



emIOT series

Janz Tec Internet of Things series, based on mobile access features for Edge applications



PRODUCT DESCRIPTION

emIOT devices are edge gateways to connect any fieldbus to the broadband network over different wireless interfaces. 2G, 3G, LTE, LTE-M1 and LTE Narrowband are common cellular technologies and recommend for different applications in the future. Additional, proprietary radio standards with different topologies are available on request. The hardware is designed for scalable appliances, differentiated between the scale of efficiency, amount of performance and the adaption to the environment.

emIOT devices are available in a rugged design, likely for usage with a protection class equal IP65. Janz Tec's IoT devices are based on different application and telecommunication cores. In case of low performance requirements, a core with a built-in firmware of Janz Tec can be used or downloaded as an SDK. For decentralized data processing

requirements, CPUs with a higher performance are also available.

The gateways can be supplied in a range of 9 to 24V and wired interfaces can be tapped with Molex connectors or IP67 protected ISO metric screw threads like M8 or M12 connectors.

For the "high-performance" **Edge** gateway, a minimal Linux operating system is preinstalled and can be shipped with customer specific configurations.

Additionally, there is also an expansion module for existing emPC and emVIEW systems of Janz Tec available. The expansion card is equipped with an LTE module including GPS localization functions. A Wi-Fi module is also included to optimize the local wireless functions. For this expansion, there are operating systems from Linux to Windows 10 IoT suitable.

PRODUCT OVERVIEW

Device	Operating System	Architecture	Core	Internal memory	Radio standards	Use case
emIOT-Edge	Minimal Linux OS	ARM	Single core @550 MHz	1GByte	GPRS/UMTS LTE CAT-4 LTE CAT-NB1 ¹	Standard, with specific predefined interfaces
emIOT-A/iMX6	Full Linux OS	ARM	Quad core 4x 800 MHz	2 GByte	GPRS UMTS LTE CAT-6 GPS/GNSS Wi-Fi 802.11 a/b/g/n	Standard device
emIOT-X/A-E3940 ¹	Windows 10 IoT and Linux	x86	Quad core 4 x 1.6 / 1.8 GHz	Up to 4 GByte	GPRS UMTS LTE CAT-6 GPS/GNSS Wi-Fi 802.11 a/b/g/n	Standard device

¹ Preliminary (already announced)

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emIOT®-Edge

<i>Application Core</i>	ARM Cortex A5 @ 550MHz with 256 Mbyte soldered memory
<i>Telecom core</i>	Sierra Wireless WP series: Qualcomm Dual QDSP6 600MHz
<i>Status LED</i>	1x Red; 1x Green
<i>Power supply</i>	9V ... 32V
<i>Power consumption</i>	tbd
<i>Housing</i>	Solid aluminum housing Robust plastic housing (optional)
<i>Cooling</i>	Fanless, passive cooled
<i>Internal storage</i>	128Mbyte Flash storage
<i>Storage medium</i>	optional with internal SD card slot
<i>RTC</i>	Yes
<i>Connectors</i>	1x M12-8 Pin for serial, I/O, power 1x M12-X Pin for at least one option: 1) Fast Ethernet 10/100Mbps 2) RS232/RS485, CAN/CANopen 3) Additional digital and analog I/O 4) Further interfaces on request
<i>Radio technologies</i>	LTE, HSDPA, WCDMA, EDGE/GPRS LTE CAT-NB1* (Preliminary)
<i>Data Speed</i>	Peak Download Rate: 100 Mbps Peak Upload Rate: 50 Mbps
<i>Localization</i>	EMEA**
<i>Positioning standards</i>	GPS/GNSS
<i>Secure boot support</i>	Yes
<i>Software</i>	Linux operating system
<i>Protection Class</i>	IP65
<i>Ambient Temperature Rating</i>	Operating: -40°C ... 60°C Storage: -40°C ... +85°C
<i>Dimensions</i>	125 x 85 x 35 mm (w x h x d)
<i>Certifications</i>	CE, RED - Radio Equipment Directive for EMEA



Accessories

<i>Product description</i>	<i>Part number</i>
<i>LTE Antenna</i>	PC-ANT-LT001
<i>GPS Antenna</i>	PC-ANT-GP001
<i>M-12 2m Cable Kit</i>	EZ-KKA-ITE00
<i>Wallmount Kit</i>	MZ-ITE-WHA00
<i>Railmount Kit</i>	MZ-ITE-HSH00

* CAT-NB1 – Narrowband IoT LTE Band
 ** EMEA – Economic zone: Europe, Middle East, Africa
 *** Secure connection support depends on application core
 **** Depends on Operating system

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emIOT®-X/A-E3940

<i>Application Core</i>	Intel® Atom™ x5-E3940: 4 x @ 1.6 / 1.8 GHz
<i>Telecom core</i>	Sierra Wireless EM7455
<i>System Memory</i>	Up to 4GByte DDR3
<i>Operating System</i>	Linux Debian 9 Stretch, WES 7 and Windows 10 IoT
<i>Status LED</i>	1x Green, 1x Red
<i>Power supply</i>	9...34V
<i>Power consumption</i>	< 11 W
<i>Housing</i>	Galvanized steel sheet
<i>Cooling</i>	Fanless
<i>Storage medium</i>	CFast card, up to 256Gbyte
<i>RTC</i>	Yes
<i>Interfaces</i>	1x DVI-I, 3x USB2.0, Up to 2x CAN/RS232 2x 1000 Mbit/s Ethernet, 4x Digital In/Out
<i>Radio technologies</i>	GPRS/UMTS/LTE-CAT4 (Down: 150 Mbps Up: 50Mbps)
<i>Wireless technologies</i>	Wi-Fi 802.11 a/b/g/n Bluetooth 4.0 (2.1+EDR, LE) ZigBee 802.15.4
<i>Localization</i>	EMEA and America
<i>Positioning standards</i>	GPS/GNSS
<i>Fallback technology</i>	UMTS
<i>(Firmware) over the air update</i>	Yes****
<i>Remote management platform</i>	Yes****
<i>Secure boot support</i>	No
<i>Secure connection support (e.g. VPN)</i>	Yes
<i>Protection Class</i>	IP20
<i>Certifications</i>	CE, RED - Radio Equipment Directive for EMEA



Accessories

Product description	Part number
LTE Antenna	PC-ANT-LT001
GPS Antenna	PC-ANT-GP001
WIFI Antenna	PC-ANT-WL001

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emIOT[®]-A/iMX6

<i>Application Core</i>	Quad-Core-CPU ARM-Cortex-A9 4x @800 MHz, ARMv7™, Neon, VFPv3
<i>Telecom core</i>	Sierra Wireless EM7455
<i>System Memory</i>	2Gbyte DDR3
<i>Operating System</i>	Linux Debian 9 Stretch
<i>Status LED</i>	1x Green, 1x Red
<i>Power supply</i>	9...34V
<i>Power consumption</i>	< 10 W
<i>Housing</i>	Solid aluminum housing
<i>Cooling</i>	Fanless
<i>Internal Memory</i>	4Gbyte eMMC, 128Kbyte NVRAM
<i>Storage medium</i>	CFast card up to 256Gbyte, SD card slot
<i>RTC</i>	Yes
<i>Interfaces</i>	1x DVI-D, 2x USB2.0, Up to 2x CAN/RS232 2x 1000 Mbit/s Ethernet, 4x Digital In/Out
<i>Radio technologies</i>	GPRS/UMTS/LTE-CAT4 (Down: 150 Mbps Up: 50Mbps)
<i>Wireless technologies</i>	Wi-Fi 802.11 a/b/g/n Bluetooth 4.0 (2.1+EDR, LE) ZigBee 802.15.4
<i>Localization</i>	EMEA and America
<i>Positioning standards</i>	GPS/GNSS
<i>Fallback technology</i>	UMTS
<i>(Firmware) over the air update</i>	Yes****
<i>Remote management platform</i>	No
<i>Secure boot support</i>	Yes
<i>Secure connection support (e.g. VPN)</i>	Yes
<i>Protection Class</i>	IP30
<i>Certifications</i>	ETSI/CE- Radio Equipment Directive for EMEA



Accessories

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LTE Antenna	PC-ANT-LT001
GPS Antenna	PC-ANT-GP001
WIFI Antenna	PC-ANT-WL001

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