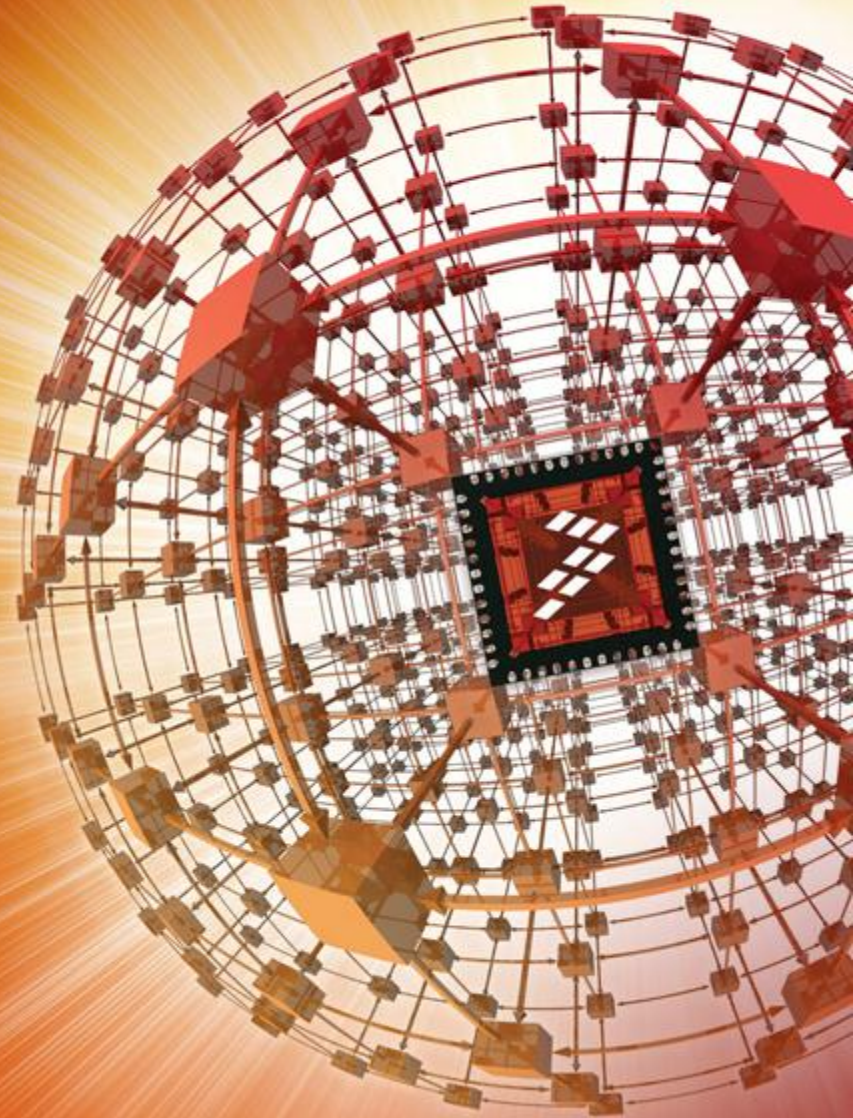# Quick Start Guide for FRDM-TWRPI

Contents:

- Quick Start Package Overview
- Get to Know the FRDM-TWRPI
- Getting Started Out of the Box
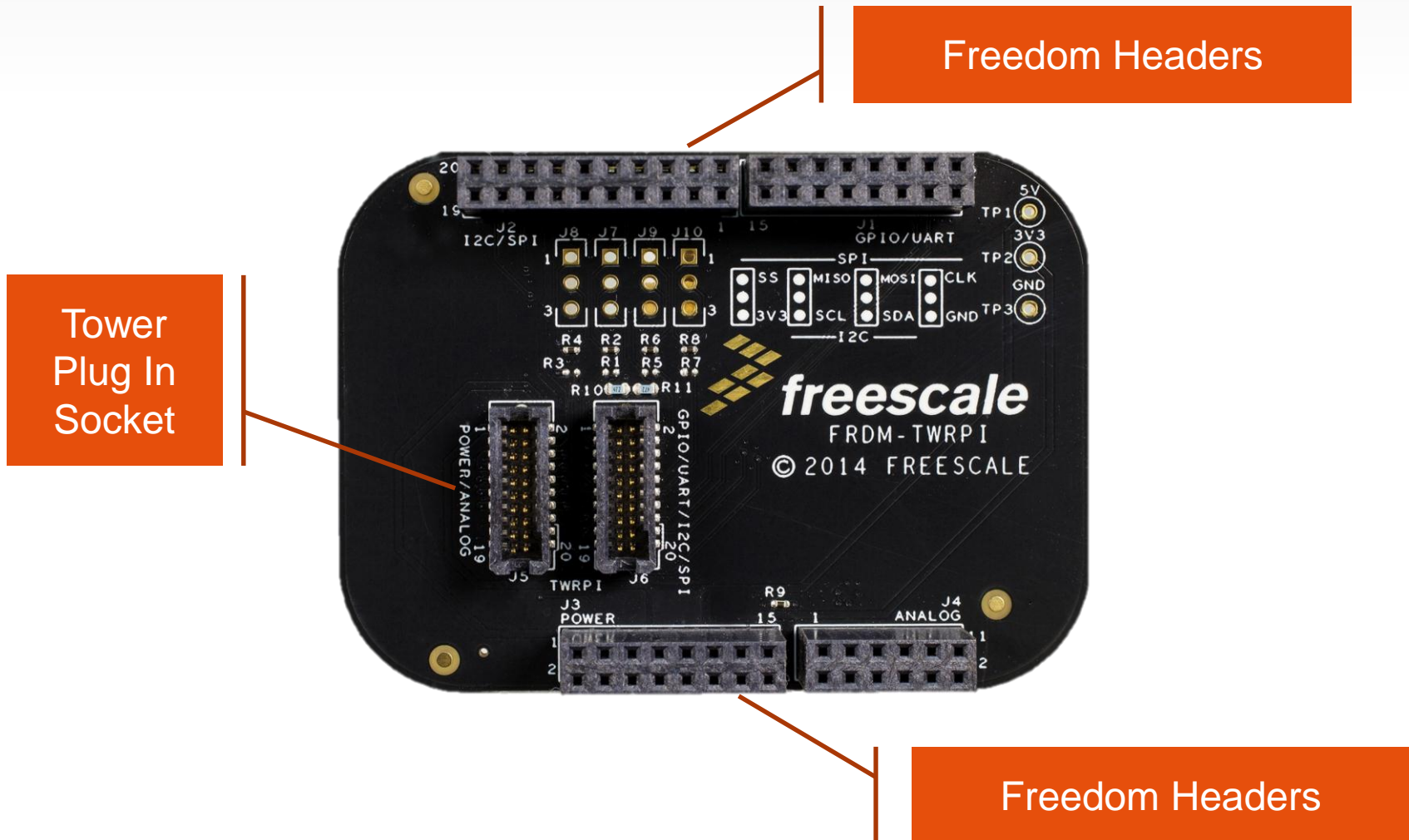- Explore Further

www.freescale.com/FRDM-TWRPI

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Quick Start Package Overview

These documents are available as part of the Quick Start Package:

Name	Type	Description
Quick Start Guide	PPT	This document

Additional reference documents are available on freescale.com/FRDM-TWRPI:

Name	Description
FRDM-TWRPI Schematics	PDF schematics for the FRDM-TWRPI hardware
FRDM-TWRPI Design Package	Zip file containing all design source files for the FRDM-TWRPI hardware.

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Freedom Headers

Tower Plug In Socket

Freedom Headers

The Freescale Freedom development platform is a set of software and hardware tools for evaluation and development. It is ideal for rapid prototyping of microcontroller-based applications. The Freescale Freedom TWRPI adapter module, FRDM-TWRPI, allow Tower Plug In (TWRPI) modules featuring a variety of sensors and radios to be easily incorporated into the Freescale Freedom development platform.

Features:

- General Purpose Tower Plug-in socket for use with TWRPI-based sensor and radio modules
- Pass-thru of all Freedom Development Platform signals to allow additional expansion
- Thru-hole test points of key interface signals:
  - SPI and I2C

Fig A: FRDM-TWRPI top

Fig B: FRDM-TWRPI shown affixed to a FRDM-K64F Freedom development platform

		TWRPI Socket			Freedom Header		
		J5 - Power / Analog	J6 - Digital Signals	J1 - GPIO/UART	J2 - I2C/SPI	J3 - Power	J4 - Analog
I2C	SCL		Pin 3		Pin 20		
I2C	SDA		Pin 4		Pin 18		
SPI	MISO		Pin 9		Pin 10		
SPI	MOSI		Pin 10		Pin 8		
SPI	SS		Pin 11		Pin 6		
SPI	CLK		Pin 12		Pin 12		
UART	RX		Pin 17	Pin 4			
UART	TX		Pin 18	Pin 2			
GPIO	GPIO0		Pin 15	Pin 1			
GPIO	GPIO1		Pin 16	Pin 3			
GPIO	GPIO4		Pin 19	Pin 10			
GPIO	GPIO5		Pin 20	Pin 12			
Analog	ADC0	Pin 8					Pin 2
Analog	ADC1	Pin 9					Pin 4
Analog	ADC2	Pin 10					Pin 6
Power	5V	Pin 1				Pin 10	
Power	3.3V	Pin 2				Pins 4 & 8	
Power	GND	Pin 3				Pins 12 & 14	
Power	Reset	Pin 20				Pin 6	

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Getting Started Out of the Box

Assembling the Hardware

1 Insert your selected Freescale Tower Plug In (TWRPI) module in to the socket of the FRDM-TWRPI.

The FRDM-TWRPI module can accept general purpose TWRPI modules. Each TWRPI modules is keyed and uniquely spaced to enforce the correct module type and orientation.
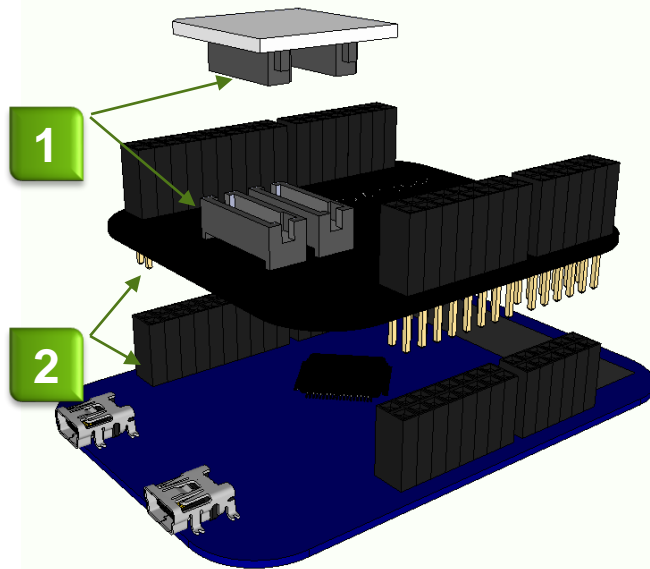
2 Attach the FRDM-TWRPI board (with TWRPI module attached) to the desired Freescale Freedom Development Platform.

The headers on the Freedom board are uniquely spaced to ensure correct orientation with compatible peripheral modules.

3 The FRDM-TWRPI adapter module provides a high degree of flexibility and potential combinations. Please refer to reference code provided with either the selected Freescale Freedom Development Platform or Tower Plug In module as a baseline for interfacing the two selected components.

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Explore Further

Now that you are familiar with the FRDM-TWRPI, it's time to explore additional detailed design documents, such as schematics and layout files, available on www.freescale.com/FRDM-TWRPI. Select your next path from the links in the **Jump Start Your Design** section.

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