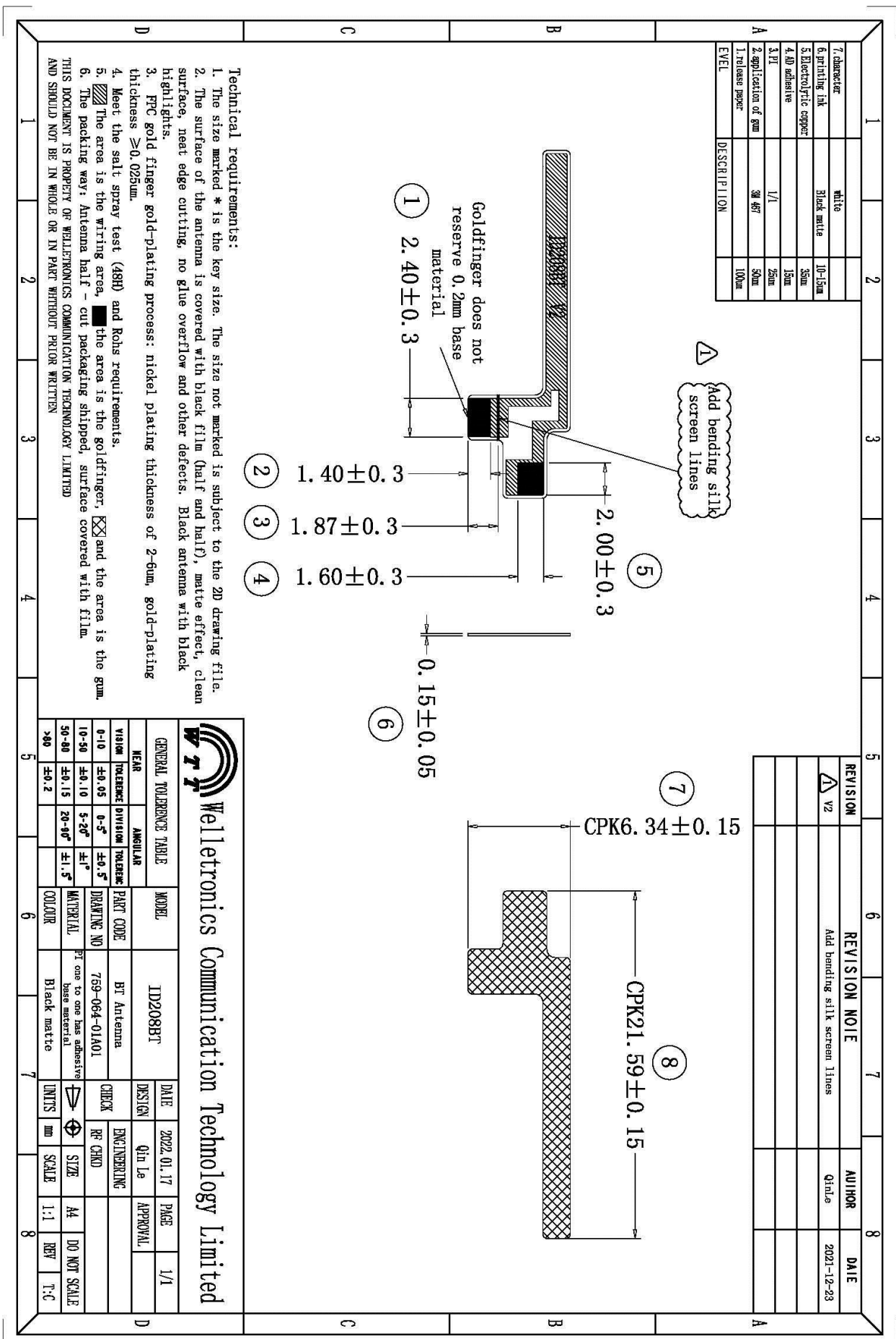
2450.000MHz E1



2450.000MHz E2



Five、 The 2D drawings



Six、Full-scale measurement report

Full-scale measurement report

Vendor		Material name		FPC	Part NO		759-064-01A01		Tool Number			Cav. Number		Unit		Comments								
WTT		Material Code			Part Name		ID208BT BT antenna					Rev		☐ INCHES ☒ MILLIMETERS										
Date		16/Nov/21			MEASURED DIMENSION					% TOLERANCE USED			DISPOSITION					ACCEPTABLE VARIANCE						
#	DIMENSION	DRAWING ZONE	+ TOL.	- TOL.	NOTE	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	SAMPLE 5	UPPER	LOWER	0%-25%	25%-50%	50%-75%	75%-100%	100%+	Re-Measure	Accept	Fix Tool	Accept With Variance	DIMEN SION	+ TOL.	- TOL.
1	2.40		0.30	0.30		2.45	2.44	2.40	2.35	2.48	27%	17%		X										
2	1.40		0.30	0.30		1.45	1.40	1.48	1.37	1.46	27%	10%		X										
3	1.87		0.30	0.30		1.87	1.85	1.90	1.92	1.80	17%	23%	X											
4	1.60		0.30	0.30		1.64	1.66	1.58	1.60	1.53	20%	23%	X											
5	2.00		0.30	0.30		2.05	2.00	2.03	1.98	2.10	33%	7%		X										
6	0.15		0.05	0.05		0.13	0.15	0.14	0.16	0.15	20%	40%		X										
7	6.34		0.15	0.15		6.32	6.30	6.30	6.30	6.38	27%	27%		X										
8	21.59		0.15	0.15		21.62	21.60	21.58	21.56	21.60	20%	20%	X											
9																								
10																								
11																								
12																								
13																								
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15																								
16																								
17																								
18																								
19																								
20																								
21																								

Seven、Cpk Report

CPK Report

Part Number	759-064-01A01		Vendor	WTT	
Description	ID208BT BT antenna		Inspected		
Tool Number			Inches/MM	mm	
Cavity			Material Name	FPC	
			Material Code		
Revision	T:C		Date	18-Jan-22	
Dim. Designator	7	8	3	4	5
Nominal	6.34	21.59			
+ Tolerance (All	0.15	0.15			
- Tolerance	-0.15	-0.15			
Upper Limit	6.49	21.74			
Lower Limit	6.19	21.44			
1	6.32	21.62			
2	6.30	21.60			
3	6.30	21.58			
4	6.30	21.56			
5	6.38	21.60			
6	6.30	21.62			
7	6.33	21.55			
8	6.35	21.63			
9	6.38	21.60			
10	6.33	21.65			
11	6.38	21.60			
12	6.30	21.55			
13	6.33	21.58			
14	6.32	21.63			
15	6.31	21.65			
16	6.33	21.56			
17	6.35	21.60			
18	6.38	21.62			
19	6.37	21.55			
20	6.35	21.63			
21	6.42	21.60			
22	6.33	21.65			
23	6.32	21.60			
24	6.37	21.55			
25	6.31	21.53			
26	6.33	21.60			
27	6.40	21.55			
28	6.30	21.58			
29	6.41	21.60			
30	6.39	21.52			
MAX.	6.42	21.65			
MIN.	6.30	21.52			
AVERAGE	6.34	21.59			
STDEV	0.04	0.04			
CP	1.37	1.39			
Cpk	1.34	1.37			
TOOLING	CMM	CMM	CMM	CMM	CMM

Approved By: Kun Yao

Written By: Jie Xiao



Welletronics Communication TechnologyCO.,Ltd

Environment-Concerned Stbstance report

supplier' s Name : Welletronics Communication Technology CO.,Ltd (Raw material Manufacturer) : Welletronics Communication Technology CO.,Ltd

Names of material and type : ID208BT BT antenna RoHS test report NO.

	Name of hazardous substance	Threshold value ppm (mg/Kg)	If yes, which products/part numbers	Do you products contain this substance (Yes or No)	How much ppm (mg/kg)	Implement schedule
	Cadmium and its compounds	100	759-064-01A01	NO	/	16/Nov/21
	Lead and its compounds	1000		NO	/	16/Nov/21
	Chromium VI and its compounds	1000		NO	/	16/Nov/21
	Mercury and its compounds	1000		NO	/	16/Nov/21
	Poly braminated Biphenyls (PBBS)	1000		NO	/	16/Nov/21
	Poly braminated Diphenyl ethers(PBDES)	1000		NO	/	16/Nov/21

(Contact Person) : Tianhua Liu

(Position) : Quality Manager

(TEL): 0755-33870801-617

e-Mail: qc1@wt-china.com

(Date) : 18/Jan/22

Nine、Salt spray test

Salt spray test

Customer	AiDu	Written By	Jie Xiao	Orig. Date	18-Jan-22		
Part Number	759-064-01A01	Revised By	Kun Yao	Revised Date	18-Jan-22		
Description	ID208BT BT antenna	Approved By	TianHua Liu	Approved Date	18-Jan-22		
Date of trial	Starting at 09.00 on Jan 16, 2022						
	And end at 09.00 on Jan 18, 2022						
	A total of 48 hours of continuous spray						
Experimental operation	1, Test operation status					OK	
	2, Test box temperature					35℃	
	3, Saturated Air Bucket Temperature					47℃	
	4, Specific gravity of salt spray test					5%	
	5, Specimen supported angle					30°	
	6, Compressed air pressure					1kg/cm ²	
	Time	Testing time	Laboratory thermometer (℃)	Saturated Air Barrel Temperature (℃)	compressed air pressure (kg/cm ²)	Machine running condition	Remarks
	17:00 on Jan 16	8	35	47	1kg/cm ²	OK	
	1:00 on Jan 17	16	35	47	1kg/cm ²	OK	
	9:00 on Jan 17	24	35	47	1kg/cm ²	OK	
	17:00 on Jan 17	32	35	47	1kg/cm ²	OK	
	1:00 on Jan 18	40	35	47	1kg/cm ²	OK	
	9:00 on Jan 18	48	35	47	1kg/cm ²	OK	
NO	Post-test status					Determine	Remarks
1	No oxidation on coating surface and no foammg and falling off of ink					OK	
2							
3							
4							
Remarks:							

Approved By: Kun Yao

Written By: Jie Xiao

Ten、 High and Low Temperature Testing

High and Low Temperature Testing

Customer	AiDu		Written By	Jie Xiao	Orig. Date	18-Jan-22	
Part Number	759-064-01A01		Revised By	Kun Yao	Revised Date	18-Jan-22	
Description1	ID208BT BT antenna		Approved By	TianHua Liu	Approved Date	18-Jan-22	
Test time	Starting at 08:30 on 12 Jan ,2022					Hot test (80℃)	
	Ending at 08:30 on 14 Jan, 2022						
	Starting at 08:35 on 14 Jan, 2022					Room temperature test (20℃)	
	Ending at 10:35 on 14 Jan, 2022						
	Starting at 10:40 on 14 Jan, 2022					low temperature test (-40℃)	
	Ending at 10:40 on 16 Jan, 2022						
	Starting at 10:45 on 16 Jan ,2022					Room temperature test (20℃)	
	Ending at 12:45 on 16 Jan, 2022						
	Starting at 12:50 on 16 Jan ,2022					High Temperature and Humidity Test (80℃)	
	Ending at 12:50 on 18 Jan, 2022						
	Starting at 12:55 on 18 Jan ,2022					Room temperature test (20℃)	
	Ending at 14:55 on 18 Jan, 2022						
	Total 150H Test						
	Experimental operation	Time		Test time (h/m)	Test box temperature (℃)	Air humidity in test box (%)	Machine running condition
13/Jan/22		08 :30 A.M	24	79.91℃		OK	High temperature section
14/Jan/22		08:30 A.M	48	80.01℃		OK	
14/Jan/22		10 :35 A.M	2	20.07℃		OK	normal temperature section
15/Jan/22		10:40 A.M	24	-19.91		OK	low temperature section
16/Jan/22		10 :40 A.M	48	-20.02		OK	
16/Jan/22		12 :45 P.M	2	19.97		OK	normal temperature section
17/Jan/22		12 :50 P.M	24	79.92		OK	High temperature and high humidity section
18/Jan/22		12 :50 P.M	48	80.04	95.07	OK	
18/Jan/22	14 :55 P.M	2	20.01	95.10	OK	normal temperature section	
NO	Post-test status				Determine	Remarks	
1	No Foaming Abnormality On Ink Surface				OK		
2							
3							
4							

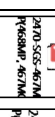
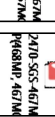
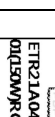
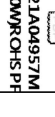
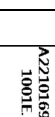
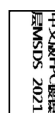
Revised By: Kun Yao

Written By: Jie Xiao

Eleven、Adhesion Tester

Peeling strength test report						
Tape model		3M467	Number of parking		5PCS	
Experimental environment		23±1°	Relative humidity		50±5% RH	
Gummed paper specification		100mm*20mm	Copper foil specifications		150mm*25mm	
The test conditions	1.Stripping Angle 90°2.Peeling speed: 50mm/ min					
Decision criteria	Pressure sensitive adhesive acuity 0.5 KGF/cm					
The device under test	Peel strength testing machine					
The test results	The serial number	Actual test conditions and phenomena			determine (OK/NG)	note
		The Angle	speed	Stripping degree		
	1	90°	50 mm/min	0.71kgf	OK	
	2	90°	50 mm/min	0.67kgf	OK	
	3	90°	50 mm/min	0.70kgf	OK	
	4	90°	50 mm/min	0.68kgf	OK	
	5	90°	50 mm/min	0.70kgf	OK	

Twelve、Material quality proves

Customer		AiDu		Written By		Jie Xiao		Orig. Date		16-Nov-21							
Part Number		759-064-01A01		Revised By		Kun Yao		Revised Date		16-Nov-21							
Description1		ID208BT BT antenna		Approved By		Tianhua Liu		Approved Date		16-Nov-21							
The serial number	Part name	The name of the material	manufacturers	Test Report No.	Hazardous substance content								Inspection date	Note	MSDS		
					Cd	Pb	Hg	Cr+6	PBB	PBDE	DBP	DEHP				DBP	BBP
1	Base material	Electrolytic copper	CailunGeDi	SHAEC2013249004/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2021.3.3	 RoHS指令符合PD F	 最新MSDS 20201.pdf
2	ink	Black solder resist	YouLi	ETR21805816	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2021.9.6	 ETR21805816R 黑色锡膏.pdf  ETR21805816R 黑色锡膏.pdf	 最新MSDS 20201年MSDS.pdf
3	The back glue	467 of gum	3m agents	SHAEC2118728904	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2021.9.4	 2470 555-46TM 黄色胶.pdf  2470 555-46TM 黄色胶.pdf	 最新MSDS 20201年MSDS.pdf
4	Text ink	Text white	ChuanYu	ETR21A04957M01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2021.10.29	 ETR21A04957M 白色墨水.pdf  ETR21A04957M 白色墨水.pdf	 400W-MSDS N EW 1.pdf
5	electroplating	Nickel plating	Jia HongTai	A2210169276101001E	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2021.5.10	 A221016927610 1001E.pdf	 中文版PCB蚀刻金 属MSDS 202101

