



ARTIK™ 710 Series Modules

High capacity processing for multi-media products and secure gateways supporting local analytics

The Samsung ARTIK™ 710 Series Smart IoT Modules and integrated software eliminate months of development time with a scalable solution for rapid deployment

Focus your resources on what you do best—ARTIK IoT takes care of the rest

ARTIK integrated system-on-modules come with everything you need to get to market quickly with high performance IoT-enabled products: pre-tested, production ready hardware with out-of-the-box connectivity, advanced software, end-to-end security, and an integrated cloud solution.

Provide new IoT services to your customers

With integrated ARTIK 710 modules and ARTIK cloud services, you can safely deliver valuable new product capabilities for home, building and industrial applications. Simplify installation, share data, track use and predict maintenance issues to reduce downtime. Upgrade software to extend the life of your products and add new sources of service revenue post-sale.

A fully tested, smart gateway software solution for IoT

The ARTIK gateway solution works automatically with SmartThings Cloud and ARTIK-enabled edge nodes. ARTIK 710 modules provide advanced performance to enable local processing for “fog” computing and a built-in edge-node manager to provide effortless connection and provisioning, as well as management and monitoring of local devices.

Built-in security to protect your assets from end-to end

Gateways built with ARTIK security connect to local devices and the cloud using mutual authentication to ensure confidential data exchange and support over-the-air product updates. Software execution can be protected by leveraging the TrustZone technology-equipped hardware. Data stored on devices can also be encrypted for enhanced privacy.

The ARTIK IoT Platform is a scalable, open solution from Samsung, the global leader in connected devices and embedded components

Application examples

- High end gateways with multimedia capability
- Surveillance cameras and security
- Human Machine Interface (HMI)
- Machine Learning and local edge analytics

Product Features

Production ready, pre-integrated system-on-modules (SoMs)

- **Highest performance processing to support fog analytics, and rich multimedia - video, audio, camera**
 - 8x ARM® Cortex®-53 @1.4GHz
 - 1GB DDR3 @ 800MHz, 4GB Flash
 - 3D graphics accelerator
 - Multimedia support: MIPI CSI Camera; MIPI DSA, LVDS, HDMI display; I²S audio
 - Linux-based operating system with integrated middleware

- **Built-in solution to easily connect, onboard and manage local devices**
 - Supports popular wireless standards: 802.11 a/b/g/n/ac, Bluetooth® 4.1+ Smart, ZigBee® and Thread
 - High speed 10/100/1000Mbps Ethernet MAC
 - Regulatory certified for FCC/IC/CE/KC/SRRC
 - Full function edge node manager

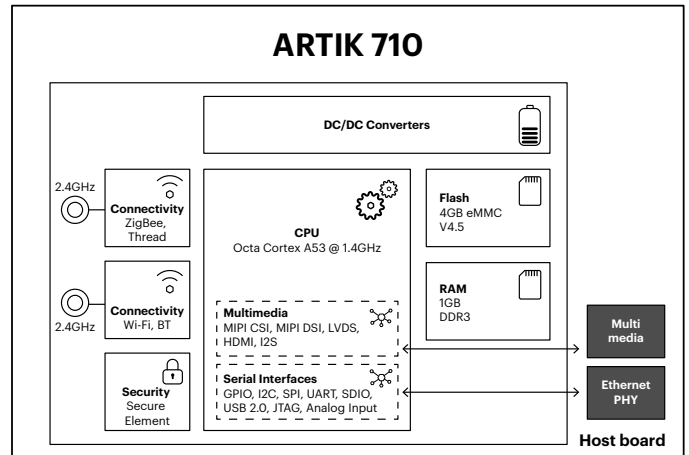
- **ARTIK cloud service solution enables remote management and value-added features**
 - Onboard and connect devices in minutes
 - Securely manage and update products over the air
 - Orchestrate complex interactions between devices and 3rd party data sources with integrated SmartThings Cloud

- **Robust, enterprise grade security for privacy and device protection**
 - Strong root of trust, authentication with Samsung PKI
 - Unique device certificate and key stored in tamper-resistant Secure Element; EAL Level 5+
 - Secure boot validates software authenticity (s version)
 - Trusted Execution Environment (TEE) for processing, storing and managing sensitive data (s version)
 - Samsung KMS for simplified code signing (s version)
 - Hardware crypto engine

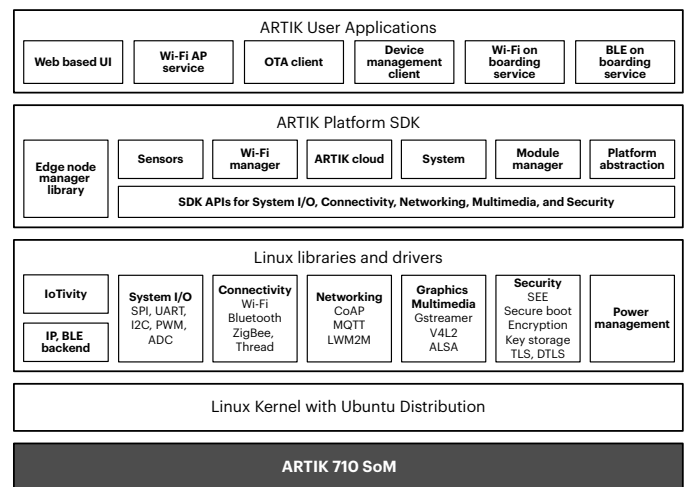
Samsung ARTIK™ 710 Series System-on-Modules

Samsung ARTIK 710/710s Module Features

Processor	
CPU	Octa Core ARM® Cortex® A53 with 32KB I-Cache and 32KB D-Cache per core @ 1.4GHz Shared 1MB L2 Cache
GPU	3D graphics accelerator
Memory	
DRAM	1GB DDR3 @ 800MHz
FLASH	4GB eMMC v4.5
Media	
Camera I/F	4-Lane MIPI CSI up to 5m (1920x1080 @ 30fps)
Display	4-Lane MIPI DSI and HDMI 1.4a (1920x1080 @ 60fps) or LVDS (1280x720p @ 60fps)
Audio	I2S audio interface
Radio	
WLAN (Wi-Fi)	IEEE 802.11 b/g/n/ac dual band SISO
Bluetooth	4.1 (Classic + BLE)
802.15.4	ZigBee/Thread
Regulatory	FCC (U.S.), IC (Canada), CE (EU), KC (Korea), SRRC (China)
Interfaces	
Analog and Digital I/O	2xSPI, 3xUART (2-pin) 3xI ² C+1xSW I ² C, 2xI ² S, 2xPWM 6 channel ADC 31xGPIO (Dedicated), 79xGPIO (Multiplexed)
Ethernet	10/100/1000 Base-T MAC (External PHY required)
High Speed Interfaces	1xUSB 2.0 Host, 1xUSB 2.0-OTG, 1x HSIC, 4-channel SD/SDIO eMMC5.0
Operating System	
OS Support	Linux Ubuntu 16.04 LTS
Security	
Secure Element	Common Criteria EAL Level 5+
Authentication	Unique certificate and key, PKI with mutual authentication to cloud
Secure Storage	Trust Zone secured flash partition and isolated key storage (s version)
Firmware Integrity	Secure Boot, KMS service, secure JTAG (s version)
Platform E2E Software	
Device Management	Edge Node Manager
Provisioning	BLE Onboarding
Firmware Updates	OTA Mechanism
Development	ARTIK SDK
Form Factor	
Dimensions	49mm W x 36mm H x 3.4mm D
Miscellaneous	
Operating Temperature	0 to 70°C T _{case}



ARTIK 710 Series Module Block Diagram



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

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

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