



TWR-WIFI-RS2101

802.11n Wi-Fi® module



Get to know the TWR-WIFI-RS2101

Redpine Signals
RS9110-N-11-22-02
Module



Primary
Connector

Secondary
Connector



TWR-WIFI-RS2101 Freescale Tower System

The TWR-WIFI-RS2101 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-RS2101 Features

- RS9110-N-11-21 Wi-Fi® module from Redpine Signals
- Compliant to 802.11b/g and single stream 802.11n
- Supports all Wi-Fi client security protocols (WEP, WPA and WPA2)
- Reference design certified for FCC/IC/CE
- RoHS compliant
- Does not require any WLAN driver on the host processor
- Interfaces to MCU via SPI, UART
- Terminates SLIP connections and offers transparent serial modem functionality
- Integrated antenna, frequency reference and low-frequency clock
- Ultra-low-power operation with power save modes
- Ad-hoc and infrastructure modes for maximum deployment flexibility
- Single supply 3.1 to 3.6V operation

How to Build Your Tower

**STEP
1**

Locate the Elevator Modules

Each elevator module is identifiable by its four card edge connectors

**STEP
2**

Identify the Elevator Modules

Each elevator module is either Primary or Secondary. They are identifiable as follows:

- Primary Elevator:
Written on inside top and denoted by white card edge connectors
- Secondary Elevator:
Written on inside bottom

**STEP
3**

Locate Additional Modules

Gather any additional modules that will be used to assemble your desired Tower System configuration

**STEP
4**

Identify the Primary and Secondary Card Edges

For each module, the words Primary and Secondary are written along the card edges. The Primary edge is denoted by a white stripe

**STEP
5**

Plug in Primary Card Edge

Match the white stripe on the edge of each module to any available connector on the Primary Elevator and plug it in

**STEP
6**

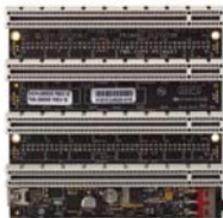
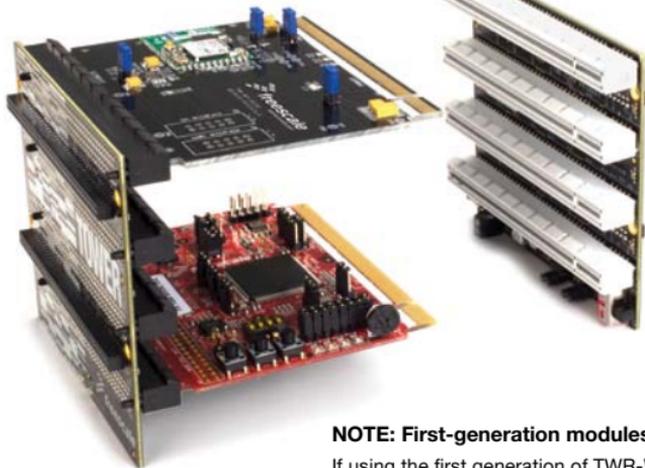
Attach Secondary Elevator

With all desired modules connected to the Primary Elevator, carefully attach the Secondary Elevator onto the secondary card edges of each module

STEP
7

Make Additional Connections

Plug in necessary cables and power sources



Primary Elevator



Secondary Elevator

NOTE: First-generation modules

If using the first generation of TWR-WIFI-RS2101 modules, the board labeled Functional Elevator is equivalent to the Primary Elevator as described in the instructions above. The board labeled Dummy Elevator is different than the Secondary Elevator, but will work with most assembled Tower Systems.

If using first-generation peripheral and MCU/MPU modules, the white stripe along the outer edge of the board will not be present.

Step-by-Step Installation Instructions

STEP
1

Download and Install CodeWarrior for Microcontrollers from freescale.com/codewarrior

STEP
2

Download and install Freescale MQX™ from freescale.com/mqx

STEP
3

Download and install TWR-WIFI-RS2101 enablement patch for MQX at freescale.com/towerwifi

STEP
4

Follow the demo instructions included in the TWR-WIFI-RS2101 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-RS2101 Jumper Options

The following is a list of all jumper options. The ***default*** installed jumper settings are shown in **bold**.

Jumper	Option	Setting	Description
J3	Reset Selection	1-2	Connect Tower RSTOUT_B (A63) to RS9110-N-11-21/ RESET_n
		2-3	Connect Tower GPIO1 (B21) to RS9110-N-11-21/ RESET_n
J5	Connect POWER_EN	ON	Power to RS911--N-11-21 module controlled by POWER_EN signal
		OFF	Power to RS9110-N-11-21 is switched off
J15	SPi/UART Interface Select	ON	RS9110-N-11-21/SPI Interface Selected for communication with Host MCU
		OFF	RS9110-N-11-21/UART Interface Selected for communication with Host MCU. This is not available as a standard feature of the TWR-WiFi-RS2101
J10	Connect Power Gate output	ON	Connect the output of the Pwer Gate to the 3.3V supply for RS9110-N-11-21 module
		OFF	Disconnect the output of the Power Gate to the 3.3V supply for RS9110-N-11-21 module

Go to **freescale.com/towerwifi** to find pertinent information for the TWR-WIFI-RS2101 module, including:

- TWR-WIFI-RS2101 User's Manual
 - TWR-WIFI-RS2101 Schematics
 - TWR-WIFI-RS2101 Lab Tutorials
 - TWR-WIFI-RS2101 MQX Enablement patch
- And more

To learn more about the TWR-WIFI-RS2101 and other modules within the Tower System, go to **freescale.com/tower**. To become a member of the online Tower Geeks community, go to **towergeeks.org**.

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