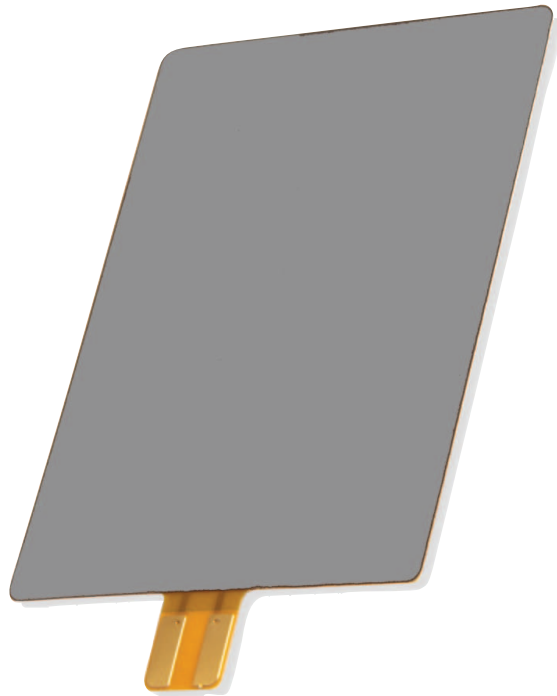


# Ferrite-backed Embedded NFC Antenna

Pulse Part Number W3580



The W3580 is a flexible Near Field Communication (NFC) antenna ideal for tight-space embedded products such as tablets, laptops, and payment terminal devices. It is intended for secure payment applications where connect distances are highly constricted to keep sensitive information safe.

The W3580 has a semi-flexible sintered ferrite backing designed to optimize magnetic fields, thus increasing the corresponding field strength of the antenna. Mounting the antenna is easily accomplished using the thin but aggressive holding adhesive backing. Recommended for mounting on the inside of battery covers, or locations where the antenna will be on or in close proximity to ground planes or displays.

## Features

- Excellent performances on metal surfaces
- Thin, semi-flexible structure
- Easily assembles to device covers or mechanics
- Excellent for tap-n-pay applications
- Well-known antenna concept, reliable technology
- RoHS Compliant Product

## Applications

- Mobile devices
- Payment terminals
- Sharing / pairing

## Electrical Specifications

Frequency [MHz]*	13.56
Reading Distance [mm]*	20 EMVCo 15 Card (avg)
Impedance [ $\Omega$ ]*	50 / 80
Self Resonance Frequency [MHz]**	58
Inductance [ $\mu$ H]**	0.95
Resistance [ $\Omega$ ]**	3.9
Q-Factor**	20
Matched Q Value***	5-15

## Environmental Specifications

Operating Temperature [ $^{\circ}$ C]	-40 to +85
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## Mechanical Specifications

Color	Grey
Dimensions [in/mm]	1.38 x 1.97 x 0.018 (35 x 50 x 0.45)

**NOTE:** Electrical characteristics depend on distance from metal objects and the location of the antenna on the device. Measured in free space

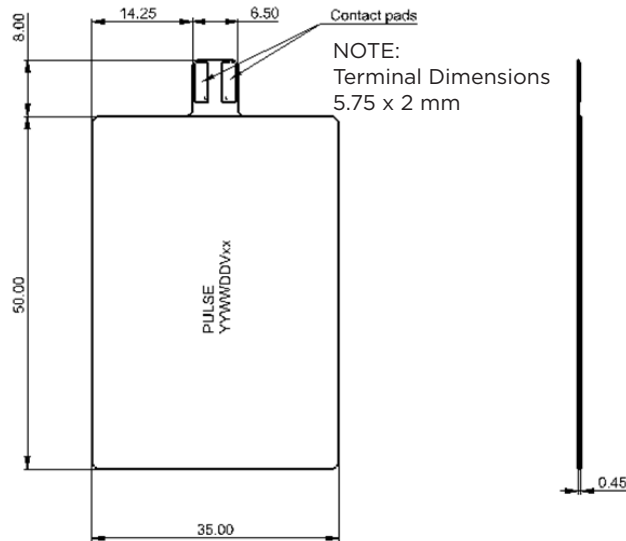
\* With matching network

\*\* Bare coil without any matching network

\*\*\* With matching network (adjustable). Typical network picture refer to page 2.

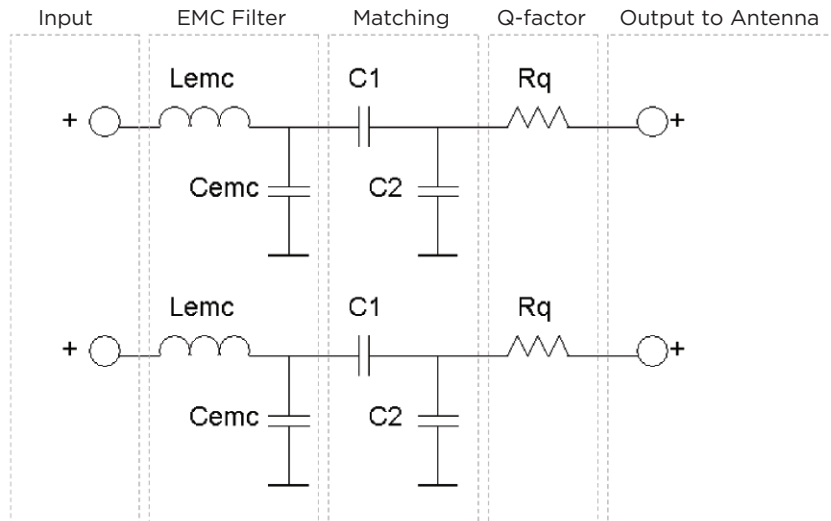
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## Recommended matching network

Component	Value	Note
Lemc	560 nH	Filter resonance at 15.4 MHz
Cemc	180 pF	Filter resonance at 15.4 MHz
C1	51 pF	Antenna matching component, value depends on the antenna environment Antenna matching
C2	198 pF	Antenna matching component, value depends on the antenna environment Antenna matching
Rq	0 Ohm	Rq resistors used to lower Q-value



## For More Information

### Pulse Worldwide Headquarters

12220 World Trade Drive  
San Diego, CA 92128  
U.S.A.

### Larsen Brand Antennas

3611 NE 112th Avenue  
Vancouver, WA 98682  
USA

### Europe Headquarters

Pulse GmbH & Co. KG  
Zeppelinstrasse 15  
Herrenberg  
Germany

### Asia Headquarters

B402, Shenzhen Academy of  
Aerospace Technology Bldg,  
10th Kejian Road, High-Tech Zone  
Nanshan District, Shenzhen, PR China 518057

### Pulse North Asia

3F, No. 198, Zhongyuan Road  
Zhongli City, Taoyuan County 320  
Taiwan R. O. C.

### Pulse (Suzhou) Wireless Products Co., Inc.

99 Huo Ju Road, (#29 Bldg, 4th Phase)  
Suzhou New District  
Science & Tech Industrial Park  
Jiangsu Province, Suzhou 215009 PR China

Tel: 858 674 8100  
Fax: 858 674 8262

Tel: 360 944 7551  
Fax: 369 944 7556

Tel: 49 7032 7806 0  
Fax: 49 7032 7806 135

Tel: 86 755 33966678  
Fax: 86 755 33966700

Tel: 886 3 4356768  
Fax: 886 3 4356823

Tel: 86 512 6807 9998  
Fax: 86 512 6809 8023

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