

Nitrogen93 SMARC Evaluation Kit with 7-Inch Touchscreen Display, Sona NX611 Wi-Fi 6 and Bluetooth 5.4, SMARC Carrier Board, Antenna, and Accessory Cables



What's in the kit?



Nitrogen93 SMARC



Sona NX611 Wi-Fi 6 and Bluetooth 5.4



7 inch Display with stand



SMARC Carrier Board



FlexPIFA Wi-Fi and Bluetooth Antenna



Accessory Cables

Our new Nitrogen93 SMARC Evaluation Kit includes our NXP i.MX 93 based SMARC SOM which has an onboard NXP IW611 based Sona NX611 Wi-Fi 6 + Bluetooth 5.4 module, 7-inch touchscreen display with stand, SMARC Carrier Board, Wi-Fi and BT antenna, and accessory cables. The Nitrogen93 SMARC Evaluation Kit is designed to allow commercial, industrial, and medical device design teams a platform for easy evaluation of the Nitrogen93 SMARC. After evaluation of the Nitrogen93 SMARC, our in-house USA based assembly allows your team to choose the best RAM, storage, and connectivity options for your product. The Nitrogen93 SMARC Evaluation Kit comes with our industry-leading software and integration support to accelerate your product development team.

- **Powerful Heterogenous Multiprocessing:** Up to 1.7 GHz dual-core Cortex-A55 MPU and 250 MHz Cortex-M33 MCU allow you to run Linux and an RTOS on dedicated, hardware-firewalled subsystems.
- **Graphics and Display:** Kit includes a 7-inch 1280x800 resolution touchscreen. Nitrogen93 SMARC supports displays with resolutions up to 1920x1200p60 using MIPI-DSI, 1366x768p60 or 1280x800p60 using LVDS, and has a PXP 2D graphics accelerator
- **Advanced Vision Pipeline:** Supports a 2Kp60 camera via a MIPI-CSI
- **Dedicated AI Accelerator:** High-performance edge AI via an integrated Arm Ethos™-U65 microNPU, delivering up to .7 TOPS.
- **High Speed Interfaces:** 2x USB 2.0 (480 Mbps) and 2x Gb Ethernet (1 Gbps)
- **Industrial Interfaces:** UART, SPI, I2C, I2S, CAN-FD, GPIO, SDIO, and more
- **Software and Board Support Options:** Yocto Linux / Buildroot Linux / Android / QNX / Debian for Cortex-A55s, FreeRTOS for the Cortex-M33. **EZ BSP** available in Yocto or Buildroot variants. QNX for the Cortex-A53s and FreeRTOS for Cortex-R5Fs.
- **SMARC 2.2 Standard Form Factor:** 82mm x 50mm SMARC edge connector form factor includes **onboard ethernet PHYs**. One design supports multiple processor, memory, and wireless configurations. Allows a **hardware upgrade roadmap** to the latest processors and wireless options as future Ezurio SMARC SOMs are released.
- **Advanced Common Carrier/Development Board:** Display, camera, audio, Ethernet, USB, CAN, I2C, SPI, UART, and more. Use in development and as reference designs for your carrier board design.

Made in the USA

Specifications

Category	Feature	Specification
Processors	Applications Processor	2x Cortex®-A55 cores @ up to 1.7 GHz
	Real-Time Microcontroller	1x Cortex®-M33 core @ 250 MHz
	AI/DSP	NXP eIQ® Neutron Neutron N3-1024S NPU
Memory	RAM	2GB LPDDR4
	Storage	16GB eMMC
Graphics and Video	Display	7-inch 1280x800 resolution touchscreen 1x 4-lane LVDS (display connector)
Vision	Camera	1x 2-lane MIPI-CSI (camera connector)
Interfaces	USB	2x USB 2.0 (USB-A)
	CAN	2x CAN (debug connector)
	UART	1x UART (debug connector, TTL)
		2x UART (molex connectors, RS-232)
		1x UART (M.2 connector)
	SPI	2x SPI (debug connectors)
		1x SPI (M.2 connector)
	I2C	2x I2C (debug connectors)
		1x I2C (M.2 connector)
	GPIO	2x GPIO via SMARC Specification (debug connectors) (Note: SPI, UART, and I2C can be muxed to GPIO)
	Storage	1x microSD card slot
	RTC	1x RTC + battery
	Audio Interfaces	1x Headphones
		2x Speakers (2W)
		1x Mic via headphones connector
		1x Mic via Molex connector 1x Line In via molex connector
	Networking	2x Gbit Ethernet
Physical	Dimensions	482.6 mm x 311.2 mm x 108 mm
	Weight	1.69kg
Wireless	Sona Wi-Fi and Bluetooth Modules	Sona NX611 with 1 MHF4L
Supply Voltage		5V
Environmental	Temperature Range	0°C to +70°C (Commercial)
	Lead Free	Lead-free and RoHS-compliant

Ordering Information

Part	Description
EZSMI-935-0216-00158-2-K2	Nitrogen93 SMARC Evaluation Kit: 7 in Display / SMARC Carrier Board / i.MX 93 / 2GB / 16GB eMMC / NX611 1MHF / Accessories

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