

# Victa Lane

## NFC Antenna Spec

### Antenna Product Specification

|                     |                                                                                                                                                                    |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Entry Name          | Victa Lane NFC                                                                                                                                                     |
| Supplier Name       | Shenzhen Speed Wireless Technology Co., Ltd                                                                                                                        |
| Frequency           | 13.56MHz                                                                                                                                                           |
| Supplier Address    | 202, Building A, countrymen Communication Building,<br>No. 5, Keji Middle Third Road, Maling Community,<br>Yuehai Street, Nanshan District, Shenzhen,<br>Guangdong |
| Antenna part number | F-2Y-DK-0001-004-B0                                                                                                                                                |

|                 |              |                         |
|-----------------|--------------|-------------------------|
| Prepared by     | Signed by    | Approved by<br>Customer |
| RF Engineer     | Xie Shuhai   | Xie Shuhai              |
| ME Engineer     | Huang Teyan  |                         |
| Reviewed by     | Xu Weiwei    |                         |
| RF Manager      | Xu Weiwei    |                         |
| ME Manager      | Huang Teyan  |                         |
| Project Manager | Zou Wenxaing |                         |

|                                                                  |                    |                                    |
|------------------------------------------------------------------|--------------------|------------------------------------|
| Project:Victa Lane                                               | Author: Xie Shuhai | File Name:victa lane NFC<br>REPORT |
| Date: 2025-10-31                                                 |                    |                                    |
| Language: English                                                | Check: Xu Weiwei   |                                    |
| Document No.:                                                    |                    |                                    |
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|                            |
|----------------------------|
| NFC Antenna Structure      |
| FPC Antenna + Ferrite      |
| Antenna Type: Loop Antenna |

## 2. NFC Antenna Performance Test

### 2.1 Matching Circuit Description

|             |            |           |       |
|-------------|------------|-----------|-------|
|             | C0         | C1        | C2    |
| Match value | 560pf+56pf | 56pf+10pf | 150pf |

Main Match

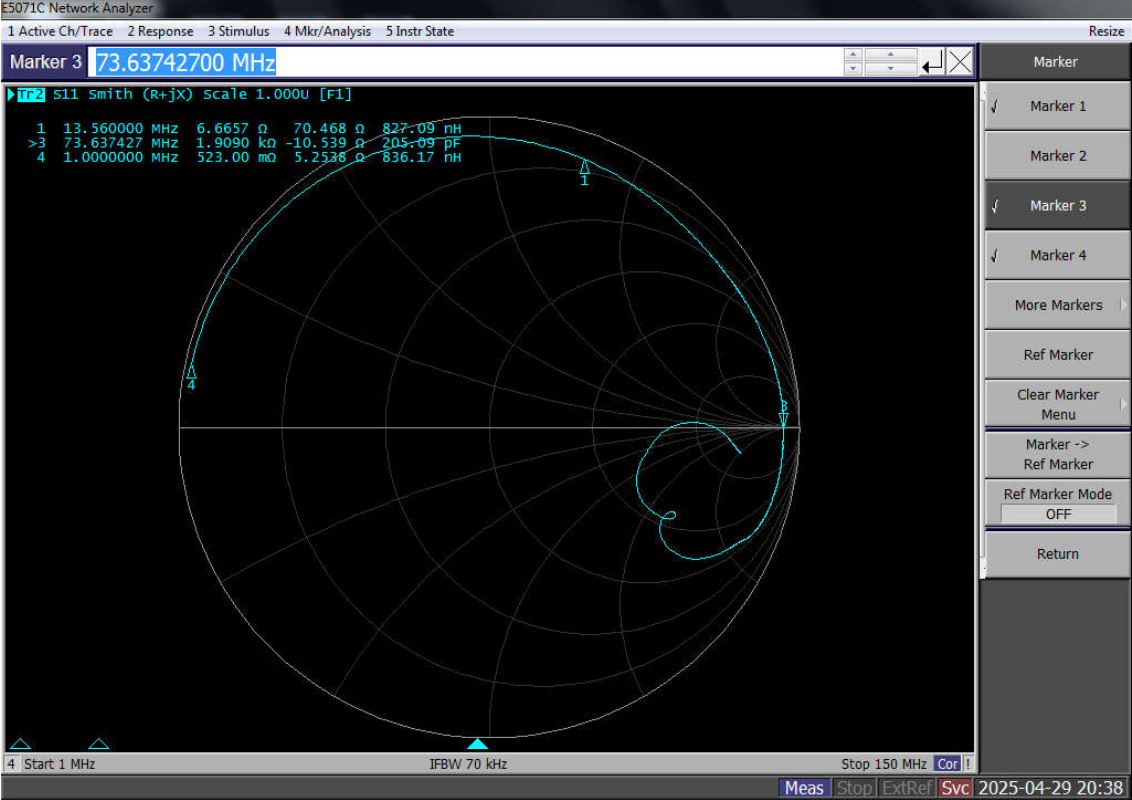
### 2.2 Antenna Introduction

| Vicia Lane-NFCAntenna |            |       |     |      |     |
|-----------------------|------------|-------|-----|------|-----|
| Frequency             | La         | Rs    | Rp  | Fra  | Q   |
| 13.56MHZ              | 400~1000uH | <2Ohm | >1K | >25M | >10 |

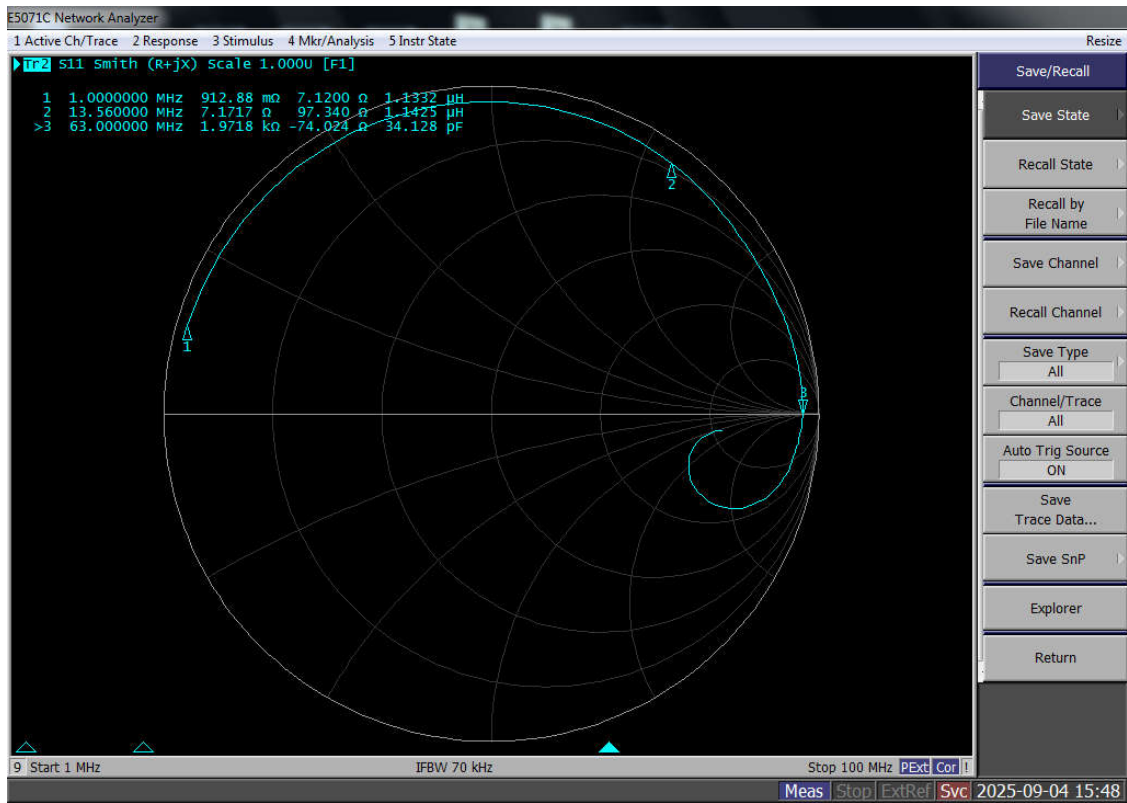
| Step 4 | 2 <sup>nd</sup> Iteration: Measurement of Antenna parameter L <sub>a</sub> , R <sub>s</sub> , R <sub>p</sub> ,f <sub>ra</sub> |             |      |                                         |
|--------|-------------------------------------------------------------------------------------------------------------------------------|-------------|------|-----------------------------------------|
|        | Antenna:                                                                                                                      | linear view | unit | annotation                              |
|        | (等效串联电感) L <sub>a</sub> =                                                                                                     | 1.140E-06   | [H]  |                                         |
|        | (等效串联电阻) R <sub>s</sub> =                                                                                                     | 9.128E-01   | [Ω]  |                                         |
|        | (等效并联电阻) R <sub>p</sub> =                                                                                                     | 1.979E+03   | [Ω]  | at self resonance frequency             |
|        | (谐振频率) f <sub>ra</sub> =                                                                                                      | 6.303E+07   | [Hz] | self resonance frequency of the antenna |
|        | Rp (13.56MHz) =                                                                                                               | 4.266E+03   |      | Skin effect included                    |
|        | R <sub>a</sub> =                                                                                                              | 3.122       | [Ω]  |                                         |
|        | C <sub>a</sub> =                                                                                                              | 5.596E-12   | [F]  |                                         |
|        | (品质因素) Q <sub>a</sub> =                                                                                                       | 31.095      |      |                                         |

2.3 S11 of NFC

Antenna



2.4 S11 of NFC Antenna + Ferrite



## 2.5 Impedance Measurement with MB of NFC Antenna

