

Sample Approval Letter

Description: Keyphone/KP1/NFC-ANT/FPC/Y6120A-NFC-HTC-V1.0

Material number

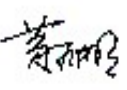
Part NO: **B106150041**

Model name: **KP1**

Type & Material: **NFC antenna -FPC- Black, with ferrite adhered to the surface and gold-plated**

Provider **Shenzhen Haotiancheng Wireless Technology Co., LTD**

Date: **2025.12.15**

APPROVED BY VENDOR			
"Production	Proofread	Review	Approval
	<u>Xiao Long</u>	<u>Xiao Qiang</u>	

APPROVED BY Customer			
Customer	Confirm	Review	Date

Shenzhen HaoTianCheng Wireless Technology Co., Ltd	Name: Sample Approval
	Ver: V1.0
	date: 2025.12.15

Sample Approval Sheet

Project Name: KP1

Sample Name: NFCAntenna

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

Customer PN.:

Transfer Date: 2025.12.15

Supplier Confirm	Project	Engineer	Quality
	Xiao Qiang	Michael Huang	Gu Shuang
Date	2025.12.15	2025.12.15	2025.12.15

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 and Technology Park, Lane 2, Liuxian 1st Road, Bao'an District, Shenzhen

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1. Overview of Recognition Letter

This specification describes the condition of the built-in antenna of the Infinite KP1, and its frequency band NFC manufacturer is Shenzhen HaoTianCheng Wireless Technology Co., Ltd.

3. Electrical performance

3.1. Antenna frequency band

	NFC
transmit frequency band(MHz)	13.56
Receiving frequency band(MHz)	13.56

3.2. Matching circuit

Matching circuit not changed

3.3. Impedance requirements

50 ohm

3.4. Antenna test data

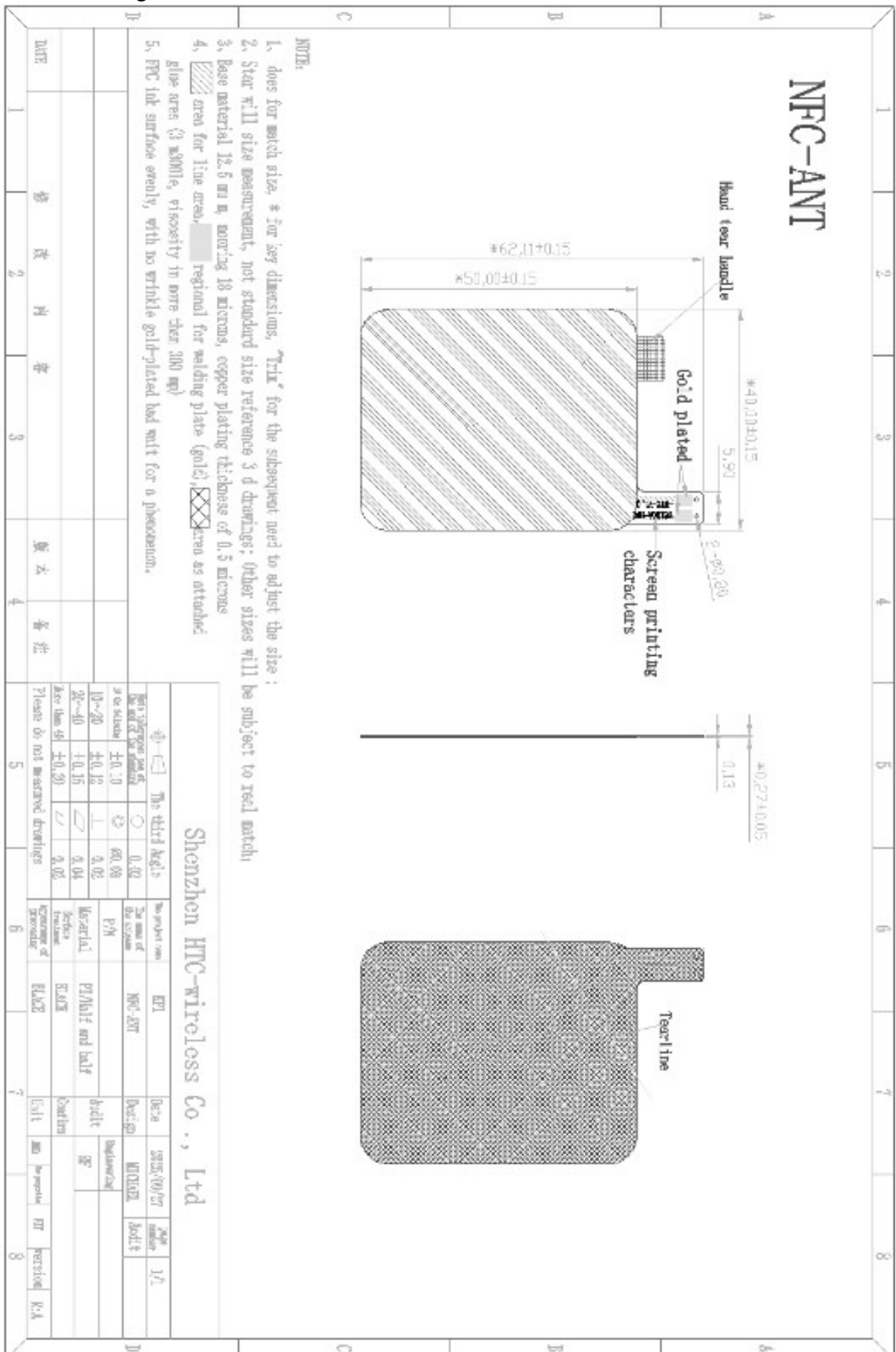
Card model	Test distance
NFC Type 1 tag	3.6CM
NFC Type 2 tag	4.0CM
NFC Type 3 tag	3.7CM
NFC Type 4 tag(ISO1443A)	3.2CM
NFC Type 4 tag(ISO1443B)	2.5CM
NFC Type 5 tag	5.0CM

4 Appearance structure

4.1 Antenna material

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

4.2 Structural Drawings

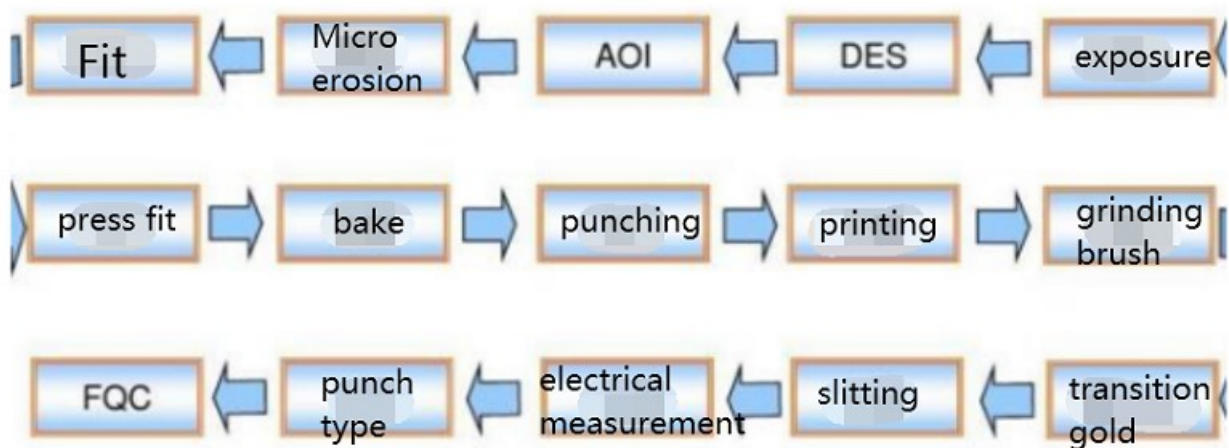


5 Bill of Materials (BOM)

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	SHA16-245544-02
			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	JSTD88001	Kingsoft	SGS	CANEC1617433203

6 Production process diagram



7 Reliability Test Report

Shenzhen HaoTian Cheng Wireless Technology CO. Ltd

Reliability test report

customer	YUEN TIAN	The customer model	KP1	Product model	NFC	DATE	2025/9/26	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	1 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 material GP test report (ROHS. SGS. MSDS):

											
ZYFS (单面板) RoHS2.0&卤素 &Be元素	ZYFS (单面板) SVHC 224项	金源星牌REACH 中文	金源星牌RoHs中 文	金源中文版 MSDS	台湾优立800-油 墨中文2023年 MSDS	优立-800油墨 -2023-07-13-R OHS报告(黑色系 列)	优立-PM-800油 墨-(熟固)224项 及28批9项关注 物	众创前FPC-3M 背胶 Reach报告 -2023	众创前-FPC-3M 背胶-系列ROHS 十项 -2023	众创前FPC-3M 背胶-系列卤素 -2023	众创前-覆铜板 MSDS (正业)

9 Packaging

The FPC antenna is welded, and the coaxial line is shipped in a single PCs, which is packed in a small bundle of 100pcs into PP bags and shipped in cartons; a small box of 10 bags of finished products is expected to have 1000 sets of antennas.

