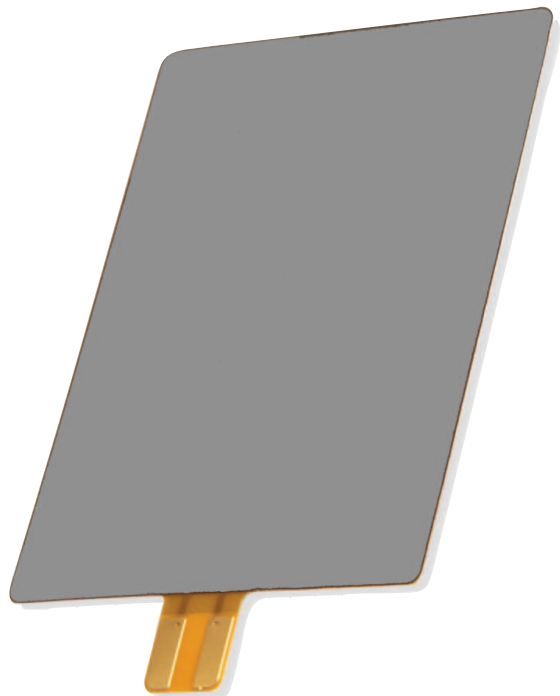


Ferrite-backed Embedded NFC Antenna

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 [Ω]*	50 / 80
Self Resonance Frequency [MHz]**	58
Inductance [μ H]**	0.95
Resistance [Ω]**	3.9
Q-Factor**	20
Matched Q Value***	5-15

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.

Environmental Specifications

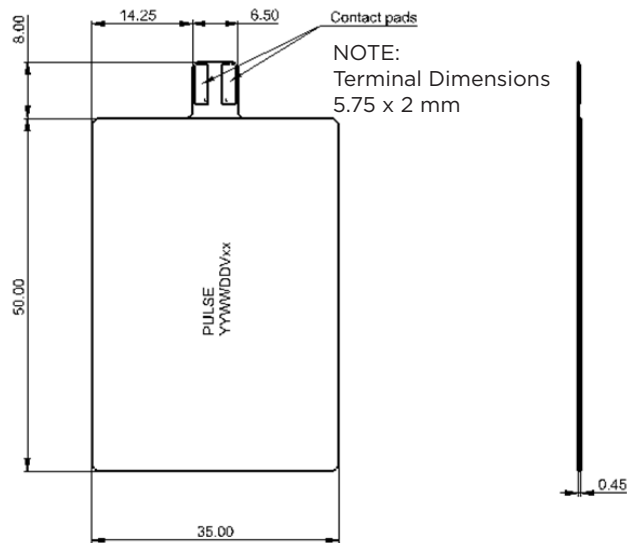
Operating Temperature [$^{\circ}$ C]	-40 to +85
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Mechanical Specifications

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

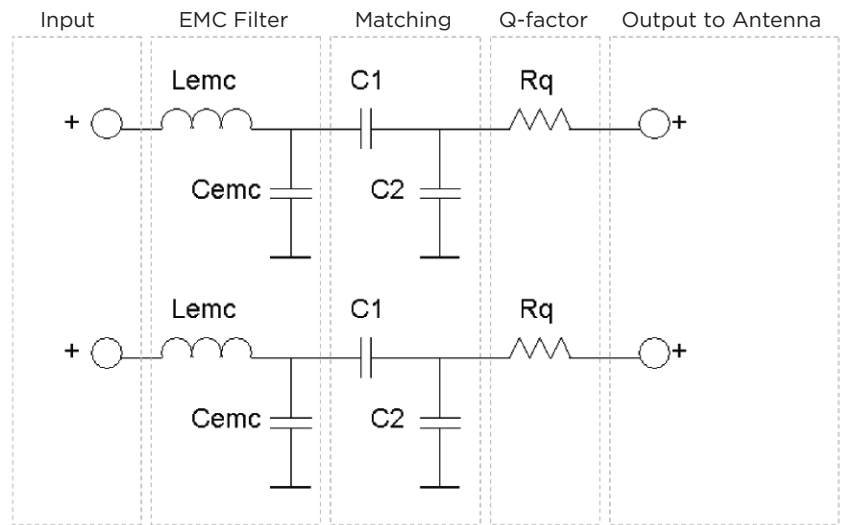
Ferrite-backed Embedded NFC Antenna

Pulse Part Number W3580



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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AMEYA360

Components Supply Platform

Authorized Distribution Brand :



Website :

Welcome to visit www.ameya360.com

Contact Us :

➤ Address :

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd
Minhang District, Shanghai , China

➤ Sales :

Direct +86 (21) 6401-6692
Email amall@ameya360.com
QQ 800077892
Skype ameyasales1 ameyasales2

➤ Customer Service :

Email service@ameya360.com

➤ Partnership :

Tel +86 (21) 64016692-8333
Email mkt@ameya360.com