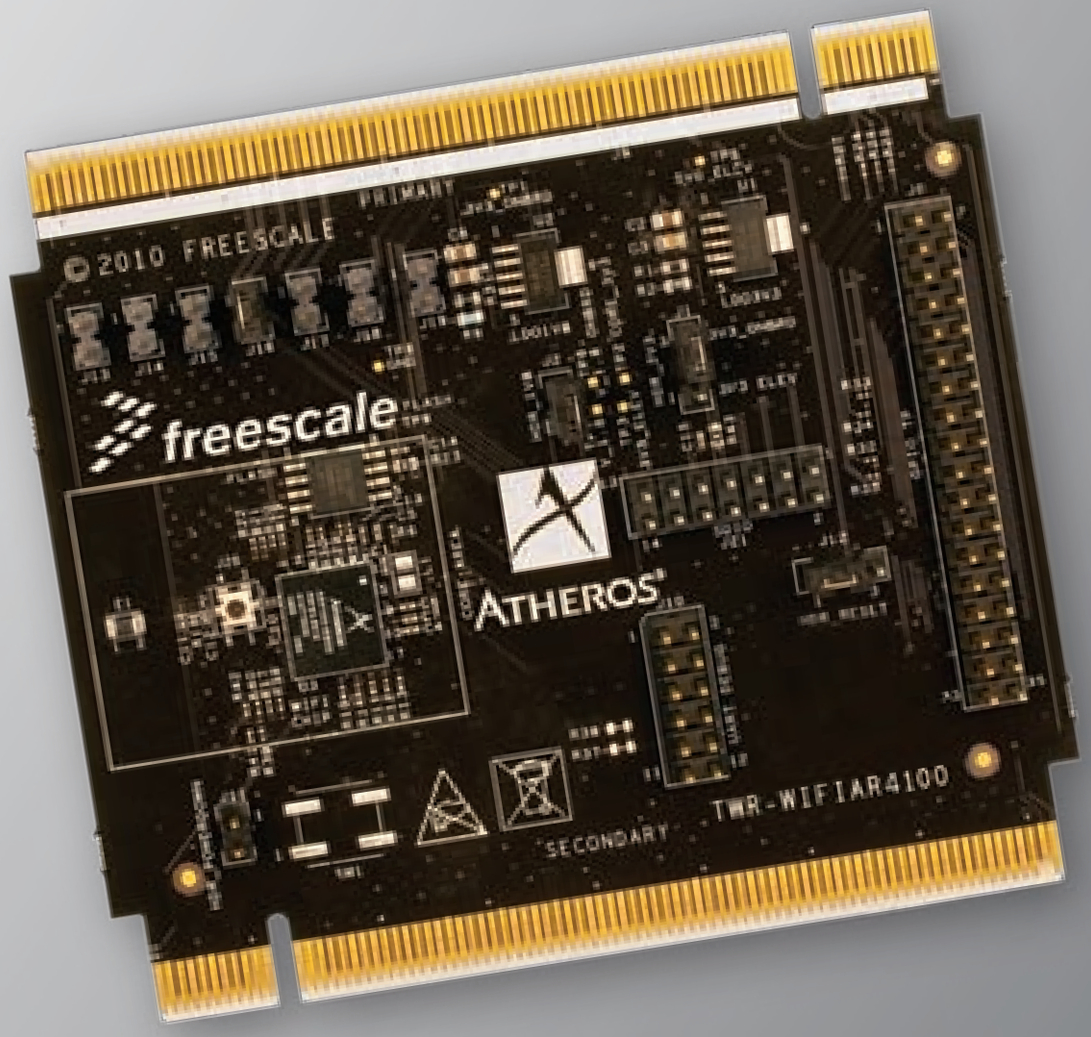


Quick Start Guide

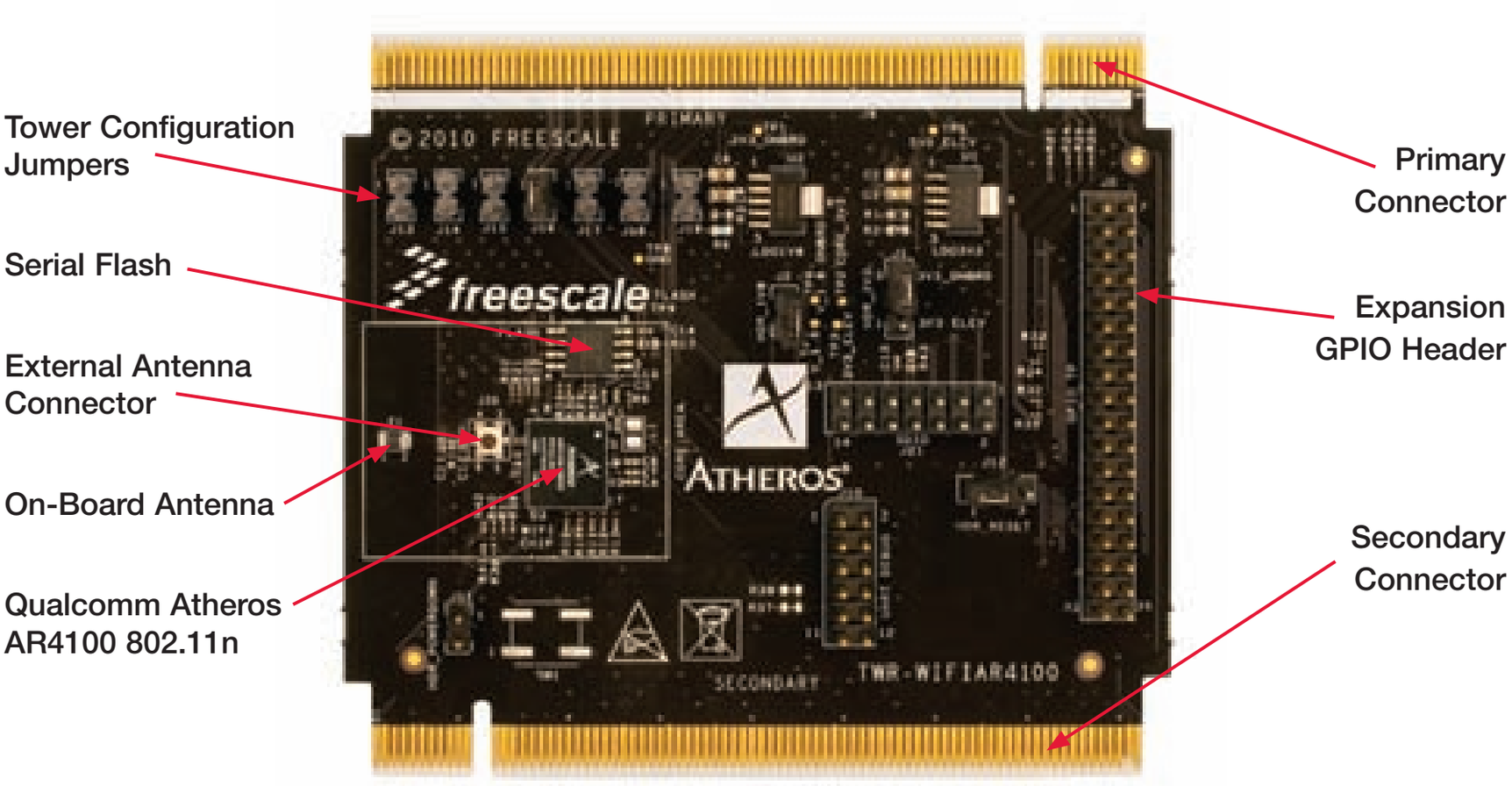
TWR-WIFI-AR4100

Ultra Low-Power 802.11n
Wi-Fi® Module

freescale™

TOWER SYSTEM

Get to Know the TWR-WIFI-AR4100



TWR-WIFI-AR4100
Freescale Tower System

The TWR-WIFI-AR4100 module is part of the Freescale Tower System, a modular development platform that enables rapid prototyping and tool re-use through reconfigurable hardware. Take your design to the next level and begin constructing your Tower System today.

TWR-WIFI-AR4100 Features

The Qualcomm Atheros AR4100 is an ultra low-power single stream (1x1) IEEE® 802.11n system-in-package solution, featuring:

- Low energy and low system resource requirements
- Simple, cost-effective wireless system integration
  - Near zero RBOM
  - Integrated RF front end, RF shield and clocks
  - Direct connect to a 50 ohm antenna
  - FCC and Wi-Fi certified
- Qualcomm Atheros world-class leading 802.11n Wi-Fi®
  - Integrated high-power, high-efficiency power amplifier
  - Low-density parity check (LDPC) encoding for improved uplink robustness over range
  - Space-time block coding (STBC) for improved downlink robustness over range
  - Wi-Fi-protected setup (WPS) 2.0
- 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

Step-by-Step Installation Instructions

1. Download and Install CodeWarrior for Microcontrollers from **freescale.com/CodeWarrior**

2. Download and install Freescale MQX from **freescale.com/MQX**

3. Download and install TWR-WIFI-AR4100 enablement patch for MQX at **freescale.com/TowerWiFi**

4. Follow the demo instructions included in the TWR-WIFI-AR4100 lab tutorial document at **freescale.com/TowerWiFi**

Install in the order listed. The evaluation version of CodeWarrior offers a 30-day evaluation license. Professional Edition is required to run the MQX lab tutorials for unrestricted code size and task aware debugging after the 30-day evaluation has expired.

TWR-WIFI-AR4100 Jumper Options

The following is a list of all jumper options. The default installed jumper settings are shown in white text within the black boxes.

Jumper	Option	Setting	Description
J1	AR4100 Power Source Selection	**1-2**	Supply 3.3V to AR4100 via Tower elevator (J1 can be used as a measurement point for AR4100 specific power usage)
		2-3	Not used (On-board power regulation is not implemented by default)
J2	AR4100 1.8V Power Regulation	**1-2**	Supply 1.8V to the AR4100 (J2 can be used as a measurement point specific to the AR4100 1.8V)
J11	AR4100 Power Down	1-2	Power down the AR4100
J12	AR4100 Reset/Power Down Selection	**1-2**	Tower System RSTOUT_b will control reset/power down of AR4100
		2-3	Tower System GPIO3 will control reset/power down of AR4100
J13	Interrupt Select (IRQ_G)	1-2	Tower System IRQ_G will connect to AR4100 SPI_INT
J14	Interrupt Select (IRQ_E)	1-2	Tower System IRQ_E will connect to AR4100 SPI_INT
J15	Interrupt Select (IRQ_C)	1-2	Tower System IRQ_C will connect to AR4100 SPI_INT
J16	Interrupt Select (IRQ_A)	**1-2**	Tower System IRQ_A will connect to AR4100 SPI_INT
J22	Debug UART RX Enable	1-2	Connects debug UART RX from AR4100 to J10. This jumper should not be connected until after SW reconfigures signals as UART RX.
J23	TWR-WIFI-AR4100 Power Connection	**1-2**	Supply 3.3V to TWR-WIFI-AR4100 via Tower elevator (J23 can be used as a measurement point for the entire TWR-WIFI-AR4100 module)

Quick Start Guide

Quick Start Guide

Visit **freescale.com/TowerWiFi** for information on the TWR-WIFI-AR4100 module, including:

- TWR-WIFI-AR4100 user's manual
- TWR-WiFi-AR4100 system specification
- TWR-WIFI-AR4100 schematics
- TWR-WIFI-AR4100 lab tutorials
- TWR-WIFI-AR4100 MQX enablement patch

For more information, visit freescale.com/Tower
Join the online Tower community at towergeeks.org

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Agile Number: 926-78585 REV B