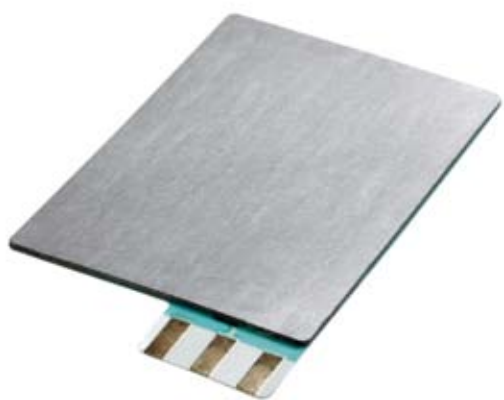


# Flexible 13.56MHz RFID Antenna

Flexible RFID Antenna. Pulse Part Number: W3550/W3551



## Features

- Near Field Communication (NFC)
- Thin profile without ferrite sheet (W3551)
- Capability to operate on top of metals (W3550)
- Compact size W x L x H (30 x 50mm)
  - W3550 Height 1mm
  - W3551 Height 0.15mm
- Weight
  - W3550 4.5 g
  - W3551 1 g

## Applications

- Handsets
- NFC terminals
- W3550 with ferrite when antenna is placed on top of metallic surface
- W3551 without ferrite when antenna is used in metallic free environment

## Specifications

*(Note: Electrical characteristics depend on the transmitting power strength, distance of metal objects and the location of the antenna on the handset)*

	Antenna dimension [mm]	Transmission Power [dBm]	Operating frequency [MHz]	H-field min. [A/m]	Reading distance [mm]	Q factor	Impedance [Ω]	Operating temperature [°C]
W3550	30 x 50 x 1.0	+23	13.56	1.5	17	32 *	50	-40 to +85
W3551	30 x 50 x 0.15							

Note 1: \* Q factor is measured from the bare antenna with damping resistors

Note 2: W3551 performance is similar as in W3550 when it is used on metal free environment

### Pulse Finland Oy

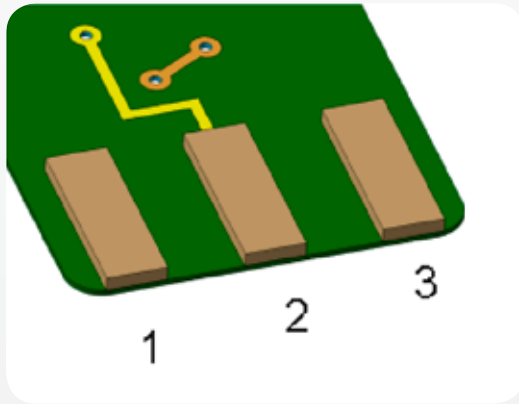
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 90440 Kempele, Finland  
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[www.pulseeng.com/antennas](http://www.pulseeng.com/antennas)



# Flexible 13.56MHz RFID Antenna

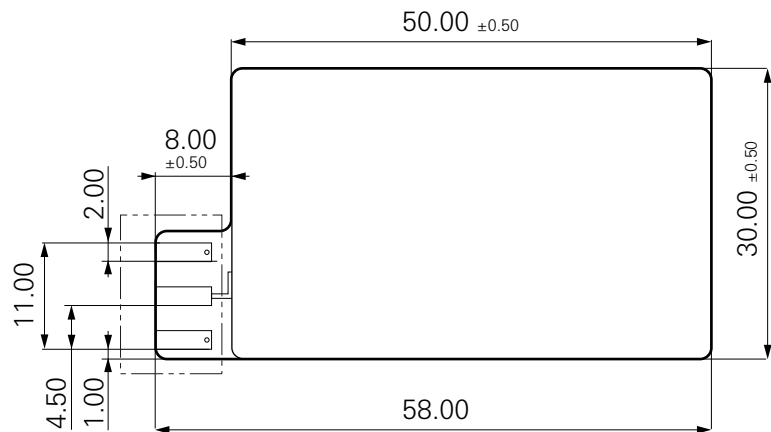
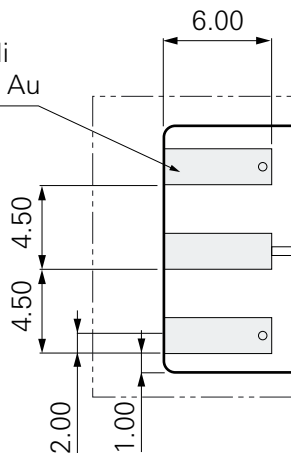
Flexible RFID Antenna. Pulse Part Number: W3550/W3551

## Terminal Configuration and Dimension of the Antenna



No.	Terminal name	Terminal dimensions
1 & 3	Feed	6 x 2 mm
2	Ground (optional)	
Ni/Au plating on contact areas		

Plating:  
1-2  $\mu\text{m}$  Ni  
+ 0.2  $\mu\text{m}$  Au



## Mounting of RFID antenna

1. Recommend mounting of RFID antenna: Inside surface of device plastic cover.
2. Recommended surface texture of face of joint: VDI 3400 N0. 24 (Ra 1.6)
3. Double-curvature on face of joint is not acceptable.

### Pulse Finland Oy

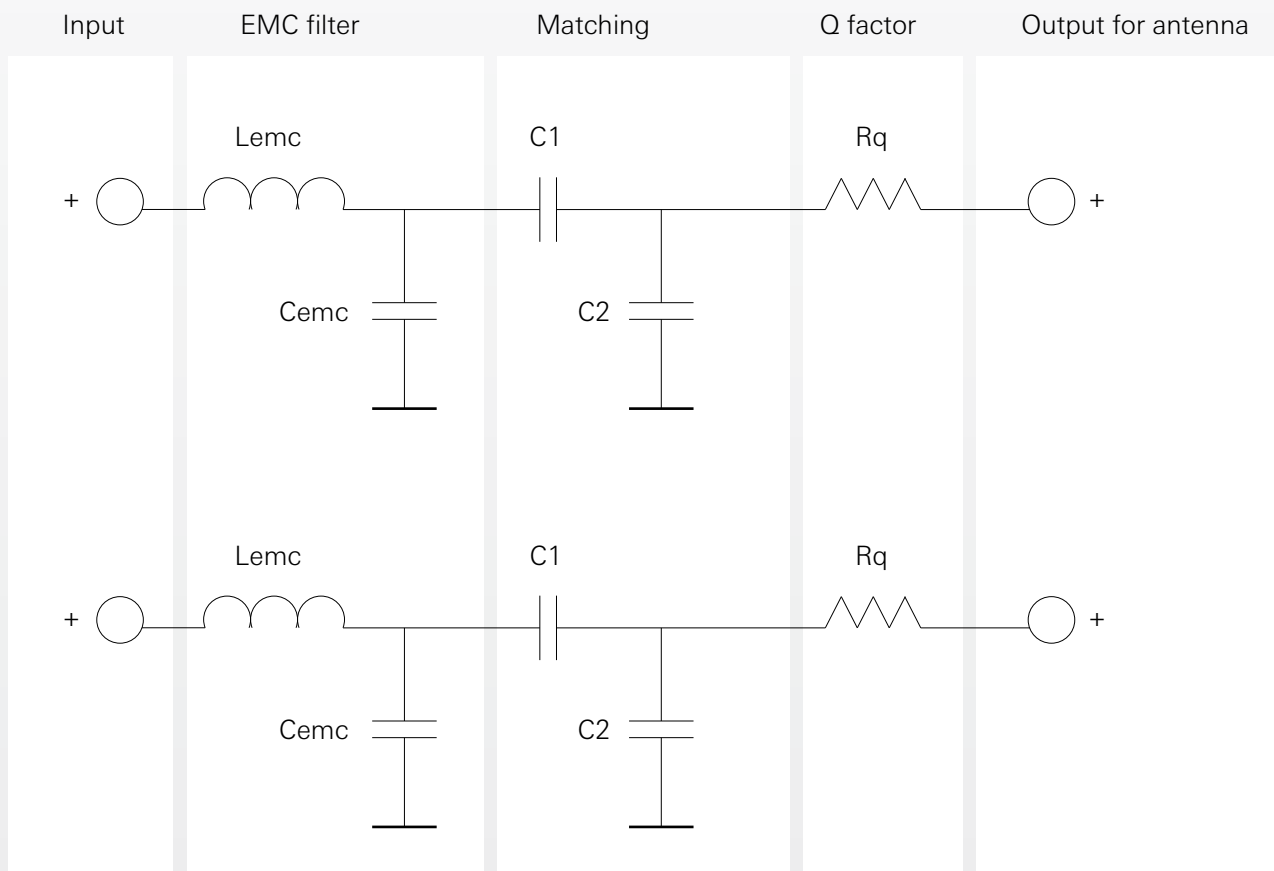
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# Flexible 13.56MHz RFID Antenna

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## Recommended Matching Network for Electrical Characteristic Measurement



Component	Value	Note
$L_{emc}$	560 nH	Filter resonance at 14.4 MHz
$C_{emc}$	220 pF	Filter resonance at 14.4 MHz
C1	-	Match the antenna, value depends on the application
C2	-	Match the antenna, value depends on the application
$R_q$	1.3 ohm	Reduces Q factor to 32

### Pulse Finland Oy

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