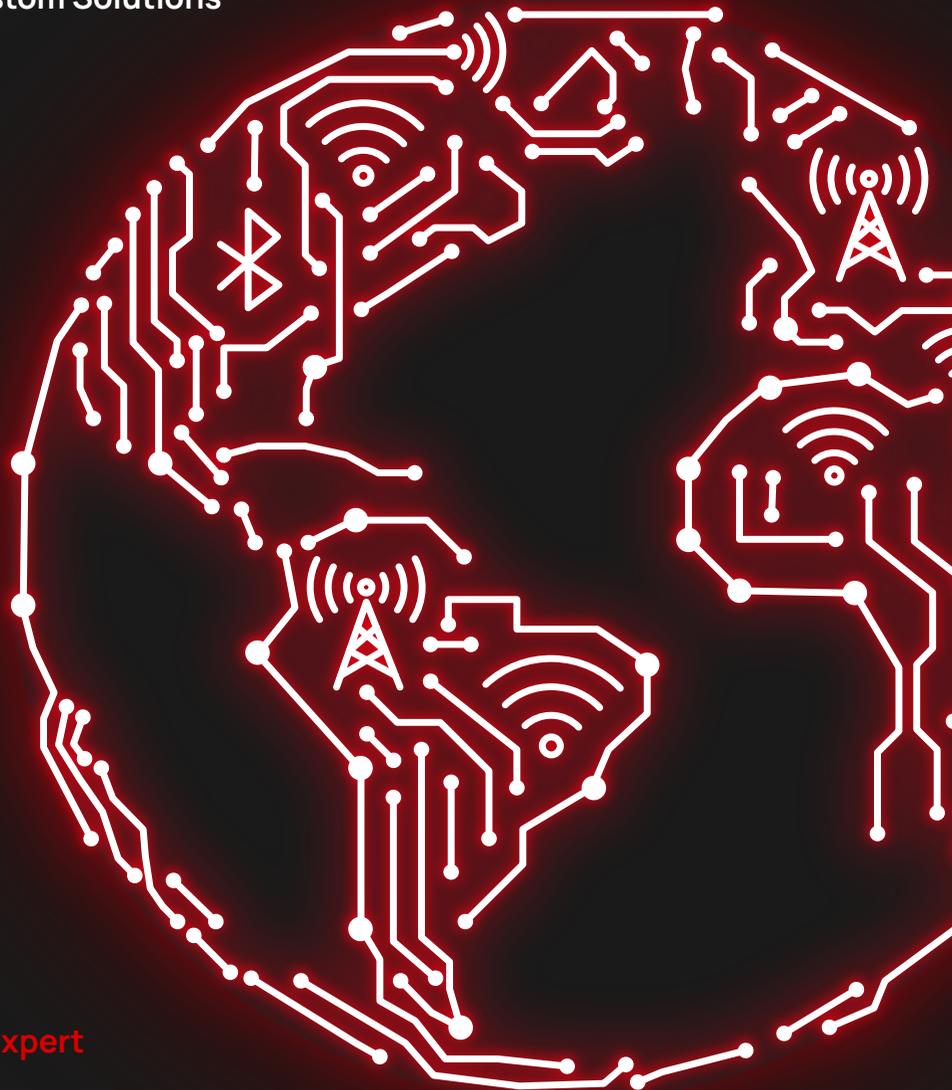


2026 Product Portfolio

Modules, SOMs, SBCs, Antennas,
IoT Devices and Custom Solutions



ezurio

Your Connectivity Expert

Your Connectivity Expert.

Ezurio turns design possibility into reality with a comprehensive range of RF modules, system-on-modules, single board computers, internal antennas, IoT devices, and custom solutions. With decades of engineering expertise, Ezurio provides solutions that reduce development costs and time to market. Our global reach and unmatched support are backed by a resilient global supply chain that gives our customers the stability to overcome every design challenge with confidence.

Turn design possibility into reality with Ezurio, your connectivity expert. www.ezurio.com

At every step of your design, we can help.

Antennas

We solve complex antenna challenges.

- Antenna selection
- Antenna placement
- Tuning and matching
- Custom antenna design

Industrial Design

Designers that care about UX creating innovative solutions.

- Design research and strategy
- Industrial design
- User interface design
- Prototyping
- Mechanical engineering

Hardware

Full hardware, BOM, and specialized IC design for manufacture.

- PCB design and layout
- Component replacements
- Hardware reviews
- Specialized circuitry
- Design-for-manufacture

EMC Compliance

A full-compliance solutions provider, all under one roof.

- 2 Semi-anechoic chambers
- Automated antenna chamber
- Accredited to ISO / IEC 17025
- On-site FCC/ISED/CE/Japan/RCM certifications
- EMC, medical, and intentional radiator specialists

Embedded Software

Comprehensive software solutions from device to cloud.

- Embedded firmware development
- Cloud architecture development
- Connected product customization
- Mobile app development

Ezurio has all the capabilities necessary to realize your IoT strategy. We are the leading IoT Solution provider offering modules, antennas, IoT devices, design services, and global certifications services – all under one roof. By working with a single partner, you will significantly accelerate your time to market, reduce risk, and minimize costs.

Learn more at www.ezurio.com/services

Wi-Fi Line Card



Ezurio offers certified Wi-Fi / Bluetooth modules that enable secure and reliable wireless connectivity, even in the harshest environments. Our modules are ideal for robust, business-critical connectivity in medical, industrial, and commercial settings where excellent RF performance, lower power consumption, simplified application development, and fast time to market are a must.

Modules not actual size.



	Sona™ IF573	Sona™ IF513
Chipset	AIROC™ CYW55573	AIROC™ CYW55513
802.11 Standards	2x2 802.11a/b/g/n/ac/ax (Wi-Fi 6E)	1x1 802.11a/b/g/n/ac/ax (Wi-Fi 6E)
Frequency Bands	2.4 / 5 / 6 GHz	2.4 / 5 / 6 GHz
BT Standards	Bluetooth 6 - Dual Mode Classic (EDR) & LE	Bluetooth 6 - Dual Mode Classic (EDR) & LE
Type	M.2 1318 SMT M.2 2230 E-Key Module	M.2 1216 SMT M.2 2230 E-Key Module
Size (mm)	13 x 18 x 0.43 (M.2 1318) 22 x 30 x 2.7 (M.2 2230 E-Key)	12 x 16 x 1.75 (M.2 1216) 22 x 30 x 3.1 (M.2 2230 E-Key)
Antenna Diversity	2x2 Wi-Fi, 1x1 Bluetooth	1x1 MIMO
Data/Control	SDIO, PCIe, PCM/I2S, JTAG, UART	SDIO, PCIe, PCM/I2S, UART
Max PHY	MCS-11	MCS-11
Tx Power (dBm)	Up to +18	Up to +18
Rx Sensitivity (dBm)	-96	-97
Temp. Range	-40°C to +85°C	-40°C to +85°C
OS Support	Android, Linux, RTOS	Android, Linux, RTOS
Wi-Fi Security	WPA2-Personal, WPA2-Enterprise, WPA3-Personal, WPA3-Enterprise	WPA2-Personal, WPA2-Enterprise, WPA3-Personal, WPA3-Enterprise
Certifications	FCC, IC, CE, UKCA, MIC, RCM, Bluetooth SIG	FCC, IC, CE, UKCA, MIC, RCM, Bluetooth SIG
Software Support	Ezurio Connectivity Stack	Ezurio Connectivity Stack

	Sona™ NX611	Sona™ TI351	Sona™ MT320
Chipset	IW611	SimpleLink™ CC3351	Filogic 320 (MT7921)
802.11 Standards	1X1 802.11a/b/g/n/ac/ax (Wi-Fi 6)	1x1 802.11a/b/g/n/ac/ax (Wi-Fi 6)	2x2 802.11a/b/g/n/ac/ax (Wi-Fi 6)
Frequency Bands	2.4 / 5 GHz	2.4 / 5 GHz	2.4 / 5 GHz
BT Standards	Bluetooth 5.3 - Dual Mode Classic (EDR) & LE	Bluetooth 5.4 - LE	Bluetooth 5.4 - Dual Mode Classic (EDR) & LE
Type	SIP M.2 1216 SMT M.2 1218 SMT (Chip Ant.) M.2 2230 E-Key Module	M.2 1216 SMT (MHF4 Connector) M.2 1216 SMT (Chip Antenna) M.2 2230 E-Key Module	M.2 1420 SMT M.2 2230 E-Key Module
Size (mm)	11 x 11 (SIP) 12 x 16 (M.2 1216 SMT Module) 12 x 18 (M.2 1218 SMT Module) 22 x 30 (M.2 E-Key Module)	12 x 16 x 1.75 (M.2 1216) 22 x 30 x 3.1 (M.2 2230 E-Key)	14 x 20 (M.2 1420) 22 x 30 (M.2 2230 E-Key)
Antenna Diversity	1x1 SISO	1x1 SISO	2x2 Wi-Fi, 1x1 Bluetooth
Data/Control	SDIO, PCIe, PCM/I2S, DAC, ADC, HS-UART	SDIO, PCIe, PCM, UART	SDIO, PCIe, PCM/I2S, UART
Max PHY	MCS-11	MCS-7	MCS-11
Tx Power (dBm)	Up to +18	Up to +18	Up to +18
Rx Sensitivity (dBm)	-93	-98	-96
Temp. Range	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
OS Support	Android, Linux	Android, Linux	Android, Linux
Wi-Fi Security	WPA2-Personal, WPA2-Enterprise, WPA3-Personal, WPA3-Enterprise	WPA2-Personal, WPA2-Enterprise, WPA3-Personal, WPA3-Enterprise	WPA2-Personal, WPA2-Enterprise, WPA3-Personal, WPA3-Enterprise
Certifications	FCC, IC, CE, UKCA, RCM, Bluetooth SIG	FCC, IC, CE, UKCA, MIC, KCC, RCM, Bluetooth SIG	FCC, IC, CE, UKCA, Bluetooth SIG
Software Support	Ezurio Connectivity Stack	Ezurio Connectivity Stack	Mediatek Genio Linux / Android SDK

Wi-Fi Line Card



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Modules not actual size.



	Sterling-LWB5+	Sterling-LWB+	60 Series	Veda SL917	Veda IF912/913	M.2 2230 to STM32 Nucleo Adapter Card	
Chipset	Infineon CYW4373E	Infineon CYW43439	NXP 88W8997	SILICON LABS Silicon Labs SiWx917	Infineon CYW55912/CYW55913	All M.2 2230 Sona, LWB+, and LWB5+ Modules	Supported Modules
MCU	N/A	N/A	N/A	ARM® Cortex® M4 up to 180MHz	ARM® Cortex® M33 up to 192MHz (912) ARM® Cortex® M4 up to 192MHz (913)	Wi-Fi 6/6E, Wi-Fi 5, Wi-Fi 4	802.11 standards
802.11 Standards	802.11a/b/g/n/ac	802.11a/b/g/n	802.11a/b/g/n/ac	802.11b/g/n/ax	1x1 802.11a/b/g/n/ac/ax (Wi-Fi 6 and Wi-Fi 6E)	Up to Bluetooth Core 6.0 (BDR + EDR + BLE)	BT Standards
Frequency Bands	2.4 / 5 GHz	2.4 / 5 GHz	2.4 / 5 GHz	2.4 / 5 GHz	2.4 / 5 GHz (IF912) 2.4 / 5 / 6 GHz (IF913)	M.2 2230 Key-E socket mikroBUS socket ST ZIO header pins	Physical interface
BT Standards	Bluetooth 5.2 - Dual Mode Classic (EDR) & BLE	Bluetooth 5.2 - Dual Mode Classic (EDR) & BLE	Bluetooth 5.1 - Dual Mode Classic (EDR) & BLE	Bluetooth 5.4 - Single Mode BLE	Bluetooth v5.4 Dual Mode	92 x 70	Size (mm)
Type	Surface Mount Module, M.2 2230 E-Key, USB-A Dongle	SiP Package, Surface Mount Module, M.2 2230 E-Key	SiP Package, M.2 2230-E Key (USB, SDIO, and PCIE variants)	Surface Mount Module WITH Embedded MCU	SIP		
Size (mm)	12 x 17 x 2.2 mm (SMT PCB) 22 x 30 x 2.9 mm (M.2 E-Key) 17.5 x 47 x 11.7 mm (USB)	12 x 12 x 3 mm (SiP) 21 x 15 x 4 mm (PCB) 22 x 30 x 2.3 (M.2 E-Key)	14 x 13 mm (SiP) 22 x 30 x 3.3 mm (M.2 E-Key)	16 x 21.1 x 2.3 (SMT PCB)	7 x 11 x 1.4		
Antenna Diversity	1x1 SISO	1x1 SISO	2x2 MIMO	1x1 SISO	1x1 MIMO	Dependent on wireless module	Tx Power (dBm)
Data/Control	SDIO, USB, PCM	SDIO, I2S, UART	SDIO, USB, PCM	UART, I2C/PCM, SDIO, DAC/ADC, SPI	UART, I2C/PCM, SDIO, DAC, SPI	Dependent on wireless module	Rx Sensitivity (dBm)
Max PHY	MCS-9	MCS-7	MCS-9	MCS-7	MCS-11		
Tx Power (dBm)	Up to +18	Up to +18	Up to +18	Up to +17	Up to +24		
Rx Sensitivity (dBm)	-96	-94	-95	-94.5	Up to -97		
Temp. Range	-40°C to +85°C	-40°C to +85°C	-30°C to +85°C	-40°C to +85°C	-40 to +85	Current measurement points, flexible power supply (micro USB or from Nucleo board)	Additional
OS Support	Android, Linux, RTOS	Android, Linux, RTOS	Android, Linux	TBD	ThreadX (SOC), Linux (NCP)		
Wi-Fi Security	WPA2/WPA3 Personal/Enterprise	WPA2/WPA3 Personal/Enterprise	WPA2/WPA3 Personal/Enterprise	WPA2/WPA3 Personal/Enterprise	WPA2/WPA3 Personal/Enterprise	MODUS Toolbox	Software Support Package
Certifications	FCC, IC, CE, UKCA, MIC, KCC, TW, SRR, RCM, BR, Bluetooth SIG	FCC, IC, CE, UKCA, MIC, RCM, BR, Bluetooth SIG	FCC, IC, CE, UKCA, MIC, KCC, RCM, Bluetooth SIG	FCC, IC, CE, UKCA, MIC, KCC, RCM, NCC, SRR, Bluetooth SIG	FCC, IC, CE, UKCA, RCM, MIC, Bluetooth SIG		
Software Support Package	Ezurio Connectivity Stack. MODUS Toolbox and STM32CubeIDE IFX Expansion.	Ezurio Connectivity Stack. MODUS Toolbox and STM32CubeIDE IFX Expansion.	Ezurio Connectivity Stack, Summit Suite	Simplicity Studio™, STM32 CUBE IDE, NXP MCUXpresso IDE, FreeRTOS (NCP)	MODUS Toolbox		

To learn more, visit ezurio.com/wi-fi or contact us at ezurio.com/contact

Bluetooth LE Line Card



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Modules not actual size.



	BL54H20	BL54L15 / BL54L15µ	BL54L10
Chipset	Nordic nRF54H20 SoC	Nordic nRF54L15 SoC	Nordic nRF54L10 SoC
Wireless	BT 6 LE / 802.15.4 / NFC	BT 6 LE / 802.15.4 / NFC	BT 6 LE / 802.15.4 / NFC
Type (Flash/RAM)	SMT with onboard MCU (2x ARM Cortex-M33, 2x RISC-V, 2 MB Flash, 1 MB RAM)	SMT with onboard MCU (1x ARM Cortex-M33, 1x RISC-V, 1.5 MB Flash, 256 KB RAM)	SMT with onboard MCU (1x ARM Cortex-M33, 1x RISC-V, 1 MB Flash, 192 KB RAM)
Size (mm)	10 x 13.5 x 1.8	10 x 14 x 1.6 (BL54L15) 6.3 x 7.9 x 1.6 (BL54L15µ)	10 x 14 x 1.6
Antenna Options	Chip antenna (Ignion NANONN02-101) OR ext. via MHF4 connector	Integrated PCB trace or MHF4 connector / Chip Antenna or MHF4 Connector	Integrated PCB trace antenna OR ext. via MHF4 connector
Data/Control	UART, USB, CAN FD, NFC A-Tag, I3C, QSPI, SPI, HS-SPI, SMIF, I2S, I2C, PDM, PWM, ADC, GPIO, QDEC, Comporator, LPCOMP	UART, SPI, TWI, ADC, I2S, PWM, TIMER, QDEC, RTC, WDT, NFC A-Tag, TEMP, Comparator, LPCOMP	UART, NFC A-Tag, SPI, TWI, HS-SPI, I2S, PWM, ADC, GPIO, QDEC, WDT, LPCOMP
Tx Power (dBm)	Up to +10 dBm	Up to +7 dBm (BL54L15) Up to +8 dBm (BL54L15µ)	Up to +7 dBm
Rx Sensitivity (dBm)	-100 dBm	Up to -106 dBm	Up to -106 dBm
Temp Range	-40°C to +105°C	-40°C to +105°C	-40°C to +105°C
Software / Firmware	Canvas Software Suite (MicroPython), Nordic SDK, Zephyr RTOS	Canvas Software Suite (MicroPython), Nordic SDK, Zephyr RTOS	Canvas Software Suite (MicroPython), Nordic SDK, Zephyr RTOS
Profiles / Services Supported	Any supported via Canvas/Nordic/Zephyr	Any supported via Canvas/Nordic/Zephyr	Any supported via Canvas/Nordic/Zephyr
Additional Features	Firmware Over the Air (FOTA) via MCUboot and Zephyr	BL54L15 is pin-compatible with BL54L10	BL54L10 is pin-compatible with BL54L15
Certifications	FCC, IC, CE, UKCA, MIC, KCC, RCM, Bluetooth SIG	FCC, IC, CE, UKCA, MIC, KCC, RCM, Bluetooth SIG	FCC, IC, CE, UKCA, MIC, KCC, RCM, Bluetooth SIG

	Lyra 24 Series	Lyra Series
Chipset	Silicon Labs EFR32BG24 SoC	Silicon Labs EF32BG22 SoC
Wireless	BT 5.4 LE	BT 5.3 LE
Type (Flash/RAM)	SMT or USB with onboard MCU (ARM Cortex-M33, 1536 KB flash, 256 KB RAM)	SMT with onboard MCU (ARM Cortex-M33, 512 KB flash, 32 KB RAM)
Size (mm)	7 x 7 x 1.18 (SiP) 12.9 x 15.0 x 2.15 (PCB) 12 x 50.74 x 11 (USB)	6 x 6 x 1.1 (SiP) 12.9 x 15 x 2.2 (PCB)
Antenna Options	Integrated (PCB and USB), Integrated or external (SiP)	Integrated (PCB), Integrated or external (SiP)
Data/Control	UART, EUART, I2C, SPI, ADC, GPIO, PWN, Counter, Timer, Watchdog, PRS (module)	UART, I2C, SPI, ADC, GPIO, PWM, PDM, Counter, Timer, Watchdog, PRS
Tx Power (dBm)	Up to +10 or +20 (PCB) Up to +10 (SiP) Up to +20 (USB)	Up to +8 dBm (PCB) Up to +6 dBm (SiP)
Rx Sensitivity (dBm)	Up to -106.5 dBm (PCB) Up to -105.1 (SiP) (USB)	Up to -98.9 dBm (PCB) Up to -98.6 dBm (SiP)
Temp Range	-40°C to +105°C	-40°C to +105°C
Software / Firmware	Canvas Software Suite (MicroPython) AT Command Set or full C Code	AT Command Set, Wireless Xpress, or full C Code
Profiles / Services Supported	AT Commands, or any supported via Silicon Labs SDK	AT Commands, or any supported via Wireless Xpress / Silicon Labs SDK
Additional Features	Intelligent power schemes, deep sleep mode, secure boot, ARM TrustZone, HW cryptographic accelerator	Intelligent power schemes, deep sleep mode, secure boot, ARM TrustZone, HW cryptographic accelerator
Certifications	FCC, IC, CE, UKCA, MIC, KCC, RCM, Bluetooth SIG	FCC, IC, CE, UKCA, MIC, KCC, RCM, Bluetooth SIG

Bluetooth LE Line Card



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Modules not actual size.



	BL5340 Series	BL5340PA Series
Chipset	Nordic nRF5340 SoC	Nordic nRF5340 SoC + Nordic nRF21540 FEM
Wireless	BT 5.x LE + NFC + Thread	BT 5.x LE + NFC + Thread
Type (Flash/RAM)	SMT w/ dual Cortex M33 (App processor 1MB/512KB. Network processor 256KB/64KB)	SMT w/ dual Cortex M33 (App processor 1MB/512KB. Network processor 256KB/64KB)
Size (mm)	15 x 10 x 2.2	21 x 10 x 2.2
Antenna Options	Internal Antenna OR External via trace pin	Internal Antenna OR External (MHF4)
Data/Control	USB, UART, QSPI, GPIO, ADC, PWM, PDM, QDEC, FREQ output, I ² S, I ² C, SPI, Comparator, Low Power Comparator	USB, UART, QSPI, GPIO, ADC, PWM, PDM, QDEC, FREQ output, I ² S, I ² C, SPI, Comparator, Low Power Comparator, Power Amplifier
Tx Power (dBm)	Up to +3 dBm	Up to +18.5 dBm
Rx Sensitivity (dBm)	Up to -98 dBm	Up to -108.5dBm
Temp Range	-40°C to +105°C	-40°C to +105°C
Software/Firmware	Canvas Software Suite (MicroPython), Zephyr RTOS, Nordic nRF Connect	Canvas Software Suite (MicroPython), Zephyr RTOS, Nordic nRF Connect
Profiles / Services Supported	Any services available via Canvas/Nordic/Zephyr	Any services available via Canvas/Nordic/Zephyr
Additional Features	BLE Mesh, AoA/AoD, LE Audio / Isochronous Channels, LE Coded (Long Range)	BLE Mesh, AoA/AoD, LE Audio / Isochronous Channels, LE Coded (Long Range)
Certifications	FCC, IC, CE, UKCA, MIC, RCM, Bluetooth SIG	FCC, IC, CE, UKCA, RCM, Bluetooth SIG

	BL654 Series (includes USB adapter)	BL654PA Series	BL653/ BL653μ Series
Chipset	Nordic nRF52840	Nordic nRF52840 + Skyworks PA SKY66112-11	Nordic nRF52833
Wireless	BT 5.x LE + NFC + Thread	BT 5.x LE + NFC + Thread	BT 5.x LE + NFC + Thread
Type (Flash/RAM)	SMT with onboard MCU (ARM Cortex M4F, 1MB/256k)	SMT with onboard MCU (ARM Cortex M4F, 1MB/256k)	SMT with onboard MCU (ARM Cortex M4F, 512KB/128KB)
Size (mm)	15 x 10 x 2.2 (module) 18.4 x 50.7 x 11 (USB)	22 x 10 x 2.2	15x10x2.2 (BL653) 6.3x5.6x1.6 (BL653μ/trace pad) 6.3x8.6x1.6 (BL653μ/int. antenna)
Antenna Options	Internal Antenna OR External (MHF4)	Internal Antenna OR External (MHF4)	Internal Ant. OR External (trace pin)
Data/Control	USB, UART, GPIO, ADC, PWM, PDM, FREQ output, I ² S, I ² C, SPI	UART, GPIO, ADC, PWM, PDM, FREQ output, I ² S, I ² C, SPI, QSPI	UART, GPIO, ADC, PWM, PDM, FREQ output, I ² C, I ² S, SPI, NFC, USB
Tx Power (dBm)	Up to +8 dBm	Up to +18 dBm	Up to +8 dBm
Rx Sensitivity (dBm)	Up to -103 dBm	Up to -107 dBm	Up to -103 dBm (BL653) Up to -103 dBm (BL653μ)
Temp Range	-40°C to +85°C	-40° to +85° C	-40°C to +105°C
Software/Firmware	Canvas Software Suite (MicroPython), AT Command Set, smartBASIC OR use Nordic SDK, Zephyr	AT Command Set, smartBASIC OR use Nordic SDK, Zephyr	AT Command Set, smartBASIC OR use Nordic SDK, Zephyr
Profiles / Services Supported	Any services available via Canvas/Nordic/Zephyr	Any available via smartBASIC/Nordic/Zephyr	Any available via smartBASIC/fNordic/Zephyr
Additional Features	BLE Mesh Packaged USB Adapters	BLE Mesh Ultra Long Range	BLE Mesh Extended Temp Range
Certifications	FCC, IC, CE, UKCA, MIC, KCC, RCM, Bluetooth SIG	FCC, IC, RCM, KCC, Bluetooth SIG	FCC, IC, CE, UKCA, MIC, KCC, RCM, Bluetooth SIG

Bluetooth Dual Mode Line Card



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Infinion

Modules not actual size.



	Vela IF820 Series	Vela IF310
Chipset	Infineon CYW20820	Infineon CYW55310
Wireless Standards	Dual-Mode BT 5.4	BT 6 Classic / LE
Type (Flash/RAM)	SMT or USB Adapter (256 kb Flash/176 kB RAM/ 1 MB ROM)	SMT with onboard MCU (ARM Cortex-M33, 2048 KB flash, 768 KB RAM)
Size (mm)	7.5 x 7.5 x 2.15 mm (External Antenna) 9.3 x 12.5 x 2.15 mm (Chip Antenna) 18.39 x 50.74 x 11 mm (USB Adapter)	12 x 16 x 1.6
Antenna Options	Chip Antenna, MHF4 Connector, or packaged USB adapter	Integrated, MHF4, Trace Pin
Data/Control	UART, GPIO, I2C, PCM, SPI, ADC, PWM, RTC, WDT	UART, MCI, PDM, TDM, I2S, PCM, GPIO
Tx Power (dBm)	Up to +10 dBm	Up to +10 dBm
Rx Sensitivity (dBm)	Up to -93.0 dBm	Up to -110 dBm (BLE), Up to -97 dBm (Classic)
Temp Range	-40°C to +85°C	-40°C to +85°C
Software/Firmware	EZ-Serial, HCI UART, or C Code via Modus ToolBox	External BT stack, Modus Toolbox
Profiles / Services Supported	EZ-Serial (SPP) Any supported by chosen BT stack	Any Supported via BT stack
Additional Features	Simultaneous BT and BLE connections. Packaged USB Adapters	LE Audio, LC3 Codec Classic Audio Hosted or Hostless Mode
Certifications	FCC, IC, CE, UKCA, MIC, KCC, RCM, Bluetooth SIG	FCC, IC, CE, UKCA, MIC, KCC, RCM, Bluetooth SIG

	BT850/BT860 Series	BT851 USB Adapter
Chipset	Infineon CYW20704 A2	Infineon CYW20704 A2
Wireless Standards	Dual-Mode BT5.2	Dual-Mode BT5.2
Type (Flash/RAM)	SMT with HCI Interface	USB HCI Adapter
Size (mm)	8.5 x 12.9 x 2.2	50.7 x 18.4 x 11
Antenna Options	Internal Antenna OR External via trace pad	Internal Antenna
Data/Control	USB, HCI (BT850) UART, HCI (BT860)	USB, HCI
Tx Power (dBm)	Up to +8 dBm	Up to +8 dBm
Rx Sensitivity (dBm)	-94 dBm	-94 dBm
Temp Range	-30°C to +85°C	-30°C to +85°C
Software/Firmware	Any external BT software stack via HCI	Any external BT software stack via HCI
Profiles / Services Supported	Any supported by chosen BT stack	Any supported by chosen BT stack
Additional Features	Support for Searan Dotstack.	Support for Searan Dotstack.
Certifications	FCC, IC, CE, UKCA, MIC, KCC, MIC, RCM, Bluetooth SIG	FCC, IC, CE, UKCA, MIC, Bluetooth SIG

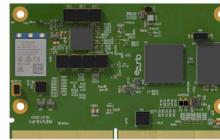
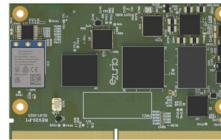
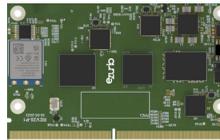
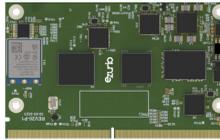
System-on-Modules (SOMs)



SMARC SOMs

Ezurio embedded system-on-modules (SOMs) deliver highly scalable embedded processing solutions with onboard Wi-Fi and Bluetooth. Built on the latest processors and wireless, and utilizing our long term software support, our SOMs provide a secure, smart, connected IoT platform for the most demanding applications.

Modules not actual size.



	Tungsten700 SMARC	Tungsten510 SMARC	Nitrogen91 SMARC	Nitrogen93 SMARC	Nitrogen95 SMARC	Nitrogen8M Plus SMARC	Nitrogen8M Mini SMARC
Processor	Genio 700	Genio 510	i.MX 91	i.MX 93	i.MX 95	i.MX 8M Plus	i.MX 8M Mini
MPU	2x Cortex-A78 @ 2.2 GHz 6x Cortex-A55 @ 2.0 GHz	2x Cortex-A78 @ up to 2.0 GHz 4x Cortex-A55 @ up to 2.0 GHz	1x Cortex®-A55 @ up to 1.4 GHz	2x Cortex®-A55 @ up to 1.7 GHz	6x Cortex®-A55 @ up to 1.8 GHz	4x Cortex®-A53 @ up to 1.8 GHz	4x Cortex®-A53 @ up to 1.8 GHz
MCU	N/A	N/A	N/A	1x Cortex®-M33 core @ 250 MHz	1x Cortex®M7 & 1x Cortex®-M33	1x Cortex®-M7 core @ 800 MHz	1x Cortex®-M4 @ 400 MHz
Wireless Onboard	Sona MT320: Wi-Fi 6, Bluetooth 5.4	Sona MT320: Wi-Fi 6, Bluetooth 5.4	Sona Wi-Fi / BT Range: M.2 1216	Sona Wi-Fi / BT Range: M.2 1216	Sona Wi-Fi / BT Range: M.2 1216	Sona Wi-Fi / BT Range: M.2 1216	Sona Wi-Fi / BT Range: M.2 1216
RAM	4GB/8GB LPDDR4	4GB /8GB LPDDR4	1GB/2GB LPDDR4	1GB/2GB LPDDR4	4GB/8GB/16GB LPDDR4	2GB/4GB/8GB LPDDR4	1GB/2GB/4GB LPDDR4
Storage	16GB	16GB	16GB	16GB	16GB	16GB	16GB
Display	2x MIPI-DSI, DisplayPort, Embedded DisplayPort, HDMI	2x MIPI-DSI, DisplayPort, Embedded DisplayPort, HDMI	N/A	MIPI-DSI, LVDS	MIPI-DSI, LVDS	MIPI-DSI, HDMI, LVDS	MIPI-DSI, LVDS
Camera	2x MIPI-CSI	2x MIPI-CSI	N/A	1x MIPI-CSI	1x MIPI-CSI	2x MIPI-CSI	1x MIPI-CSI
Co-Processors	VPU, Audio DSP, Arm Mali-G57 MC3 GPU, NPU	VPU, Audio DSP, Arm Mali-G57 MC2 GPU, NPU	N/A	2D GPU, NPU	3D/2D GPU, NPU,	3D/2D GPU, VPU, NPU	3D/2D GPU, VPU
Audio	2x I2S	2x I2S	2x I2S	2x I2S	2x I2S	2x I2S	2x I2S
Form Factor	SMARC	SMARC	SMARC	SMARC	SMARC	SMARC	SMARC
Additional Interfaces	1x PCIe, 2x USB3/USB2, 3x USB2, 2x GbE, 1x SDIO/eMMC, I2C, SPI, UART, GPIO	1x PCIe, 2x USB3/USB2, 3x USB2, 2x GbE, 1x SDIO/eMMC, I2C, SPI, UART, GPIO	2x USB 2, 2x GbE, 2x CAN/CAN FD, 1x SDIO/eMMC, I2C, SPI, UART, GPIO	2x USB 2, 2x GbE, 2x CAN/CAN FD, 1x SDIO/eMMC, I2C, SPI, UART, GPIO	2x PCIe, 3x USB 2, 2x USB 3.1, 2x GbE, 2x CAN/CAN FD, 1x SDIO/eMMC, I2C, SPI, UART, GPIO	1x PCIe, 2x USB3/USB2, 2x USB2, 2x GbE, 2x CAN/CAN FD, 1x SDIO/eMMC, I2C, SPI, UART, GPIO	1x PCIe, 3x USB2, 1x GbE, 1x SDIO/eMMC, I2C, SPI, UART, GPIO
Size	82 x 50 mm	82 x 50 mm	82 x 50 mm	82 x 50 mm	82 x 50 mm	82 x 50 mm	82 x 50 mm
Operating Temperature	0 to +70C (Commercial) -40 to +85C (Industrial)	0 to +70C (Commercial) -40 to +85C (Industrial)	0 to +70C or -40 to +85C	0 to +70C or -40 to +85C	0 to +70C or -40 to +85C	0 to +70C or -40 to +85C	0 to +70C or -40 to +85C
Certifications	As per Sona wireless module	As per Sona wireless module	As per Sona wireless module	As per Sona wireless module	As per Sona wireless module	As per Sona wireless module	As per Sona wireless module

System-on-Modules (SOMs)



Open Standard Module (OSM) Modules

Ezurio embedded system-on-modules (SOMs) deliver highly scalable embedded processing solutions with onboard Wi-Fi and Bluetooth. Built on the latest processors and wireless, and utilizing our long term software support, our SOMs provide a secure, smart, connected IoT platform for the most demanding applications.

Modules not actual size.



Modules not actual size.

	CarbonAM67 OSM-MF	CarbonAM62 OSM-MF	CarbonAM62L OSM-SF
Processor	AM67 Jacinto	AM62 Sitara	AM62L Sitara
MPU	4x Cortex-A53 @ up to 1.4 GHz	4x Cortex-A53 @ up to 1.4 GHz	2x Cortex-A53 @ up to 1.25 GHz
MCU	3x Cortex-R5F @ up to 800 MHz	1x Cortex-M4F @ up to 400 MHz 1x Cortex-R5F @ up to 400 MHz	N/A
Wireless	Sona TI351: Wi-Fi 6, Bluetooth LE 5.4 (optional IF573, IF513, NX611, 60-SIP)	Sona TI351: Wi-Fi 6, Bluetooth LE 5.4 (optional IF573, IF513, NX611, 60-SIP)	Sona TI351: Wi-Fi 6, Bluetooth LE 5.4 (optional IF573, IF513, NX611, 60-SIP)
RAM	2GB or 4GB LPDDR4	1GB or 2GB LPDDR4	512 MB, 1GB or 2GB LPDDR4
Storage	16GB	16GB	Up to 1 GB flash onboard Up to 128GB eMMC offboard
Display	MIPI-DSI, LVDS, RGB	LVDS, RGB	MIPI-DSI
Camera	4x MIPI-CSI	1x MIPI-CSI	N/A
Co-Processors	3D/2D GPU, VPU, NPU, DSP, ISP	3D/2D GPU, PRUSS	N/A
Audio	2x I2S	2x I2S	1x I2S
Form Factor	OSM-MF	OSM-MF	OSM-SF
Additional Interfaces	1x PCIe, 1x USB3.1, 1x USB2, 2x GbE, 2x CAN-FD, 1x SDIO/eMMC, I2C, SPI, UART, GPIO	2x USB2, 2x GbE, 2x CAN-FD, 1x SDIO/eMMC, I2C, SPI, UART, GPIO	2x USB2, 2x GbE, 2x CAN-FD, 1x SDIO/eMMC, ADC, I2C, SPI, UART, GPIO
Size	45 x 30 mm	45 x 30 mm	30 x 30 mm
Operating Temperature	0 to +70C (Commercial) -40 to +85C (Industrial)	0 to +70C (Commercial) -40 to +85C (Industrial)	0 to +70C (Commercial) -40 to +85C (Industrial)
Certifications	All via wireless module	All via wireless module	All via wireless module

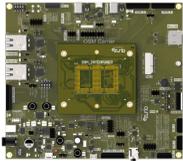
	Nitrogen i.MX91 OSM-SF	Nitrogen i.MX91 OSM-MF	Nitrogen i.MX93 OSM-MF	
Processor	i.MX 91	i.MX 91	i.MX 93	Processor
MPU	1x Cortex-A55 @ up to 1.4 GHz	1x Cortex®-A55 @ up to 1.4 GHz	2x Cortex®-A55 @ up to 1.7 GHz	MPU
MCU	N/A	N/A	1x Cortex®-M33 core @ 250 MHz	MCU
Wireless	Sona NX611: Wi-Fi 6, Bluetooth LE 5.4	Sona NX611: Wi-Fi 6, Bluetooth LE 5.4	Sona NX611: Wi-Fi 6, Bluetooth LE 5.4	Wireless
RAM	1GB or 2GB LPDDR4	1GB or 2GB LPDDR4	1GB or 2GB LPDDR4	RAM
Storage	16GB	16GB	16GB	Storage
Display	MIPI-DSI	MIPI-DSI	MIPI-DSI, LVDS	Display
Camera	N/A	N/A	1x MIPI-CSI	Camera
Co-Processors	N/A	N/A	2D GPU, NPU	Co-Processors
Audio	N/A	2x I2S	2x I2S	Audio
Form Factor	OSM-SF	OSM-MF	OSM-MF	Form Factor
Additional Interfaces	1x USB2, 1x GbE, 1x CAN-FD, 1x SDIO/eMMC, I2C, SPI, UART, GPIO	2x USB 2, 2x GbE, 2x CAN/CAN FD, 1x SDIO/eMMC, I2C, SPI, UART, GPIO	2x USB 2, 2x GbE, 2x CAN/CAN FD, 1x SDIO/eMMC, I2C, SPI, UART, GPIO	Additional Interfaces
Size	30 x 30 mm	82 x 50 mm	82 x 50 mm	Size
Operating Temperature	0 to +70C (Commercial) -40 to +85C (Industrial)	0 to +70C or -40 to +85C	0 to +70C or -40 to +85C	Operating Temperature
Certifications	All via wireless module	All via wireless module	All via wireless module	Certifications

To learn more, visit ezurio.com/system-on-module or contact us at ezurio.com/contact

Carrier Boards

Carrier boards from Ezurio provide the host platform for your SMARC or OSM-based device. They provide many external interfaces, including data, audio/video, camera, wired and wireless networking, power supply connectors and more, SBCs provide the complete platform for your embedded design. Looking for the perfect fit for your design? Talk to us about our customization options – we can design the perfect custom board for your application with everything that you need, and nothing that you don't.

Modules not actual size.



	Universal SMARC Carrier	Universal OSM Carrier
Processor	Add SMARC SOM of your choice	Add OSM SOM of your choice
MPU	MPU onboard SMARC SOM	MPU onboard OSM SOM
MCU	MCU onboard SMARC SOM	MCU onboard OSM SOM
Wireless Protocol	Wireless onboard SMARC SOM	Wireless onboard SMARC SOM
Interfaces	x2 4-lane MIPI display, 2 x 4-lane MIPI camera, x2 GB Ethernet, PCIe, USB 3.0/2.0, Stereo Audio (headphone/speaker) I2C, SPI, CAN, GPIO	1x LVDS, 1x RGB, 1x 4-lane MIPI display, 4x 4-lane MIPI camera, 2x GB Ethernet, PCIe, USB 3.0/2.0, Stereo Audio (headphone/speaker) I2C, SPI, CAN, GPIO
Size (mm)	168 x 87 mm	45mm x 30mm
Operating Temperature	0 to +70 °C	0 to +70°C

SMARC Evaluation Kits



Our SMARC SOM Evaluation kits provide a complete prototyping platform to design around our i.MX-based SOMs. They're bundled with a touchscreen display, a carrier board to expose all I/O, built-in Wi-Fi and Bluetooth, and offer support for additional displays or camera inputs. Start developing with our SMARC EVKs today. Visit the product pages below to find technical documentation, including quick start guides to support rapid out-of-the-box application development.



	Nitrogen93 i.MX93 Evaluation Kit	Nitrogen95 i.MX95 Evaluation Kit	
	i.MX93	i.MX95	Processor
	2x Cortex®-A55 @ up to 1.7 GHz	6x Cortex®-A55 @ up to 1.8 GHz	MPU
	1x Cortex®-M33 core @ 250 MHz	1x Cortex®M7 & 1x Cortex®-M33	MCU
	NXP eIQ® Neutron N3-1024S AI Accelerator	NXP eIQ® Neutron N3-1024S AI Accelerator	NPU
	7-inch touch display with stand	7-inch touch display with stand	Display
	None	Arducam x-ISP 3.8MP 4K Camera (optional)	Camera
	Wi-Fi 6 + Bluetooth 5.4 (Sona NX611)	Wi-Fi 6 + Bluetooth 5.4 (Sona NX611)	Wireless Protocol
	2x Gb Ethernet, LVDS, MIPI-CSI, USB, CAN, UART, SPI, I2C, GPIO, microSD, speakers, headphone, mic, line in	2x Gb Ethernet, LVDS, MIPI-CSI, USB, CAN, UART, SPI, I2C, GPIO, microSD, speakers, headphone, mic, line in	Interfaces
	SMARC Board with Sona NX611, touchscreen with stand, SMARC carrier, FlexPIFA Antenna, Accessory Cables	SMARC Board with Sona NX611, touchscreen with stand, SMARC carrier, FlexPIFA Antenna, Accessory Cables, Arducam Camera (optional)	Kit Contents

Internal Antennas



Ezurio offers the most innovative portfolio of cost-effective internal antenna solutions that provide unmatched connectivity for your wireless IoT devices, pre-certified for use with our wireless modules. Whether for Wi-Fi/Bluetooth or Multiband/Cellular IoT applications, the small size and form factor of Ezurio antennas make them easily concealable within a product's enclosure, eliminating any negative impact on product aesthetics.

Most available with 80, 100, and 120mm cables with MHF1/U.FL, MHF4L, and more. Additional options available on request.

Technology	Family Name	Freq (MHz)	Unique Advantage
Wi-Fi, Bluetooth, 802.15.4	FlexPIFA Single Band	2.4 GHz	Industry-first patented, flexible, adhesive-backed PIFA-style antenna with single, dual, and 6E solutions.
	FlexPIFA Dual Band	2.4/5 GHz	
	FlexPIFA 6E	2.4/5/6 GHz	
	i-FlexPIFA Single Band	2.4 GHz	Inverted, radiates on the adhesive side for mounting inside enclosures.
	i-FlexPIFA Mini	2.4 GHz	Inverted FlexPIFA at minimal size.
	FlexMIMO	2.4/5 GHz	The world's first and only MIMO PIFA antenna in dual-band and Wi-Fi 6E.
	FlexMIMO 6E	2.4/5/6 GHz	
	mFlexPIFA, peel-and-stick on metal	2.4 GHz 2.4/5 GHz	Industry-first patented, flexible, adhesive-backed PIFA-style Antenna optimized for placement on metal.
	Mini NanoBlade Flex	2.4/5 GHz	Flexible omnidirectional PCB Mini NanoBlade with Wi-Fi 6E offering. Excellent efficiency for size.
	Mini NanoBlade Flex 6E	2.4/5/6 GHz	
	Mini NanoBlade	2.4/5 GHz	Dual-band, vertically-polarized flexible omni PCB. Smaller than Nanoblade.
	NanoBlue	2.4 GHz	Patented Microsphere PCB technology. Integrated ground plane.
NanoBlade	2.4/5 GHz	Dual-band, 0.1mm thick, for wearable, thin devices. Easy integration.	
FlexNotch	2.4 GHz	Adhesive flex notch antenna, custom-trimmed for max range in your enclosure.	
ISM, 868/915 MHz, 2G/3G	FlexDIPOLE	863-928	Sub-GHz small form factor dipole antenna with a single antenna coverage of entire 863-928 MHz band.
	FlexPIFA 868/915	863-870 902-928	Sub-GHz flexible PIFA antenna for applications like LoRaWAN.
	i-FlexPIFA 868/915	863-870 902-928	Inverted flexible FlexPIFA antenna for LoRaWAN. Radiates on the adhesive side for mounting inside top of product enclosures.
LTE, Cat M1, NB-IoT, 5G (2G, 3G, 4G)	Revie 700 (Flex)	698-6000	96 mm long antenna for 5G sub-6GHz devices.
	Revie 600 (Flex)	600-5925	Powerful, full-spectrum antenna to support global cellular 5G networks. Some of the highest efficiencies in the market.
	Base Revie(Flex)	698-875, 1710-2500	Built specifically to support LTE-M and NB-IoT.
Ultra-Wideband (UWB)	NanoUWB	5850-8250	Planar monopole to support UWB protocol.

RF Requirements					
Dimensions (mm)	VSWR	Peak Gain (dBi)	Average Gain (dBi)	Efficiency, %	
11 x 40.1 x 2.5	< 2.0:1	2.0	> -1.5	-	
12.7 x 38.6 x 2.5	< 2.5:1, < 3.0:1	2.5, 3.0	> -2.5, > -3.4	-	
16 x 36 x 2.5	< 2.5:1, < 3.0:1, < 3.0:1	2.2, 3.9, 3.8	-	59, 60, 60	
2.9 x 11 x 40.9	< 2.5:1	3.1	-	-	
2.9 x 11 x 35.9	< 2.5:1	2.0	-	-	
33.25 x 33.25 x 4.44	< 2.3:1	2.0, 3.0	1.7, 2.5	-	
39.5 x 39.5 x 4.7	< 2.5:1	2.2, 3.8, 3.3	-	64.7, 62.3, 52.2	
25.4 x 23.4 x 2.5	< 3.0:1	2.0	> -4.2 dBi	-	
29.5 x 26.5 x 2.6	< 2.5:1, < 3.0:1	2.0, 5.8	1.9 dBi, 5.2 dBi	-	
12 x 36 x 0.1	< 2.0:1	-	2.8, 3.4	68, 59	
12 x 36 x 0.3	< 2.0:1	2.4, 4.4, 5.2	2.0, 3.5, 4.6	68, 76, 74	
12.1 x 36.1	< 2.0:1	2.5, 4.8	2.25, 3.65	-	
12.7 x 44.45 x 0.81	< 2.5:1	-	2	-	
50.8 x 1.65 x 0.1	(2:1)	-	2, 3.9, 4	-	
21.1 x 32	< 2.5:1	2.0	> -1.6	-	
75.8 x 13.75 x 0.1	863-870 MHz : < 3.0:1 902-928 MHz: < 3.0:1	863-870 MHz : 1.9 902-928 MHz : 2.4	-	-	
40 x 88 x 6.2	< 2.5:1	-1.1 (868 MHz) -0.3 (915 MHz)	-	-	
40 x 88 x 6.2	< 2.5:1	-0.4 (868 MHz) +1.9 (915 MHz)	-	-	
21 x 96 x 0.2	2.5, 2.5, 2.0, 2.5	-	-	51, 80	
30 x 130 x 0.3	2.5, 2.0, 2.0, 2.2	4.3, 3.4, 3.3, 6.0	-	62, 82, 85, 74	
20 x 90 x 0.16	2.5:1	1.9, 3.7	-	51, 80	
20 x 15 x 1.67	< 2.5:1	+3.9	-	64	

IoT Devices



Ezurio's IoT Devices extend our industry-leading wireless expertise to off-the-shelf sensors and gateways. Our solutions help customers quickly, reliably, and securely deploy industrial, medical, or smart building IoT applications. Choose from a variety of battery-powered, wireless, environmental, or probe sensors using LoRaWAN or Bluetooth 5, and keep control of your data from sensor to cloud with our gateways' native integrations to your cloud platform, including AWS, Azure, The Things Network, Actility, and others.

Bluetooth Gateways



Sentrius™ IG60-BL654 / IG60-BL654-LTE

MG100 Micro Gateway

Chipset	nRF52840, Microchip SAMA5D36 Cortex, Marvell 88W8997/88PG823	nRF52840, Sierra Wireless HL7800, Cortex-M4F Microcontroller
Wireless Protocol	Wi-Fi + BT5 (dedicated co-processor) LTE Available (IG60-BL654-LTE)	LTE-M, Bluetooth LE, NFC
Sensor Type	—	—
Size (mm)	85 x 22 x 100	110.28 x 99.16 x 35.32
Operating Temperature Range	-30° to +85°C	-40° to +85°C
Software	Laird Linux, Smartphone app	Canvas Software Suite (MicroPython)
Certifications	FCC, IC, CE, UKCA, UL/IEC62368	FCC, ISED, CE, UKCA, PTCRB, GCF, AT&T

Bluetooth Sensors



Sentrius™ BT610 I/O Sensor

Sentrius™ BT510 Sensor

Chipset	nRF52840 Cortex-M4F Microcontroller 1MB Flash and 256k RAM	nRF52840 Cortex-M4F Microcontroller 1MB Flash and 256k RAM
Wireless Protocol	Bluetooth 5	Bluetooth 5
Sensor Type	Generic I/O + Temp, AC Current, Ultrasonic, Pressure (via ext. assemblies)	Temp, Acceleration, Proximity, Magnetic Reed Switch
Size (mm)	126.5 x 81.5 x 40	80 x 51 x 19
Operating Temperature Range	-40°C to +85°C (ext. probe supports -40°C to +125°C)	-20 to 60°C (w/ alternate battery supports -40 to 85°C)
Software	Canvas Software Suite (MicroPython)	Canvas Software Suite (MicroPython)
Certifications	FCC, IC, CE, UKCA, MIC, RCM, and BT SIG	FCC, IC, CE, UKCA, MIC, RCM, BT SIG

Ezurio's IoT Devices extend our industry-leading wireless expertise to off-the-shelf sensors and gateways. Our solutions help customers quickly, reliably, and securely deploy industrial, medical, or smart building IoT applications. Choose from a variety of battery-powered, wireless, environmental, or probe sensors using LoRaWAN or Bluetooth 5, and keep control of your data from sensor to cloud with our gateways' native integrations to your cloud platform, including AWS, Azure, The Things Network, Actility, and others.

	LoRaWAN Gateway	LoRaWAN Sensors
	Sentrius™ RG1xx Gateway and RG191 + LTE (US only)	NEW: Sentrius™ RS26x with Internal or External Temp Probe
Chipset	 Sx1301/1257, CSR8811, QCA6004 (LTE version: Quectel EG91-NA)	 Sx126x Silicon Labs EFR32BG24
Wireless Protocol	LoRaWAN + Wi-Fi (Optional LTE Cat 1, US only)	LoRaWAN Bluetooth LE
Sensor Type	—	Temperature (via internal or external temp probe)
Size (mm)	133 x 275 x 30	28.5 x 93.9 x 51.9
Operating Temp	-30° to +70°C	-40° to +85°C
Sensor Temp	N/A	-40° to +125°C
Software	Onboard configuration and management software	Smartphone app for config and monitoring
IP Rating	IP67 variant available	IP67
Certifications	FCC, IC, CE, UKCA, RCM, NCC, and BT SIG	FCC, IC, CE, UKCA, RCM, and BT SIG. and Food Contact Safe

	LoRaWAN Sensors			
	Sentrius™ RS1xx Temp Sensor	Sentrius™ RS1xx and External Temp Probe	Sentrius™ RS1xx and RTD Temp Probe	Sentrius™ RS1xx and Open/Close Sensor
Chipset	 Sx1272 Nordic nRF51822	 Sx1272 Nordic nRF51822	 Sx1272 Nordic nRF51822	 Sx1272 Nordic nRF51822
Wireless Protocol	LoRaWAN Bluetooth LE	LoRaWAN Bluetooth LE	LoRaWAN Bluetooth LE	LoRaWAN Bluetooth LE
Sensor Type	Integrated Temperature & Humidity	Temperature (via external temp probe)	Temperature (via RTD Temp Probe)	Door Open/Closed (via external assembly)
Size (mm)	116 x 91 x 34	116 x 91 x 34	116 x 91 x 34	116 x 91 x 34
Operating Temp	-25° to +50°C	-25° to +50°C	-25° to +50°C	-25° to +50°C
Sensor Temp	-40° to +125°C	-55° to +125°C	Low Temp: -100° to +125°C Mid Temp: -40° to +180°C High Temp: -50° to +450°C	-40° to +125°C
Software	Smartphone app for config and monitoring	Smartphone app for config and monitoring	Smartphone app for config and monitoring	Smartphone app for config and monitoring
IP Rating	IP67	IP67	IP67	IP67
Certifications	FCC, IC, CE, UKCA, RCM, NCC, and BT SIG	FCC, IC, CE, UKCA, RCM, NCC, and BT SIG	FCC, IC, CE, UKCA, RCM, NCC, and BT SIG	FCC, IC, CE, UKCA, RCM, NCC, and BT SIG

Range Amplified MultiPoint (RAMP) modules provide the perfect solution for machine-to-machine (M2M) applications where the need is to transmit serial data or sensor data over long distances, wirelessly, with the highest degree of reliability. RAMP modules utilize FHSS technology to provide immunity to interference and multipath in industrial applications. They are capable of operating in a point-to-point or point-to-multipoint network and can support a virtually unlimited number of nodes in a network.

Modules not actual size.



	RM024	AC4490	AC4790
Chipset	TI CC2510	TI CC1010	TI CC1010
Technology	FHSS	FHSS	FHSS
Protocol	Server/Client (P2P & P2MP)	Server/Client (P2P & P2MP)	Masterless (P2P & P2MP)
Physical Interface	SMT or Pluggable	Pluggable	Pluggable
Frequency	2.4 GHz	915 MHz	915 MHz
Range (Line of Sight)	Up to 4 km (US) Up to 1 km (EU)	Up to 5 km (-200 version) Up to 30 km (-1000 version) *via optional high-gain antenna	Up to 5 km (-200 version) Up to 30 km (-1000 version) *limited by masterless protocol
Size	25.4 x 39 x 3.6 mm	49 x 42 x 5 mm	49 x 42 x 5 mm
RF Rate	280 kbps/500 kbps	76.8 kbps	76.8 kbps
Output Power	Up to 21 dBm (US) 10 dBm (EU)	Up to 23 dBm (-200 version) Up to 30 dBm (-1000 version)	Up to 23 dBm (-200 version) Up to 30 dBm (-1000 version)
Receiver Sensitivity	500 kbps -88 dBm 280 kbps -92 dBm FEC 500 kbps -91 dBm FEC 280 kbps -95 dBm	AC4490-1000: -100 dBm AC4490LR-1000: -110 dBm	AC4790-1000: -100 dBm AC4790LR-1000: -110 dBm
Temp. Range (Operational)	-40° to +85°C	-40 to +80°C	-40 to +80°C
Software	Config and Test Utility	Config and Test Utility	Config and Test Utility
Certifications	FCC, IC, RCM (125 mW) CE, UKCA, MIC, KC, NCC, RCM (10 mW)	FCC, IC	FCC, IC
Interface Buffer	N/A	256 bytes	256 bytes
Supply Voltage	2.3-3.6 V ± 50 mV ripple	200 Variant: VCC: 3.3 - 5.5 V, ±50 mV VPA: 3.3 - 5.5 V, ±50 mV 1000 Variant: VCC: 3.3 - 5.5 V ±50 mV, VPA: 3.3 ±3%, ±100 mV	200 Variant: VCC: 3.3 - 5.5 V, ±50 mV, VPA: 3.3 - 5.5 V, ±50 mV 1000 Variant: VCC: 3.3 - 5.5 V ±50 mV, VPA: 3.3 ±3%, ±100 mV



Modules not actual size.

	CL4490	CL4790
Chipset	TI CC1010	TI CC1010
Technology	FHSS	FHSS
Protocol	Server/Client	Peer to Peer
Physical Interface	Packaged Cable Replacement System	Packaged Cable Replacement System
Frequency	902-928 MHz	902-928 MHz
Range (Line of Sight)	Up to 20km	Up to 20km
Size	35.56 x 111.76 x 68.58 mm	35.56 x 111.76 x 68.58 mm
RF Rate	76.8 kbps	76.8 kbps
Output Power	Up to 28 dBm	Up to 28 dBm
Receiver Sensitivity	-100 dBm	-100 dBm
Temp. Range (Operational)	0 to +60°C	0 to +60°C
Software	Config and Test Utility	Config and Test Utility
Certifications	FCC, IC	FCC, IC
Interface	RS232 or RS485 options	RS232 or RS485 options
Power Supply	7.5 V DC	7.5 V DC

LoRaWAN

Our LoRaWAN modules leverage years of RF expertise into a low power, long range solution for you to easily develop your LoRaWAN implementation. The LoRaWAN protocol targets key IoT requirements such as bi-directional communication, end-to-end security, mobility, and localization services. Our LoRaWAN modules deliver high performance with unparalleled design flexibility.



Modules not actual size.

RM126x Series	
Chipset	Silicon Labs EFR32 SOC Semtech SX126x radio
Technology	LoRa™
Protocol	LoRaWAN A/B/C / LoRa P2P
Physical Interface	SMT
Frequency	RM1262: 902-928 MHz RM1261: 863-870 MHz / 902-928 MHz (see below for certified regions)
Range (Line of Sight)	Up to 15km
Size (mm)	14 x 13 x 2.5
RF Rate	LoRa: 125/250/500kHz, FSK 50kbps
Output Power	RM1262 - Up to 22dBm RM1261 - Up to 14dBm
Receiver Sensitivity	-125.6 dBm (SF7, 125kHz, 903.0MHz) -139.2 dBm (SF12, 125kHz, 863.1MHz) -122.7 dBm (SF7, 250kHz, 869.9MHz) -130.8 dBm (SF12, 500kHz, 923.3MHz)
Temp. Range (Operational)	-40° to +85°C
Software	Hosted mode using AT Command set or Hostless mode using Native C code development with Simplicity Studio
Certifications	RM1262: FCC, ISED, RCM RM1261: EU, UKCA, NCC, MIC, IN
Interface Buffer	N/A
Supply Voltage	2V-3.6V (Nominal 3.3V)

Ultra-Wideband (UWB)

Our line up of innovative new UWB modules seamlessly integrate cutting edge UWB silicon from NXP, with the processing and Bluetooth LE capabilities of Nordic Semiconductor's nRF52 SoC. The combination of the two enables significant advancements in granularity of location that improves existing Bluetooth LE beaconing and RSSI-based ranging. They're optimised for battery-powered implementations and integrate additional memory, crystals and components to simplify your overall BOM and drive down the cost of integration.



Modules not actual size.

Sera NX040	
Chipset	NXP - Trimimension™ SR040 Nordic Semiconductor - nRF52833
Technology	Ultra-Wideband Bluetooth LE 5.4 NFC
Frequency	UWB: Channel 5 (6.4896GHz) and 9 (7.9872 GHz) Bluetooth LE: 2.4 GHz NFC: 13.56 MHz
System Architecture	Hosted or Hostless
Antenna Options	Integrated Antenna External vis 2x MHF4L Connector
Transmit Power (Max)	UWB: Up to +10 dBm BLE: Up to +8 dBm
Interfaces - General	UART, USB, GPIO, ADC, PWM, SPI, I2C
Memory	512 kB Flash / 128 kB RAM
Operating Temp (°C)	-40 to +85 °C
Software	Canvas, MicroPython-based scripting engine or AT Command Set. Mobile app for configuration and data view
Voltage	1.6 to 3.6 V
Certifications	FCC, EU, UKCA, ISED, MIC, KCC, RCM, Bluetooth SIG, FiRa Consortium



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Chain of Trust

Verify device and software integrity from bootloader to application using hardware-based trust and secure key storage.



Vulnerability Monitoring & Remediation

Monitor software packages for vulnerabilities with ongoing CVE scanning and remediation.



FIPS Cryptographic Modules

FIPS 140-2 Level 1 validated software and hardware with a roadmap to FIPS 140-3, enabling secure Wi-Fi and end-to-end TLS data protection.

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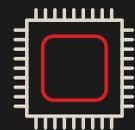
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Our Canvas™ software suite enables rapid embedded development across our MCU-based wireless products. Cross-chipset middleware, easy-to-use wireless APIs, on-module scripting and intuitive desktop/mobile tools are all available to dramatically ease embedded development.



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- ✓ Expert-engineered and tested
- ✓ Built for real-world use
- ✓ Complete documentation



Support

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- ✓ Access to in-house experts
- ✓ Free design reviews and tools



Software

- ✓ 1 software stack for all radios
- ✓ QA-tested Linux Wi-Fi stack
- ✓ Bi-annual, fully tested releases



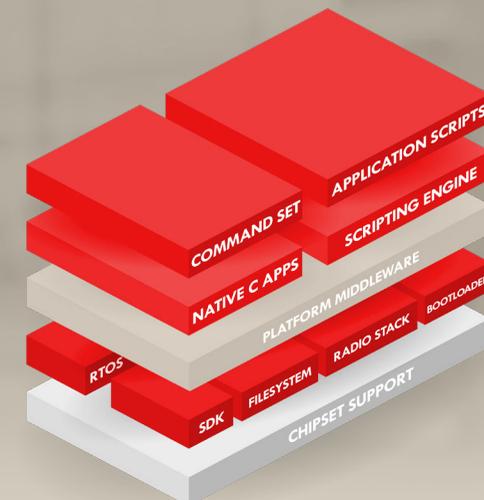
Regulatory

- ✓ Pre-certified hardware
- ✓ Optimized RF
- ✓ Global compliance support

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Canvas Firmware

Canvas Firmware enables our wireless products with a software stack that covers application development from top to bottom. The middleware abstracts underlying hardware and SDK details providing a simplified API so developers can focus on creating their software applications.



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