8-, 16- and 32-bit MCUs/MPUs

# TWR-DOCK

# Tower System dock module

## Features

- 30-pin docking connector

- USB Type A receptacle for USB to 30-pin connection cable

- 3-amp power supply and connector for iOS device charging

- Analog stereo audio line out (RCA)

- Analog video out supporting composite, component and S-Video (RCA and S-Video)

- Digital audio input and output streaming to iPod, iPhone and iPad devices via USB connection

- Option jumpers for communication and video configuration

- Compatible with Freescale Tower System, supporting a wide range of processor, peripheral, sensor and communication modules
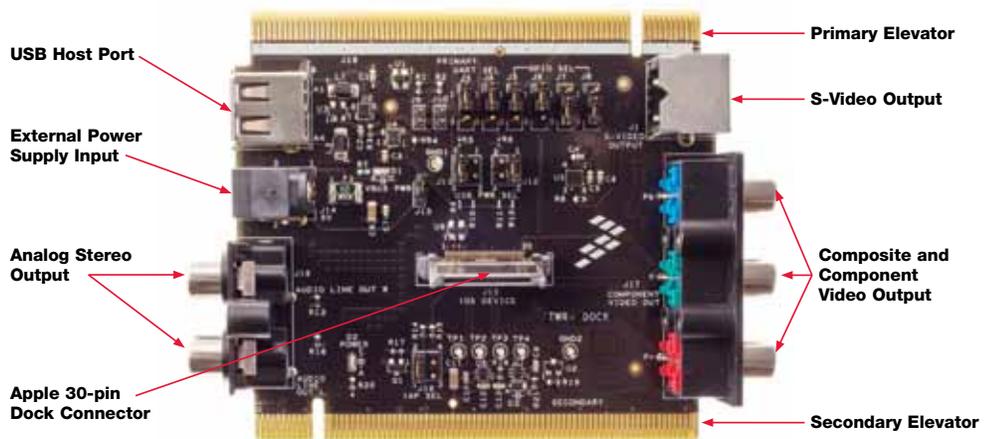
- Available example and demo function software

## Overview

The TWR-DOCK dock module supports development and rapid prototyping of electronic accessories for iPod®, iPhone® and iPad® devices.

The TWR-DOCK dock module provides access to the 30-pin connection analog audio and video signals with standard RCA and S-Video connectors, supports digital audio streaming in both directions over USB, and supports control and communication with various devices.

As part of the Freescale Tower System, the TWR-DOCK may be used with a wide range of Tower System MCU/MPU, peripheral, sensor and communication modules.

## Get to Know the TWR-DOCK Board



USB Host Port

External Power Supply Input

Analog Stereo Output

Apple 30-pin Dock Connector

Primary Elevator

S-Video Output

Composite and Component Video Output

Secondary Elevator

## Tower System Interface Module

| Part Number | MSRP |
|---|---|
| MFIFSL-TWR-DOCK | $139 |
| MFIFSL-TWR-DOCK-K60 | $299 |
| MFIFSL-TWR-DOCK-K60LCD | $449 |

The TWR-DOCK module comes packaged with:

- 3-amp power supply
- Global power adaptor
- Quick start guide

The TWR-DOCK-K60 kit comes packaged with the TWR-DOCK module and:

- TWR-K60D100M Kinetis K60 MCU module
- TWR-ELEV elevator modules
- TWR-PROTO prototyping module with perfboard area
- TWRPI-MPL115A pressure sensor plug-in

The TWR-DOCK-K60LCD kit comes packaged with the TWR-DOCK module and:

- TWR-K60D100M Kinetis K60 MCU module
- TWR-ELEV elevator module
- TWR-LCD graphical LCD module
- TWR-AUDIO-SGTL audio module with SGTL5000 codec

## The Freescale Tower System



**Controller/Processor Module (MCU/MPU)**

- 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

**Peripheral Module**

- Adds features and functionality to your designs
- Interchangeable with other peripheral modules and compatible with all controller/processor modules
- Examples include serial interface, memory, Wi-Fi®, graphical LCD, motor control, audio, Xtrinsic sensing and high precision analog modules

**Primary Elevator**

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

**Size**

- Fully assembled Tower System is approx. 3.5" H x 3.5" W x 3.5" D

**Board Connectors**

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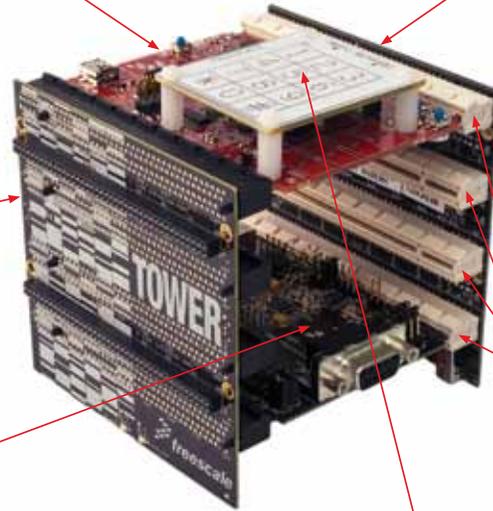
**Tower Plug-In (TWRPI)**

- Designed to attach to modules with TWRPI socket(s)
- Adds features and functionality
- Swappable with other TWRPIs
- Examples include accelerometers, key pads, touch pads, sliders and rotary touch pads

## 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.

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**facebook.com/freescale**

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## For more information, visit freescale.com/Tower

## For more information about participating in the MFi licensing program, visit developer.apple.com/mfi