

Admit it

The product description:	The manufacturer: Welletronics Communication Technology Limited The name of the material: Bluetooth RF antenna Material code: 3.01.GT01MRF000 The version number: T:C	Project type: GT01mini Specification/Color: black Sign the sample date: 2021.09.13 note:				
The attachment:	■ Description of electrical and mechanical properties (Specification) ■ Manufacturing flow chart ■ QCEngineering 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:	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	Sep 13, 2021	GT01mini 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

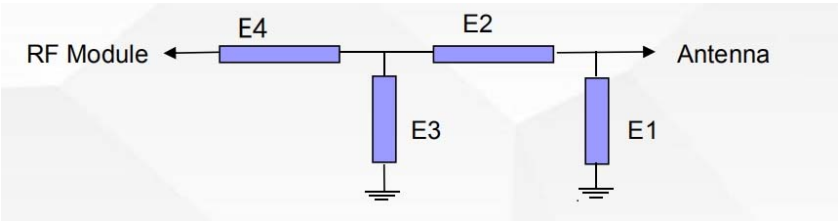
Free space

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	18.25	-7.39	-3.57
2410	19.89	-7.01	-3.38
2420	21.56	-6.66	-3.04
2430	22.23	-6.53	-2.9
2440	22.06	-6.56	-2.92
2450	22.3	-6.52	-2.6
2460	22.59	-6.46	-2.35
2470	22.6	-6.46	-1.93
2480	21.73	-6.63	-1.9
2490	20.8	-6.82	-1.76
2500	20.18	-6.95	-1.78

Add the arm

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	7.39	-11.31	-5.55
2410	7.46	-11.27	-5.4
2420	7.51	-11.24	-5.48
2430	7.52	-11.24	-5.57
2440	7.99	-10.97	-5.22
2450	8.53	-10.69	-5
2460	8.83	-10.54	-4.76
2470	8.72	-10.6	-4.64
2480	8.68	-10.62	-4.57
2490	8.27	-10.82	-4.77
2500	8.29	-10.81	-4.77

There is no match

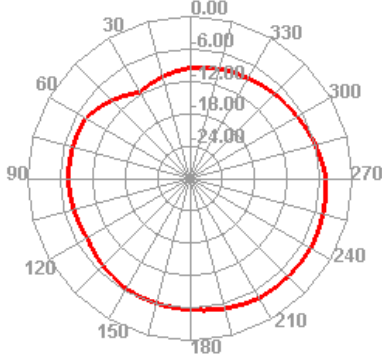


The antenna	Element	Value
	E1	
	E2	
	E3	
	E4	

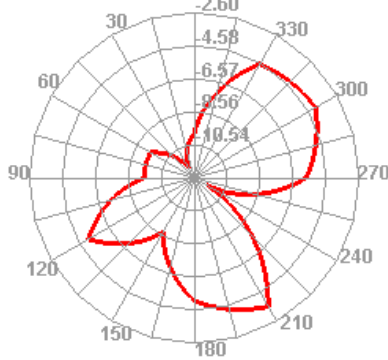
4. The direction of figure

Free space

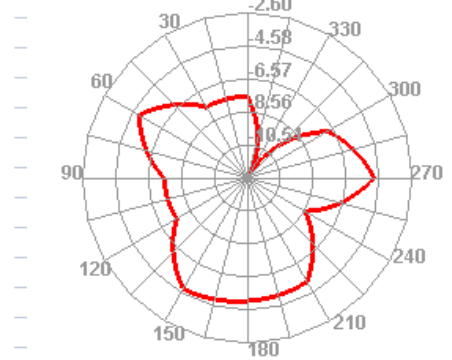
2450.000MHz H



2450.000MHz E1

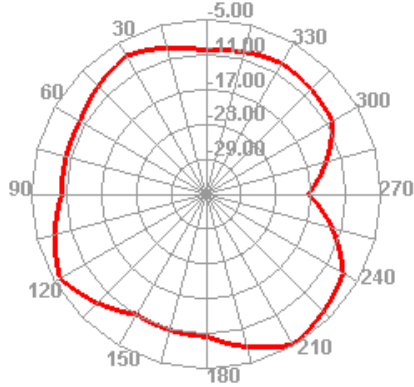


2450.000MHz E2

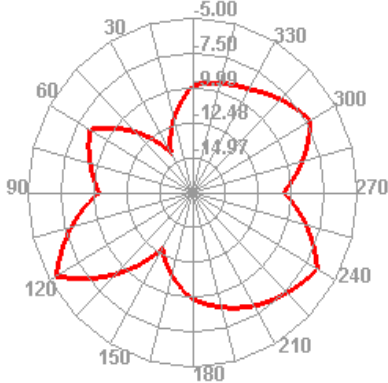


Add the arm

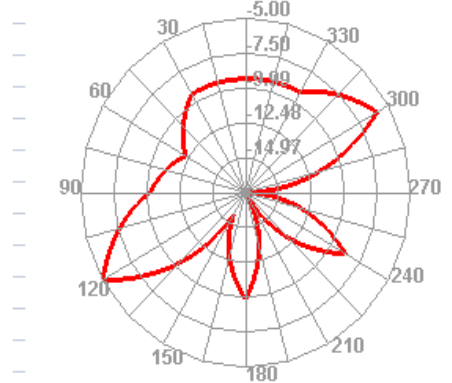
2450.000MHz H



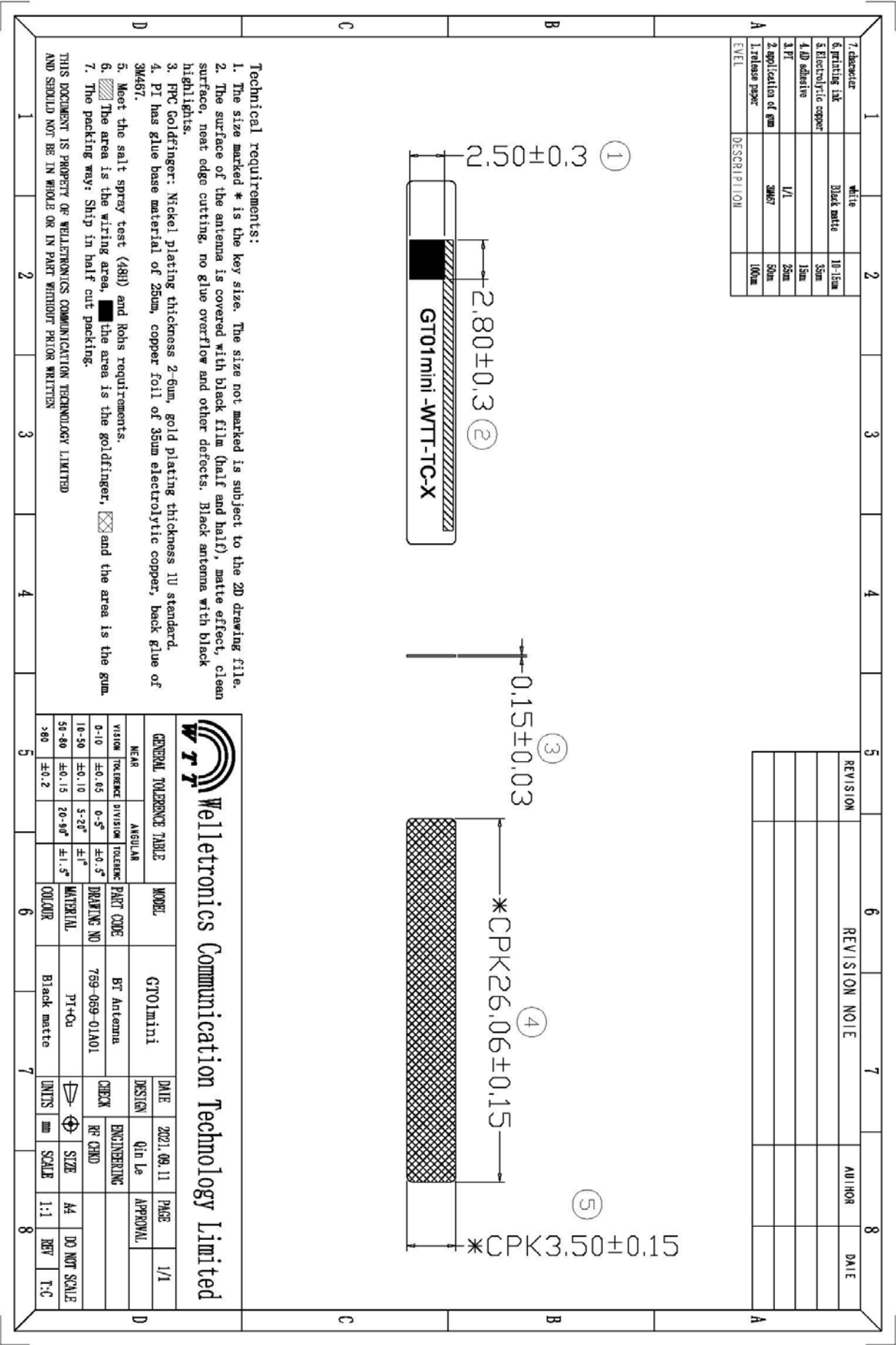
2450.000MHz E1



2450.000MHz E2



Five、The 2D drawings



Six、Full-scale measurement report

Full-scale measurement report

Vendor		Material name	FPC	Part NO	759-059-03A01		Tool Number		Cav. Number		Unit ☐ INCHES ☒ MILLIMETERS		Comments											
WTT		Material Code		Part Name		GT01mini BT antenna			Rev															
Date		10/Jun/21			MEASURED DIMENSION					% TOLERANCE USED		DISPOSITION					ACCEPTABLE VARIANCE							
# DIM.	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	2.50		0.30	0.30		2.55	2.48	2.50	2.65	2.60	50%	7%			X									
2	2.80		0.30	0.30		2.80	2.81	2.75	2.83	2.80	10%	17%	X											
3	0.15		0.03	0.03		0.15	0.16	0.15	0.15	0.15	33%	0%		X										
4	26.06		0.15	0.15		26.03	26.05	26.10	26.05	26.08	27%	20%		X										
5	3.50		0.15	0.15		3.52	3.55	3.48	3.45	3.55	33%	33%		X										
6																								
7																								
8																								
9																								
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21																								

Seven、Cpk Report

CPK Report					
Part Number	759-059-03A01		Vendor	WTT	
Description	GT01mini BT antenna		Inspected		
Tool Number			Inches/MM	mm	
Cavity			Material Name	FPC	
			Material Code		
Revision	T:C		Date	10-Sep-21	
Dim. Designator	4	5	3	4	5
Nominal	26.06	3.50			
+ Tolerance(All	0.15	0.15			
- Tolerance	-0.15	-0.15			
Upper Limit	26.21	3.65			
Lower Limit	25.91	3.35			
1	26.03	3.52			
2	26.05	3.55			
3	26.10	3.48			
4	26.05	3.45			
5	26.08	3.55			
6	26.10	3.47			
7	26.05	3.46			
8	26.04	3.50			
9	26.05	3.51			
10	26.10	3.45			
11	26.09	3.48			
12	26.04	3.56			
13	26.08	3.48			
14	26.01	3.50			
15	26.05	3.54			
16	26.03	3.56			
17	26.01	3.51			
18	26.06	3.45			
19	26.08	3.48			
20	26.10	3.50			
21	26.11	3.55			
22	26.14	3.56			
23	26.08	3.52			
24	26.10	3.51			
25	26.05	3.48			
26	26.04	3.45			
27	26.01	3.51			
28	26.06	3.47			
29	26.12	3.46			
30	26.10	3.50			
MAX.	26.14	3.56			
MIN.	26.01	3.45			
AVERAGE	26.07	3.50			
STDEV	0.03	0.04			
CP	1.46	1.38			
Cpk	1.39	1.38			
TOOLING	CMM	CMM	CMM	CMM	CMM

Approved By: Junfeng Lv

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 : GT01mini 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	759-059-03A01	NO	/	08/Jun/21
	Lead and its compounds	1000		NO	/	08/Jun/21
	Chromium VI and its compounds	1000		NO	/	08/Jun/21
	Mercury and its compounds	1000		NO	/	08/Jun/21
	Poly brominated Biphenyls (PBBS)	1000		NO	/	08/Jun/21
	Poly brominated Diphenyl ethers(PBDES)	1000		NO	/	08/Jun/21

(Contact Person) : Tianhua Liu

(Position) : Quality Manager

(TEL): 0755-33870801-617

e-Mail: qc1@wt-china.com

(Date) : 10/Sep/21

Nine、Salt spray test

Salt spray test

Customer	AiDu	Written By	Jie Xiao	Orig. Date	10-Sep-21		
Part Number	759-059-03A01	Revised By	Junfeng Lv	Revised Date	10-Sep-21		
Description1	GT01mini BT antenna	Approved By	Tianhua Liu	Approved Date	10-Sep-21		
Date of trial	Starting at 09.00 on Sep 8, 2021						
	And end at 09.00 on Sep 10, 2021						
	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 Sep 8	8	35	47	1kg/cm ²	OK	
	1:00 on Sep 9	16	35	47	1kg/cm ²	OK	
	9:00 on Sep 9	24	35	47	1kg/cm ²	OK	
	17:00 on Sep 9	32	35	47	1kg/cm ²	OK	
	1:00 on Sep 10	40	35	47	1kg/cm ²	OK	
	9:00 on Sep 10	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: Junfeng Lv

Written By: Jie Xiao

Ten、 High and Low Temperature Testing

High and Low Temperature Testing

Customer	AiDu		Written By	Jie Xiao	Orig. Date	10-Sep-21	
Part Number	759-059-03A01		Revised By	Augfeng Lv	Revised Date	10-Sep-21	
Description1	GT01mini BT antenna		Approved By	Tianhua Liu	Approved Date	10-Sep-21	
Test time	Starting at 08:30 on 4 Sep ,2021					Hot test (80℃)	
	Ending at 08:30 on 6 Sep, 2021						
	Starting at 08:35 on 6 Sep, 2021					Room temperature test (20℃)	
	Ending at 10:35 on 6 Sep, 2021						
	Starting at 10:40 on 6 Sep, 2021					low temperature test (-40℃)	
	Ending at 10:40 on 8 Sep, 2021						
	Starting at 10:45 on 8 Sep ,2021					Room temperature test (20℃)	
	Ending at 12:45 on 8 Sep, 2021						
	Starting at 12:50 on 8 Sep ,2021					High Temperature and Humidity Test (80℃)	
	Ending at 12:50 on 10 Sep, 2021						
	Starting at 12:55 on 10 Sep ,2021					Room temperature test (20℃)	
	Ending at 14:55 on 10 Sep, 2021						
	Total 150H Test						
	Experimental operation	Time		Test time (h/m)	Test box temperature (℃)	Air humidity in test box (%)	Machine running condition
05/Sep/21		08 :30 A.M	24	79.91℃		OK	High temperature section
06/Sep/21		08:30 A.M	48	80.01℃		OK	
06/Sep/21		10 :35 A.M	2	20.07℃		OK	normal temperature section
07/Sep/21		10:40 A.M	24	-19.91		OK	low temperature section
08/Sep/21		10 :40 A.M	48	-20.02		OK	
08/Sep/21		12 :45 P.M	2	19.97		OK	normal temperature section
09/Sep/21		12 :50 P.M	24	79.92		OK	high temperature and high humidity section
10/Sep/21		12 :50 P.M	48	80.04	95.07	OK	
10/Sep/21	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: Junfeng Lv

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		10-Sep-21							
Part Number		759-059-03A01		Revised By		Junfeng Lv		Revised Date		10-Sep-21							
Description		GTOlmini BT antenna		Approved By		Tianhua Liu		Approved Date		10-Sep-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	One to one electrolytic copper	XinHe	NKE20122401401-C	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	北測-ROHS2.0+ 函索-非金屬 2021	3 msds 銅基板(1).pdf
2	The back glue	3M467	3M	CANEC2023183701 (ROHS) CANEC2023183702 (halogen)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2021/1/4	200WP+RoHS2.0.pdf 200WP+Halogen.pdf	467WP MSDS.pdf
3	Solder resist ink	PSM-800-A	YouLi	ETR21805816 ETR21805814	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2021/9/6	(ROHS-組件)油墨.pdf (底漆)組件油墨.pdf	PSM-8000@SMH-8000收板油墨MS
4	Characters of the ink	KTM-320F	KaiYao	ETR21502303M01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2021/5/18	ETR21502303M DKTM-320FWR4	KTM320F WMSDSL1.pdf
5	Gold plated	Gold finger	QianSheng	S21072702301E (ROHS) S21072702302C (halogen)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2021/7/31	S21072702301E.pdf S21072702302C.pdf	中文版FFC線鍍金 層MSDS.docx

Thirteen、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:	759-059-03A01	
		The product name:	GT01mini BT antenna	
		Product version:	T:C	
		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:		
	Figure 5: stacking of packing cases.			