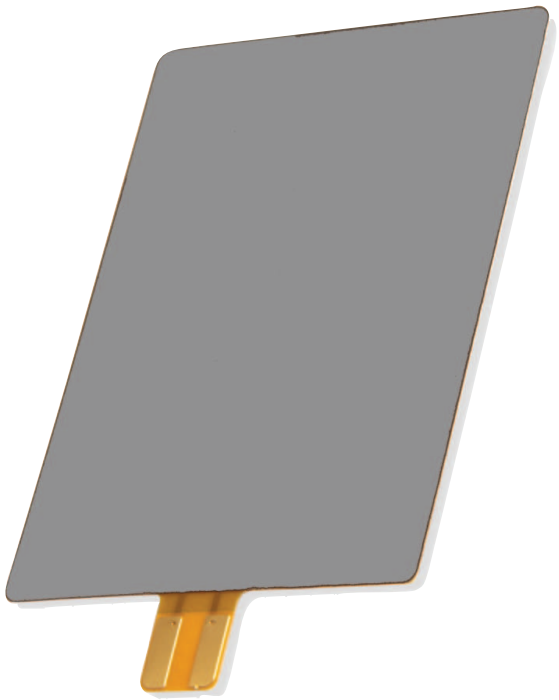
Ferrite-backed Embedded NFC Antenna

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 [µH]**	0.95
Resistance [Ω]**	3.9
Q-Factor**	20
Matched Q Value***	5-15

Environmental Specifications

Operating Temperature [°C]	-40 to +85

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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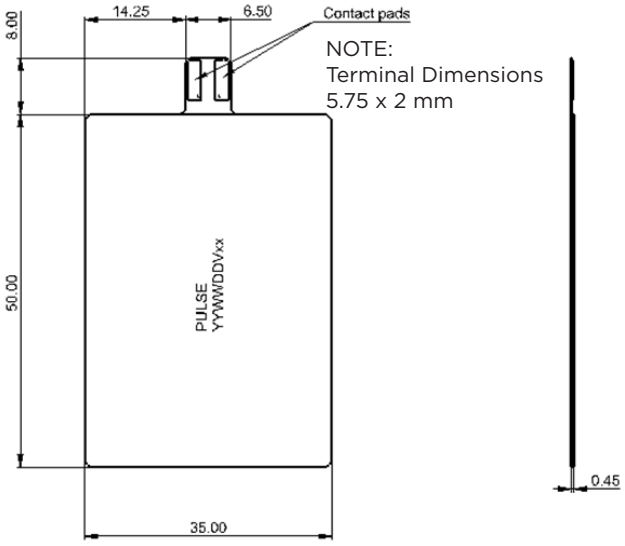
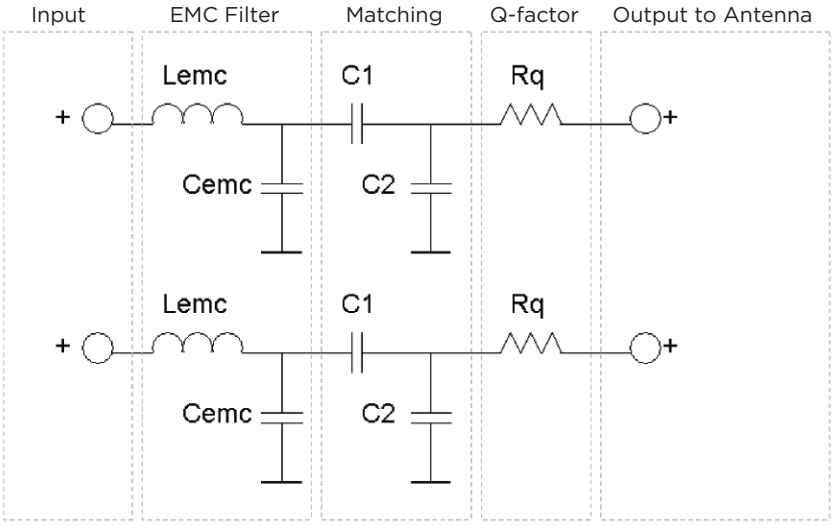


Recommended matching network

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



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