

MXX001NC1E.09

Qi NFC Antenna

DATASHEET Rev. 2.0



1. General description

MXX001NC1E.09 is a double antenna that integrates both Qi coil and NFC antenna. Qi coil is used for inductive wireless charging and NFC antenna for NFC communication.

2. Key Features

- Qi wireless power charging 1.5W
- Custom designed double antenna Qi + NFC without cross talking
- Thin coil pattern film
- Thin ferrite sheet

3. Antenna Coil Specifications

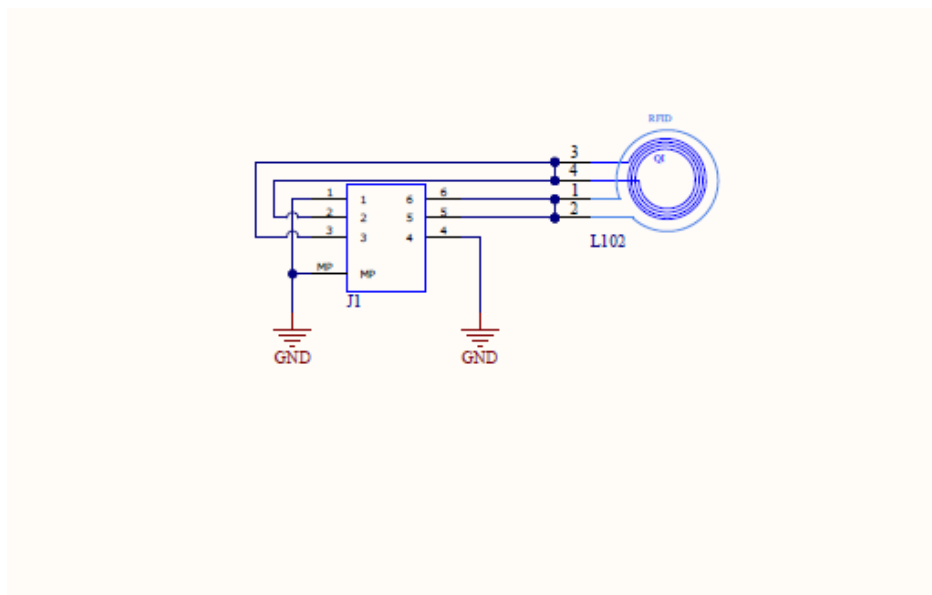
Antenna	Number of coils	Coil Turns
Qi	1	18 turns
NFC	1	3 turns

4. Connector

Description	PN	Manufacturer
Board-to-Board connector	5035520622	Molex

Schematic

FS_QINFC_rev1.0.0_V1.0.0



6. Gerber

5_Gerbers_L102 FS_QINFC_rev1.0.0.zip

7. Ferrite DMEGC MS1400

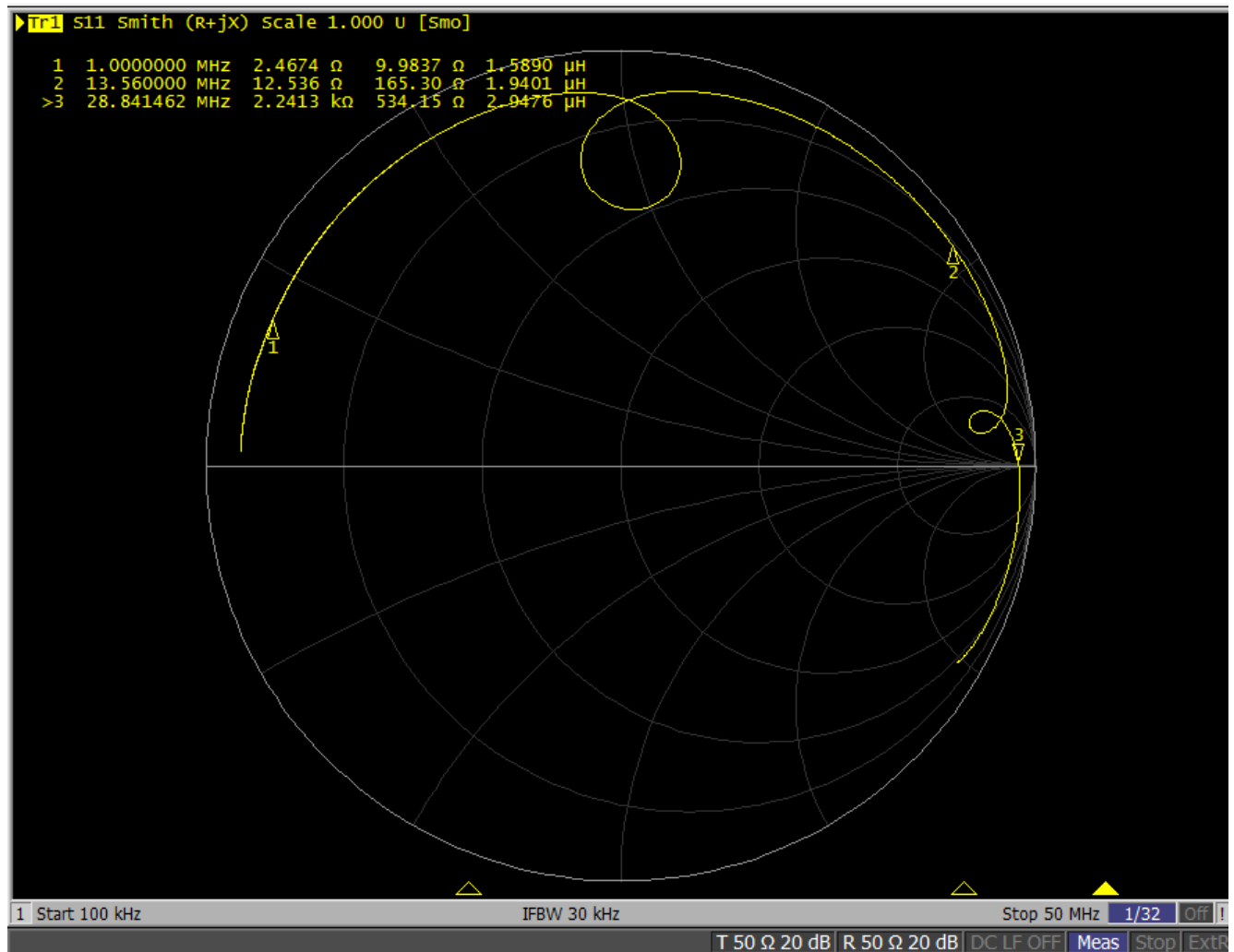
Nanocrystalline material is DMEGC MS1400

项目 (Property)		单位	条件	数值
尺寸 (Size)		mm	25°C	60×60
厚度 (Thickness)		mm	25°C	0.04~3.0
磁导率/Permeability	μ'	/	128kHz	500-1400
	μ''	/	128kHz	<200
	μ'	/	13.56MHz	200-400
	μ''	/	13.56MHz	<300
密度/ Density		g/cm ³	25°C	7.18
表面电阻率/Electrical resistivity		$\rho(\Omega.m)$	with tape@25°C	>10 ⁸
饱和磁感就强度 B/Saturation flux density		T	25°C,1600A/m	1.2
工作温度/Operating temperature		°C	/	-40~85°C
环境安全/Environment		/	/	符合 ROHS 要求

8. Electrical characteristics

Antenna	Rating	Typ	Tolerance	Unit
Qi	Inductance Value - @100kHz	11.6	± 10%	uH
	DC resistance	1.7	max	Ohm
NFC	Inductance Value - @13.56 MHz	1.7	± 5%	uH
	DC resistance	1.2	max	Ohm
	Resonance frequency	36.7	± 5%	MHz
	Impedance at resonance	3000	± 10%	Ohm

9. Typical reflection parameters



12. Assembly notes

a. Ferrite

Peel off the protection film on the ferrite and place it with the adhesive face on the bottom side of the FPCB following the position tolerances of the 2D drawing.

b. QR code

Place the QR code sticker on the back side of the antenna (on the ferrite) following the position tolerances of the 2D drawing.

c. Bending

Use the lines on the FPCB tail as START, MID and FINISH reference for the bending. Take care to bend the tail with the proper radius.

d. Warning

Make sure the surfaces are clean, without scratches or breaks.

13. Packaging

The antennas are packaged in plastic trays and collected in a carton box where each carton box contains up to 23 plastic trays.

Item	Dimensions(mm)	Quantity Antenna (pcs)	Notes
Tray	390 x 340 x 13.9	30	Pcs per tray
Carton Box	400*350*250	750	25 trays per carton. Carton weight: 0.7 kg

14. Others

Weight (g)	2.5 ± 0.5
FPCB color	yellow

15. Ordering information

Prefix	Number	Color	Package	Version
MX0	001	NC	1E	09

16. Minimum ordering quantity

MOQ	84000
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17. QR code

The QR code is a 6x6mm sticker, consisting of 25 digits with no empty digit/space within the code. The break down of the digits as follow:

Vendor Name	P/N	Date Code*	Version	S/N (HW version + Drawing Version)
1-2 (2 digits)	3-13 (11 digits)	14-18(5 digits)	19-20 (2 digits)	21-25 (5 digits)
EG	MX001NC1E.	YMMDD	09	10212**
EGMX001NC1E.403130910212**				

* The Date code changes with each batch.

** Provided only as an example.

S/N (HW version + Drawing Version): 102 (=L102 HW version) + 12 (=Rev1.2 DRW)

Appendix A - Revision history

Revision number	Date	Description
1.0	14th Mar 2024	Initial release
2.0	15th Mar 2024	Updated for alignment to: - final drawing; - packaging specification; - QR code content; - stack-up layout; - electrical parameters; - Shelf Life



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