REDPINE SIGNALS ®

Driving Wireless Convergence

RS-WC-301: ADVANCED WI-FI FOR FOR M2M APPLICATIONS

The RS-WC-201 WiSeConnect™ module is a fully integrated 802.11 a/b/g/n module with advanced features for M2M, industrial, medical, enterprise and IOT (Internet of Things) applications. Powered with Wi-Fi Direct™, it can directly communicate with smartphones and tablet PCs without an Access Point based infrastructure. Integrated with Enterprise Security as well as TCP/IP and WLAN stacks, it can be designed quickly into any Host platform for secure and standards based Wi-Fi connectivity. The module also supports Access Point mode and can host data from a variety of sources such as sensors etc. in the module's in-built web server. Requiring no external BOM , the module integrates a MAC, Baseband Processor, RF Transceiver with power amplifier, a frequency reference and an antenna. The module comes with a comprehensive API set to make software integration quick and seamless. Based on Redpine Signals' 802.11n SoC RS9110, it is designed to provide wireless connectivity to devices that have a UART, SPI or USB interface.The module supports both 2.4 GHz and 5 GHz channels.

Features

- 802.11a/b/g/n , operation over 2.4 and 5 Ghz.
- Wi-Fi Direct™ , Access Point and Client mode
- Enterprise Security - EAP-TLS, EAP-TTLS, EAP-FAST, PEAP-MSCHAP-V2
- Integrated TCP/IP stack, HTTP Server/Client, DHCP, DNS
- Over the air Firmware Upgrade
- Integrated antenna and option for external antenna
- Ultra low power operation with power save modes
- Single supply 3.1 to 3.6 V operation

Applications

- Consumer - Wi-Fi Connectivity for home appliances
- Enterprise - Wireless printers, Security cameras, Point of Sale terminals
- Industrial - M2M communication, industrial monitoring and control, data logging and streaming
- Medical - Patient monitoring, medical instrumentation with secure wireless connectivity

Specifications

Network Standard Support	IEEE 802.11a/b/g/n
Frequency band	2.400 - 2.500 GHz, 4.900 - 5.850 GHz
Data Rates	802.11n: 6.5, 13, 19.5, 26, 39, 52, 58.5 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
Connectvity	Wi-Fi Direct mode, Access Point mode and Client mode
Wireless Security	WPA/WPA2-Enterprise, WPA/WPA2-PSK, WPS
Networking protocols	TCP, UDP, DHCP, ARP, IGMP, DNS client
HTTP Server	Integrated Web Server for browser based connectivity
Host Interfaces	SPI, USB, UART(AT Commands supported)
Data throughput	Up to 5.5 Mbps in SPI and USB modes, 90 kbps in UART mode at a benchmark baud rate of 115200 bps
Operating Temperature	-40ºC to +85ºC
Supply Voltage	3.1 - 3.6 V
Dimensions	40mm x 22mm

Evaluation Package

Redpine Signals provides a comprehensive evaluation package that includes an evaluation board, software, driver source code for the Host interface and documentation.

RS-WC-301 SYSTEM ARCHITECTURE
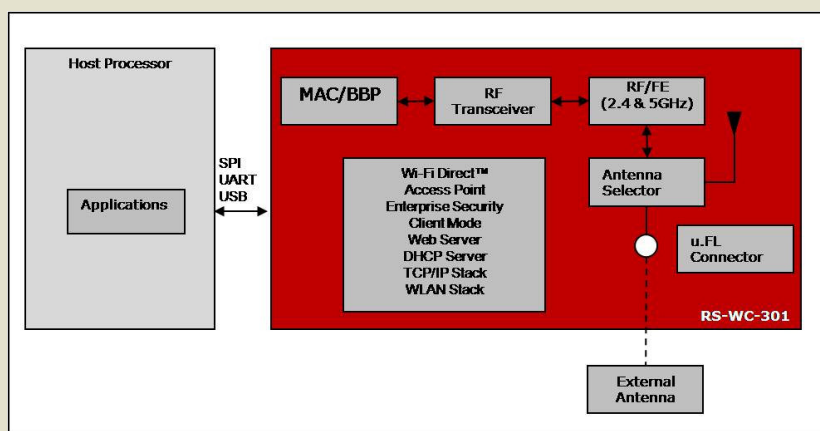
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WiSeConnect™