10 .Sep.13

Theory of Operation/Technical Description

- RF circuit function:

The IEEE 802.15.4 compliant transceiver AT86RF233 IC generates a modulated carrier wave at 2.4000- 2.4835 GHz with 16 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.

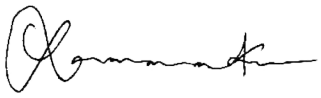
- Compliance with 15.203 antenna requirements:

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.

Oscillator Frequency	:		16MHz	
Operating Voltage (V)	:	2.0 (Min)	3.3 (Typ)	3.6 (Max)
Current consumption (mA)	:		13.8 (Typ)	
Antenna Type	:	MS147 / PCB - Inverted F Antenna		
Antenna Gain	:		0	
Maximum Transmit Power	:		+4 dB	



Saravanakumar Marudhachalam

Manager, Tools HW Development

Atmel Norway AS

Vestre Rosten 79, 7075 Tiller, Norway

Tlf:+47 72 88 43 88 Fax +47 72 88 43 99