

SPECIFICATION FOR APPROVAL

Customer name: Panjiarui iot Technology (Xiamen) Co., LTD

Item type: MP80ID3

Customer part number: 3421270000750M

Product name: CBL,ANTENNA, Hao Tiancheng,MP80ID3-WGB-HTC

Gauge lattice: WGB antenna FPC, single side with adhesive

The original part number: MP80ID3-3

Date of recognition:

Supplier/Agent: Shenzhen Haotiancheng Wireless Technology Co., LTD	
Examine	Handle
Xiao Qiang	Sun Jiwei

Admitted by: Panjiarui Internet of Things Technology (Xiamen) Co., LTD			
structure	corpuscle	Quality	examine

Shenzhen Haotiancheng wireless
technology Co., LTD

Name: Sample Approval

Ver: V1.0

date: 2024.4.28

Sample Approval Sheet

Project Name: MP80ID3

Sample Name: WGB antenna

Sample SPEC: FPC material, gold plated, 3M300 adhesive backing

Customer PN.: 3421270000750M

Transfer Date: 2024.4.28

Supplier Confirm	Project	Engineer	Quality
	Xiao Qiang	Michael	Gu Shuang
Date	2024.4.28	2024.4.28	2024.4.28

Customer confirm	PM	Electron	MD	PD	QE
date					

Conclusion	☐ MP	☐ Limits use () K	☐ ROHS
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Supplier name: Shenzhen Haotiancheng wireless technology Co., LTD

Supplier address: 5E, Building L, Baicai Science Park, Lane 2, Liuxian 1st Road, Baoan District, Shenzhen

Phone: 0755-23013857

Fax: 0755-23013857

E-mail: sunjiwei@htc-wireless.com

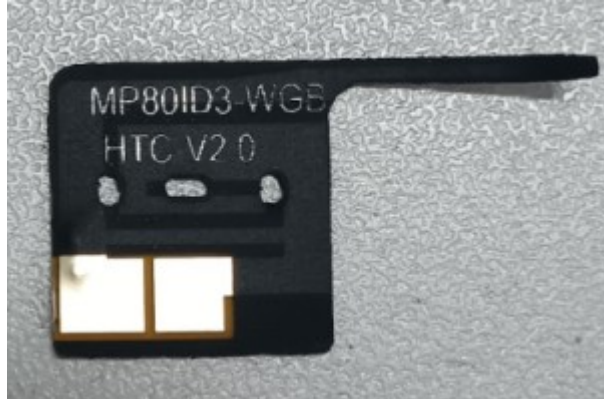
Catalogue

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1. Summary of the admission

The letter describes the MP80ID3 built-in WGB antenna condition, its frequency band WIFI/GPS the manufacturer is Shenzhen Hao Tiancheng Wireless Technology Co., LTD.

2. Appearance

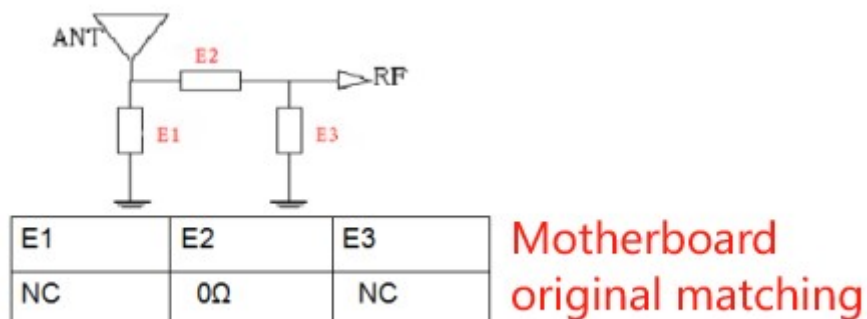


3. Electrical properties

3.1. Antenna band

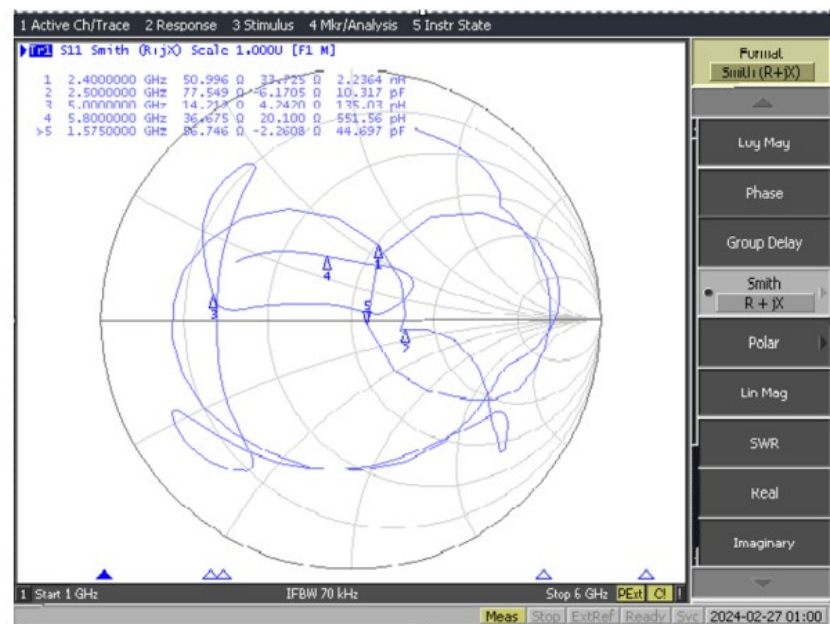
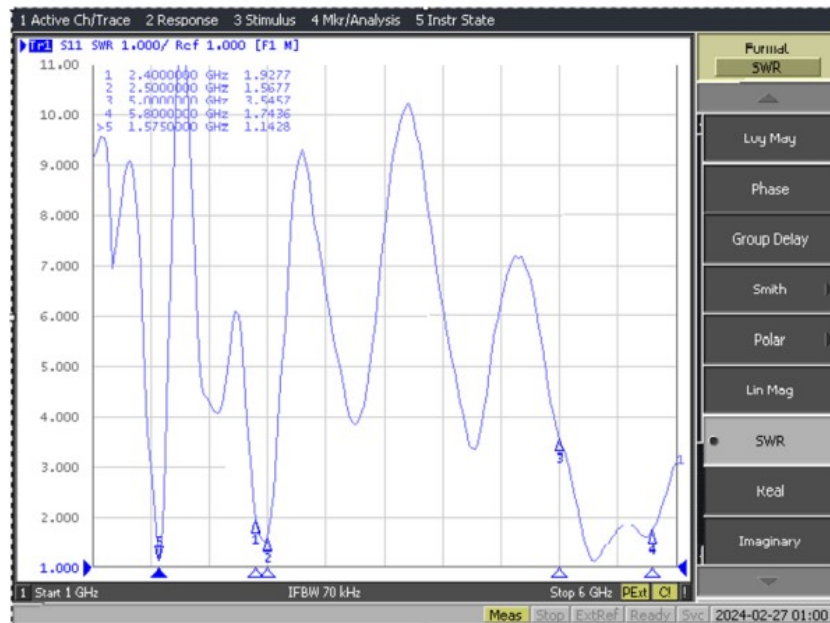
	WIFI	GPS
Transmitting band(MHz)	2400~5800	
Receiving band(MHz)	2400~5800	1575

3.2. Matching circuit



3.3. Impedance requirement 50 ohm

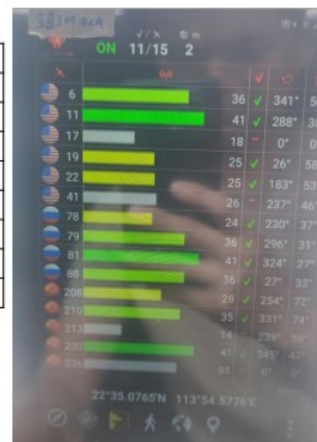
3.4. WGB antenna passive standing wave diagram, Smith circle diagram, return loss and gain efficiency



Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBd)	Freq (MHz)	Effi (%)	Gain (dBd)	Freq (MHz)	Effi (%)	Gain (dBd)	Freq (MHz)	Effi (%)	Gain (dBd)
1550	37.85	1.05	2390	41.83	1.33	5000	36.06	-1.33	5200	38.22	-0.57	5400	52.78	0.24	5600	56.57	0.63
1560	37.66	1.09	2400	42.05	1.26	5010	36.41	-1.37	5210	42.08	-0.24	5410	54.18	0.46	5610	57.72	0.71
1570	38.69	1.36	2410	41.14	1.08	5020	35.71	-1.37	5220	43.24	-0.04	5420	53.34	0.5	5620	57.27	0.58
1580	37.57	1.03	2420	41.11	0.87	5030	36.26	-1.35	5230	41.94	-0.25	5430	55.33	0.61	5630	54.59	0.46
1590	38.19	1.49	2430	40.9	0.95	5040	33.89	-1.64	5240	43.02	-0.17	5440	56.13	0.76	5640	52.71	0.29
1600	36.97	1.53	2440	41.98	1.13	5050	35.94	-1.35	5250	42.15	-0.25	5450	55.56	0.7	5650	52.57	0.22
1610	35.27	1.33	2450	42.44	1.38	5060	36.59	-1.36	5260	45.93	0.01	5460	55.42	0.78	5660	54.85	0.54
			2460	40.02	1.21	5070	35.68	-1.46	5270	54.23	0.86	5470	54.12	0.72	5670	54.83	0.58
			2470	37.61	0.84	5080	35.88	-1.52	5280	54.11	0.78	5480	54.54	0.78	5680	53.6	0.6
			2480	38.43	0.8	5090	35.63	-1.57	5290	54.22	0.85	5490	55.43	0.81	5690	51.19	0.34
			2490	39.3	0.57	5100	40.69	-0.92	5300	52.8	0.65	5500	56.09	0.85	5700	51.81	0.48
			2500	38.17	0.15	5110	40.65	-1.07	5310	54.92	0.82	5510	56.9	0.96	5710	54.45	0.7
						5120	37.08	-1.5	5320	54.3	0.73	5520	57.98	1.04	5720	53.93	0.69
						5130	38.37	-1.31	5330	55.33	0.78	5530	54.83	0.7	5730	53.35	0.72
						5140	37.6	-1.33	5340	54.78	0.78	5540	54.7	0.74	5740	50.47	0.49
						5150	40.34	-0.87	5350	53.37	0.52	5550	54.77	0.59	5750	48.74	0.52
						5160	43.61	-0.35	5360	53.9	0.66	5560	54.6	0.56	5760	49.06	0.44
						5170	40.53	-0.71	5370	53.14	0.57	5570	53.22	0.41	5770	47.44	0.27
						5180	41.81	-0.35	5380	52.72	0.34	5580	53.94	0.5	5780	52.57	0.22
						5190	41.97	-0.38	5390	53.12	0.46	5590	54.5	0.43	5790	54.85	0.54
															5800	54.62	0.51

3.5. Antenna test data

		TRP/TIS	L	M	H
2.4G	11b(11M)	TRP	12.71	12.83	13.12
		TIS			-81.12
	11g(54M)	TRP	10.49	10.53	10.64
		TIS			-69.54
	11n(MCS7)	TRP	10.15	10.22	10.18
		TIS			-68.79
5G	11a(54M)	TRP	11.18	11.34	11.27
		TIS			-70.02



3.6. Environmental treatment

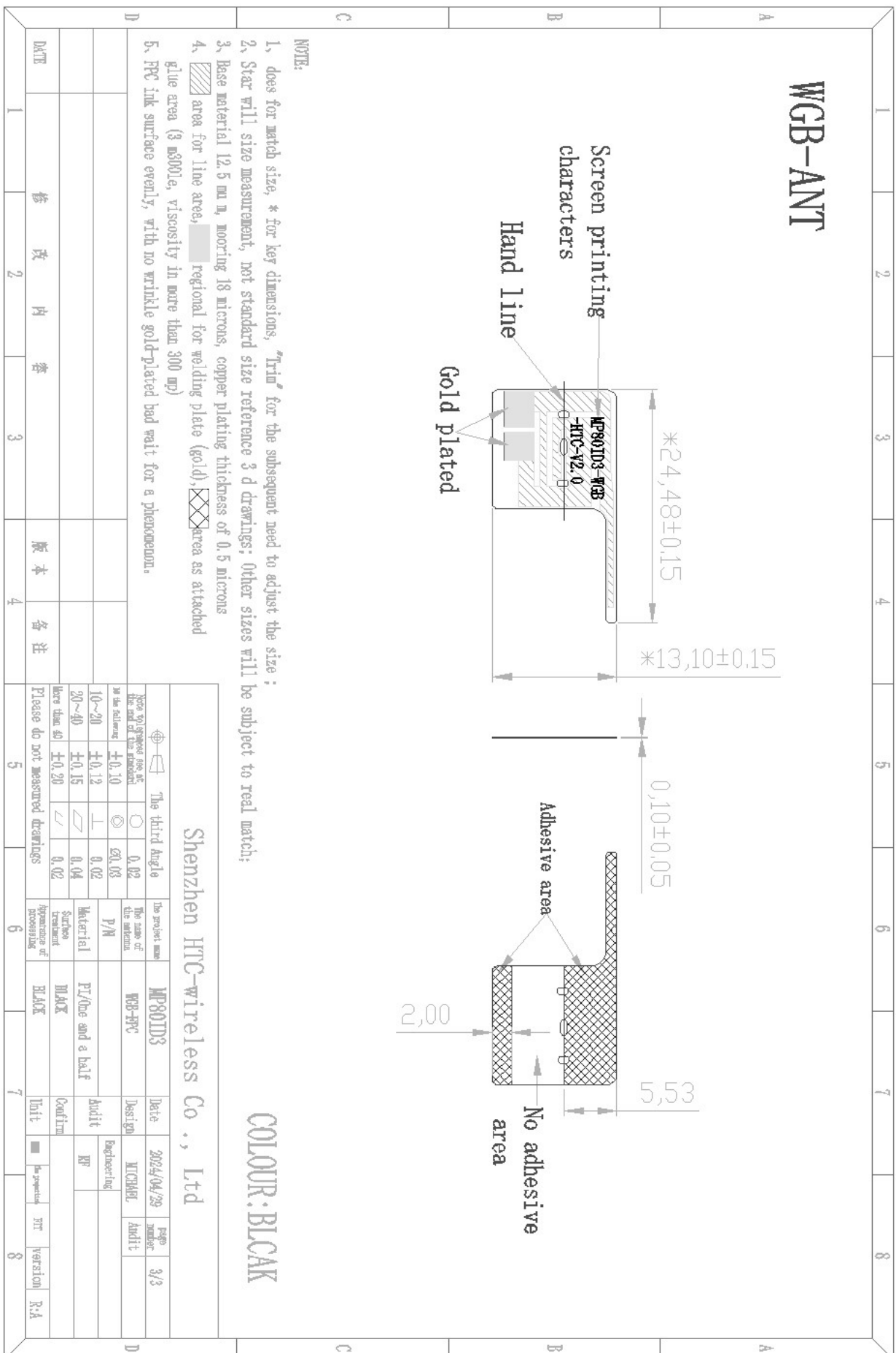


4. Appearance and Structure

4.1 Antenna Material

Antenna material: FPC antenna, black ink, gold plating in exposed copper area.
Base material + double-sided tape + release paper

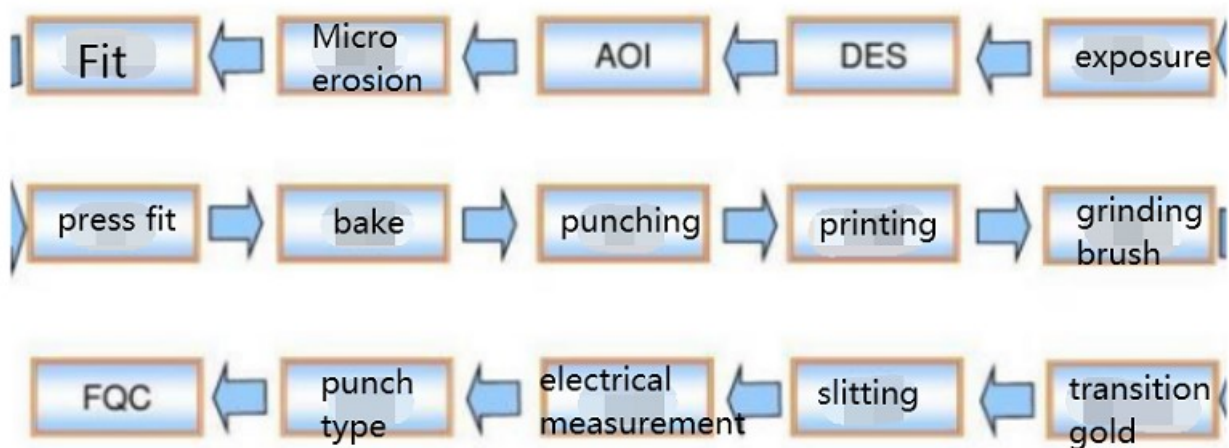
4.2 Structural Drawings



5. Bill of Materials (BOM)

List of main materials								
number	Product information						Test report	
	Code (component Code)	Product name	重量 (g)	Name of raw material	Raw material No Chemical registration number	Raw material supplier	Certification company	Report no
1	FPC antenna	Copper foil substrate (PI)	0.0542	CU	SP14-033405-SH	Cai lungeti	SGS	SMA16-245544-02
			0.03	polyimide film				
2		Ink (black)	0.005	PRINT INK (Printing ink)	P800	Youli	SGS	
3		Adhesive paper	0.1132	3M	3M9471LSE	Weilihua	SGS	
4		Electrogold	/	additive	JSTB8001	Kingsoft	SGS	CANEC1617433203

6. Production flow chart



7. Reliability test report

Shenzhen HaoTian Cheng Wireless Technology CO. Ltd

Reliability test report

customer	Panjiarui	The customer model	MP80ID3	Product model	WGB	DATE	2024/4/27	Inspector: GU
Number	Reliability project	The experimental method	Decision criteria	Cycle	number of experiments	1	2	3
1	Peel strength	Tension meter	From 70 to 80 n / 100 mm (paste) on ABS material	time/batch	5PCS	OK	OK	OK
2	The coating adhesion	Clean surface of FPC goldfinger, then on the surface of gold finger put new 3 m600 back glue, laminating surface to cover the surface of gold finger, and residual pressure must not have bubbles with his fingers. About 10 seconds, along with gold finger side into the direction of the Angle of 90 degrees quickly pull up the tape, and repeat this three times this action.	Check the surface gold finger without coating fall off phenomenon, there is no loss of coating film of adhesive tape.	1 time/batch	5PCS	OK	OK	OK
3	Salt fog	At 35 °C plus or minus 2 °C airtight environment, and the salt solution with a PH value of 6.5 to 7.25 (5% solution composition of 95% sodium chloride and distilled water) with 80 square centimeters to 10 cm in diameter of the atomizer in 16 hours average collection in 1 to 2 ml of spray amount, continuous spray after 48 hours to take out the test.	FPC not blister. Oxidation discoloration and rust.	1 time/batch	5PCS	OK	OK	OK
4	Bending test	Positive and negative bending 180 °, 30 times	Still conduction after bending, performance is good. No fracture	1 time/batch	5PCS	OK	OK	OK
5	High and low temperature impact	Will be set to high and low temperature test chamber cold - 30 °C, the temperature is set to + 70 °C, the switching speed for 30 seconds, each holding 0.5 H, is set to 32. After the test after back 2 hours at room temperature.	Good electrical	1 time/batch	5PCS	OK	OK	OK
6	High temperature and high humidity test	Test environment: temperature of 60 plus or minus 2 °C; Humidity is 93 + / - 3% (RH); Place for 48 hours; Recovery time: 2 hours.	Good electrical	1 time/batch	5PCS	OK	OK	OK

Prepared : GU

checked by :XIAO

Control number: SR-FM-QRA-008

8. Antenna and accessory materials GP test report (ROHS.SGS.MSDS):

Antenna partial data



Due to the large number of pages, the above ROHS.SGS.MSDS information will be provided in electronic format.

9. Packing method

FPC antenna single shipment, into a small PP bag, each bag has 100PCS; Then put in a small box after loading out. The actual shipment quantity shall prevail.

