

Theory of Operation/Technical Description – FCC ID: VW4A091784**- RF circuit function:**

The IEEE 802.15.4 compliant transceiver inside the Atmega256RFR2 SoC generates a modulated carrier wave at 2.4000- 2.4835 GHz with 15 IEEE 802.15.4 channels. This transceiver circuit is used by system applications as a physical layer for ZigBee applications.

- RF signal flow:

The Transceiver IC outputs a differential RF signal- RFP & RFN which then passes through the RF path till the antenna and gets radiated or vice versa during reception

- Description of Antenna system:

The Balun in the RF path converts the differential RF signal into a single ended 50 ohm side where it is fed to the Antenna connector after passing through tuning elements present to ensure compliance.

- Compliance with 15.203 antenna requirements:

FCC 15.203 requirements for this design are tested and verified during FCC compliance testing.

- Description of all modulation schemes used in the product:

Module uses O-QPSK with half-sine pulse shaping.

Saravanakumar Marudhachalam



Manager, Tools HW Development