

Made for
 iPod iPhone iPad

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

TWR-DOCK2

Tower System MFi interface module

Features

- 40-pin connector for custom Lightning and 30-pin dock connector cables
- USB A port for iPhone, iPad, or iPod connection over standard Apple USB to Lightning cable or USB to 30-pin cable
- Analog stereo audio line out, stereo audio line in, stereo headphones out and mono microphone input provided by the Freescale SGTL5000 audio codec
- Tunable audio clock generator
- Digital audio input and output transferred via USB connection
- Free interface software supporting both Lightning and 30-pin devices
- Power input connector (5 A) for Apple device charging and providing power to the Tower System. Multi-voltage 5 V/5 A power supply with global plug adaptors is included.
- Compatible with Tower System processor modules featuring Kinetis K and L series MCUs, Vybrid controllers, and i.MX processors
- Compatible with Tower System peripheral modules
- Available example and demo function software

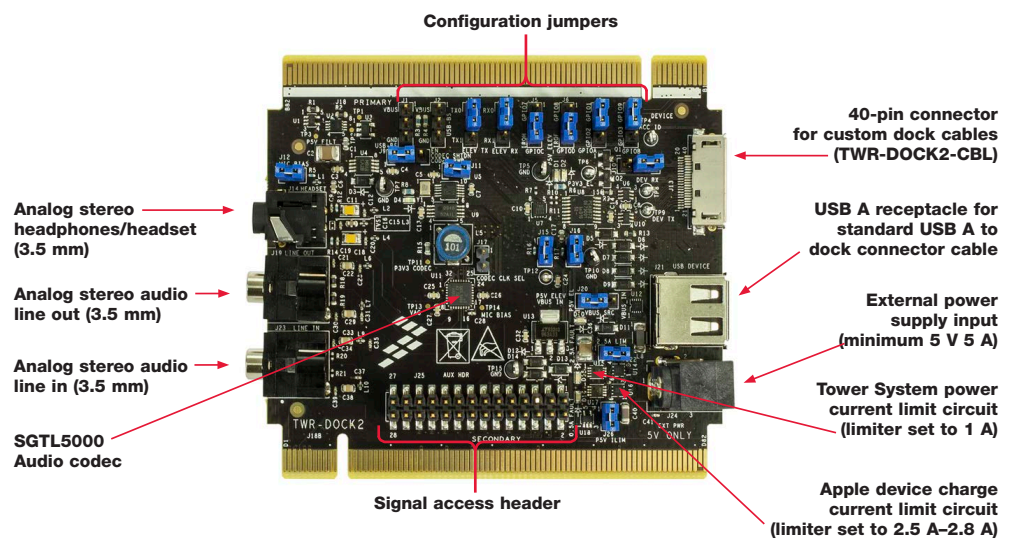
Overview

The TWR-DOCK2 MFi interface module supports development and rapid prototyping of electronic accessories for iPhone®, iPad® and iPod® devices equipped with Apple Lightning and 30-pin dock connectors. As part of the modular Freescale Tower System, the TWR-DOCK2 MFi interface module may be combined and used with a wide range of Tower System MCU/MPU, peripheral, sensor and communication modules, making it an ideal development platform for your next electronic accessory.

The TWR-DOCK2 MFi interface module features an on-board SGTL5000 Audio codec providing analog audio support with stereo audio line in/out, stereo headphones out, and mono microphone input. For quick enablement, the TWR-DOCK2 module is also offered as part of two different complete Tower System kits,

which include ideal pairings of modules (e.g., controller module, additional peripheral modules, elevator boards and other relevant Tower System components). Each of these kits include specialized demonstration software and tutorials to get your application development on the fast track.

Get to Know the TWR-DOCK2 Module



Take it a step further with a set of TWR-DOCK2 custom cables that support all digital functionality of the Lightning and 30-pin dock connectors.

The TWR-DOCK2 module, custom cables and complete kits are only available to MFi licensees. For additional information, visit developer.apple.com/mfi.

TWR-DOCK2 MFi Interface Module/Kits

Part Number	MSRP
TWR-DOCK2	\$199
TWR-DOCK2-CBL	\$199
TWR-DOCK2-K70LCD	\$499
TWR-DOCK2-KL46	\$399

The TWR-DOCK2 module comes packaged with:

- 5 A power supply
- Global power adaptor
- Quick start guide

The TWR-DOCK-CBL comes packaged with:

- Lightning and 30-pin connector cables

The TWR-DOCK-K70LCD kit comes packaged with the TWR-DOCK2 module and:

- TWR-K70F120M Kinetis K70 MCU module
- TWR-ELEV elevator modules
- TWR-LCD-RGB Graphical Display module

The TWR-DOCK-KL46 kit comes packaged with the TWR-DOCK2 module and:

- TWR-KL46Z48M Kinetis L series MCU module
- TWRPI-MPL115A Tower Plug-In
- TWRPI-KEYPAD Tower Plug-In
- TWRPI-ROTARY Tower Plug-In
- TWR-ELEV elevator modules

The Freescale Tower System

Controller/Processor Module (MCU/MPU)

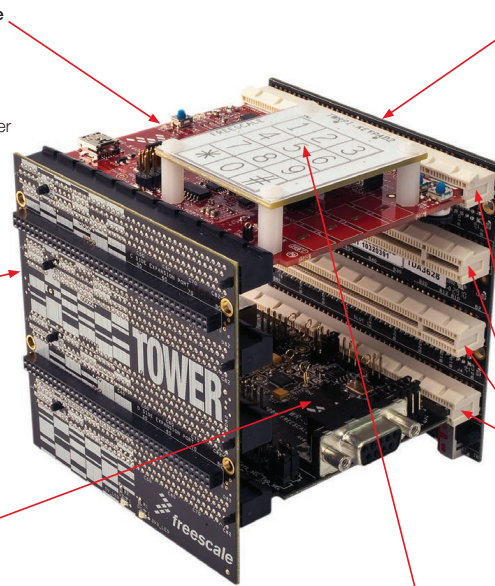
- Tower System MCU/MPU module
- Works standalone or in Tower System
- Features integrated debugging interface for easy programming and run control via standard USB cable

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 2 x 80 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

Other Tower System Interface Modules

The Freescale Tower System also includes the original TWR-DOCK dock module, designed for rapid prototyping of electronic accessories that utilize the 30-pin dock connector or the USB to Lightning or 30-pin cables. Learn more at: freescale.com/TWR-DOCK.

How to buy:

The TWR-DOCK2 module, custom cable set, and complete Tower System kits are available for purchase only through the MFi Program at developer.apple.com/mfi.

 Visit Freescale on Facebook: facebook.com/freescale

 Follow Tower Geeks on Twitter: twitter.com/towergeeks

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/TWR-DOCK2 or freescale.com/Tower

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

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