



## Sierra Wireless® FX30 Programmable IoT Gateway

### FX30 BENEFITS

- **Global & Scalable:** Reach the global 3G/2G market with a single product, and scale to LTE with full hardware and software compatibility.
- **Small & Rugged:** Purpose-built to fit into machines and infrastructure equipment, and meets harsh industrial environmental requirements.
- **Highly Programmable:** Enables secure Linux-based embedded application environment to build efficient IoT systems.
- **Extensible:** Comprehensive built-in interfaces to connect easily to any system, plus flexible hardware expansion.
- **Managed:** Free unlimited firmware-over-the-air (FOTA) services using AirVantage® IoT Platform.
- **Accelerate time to market:** AirVantage IoT application enablement allows device-to-cloud solutions to be deployed in record time.



## Ruggedized, Industry-Certified, Legato® Secure Application Framework

### SETTING A NEW STANDARD FOR IOT EMBEDDED PLATFORMS

The FX30 is the industry's smallest, most rugged programmable 3G/4G LTE cellular gateway. Providing an integrated, secure embedded application environment, tightly integrated with the cloud, the FX30 enables swift, scalable and global deployments of IoT applications for any connected machine or infrastructure.

### PROGRAMMABLE

The FX30 integrates the Legato® Open Source Linux Platform that simplifies application-level development with a secure application framework, maintained Linux distribution, and feature-rich development environment. Legato® enables efficient C-level programming, making FX30 the core component for distributed IoT systems. Legato features an application sandbox that provides a secure environment to run and control multiple applications. With security and connectivity built in, Legato's robust APIs enable users to connect to any cloud or network, and allow developers to focus on building the value-add IoT applications.

Legato offers an Eclipse-based integrated development environment (IDE), providing an extensible and familiar toolset with built-in API awareness. With multi-language support, Legato allows developers to code in their preferred language, and provides a robust suite of diagnostic tools, to enable- local and remote debugging, troubleshooting, monitoring and profiling.



## INDUSTRIAL GRADE

The FX30 provides superior performance in harsh environments with its small, rugged aluminum form factor. It meets MIL-STD-810 standard for vibration and mechanical shock, and maintains operation in extended temperatures from -30°C to +75°C, making it the ideal embeddable solution for any industrial machine.

FX30 is pre-certified for large deployments meeting a comprehensive range of regulatory and industry standards worldwide.

## SCALABLE AND EXTENSIBLE

Offering unparalleled flexibility, the FX30 is available in both Ethernet and Serial variants, and supports an IoT Connector expansion slot to enable hardware extensions. The IoT Connector enables an unlimited range of sensors, and wired and wireless networks, such as Ethernet, Wi-Fi, Bluetooth, Zigbee, RS485, CANbus.

The FX30 offers best-in-class low power consumption, consuming less than 1W in idle mode and 2mW in ultra-low power mode, making it ideal for solar and battery powered applications.

The FX30 4G LTE-M supports Cat-M1/NB1 LPWA connectivity, enabling worldwide deployments with a single product. The FX30 3G operates on six 3G bands, with fallback on four 2G bands, also supporting worldwide deployment. The FX30 4G LTE EMEA supports higher Cat-1 data rates and European deployments.

## MANAGEABLE

Entire fleets of FX30s can be monitored, managed and controlled remotely through AirVantage® IoT Platform.

AirVantage integrates seamlessly with FX30 to also offer a wide range of IoT application enablement features such as device-to-cloud communications, data storage, alerting, web services and analytics. AirVantage's advanced device and connectivity management services enable efficient system operations for large fleets of FX30s.

Free, unlimited firmware-over-the-air (FOTA) upgrades, powered by Sierra Wireless' AirVantage® IoT Cloud, are available for the lifetime of FX30 to keep connectivity optimized and secure.

## SIM & CONNECTIVITY

The FX30 supports standard 2FF plastic SIM as well as optional MFF2 embedded SIM, providing the ultimate flexibility for global deployments.

The FX30 fully supports Sierra Wireless' multi-operator SmartSIM to deliver best in class coverage and superior data service quality. Future releases of the FX30 will also support the GSMA eUICC specification for remote provisioning allowing subscriptions to be remotely updated over-the-air.

For more information please visit [sierrawireless.com/FX30](http://sierrawireless.com/FX30).

	FX30 3G Global	FX30S 3G Global	FX30 LTE-M Global	FX30S LTE-M Global	FX30 LTE EMEA
<b>AIR INTERFACE</b>	HSPA+, EDGE, GSM, GPRS	HSPA+, EDGE, GSM, GPRS	LTE Cat-M1/NB1, EDGE, GSM, GPRS	LTE Cat-M1/NB1, EDGE, GSM, GPRS	LTE Cat-1, HSPA+, UMTS, EDGE, GSM, GPRS
<b>FREQUENCY BANDS</b>					
<b>4G LTE</b>	-	-	B1, B2, B3, B4, B5, B8, B12, B13, B17, B18, B19, B20, B26, B28	B1, B2, B3, B4, B5, B8, B12, B13, B17, B18, B19, B20, B26, B28	B1, B3, B7, B8, B20, B28
<b>3G UMTS/HSPA+</b>	B1, B2, B5, B6, B8, B19	B1, B2, B5, B6, B8, B19	-	-	B1, B8
<b>2G EDGE/GSM/GPRS</b>	850, 900, 1800, 1900	850, 900, 1800, 1900	850, 900, 1800, 1900	850, 900, 1800, 1900	900, 1800
<b>APPROVALS</b>					
<b>Regulatory</b>	FCC/IC, CE&RoHs, REACH, RCM, Safety IEC60950-1, UL Listed, E-Mark, CCC/RTA/NAL, GCF, PTCRB  Planned: ANATEL	FCC/IC, CE&RoHs, REACH, Safety IEC60950-1, UL Listed, E-Mark, GCF, PTCRB  Planned: CCC/RTA/NAL, ANATEL	Planned: FCC/IC, CE&RoHs, REACH, RCM, Safety IEC60950-1, UL Listed, GCF, PTCRB	Planned: FCC/IC, CE&RoHs, REACH, RCM, Safety IEC60950-1, UL Listed, GCF, PTCRB	Planned: CE&RoHs, REACH, Safety IEC60950-1, UL Listed, GCF
<b>Telecom &amp; Carrier</b>	AT&T, Verizon		Planned: AT&T, Verizon		-
<b>POWER VOLTAGE</b>	DC 4.75V to 32V				
<b>POWER CONSUMPTION</b>					
<b>Ignition Off</b>	400 $\mu$ W				
<b>Ultra Low Power Mode</b>	2 mW				
<b>Idle mode</b>	1.0W	0.5W	1.2W	0.4W	1.2W
<b>4G LTE max</b>	-	-	4.2W, burst 7.9W (USB at 110Mbps and Ethernet at 94Mbps)	3.2 W, burst 7.5W (USB at 110Mbps and Serial continuous)	5.4W, burst 8.6W (USB at 110Mbps and Ethernet at 94Mbps)
<b>3G UMTS/HSPA+ max</b>	3.3W, burst 3.5W (USB at 70Mbps and Ethernet at 55 Mbps)	2.5W, burst 3.0W (USB at 57Mbps and Serial continuous)	-	-	-
<b>2G EDGE/GSM/GPRS max</b>	2.6W, burst 7.2W (USB at 70Mbps and Ethernet at 55 Mbps)	2.0W, burst 6.3W (USB at 57Mbps and Serial continuous)	-	-	-
<b>RADIO MODULE</b>	WP8548		WP7702		WP7607-1
<b>APPLICATION PROCESSOR</b>					
<b>Processor</b>	ARM® Cortex™-A5		ARM® Cortex™-A7		
<b>Core frequency</b>	550MHz		1.3GHz		
<b>RAM (reserved for app processor)</b>	128MB		128MB		
<b>Flash (reserved for app processor)</b>	256MB (min 50,000 write cycles)		256MB (min 100,000 write cycles)		

	Specification
<b>INTERFACES</b>	
<b>Ethernet</b>	FX30 only: 10/100BASE-T RJ45
<b>UART</b>	FX30S only: Configurable RS232/RS485 Sub-D9
<b>USB</b>	USB V2.0 Micro-B connector
<b>LEDs</b>	1 signal LED, 1 user LED
<b>I/Os</b>	3 configurable I/Os
<b>Audio</b>	PCM (on IoT Connector)
<b>Push button</b>	For user app (GPIO)
<b>SIM interface</b>	2FF
<b>Embedded SIM</b>	MFF2 (optional)
<b>Cellular Antenna</b>	SMA
<b>GNSS Antenna</b>	SMA with active bias
<b>HARDWARE EXTENSION</b>	1xIoT Connector (1xUSB, 1xUART, 1xSPI, 1xI2C, 4xGPIO, 1xADC, 1xSDIO, 1xPCM)
<b>MOUNTING OPTIONS</b>	Bracket for screw/wall and DIN rail mounting
<b>LOCATION SERVICES</b>	A-GPS, GLONASS, GALILEO
<b>CONTROL OPTIONS</b>	AT Commands, Legato® shell, Legato® applications

	Specification
<b>EMBEDDED SOFTWARE</b>	
<b>Application Framework</b>	Legato® open source
<b>Linux Distribution</b>	Yocto, Long-term supported Linux Kernel
<b>DRIVERS</b>	USB driver for Linux, WIN7, WIN8
<b>CLOUD SERVICES</b>	Free unlimited Fota Upgrades, SIM and Managed Connectivity, Device and Embedded Apps Management, Application Enablement Platform
<b>DIMENSIONS</b>	75 x 60 x 32 mm excluding connectors; FX30: 82x60x32mm including connectors; FX30S: 86x60x32mm including connectors
<b>WEIGHT</b>	158g
<b>ENVIRONMENTAL</b>	
<b>Operational Temperature (Class B)</b>	-30°C to +75°C
<b>Humidity</b>	95% relative humidity over a temperature range of +20°C to +60°C
<b>Vibration and Shock</b>	Vibration spec: MIL-STD-810G, Method 514.6C, Category 4CWW (Composite Wheeled Vehicle); Mechanical shock spec: MIL-STD-810G, Method 516.6; Procedure I (Functional Shock)
<b>ESD</b>	8KV contact discharge, 15KV air discharge

#### About Sierra Wireless

Sierra Wireless (NASDAQ: SWIR) (TSX: SW) is an IoT pioneer, empowering businesses and industries to transform and thrive in the connected economy. Customers Start with Sierra because we offer a device-to-cloud solution, comprised of embedded and networking solutions seamlessly integrated with our IoT services. OEMs and enterprises worldwide rely on our expertise in delivering fully integrated solutions to reduce complexity, turn data into intelligence and get their connected products and services to market faster. Sierra Wireless has more than 1,400 employees globally and operates R&D centers in North America, Europe and Asia.

For more information, visit [www.sierrawireless.com](http://www.sierrawireless.com).

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