

XBee® Wi-Fi

Embedded Wi-Fi Module for OEMs

Embedded Wi-Fi modules provide ultra low-power 802.11b/g/n communications in the flexible XBee hardware and software footprint.



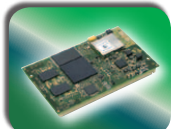
Overview

XBee Wi-Fi embedded RF modules provide simple serial to IEEE 802.11 connectivity. By bridging the low-power/low-cost requirements of wireless device networking with the proven infrastructure of 802.11, the XBee Wi-Fi creates new wireless opportunities for energy management, process and factory automation, wireless sensor networks, intelligent asset management and more. Focused on the rigorous requirements of these wireless device networks, the XBee Wi-Fi gives developers IP-to-the-device capability.

XBee modules offer developers tremendous flexibility. The XBee Wi-Fi shares a common footprint with other XBee modules. This allows different XBee technologies to be drop-in replacements for each other; developers can switch from 802.11 to 802.15.4, ZigBee, DigiMesh® and proprietary long-range with minimal development time or risk.

As a member of the XBee family, the XBee Wi-Fi combines hardware with software for a complete modular solution. XBee Wi-Fi modules are designed to communicate with access points in existing 802.11 infrastructures. Developers can use AT and API commands for advanced configuration options.

Related Products



Wi-Fi System-on-Modules



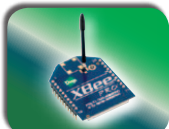
Wi-Fi Modules



iDigi® Solutions



Wireless Serial Servers

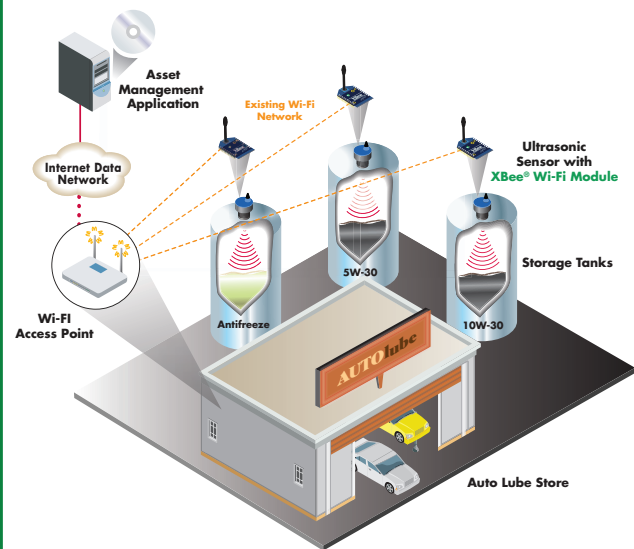


XBee Modules



Development Kits

Application Highlight



Features/Benefits

- Common XBee footprint allows OEMs to support a variety of wireless protocols
- Flexible SPI and UART serial interfaces
- RPSMA, PCB, U.FL and wire whip antenna options
- Support for low-power sleeping applications with $<2 \mu\text{A}$ power-down current
- Over-the-air data rates up to 65 Mbps
- Wide temperature range (-40°C to $+85^\circ\text{C}$) ensures operation in industrial environments
- Easily joins existing 802.11b/g/n infrastructures
- Advanced configuration options available via simple AT or API commands



Platform

XBee® Wi-Fi

Features	
Serial Data Interface	UART up to 1 Mbps, SPI up to 3.5 Mbps
Configuration Method	API or AT commands
Frequency Band	ISM 2.4 GHz
ADC Inputs	4 (12-bit)
Digital I/O	10
Antenna Options	PCB (embedded), U.FL, RPSMA, Wire Whip
Operating Temperature	-40° C to +85° C
Dimensions (L x W)	0.960 in x 1.297 in (2.438 cm x 3.294 cm)
Networking and Security	
Security	WPA-PSK and WPA2-PSK
Channels	14 channels
Wireless LAN	
Standard	802.11b/g/n
Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: 6.5, 13, 19.5, 26, 39, 52, 58.5, 65 Mbps
Modulation	802.11b: CCK, DSSS 802.11g/n: OFDM with BPSK, QPSK, 16-QAM, 64-QAM
Transmit Power	802.11b: 16 dBm 802.11g: 16 dBm @ 6, 9, 12, 18 Mbps; 15 dBm @ 24, 36 Mbps; 14 dBm @ 48, 54 Mbps 802.11n: 16 dBm @ 6.5, 13, 19.5, 26 Mbps; 15 dBm @ 39, 52 Mbps; 14 dBm @ 58.5, 65 Mbps
Receiver Sensitivity	802.11b (<8% PER): -97 dBm @ 1 Mbps; -93 dBm @ 2 Mbps; -89 dBm @ 11 Mbps 802.11g (<10% PER): -91 dBm @ 6 Mbps; -75 dBm @ 54 Mbps 802.11n (<10% PER): -72 dBm @ 65 Mbps
Power Requirements	
Supply Voltage	3.1 to 3.6 V
Transmit Current	Up to 260 mA
Receive Current	140 mA
Power-Down Current	<2 µA @ 25° C
Regulatory Approvals	
FCC (USA)	Yes
IC (Canada)	Yes
CE/ETSI (Europe)	Pending
C-TICK (Australia)	Pending
Telec (Japan)	Pending

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