

16-Sep-2013

Theory of Operation/Technical Description – FCC ID: VW4A092007

- RF circuit function:

The IEEE 802.15.4 compliant ATmega256RFR2 MCU with integrated transceiver generates a modulated carrier wave at 2.4000- 2.4835 GHz with 16 IEEE 802.15.4 channels. AS222-92 RF switch is used to switch between two PCB antennae. 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 passes through the RF path till the antenna and gets radiated or vice versa during reception

- Description of Antenna system:

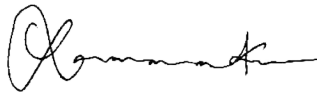
RF signal from/to the transceiver goes to MS147 Antenna connector and then through an RF switch controlled by the MCU to couple either of the two PCB trace implemented Antennae. Tuning elements are present to ensure compliance.

- 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.



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