



Expanding Wireless Horizons

ULTRA LOW POWER 802.11BGN MODULE

The RS9110-N-11-04 module is a complete IEEE802.11bgn Wi-Fi client device with an integrated MAC, baseband processor, RF transceiver and power amplifier. It offers a memory mapped interface, or External Bus Interface, to a host processor for high throughput applications on media platforms. The RS9110-N-11-04 is successfully integrated with the Analog Devices' Blackfin platform, with the integrated solution enabling a wide variety of applications such as multimedia equipped handheld devices and Media boxes. Based on the Redpine's Lite-Fi™ MRS9110 MAC/baseband processor, the module conforms to the 802.11n standard in single-stream mode and includes an embedded processor with a rich set of peripherals offering minimal load on the host processor.

Features

- Compliant to 802.11b/g and single stream 802.11n
- 802.11n features for high throughput and extended range
- Memory Mapped Interface (External Bus Interface) to a host processor
- Bluetooth coexistence
- Ultra low power operation
- Complete WLAN software along with host driver for Linux
- Proven compatibility with ADI Blackfin®
- Single supply 3.1 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 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
- Enables small system footprint for compact low-cost designs
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Applications

- Media streaming equipment
- Video monitors and displays
- Mobile Internet Devices

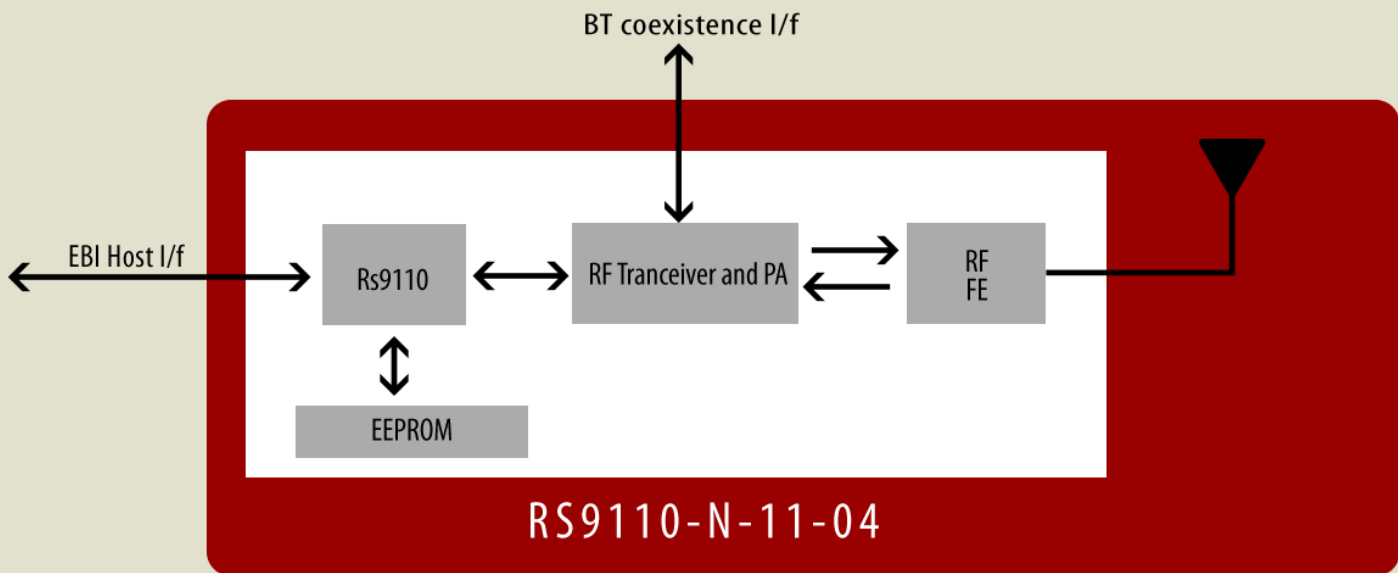
Specifications

Network Standard Support	IEEE 802.11b/g/h/i/j/k/n/r
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
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, MTBA
Host Interfaces	Memory-mapped i/f (EBI)
Other Interfaces	I2C, SPI, GPIO, UART
Reference Clock Input	9.6, 13, 19.2, 26, 38.4, 40, 52 MHz
Supply Voltage	3.1 to 3.6 V
Package Options	15mm x 15 mm
Operating Temperature	Industrial Grade -40°C to +85°C

Software Package

Redpine Signals provides a comprehensive software package that includes complete MAC firmware, reference drivers and configuration graphical user interface (GUI) for Linux, Windows CE, and XP with support for host / target communications, basic information exchange between host and RS9110-N-11-04, WLAN configuration, and power management. Blackfin platform support is with uCLinux.

RS9110-N-11-04 BLOCK DIAGRAM



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Ultra Low Power Wi-Fi®