

Admit it

The product description:	The manufacturer: Welletronics Communication Technology Limited The name of the material: Bluetooth RF antenna Material code: 3.01.IDW16F1000 The version number: V1.0	Project type: IDW16 Specification/Color: white Sign the sample date: 2023.03.04 note:			
The attachment:	<input checked="" type="checkbox"/> Description of electrical and mechanical properties (Specification) <input checked="" type="checkbox"/> Manufacturing flow chart <input checked="" type="checkbox"/> QCEngineering drawing <input checked="" type="checkbox"/> The sample <input checked="" type="checkbox"/> CPK report <input checked="" type="checkbox"/> Full size measurement report <input checked="" type="checkbox"/> Reliability test report <input checked="" type="checkbox"/> The packing way <input checked="" type="checkbox"/> 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	<input type="checkbox"/> RoHS material <input type="checkbox"/> Meet REACH requirements <input type="checkbox"/> no RoHS material	<input type="checkbox"/> Meet halogen-free requirements <input type="checkbox"/> Other Environmental Requirements		
	ID of Design Department	<input type="checkbox"/> The customer request ID <input type="checkbox"/> Color confirmation	<input type="checkbox"/> Surface process confirmation <input type="checkbox"/> Shell, hardware, key material		
	Structural engineer	<input type="checkbox"/> Confirm the size of 2D drawing files <input type="checkbox"/> Specifications and technical requirements	<input type="checkbox"/> Focus on size marking control <input type="checkbox"/> Electrical performance parameter <input type="checkbox"/> Adapter validation <input type="checkbox"/> function	<input type="checkbox"/> Shell, hardware, key material <input type="checkbox"/> The effect	
	Hardware engineer	<input type="checkbox"/> Confirm the size of 2D drawing files <input type="checkbox"/> Specifications and technical requirements	<input type="checkbox"/> Focus on size marking control <input type="checkbox"/> Electrical performance parameter <input type="checkbox"/> Adapter validation <input type="checkbox"/> function	<input type="checkbox"/> Shell, hardware, key material <input type="checkbox"/> The effect	
	R&d quality	<input type="checkbox"/> Test standard confirmation <input type="checkbox"/> appearance	<input type="checkbox"/> Standardization of dimension marking (key dimensions) <input type="checkbox"/> Reliability verification <input type="checkbox"/> Adapter validation	<input type="checkbox"/> function <input type="checkbox"/> The effect	
Final confirmation	Project Manager	<input type="checkbox"/> Acknowledge the completeness of the documents <input type="checkbox"/> Standardization of dimension marking (key dimensions) <input type="checkbox"/> Specifications and technical requirements <input type="checkbox"/> appearance	<input type="checkbox"/> Electrical performance parameter <input type="checkbox"/> function <input type="checkbox"/> The effect		
Admitted conditions:	<input type="checkbox"/> Official recognition <input type="checkbox"/> Set limit to admit <input type="checkbox"/> Refuse to admit				
Distribution department:	<input type="checkbox"/> IQC <input type="checkbox"/> supplier <input type="checkbox"/> The customer <input type="checkbox"/> after-sales <input type="checkbox"/> SQE/ Document control <input type="checkbox"/> other _____				

Catalog

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Four、 Electrical characteristics

1. Antenna Structure

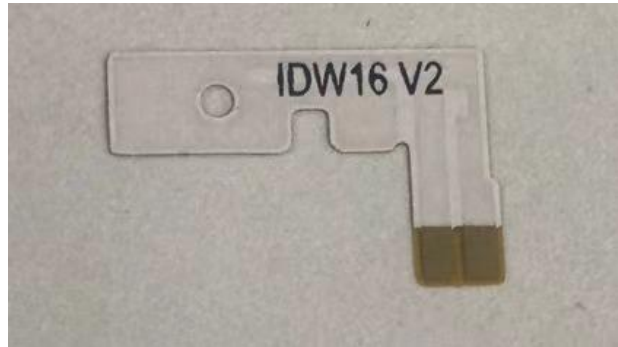
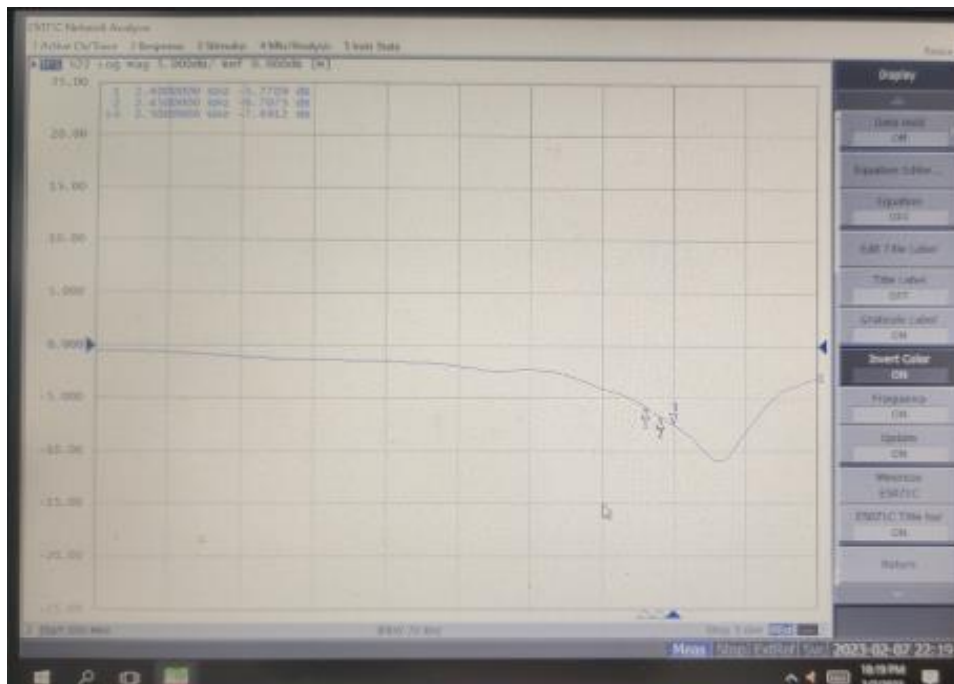


Figure antenna structure

2. Test Results

BT-Return Loss/VSWR



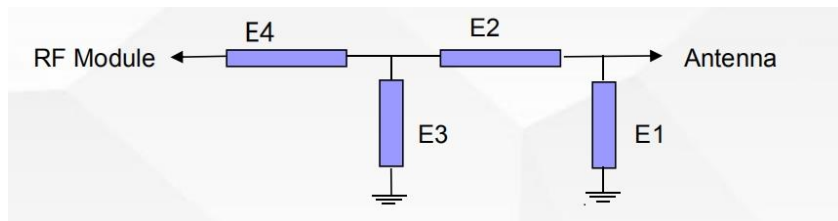
3. Test Repor No source by space test efficiency/pattern

Free space

Add the arm

自由				手臂			
Freq	Efficien cy dB	Efficien cy Pcent	Gain	Freq	Efficien cy dB	Efficien cy Pcent	Gain
2400	-4.59	34.79	-1.49	2400	-9.19	12.06	-2.43
2410	-5.15	30.57	-2.06	2410	-9.74	10.63	-3.09
2420	-5.25	29.85	-1.96	2420	-9.76	10.56	-2.97
2430	-5.38	28.96	-1.91	2430	-9.86	10.32	-3.12
2440	-5.26	29.8	-1.8	2440	-9.78	10.53	-3.16
2450	-5.19	30.25	-1.78	2450	-9.77	10.55	-3.13
2460	-5.2	30.21	-1.84	2460	-9.86	10.33	-3.3
2470	-4.99	31.67	-1.56	2470	-9.74	10.61	-3.22
2480	-4.8	33.14	-1.47	2480	-9.66	10.81	-3.18
2490	-4.52	35.35	-1.27	2490	-9.47	11.29	-2.97
2500	-4.46	35.8	-1.28	2500	-9.47	11.31	-2.89

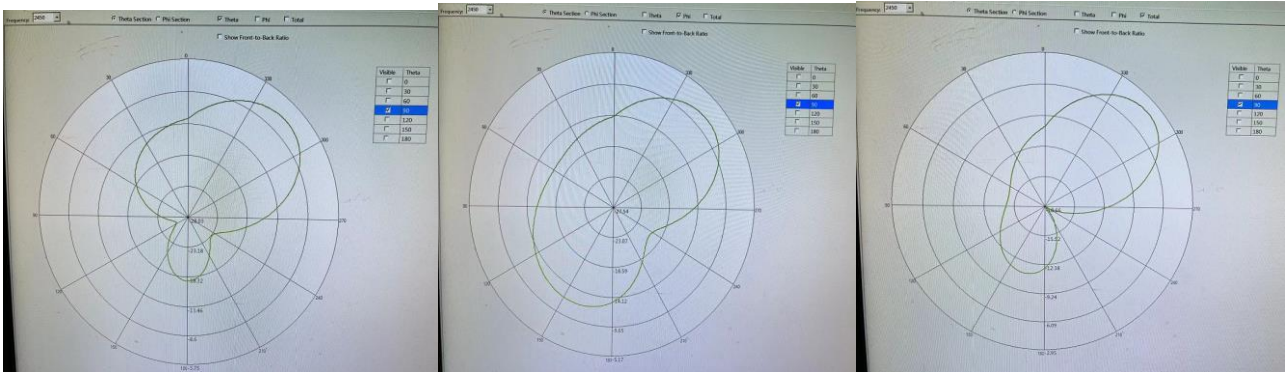
Match



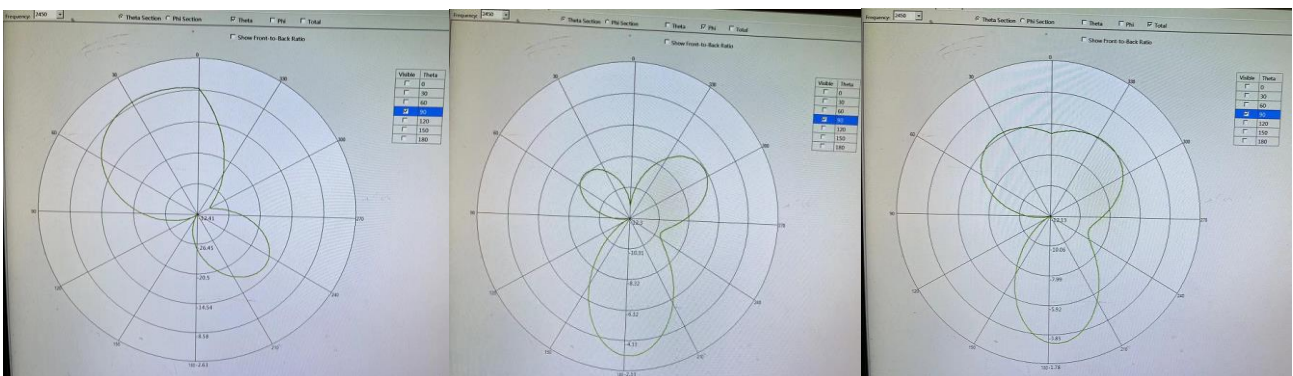
The antenna	Element	Value
	E1	1.2PF
	E2	0 Ω
	E3	
	E4	

3. The direction of figure

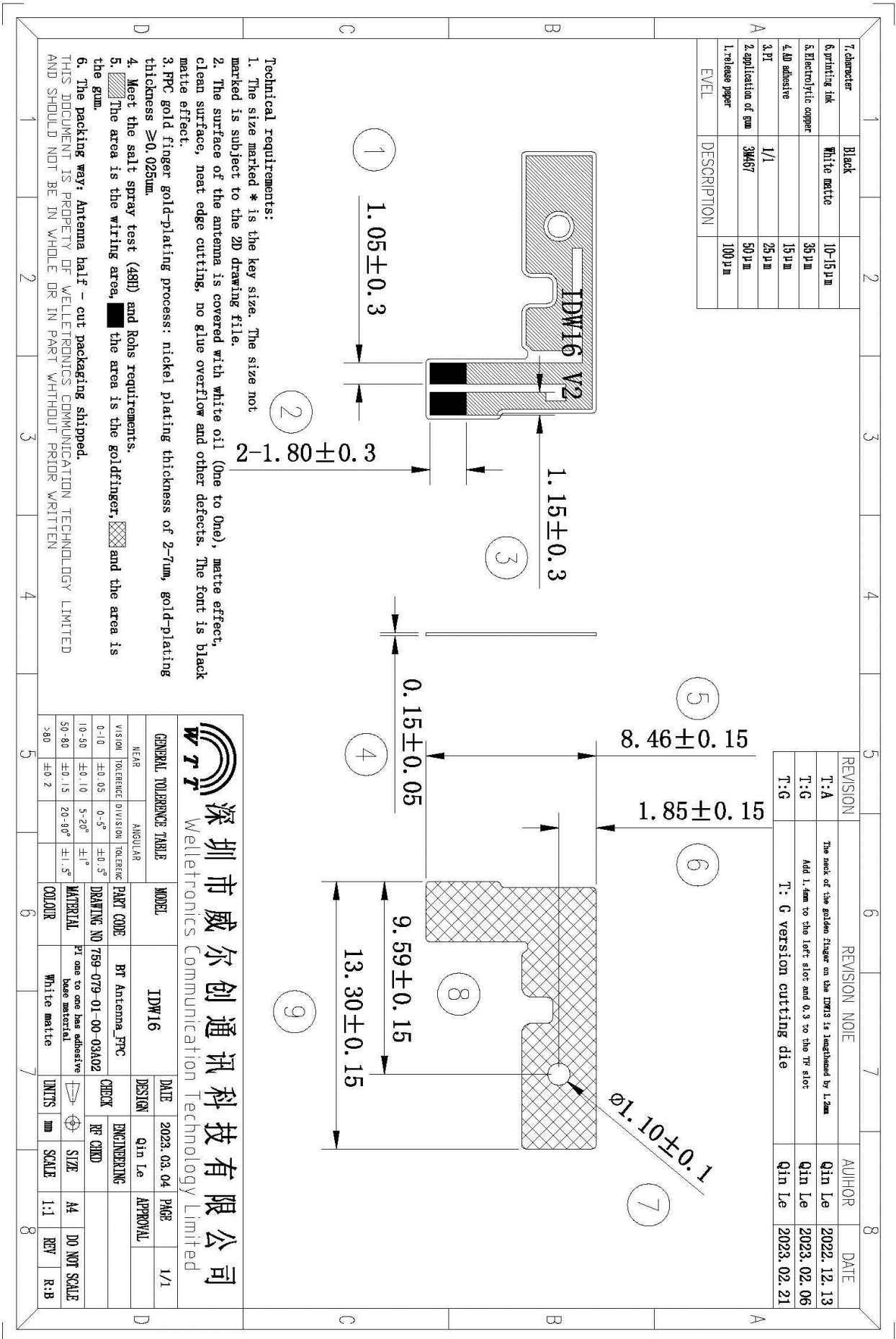
Free space



Add the arm



Five、The 2D drawings



EVEL	DESCRIPTION	
7. diameter	Black	
6. printing ink	White matte	10-15 μm
5. Electrolytic copper		35 μm
4. AD adhesive		15 μm
3. PT	1/1	25 μm
2. application of gum	3M467	50 μm
1. release paper		100 μm

REVISION	REVISION NOIE	AUIHOR	DATE
T:A	The neck of the golden finger on the IDW16 is lengthened by 1.2mm	qin Le	2022. 12. 13
T:G	Add 1.4mm to the left slot and 0.3 to the TR slot	qin Le	2023. 02. 06
T:G	T: G version cutting die	qin Le	2023. 02. 21

Technical requirements:

1. The size marked * is the key size. The size not marked is subject to the 2D drawing file.
2. The surface of the antenna is covered with white oil (One to One), matte effect, clean surface, neat edge cutting, no glue overflow and other defects. The font is black matte effect.
3. PFC gold finger gold-plating process: nickel plating thickness of 2-7um, gold-plating thickness $\geq 0.025\mu\text{m}$
4. Meet the salt spray test (48H) and Rohs requirements.
5. The area is the wiring area, the area is the goldfinger, and the area is the gum.
6. The packing way: Antenna half - cut packaging shipped.

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深圳市威尔创通讯科技有限公司

Welletronics Communication Technology Limited

GENERAL TOLERANCE TABLE		ANGULAR TOLERANCE		MODEL	IDW16	DATE	2023. 03. 04	PAGE	1/1
VISION	NEAR	TOLERANCE	DIVISION	TOLERANCE	PART CODE	DESTAN	qin Le	APPROVAL	
0-10	±0.05	0-5°	±0.5°	BT Antenna_PPC	CHECK	ENGINEERING			
10-30	±0.10	5-20°	±1°	DRAWING NO 759-079-01-00-03A02		RE CMD			
50-80	±0.15	20-60°	±1.5°	MATERIAL	PR one to one has adhesive base material	SIZE	A4	DO NOT SCALE	
>80	±0.2			COLOR	White matte	SCALE	1:1	REV	R:8

Seven、Cpk Report

CPK Report

Part Number	759-079-03A02		Vendor	WTT
Description	IDW16 BT antenna		Inspected	肖洁
Tool Number			Inches/MM	mm
Cavity			Material Name	FPC
			Material Code	
Revision	R:B		Date	4-Mar-23
Dim. Designator	5	9		
Nominal	8.46	13.30		
+ Tolerance (All	0.15	0.15		
- Tolerance	-0.15	-0.15		
Upper Limit	8.61	13.45		
Lower Limit	8.31	13.15		
1	8.46	13.31		
2	8.50	13.32		
3	8.50	13.27		
4	8.44	13.29		
5	8.45	13.31		
6	8.44	13.33		
7	8.46	13.35		
8	8.50	13.28		
9	8.40	13.29		
10	8.42	13.31		
11	8.48	13.28		
12	8.51	13.33		
13	8.48	13.28		
14	8.50	13.35		
15	8.44	13.25		
16	8.46	13.26		
17	8.44	13.28		
18	8.40	13.25		
19	8.42	13.36		
20	8.46	13.28		
21	8.46	13.29		
22	8.42	13.25		
23	8.48	13.28		
24	8.51	13.26		
25	8.40	13.28		
26	8.42	13.35		
27	8.50	13.25		
28	8.40	13.26		
29	8.42	13.35		
30	8.46	13.36		
MAX.	8.51	13.36		
MIN.	8.40	13.25		
AVERAGE	8.45	13.30		
STDEV	0.04	0.04		
CP	1.39	1.38		
Cpk	1.34	1.35		
TOOLING	CMM	CMM		

Approved By: Kun Yao

Written By: Jie Xiao



Welletronics Communication Technology CO., 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 : IDW16 Bf 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	759-079-03A02	NO	/	02-Mar-23
Lead and its compounds	1000		NO	/	02-Mar-23
Chromium VI and its compounds	1000		NO	/	02-Mar-23
Mercury and its compounds	1000		NO	/	02-Mar-23
Poly brominated Biphenyls (PBBS)	1000		NO	/	02-Mar-23
Poly brominated Diphenyl ethers(PBDES)	1000		NO	/	02-Mar-23

(Contact Person) : Tianhua Liu

(Position) : Quality Manager

(TEL): 0755-29076623

e-Mail: qc1@wt-china.com

(Date) : 04-Mar-23

Nine、Salt spray test

Salt spray test

Customer	AiDu	Written By	Jie Xiao	Orig. Date	4-Mar-23			
Part Number	759-079-03A02	Revised By	Kun Yao	Revised Date	4-Mar-23			
Description1	IDW16 BT antenna	Approved By	TianHua Liu	Approved Date	4-Mar-23			
Date of trial	Starting at 09.00 on Mar 2, 2023							
	And end at 09.00 on Mar 4, 2023							
	A total of 48 hours of continuous spray							
Experimental operation	1. Test operation status						OK	
	2. Test box temperature						35°C	
	3. Saturated Air Bucket Temperature						47°C	
	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 (°C)	Saturated Air Barrel Temperature (°C)	compressed air pressure (kg/cm ²)	Machine running condition	Remarks
		17:00 on Mar 2	8	35	47	1kg/cm ²	OK	
		1:00 on Mar 3	16	35	47	1kg/cm ²	OK	
		9:00 on Mar 3	24	35	47	1kg/cm ²	OK	
	17:00 on Mar 3	32	35	47	1kg/cm ²	OK		
	1:00 on Mar 4	40	35	47	1kg/cm ²	OK		
	9:00 on Mar 4	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	5PCS	
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	4-Mar-23		
Part Number	759-079-03A02	Revised By	Kun Yao	Revised Date	4-Mar-23		
Description1	IDW16 BT antenna	Approved By	TianHua Liu	Approved Date	4-Mar-23		
Test time	Starting at 08:30 on 26 Feb ,2023				Hot test (60℃)		
	Ending at 08:30 on 28 Feb ,2023						
	Starting at 08:35 on 28 Feb ,2023				Room temperature test (20℃)		
	Ending at 10:35 on 28 Feb ,2023						
	Starting at 10:40 on 28 Feb ,2023				low temperature test (-20℃)		
	Ending at 10:40 on 2 Mar ,2023						
	Starting at 10:45 on 2 Mar ,2023				Room temperature test (20℃)		
	Ending at 12:45 on 2 Mar ,2023						
	Starting at 12:50 on 2 Mar ,2023				High Temperature and Humidity Test (60℃)		
	Ending at 12:50 on 4 Mar ,2023						
	Starting at 12:55 on 4 Mar ,2023				Room temperature test (20℃)		
	Ending at 14:55 on 4 Mar ,2023						
	Total 150H Test						
Experimental operation	Time		Test time (h/m)	Test box temperature(℃)	Air humidity intest box(%)	Machine running condition	Remarks
	27-Feb-23	08 :30 A.M	24	59.91℃		OK	High temperature section
	28-Feb-23	08:30 A.M	48	60.01℃		OK	normal temperature section
	28-Feb-23	10 :35 A.M	2	20.07℃		OK	low temperature section
	01-Mar-23	10:40 A.M	24	-19.91		OK	normal temperature section
	02-Mar-23	10 :40 A.M	48	-20.02		OK	High temperature and high humidity section
	02-Mar-23	12 :45 P.M	2	19.97		OK	normal temperature section
	03-Mar-23	12 :50 P.M	24	59.92		OK	High temperature and high humidity section
	04-Mar-23	12 :50 P.M	48	60.04	95	OK	normal temperature section
	04-Mar-23	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	5PCS	
2							
3							
4							

Revised By: Kun Yao

Written By: Jie Xiao

Eleven、Material quality proves

The serial number	Subpart Name	Material Name	Material supplier	Test Report No. of Hazardous Material	Hazardous substance content												Inspection date	Note	MSDS	
					Cd	Pb	Hg	C+6	PBB	PBDE	DIBP	DEHP	DBP	BBP						
1	Base material	Electrolytic copper	Fu Bang	A2220120187101006E	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2022-4-8	 中国材料ROHS有害物质报告A222	 2022-4-8材料MSDS报告
2	The back glue	467 of gum	3m agents	ROHS/CANEC2205384301 HF/CANEC2205384302	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2022-4-8	 背胶-3M467-HF.pdf  背胶-3M467-R OHSP.pdf	 467 468 9667 9668 MSDS 报告
3	Resistance welding	KTM-150F WM	Kai Yao	EFR22501510	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2022-5-17	 EFR22501510KTM 150FWM.pdf	 KTM_150F_WM MSDS.pdf
4	Character	KTM-310F	Kai Yao	EFR22300684	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2022-3-9	 EFR22300684 KTM_310 BK2 RK	 KTM_310F_BK2 MSDS.pdf
5	Electroplated	Nickel plated gold	Qian Sheng	ROHS/A22202833971010 O1C HF/A2220283397101002C	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2022-7-9	 电镀镍金-HF.pdf  电镀镍金-O1C.pdf	 物料安全数据表-1.pdf

Material quality proves

Customer	Aidu	Written By	Jie Xiao	Orig. Date	4-Mar-23
Part Number	759-079-03A02	Revised By	Kun Yao	Revised Date	4-Mar-23
Description	IDW16 BT antenna	Approved By	Tianhua Liu	Approved Date	4-Mar-23

Twelve、Shipment packaging

Packing

General requirements:

- 1.State customer name, project name, model number,
- 2.The pictures show the inner and outer cases, the packing method when shipping, the number of layers, the quantity of single layer, etc
- 3.Fill in the name and quantity of packing materials in the remarks column
- 4.Signature of quality supervisor, date

		Product material no:	759-079-03A02	
		The product name:	IDW16 BT antenna	
		Product version:	R:B	
		The packing way:	Full page half cut package shipping	
		Blister tray	very dish:	1000pcs/bag
		carton	Each box number:	20000pcs/bag
		note:		
		Put each 1000pcs into PE bag with protective film protection;20 bags in one case, 20000pcs. Signature:Qin Le		
Figure 3: packing case	Figure 4: outer packing label			
	Figure 5: stacking of packing cases.			