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## WR-5000 Tune-Up or Alignment Procedures

There are no Tune-up or Alignment procedures for the WR5000 Wall Reader. The reader contains four intentional radiators, a Near Field Communication (NFC) circuit, a Cypress Bluetooth Low Energy (BLE) module, and a WiFi 802.11 b/g/n 2.4 GHz single band and Bluetooth 4.1 device.

The NFC operates at 13.56 MHz and uses a loop antenna integrated in a printed wiring board (PWB). It consists of two loops and measures approximately 2.6" x 4.3". The PWB is located directly behind the LCD display and is permanently mounted. The radio transceiver is manufactured by NXP, part number CLRC66303HN,551. The output power of the transceiver is fixed.

The BLE module is manufactured by Cypress, part number CYBLE-222014-01. This module contains all the circuitry for the radio and includes an integrated antenna. It is fixed on the main circuit board.

The WiFi 802.11 b/g/n 2.4 GHz single band and Bluetooth 4.1 are integrated into a System on Module (SOM) from Intrinsic. The SOM uses Qualcomm part number WCN3620. The SOM has a U.FL connector. This is connected to a coaxial-cable which terminates on the main circuit board. The signal is fed to a chip type antenna, manufactured by Johanson Technologies, part number 2450AT18A100E. The antenna has a maximum gain of 0.5 dBi.

Tim Mattson

A handwritten signature in black ink that reads 'Timothy Mattson'. The signature is written in a cursive style with a large, sweeping 'T' and 'M'.

Hardware Engineer