



Tools and Software

RAppID Toolbox

On-target rapid prototyping

Target Applications

- Gasoline/diesel engine control algorithm rapid prototyping
- Electric motor control development and rapid prototyping
- Battery management algorithm development and rapid prototyping
- Automotive body control development and rapid prototyping

Overview

The Freescale RAppID toolbox is an add-on library for MATLAB™/Simulink™ of configurable low-level drivers for the MPC55XX peripherals. The RAppID toolbox enables you to quickly take your control algorithm models directly onto your MPC55xx target board. Enhance the performance of your control algorithms by using the target-optimized code blocks for DSP functions, such as IIR, FIR and FFT, and measure the performance of your algorithms by utilizing the profiler block function. The block sets are seamlessly integrated into automatic code generators, such as real-time workshop and embedded coder.

Key Features

- Configurable blocks for peripheral low-level drivers
 - Queued analog to digital conversion block with trigger function: Single and continuous scan modes
 - eMIOS block: One per channel with mode-based driver and trigger functions
 - Serial peripheral interface block
 - eTPU interface blocks for registered eTPU API functions
 - CAN interface block along with CAN packing and unpacking blocks
 - Full buffer initialization support transmit at thread rate, receive using IRQ function
 - Interface for digital I/O with pin conflict checks
 - Peripheral blocks seamlessly leverage the interrupt and DMA capabilities of the processor
- Target optimized blocks that leverage SIMD
 - Fast fourier transform (FFT) block
 - Infinite impulse response (IIR) filter block
 - Finite impulse response (FIR) filter block
 - These blocks can be simulated. You chose C code or assembly.
- Embedded targets
 - Support for DIAB, GHS and Freescale compilers
 - Generic scheduler target with multi-rate, synch/asynch
- Task support
 - OSEK target: Freescale OSEK Turbo
 - Built-in consistency checks between target and model
- On-target profiling support
 - Function profiling
 - Task profiling
 - Profiling data communicated over SCI



System Requirements

- Windows XP/Windows 7
- 4 GB of RAM
- Minimum dual core 2.0 GHz
- Standard screen resolutions supported
- Compatible with:
 - MATLAB version R2008B-R2011A
 - RAppID version 1.2.0

Ordering and Contact Information

Part Number: VG-ToolBox5554-SW
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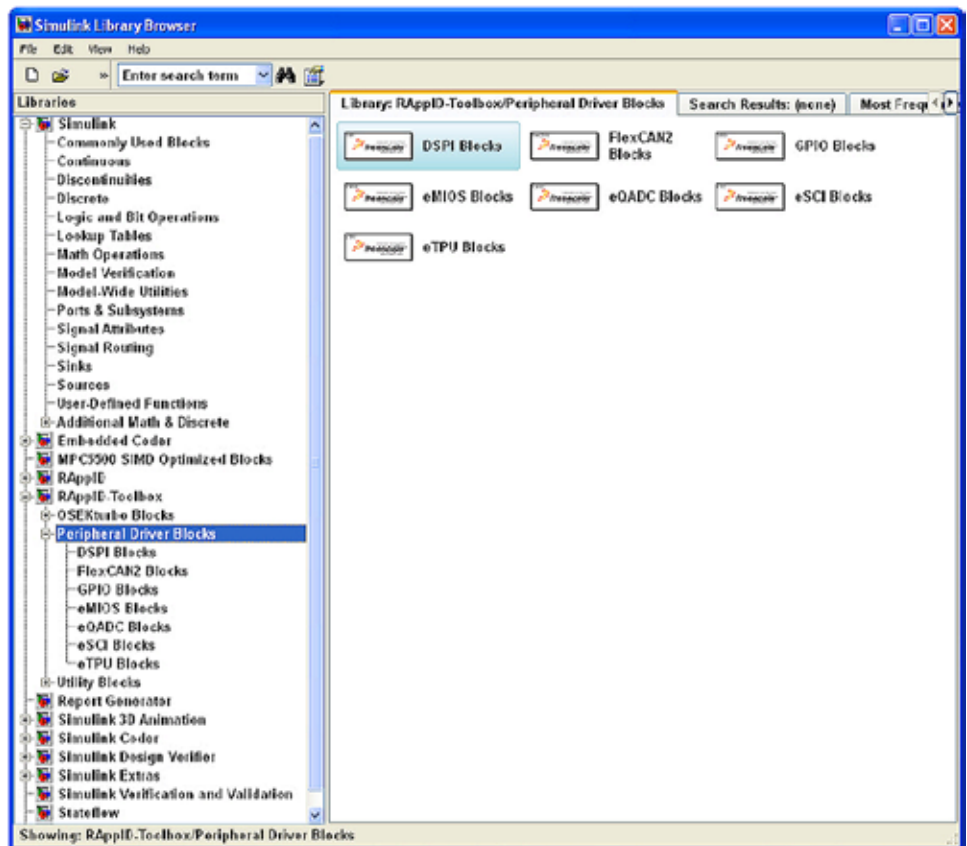


Figure 1: Simulink Library Browser

For current information, visit freescale.com/rappidtoolbox