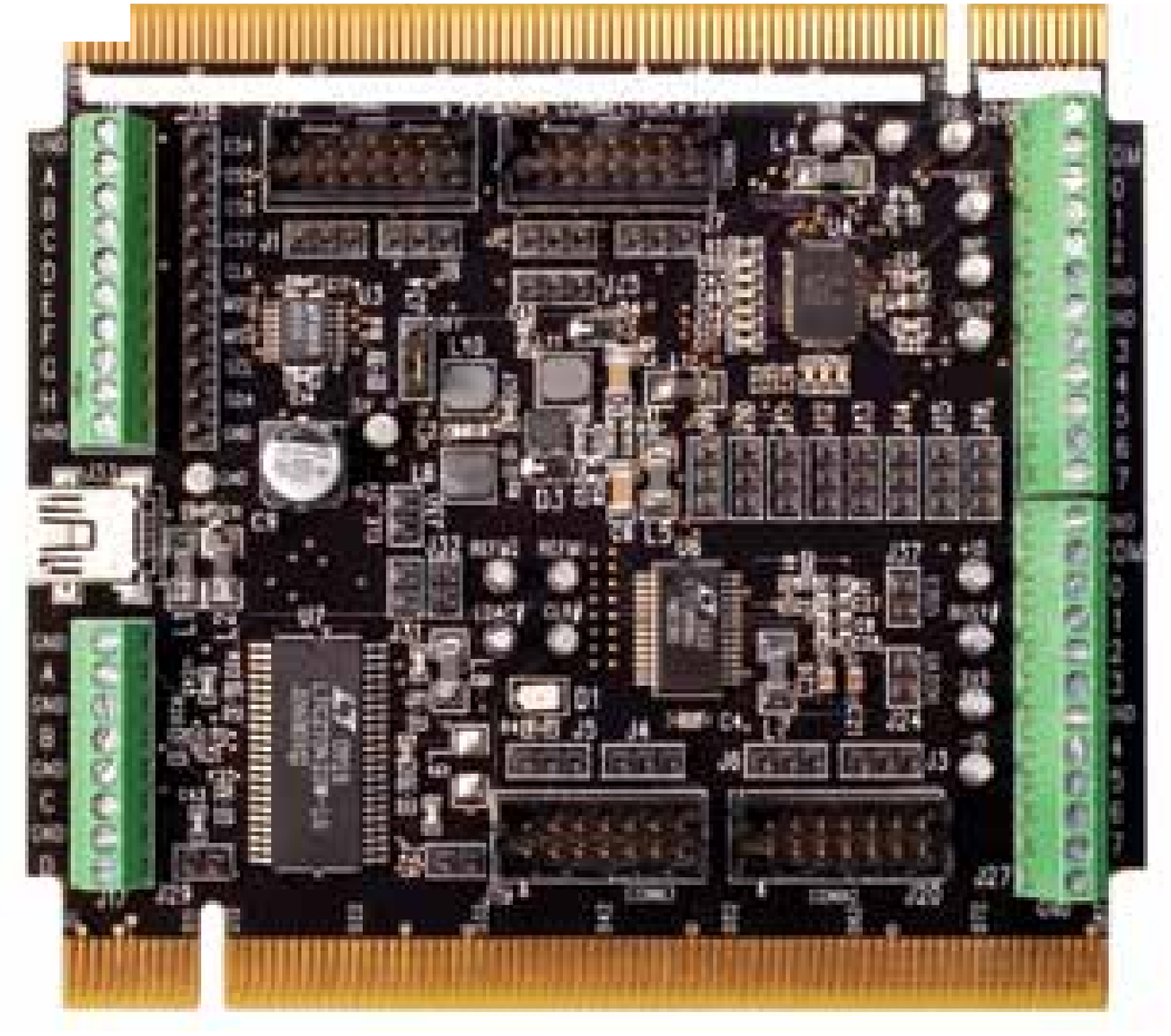

TWR-ADCDAC-LTC

Analog module

freescale™
semiconductor

Get to Know the TWR-ADCDAC-LTC

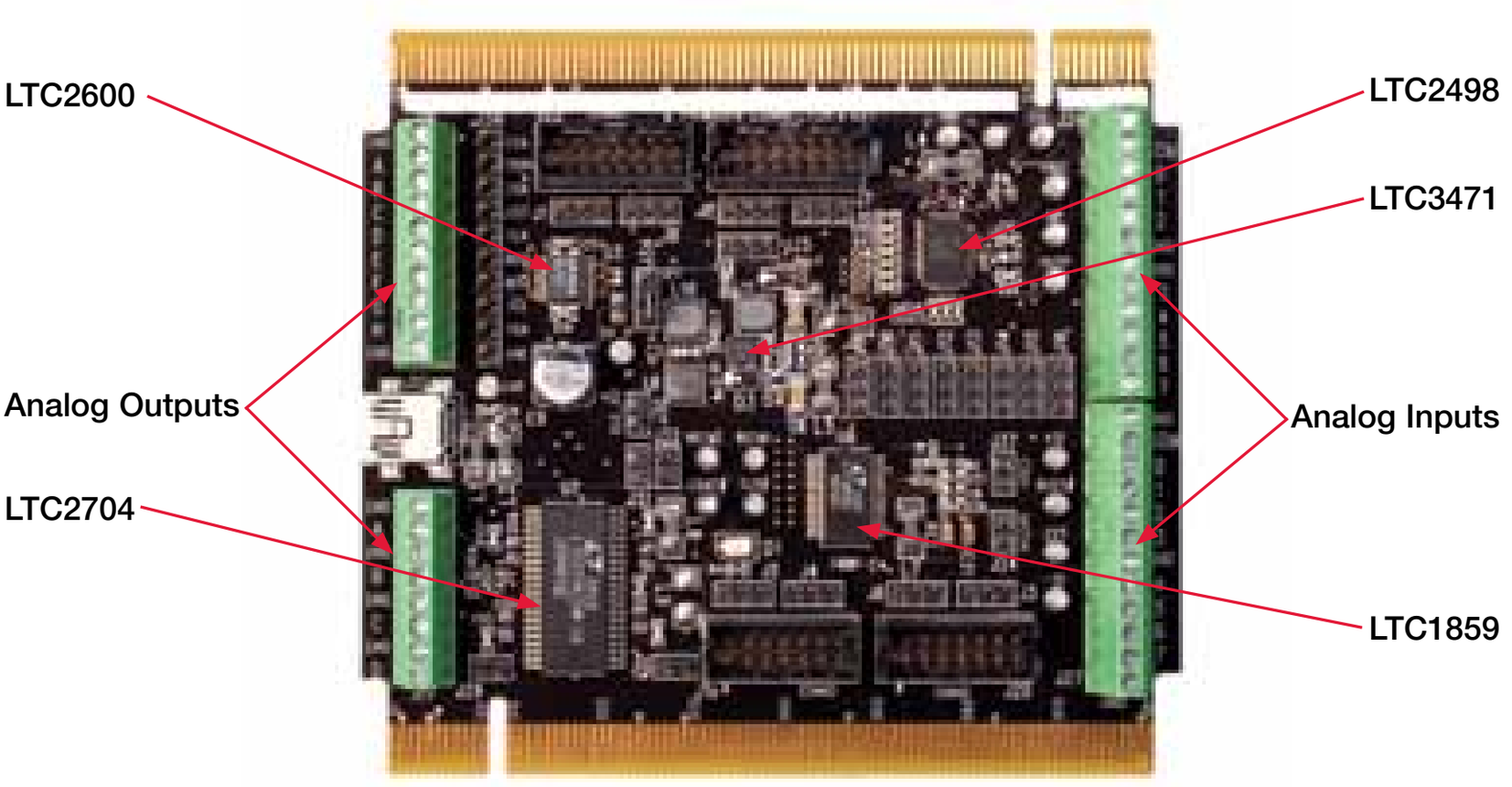

Figure 1: Front Side of TWR-ADCDAC-LTC Module.

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.

PWR-ADCDAC-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 I²C/SPI Selection	1-2	Connect I²C 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-ADCDAC-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**.

Doc Number: TWRADCDACLTCQSG / REV 0
Agile Number: 926-26656 / REV A