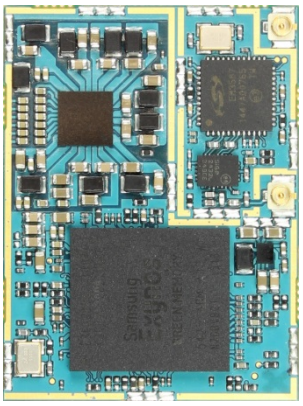
PRODUCT BRIEF

ARTIK™

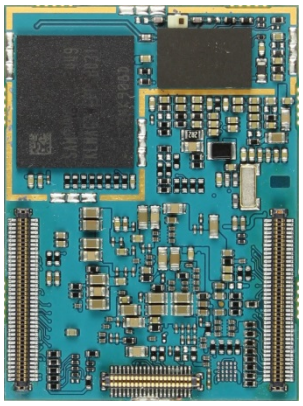
MAKE EVERYTHING SMARTER

ARTIK 10

NOVEMBER, 2015

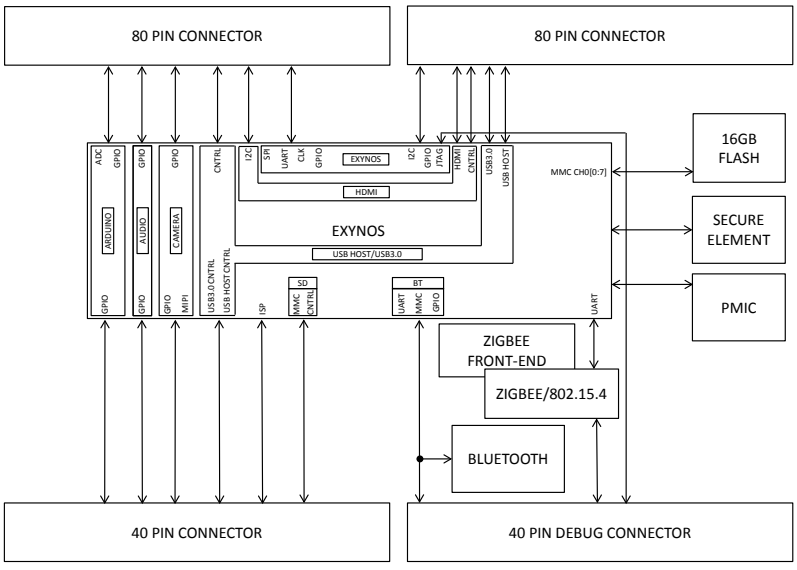


TOP VIEW



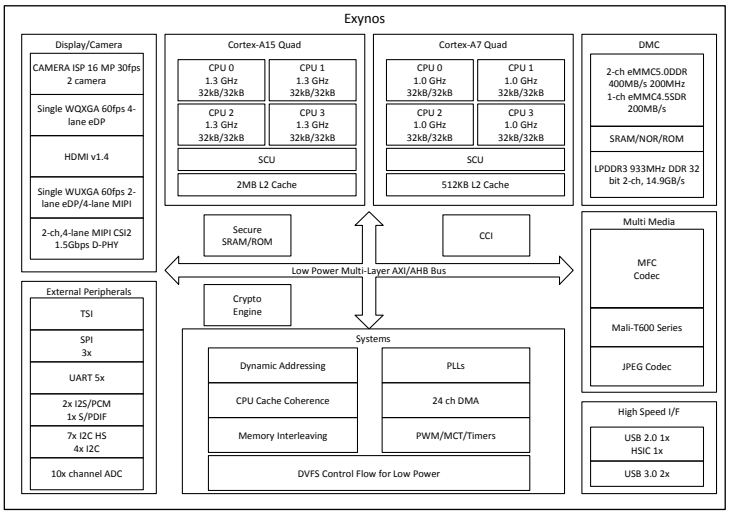
BOTTOM VIEW

Samsung's ARTIK™ 10 Module is the world's highest performance Internet-of-Things (IoT) module. It is based on the octa-core Exynos architecture, containing quad Cortex-A15 and quad Cortex-A7 cores, DRAM and flash memory, camera and display interfaces, a full complement of digital I/O and analog inputs, and world class connectivity with IEEE802.11b/g/n, Bluetooth 4.0 + LE and a ZigBee radio inside a package that is just 29x39x1.3mm. The scalable processing power of the ARTIK 10 makes it ideally suited for video and image processing tasks like autonomous vehicle navigation, intensive 3D graphics or large immersive displays. Alternatively, the small size of the ARTIK 10 enables servicing application domains with a high local computation requirement, like model-based robotic control, virtual reality or image processing.



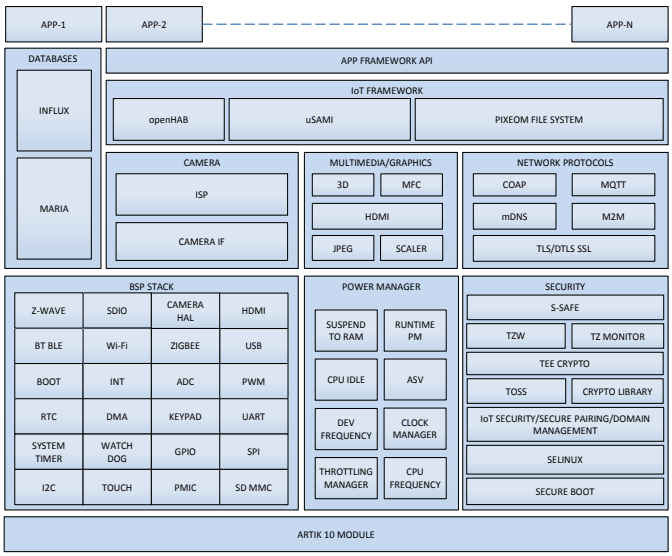
ARTIK 10 Module Block Diagram

Application Processors	Quad core Cortex A15@1.3GHz. Quad core Cortex A7@1.0GHz.
GPU	Mali-T628 MP6 core including scalers and a JPEG accelerator.
Camera ISP	2-Lane MIPI CSI, up to 23MP still, 8MP@30fps, H.264 codec supports FHD@120fps.
Display	Up to WUXGA (1920x1200@24bpp) with simultaneous HDMI (1920x1080@60fps) operation.
DRAM	2GB LPDDR3.
FLASH	16GB eMMC
Secure Element	TLS, DTLS, data encryption, device authentication, FW security and update, TEE.
WLAN	IEEE802.11a/b/g/n/ac standard compliant.
Bluetooth	4.0 + LE.
ZigBee	IEEE802.15.4.
PMIC	Provides all power of the ARTIK 10 module using 9 bucks and 38 LDO's.
Analog and Digital I/O	GPIO, Analog Input, UART, I^2C, I^2S, SPI, USB 2.0, USB 3.0, MMC, MIPI, JTAG.



ARTIK 10 Module Exynos Sub System

Exynos Processors	Quad core Cortex A15@1.3GHz 32KB I$ and 32KB D$ per core Shared 2MB L2 Cache Quad core Cortex A7@1.0GHz 32KB I$ and 32KB D$ per core Shared 512MB L2 Cache
Display/Camera	Camera ISP 16MP@30fps Single WQXGA 60fps 4-lane eDP HDMI v1.4 Single WUXGA@60fps 2-ch/4-lane MIPI CSI@1.5Gbps D-PHY
DMC	2-channel eMMC5.0 DDR@400MB/s Support for SRAM/NOR/ROM LPDDR3 interface @ 933MHz DDR 32b 2-channel 14.9GB/s
External Peripherals	1xSPI, 1xUART (4-pin), 1xUART (2-pin), 2xI2S/PCM 4xHS I2C, 4xI2C 6-channel ADC
Multi Media	Multi Format Codec MALI-T600 graphics accelerator JPEG Codec
High Speed Interfaces	1xUSB2.0, 1xHSIC, 2xUSB3.0
Security	Secure Hash



ARTIK 10 Module Software Stack

ARTIK 10 Module Security Features

Samsung considers world class security as one of the most important requirements when adding IoT nodes into the cloud. As such Samsung built its IoT ARTIK product family with a security architecture in mind. To assure a secure environment for all IoT nodes, the ARTIK family has dedicated security hardware and software components in place.

Every ARTIK 10 module has the ability to authenticate its boot image using a secure hash, and to 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 10 module. Finally, secure execution can be performed in Samsung's Trusted Execution Environment (TEE) using ARM® TrustZone®.

Samsung's commitment to security gives developers the ability to create secure user experiences using the ARTIK 10 platform.

The ARTIK 10 software stack as described in the above diagram facilitates total security starting from authenticated adoption of an ARTIK 10 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 10 platform.

Ordering Information

For more information, please contact a sales representative in your area or e-mail customer@artik.io.