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Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

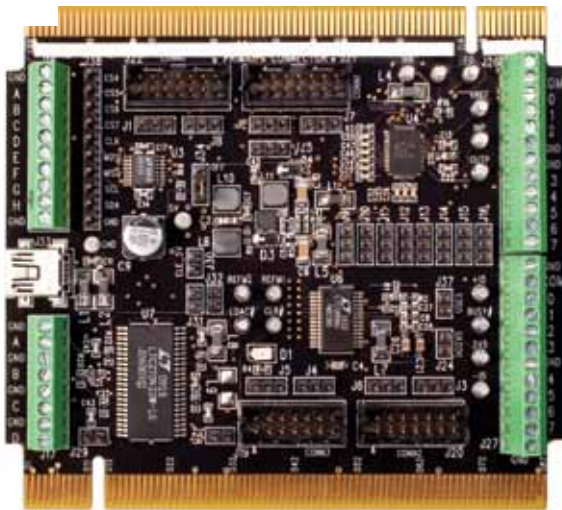
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





Module for TWR-ADCDAC-LTC

TOWER SYSTEM



TWR-ADCDAC-LTC

Analog module





Get to know the TWR-ADCDAC-LTC

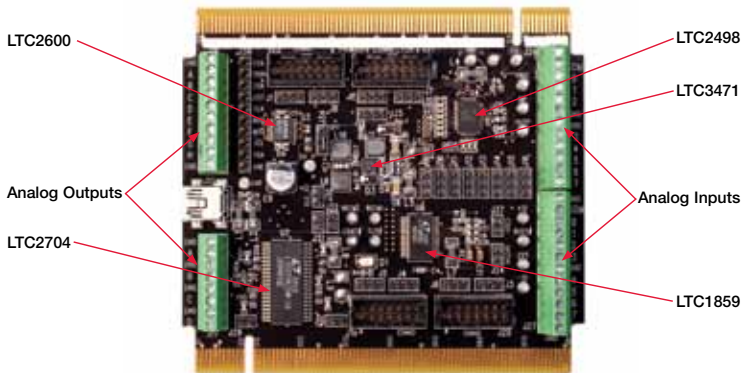


Figure 1: Front Side of TWR-ADCDAC-LTC Module.



TWR-ADCDAC-LTC

The TWR-ADCDAC-LTC precision data converter 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 by visiting freescale.com/Tower for additional Tower System microcontroller modules and compatible peripherals.



IWR-ADC DAC-LTC Features

- Freescale Tower compatible high-precision analog peripheral module
- Controllable by any Freescale Tower controller module with an SPI interface
- Two Linear Technology digital-to-analog converters (DACs)
 - LTC2704-16: Quad 16-bit voltage output SoftSpan™ DAC with readback
 - LTC2600: Octal 16-bit rail-to-rail DACs
- Two Linear Technology analog-to-digital converters (ADCs)
 - LTC1859: 8-channel, 16-bit, 100 ksps SoftSpan ADC with shutdown
 - LTC2498: 24-bit 8-/16-channel delta sigma ADC with Easy Drive™ input current cancellation
- Linear Technology voltage regulator
 - LTC3471: Dual 1.3A, 1.2 MHz boost/inverter
- Linear Technology voltage reference
 - LTC6655-5: 0.25 ppm noise, low drift precision buffered 5V reference
- Four 14-pin headers for connecting to any Linear Technology QuikEval™ demonstration board

TWR-ADCDAC-LTC Jumper Options

The following is a list of all the options selectable by jumpers. The **default** installed jumper shunt settings are shown in **bold**.

| Jumper | Option | Setting | Description |
|--------|---|------------|---|
| J1–J8 | QuikEval I ² C/SPI Selection | 1-2 | Connect I ² C signals to QuikEval header |
| | | 2-3 | Connect SPI signals to QuikEval header |
| J9 | SPI Port Selection -- SPI_CLK | 1-2 | Use SPI_CLK signal from SPI0 |
| | | 2-3 | Use SPI_CLK signal from SPI1 |
| J10 | SPI Port Selection -- SPI0_CSx | 1-2 | Select SPI0_CS0 |
| | | 2-3 | Select SPI0_CS1 |
| J11 | SPI Port Selection -- SPI1_CSx | 1-2 | Select SPI1_CS0 |
| | | 2-3 | Select SPI1_CS1 |
| J12 | SPI Port Selection -- SPI_MOSI | 1-2 | Use SPI_MOSI signal from SPI0 |
| | | 2-3 | Use SPI_MOSI signal from SPI1 |
| J13 | SPI Port Selection -- SPI_MISO | 1-2 | Use SPI_MISO signal from SPI0 |
| | | 2-3 | Use SPI_MISO signal from SPI1 |
| J25 | SPI Port Selection -- SPI_CS | 1-2 | Use SPI0_CSx (see J10) |
| | | 2-3 | Use SPI1_CSx (see J11) |

| Jumper | Option | Setting | Description |
|----------------------|--|------------|--|
| J14 | SPI Chip-Select Encoding Bit 0 Setting | 1-2 | Connected to 3.3V |
| | | 2-3 | Connected to GND |
| | | OFF | Driven by GPIO9 |
| J15 | SPI Chip-Select Encoding Bit 1 Setting | 1-2 | Connected to 3.3V |
| | | 2-3 | Connected to GND |
| | | OFF | Driven by GPIO8 |
| J16 | SPI Chip-Select Encoding Bit 2 Setting | 1-2 | Connected to 3.3V |
| | | 2-3 | Connected to GND |
| | | OFF | Driven by GPIO7 |
| J28, J29 J31, J32 | LTC2704 VOSx GND Connection | ON | Connect VOSA, VOSB, VOSC, VOSD to GND |
| | | OFF | Disconnect VOSx from GND |
| J30 | Tower Power Connection | ON | Connect on-board 5V rail to Tower System |
| | | OFF | Isolate on-board 5V rail from Tower System |
| J34 | LT3471 Shutdown | 1-2 | LT3471 voltage regulator enabled |
| | | 2-3 | LT3471 voltage regulator disabled |
| J37 | LTC1859 Reference Voltage Selection | ON | Use output of LTC6655-5 as reference |
| | | OFF | Use GND as reference |





**Analog and Mixed
Signal Integrated Circuit**

To learn more about the TWR-ADC DAC-LTC 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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