



Wi-Fi®-based IoT module with built-in hardware security for single-function “things”.

ARTIK 053 brings Wi-Fi to things that need connectivity, without sacrificing security. ARTIK 053 has a built-in security module that keeps its factory-installed certificates and keys safe.

ARTIK 053 runs Tizen RT, a platform that includes a compact RTOS with built-in TCP/IP stack and support for Lightweight Machine-to-machine (LWM2M) protocol. This also means you can develop for ARTIK 053 using free tools like the ARTIK IDE, GCC C/C++ compilers, and OpenOCD.

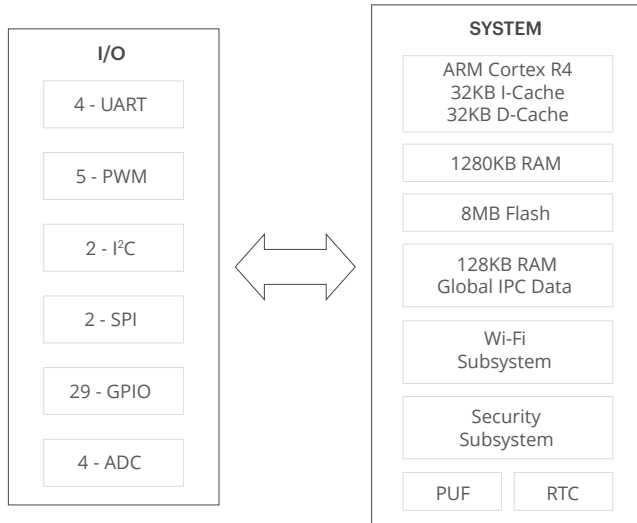


# Samsung ARTIK™ 053 Module

## Samsung ARTIK™ 053 Module Features

| Processor        |                                                                                                                     |
|------------------|---------------------------------------------------------------------------------------------------------------------|
| CPU              | 32 bit ARM® Cortex® R4 with 32KB I-Cache and 32KB D-Cache @ 320MHz                                                  |
| Memory           |                                                                                                                     |
| RAM              | 1280KB (General use)<br>128KB (Global IPC data)                                                                     |
| FLASH            | 8MB Flash                                                                                                           |
| Security         |                                                                                                                     |
| Secure System    | AES/DDES/TDES, SHA-1/SHA-2, PKA (Public Key Accelerator), PRNG/DTRNG (Random Number Generators), Secure key storage |
| PUF              | Physical Unclonable Function                                                                                        |
| Radio            |                                                                                                                     |
| Wi-Fi®           | Certified IEEE 802.11™ b/g/n<br>Wi-Fi®, 2.4GHz radio                                                                |
| Regulatory       | FCC (U.S), IC (Canada), CE (EU), KC (Korea), SRRC (China)                                                           |
| Power Management |                                                                                                                     |
| Single Supply    | Wide voltage input range 5V-12V                                                                                     |
| Interfaces       |                                                                                                                     |
| I/O              | UART, I²C, SPI, PWM, ADC, GPIO                                                                                      |
| Form Factor      |                                                                                                                     |
| Dimensions       | 15mm W x 40mm H x 3mm D                                                                                             |

## Samsung ARTIK™ 053 Module Block Diagram



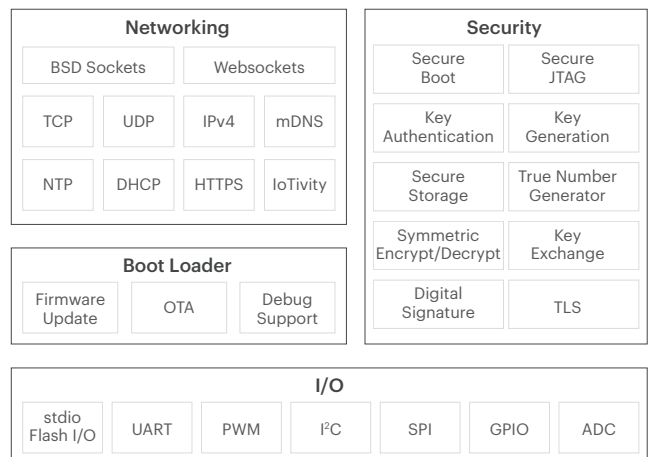
## Samsung ARTIK™ 053 Module Ordering Information

For ordering, please contact a sales representative in your area or visit [artik.io/contact-us](http://artik.io/contact-us).

## Samsung Tizen RT™ OS Features

| Kernel Services     |                                                             |
|---------------------|-------------------------------------------------------------|
| Real time           | Tasks, threads, queues, mutex, semaphore, signal            |
| Time                | Real-time clock, date/time, timer, sleep                    |
| Network Services    |                                                             |
| Internet            | DHCP, NTP client, DNS client, mDNS, BSD sockets, Websockets |
| Services            | Web client/server, MQTT client, IoTivity, cJSON             |
| Libc Services       |                                                             |
| Libc Compatibility  | Flash-based Stdio, Stdlib, String, Unistd, Time             |
| Security Services   |                                                             |
| Encryption          | AES 128/256, RSA 1024/2048, ECC BP/NIST 192/224/256/384/512 |
| Authentication      | HMAC 128/256, certificate                                   |
| Certificate Storage | Secure Flash storage                                        |
| Firmware Integrity  | Secure boot and JTAG protection                             |

## Samsung TizenRT™ OS Block Diagram



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