ide for TRK-MPC5634M

StarterTRAK

TRK-MPC5634M

Automotive powertrain and precision timed industrial applications

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Get to Know the TRK-MPC5634M

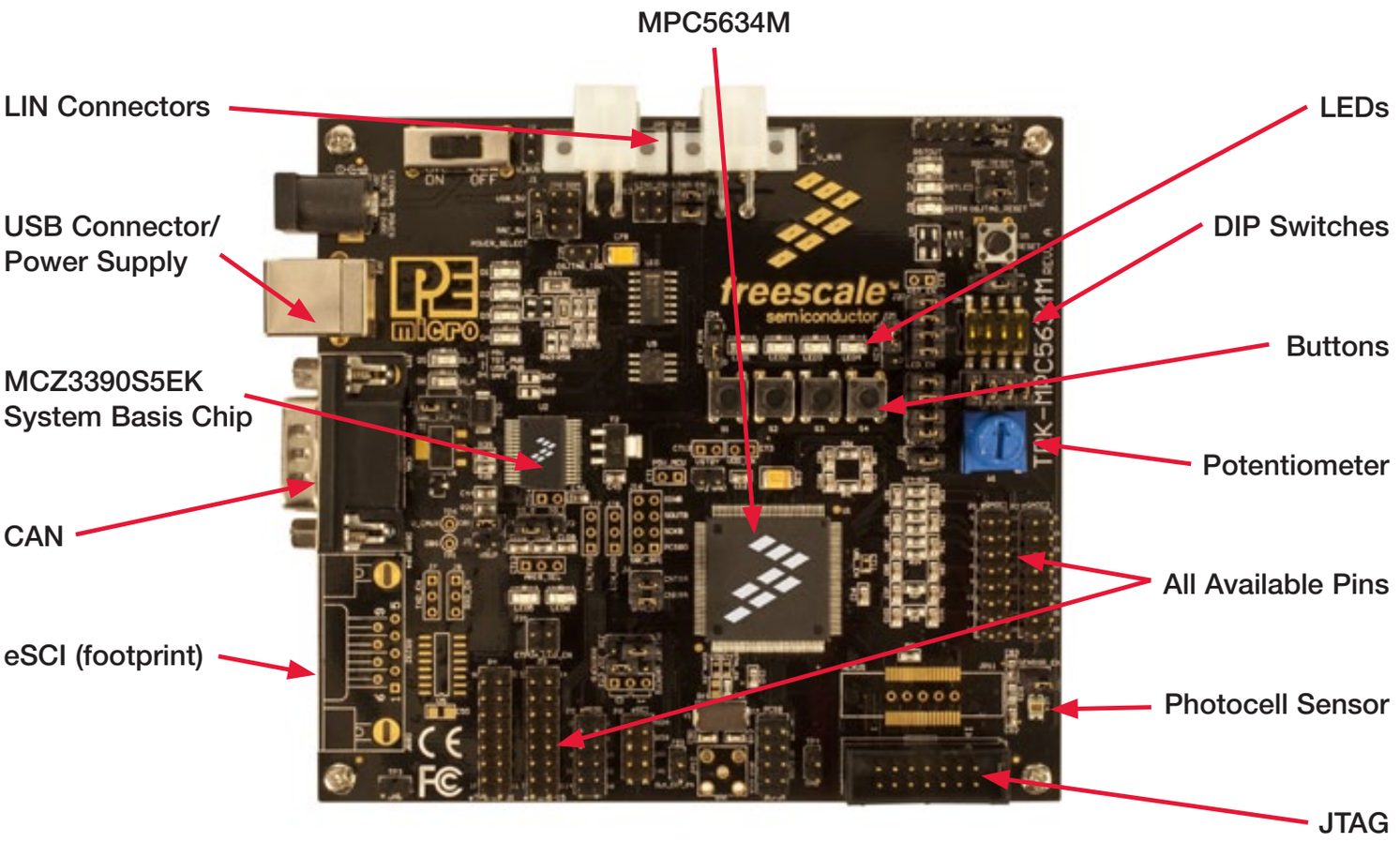

Figure 1: TRK-MPC5634M Board

TRK-MPC5634M
Freescale StarterTRAK

The TRK-MPC5634M board is part of the Freescale StarterTRAK series, a development platform that enables rapid prototyping and tool re-use. Take your design to the next level and begin constructing with your StarterTRAK system today.

TRK-MPC5634M Features

- TRK-MPC5634M series microcontroller (144-pin LQFP)
- On-board JTAG connection via open source OSBDM circuit using the MPC9S08JM microcontroller
  - See **pemicro.com/osbdm** for source code
- MCZ3390S5EK system basis chip with advanced power management and integrated CAN tranciever and LIN 2.0 interface
- CAN interface(s)
- LIN interface(s)
- Analog interface with potentiometer
- High-efficiency LEDs
- SCI serial communication interfaces

Step-by-Step Installation Instructions

In this Quick Start Guide, you will learn how to set up the TRK-MPC5634M board and use eTPU timers and ADC to drive LEDs exercise.

Install Software and Tools

- Install CodeWarrior Development Studio for 55xx/56xx Architectures v2.7 or later
- Install RAppID initialization tool

Install in the order listed. These programs are included on the DVD. CodeWarrior and RAppID included offers a 30-day evaluation license. For updates, please visit **freescale.com/StarterTRAK**.

STEP 2 Connect the USB Cable

Connect one end of the USB cable to the PC and the other end to the mini-B connector on the TRK-MPC5634M board. Allow the PC to automatically configure the USB drivers if needed.

STEP 3 Open Supporting Documentation

Open the MPC5500 and MPC5600 Simple Cookbook and TRK-MPC5634M User Manual from the Documentation and Training tab on the included DVD.

STEP 4 Explore Further with the MPC5500 and MPC5600 Simple Cookbook: Using eTPU timers and ADC to drive LEDs

To run a demonstration using the TRK-MPC5634M, follow the instructions for the eTPU timer and ADC lab exercise for MPC5634M in the MPC5500 and MPC5600 Simple Cookbook. The supplemental application note AN4266 for TRK-MPC5634M will also need to be followed since the Simple Cookbook does not contain all the code example required. The Cookbook and AN4266 is located under the documentation tab on the DVD.

STEP 5 Learn More About the MPC5634M

Read the release notes and documentation located on the DVD and at **freescale.com/StarterTRAK**.

- The MPC5500 and MPC5600 Simple Cookbook provides simple code examples for manipulating different peripherals on the MPC5634M
- The RAppID graphical initialization software will help you get to market faster
- CodeWarrior for 55xx/56xx with examples from the Simple Cookbook

Note: Check **freescale.com/TRK-MPC5634M** for the latest training and labs.

TRK-MPC5634M Jumper Options

The following is a list of all jumper options.

Jumper	Option	Setting	Description
J1	System Power Source Select	1-2 (default)	USB OSJTAG Supplies 5VDC
		2-3	SBC MC33905 Supplies 5VDC
J2	SBC I/O LED Pull Up/Down	1-2 (default)	Pull Up
		2-3	Pull Down
J3	SBC I/O Signal	1-2 (default)	I/O-0
		2-3	I/O-1
J4	SBC DBG Short to GND (default: OFF)	1-2	Short SBC DBG Pin to GND, Bypass R21 and D13
J5	SBC DBG Pull Up (default: OFF)	1-2	Pull Up SBC DBG Pin to SBC Power Supply via 330 Ohm Resistor
J6	CAN Signals to Transceiver Enable	1-2, 3-4 (default)	Enables TXD and RXD signals to CAN Transceiver
J7	RS232 TXD Signal	1-2 (default)	MCU TXD to Virtual Serial Port
		2-3	MCU TXD to RS232 Transceiver
J8	RS232 RXD Signal	1-2 (default)	MCU RXD to Virtual Serial Port
		2-3	MCU RXD to RS232 Transceiver
J9	LIN1 VBus Enable (default: OFF)	1-2	Provides Power to LIN1 Connector
J10	LIN0 VBus Enable (default: OFF)	1-2	Provides Power to LIN0 Connector
J11	LIN0 Signals to Connector Enable	1-2 (default), 3-4 (default)	Connects LIN0 Signals to LIN0 Connector
J12	LIN1 Signals to Connector Enable (default: OFF)	1-2, 3-4	Connects LIN1 Signals to LIN1 Connector
CT7	LIN TXD Signal	1-2 (default)	MCU LIN0TX to Transceiver
		2-3	MCU LIN1TX to Transceiver

TRK-MPC5634M Jumper Options *(continued from previous page)*

Jumper	Option	Setting	Description
CT8	LIN RXD Signal	1-2 (default)	MCU LIN0RX to Transceiver
		2-3	MCU LIN1RX to Transceiver
CT1	Cut Trace	Shorted (default)	Provides Power to MCU; Current Measurement
J16	SBC SPI	Cut traces on PCB board:	Connects MCU SPI signals to SBC SPI
		1-2 (default)	
		3-4(default)	
		5-6(default)	
		7-8(default)	
CT4	External Crystal Circuitry Enable Cut Trace (default: ALL ON)	shorted (default)	XTAL
CT5	External Crystal Circuitry Enable Cut Trace (default: ALL ON)	shorted (default)	EXTAL
J23	External Oscillator via SMA Enable (default: OFF)	1-2	EXTAL
J24	Push Button Active High or Low; Opposite of J25	1-2 (default)	Active Low
		2-3	Active High
J25	Push Button Pull Up/Down Enable; Opposite of J24	1-2 (default)	Pull Up
		2-3	Pull Down
J26	Push Button Signals Enable (default: ALL ON)	1-2 (default),	Connects MCU Port EMIOS0, EMIOS2, EMIOS4, and EMIOS8 to Push Buttons Correspondingly
		3-4 (default),	
		5-6 (default),	

TRK-MPC5634M Jumper Options *(continued from previous page)*

Jumper	Option	Setting	Description
J27	LED Signals Enable (default: ALL ON)	1-2 (default),	Connects MCU Port EMIOS9, EMIOS10, EMIOS11, and EMIOS12 to LEDs Correspondingly
		3-4 (default),	
		5-6 (default),	
		7-8 (default)	
J28	DIL Switch Signals Enable (default: ALL ON)	1-2 (default),	Connects MCU Port eTPUA20, eTPUA21, eTPUA22, and eTPUA23 to DIL Switch Correspondingly
		3-4 (default),	
		5-6 (default),	
		7-8 (default)	
J29	DIL Switch Active High or Low	1-2 (default)	Active High
		2-3	Active Low
J30	Analog Input Enable	1-2 (default)	Connects MCU AN17 to Potentiometer
J31	Photo Sensor Enable	1-2 (default)	Connects MCU AN35 to Photo Cell
J32	SBC Reset to MCU Enable (default: OFF)	1-2	Enables SBC Reset Signal to Trigger MCU Reset
J33	OSJTAG Reset to MCU Enable	1-2 (default)	Enables OSJTAG Reset Signal to Trigger MCU Reset
CT9	System Reset Enable	1-2 (default)	Connects Reset Sources to MCU Reset Signal
J35	OSJTAG Bootloader Enable (default: OFF)	1-2	Forces OSJTAG to start up in bootloader mode for firmware updates
J37	BOOTCFG1	1-2	Processor uses serial boot mode
		2-3 (default)	Processor uses internal boot mode
J38	PLLREF	1-2 (default)	Processor uses a crystal clock source
		2-3	Processor uses an external clock source
CT2	WKPCFG	1-2 (default)	Processor pins are configured as weak pull down
		2-3	Processor pins are configured as weak pull up

To learn more, please visit **freescale.com/StarterTRAK**.

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