

# NFC Antenna Specification

SPEED P/N: F-0W-JV-0191-001-K0

Model Name: CS23 NFC Antenna

Supplier Name : Huizhou Speed Wireless Technology Co., Ltd

Date: 2023/3/14

## **1.ANTENNA DESCRIPTION**

1.1 Antenna picture

1.2 Part weight

## **2 ELECTRICAL PERFORMANCE**

2.1 Antenna parameter

2.2 Smith chart & Return Loss

2.3 Matching components value

2.4 Components/Part revisions

## **3.ELECTRICAL TEST INSTRUCTION**

## **4 MECHANICAL DRAWING**

4.1 Appearance Drawing

4.2 FAI Report

4.3 RoHs Risk Evaluation Report

4.4 Reliability Test Report

4.5 UL certification

## **5.COSMETIC SPECIFICATION**

## **6.PACKAGE**

6.1 Package solution

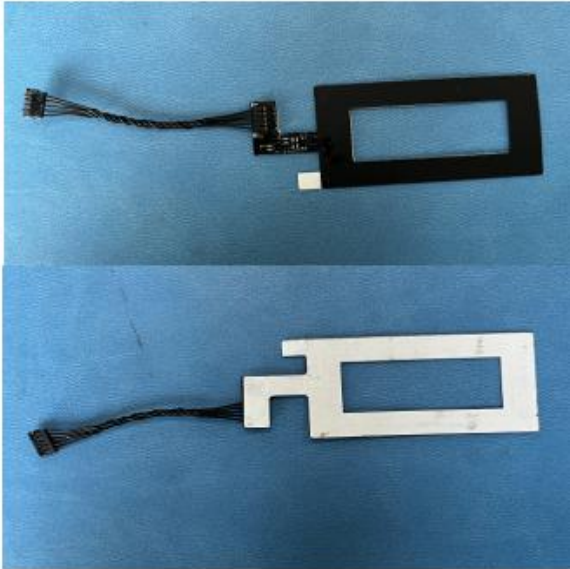
6.2 ESD specification

6.3 Environmental concerns

6.4 Storage

# 1.ANTENNA DESCRIPTION

## 1.1 Antenna picture



## 1.2 Part weight

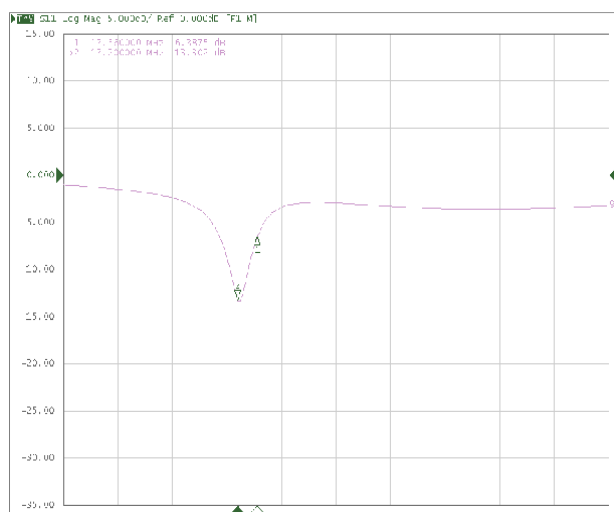
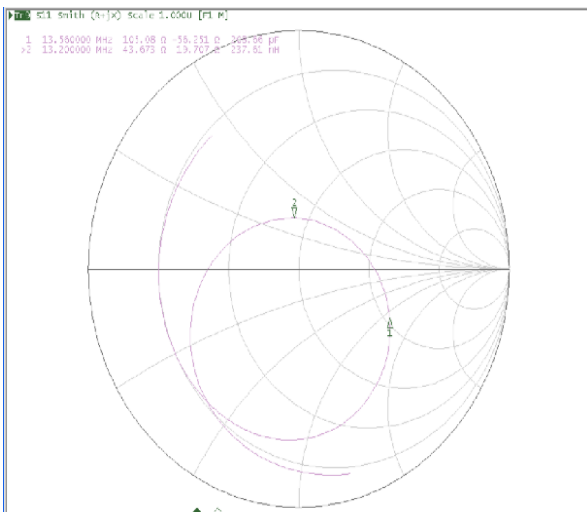
NFC antenna weight is 1.02g±0.2g

# 2 ELECTRICAL PERFORMANCE

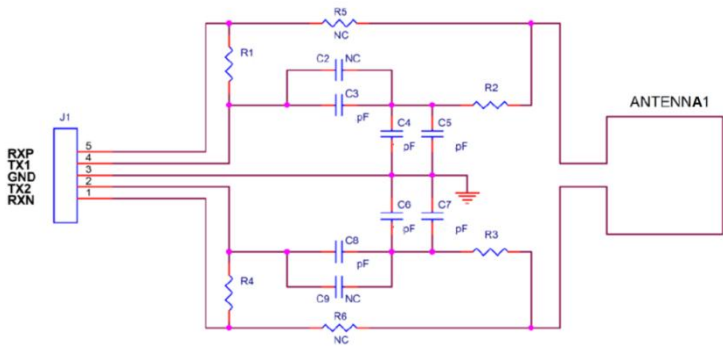
## 2.1 Antenna parameter

Parameter	Specification
Center frequency tolerance	13.56MHz +/-150Khz
Inductance (uH)	0.8-1.0
Q factor	45-50
Self-resonance Frequency	>120Mhz
Number of antenna turn	3

## 2.2 Smith chart & ReturnLoss



## 2.3 Matching components value



## 2.4 Components/Partrevisions

PART	PART NO.	SPEC
R1	RC0201JR-071KL	1K
R2	RC0201JR-070RL	0R
R3	RC0201JR-070RL	0R
R4	RC0201JR-071KL	1K
R5	—	NA
R6	—	NA
C2	GRM0335C1H560JA01D	56PF
C3	GRM0332C1H5R6CA01	5.6PF
C4	GRM0335C1E271JA01D	270PF
C5	GRM0335C1H470JA01D	47PF
C6	GRM0335C1E271JA01D	270PF
C7	GRM0335C1H470JA01D	47PF
C8	GRM0335C1H560JA01D	56PF
C9	GRM0332C1H5R6CA01	5.6PF
CONNECT	JST BM05B-ACHSS-A-GAN-ETF	

## 3.ELECTRICAL TEST INSTRUCTION.....

**Project name** 项目名称:

**Project number** 产品编号:

Network analyser used 所用网分仪: E5071C

Test type 测认类型: S11

Start frequency: 1MHz

Start frequency: 20MHz

VNA port power 矢量网仪端口功率: 0dBm

No.points 点的数量: 1601

File name 文件名称:

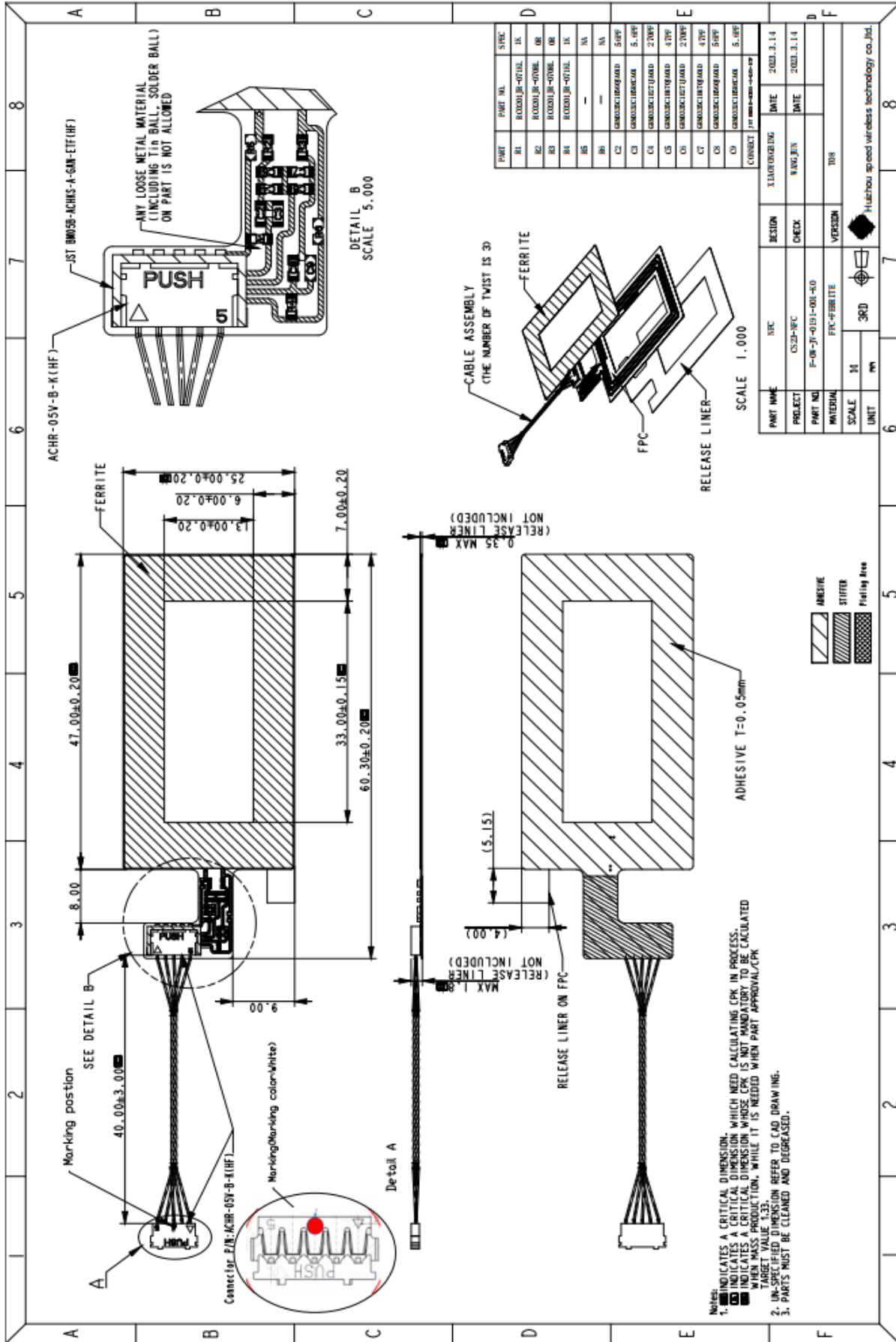
Fixture part No. 治具料号:

Fpr testing of completed antenna 对于成品天线测试

	NFC	
	Left	Right
S -Level(dB)	-6	-6
Frequency tolerance (MHz)	±0.15	±0.15

# 4.MECHANICAL DRAWING.

## 4.1 Appearance Drawing






### 4.3 RoHS Risk Evaluation Report

#### 限用物质宣告表

供应商（代理商）：惠州硕贝德无线科技股份有限公司

产品构成信息																											
序号	部件名称	部件料号	拆分部位	均质材料	第三方检测报告		限用物质含量PPM											测试报告附件	MSDS	备注							
					日期	编号	铅 (Pb)	镉 (Cd)	汞 (Hg)	六价铬 (Cr <sup>6+</sup> )	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	邻苯二甲酸二(2-乙基己基)酯	邻苯二甲酸甲苯基丁酯 (BBP)	邻苯二甲酸二丁基酯 (DBP)	邻苯二甲酸二异丁酯 (DIBP)	氯 (Cl)				溴 (Br)						
1	CS23 NFC	F-0W-JV-0191-001-KO	NFC-FPC	覆盖膜	2021/7/8	CANEC2111870604	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
2				背胶	2021/10/1	RT21R S6035-E1 RT21R S6035-E2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					
3				丝印	2021/10/29	ETR21A04957M01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	625	ND			
4				镀层	2021/10/15	A2210415672101001E	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
5				基材	2022/4/25	A2220147965101001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
6			NFC-铁氧体	铁氧体	2021/9/10	SAC2021-06339002E	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA				
7				黑色PET	2022/2/22	CANEC2202131801	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
8				透明背胶	2021/8/9	CANEC2114646502	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
9			电阻	电阻	2021/12/10	SHAEC2125938619	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
			电容	电容	2021/12/27	ETR21C03306	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA				
10	HOUSING	ICP-5210	2019. 6. 11	JH Engineering. Div声明	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND						
	端子	ICP-CD-235	2019. 6. 11	JH Engineering. Div声明	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND						
	线材	XLPE	2021. 12. 27 2022. 08. 07	A2210544695101001E CANEC2205033851	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND						
		镀锡铜	2021. 08. 30	SHAEC2118552905	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA						

## 4.4 Reliability Test Report


 惠州硕贝德无线科技股份有限公司 Huizhou Speed Wireless Technology Co.,Ltd.												
Reliability Test												
客户 Customer	Lenovo	样品来源 Sample sources	A	项目名称 Project name	CS23-NFC	成品料号 Finished product No.	F-0W-JV-0191-001-K0	送检人 Inspector	余欢欢	送检日期 Inspection	2022.07.01	
Reliability test items and requirements							Test results					Note
No.	Test Item	Test instrument	Test Condition			Test Criteria	1	2	3	4	5	
1	高温试验 High temperature test	恒温恒湿箱 Constant temperature and humidity box	将产品放置在温度为85℃±2℃的高温环境存贮48h，试验完成后在常温环境下放置2 h后检查产品外观 Store the product in a high-temperature environment at a temperature of 85 ° C ± 2 ° C for 48 hours. After the test is completed, leave the product at room temperature for 2 hours and check the			部件无裂痕、明显的变形、脱落，油漆附着测试OK，RF测试通过为合格 No crack, obvious deformation and falling off of parts, Paint adhesion test and RF test ok	OK	OK	OK	OK	OK	
2	低温试验 Low temperature test	恒温恒湿箱 Constant temperature and humidity box	将产品放置在温度为-40℃±2℃的低温环境存贮48h，试验完成后在常温环境下放置2小时后检查产品外观 Store the product in a low-temperature environment at a temperature of -40 ° C ± 2 ° C for 48 hours. After the test is completed, leave the product for 2 hours at room temperature to check the appearance			部件无裂痕、明显的变形、脱落，油漆附着测试OK，RF测试通过为合格 No crack, obvious deformation and falling off of parts, Paint adhesion test and RF test ok	OK	OK	OK	OK	OK	
3	盐雾试验 Salt spray tes	盐雾试验机 Salt spray tester	将产品放于盐雾试验机中，在35℃±2℃的密闭环境中，PH值在6.5-7.2范围内，用5%±1%的NaCl溶液连续24h盐水喷雾后，将样品用清水冲洗干净后检查天线弹片、五金电镀件的外观 Put the product in a salt spray tester, in a closed environment at 35 ° C ± 2 ° C, the pH value is in the range of 6.5-7.2, and spray the salt water with 5% ± 1% NaCl solution for 24h, then rinse the sample with water After cleaning, check the appearance of antenna shrapnel and metal plating			表面无锈蚀、镀层剥落、变色、起泡等不良现象，RF测试通过为合格 No corrosion, coating peeling, discoloration, bubble and other defect, and the RF test ok	OK	OK	OK	OK	OK	
试验结果判定 Determination of test results			可靠性试验合格 Qualified in reliability test									

备注：样品来源分为以下五种：A、新品开发 B、5MIE变更产品 C、量产产品 D、客户提供样品 E、竞争对手产品  
 Note: Sample sources are divided into the following five types: A, new product development; B, 5MIE changed products; C, mass production products; D, customer provided samples; E, competitor products

SCT/QRF 8.4-01/A.4



## 4.5 UL certification

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**VZQC2.E467370**  
**Subassemblies for High-technology Equipment - Component**

[Page Bottom](#)

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**Subassemblies for High-technology Equipment - Component**

[See General Information for Subassemblies for High-technology Equipment - Component](#)

<b>HUIZHOU SPEED WIRELESS TECHNOLOGY CO LTD</b>	E467370
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SX-01-02 Shangxia Section  
Hi-tech District of East River  
Huizhou, Guangdong 516255 CHINA

Subassemblies. Recognition based on the traceability of components and materials used in the subassembly. UL assigned code designation SBA040K.

Marking: Company name, subassembly identification, UL assigned code designation and the Recognized Component Mark  on the shipping container or specification sheet in the shipping container.

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## 5. COSMETIC SPECIFICATION

- Feed pad : scratch, dent (except for RF test mark), crack, pin hole and impurity
- FPC surface: smooth, no bulge, obvious scratches, exposed copper, edges should be neat, no burr, release paper difficult to tear, stratification and other bad; FPC wiring should be consistent with the drawing/sample.

## 6. PACKAGE

### 6.1 Package solution

The total packaging consists of <3> packaging parts

Packaging part 1

Packaging type: <Tray>

Length max (mm): <358>

Width max (mm): <248>

Thickness (mm): <more than 0.6mm>

Quantity/unit load (pcs): < 28>

Material: <PS-ESD >

Packaging part 2

Transparent plastic packaging whole package

There is no drawing attached to this document.

Packaging part 3

Packaging type: <Box>

Length max (mm): <385>

Width max (mm): <260>

Height max (mm): <375>

Quantity/unit load (pcs): < 1960>

### 6.2 ESD specificat

Material boxes and workbench pads need to be tested for surface impedance to ensure that products are in good condition during placement and turnaround. Material box, pad and pipeline surface impedance is  $10^6-10^{11} \Omega$ .

Packages with ESD warning marks should be removed after entering EPA.

### 6.3 Environmental concerns

The turntable in the material will be reused and marked.

### 6.4 .Storage

Operating temperature span -20deg~+60deg

Storage temperature span -40deg~+85deg

\* Recommended storage condition +8deg~+28deg, 30%~80% humidity