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SAMSUNG
ARTIK[™] Modules

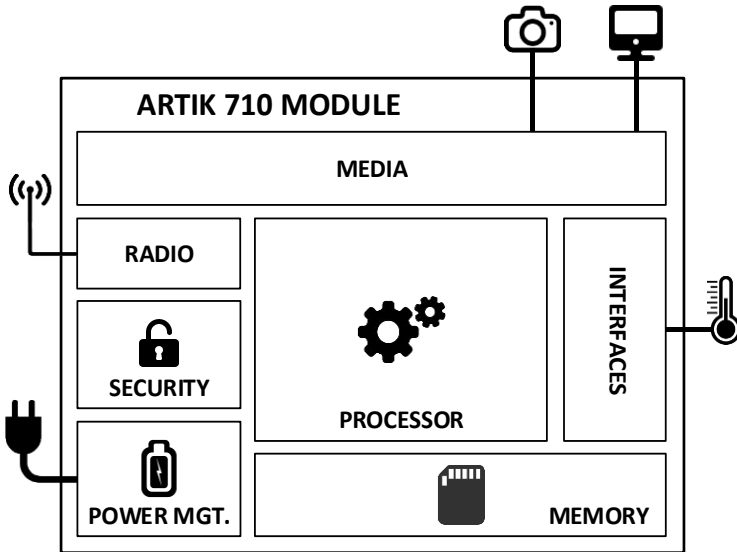
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710 Product Brief



ARTIK 710 Module Top View

Samsung’s ARTIK™ 710 Module is a highly-integrated System-On-Module that utilizes an octa-core ARM® Cortex®-A53 processor packaged DRAM and Flash memory, a hardware Secure Element and a wide range of wireless communication options such as Gigabit Ethernet, 802.11a/b/g/n/ac, Bluetooth® 4.1 (Classic+BLE) and 802.15.4 (ZigBee®/Thread) communications all on an extremely compact footprint. The many standard digital control interfaces support external sensors and higher performance peripherals to expand the module capabilities. With the combination of Wi-Fi, Bluetooth, ZigBee/Thread, the ARTIK 710 Module is the perfect choice for home automation and home hub devices, while also supporting a rich UI/UX capability with the camera and display support options. The hardware based Secure Element works with the ARM® TrustZone® and Trustonic’s Trusted Execution Environment (TEE) to provide enhanced end-to-end security.



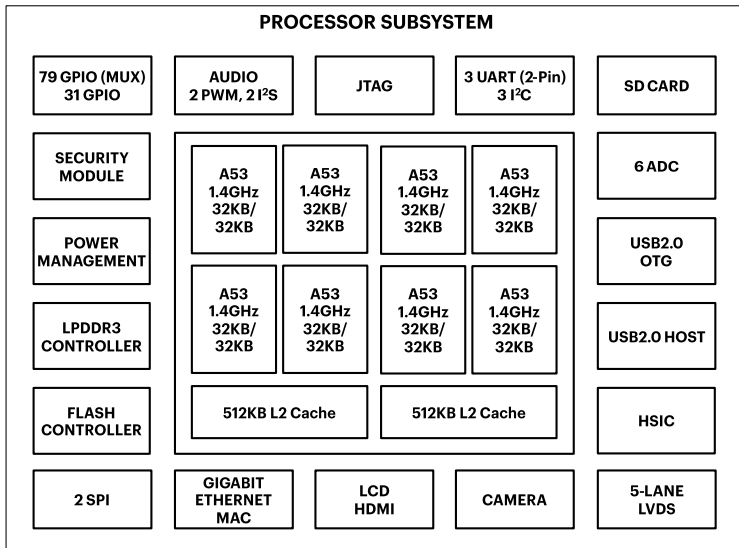
ARTIK 710 Module Block Diagram

Processor	
CPU	8x ARM® Cortex®-A53@1.4GHz
GPU	3D graphics accelerator
Media	
Camera I/F	4-Lane MIPI CSI
Display	4-Lane MIPI DSI up to FHD@24bpp, LVDS, HDMI v1.4
Audio	I²S audio interface
Memory	
DRAM	1GB DDR3 @ 800MHz
FLASH	4GB eMMC v4.5
Security	
Secure Element	Secure point to point authentication and data transfer
Trusted Execution Environment	Trustonic TEE
Radio	
WLAN	IEEE 802.11a/b/g/n/ac standard compliant
Bluetooth	4.1 (Classic+BLE)
802.15.4	ZigBee/Thread
Power Management	
PMIC	Provides all power of the ARTIK 710 Module using on board bucks and LDO's
Interfaces	
Ethernet	10/100/1000 Base-T MAC (External Phy required)
Analog and Digital I/O	GPIO, I²C, I²S, SPI, UART, PWM, SDIO, USB 2.0, JTAG, Analog Input

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ARTIK 710 Module Processor Sub System

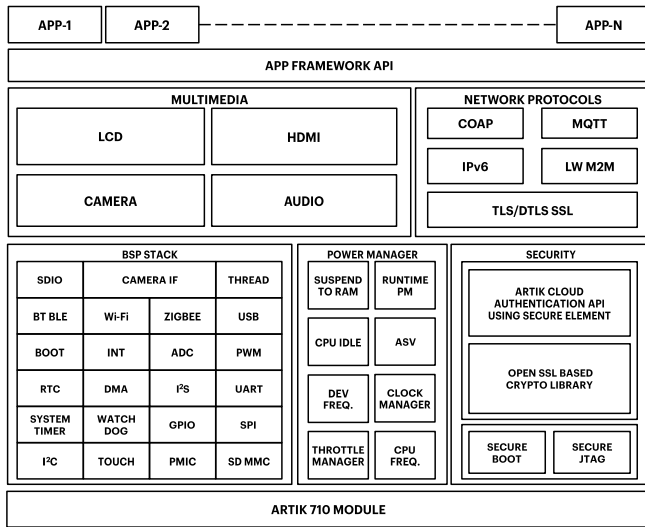
Processors	Octa core ARM® Cortex®A53@1.4GHz 32KB I\$ and 32KB D\$ per core Shared 2x512KB L2 Cache
Display/Camera	4-lane MIPI DSI up to FHD, LVDS, HDMI 4-lane MIPI CSI up to 5MP
DMC	Support for SRAM/NOR/ROM Uses DDR3 interface@800MHz
External Peripherals	2xSPI, 3xUART (2-pin) 3xI ² C+1xSW I ² C, 2xI ² S, 2xPWM 6-channel ADC, 31xGPIO (Dedicated), 79xGPIO (Multiplexed)
Multi Media	Multi Format Codec 3D graphics accelerator JPEG Codec
High Speed Interfaces	1xUSB2.0 Host, 1xUSB2.0-OTG, 1x HSIC, 1xEthernet 10/100/1000 MAC, 4-channel SD/SDIO eMMC5.0
Security	Secure Hash

ARTIK 710 MODULE SECURITY FEATURES

Samsung considers world class security as one of the most important requirements when integrating IoT nodes and data into the cloud. To assure a secure environment for all IoT nodes, the ARTIK family has dedicated security hardware and software components in place, from the module, integrated into the operating system and in the cloud.

Every ARTIK 710 Module has the ability to authenticate its boot image using a secure hash and execute a secure boot once the boot image has been authenticated. Secure communication and key management is facilitated by the Secure Element as part of any ARTIK 710 Module. Finally, secure execution can be performed in Trustonic's Trusted Execution Environment (TEE) using ARM® TrustZone®.

The ARTIK 710 Module software stack as described facilitates total security starting from authenticated adoption of an IoT node into the cloud to secure communication and remote software updates.



ARTIK 710 Module Software Stack

Samsung's commitment to security gives developers the ability to create secure user experiences using the ARTIK 710 Module.

ARTIK 710 MODULE ORDERING INFORMATION

For volume ordering of evaluation kits, please contact a sales representative in your area or email sales@artik.io.