

# PRODUCT SPECIFICATION / APPROVAL SHEET

Customer : \_\_\_\_\_

Description(Parts name) : NFC ANTENNA

Model : LB91902-4TH-3

Customer Parts No. : \_\_\_\_\_

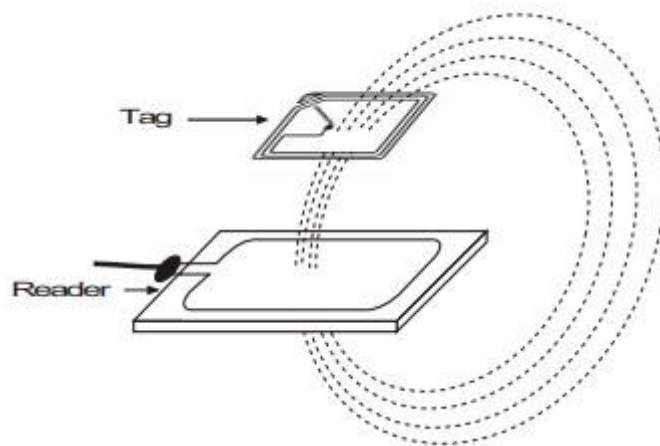
Date : July 26, 2022

<p>Please confirm your acceptance and return the approval sheet with your signature below by mail.</p>	<p>Santek Overseas Corp. 巨暘科技有限公司 地址: 2F., No. 371-1, Sec. 2, Jhongshan Rd., Jhonghe Dist., New Taipei City 235, Taiwan (R.O.C.) 新北市中和區中山路二段 371-1 號 2F 電話: +886-2-32340872 E-mail : santek.co@msa.hinet.net</p>		
<p>承認欄 CONFIRMATION SIGNATURE</p>	<p>核准 Approved</p>	<p>審查 Checked</p>	<p>經辦 Issued</p>

## LB91902-4TH-3 NFC Antenna Specification

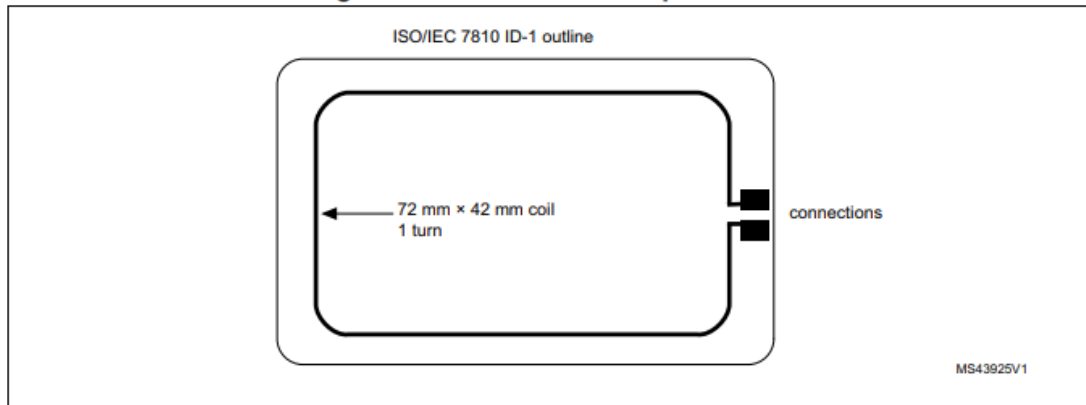
### ● Product Features

The NFC (near field communication) and RFID (radio frequency identification) tags extract their power from the reader field. The tag and reader antennas are inductances mutually coupled by the magnetic field, similarly to a voltage transformer. The efficient transfer of energy from the reader to the tag depends on the loop antenna tuned to the carrier frequency 13.56 MHz.



## ● Circuit Design

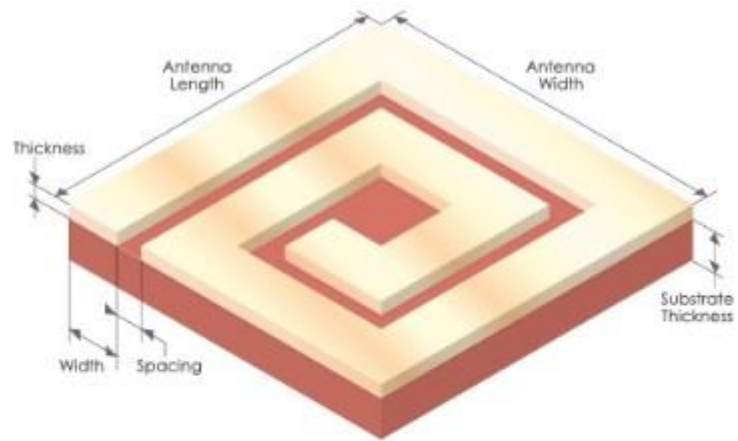
**Figure 12. ISO standard loop antenna**



## ● Specification



Geometry	
Turns	3
Antenna Length	75 mm
Antenna Width	45 mm
Conductor	
Width	0.6 mm
Spacing	0.6 mm
Thickness	35 $\mu\text{m}$
Substrate	
Thickness	1 mm
Relative Electrical Permittivity (er)	4.6



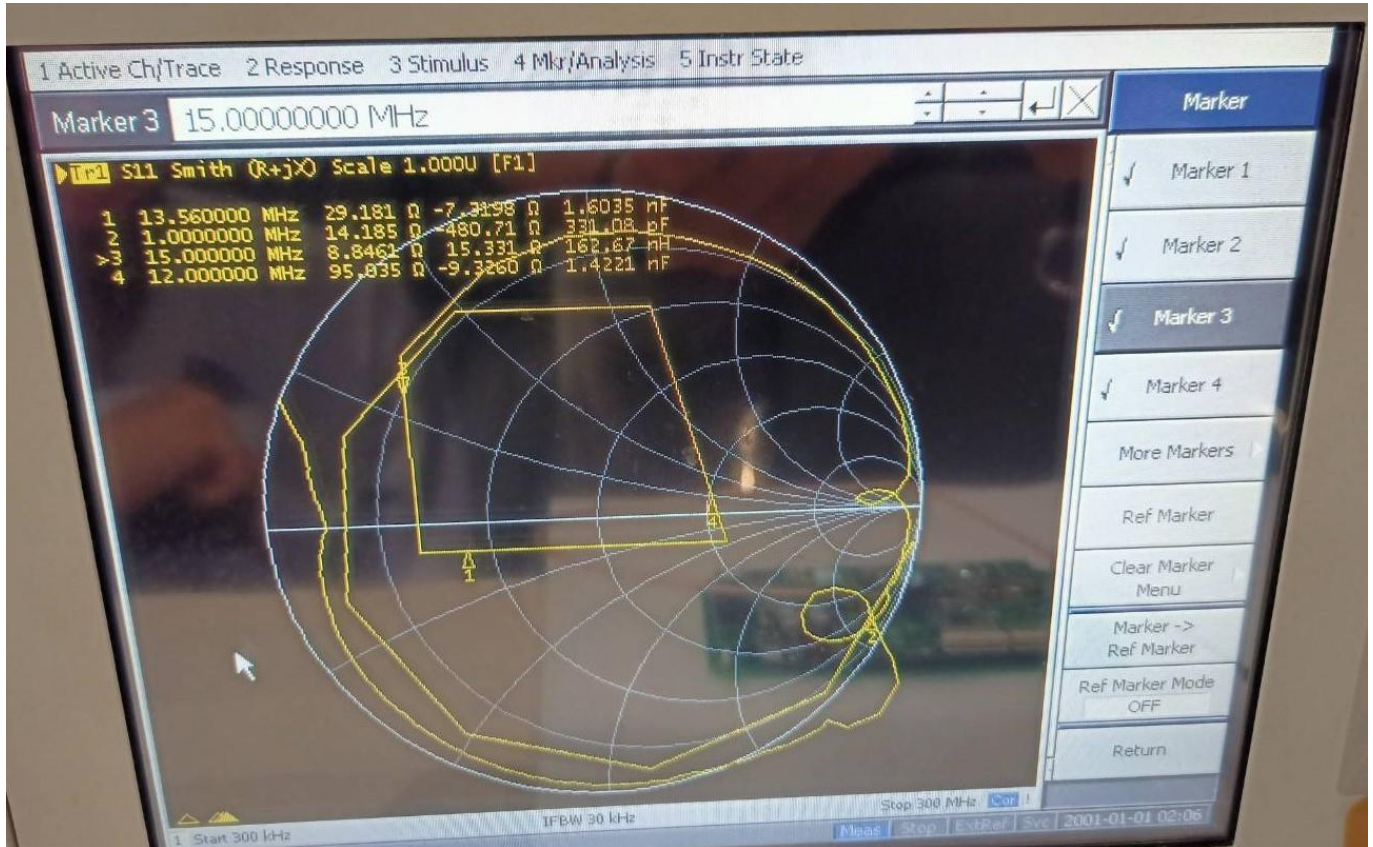
**Antenna Results**

Segmentation Mode: Vertical  
 Segments: 12  
 Equivalent Inductance: **1.5  $\mu\text{H}$**   
 @13.56 Mhz



- Turns: number of complete turns (four segments per turn) :2
- Antenna length in mm : 100mm
- Antenna width in mm : 50mm
- Number of layers (1 by default) Conductor parameters (copper is used by default) : 1
- Width of tracks in mm : 1mm
- Spacing between turns in mm :0.8mm
- Thickness of the conductor in  $\mu\text{m}$  Substrate parameters : 35um
- Thickness in mm : 0.8mm
- Dielectric permittivity :4.6

## ● Testing Result



● Product appearance

