# ARTIK™ 530 Series Modules

## Build more than just a secure gateway - with a complete, fully integrated solution for IoT

The Samsung ARTIK™ 530 Series Smart IoT Modules and integrated software eliminate months of development time with a scalable solution for rapid gateway deployment

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

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

### A fully tested, smart gateway software solution for IoT

ARTIK 530 series-enabled gateways provide support for edge device management, local information processing and distributed "fog" computing to empower value-added features and services for home, building and industrial products.

The ARTIK gateway solution works automatically with ARTIK Cloud and ARTIK-enabled edge nodes to discover and connect edge devices, exchange data, and make all your products work together. The edge node manager provides effortless provisioning, management and monitoring of local devices.

### Hardened Security to protect your assets from end-to-end

ARTIK security is built in, not bolted on. Gateways built with ARTIK connect securely to local devices and the cloud using mutual authentication, support confidential data exchange and enable secure over the air product updates.

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

# Application examples

- Home gateways
- Voice control speakers
- Industrial edge gateways
- Building/Lighting zone controllers
- Display-based healthcare monitors

# Product Features
## Production ready. Pre-integrated.

**High performance processing to support demanding edge analytics**

- Quad core ARM® Cortex® A9 @1.2 GHz
- GPU for multimedia, graphics applications
- Linux based operating system with integrated middleware
- 4 GB flash with two memory options - 512MB or 1GB RAM

**Built-in solution to easily connect, onboard and manage local devices**

- Supports popular wireless standards: 802.11 a/b/g/n, Bluetooth® 4.2, ZigBee® and Thread
- Certified for regulatory standards such as FCC/IC/CE
- Full function edge node manager for immediate productivity

**Integrated Samsung ARTIK Cloud enables remote management and value-added services**

- Onboard and connect gateways and edge devices to cloud in minutes
- Manage and update products over the air, individually or as a fleet
- Orchestrate complex interactions between devices and 3rd party data sources
- 10/100/1000Mbps Ethernet MAC for high-speed Internet access

**Robust, enterprise grade security for safety and data protection**

- Strong root of trust from Samsung PKI, mutual authentication to cloud
- Unique device certificate and key stored in tamper-resistant Secure Element; EAL Level 5+
- Secure boot validates software authenticity during power-up (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™ 530 Series Modules

## Samsung ARTIK 530 Series Module Features

| Processor | |
|---|---|
| CPU | Quad Core ARM Cortex A9  with 32KB I-Cache and 32KB D-Cache per core @ 1.2GHz<br>Shared 1MB L2 Cache<br>Vector Floating Point Coprocessor |
| GPU | 3D Graphics Accelerator |

| Memory | |
|---|---|
| DRAM | 512MB DDR3 / 1GB DDR3 |
| FLASH | 4GB eMMC v4.5 |

| Security | |
|---|---|
| Secure Element | Common Criteria EAL5 SE |
| Authentication | Unique Key and Certificate, PKI |
| Secure Storage | TrustZone Secured Flash Partition and Isolated Key Storage (s version) |
| Firmware Integrity | Secure Boot and Secure JTAG (s version) |

| Radio | |
|---|---|
| WLAN | IEEE 802.11a/b/g/n, dual band SISO |
| Bluetooth | 4.2 (BLE + Classic) |
| 802.15.4 | ZigBee / Thread |
| Regulatory | FCC (U.S.), IC (Canada), CE (EU), KC (Korea), SRRC (China) |

| Media | |
|---|---|
| Camera I/F | 4-Lane MIPI CSI up to 5M (1920x1080@30fps)<br>4-Lane MIPI DSI |
| Display | HDMI 1.4a (1920x1080p@60fps)<br>LVDS (1280x720p@60fps) |
| Audio | Two I2S input/output channels |

| Interfaces | |
|---|---|
| Ethernet | 10/100/1000 Base-T MAC (External PHY Required) |
| I/O | ADC, GPIO, HSIC, I2C, JTAG, SPI, USB Host, USB OTG |

| Operating System | |
|---|---|
| OS Support | Ubuntu 16.04 LTS |

| Plaform 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 |

| Temperature | |
|---|---|
| 530,530s | -25 to 85 ºC $T_{case}$ |
| 530s 1G | 0 to 85 ºC $T_{case}$ |

## ARTIK 530 Series Module Block Diagram
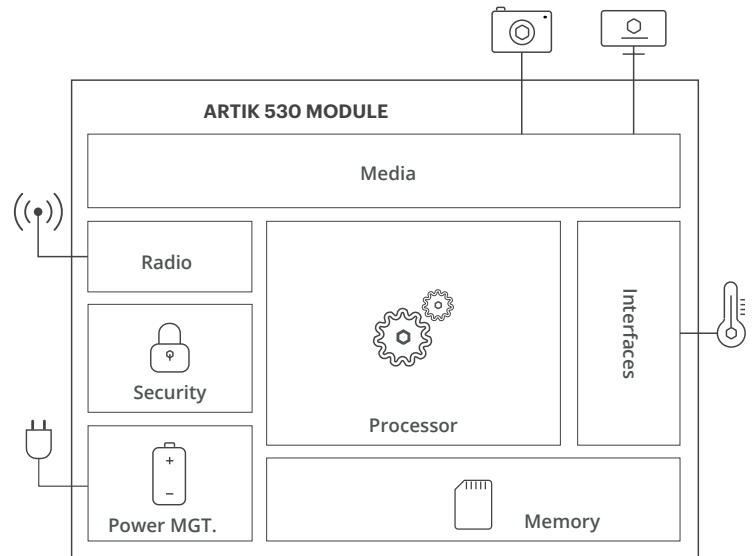


## ARTIK 530 Series Systems
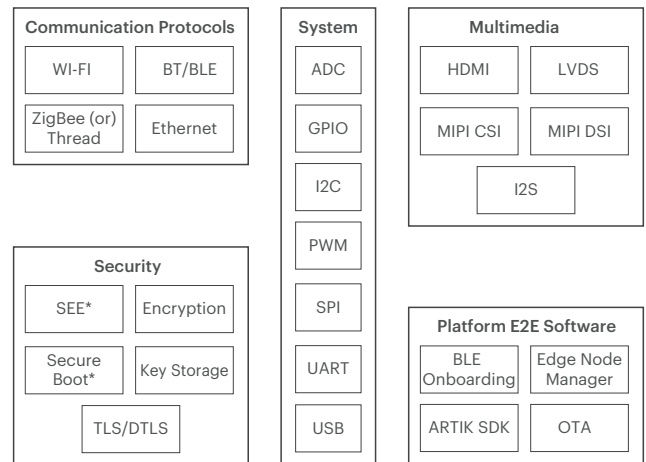


*(s version)

## 530 Series Product Portfolio

| | RAM | Security | Temperature | Pin Compatibility | Part Number | |
|---|---|---|---|---|---|---|
| | | | | | Module | Kit |
| 530 | 512 MB | Secure Element | -25 to 85º C | 530s, 530s-1G | SIP-005AFS301 | SIP-KITNXD001 |
| 530s | 512 MB | + KMS, Secure Boot, TEE | -25 to 85º C | 530, 530s-1G | SIP-005AFS302 | SIP-KITNXD002 |
| 530s 1G | 1 GB | + KMS, Secure Boot, TEE | 0 to 85º C | 530, 530s | SIP-005CUS332 | SIP-KITNXG002 |

## Ordering Information

For ordering, please contact a sales representative in your area or visit **artik.io/contact-us**

For product information, visit **artik.io/modules/artik-530**

Version - 11/29/17