



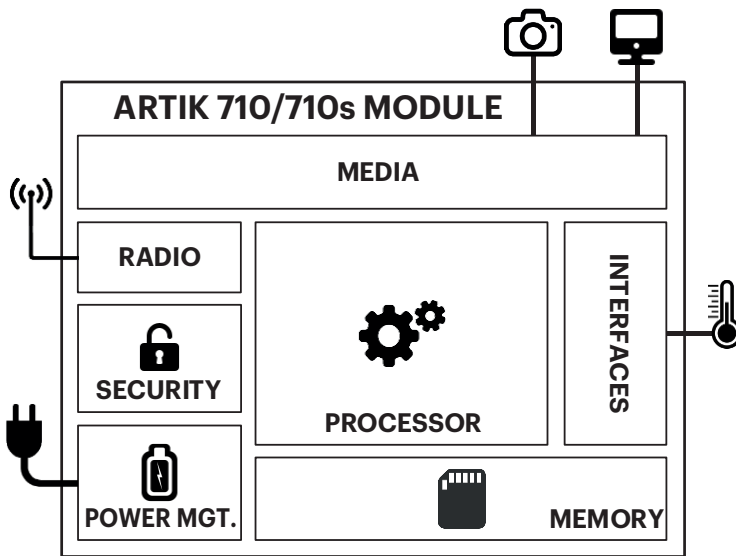
SAMSUNG
ARTIKTM Modules

7

710/710s Product Brief



ARTIK 710 Series Module Top View



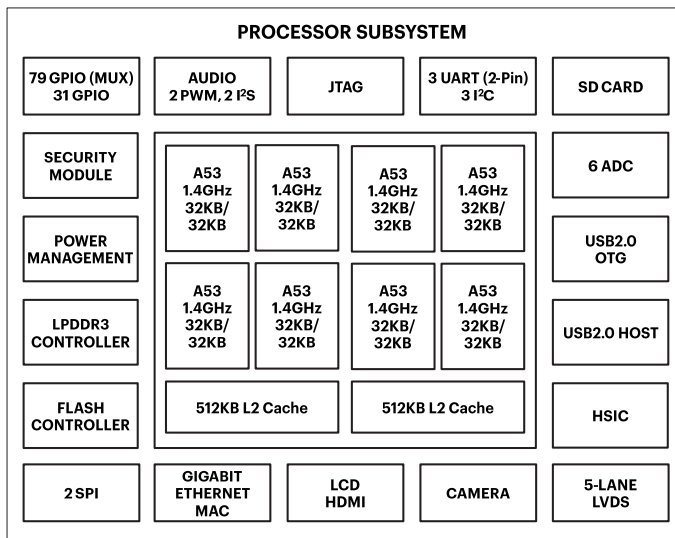
ARTIK 710 Series Module Block Diagram

Samsung’s ARTIK™ 710 Series Modules are highly-integrated system-on-modules that utilize 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 Series Modules are 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.

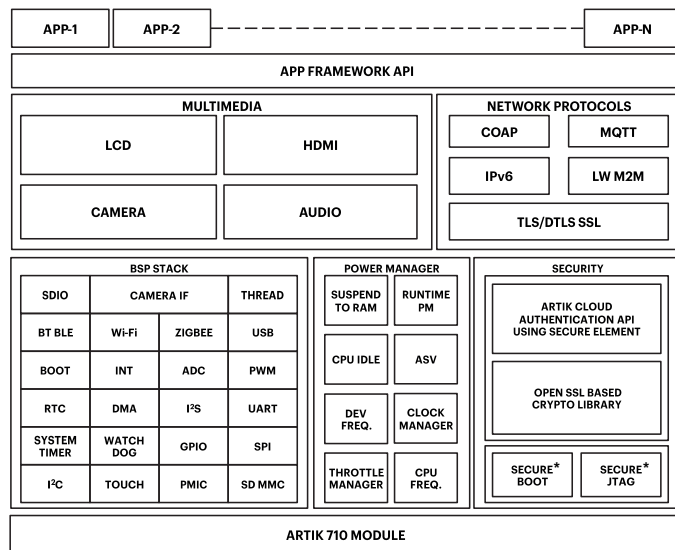
Samsung ARTIK 710 Series Module Features

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	Samsung SEE/Trustonic TEE
Radio	
WLAN	IEEE 802.11 a/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
Dimensions	36mm W x 49mm L x 3.4mm D
Temperature	-25 to 85 °C T _j

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ARTIK 710 Series Module processor Sub System



*(s version)

ARTIK 710 Series Module Software Stack

Processor	Octa core ARM® Cortex®A53@1.4GHz 32KB I-Cache and 32KB D-Cache per core Shared 2x512KB L2 Cache
Display/Camera	4-lane MIPI DSI up to FHD, LVDS, HDMI 4-lane MIPI CSI up to 5MP I²S audio interface
DMC	Support for SRAM/NOR/ROM Uses DDR3 interface@80MHz
External Peripherals	2xSPI, 3xUART (2- pin) 3xI2C+1xSW I 2C, 2xI2S, 2xPWM 6-channel ADC, 31 xGPIO (Dedicated), 79xGPIO (Multiplexed)
Multi Media	Multi Format Codec 3D graphics accelerator JPEG Codec
High Speed Interfaces	1 xUSB2.0 Host, 1xUSB2.0-OTG, 1x HSIC, 1xEthernet 10/100/1000 MAC, 4-channel SD/SDIO eMMC5.0

ARTIK 710 Series Module Security Features

Samsung considers world class security to be 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 hardware protection, to integrated secure OS and in the cloud.

All ARTIK 710series modules are enabled with secure communications facilitated by the Samsung Public Key Infrastructure (PKI), which shares a root of trust with ARTIK cloud. ARTIK 710s modules further provide the ability to authenticate their boot image using a secure hash and execute a secure boot once the boot image has been authenticated. Finally, secure execution and data storage can be performed in the ARM® TrustZone® using a Samsung Secure OS or Trustonic® OS to create a Trusted Execution Environment (TEE). The modules provide both hardware and software protection for keys, using the isolated tamper resistant Secure Element which can only be accessed through the TEE.

The ARTIK 710 series modules facilitate end-to-end security for gateway applications, starting from mutually authenticated adoption of an IoT node into the cloud, to secure communication, and remote software updates.

Samsung’s commitment to security gives developers the ability to create secure user experiences using the ARTIK 710s module and security API.

Ordering Information

For volume ordering of evaluation kits, please contact a sales representative in your area or visit artik.io/contact-us

For more product information, visit artik.io/modules/artik-710

710 Series Product Portfolio

	Security	Pin Compatibility	Module Part Number	KIT Part Number
710	Secure Element	710s	SIP-007AFS001	SIP-KITNXE001
710s	+ KMS, Secure Boot, TEE	710	SIP-007AFS002	SIP-KITNXE002

