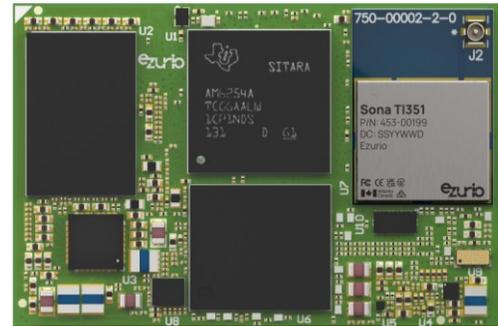


A secure and rugged TI AM62x-based OSM-MF SOM: Dual Display, 3D Graphics, Industrial Peripherals, Camera, and optional Wi-Fi 6 and Bluetooth LE 5.4

Our new Carbon AM62 OSM-MF family is powered by Texas Instrument's AM625 and AM623 processor families, TI's TPS65219 PMIC. Offered with optional Sona TI351 (TI CC3351) or other Sona modules including IF513 (CYW 55313), IF573 (CYW 55573), NX611 (IW611), or 60 Series SIP (88W8997), LPDDR4 RAM, and eMMC storage. The Carbon AM62 is designed to meet the processing and connectivity needs of commercial, industrial, and medical products. Our flexible production options allow you to choose the RAM, eMMC storage, and Sona Wi-Fi and Bluetooth connectivity that is most optimized for your product. All Carbon AM62 modules come with our industry leading software and integration support.

- **Powerful Heterogenous Multiprocessing:** Four 1.4 GHz Cortex-A53 cores, a 400 MHz Cortex-M4F applications MCU core, an 400 MHz Cortex-R5F device management core, and a dual-core Programmable Real-Time Unit. Run Linux and multiple RTOSes simultaneously on dedicated cores.
- **Dual Display with GPU:** Support dual independent displays with resolutions up to 3840 x 1080, GPU with performance up to 8 GFLOPS
- **Camera Support:** MIPI-CSI with virtual channel support
- **Offered with Sona TI351 Wi-Fi 6 and Bluetooth Low Energy 5.4:** Wireless option with TI351 (TI CC3351) or choose from our Sona IF513, Sona IF573, Sona NX611, and 60 Series radios.
- **High Speed Interfaces:** USB 2.0 (480 Mbps) and dual Gigabit Ethernet (1 Gbps)
- **Industrial Interfaces:** UART, SPI, I2C, I2S, CAN-FD, GPIO, and more
- **Software and Board Support Options:** Yocto Linux/Buildroot Linux/Debian (QNX on request) for Cortex-A53s, FreeRTOS for Cortex-M4F and Cortex-R5F
- **Secure and Encrypted Boot, Secure Enclave, and Secure File Storage:** Robust, secure, and encrypted boot mechanisms to ensure only trusted software boots on your device. Store and use secure keys, certificates, and credentials in run-time isolated trusted environment.
- **OSM-MF v1.2 Standard Form Factor: 45mm x 30mm** OSM-MF solder down form factor ensures one carrier design can support multiple processor, memory, and wireless configurations.
- **Hardware Upgrade Roadmap:** Build a product design that can easily be upgraded to the latest processors and wireless options as future Ezurio SOMs based on the OSM standard are released.
- **Advanced Common Carrier/Development Board:** Display, camera, audio, Ethernet, USB, PCI-Express, CAN, I2C, SPI, UART, power measurement, and more. Use in development and as reference designs for your carrier board design.



Choose the Options That Fit Your Project Needs

Temperature Range: Choose our industrial temperature models for harsh environments or our commercial temperature models for cost optimization

Memory: Choose the LPDDR4 DRAM and eMMC storage sizes that best fits your design's cost and performance.

Wi-Fi and Bluetooth: Select from our line of Sona wireless modules featuring dual band Wi-Fi 6, tri-band Wi-Fi 6E, up to Bluetooth 6.0, and multiple antenna configurations.

Carrier Board Customization: Use our reference carrier board to accelerate your design or we can create a fully custom board solution for your project

Long Term Software Support: Choose from Yocto Linux, Buildroot Linux, Debian, or QNX for the Cortex-A53s and FreeRTOS for Cortex-M4F and Cortex-R5F. Optional **Summit Suite Vulnerability Monitoring and Remediation** ensures your Yocto and Buildroot SBOMs stay up to date with the latest security fixes.

Device Security: Our optional **Summit Suite Chain of Trust** service includes secure and encrypted boot architecture, secure programming of the hardware root of trust and device image, secure generation and provisioning of customers specific keys and certificates, and a secure signing service for generating new firmware and certificates.

Key Features



Graphics, Displays, and Cameras

Up to 2 independent displays, GPU, camera support



OSM-MF v1.2 Compatible

Built in the size optimized 45x30mm OSM Size-MF form factor and pin-compatible with our full range of OSM-MF modules



Robust Software and Board Support Support

Choose from Yocto Linux, Buildroot Linux, Android, Debian, or QNX for Cortex-A53, FreeRTOS for Cortex-M4F and Cortex-R5F



Secure Enclave and Secure Boot

Dedicated on-board security hardware, secure boot Linux, high-performance and flexible secure storage for passwords, certificates, and data storage.



Choose your Sona Wi-Fi and Bluetooth Module

Select from our line of Wi-Fi 6 and Wi-Fi 6E modules that include up to Bluetooth 5.4 and global radio certifications



Personal Support from Design to Manufacture

Our industry-renowned support and field application engineering team is passionate about helping you speed your design to market.

Application Areas



Smart Building Control, HVAC



Energy Meters, Energy Storage
Smart Electrical Panels



Test and Measurement
Equipment



Industrial Vision and Camera
Systems



Commercial Food and Beverage
Equipment



Medical Devices

Specifications

Category	Feature	Specification
Processors	Applications Processor	4x Cortex-A53 cores @ up to 1.4 GHz
	Applications Microcontroller	1x Cortex-M4F core @ up to 400 MHz
	Device Management MCU	1x Cortex-R5F core @ up to 400 MHz
	GPU (Optional)	Imagination GPU Up to 8 GFLOPS, OpenGL ES3.1 and Vulkan 1.2 API support
Memory	Real-Time	Dual-core Programmable Real-Time Unit Subsystem (PRUSS) @ up to 333 MHz
	RAM	1GB, 2GB, and 4GB LPDDR4
Graphics and Video	Storage	Up to 128 GB eMMC (16GB eMMC default)
	Display Interfaces	1x LVDS (up to 2 channels)*, up to 1920 x 1080 @ 60 fps per Single Link, up to 3840 x 1080 at 60 fps in Dual Link 1x 18-bit RGB, up to 1920 x 1080 @ 60 fps
Vision	Camera	1x 4-lane MIPI-CSI-2, up to 16 virtual channels per CSI-2 interface
Audio	Audio Interfaces	1x I2S
Peripherals	Interfaces	2x USB 2.0 (480 Mbps)
		2x Gigabit Ethernet with IEEE® 1588 and TSN
		2x CAN-FD
		3x 4-wire UART**
		2x 2-wire UART
		4x I2C
		2x SPI
		1x QSPI/soft SPI
		1x 4-bit SDIO 3.0/eMMC 5.1
		3x PWM
		25x GPIO
Wireless	Sona Wi-Fi and Bluetooth Modules	Sona TI351
		Sona IF573
		Sona IF513
		Sona NX611
		60 Series 60-SIPT
Power	Supply Voltage	5V
Physical	Dimensions	OSM-MF v1.2 Standard – 45mm x 30mm
Environmental	Temperature Range	0°C to +70°C (Commercial) and -40° to +85 °C (Industrial)
	Lead Free	Lead-free and RoHS-compliant

*Not to OSM-MF v1.2 spec, but pin-compatible with other Ezurio OSM-MF modules

**The additional Interfaces beyond OSM-MF v1.2 spec are available on OSM's GPIO pins

Ordering Information

Part	Description
Evaluation Kits	
EZOMI-625-0216-00199-2-K2	Carbon AM62 OSM-MF Evaluation Kit: 7 in Display / Eval Board / HDMI Adapter / SOM with Adapter / AM62 / 2GB RAM / 16GB eMMC / TI351 Wi-Fi-BT / Accessories
EZOMI-625-0216-00199-2-KC	Carbon AM62 OSM-MF Evaluation Kit: 7 in Display / 8.3MP Camera / Eval Board / HDMI Adapter / SOM on Adapter / AM62 / 2GB RAM / 16GB eMMC / TI351 Wi-Fi-BT / Accessories
EZCBC-000-0000-00000-2-K2	OSM Evaluation Kit: Eval Board / HDMI Adapters / Eval Board / Antennas / Accessories / SOM sold separately
Boards for Evaluation Kits	
EZOMI-625-0216-00199-2-IK	Carbon AM62 OSM-MF SOM with Adapter: AM62 / 2GB RAM / 16GB eMMC / TI351 Wi-Fi-BT / For Use with OSM EVK
EZOMI-625-0216-00000-2-IK	Carbon AM62 OSM-MF SOM with Adapter: AM62 / 2GB RAM / 16GB eMMC / Without Wireless / For Use with OSM EVK
EZOMI-625-0216-00134-2-IK	Carbon AM62 OSM-MF SOM with Adapter: AM62 / 2GB RAM / 16GB eMMC / 60 Series Wi-Fi-BT / For Use with OSM EVK
Distribution-stocked super set variants for evaluation and prototyping	
EZOMI-625-0216-00199-2C	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / Sona TI351 1MHF4L / -40 to +85°C / Cut Tape
EZOMI-625-0216-00000-2C	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / Without Wireless / -40 to +85°C / Cut Tape
EZOMI-625-0216-00134-2C	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / 60 Series Wi-Fi-BT / -40 to +85°C / Cut Tape

OSM Boards (AM623)	
<i>Without wireless</i>	
EZOMC-623-0116-00000-2R	Carbon AM62 OSM-MF: AM623 / 2 A53 / 1GB / 16GB eMMC / Without Wireless / 0 to +70°C / Tape and Reel
EZOMI-623-0116-00000-2R	Carbon AM62 OSM-MF: AM623 / 2 A53 / 1GB / 16GB eMMC / Without Wireless / -40 to +85°C / Tape and Reel
EZOMC-623-0216-00000-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 2GB / 16GB eMMC / Without Wireless / 0 to +70°C / Tape and Reel
EZOMI-623-0216-00000-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 2GB / 16GB eMMC / Without Wireless / -40 to +85°C / Tape and Reel
EZOMC-623-0416-00000-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 4GB / 16GB eMMC / Without Wireless / 0 to +70°C / Tape and Reel
EZOMI-623-0416-00000-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 4GB / 16GB eMMC / Without Wireless / -40 to +85°C / Tape and Reel
<i>With Sona TI351</i>	
EZOMC-623-0116-00199-2R	Carbon AM62 OSM-MF: AM623 / 2 A53 / 1GB / 16GB eMMC / Sona TI351 1MHF4L / 0 to +70°C / Tape and Reel
EZOMI-623-0116-00199-2R	Carbon AM62 OSM-MF: AM623 / 2 A53 / 1GB / 16GB eMMC / Sona TI351 1MHF4L / -40 to +85°C / Tape and Reel
EZOMC-623-0216-00199-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 2GB / 16GB eMMC / Sona TI351 1MHF4L / 0 to +70°C / Tape and Reel
EZOMI-623-0216-00199-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 2GB / 16GB eMMC / Sona TI351 1MHF4L / -40 to +85°C / Tape and Reel
EZOMC-623-0416-00199-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 4GB / 16GB eMMC / Sona TI351 1MHF4L / 0 to +70°C / Tape and Reel
EZOMI-623-0416-00199-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 4GB / 16GB eMMC / Sona TI351 1MHF4L / -40 to +85°C / Tape and Reel
<i>With Sona IF513</i>	
EZOMC-623-0116-00184-2R	Carbon AM62 OSM-MF: AM623 / 2 A53 / 1GB / 16GB eMMC / Sona IF513 1MHF4L / 0 to +70°C / Tape and Reel
EZOMI-623-0116-00184-2R	Carbon AM62 OSM-MF: AM623 / 2 A53 / 1GB / 16GB eMMC / Sona IF513 1MHF4L / -40 to +85°C / Tape and Reel
EZOMC-623-0216-00184-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 2GB / 16GB eMMC / Sona IF513 1MHF4L / 0 to +70°C / Tape and Reel
EZOMI-623-0216-00184-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 2GB / 16GB eMMC / Sona IF513 1MHF4L / -40 to +85°C / Tape and Reel
EZOMC-623-0416-00184-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 4GB / 16GB eMMC / Sona IF513 1MHF4L / 0 to +70°C / Tape and Reel
EZOMI-623-0416-00184-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 4GB / 16GB eMMC / Sona IF513 1MHF4L / -40 to +85°C / Tape and Reel
<i>With Sona IF573</i>	
EZOMC-623-0116-00117-2R	Carbon AM62 OSM-MF: AM623 / 2 A53 / 1GB / 16GB eMMC / Sona IF573 3MHF4L / 0 to +70°C / Tape and Reel
EZOMI-623-0116-00117-2R	Carbon AM62 OSM-MF: AM623 / 2 A53 / 1GB / 16GB eMMC / Sona IF573 3MHF4L / -40 to +85°C / Tape and Reel
EZOMC-623-0216-00117-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 2GB / 16GB eMMC / Sona IF573 3MHF4L / 0 to +70°C / Tape and Reel
EZOMI-623-0216-00117-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 2GB / 16GB eMMC / Sona IF573 3MHF4L / -40 to +85°C / Tape and Reel
EZOMC-623-0416-00117-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 4GB / 16GB eMMC / Sona IF573 3MHF4L / 0 to +70°C / Tape and Reel
EZOMI-623-0416-00117-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 4GB / 16GB eMMC / Sona IF573 3MHF4L / -40 to +85°C / Tape and Reel
<i>With Sona NX611</i>	
EZOMC-623-0116-00158-2R	Carbon AM62 OSM-MF: AM623 / 2 A53 / 1GB / 16GB eMMC / Sona NX611 1MHF4L / 0 to +70°C / Tape and Reel
EZOMI-623-0116-00158-2R	Carbon AM62 OSM-MF: AM623 / 2 A53 / 1GB / 16GB eMMC / Sona NX611 1MHF4L / -40 to +85°C / Tape and Reel
EZOMC-623-0216-00158-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 2GB / 16GB eMMC / Sona NX611 1MHF4L / 0 to +70°C / Tape and Reel
EZOMI-623-0216-00158-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 2GB / 16GB eMMC / Sona NX611 1MHF4L / -40 to +85°C / Tape and Reel
EZOMC-623-0416-00158-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 4GB / 16GB eMMC / Sona NX611 1MHF4L / 0 to +70°C / Tape and Reel
EZOMI-623-0416-00158-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 4GB / 16GB eMMC / Sona NX611 1MHF4L / -40 to +85°C / Tape and Reel
<i>With 60 Series</i>	
EZOMC-623-0116-00134-2R	Carbon AM62 OSM-MF: AM623 / 2 A53 / 1GB / 16GB eMMC / 60 Series 2MHF1 / 0 to +70°C / Tape and Reel
EZOMI-623-0116-00134-2R	Carbon AM62 OSM-MF: AM623 / 2 A53 / 1GB / 16GB eMMC / 60 Series 2MHF1 / -40 to +85°C / Tape and Reel
EZOMC-623-0216-00134-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 2GB / 16GB eMMC / 60 Series 2MHF1 / 0 to +70°C / Tape and Reel
EZOMI-623-0216-00134-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 2GB / 16GB eMMC / 60 Series 2MHF1 / -40 to +85°C / Tape and Reel
EZOMC-623-0416-00134-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 4GB / 16GB eMMC / 60 Series 2MHF1 / 0 to +70°C / Tape and Reel
EZOMI-623-0416-00134-2R	Carbon AM62 OSM-MF: AM623 / 4 A53 / 4GB / 16GB eMMC / 60 Series 2MHF1 / -40 to +85°C / Tape and Reel

OSM Boards (AM625)	
<i>Without wireless</i>	
EZOMC-625-0216-00000-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / Without Wireless / 0 to +70°C / Tape and Reel
EZOMI-625-0216-00000-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / Without Wireless / -40 to +85°C / Tape and Reel
EZOMC-625-0416-00000-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 4GB / 16GB eMMC / Without Wireless / 0 to +70°C / Tape and Reel
EZOMI-625-0416-00000-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 4GB / 16GB eMMC / Without Wireless / -40 to +85°C / Tape and Reel
<i>With Sona TI351</i>	
EZOMC-625-0216-00199-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / Sona TI351 1MHF4L / 0 to +70°C / Tape and Reel
EZOMI-625-0216-00199-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / Sona TI351 1MHF4L / -40 to +85°C / Tape and Reel
EZOMI-625-0216-00199-2C	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / Sona TI351 1MHF4L / -40 to +85°C / Cut Tape
EZOMC-625-0416-00199-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 4GB / 16GB eMMC / Sona TI351 1MHF4L / 0 to +70°C / Tape and Reel
EZOMI-625-0416-00199-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 4GB / 16GB eMMC / Sona TI351 1MHF4L / -40 to +85°C / Tape and Reel
<i>With Sona IF513</i>	
EZOMC-625-0216-00184-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / Sona IF513 1MHF4L / 0 to +70°C / Tape and Reel
EZOMI-625-0216-00184-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / Sona IF513 1MHF4L / -40 to +85°C / Tape and Reel
EZOMC-625-0416-00184-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 4GB / 16GB eMMC / Sona IF513 1MHF4L / 0 to +70°C / Tape and Reel
EZOMI-625-0416-00184-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 4GB / 16GB eMMC / Sona IF513 1MHF4L / -40 to +85°C / Tape and Reel
<i>With Sona IF573</i>	
EZOMC-625-0216-00117-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / Sona IF573 3MHF4L / 0 to +70°C / Tape and Reel
EZOMI-625-0216-00117-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / Sona IF573 3MHF4L / -40 to +85°C / Tape and Reel
EZOMC-625-0416-00117-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 4GB / 16GB eMMC / Sona IF573 3MHF4L / 0 to +70°C / Tape and Reel
EZOMI-625-0416-00117-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 4GB / 16GB eMMC / Sona IF573 3MHF4L / -40 to +85°C / Tape and Reel
<i>With Sona NX611</i>	
EZOMC-625-0216-00158-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / Sona NX611 1MHF4L / 0 to +70°C / Tape and Reel
EZOMI-625-0216-00158-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / Sona NX611 1MHF4L / -40 to +85°C / Tape and Reel
EZOMC-625-0416-00158-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 4GB / 16GB eMMC / Sona NX611 1MHF4L / 0 to +70°C / Tape and Reel
EZOMI-625-0416-00158-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 4GB / 16GB eMMC / Sona NX611 1MHF4L / -40 to +85°C / Tape and Reel
<i>With 60 Series</i>	
EZOMC-625-0216-00134-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / 60 Series 2MHF1 / 0 to +70°C / Tape and Reel
EZOMI-625-0216-00134-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / 60 Series 2MHF1 / -40 to +85°C / Tape and Reel
EZOMI-625-0216-00134-2C	Carbon AM62 OSM-MF: AM625 / 4 A53 / 2GB / 16GB eMMC / 60 Series 2MHF1 / -40 to +85°C / Cut Tape
EZOMC-625-0416-00134-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 4GB / 16GB eMMC / 60 Series 2MHF1 / 0 to +70°C / Tape and Reel
EZOMI-625-0416-00134-2R	Carbon AM62 OSM-MF: AM625 / 4 A53 / 4GB / 16GB eMMC / 60 Series 2MHF1 / -40 to +85°C / Tape and Reel