REDPINE SIGNALS ®
Driving Wireless Convergence

RS9110-N-11-22: 802.11BGN WIRELESS DEVICE SERVER

The RS9110-N-11-22 module from Redpine's Connect-io-n™ family of products is a complete IEEE 802.11bgn based wireless device server that directly provides a wireless interface to any equipment with a UART or SPI interface for data transfer. It integrates a MAC, Baseband processor, RF transceiver with power amplifier, a frequency reference, an antenna and all WLAN protocol and configuration functionality and TCP/IP stack in embedded firmware to make a fully self-contained 802.11n WLAN solution for a variety of applications. No WLAN, configuration, or networking functionality is required on the host system. Based on the Redpine Signals RS9110 SoC that includes an embedded processor, it is designed to provide standards compliant wireless connectivity to devices and systems such as industrial equipment, medical electronic systems, POS equipment, sensor networks and metering equipment, M2M communications, and remote configuration applications. As a wireless serial modem, the RS9110-N-11-22 originates and terminates TCP and UDP connections, enabling a variety of M2M applications at low cost and small footprint. It uniquely provides connectivity in the single stream 802.11n mode, preserving overall network throughput in the emerging enterprise environments.

Main Features

- Compliant to 802.11b/g and single stream 802.11n
- Fully self-contained serial-to-wireless functionality - does not require any host processor bandwidth
- Includes all the protocol and configuration functions required for WLAN connectivity in open, WPA/WPA2-PSK, and WEP modes of operation
- Host Interface through UART and SPI
- Terminates TCP and UDP connections, and offers transparent serial modem functionality

- Integrated antenna and frequency reference
- Ultra low power operation with power save modes
- Ad-hoc and infrastructure modes for maximum deployment flexibility
- Single supply 3.1 to 3.6 V operation

Applications

- Seamless Wi-Fi connectivity for any equipment with a UART or SPI interface
- Industrial M2M communications
- Point of Sale Terminals
- Metering
- Security Cameras & Surveillance Equipment
- Warehousing

- Digital Picture Frames
- Logistics and Freight Management
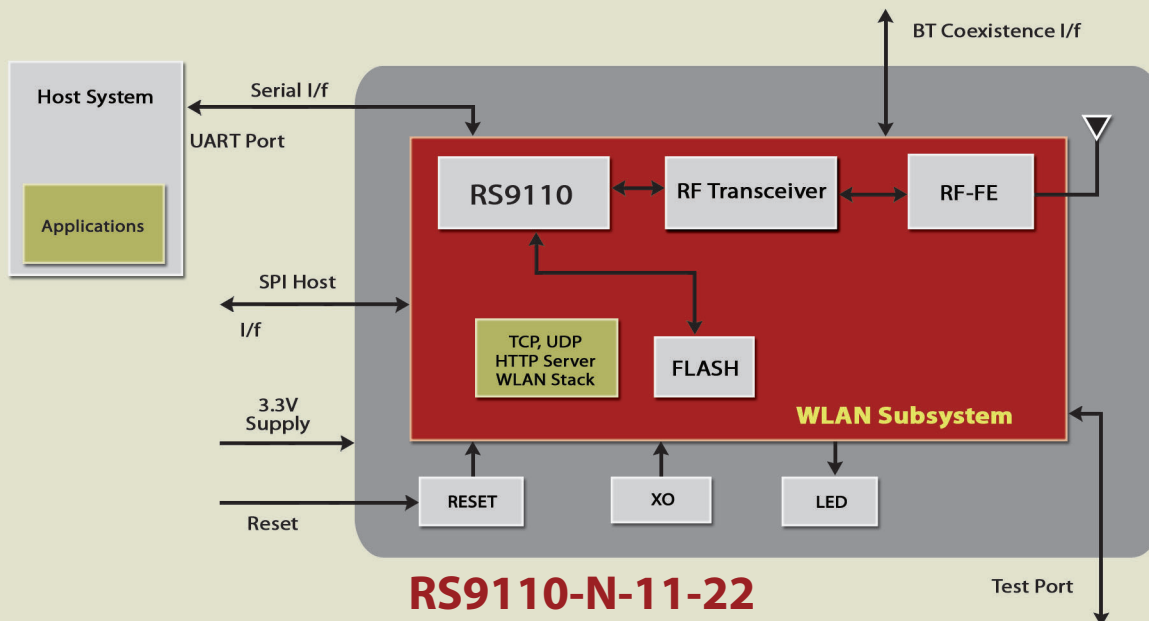- Several Medical Applications including Patient Monitoring, Remote Diagnostics etc.

Specifications

Network Standard Support	IEEE 802.11b/g/n
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
Throughput	Upto 8 Mbps
Wireless Security	802.11i: TKIP, WEP, WPA, WPA2-PSK
802.11n Features	MCS 0-7, STBC, RIFS,Greenfield Protection, A-MPDU, A-MSDU Aggregation with Block-ack, PSMP, MTBA
Host Interfaces	SPI, UART
Network Protocols	TCP, ARP, UDP, IPv4, DHCP Client
WLAN Functions	Power save modes, Ad-hoc and Infrastructure modes
Supported UART baud rates	Supports all standard baud rates from 9600bps to 3.6Mbps
Configuration	AT commands for UART interface, SPI commands for SPI interface
Supply Voltage	3.1 - 3.6 V
Dimensions	22mm x 28mm
Operating Temperature	Industrial Grade -40ºC to +85ºC
Part numbers	RS9110-N-11-22-04 (with embedded chip antenna) RS9110-N-11-22-05 (with u.FL connector for external antenna)

Evaluation Package

Redpine Signals provides a comprehensive evaluation package that includes a board with the module mounted on it, along with 5 V power supply connection. It also includes a Windows XP GUI based configuration utility and software upgrade capability, along with detailed documentation.

RS9110-N-11-22 WLAN SYSTEM DIAGRAM

RS9110-N-11-22

For additional information, please contact Sales at Redpine Signals, Inc.:

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