



SR802 HW PCD Antenna

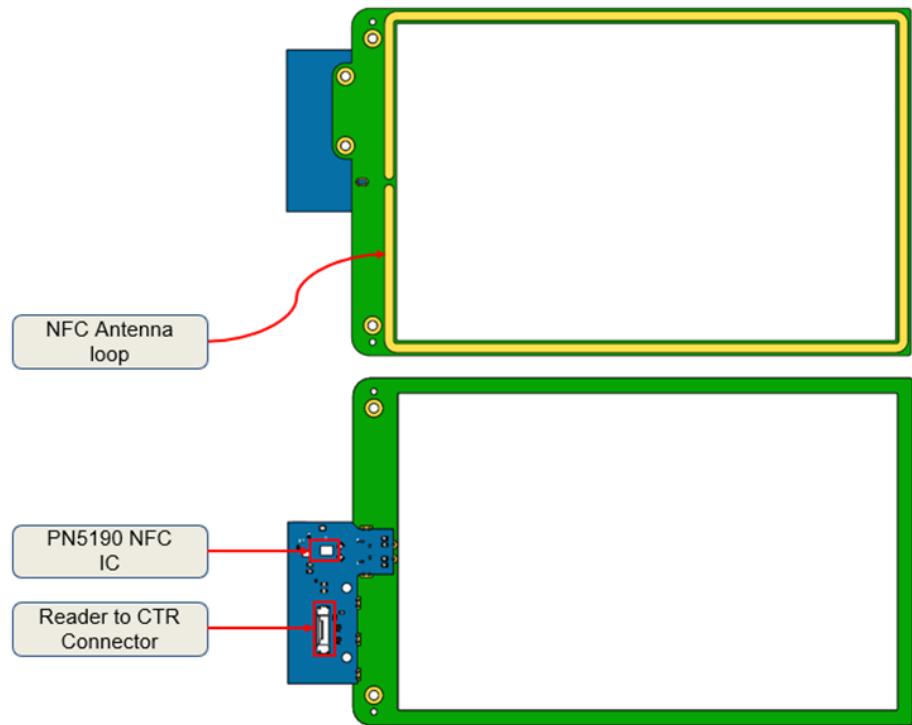
DAR SR802 DES 2104
Rev.A 20250321

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SR802 provides a “**Tap Anywhere**” function, which antenna is embedded around the LCD display area

Dimension of Tapping Area: 207 x 115 mm



Antenna dimension: 207 x 115 x 1mm

Antenna uses 1 loop with 3mm trace width and routed on Top layer.

Resonance Frequency: 13.56Mhz

Max Output: 2W



CTR Reader/Antenna Details

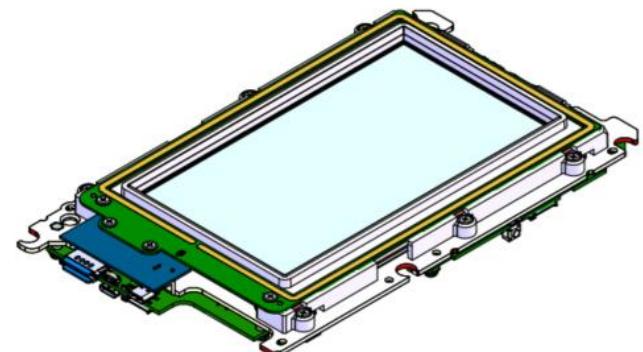
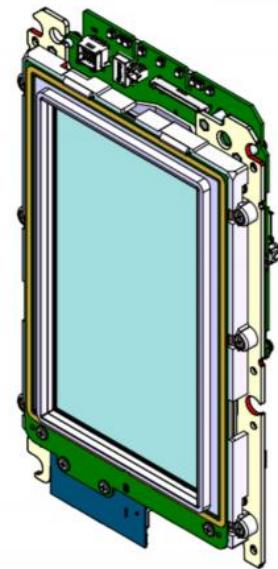
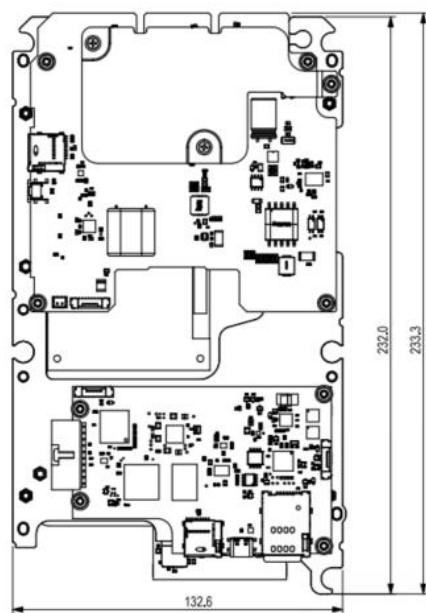
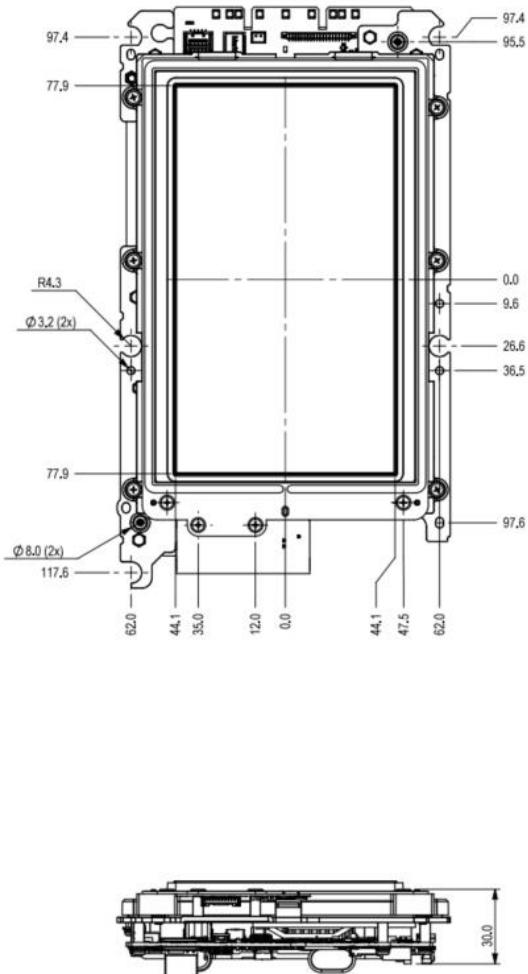
In the CTR module, the Reader board is a small board that has been soldered on the Antenna board.

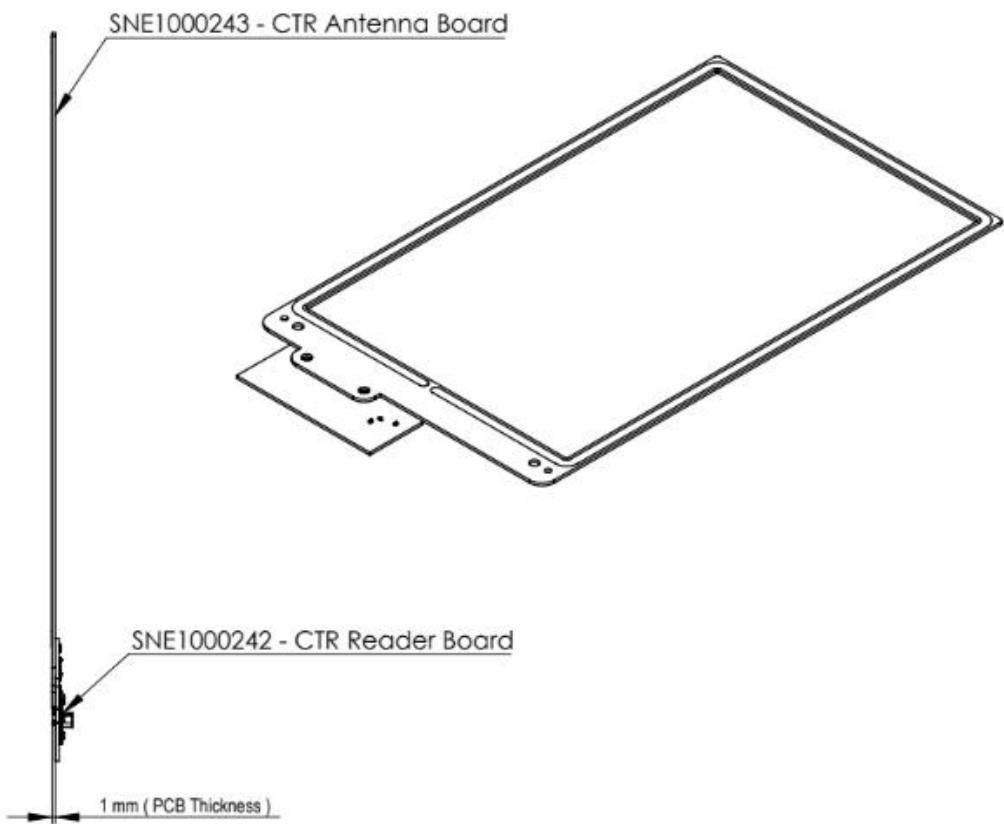
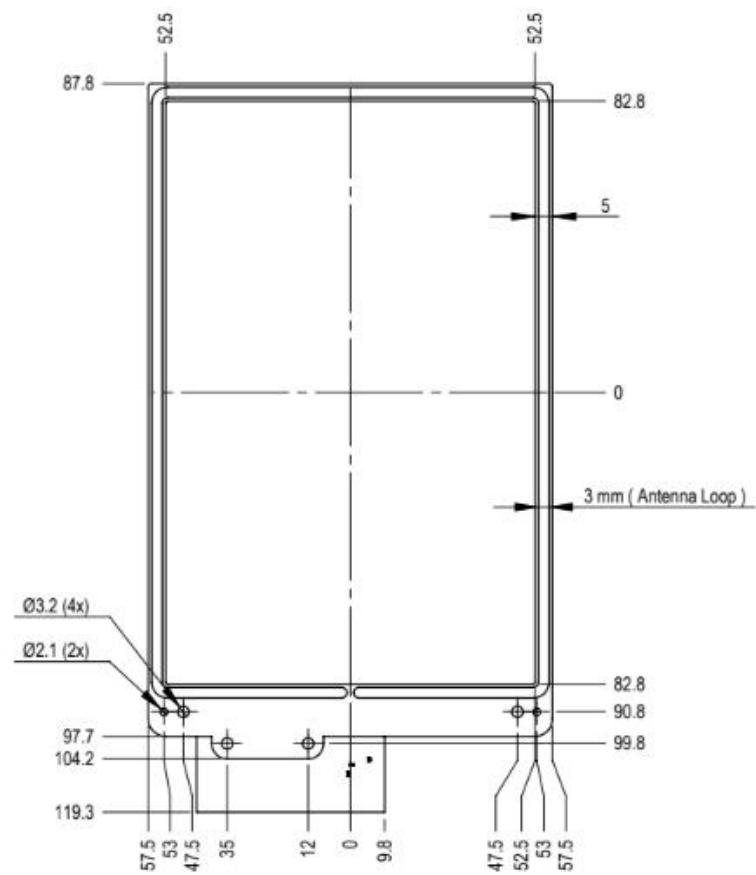
Reader board is using PN5190 IC for Fare Media communication, it has a 10pos connector to connect to CTR Main board including SPI interface with MCU MAX32552 and 3.3V power supply. A NXP NFC IC PN5190 was chosen for Contactless Smart Card (CSC) Interface for its feature:

- High power (2W), feature-filled transmitter: DPC 2.0 (dynamic power control without processing load on host MCU)
- Single 3.3 V supply with max TX transmitter power possible
- Connection of 1 differential or 2 single-ended antennas
- Robust receiver: Automatic configuration, advanced insensitivity against TFT display noise for higher RF performance
- Full NFC Frontend with active load modulation in Card Mode for large operating distance
- All relevant RF protocols implemented
- NXP proprietary high data rates up to 212 Kbit for NTAG5 communication
- Ultra-low-power card detect for low average current consumption
- Flexible configuration of EMD handling (EMVCo 3.1, ISO, FeliCa) for future-proof system integration
- Automatic antenna tuning (AAT) with variable capacitors
- RF Debugging without external probing of test signals possible but not required – ideal debugging solution for PCI compliant POS terminals
- Advanced RF debugging with AUX0, AUX1, AUX2 outputs
- Certifications: EMVCo 3.1, NFC Forum



Physical dimension

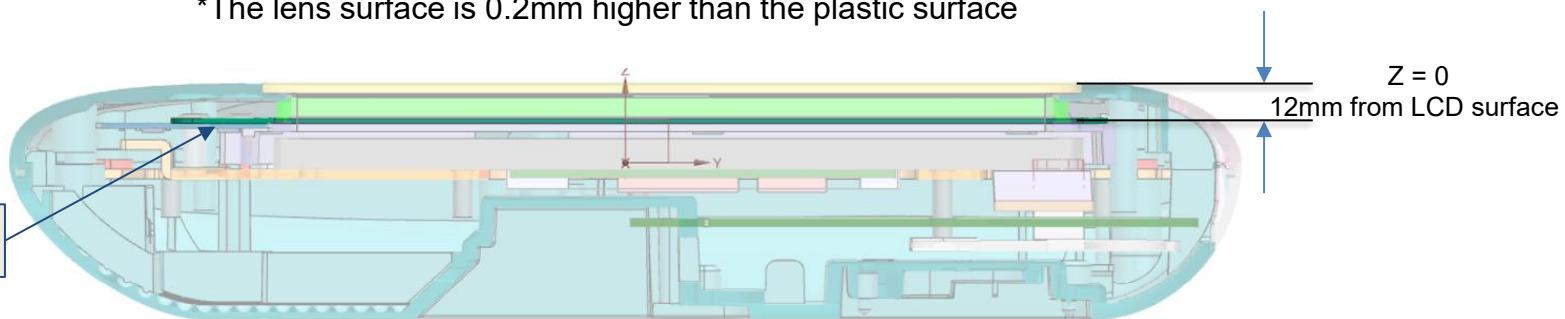




Final Design



*The lens surface is 0.2mm higher than the plastic surface



Antenna PCB

The distance between the antenna loop and the top surface of the **PC+PMMA** screen's protection sheet on the Card Validator is **7.2mm**



Thank You

for your kind audience



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