

Quick Start Guide

TRK-MPC5606B

StarterTRAK Development Board



StarterTRAK

Get to Know the TRK-MPC5606B

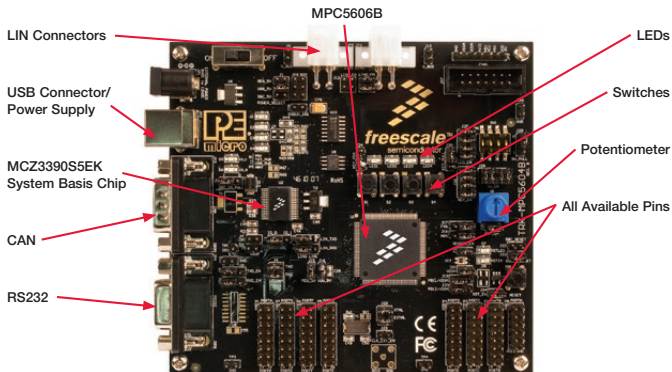


Figure 1: TRK-MPC5606B Board*



TRK-MPC5606B Freescale StarterTRAK

The TRK-MPC5606B 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.

*Graphic subject to change

TRK-MPC5606B Features

- MPC560xB/C/D series MCU (144-pin LQFP)
- On-board JTAG connection via open source OSBDM circuit using the MPC9S08JM MCU
 - See pemicro.com/osbdm for source code
- MCZ3390S5EK system basis chip with advanced power management and integrated CAN transceiver and LIN 2.0 interface
- CAN interface
- LIN interface
- Analog interface with potentiometer
- High-efficiency LEDs
- Serial communication interface

Step-by-Step Installation Instructions

In this Quick Start Guide, you will learn how to install the software tools provided in the Fast Start Kit for TRK-MPC5606B installation media, how to set up TRK-MPC5606B board and run a LED example that demonstrates all the software tools provided with the installation media.

1 Install Software and Tools

- Run setup.exe from the installation media. This will install the following software tools:

CodeWarrior Development Studio v10.5 (Special Edition), RAppID Init tool, RAppID Boot loader utility, FreeMASTER utility, CodeWarrior Project Maker utility, Driver code for the MPC5606B and Example projects to help you to get started with the Fast Start Kit.



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-MPC5606B board. Allow the PC to automatically configure the USB drivers if needed.

3 Open Supporting Documentation

Open the TRK_MPC5606B training document and TRK-MPC5606B user manuals from the Documentation folder included in the installation media.

4 Explore Further with the LED Example Project

To run a demonstration using the TRK-MPC5606B, follow the instructions for the LED example included in the training document located in the document folder of installation media.

5 Learn More About the MPC5606B

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

- The Qorivva Simple Cookbook provides simple code examples for manipulating different peripherals on the MPC5606B.
- RAppID Init tool is a graphical development which will enable you to quickly and easily configure the MCU and generate complete initialization code. It is also a learning tool for gaining understanding of the MCU and its peripherals and will help you to get to market faster.
- CodeWarrior 10.5 with examples from the Simple Cookbook

TRK-MPC5606B Jumper Options

Jumper	Option	Setting	Description
J1	System Power	1-2	External Power 9 V DC to 12 V DC Regulated Down to 5 V DC
		3-4	USB OSBDM Supplies 5 V DC
		5-6	SBC33905 Supplies 5 V DC
J2	SBC I/O LED Pull Up/Down	1-2	Pull Up
		2-3	Pull Down
J3	SBC I/O Signal	1-2	I/O-0
		2-3	I/O-1
J4	SBC DBG Short to GND	1-2	Short SBC DBG Pin to GND, Bypass R21 and D11
J5	SBC DBG Pull Up	1-2	Pull Up SBC DBG Pin to SBC Power Supply via 330 Ohm Resistor
J6-A	CAN TX Signal	1-2	Connects CAN TXD signals to SBC CAN Transceiver
		2-3	Connects CAN TXD signals to TJA1050T CAN Transceiver (not populated)
J6-B	CAN RX Signal	1-2	Connects CAN RXD signals to SBC CAN transceiver
			Connects CAN RXD signals to TJA1050T CAN Transceiver (not populated)
J7	RS232 TXD Signal	1-2	MCU TXD to Virtual Serial Port
		2-3	MCU TXD to RS232 Transceiver
J8	RS232 RXD Signal	1-2	MCU RXD to Virtual Serial Port
		2-3	MCU RXD to RS232 Transceiver
J9	LIN1 VBus Enable	1-2	Provides Power to LIN1 Connector
J10	LIN0 VBus Enable	1-2	Provides Power to LIN0 Connector
J11	LIN0 Signals to Connector Enable	1-2, 3-4	Connects LIN0 Signals to LIN0 Connector

**TRK-MPC5606B Jumper Options** *(continued)*

Jumper	Option	Setting	Description
J12	LIN1 Signals to Connector Enable	1-2, 3-4	Connects LIN1 Signals to LIN1 Connector
J13	LIN TXD Signal	1-2	MCU LIN0TX to Transceiver
		2-3	MCU LIN1TX to Transceiver
J14	LIN RXD Signal	1-2	MCU LIN0RX to Transceiver
		2-3	MCU LIN1RX to Transceiver
J15	MCU VDD Enable	1-2	Provides Power to MCU, Current Measurement
J16	VDD_BV Enable	1-2	Provides Power to VDD_BV
J17	FAB	1-2	FAB Pulled Up High
		2-3	FAB Pulled Down Low
J18	ABS	1-2	ABS Pulled Up High
		2-3	ABS Pulled Down Low
J19	MPC5604B/ MPC5606B for Pin 81	1-2	MPC5604B PB11
		2-3	MPC5606B VSSA
J20	MPC5604B/ MPC5606B for Pin 82	1-2	MPC5604B PD12
		2-3	MPC5606B VDDA
J21	VDDA Enable	1-2	Provides Power to VDDA, Current Measurement
J22	External Crystal Circuitry Enable	1-2	XTAL
		3-4	EXTAL
J23	External Oscillator via SMA Enable	1-2	EXTAL
J24	Pushbutton Active High or Low, Opposite of J25	1-2	Active Low
		2-3	Active High

TRK-MPC5606B Jumper Options *(continued)*

Jumper	Option	Setting	Description
J25	Pushbutton Pull Up/Down Enable, Opposite of J24	1-2	Pull Up
		2-3	Pull Down
J26	Pushbutton signals Enable	1-2, 3-4, 5-6, 7-8	Connects MCU port PE0, PE1, PE2 and PE3 to Corresponding push buttons
J27	LED Signals Enable	1-2, 3-4, 5-6, 7-8	Connects MCU port PE4, PE5, PE6 and PE7 to Corresponding LEDs
J28	DIL Switch Signals Enable	1-2, 3-4, 5-6, 7-8	Connects MCU Port PG6, PG7, PG8 and PG9 to Corresponding DIL Switch
J29	DIL Switch Active High or Low	1-2	Active High
		2-3	Active Low
J30	Analog Input Enable	1-2	Connects MCU ANP0 to Potentiometer
J31	Photo Sensor Enable	1-2	Connects MCU ANP1 to Photo Cell
J32	SBC Reset to MCU Enable	1-2	Enables SBC Reset Signal to Trigger MCU Reset
J33	OSBDM Reset to MCU Enable	1-2	Enables OSBDM Reset Signal to Trigger MCU Reset
J34	System Reset Enable	1-2	Connects Reset Sources to MCU Reset Signal
J35	OSBDM IRQ Enable	1-2	Enables OSBDM to Generate an Interrupt
J38	SPI Enable	1-2	Connects MCU PH3 to CS signal of SBC
		3-4	Connects MCU PH2 to SCLK signal of SBC
		5-6	Connects MCU PH1 to MOSI signal of SBC
		7-8	Connects MCU PH0 to MISO signal of SBC



Support

Visit freescale.com/support for a list of phone numbers within your region.

Warranty

Visit freescale.com/warranty for complete warranty information.

For more information, visit
freescale.com/StarterTRAK

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