



RS9110-N-11-31 EVALUATION KIT

The RS9110-N-11-31 Evaluation Kit is a complete platform for evaluating all the features and performance of the RS9110-N-11-31 wireless sensor networking module. The kit consists of an evaluation board which includes the module, a Lithium ion battery, a DB9 connector and a serial cable to connect to a PC. The Evaluation Board also includes various sensors for temperature, humidity, pressure, motion and acceleration and provides a wide range of interfaces for connecting external sensor components. The Configuration Utility shipped as part of the RS9110-N-11-31 Evaluation Kit provides a comprehensive set of features to configure the module with all parameters related to WLAN, TCP/IP, sensors, transmission interval, etc. The Evaluation Kit also includes a Controller Software running on a Windows or Linux PC that provides a web interface for remote configuration and monitoring.

Features

- IEEE 802.11bgn WLAN connectivity
- Integrated antenna
- Frequency Band - 2.4GHz
- Operating channels:
 - ◆ USA - Channels 1 to 11
 - ◆ Japan - Channels 1 to 14
 - ◆ Europe - Channels 1 to 13
- UART Interface for configuration
- On-board temperature, humidity, pressure, motion and acceleration sensors
- Evaluation of the module's interfaces like SPI, I2C, GPIO, ADC through the on-board sensors
- Availability of interfaces to connect external sensor components
- Power supply using on board battery (2.4-3.6 V) or external DC power jack
- GUI application for local configuration over the UART interface
- PC based Web Server for remote web based configuration and monitoring
- Support for firmware upgrades through the UART port or over WLAN

Purpose

- Evaluating features of the RS9110-N-11-31 module
- Direct deployment on the field for testing with the on-board sensors

Specifications

Network Standard Support	IEEE 802.11b/g/h/i, draft 802.11 n/k
Data Rates	802.11n: 6.5, 13, 19.5, 26, 39, 52, 58.5, 65 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps
Modulation Techniques	OFDM with BPSK, QPSK, 16-QAM, and 64-QAM 802.11b with CCK and DSSS
QoS	WMM and WMM Power Save Support
Wireless Security	802.11i: AES, TKIP, WEP, WPA, and WPA2
802.11n Features	MCS 0-7, STBC, RIFS, Greenfield Protection, A-MPDU, A-MSDU Aggregation with Block-ack, PSMP, MTBA
Network Protocols	TCP, HTTP Server, ARP, UDP, IPv4, DHCP Client
WLAN Functions	Power save modes, Ad-hoc and Infrastructure modes
Sensor Interfaces	ADC, I2C, SPI, GPIO, push-button, current sense
Debug Interface	JTAG
Configuration	UART, Wireless
Supply Voltage	2.4 – 3.6 V battery

Software Package

The Software Package includes the following items:

- Configuration Utility GUI (Windows OS)
- Controller Server (Windows and Linux OS)
- Microcontroller Firmware in object form for
 - ◆ IPv6
 - ◆ IPv4
- WLAN Firmware in Binary form

Documentation

- Datasheet for RS9110-N-11-31 module
- Evaluation Board User Guide
- Module Integration Guide

RS9110-N-11-31 EVB PICTURE



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