

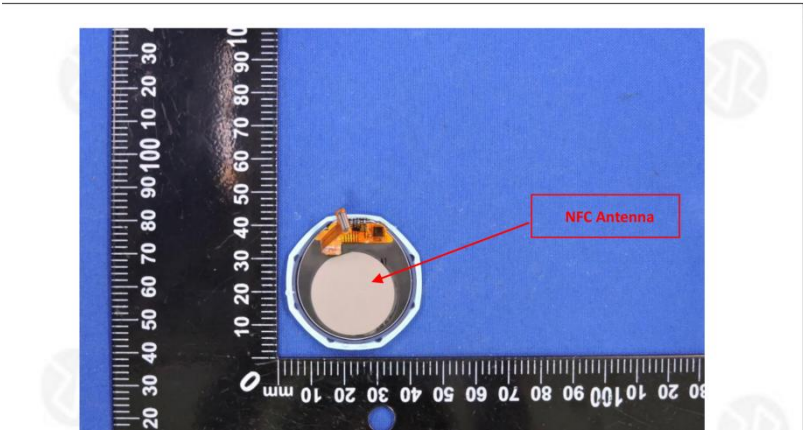
NFC Antenna Specification

Product name: Smart Watch	Antenna model: NFC-13.56-AP01 (PCB printed loop antenna)
Product model: AP01	Related test report: ZKT-260810L0535E-1 (FCC Part 15C RFID)
FCC ID: 2BE9U-AP01	Applicant / Manufacturer: Shenzhen Huadai Technology Co., Ltd

1、Model and specification

Item	Description
Antenna name	NFC / RFID antenna (13.56 MHz)
Type	PCB printed coil (loop) antenna, permanently attached on main PCBA
Frequency band	13.56 MHz ± 7 kHz (single channel, operating frequency 13.56 MHz)
Radiation pattern	Omni-directional (near-field magnetic loop)
Impedance	50 ohm
Antenna gain	0 dBi (best case)
VSWR	≤ 2.0
Modulation	ASK
Max. input power	Per EUT design; RF output verified in FCC test report ZKT-260810L0535E-1
Operating temperature	-20 °C ~ +70 °C
Outline size	Main PCB approx. 30 × 18 mm (per scale ruler, Photo 4); NFC loop trace printed around the PCB edge and coil area marked in Photo 3 — see Chapter 2

2、Size and outline



Note: Antenna photos are quoted from “Appendix II Internal Photos.pdf”, Page 2, Photo 3 & Photo 4.

Photo 3 (PCB back view): the circular NFC antenna area is marked by the red outline and labeled “NFC Antenna”.

Photo 4 (PCB top view): the scale ruler shows the main PCB spans approx. 30 × 18 mm; the 13.56 MHz NFC loop trace is printed along the PCB edge.

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NFC Antenna Specification

3、Description

The NFC antenna of EUT (Smart Watch, model AP01) is a 13.56 MHz PCB printed coil (loop) antenna. The antenna is printed directly on the main PCBA and fed at the matching circuit; there is no antenna connector or standard antenna jack. The antenna is permanently attached to the EUT and uses a unique coupling to the transmitter, so that no antenna other than that furnished by the responsible party can be used with the device. Therefore the design meets the requirement of FCC Part 15.203.

The antenna is omni-directional (near-field magnetic loop) with a maximum (best case) gain of 0 dBi. It operates at the single channel $13.56 \text{ MHz} \pm 7 \text{ kHz}$ with ASK modulation, impedance 50 ohm and $\text{VSWR} \leq 2.0$.

During the FCC test (report No. ZKT-260810L0535E-1, July 28 – Aug. 12, 2026), the EUT was tested in continuously transmitting NFC mode under DC 3.8 V supply and all items were found PASS.

4、Application

Near-field communication for the smart watch: device pairing, tap-to-pay, access card emulation, etc.