SIM543

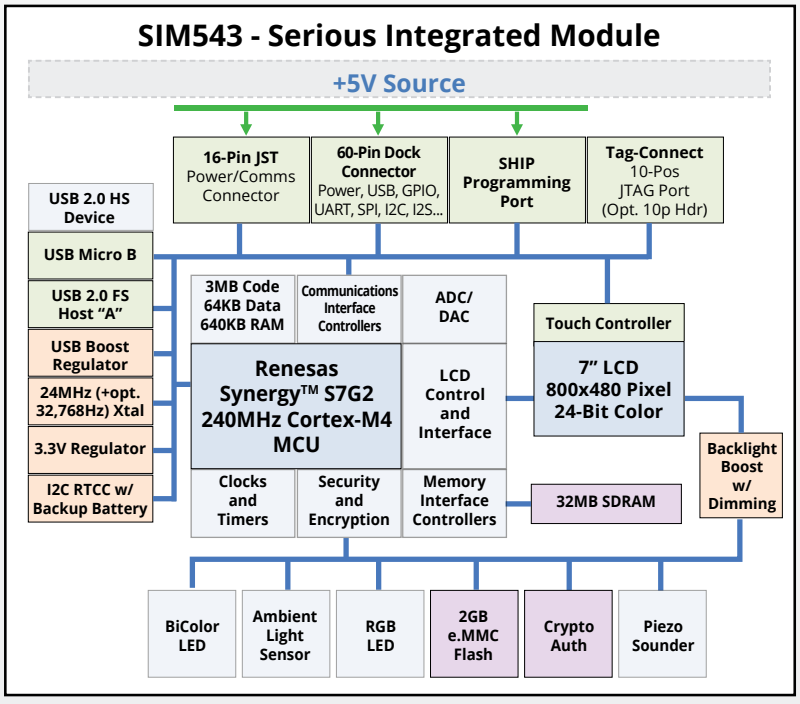
Front View

Back View

Compact, High-Performance Front Panels

With a capacitive touch 7" 800x480 24-bit colour LCD powered by a 240MHz Renesas Synergy™ S7G2 MCU, the SIM543 delivers an excellent HMI experience for your system. The SIM543 can either be used as a stand-alone controller for a whole system with intelligence and control in the SIM543 with few external components, or can act just as a front-panel touch/graphic, human machine interface — a sort of "super interface" — to an attached intelligent system and for many industrial and commercial applications in between.

Standard high speed UART, SPI, and power connectivity is provided by a 16-pin Power/Communications connector, perfect for simple wire harness attachment to existing systems. A low profile, high-density module-to-module 60-pin expansion connector supports easy daughter card development for proprietary system integration. Or, attach one of the *Serious* Communications Modules (SCMs) via the board-to-board connector, to provide the communications flexibility you need, including Industrial IoT connectivity.



SIM543 Features	A01	A03
Core/Memory Features		
Synergy S7G2 240MHz ARM Cortex-M4 MCU 3MB Flash / 640KB RAM	•	•
MCU Code FLASH (MB) / Data FLASH (KB)	3/64	3/64
SDRAM (MB) / e.MMC (GB)	32/2	32/2
JTAG Debug on 60-pin Expansion Connector & Tag-Connect JTAG/SWD Port	•	•
LCD, Touch and Human Machine Interface (HMI) Features		
7" TFT 800x480 Pixel 24-Bit Color	•	•
Capacitive Touch with Multi-Viewing Angle Technology	•	•
Ambient Light Sensor	•	•
RGB LED Indicator & User Red/ Power Green LED	•	•
Piezo Sounder	•	
Peripherals		
32.768kHz Clock/Calendar	PCF8523	MCU
USB 2.0 HS Device Circuitry	1, 2, 3	1, 2
USB 2.0 FS Host Circuitry	1, 2, 4	
Crypto Authenticator	•	•
Expansion Connectors		
USB 2.0 HS Device Micro-B Connector	•	
USB 2.0 FS Host with A Connector	•	
60-pin Board-to-Board Expansion Connector > Power, I2C, I2S, SPI, UART, DAC, JTAG, Serial Sound, USB	•	•
16-pin Serious Power/Comms Connector > Power, I2C, SPI, UART, DAC	•	•
Power		
Power Input (5V nominal)	1, 2, 5	1, 2, 5
CR1025 Coin Cell Holder for PCF8523 Time Maintenance	•	

Notes:
1 - on SHIP Programming Port
2 - on 60-pin Expansion Connector
3 - on USB Micro B Device Connector
4 - on USB A Host Connector
5 - on Tag-Connect JTAG/SWD Port

SIM**543**

SIM543 Software Stack					
SAIL GUI					
SERIOUS™ SHIPEngine					
Event Driven Scripting Engine		JPEG/PNG Support		Double Buffered Rendering	
Canvas Support		Multi Language		Floating Point Support	
QR Support		Extensive Font Support		Animation Support	
System Registry		Data Tunnel Manager		Primary/Secondary Boot-loader	
Firmware Updates		Background Updates		Error Reporting	
Communication Protocols					
Raw		Modbus		SHIPBridge™	
RTOS Kernel / Stacks					
File System Stack		USB-D Stack		USB-H Stack	
BSP / Device Drivers					
Touch	Graphics	Light Sensor	Piezo Buzzer	Audio	RGB LED
UART	SPI	QSPI/ e.MMC	USB	RTC	External RAM
SIMX4X Hardware					

SIM543 Software Features

The SIM543 provides a dynamic platform for differentiating the OEM product with a modern Human Machine Interface (HMI). Using the *Serious* Human Interface™ Platform (SHIP), the system designer can leverage the power of an abstracted scripting language (SAIL) and SHIPTide, a dedicated rapid GUI development IDE, to develop a user interface in as little as a few hours and a few dozen lines of code. The SHIPEngine runtime firmware pre-installed on all SIMs includes all the drivers, rendering, common communications interfaces and protocols, and event handling for the user interface, leaving the GUI development process to be focused on look and feel and differentiation of the system. You'll never need to write a line of C code or use a JTAG debugger with a SIM to develop a modern looking user interface.

ORDERING INFORMATION

Serious Integrated products are available directly through Arrow and Digi-Key. Visit us at www.seriousintegrated.com for details.

480.646.8300

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