



**Description: 13.56MHz NFC Ferrite Antenna  
with coax feed and U.FL connector**

**Series: NFC Antenna**

**PART NUMBER: W3509**

## ELECTRICAL SPECIFICATIONS

Frequency *	13.56 MHz
Reading Distance (EMVCo) *	40 mm
Reading Distance (Grid Scan avg) *	29 mm
Impedance *	50 Ohm
Self Resonance Frequency **	32 MHz
Inductance @ 1MHz **	1.8 uH
Resistance @ 1MHz **	0.9 Ohm
Q-Factor **	35.9
Matched Q-Value ***	5-30

### Note:

- Electrical characteristics depend from distance of metal objects and the location of the antenna on the device
- Data shown in above table is measured in free space

\* With matching network

\*\* Bare coil without any matching network

\*\*\* With matching network adjustable. Typical network picture refer to page 3

Issue: 1634P

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

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Preliminary



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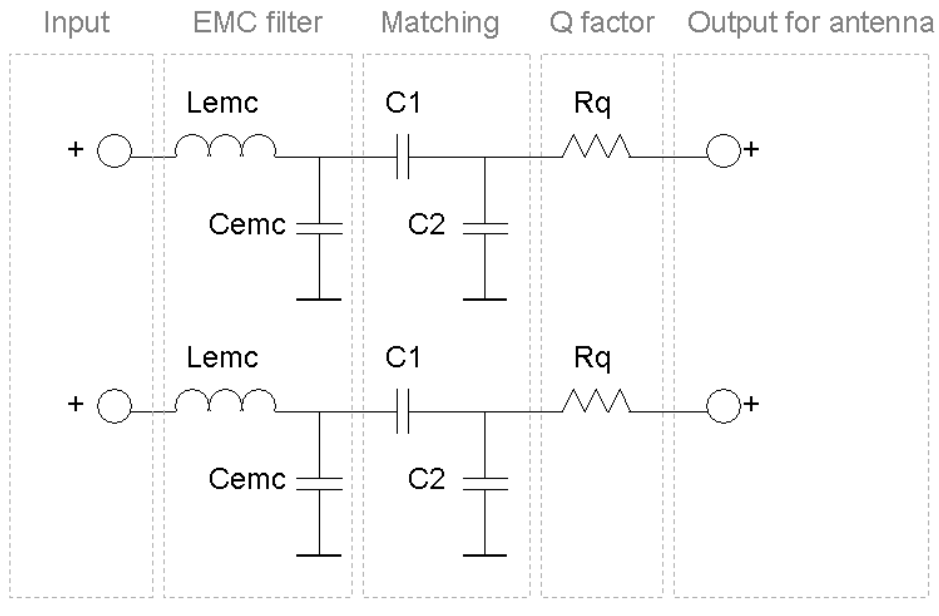
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**ELECTRICAL SPECIFICATIONS**

**Recommended matching network**

Component	Value	Note
L <sub>emc</sub>	560 nH	Filter resonance at 15.4 MHz
C <sub>emc</sub>	180 pF	Filter resonance at 15.4 MHz
C1	22 pF	Antenna matching component, value depends on the antenna environment Antenna matching
C2 (Includes C2a and C2b values)	132 pF	Antenna matching component, value depends on the antenna environment Antenna matching
R <sub>q</sub>	00hm	R <sub>q</sub> resistors used to lower Q-value



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## MECHANICAL SPECIFICATIONS

Color	Black
Weight	1.7 g
Coil + ferrite dimensions + tape	1.38x1.97x0.012 in (35x50x0.30) mm
Cable length	3.54 (90) in/mm
Cable type	1.13mm OD mini coax
Connector	U.FL compatible
Fixing system	Adhesive tape

## ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-40 to +85 ° C
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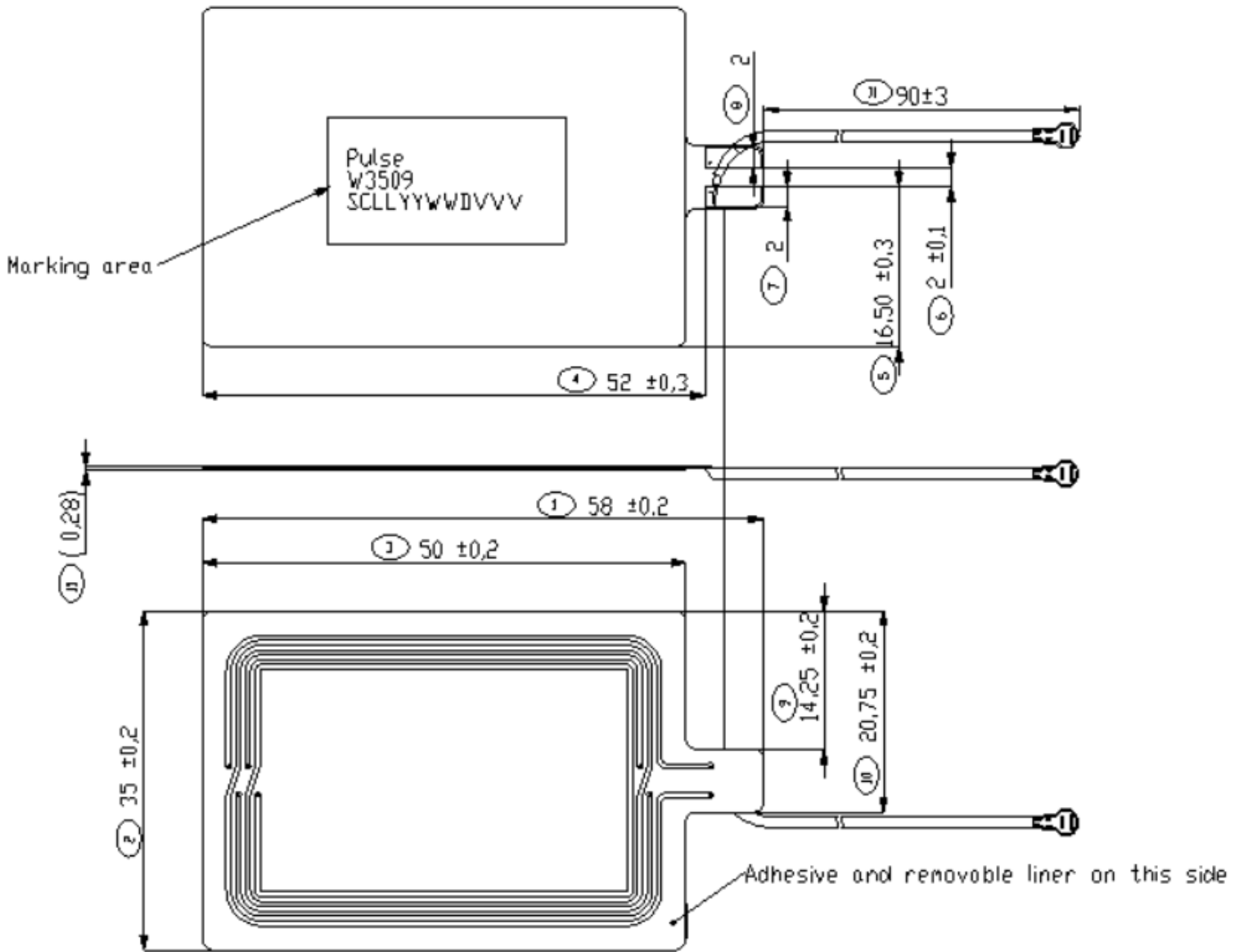


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MECHANICAL DRAWING



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## OTHER SPECIFICATIONS

### Mounting of NFC Antenna:

1. Recommend mounting of NFC antenna: Inside surface of device cover
2. Surface texture of face of joint: VDI 3400 NO. 24 (Ra 1.6) of equal
3. Double-curvature on face of joint are not recommended

## PACKAGING

Pack 100pcs antennae in sealed PE bag, 10 bags in one box

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