8-, 16- and 32-bit Microcontrollers/Microprocessors

TWR-WIFI-AR4100

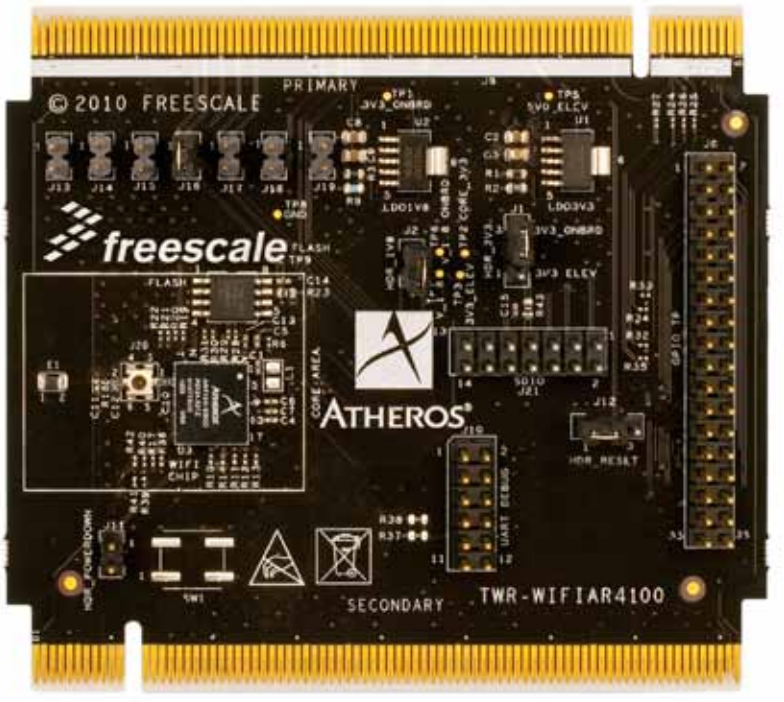
Tower System 802.11n Wi-Fi® module

Overview

The TWR-WIFI-AR4100 peripheral module provides an ultra low-power wireless solution with 802.11n Wi-Fi® connectivity using the Freescale Tower System. This fully FCC- and CE-certified Qualcomm Atheros system-in-package module comes with MQX™ software and enables you to quickly go from the lab to production with the same Wi-Fi hardware module.

The on-board Qualcomm Atheros silicon features easy-to-use wireless connectivity for the entire home, and pre-certification will save you time and money in getting your product to market.

This peripheral module is designed to be combined and used with other microcontroller and peripheral modules in the Tower System.



freescale™

Features

- Ultra low-power AR4100 802.11n Wi-Fi system-in-package solution from Qualcomm Atheros
- Low energy and low system resource requirements
- Integrated RF front end, RF shield, 32 kHz sleep clock and system clock
- Best-in-class Rx sensitivity for superior throughput rate-over-range performance
- Integrated high-power, high-efficiency power amplifier
- Low-density parity check (LDPC) encoding for improved uplink robustness over range
- Space time code blocking (STBC) for improved downlink robustness over range
- Wi-Fi protected setup (WPS) 2.0
- FCC and Wi-Fi certified
- Compatible with the Tower System, including MQX-based driver support
- SPI interface to Tower MCU modules
- On-board SPI flash for enabling minimal impact to MCU resources
- Access to expansion GPIO and debug signals for advanced development

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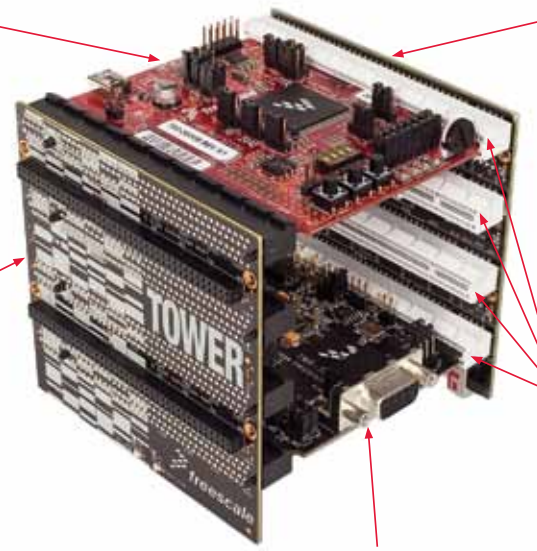
The Freescale Tower System

Controller Module

- Tower MCU/MPU board
- Works stand-alone or in Tower System
- Features integrated debugging interface for easy programming and run control via standard USB cable

Secondary Elevator

- Additional and secondary serial and expansion bus signals
- Standardized signal assignments
- Mounting holes and expansion connectors for side-mounting peripheral boards



Primary Elevator

- Common serial and expansion bus signals
- Two 2x80 connectors on backside for easy signal access and side-mounting board (LCD module)
- Power regulation circuitry
- Standardized signal assignments
- Mounting holes

Board Connectors

- Four card-edge connectors
- Uses PCI Express® connectors (x16, 90 mm/ 3.5" long, 164 pins)

Size

- Tower is approx. 3.5" H x 3.5" W x 3.5" D when fully assembled

Peripheral Module

- Examples include serial interface module, memory expansion module and Wi-Fi®

Tower Geeks Online Community

TowerGeeks.org is an online design engineer community that allows members to interact, develop designs and share ideas. Offering a direct path to explore and interact with other engineers designing with the Tower System, **TowerGeeks.org** is a great way to discuss your projects, post videos of your progress, ask questions through the forum and upload software. With updates through Twitter and Facebook, it's easy to get involved.

For more information, visit freescale.com

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