



ULTRA LOW POWER 802.11bgn MODULE

The RS9110-N-11-02 module is a complete IEEE802.11bgn Wi-Fi client device with an integrated MAC, baseband processor, RF transceiver and power amplifier. Based on the Redpine's Lite-Fi™ RS9110 MAC/baseband processor, the module provides a complete end-to-end solution for ultra low power WLAN applications. It conforms to the draft 802.11n standard in single-stream mode for handheld devices and includes an embedded processor with a rich set of peripherals offering minimal load on a host processor, to which it can connect through SDIO and SPI interfaces. In a small form factor of 13.7 x 12.9 sq mm and operation on a single power supply, the RS9110-N-11-02 is ideal for integration into mobile phones and other handheld devices.



Features

- Compliant to 802.11b/g and single stream draft 802.11n
- 802.11n features for high throughput and extended range
- Host interface through SDIO and SPI
- Bluetooth coexistence
- Ultra low power operation
- Complete WLAN software along with host driver for Windows Embedded CE, Windows Mobile, Windows XP, and Linux OS
- Single supply 3.0 to 3.6 V operation

Benefits

- Robust multipath performance and extended range using STBC
- Higher throughput with 802.11n MAC enhancements
- Minimal battery utilization during VoIP, media streaming and data transfer use cases
- Ease of system integration and minimal use of host resources
- Wi-Fi® and Bluetooth throughputs maximized using innovative coexistence algorithms
- Small system footprint to enable compact, low-cost design

Applications

- Multi-mode cellular phones, smart phones, and PDAs needing Wi-Fi capability
- VoWiFi handsets
- Personal Media Players
- Digital still cameras and camcorders
- Mobile gaming platforms with peer-to-peer capability

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 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps
Frequency Band	2.412 - 2.484 GHz
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
Host Interfaces	SDIO v1.2/2.0, SPI
Other Interfaces	I2C, SPI, GPIO, UART
Clocks	Reference Input: 9.6, 13, 19.2, 26, 38.4, 40, 52MHz Optional RTC: 32KHz crystal or direct 32KHz clock input
Package Size	13.7 mm x 12.9 mm
Supply Voltage	3 – 3.6 V
Operating Temperature	-40°C to +85°C
Certification	802.11n Draft 2.0, WPA, WPA2, WMM, WMM Power-save, WPS, Voice-Personal

Software Package

Redpine Signals provides a comprehensive software package including:

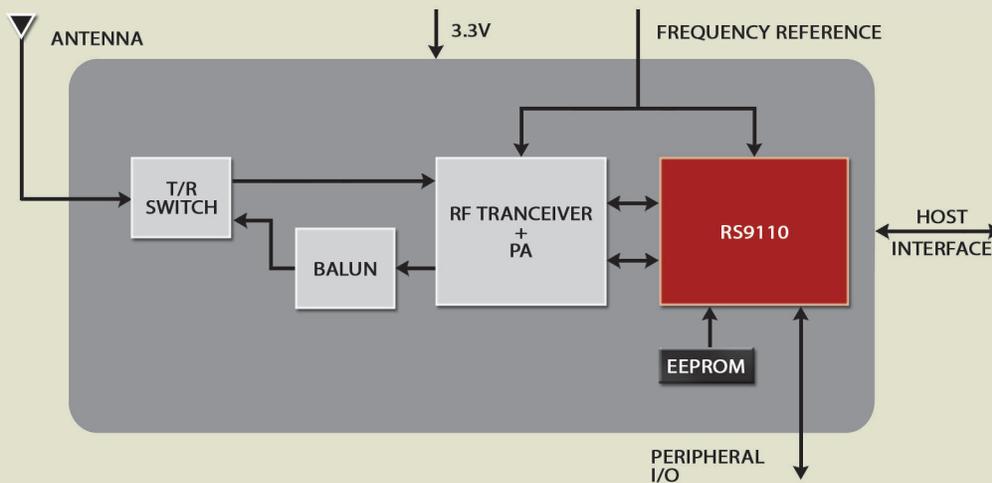
- complete MAC firmware
- configuration graphical user interface (GUI)
- reference driver for Linux
- reference driver for Windows XP
- reference driver for Windows Mobile

Support for host/target communications, basic information exchange between host and R9110, WLAN configuration and power management are also included.

RS9110-N-11-02 Footprint



RS9110-N-11-02 WLAN SYSTEM DIAGRAM



RS9110-N-11-02

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