SPECIFICATION APPROVAL SHEET

样品承认书

Feitian Technologies Co., Ltd.

Project name:	F360
MATERIAL CODE:	01.02.021.000125
Nameof Material:	MAIN
Suppliers:	Fuzhou ZHONGTIANXUN CommunicationTechnology Co.,Ltd
Sample delivery time:	2024.3.11
Version:	V1.0

SPECIFICATION APPROVAL SHEET
样品承认书

material	Material name	MAIN	Description	F360-MAIN
	P\N	01.02.021.000125	MPN	E.03.00991
	Vendor	Fuzhou Zhongtianxun	Manufacturer	Fuzhou Zhongtianxun
	Sample QTY	6PCS	Model	F360
	Address	34 Shilong Avenue, Shiyan Street, Baoan District, Shenzhen City, Guangdong Province		

quality	RoHS	☐FA, ☐REJ, ☐N/A,	Information complete	☐FA, ☐REJ, ☐N/A,
	Consistency	☐FA, ☐REJ, ☐N/A,		
	Result：☐FA, ☐ Risk Go QTY_____ , ☐REJ。			
	Risk go or reject comment： SQE： Remark: Appearance limit sample is confirmed by SQE and PQE together.			
DQA	Test report	☐FA, ☐REJ, ☐N/A,	OTR confirm	☐FA, ☐REJ, ☐N/A,
	Test report	☐FA, ☐REJ, ☐N/A,	Design Fix	☐FA, ☐REJ, ☐N/A,
	Result：☐FA, ☐ Risk Go QTY_____ , ☐REJ。			
	Risk go or reject comment： DQA：			
R&D	Dimension	☐FA, ☐REJ, ☐N/A,	Specification	☐FA, ☐REJ, ☐N/A,
	Function	☐FA, ☐REJ, ☐N/A,	Color	☐FA, ☐REJ, ☐N/A,
	Manual content	☐FA, ☐REJ, ☐N/A,	Appearance	☐FA, ☐REJ, ☐N/A,
	Packing	☐FA, ☐REJ, ☐N/A,	Safety certificate	☐FA, ☐REJ, ☐N/A,
	Result：☐FA, ☐ Risk Go QTY_____ , ☐REJ。			

Risk go or reject comment：

Confirmer	ID	Packing	ME	HW	SW	SW TEST	Market	PM	Manager

Note: the color, appearance and color limit samples of the structural parts shall be confirmed by ID representative. The contents of the specification shall be confirmed by software and packaging material representative together, and the packaging material representative shall confirm the packaging material. The structure material is confirmed by structure representative, the structure electronic material is confirmed by structure and hardware representative. The electronic material is confirmed by hardware representative. Device expert and software is responsible for the confirmation of corresponding devices, such as battery, camera, screen etc.

Important inspection items (R&D comment)			☐N/A,	
NO.	Key inspection item	Standard request	Confirmer	Remark
vendor	Stamp	Quality confirm	RD redact	
		Yang Dengshan	Hu Xiaoliang	

Note: FA means accept,REJ means reject, N/A means not applicable; A cross-page seal is required.

Catalogue

A) Product Specification drawing\BOM\2D ..... 5~22

B)Critical dimensional measurement report.....23

C)Reliability test report.....24

D)Process flow chart.....25

E)Shipping packaging operation guidelines.....26

F)Product physical picture (front \ back).....27

G)Material HSF declaration form.....28

H)Related product inspection report.....29

Change resume

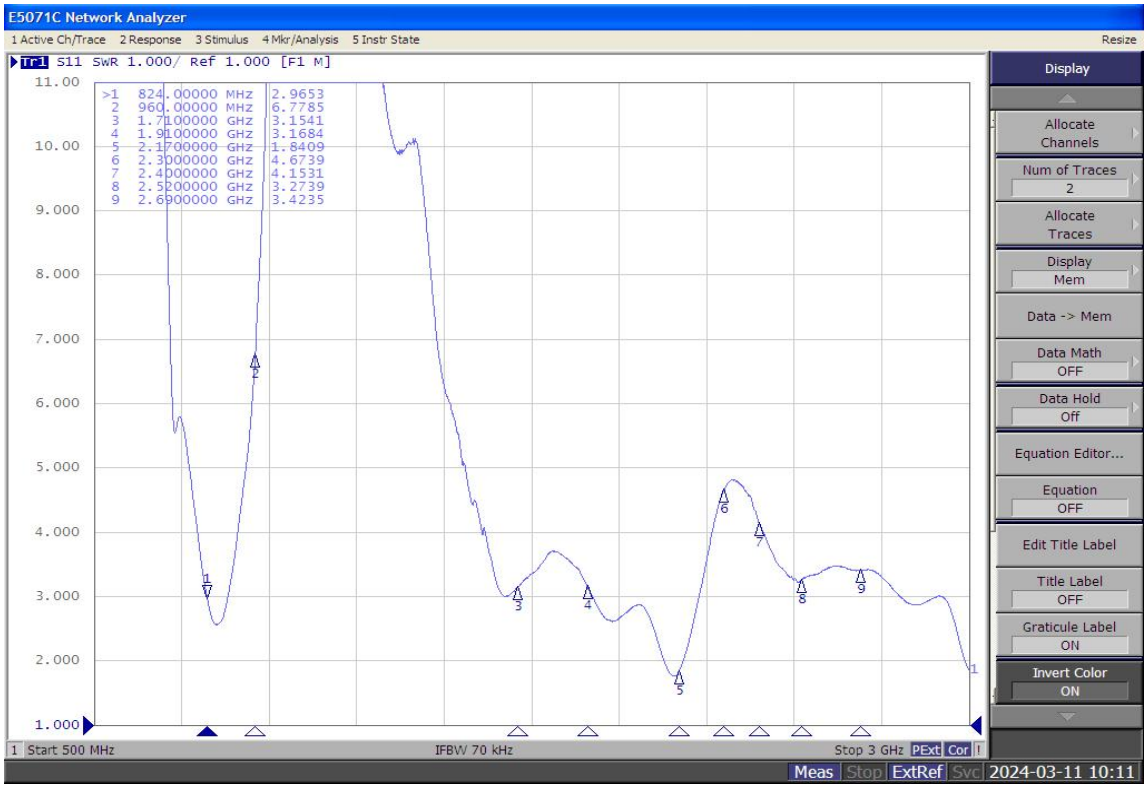
Rev	Acknowledge the change	Alteration party	auditor	approver	date
V1	First edition.				2024.3.11

A. Product specifications \2D drawings \ product material composition list

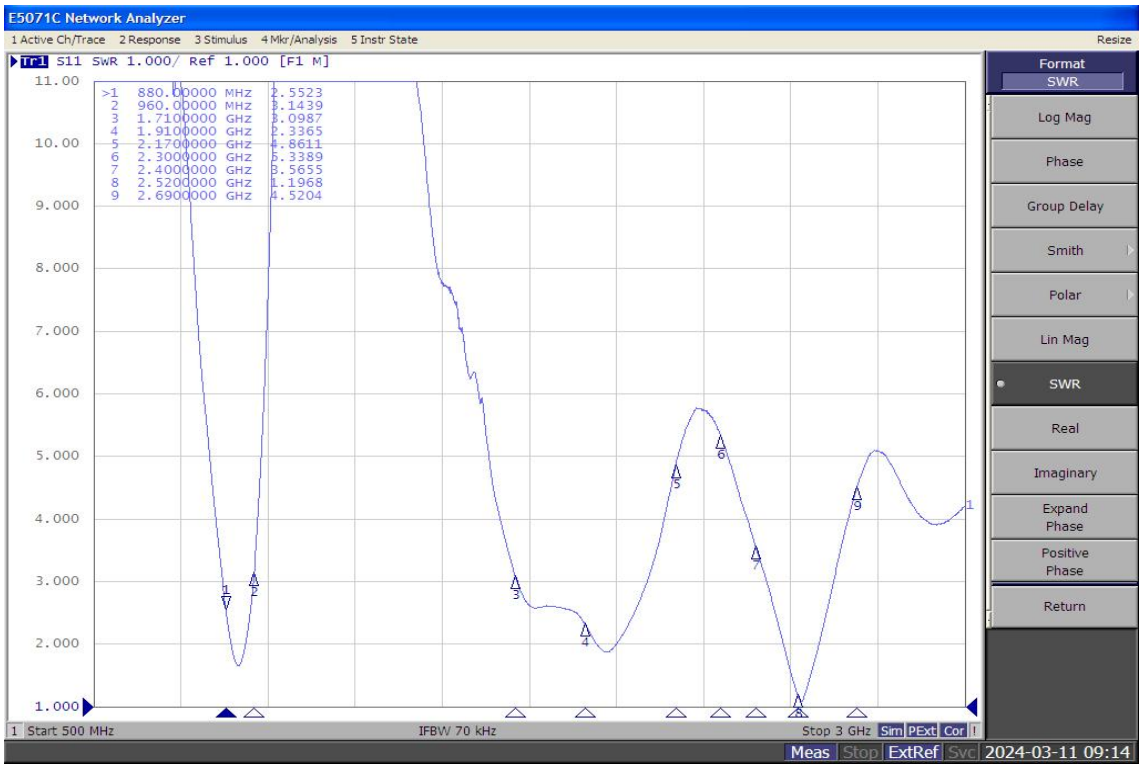
A-1 VSWR

740-800MHz

800-880MHz


E5071C Network Analyzer
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State
Resize
Tr1 S11 SWR 1.000/ Ref 1.000 [F1 M]
>1 824.00000 MHz 2.9653
2 960.00000 MHz 6.7785
3 1.7100000 GHz 3.1541
4 1.9100000 GHz 3.1684
5 2.1700000 GHz 1.8409
6 2.3000000 GHz 4.6739
7 2.4000000 GHz 4.1531
8 2.5200000 GHz 3.2739
9 2.6900000 GHz 3.4235
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
1 Start 500 MHz
IFBW 70 kHz
Stop 3 GHz PExt Cor
Meas Stop ExtRef Svc 2024-03-11 10:11
Display
Allocate Channels
Num of Traces 2
Allocate Traces
Display Mem
Data -> Mem
Data Math OFF
Data Hold Off
Equation Editor...
Equation OFF
Edit Title Label
Title Label OFF
Graticule Label ON
Invert Color ON

880-960MHz


E5071C Network Analyzer
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State
Resize
Tr1 S11 SWR 1.000/ Ref 1.000 [F1 M]
>1 880.00000 MHz 2.5523
2 960.00000 MHz 3.1439
3 1.7100000 GHz 3.0987
4 1.9100000 GHz 2.3365
5 2.1700000 GHz 4.8611
6 2.3000000 GHz 5.3389
7 2.4000000 GHz 3.5655
8 2.5200000 GHz 1.1968
9 2.6900000 GHz 4.5204
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
1 Start 500 MHz
IFBW 70 kHz
Stop 3 GHz
Sim PExt Cor
Meas Stop ExtRef Svc
2024-03-11 09:14
Format
SWR
Log Mag
Phase
Group Delay
Smith
Polar
Lin Mag
SWR
Real
Imaginary
Expand Phase
Positive Phase
Return

A-2 Passive efficiency

740-795MHz

chNo	Freq (Mhz)	Gain(dBi)	Efficiency_Pcent(%)
1	740	-8.300133697	12.42194711
2	745	-8.04758871	13.03999551
3	750	-7.807167395	14.67443659
4	755	-7.558027798	14.92291532
5	760	-7.517044056	15.99934897
6	765	-7.120214761	15.6251892
7	770	-6.562966175	15.80367302
8	775	-6.284959717	14.46700279
9	780	-6.259533645	14.13440903
10	785	-6.430307171	13.96867782
11	790	-6.373018107	11.06631727
12	795	-6.436372832	11.21983368

800-870MHz

chNo	Freq (Mhz)	Gain(dBi)	Efficiency_Pcent(%)
1	800	-7.115495389	14.41701404
2	810	-6.283971379	16.04939432
3	820	-5.507722623	17.72661187
4	830	-5.537364291	17.78528526
5	840	-5.235777732	17.21715704
6	850	-5.148668738	16.51242578
7	860	-4.992243749	15.67988766
8	870	-5.652633609	14.7411223

880-2690MHz

chNo	Freq (Mhz)	Gain(dBi)	Efficiency_Pcent(%)
1	880	-3.328656665	17.91994382
2	890	-2.304495622	21.82868139
3	900	-1.796039888	23.81887639
4	910	-2.10882858	21.34278493
5	920	-2.495691708	19.20342182
6	930	-2.278500482	19.96136656
7	940	-1.996458204	20.64930478
8	950	-2.844281771	18.9504294
9	960	-3.262139208	16.67698188
10	1710	-2.318964905	19.45606768
11	1730	-2.294974136	19.44630392
12	1750	-1.893221743	19.79869527
13	1770	-1.593558553	20.218022
14	1790	-1.591873944	20.04184209
15	1810	-1.348828863	20.72828454

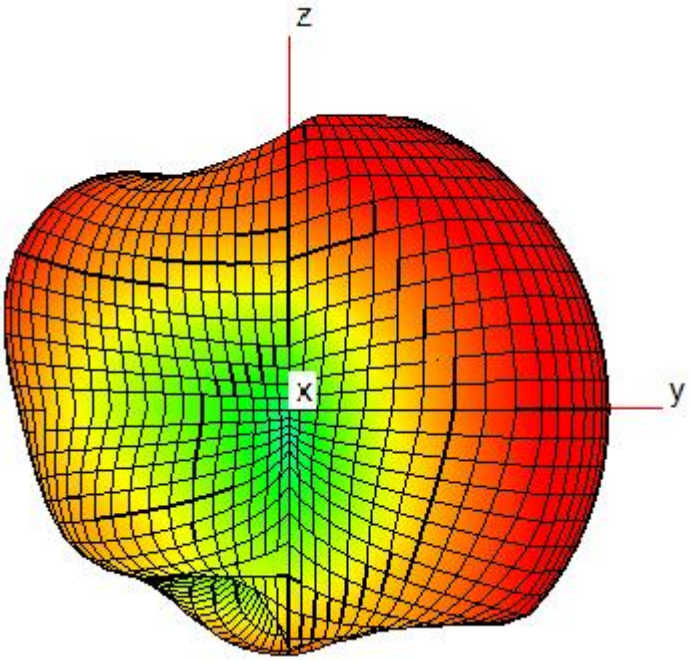
16	1830	-0.541899592	22.93014517
17	1850	-0.413105639	22.08698418
18	1870	-0.344833204	22.47666896
19	1890	-0.666590384	23.10179943
20	1910	-0.979698098	21.60096381
21	1930	-1.619658433	21.67673266
22	1950	-1.982109517	23.07073138
23	1970	-2.025061619	24.0386205
24	1990	-1.780721015	25.80831519
25	2010	-2.181971741	25.98026668
26	2030	-1.722491102	27.52153717
27	2050	-2.123141062	27.62151976
28	2070	-2.352890252	26.72436882
29	2090	-3.265096	25.46792357
30	2110	-3.461308477	25.17993478
31	2130	-3.831425349	24.36308252
32	2150	-3.645640343	22.17669867

33	2170	-3.831039993	21.68287017
34	2300	-3.73561409	18.95929842
35	2320	-3.816728478	18.01978467
36	2340	-3.91951582	16.39236296
37	2360	-3.85558666	16.73087398
38	2380	-3.116126069	17.22535162
39	2400	-2.914759197	18.15504804
40	2500	-1.840580484	15.21101172
41	2520	-1.103970177	15.42196493
42	2540	-0.598407528	15.07354593
43	2560	-0.574800957	16.43001925
44	2580	-0.734520591	17.63418514
45	2600	-0.64198998	19.75941601
46	2620	-0.847843476	20.55064685
47	2640	-1.000194317	21.55319334
48	2660	-0.367556264	22.68521856
49	2680	-0.67146271	22.23984198

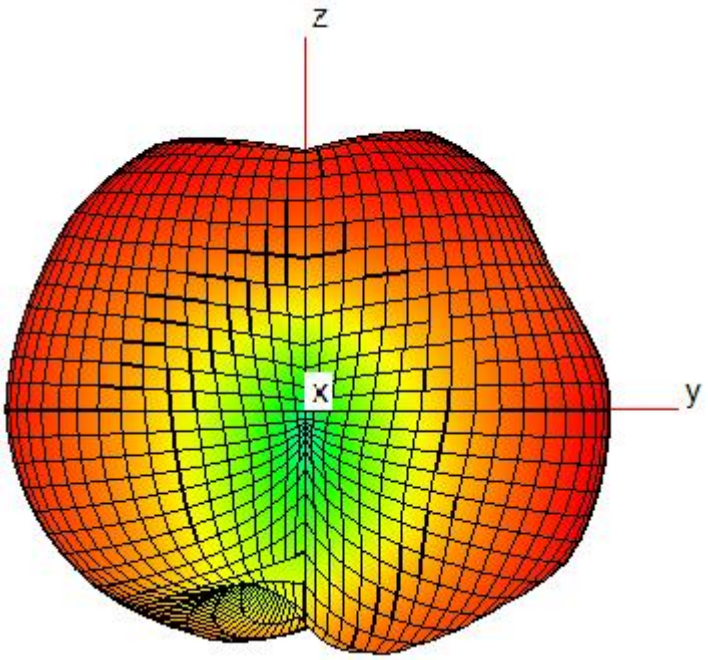
50	2690	-0.618679561	22.59480544

A-3 3D radiation map

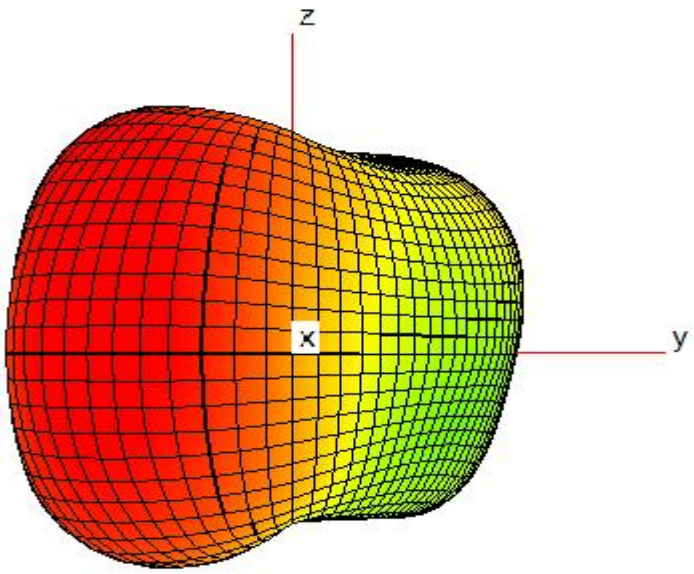
760Mhz



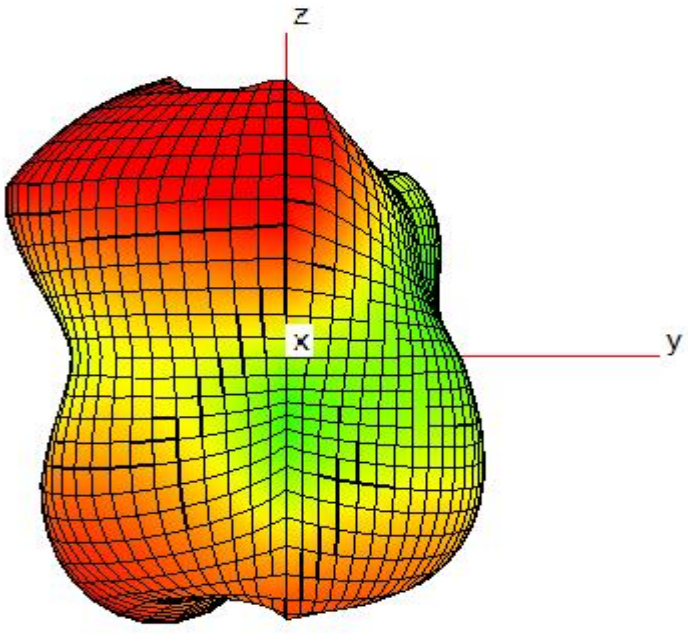
840Mhz



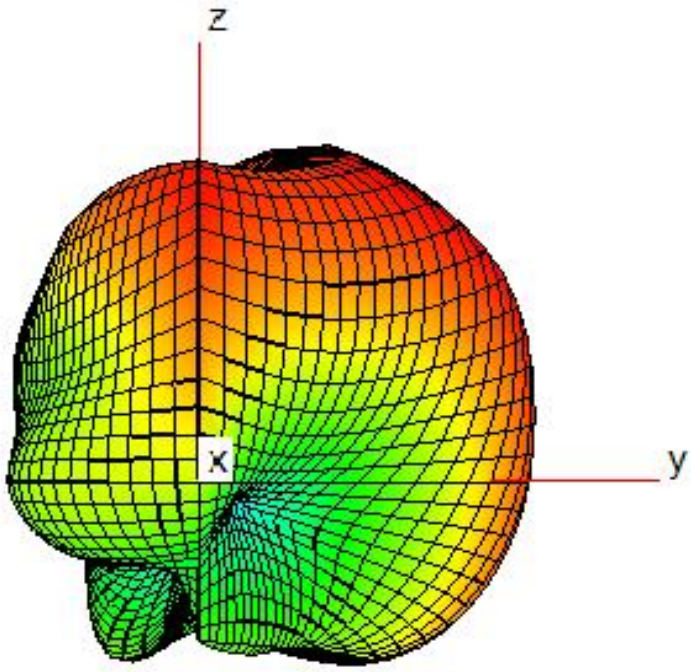
920Mhz



1900Mhz



2560Mhz



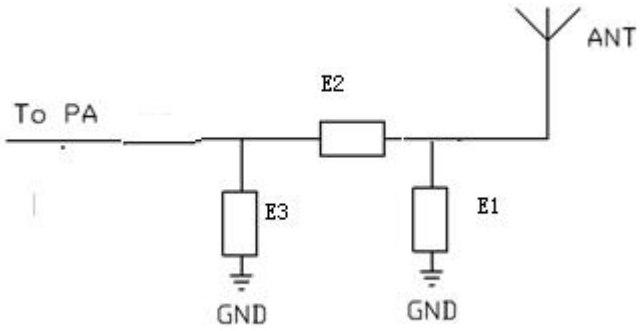
A-4 Active data

Frequency band	Parameter \ channel	10562	10700	10838
W1	TRP(dBm)	17.36	17.42	17.17
	TIS(dBm)			-103.48
Frequency band	Parameter \ channel	9662	9800	9938
W2	TRP(dBm)	16.39	16.74	16.96
	TIS(dBm)			-104.32
Frequency band	Parameter \ channel	1537	1638	1738
W4	TRP(dBm)	15.27	15.86	16.37
	TIS(dBm)			-102.89
Frequency band	Parameter \ channel	4357	4408	4458
W5	TRP(dBm)	15.79	16.87	17.4
	TIS(dBm)			-95.63
Frequency band	Parameter \ channel	2937	3013	3088
W8	TRP(dBm)	18.01	18.76	18.63
	TIS(dBm)			-97.84
Frequency band	Parameter \ channel	50	300	550
band1	TRP(dBm)	17.71	17.72	18.01
	TIS(dBm)			-89.25
Frequency band	Parameter \ channel	650	900	1150
band2	TRP(dBm)	17.25	17.59	18.07
	TIS(dBm)			-89.22

Frequency band	Parameter \ channel	1250	1575	1900
band3	TRP(dBm)	14.85	14.92	15.11
	TIS(dBm)			-88.19
Frequency band	Parameter \ channel	2000	2175	2350
band4	TRP(dBm)	14.73	14.88	15.41
	TIS(dBm)			-89.47
Frequency band	Parameter \ channel	2450	2525	2600
band5	TRP(dBm)	15.56	16.01	16.34
	TIS(dBm)			-79.25
Frequency band	Parameter \ channel	2850	3100	3350
band7	TRP(dBm)	15.26	15.55	15.26
	TIS(dBm)			-90.14
Frequency band	Parameter \ channel	3500	3625	3750
band8	TRP(dBm)	17.47	18.66	18.56
	TIS(dBm)			-79.81
Frequency band	Parameter \ channel	6200	6300	6400
band20	TRP(dBm)	15.68	15.72	16.43
	TIS(dBm)			-78.58
Frequency band	Parameter \ channel	9260	9410	9610
band28	TRP(dBm)	11.61	12.33	12.83
	TIS(dBm)			-77.85
Frequency band	Parameter \ channel	37850	38000	38150

band38	TRP(dBm)	15.64	16.11	15.55
	TIS(dBm)			-87.88
Frequency band	Parameter \ channel	38750	39150	39550
band40	TRP(dBm)	16.79	16.35	15.98
	TIS(dBm)			-88.31
Frequency band	Parameter \ channel	40540	40740	40940
band41	TRP(dBm)	14.68	16.77	15.48
	TIS(dBm)			-87.55

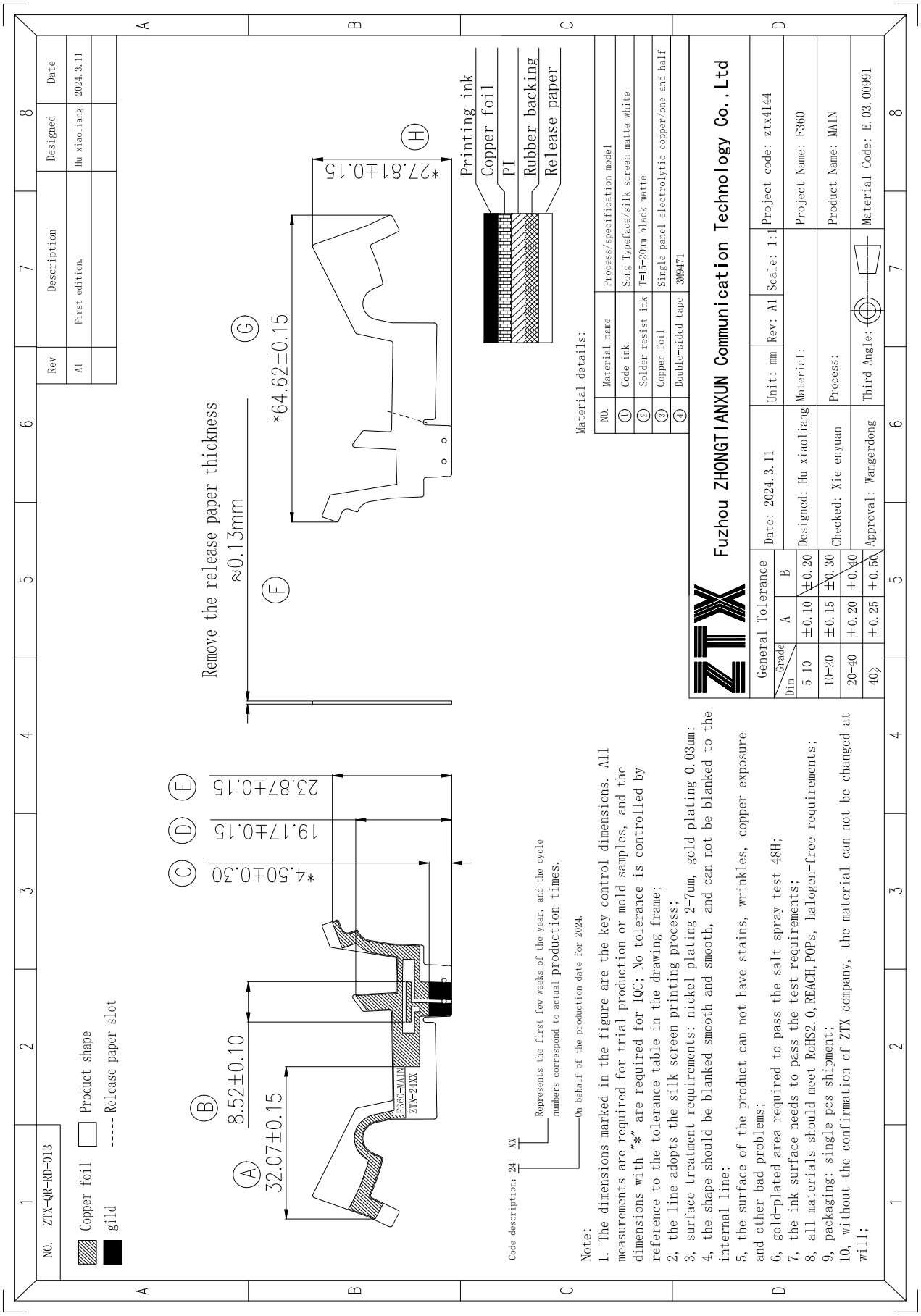
A-5 Matching specification



Matching structure	LTE
E1	NC
E2	1. 5NH
E3	NC
RF1	0 Ω
RF2	0 Ω
RF3	5. 6HN
RF4	10HN

A-6 Assembly instruction

A-7 Engineering drawin



B. Critical dimensional measurement report

Customer name	FEITIAN	Product name	F360 MAIN	quantity	5pcs
Product material	FPC	colour	black	date	2024/3/8

Product type: ☐ New look ☐reshape ■Mass production ☐other

NO.	dimension	Measured size										determine	remark
		1	2	3	4	5	6	7	8	9	10	OK/NG	
A	64.26±0.15	64.58	64.59	64.58	64.57	64.57						OK	
B	27.81±0.15	27.75	27.76	27.76	27.74	27.75						OK	
C	4.50±0.3	4.41	4.4	4.38	4.4	4.4						OK	
D													
E													
F													
G													
H													
I													

Performance: Conformance test OK

Overall decision:

☑ OK ☐NG

approval:

audit: consummate:

remark:

C. Reliability test report

Test Report

Product name	FPC	Part Model	F360 MAIN	Ambient temperature	20±5℃	Date of test	2024/3/8
Specimens quantity	48 PCS	Customer number	/	Relative humidity	50-60%RH	Client/Dept	Quality department
Test reasons	New type/material verification			Test documentation	Antenna reliability testing reference		

NO.	Test projec	Samples Qty.	Test equipment	Test comdition and note	Test result	conclusion	Sample picture/measured value
1	Salt fog test	3	Salt mist tester	Conditions: The product is placed in 30 degrees and 5 degrees in the test box The test box parameter is adjusted for the test box. The concentration is 5%. Ph: 6.5~ 7.2; Laboratory temperature: 32-38cent; Air pressure: 1 (kg/m2) spray amount: : 1.0~ 2.0ml/80cm2/h relative humidity: 85%. Test product placement Angle: 30 degrees + / -10 degrees The time is 48 hours. 4. after cleaning, the 2h observation is placed in room temperature Requirements: non-shedding, foaming, corrosion and oxidation of the coating. There is no such thing as rust spot	No coating and oxidation were found.	Pass	
2	High temperature test	3	High and low temperature alternating wet heat test chamber	The sample is removed from the temperature 85 ℃ in the environment for 48 hours The function is placed at room temperature.	The coating surface of the product has no oxidation, no foaming, peeling, delamination, and the electrical function is intact	Pass	
3	Low temperature test	3	Cryogenic refrigerator	1. Keep the sample at a low temperature of -40 ℃ for 48 hours and then take it out 2. Leave for 2 hours at room temperature.	The coating surface of the product is not oxidized, no shedding, no stripping, electrical function is intact	Pass	
4	High temperature and wet storage test	3	Heat and heat test box	Sample 3pcs The test is placed in the test box (temperature 70g, 20, humidity 90%~ 95%rh1), and then the 48h is removed for inspection.	The coating surface of the product has no oxidation, no foaming, peeling, delamination, and the electrical function is intact	Pass	

Comments:

Approved by: Checked by: Name of operator: Wei li

D. **Process flow chart**

Process Flow Chart

Customer	FEITIAN	**Written By**	Xiaoliang hu	**Orig. Date**	8-Mar-24
Part Number	E.03.00991	**Revised By**	Enyuan xie	**Revised Date**	8-Mar-24
Description	F360 MAIN	**Approved By**	Erdong wang	**Approved Date**	8-Mar-24

Production flowchart

Process flow
blanching
Dry lamination
Exposure circuit
develop
Etched film retreat
AOI
Grinding plate
Machine printing and punching
Screen face welding
Ink drying
QC
Screen front character
Ink drying
QC
Goldfinger treatment
Gold face protection
IPQC
Demulching film
Dividing plate
3M adhesive bonding
Positioning holes for target shooting
Contour forming
FQC
Packing and warehousing

福州中天迅通信技术有限公司
Fuzhou ZHONGTIANXUN Communication Technology Co.,Ltd

SOP

product name	product model	File Number	version	Process number/name	rocess man-hou	Daily output
MAIN	F360	ZTX-QD-WI-024	A1	package	/	/

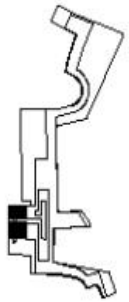


Figure 1: Confirmed quantity

Picture 2: Every 10 sachets are packed in large PE bags

Picture 4: Attach the outer box label and seal the box

MPN码:XXXXXXXXX
产品名称:XXXXXXX
物码：XXXXXXXXX
数量：1000pcs
重量：XX g
周期：XXXXX

Figure 3: Small label and traceability code

Packaging process	Precautions
1. The products are shipped in a single PCS, and each (100pcs) product is packed in a 90*130mm PE sealing plastic bag;	1. When it is found that the weight is out of the tolerance range, the quantity must be counted
	2. Only 1 material label is allowed in the outer box. If there are extra labels, they must be cleaned up.
2. Each 160*240mm PE open plastic bag is packed in 10 sachets (1000PCS), except the mantissa;	3. When the bar code label is attached to the outer box, it should be as flat as possible to avoid wrinkling that affects the customer's storage.
	4. The barcode must be clear and scannable
3. Except for the label, the outer box cannot be shipped with any silk screen (ie blank carton);	
4. Put the packaged products into cartons, and confirm the quantity of each box according to the order quantity requirements to ensure that the quantity of each box is correct.	
5. Put the outer box label and material traceability code, RoHS on the upper right corner of the outer box on the box with the product, and the printed label content includes (manufacturer, model, product name, customer code, quantity, order number, date , QA inspection,)	

Item number	Material name and specification	Dosage	Work/Clamping Fixture
	Carton (45*32.5*21) cm	1	Electronic scale
	PE sealed bag (90*130)mm	200	Sealer
	PE open pocket (160*240)mm	20	

version	modify the content	Revision date	Revised by

Formulate	Xiaoliang hu	Review	Ailing yi	Quality confirmation	Chunmei hu	Approve	Wumin zhang

F. **Product physical picture (front \ back)**

G. Material HSF declaration form

Part Number	Part Name	Measured Part Weight	unit	Supplier SUB-Part Number	Manufacturer	Application Project
F360 MAIN	One and a half pairs of electrolytic copper	0.0416	g	E.03.00991	CAI Lungetti	General purpose material
	PSM-800FSMBL6	0.0044	g		Youli	General purpose material
	3M9471	0.0055	g		3M	General purpose material
	KSM-S6188-C	0.0011	g		Xindongfang	General purpose material
	gold	0.0027	g		Qiansheng	General purpose material

H. **Related product inspection report**

Customer name	FEITIAN	Order number	P00RD2024010292200	Material coding	01.02.021.000125
Product type	F360 MAIN	Production date	2024.1.5	Number of orders	235
Production quantity	235	Date of inspection	2024.1.5	Sampling quantity	32

Sampling plan: GB/T2828.1-2012/ISO2859-1:1999Sampling level (Level level) Single time C=0(Zero defect) Sampling plan

Test mode: Normal test CR(0):0/1 MAJ(0.4): 0/1 MIN(1): 0/1

project	Test content	Inspection requirement	Test result	CR	MAJ	MIN
appearance	shard	The surface is not scratches, oil, pressure, oxidation/rust, wool, low hole/porous, deformation, etc.	/			
	FPC/PCB	No oxidation, no waste, no waste, no material, no matter, no matter, no matter, no matter, no matter, no hole/porous, color difference, spray oil, etc.	OK			
	Wire wood	No damage, color difference, no disconnect, tin, deformation, burn, etc., the end and the wire are riveted and strong, and the writing needs to be clear.	/			
	ferrite	No wrinkles, burrs/burrs, particles, foreign bodies, deformations, scratches, etc	/			
	Horn/stand	The button is no deformation/break, the surface is no plastic, the oil, the oil, the top, the top white, the deformation, the color difference, the water mouth is not treated and so on. The lead line is not broken, the pressure injury, the unwave is the first class bad. The writing needs to be clear and discernible	/			
	weld	No leakage welding, virtual welding, false welding, welding bridge, tin tip, tin, tin, tin, stripping, splash tin, high altitude and so on	/			
	Hot melt/fit	The slippage and the scaffold need to be attached tightly, no ups, blow points and so on. FPC and support should be closely tied, no ups, skew, wrinkles and so on.	/			
	Apply the backing/backing glue	No leakage, distortion, damage, warping and other bad	/			

	Test item	1	2	3							determine
Significant dimension	a.27.81±0.15	57.75	57.74	57.73	57.74	57.73	57.72	57.76	57.74	57.75	57.75	OK
	b.64.62±0.15	64.58	64.59	64.57	64.58	64.59	64.59	64.57	64.56	64.59	64.58	OK

other	

Packing (outer box label/internal packing) ☑Whether it suits rohs

Outer box label: quantity (105) ☑specification ☑name ☑Object code ☐Lot number ☑Order number

Internal sign: quantity (100) ☑specification ☑name ☑Object code ☐Lot number ☑Order number

Comprehensive judgment: ☑Up to standard ☐Below standard

Approval: yi ailing QA: Xie Yongying

Unqualified handling mode	☐Provisional release ☐Return check ☐ Back processing
	Non-conforming processing countersign:
Remarks:	Test basis: the customer returns the relevant parameters in the specification book.
	The data for the sampling test data.