

# Admit it

The product description:	The manufacturer: Welletronics Communication Technology Limited The name of the material: Bluetooth RF antenna Material code: 3.01.IDW13F1000 The version number: V1.0	Project type: IDW13 Specification/Color: white Sign the sample date: 2022.12.08 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:			
<b>The above shall be filled in by the supplier and the following shall be filled in by Aidu</b>					
	<b>department</b>	<b>Confirm the content</b>	<b>Verify the results</b>	<b>Confirm person/date</b>	
Technical confirmation column	Supplier quality	<input type="checkbox"/> RoHS material <input type="checkbox"/> no RoHS material	<input type="checkbox"/> Meet REACH requirements <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 checked="" 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 _____				

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## Four、 Electrical characteristics

### 1. Antenna Structure

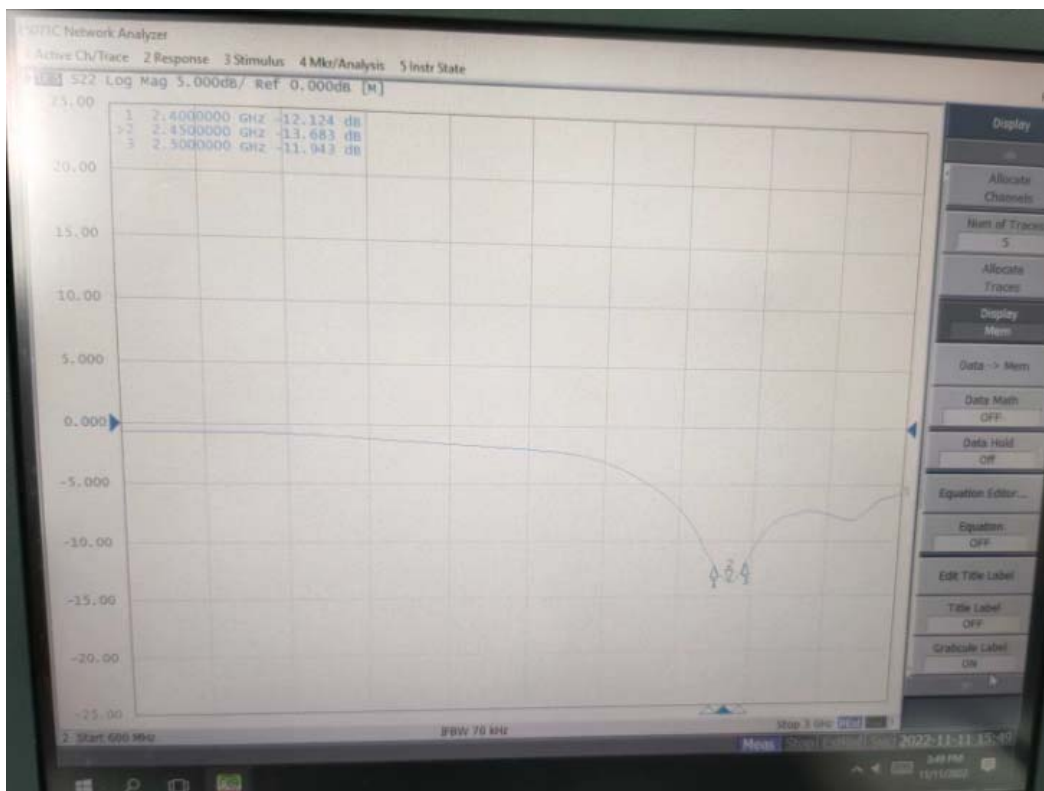
Antenna type:FPC Antenna



Figure antenna structure

## 2. Test Results

BT-Return Loss/VSWR



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

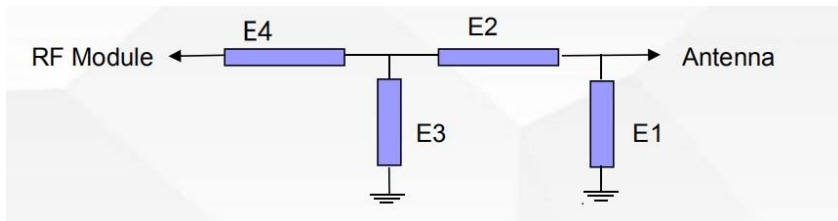
Free space

Add the arm

Freq (MHz)	Effi (dB)	Effi (%)	Gain (dBi)
2400	-4.14	38.5	-0.18
2410	-4.56	35.0	-0.61
2420	-4.62	34.5	-0.42
2430	-4.8	33.1	-0.56
2440	-4.8	33.1	-0.69
2450	-4.95	32.0	-0.80
2460	-5.21	30.1	-1.11
2470	-5.26	29.8	-1.15
2480	-5.41	28.8	-1.34

Freq (MHz)	Effi (dB)	Effi (%)	Gain (dBi)
2400	-9.66	10.8	-6.01
2410	-9.97	10.1	-6.36
2420	-9.94	10.1	-6.38
2430	-10.05	9.9	-6.53
2440	-9.98	10.0	-6.49
2450	-10.07	9.8	-6.71
2460	-10.28	9.4	-6.86
2470	-10.26	9.4	-6.84
2480	-10.35	9.2	-7.06

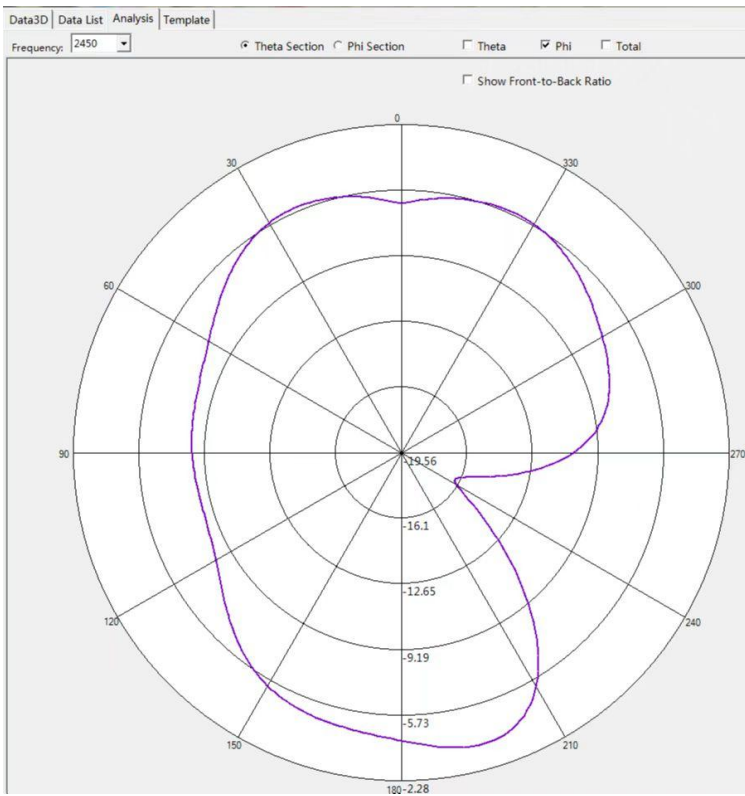
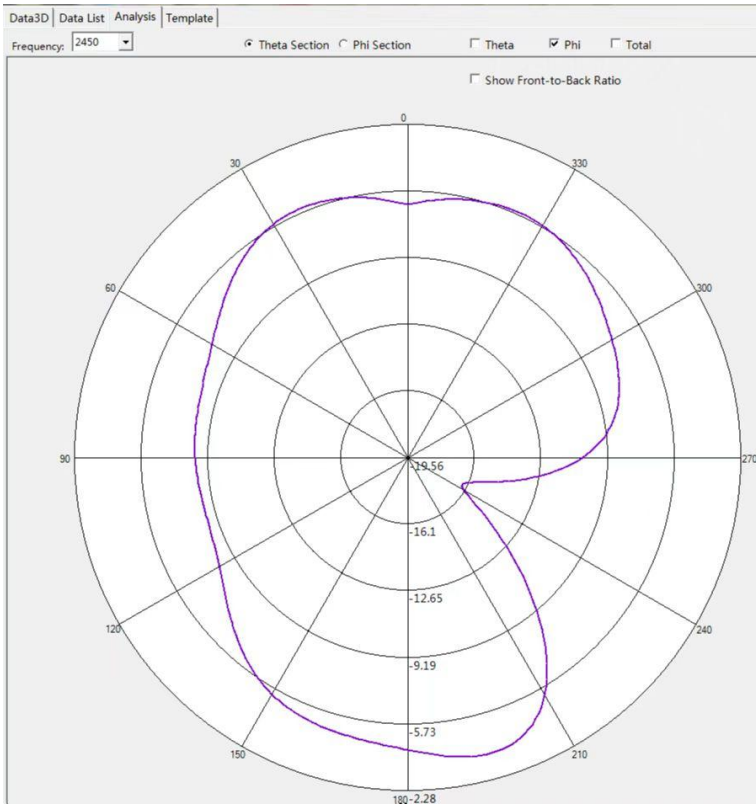
Match

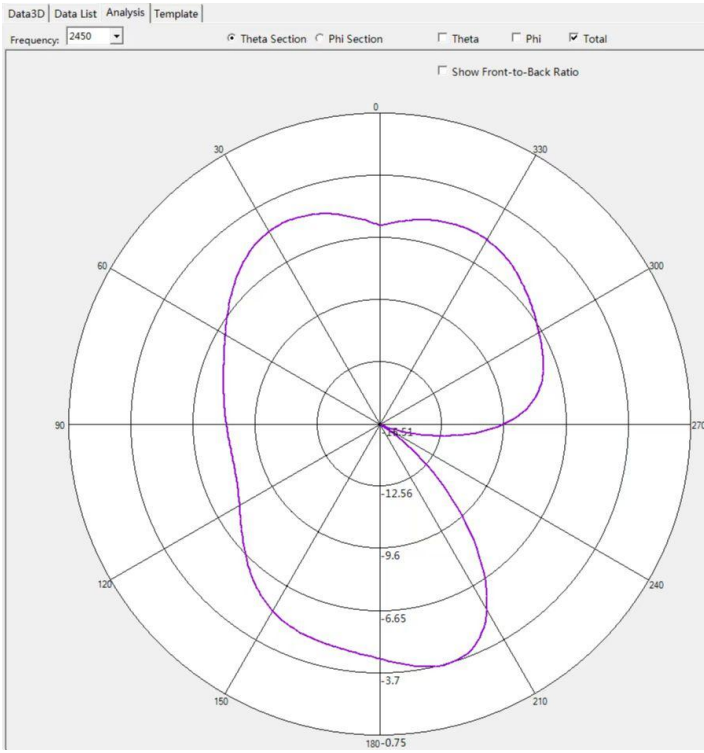


The antenna	Element	Value
	E1	1.2PF
	E2	0 Ω
	E3	
	E4	

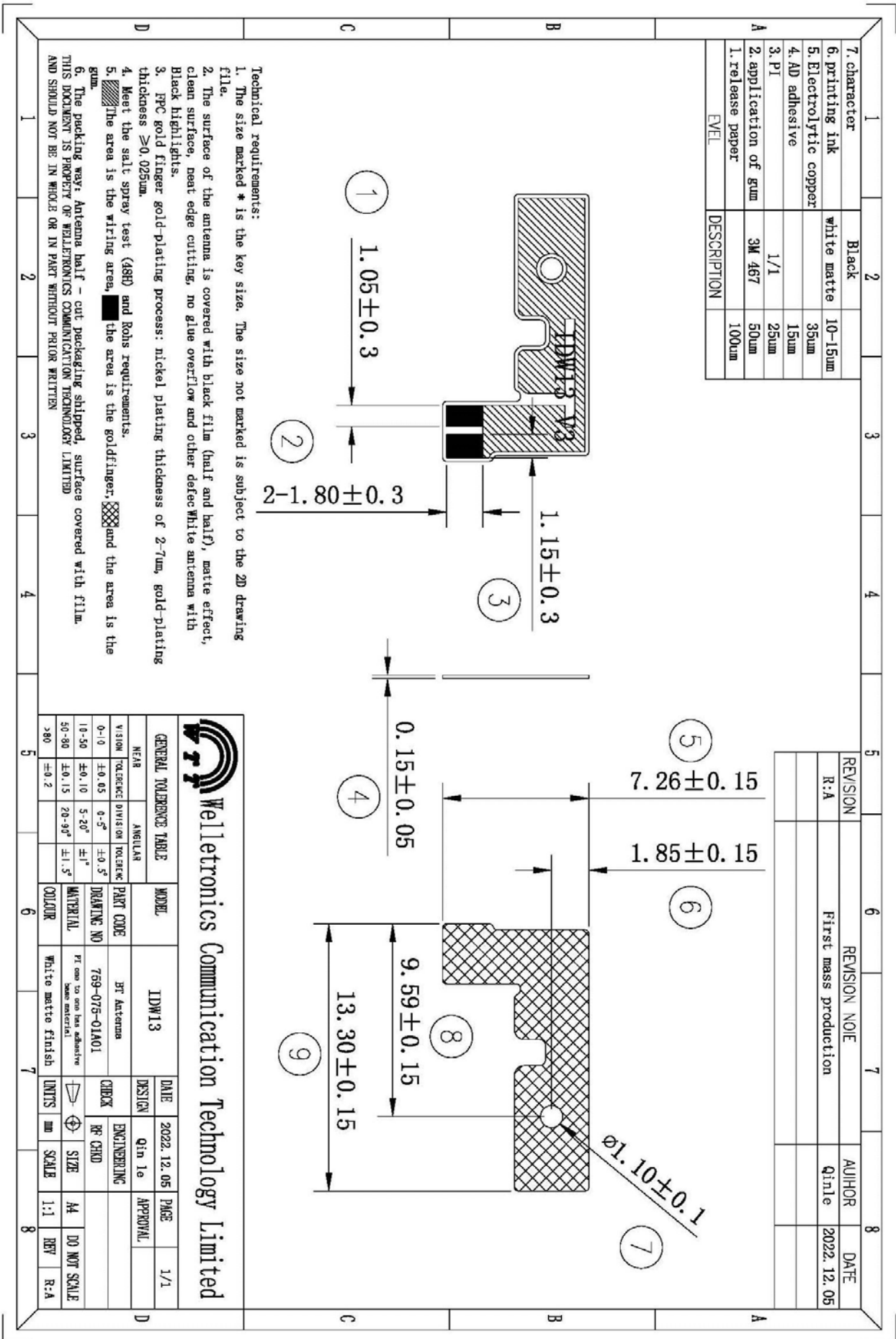
### 3. The direction of figure

Free space





Five、 The 2D drawings



7. character	Black	10-15um
6. printing ink	white matte	35um
5. Electrolytic copper		15um
4. AD adhesive	1/1	25um
3. PI	3M 467	50um
2. application of gum		100um
1. release paper		
EVEL	DESCRIPTION	

REVISION	REVISION NO/IE	AUTHOR	DATE
R:A	First mass production	Qinle	2022.12.05

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 black film (half and half), matte effect, clean surface, neat edge cutting, no glue overflow and other defect. White antenna with black highlights.
3. FPC 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, surface covered with film.

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Welletronics Communication Technology Limited

GENERAL TOLERANCE TABLE		MODEL	DATE	PAGE
NEAR	ANGULAR	IDW13	2022.12.05	1/1
VISION	TOLERANCE	DIVISION	TOLERANCE	PART CODE
0-10	$\pm 0.05$	0-5°	$\pm 0.5°$	BT Antenna
10-50	$\pm 0.10$	5-20°	$\pm 1°$	DRAWING NO
50-90	$\pm 0.15$	20-90°	$\pm 1.5°$	759-075-01A01
>90	$\pm 0.2$			PT: one to one has adhesive same material
		COLOR	White matte finish	CHECK
				RE CHD
		SIZE	A4	DO NOT SCALE
		SCALE	1:1	REV
				R:A



Six、 Full-scale measurement report

Full-scale measurement report

Vendor		Material name	FPC	Part NO	759-075-01A01	Tool Number		Cav. Number	Unit	Comments														
WTT		Material Code		Part Name	IDW13 BT antenna	Rev		R:A	<input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS															
Date		07/Dec/22			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 + TOL.	- TOL.	
1	1.05		0.30	0.30		1.03	1.04	1.01	1.05	1.07	7%	13%	X											
2	1.80		0.30	0.30		1.79	1.79	1.77	1.80	1.80	0%	10%	X											
3	1.15		0.30	0.30		1.14	1.13	1.23	1.14	1.12	27%	10%		X										
4	0.15		0.05	0.05		0.15	0.15	0.15	0.15	0.15	0%	0%	X											
5	7.26		0.15	0.15		7.25	7.29	7.29	7.23	7.28	20%	20%	X											
6	1.85		0.15	0.15		1.89	1.81	1.84	1.88	1.87	27%	27%		X										
7	1.10		0.10	0.10		1.13	1.07	1.10	1.13	1.11	30%	30%		X										
8	9.59		0.15	0.15		9.61	9.58	9.59	9.56	9.59	13%	20%	X											
9	13.30		0.15	0.15		13.33	13.30	13.34	13.27	13.27	27%	20%		X										
10																								
11																								
12																								
13																								
14																								
15																								
16																								
17																								
18																								
19																								
20																								
21																								

Seven、Cpk Report

CPK Report

Part Number	759-075-01A01		Vendor	WTT
Description	IDW13 BT antenna		Inspected	肖洁
Tool Number			Inches/MM	mm
Cavity			Material Name	FPC
			Material Code	
Revision	R:A		Date	7-Dec-22
Dim. Designator	5	9		
Nominal	7.26	13.30		
+ Tolerance (All	0.15	0.15		
- Tolerance	-0.15	-0.15		
Upper Limit	7.41	13.45		
Lower Limit	7.11	13.15		
1	7.25	13.33		
2	7.29	13.30		
3	7.29	13.34		
4	7.23	13.27		
5	7.28	13.27		
6	7.28	13.35		
7	7.20	13.32		
8	7.22	13.30		
9	7.28	13.28		
10	7.28	13.28		
11	7.25	13.27		
12	7.22	13.25		
13	7.20	13.26		
14	7.23	13.24		
15	7.20	13.28		
16	7.24	13.33		
17	7.21	13.32		
18	7.28	13.34		
19	7.28	13.27		
20	7.20	13.25		
21	7.23	13.26		
22	7.20	13.24		
23	7.24	13.28		
24	7.21	13.33		
25	7.26	13.32		
26	7.26	13.34		
27	7.24	13.27		
28	7.27	13.25		
29	7.28	13.30		
30	7.20	13.32		
MAX.	7.29	13.35		
MIN.	7.20	13.24		
AVERAGE	7.24	13.29		
STDEV	0.03	0.03		
CP	1.55	1.47		
Cpk	1.38	1.39		
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 : IDW13 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
Cadnrim and its compounds	100	759-075-01A01	NO	/	07/Dec/22
Lead and its compounds	1000		NO	/	07/Dec/22
Chromium VI and its compounds	1000		NO	/	07/Dec/22
Mercury and its compounds	1000		NO	/	07/Dec/22
Poly braminated Biphenyls (PBBS)	1000		NO	/	07/Dec/22
Poly braminated Diphenyl ethers(PBDES)	1000		NO	/	07/Dec/22

(Contact Person) : Tianhua Liu

(Position) : Quality Manager

(TEL): 0755-29076623

e-Mail: qc1@wt-china.com

(Date) : 07/Dec/22

## Eight 、 The RoHS report

## Nine、Salt spray test

### Salt spray test

Customer	AiDu	Written By	Jie Xiao	Orig. Date	7-Dec-22			
Part Number	759-075-01A01	Revised By	Kun Yao	Revised Date	7-Dec-22			
Description1	IDW13 BT antenna	Approved By	TianHua Liu	Approved Date	7-Dec-22			
Date of trial	Starting at 09.00 on Dec 5, 2022							
	And end at 09.00 on Dec 7, 2022							
	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 <sup>2</sup>	
		Time	Testing time	Laboratory thermometer (°C)	Saturated Air Barrel Temperature (°C)	compressed air pressure (kg/cm <sup>2</sup> )	Machine running condition	Remarks
		17:00 on Dec 5	8	35	47	1kg/cm <sup>2</sup>	OK	
		1:00 on Dec 6	16	35	47	1kg/cm <sup>2</sup>	OK	
		9:00 on Dec 6	24	35	47	1kg/cm <sup>2</sup>	OK	
	17:00 on Dec 6	32	35	47	1kg/cm <sup>2</sup>	OK		
	1:00 on Dec 7	40	35	47	1kg/cm <sup>2</sup>	OK		
	9:00 on Dec 7	48	35	47	1kg/cm <sup>2</sup>	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	7-Dec-22		
Part Number	759-075-01A01	Revised By	Kun Yao	Revised Date	7-Dec-22		
Description1	IDW13 BT antenna	Approved By	TianHua Liu	Approved Date	7-Dec-22		
Test time	Starting at 08:30 on 1 Dec ,2022					Hot test (60℃)	
	Ending at 08:30 on 3 Dec, 2022						
	Starting at 08:35 on 3 Dec, 2022					Room temperature test (20℃)	
	Ending at 10:35 on 3 Dec, 2022						
	Starting at 10:40 on 3 Dec, 2022					low temperature test (-20℃)	
	Ending at 10:40 on 5 Dec, 2022						
	Starting at 10:45 on 5 Dec ,2022					Room temperature test (20℃)	
	Ending at 12:45 on 5 Dec, 2022						
	Starting at 12:50 on 5 Dec ,2022					High Temperature and Humidity Test (60℃)	
	Ending at 12:50 on 7 Dec, 2022						
	Starting at 12:55 on 7 Dec ,2022					Room temperature test (20℃)	
	Ending at 14:55 on 7 Dec, 2022						
	Total 150H Test						
Experimental operation	Time		Test time (h/m)	Test box temperature (℃)	Air humidity in test box (%)	Machine running condition	Remarks
	02/Dec/22	08 :30 A.M	24	59.91℃		OK	High temperature section
	03/Dec/22	08:30 A.M	48	60.01℃		OK	normal temperature section
	03/Dec/22	10 :35 A.M	2	20.07℃		OK	low temperature section
	04/Dec/22	10:40 A.M	24	-19.91		OK	normal temperature section
	05/Dec/22	10 :40 A.M	48	-20.02		OK	High temperature and high humidity section
	05/Dec/22	12 :45 P.M	2	19.97		OK	normal temperature section
	06/Dec/22	12 :50 P.M	24	59.92		OK	High temperature and high humidity section
	07/Dec/22	12 :50 P.M	48	60.04	95	OK	normal temperature section
	07/Dec/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、Material quality proves

Customer		Aidu		Written By		Jie Xiao		Orig. Date		7-Dec-22									
Part Number		759-075-01A01		Rewsed By		Kun Yao		Revised Date		7-Dec-22									
Description1		IDW13 BT antenna		Approved By		Tianhua Liu		Approved Date		7-Dec-22									
The serial number	Part name	The name of the material	Material supplier	Test Report No. of Hazardous Material	Hazardous substance content										Inspection date	Note	MSDS		
					Cd	Pb	Hg	Cr+6	PBB	PBDE	DIBP	DEHP	DBP	BBP					
1	Base material	Cai Lungri	Electrolytic copper	SHAEC2202460504	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2022. 2. 21	电解中文ROHS (1).PDF	成品MSDS_2019.pdf
2	The back glue	3m agents	467 of gum	ROHS/CANEC2205384301 HF/CANEC2205384302	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2022. 4. 8	测试-31M67-4H.pdf 测试-31M67-R OH5.pdf	467 468 9667 9668 MSDS报告
3	ink	Arcane armor	FCR-1000A	ROHS/A22200235891010 HF/A2220023589101002 E	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2022. 1. 22	ROHS 0200.pdf 虚集.pdf	安全数据表Safety Data Sheet.pdf
4	character	Yichangshun	HS-3003BK	S22022301801C	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2022. 2. 28	S22022301801C 1).pdf	亿昌通顺系统数据整理系统支持性文件
5	electrop late	Jiahongtai	Nickel plated gold	A2220171849101001C	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2022. 5. 14	A2220171849101001C.pdf	物居安全数据表.pdf

Material quality proves

## 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



Figure 1: single layer blister tray or other forms



Figure 2: basic packing method of inner box



Figure 3: packing case



Figure 4: outer packing label



Figure 5: stacking of packing cases.

Product material no:	759-075-01A01	
The product name:	IDW13 BT antenna	
Product version:	R:A	
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:Qinle