

# G2021ES-MB Product Specifications

## G2021ES Multi Service Gateway for IoT

The “G2021ES” is a purpose built, cost effective, multi-technology gateway hosted with edge analytics capability with rich set of wired and wireless communication channels and protocols.

The product design and form factors suitable for industrial extended vibrations and temperature ranges. Used in building and factory automation, OEM asset management in automotive, industrial and mining sectors.



## Product Specifications

Specification	Description
<b>Processor</b>	AM3352, 800 MHz, ARM® Cortex™-A8, 32 bit
<b>Memory</b>	<ul style="list-style-type: none"> <li>• 512 MB DDR3 RAM</li> <li>• 4GB eMMC storage memory</li> <li>• Micro SD slot for additional storage</li> </ul>
<b>Wireless Communications</b>	Wi-Fi: 802.11 b/g/n Wireless LAN Bluetooth: 4.0 BLE Cellular: 3G global cellular module with integrated GPS
<b>Wired Communications</b>	<b>Ethernet:</b> <ul style="list-style-type: none"> <li>• 1x 10/100 Mbps Ethernet port</li> </ul> <b>USB:</b> <ul style="list-style-type: none"> <li>• 2x USB 2.0 host ports for general purpose use</li> <li>• 1x USB 2.0 client port</li> </ul> <b>Serial:</b> <ul style="list-style-type: none"> <li>• 2x RS232/485 configurable serial ports</li> <li>• 1x Serial port for debug/OS console</li> <li>• 1x Serial EEPROM for device configuration data</li> </ul>
<b>LED Indicators</b>	<ul style="list-style-type: none"> <li>• 4x User configurable LEDs</li> <li>• 1x Power LED</li> <li>• 1x Cellular activity LED</li> </ul>
<b>Inputs and Outputs</b>	<ul style="list-style-type: none"> <li>• 2x insulated digital inputs</li> <li>• 2x insulated digital outputs</li> </ul>
<b>Buttons</b>	<ul style="list-style-type: none"> <li>• Reset pushbutton</li> <li>• Programmable pushbutton</li> </ul>
<b>RTC</b>	RTC with an accuracy of 25 minutes per year @ 25 °C
<b>Watchdog</b>	Watchdog/supervisor IC, external to the CPU
<b>Software</b>	<ul style="list-style-type: none"> <li>• Linux distribution</li> <li>• Embedded Device Framework</li> <li>• Supports Galaxy 2021</li> </ul>
<b>Power Supply</b>	<ul style="list-style-type: none"> <li>• Nominal voltage: 24 V DC</li> <li>• Voltage range: 9 to 36 V DC with transient protection</li> <li>• Peak demand: &lt; 15W</li> </ul>
<b>Mechanical Dimensions</b>	139 x 95 x 48 mm (L x W x H) (antenna SMA connectors included)
<b>Weight</b>	160 g
<b>Color</b>	Black
<b>Operating Temperature</b>	-20°C to +70°C

## Product Specifications (continued)

<b>Storage Temperature</b>	-40°C to +80°C
<b>Relative Humidity</b>	Up to 90% @ +45°C non-condensing
<b>Compliance and Certifications</b>	<ul style="list-style-type: none"> <li>• Reduction of Certain Hazardous Substances (ROHS)</li> <li>• CE Mark</li> <li>• Wi-Fi and BT Radio: <ul style="list-style-type: none"> <li>- CE - EN300 328 (2.4GHz ISM), EN50371 (EMI), EN301 489 (EMC)</li> <li>- FCC - 15.209 (General RF device), 15.247 &amp; 15.249 (2.4GHz ISM)</li> </ul> </li> <li>• Cellular Radio: <ul style="list-style-type: none"> <li>- FCC PART 22, 24 &amp; 27 and suitable GSM radio certifications</li> </ul> </li> <li>• UL/EN 61010-1 Safety standard compliance</li> <li>• Product compliance with FCC part 15.21</li> </ul>

## Functional Specifications

- Rich in field communication protocols
- Data normalization and control engine
- Cloud-based device provisioning, management and configuration
- User programmable business rules and edge analytics
- Power optimization algorithms
- Optimized uplink/cellular bandwidth management
- Application driven secured Edge Device Communication Protocol which enable seamless and secure data flow between edge devices and the cloud
- Error correcting code (ECC) to avoid potential gateway crashes and data quality, data integrity
- Modular I/O structure designed to bridge all legacy serial connections (RS-232/485, CAN 2.0B), modern wireless networks (Wi-Fi, 802.15.4 mesh, ZigBee) and low power WAN networks for expansion capability
- The gateway G2021ES - ensures interoperability with fieldbus-based
  - Industrial networks, allowing data communication using Modbus RTU/TCP and Profibus protocols
  - BACnet MSTP/IP in building automation spectrum
- Ability to be mounted on the wall, pole mount and rail mount options and to operate in extreme temperatures like generators, air compressors, chillers and equipment operating in harsh environments like desert
- Extended and assured product life times and standard lead times
- Ease of deployment is native characteristic of the gateway and its accessories

## To Order

Part Number	Description
<b>G2021ES-MB</b>	TI335X/512MRAM/512MF/WiFi Global 3G Module with GPS, BT 4.0/RS/USB/ETH/DIO/Exclusive EXT ANT Modbus RTU/TCP, BACnet MSTP/IP
<b>G2021ES-ADR</b>	Accessory: G2021ES accessory and connector kit, IO connectors + DIN rail mount clip
<b>G2021ES-A2AK-2m</b>	Antenna kit: Cellular/WiFi-BT 2in1, 2m coaxial cable length
<b>G2021ES-A3AK-2m</b>	Antenna kit: Cellular/WiFi-BT/GPS 3in1, 2m coaxial cable length
<b>G2021ES-A3AK-10m</b>	Antenna kit: Cellular/WiFi-BT/GPS 3in1, 10m coaxial cable length
<b>CONN 9P-3m</b>	Cable: 9 Pin Deutsch style pass through connector, 6mm dia 3m cable length
<b>CONN 3P-3m</b>	Cable: 3 Pin Deutsch style connector, 6mm dia 3m cable length
<b>G2021ES-MBC-E/SM</b>	Package: Wall mounted, IP 65/NEMA 4X, 250x200x180mm sheet metal enclosure
<b>G2021ES-MBC-E/PVC</b>	Package: UV protected, IP67 (EN 60529), gray color, 0.6kg, 180x180x45mm PVC enclosure
<b>G2021ES-MBC-E/AL65</b>	Package: Multipurpose, 150x200x50mm, aluminum, IP65 enclosure
<b>G2021ES-MBC-E/AL67</b>	Package: Aluminum die-cast, 212.6x212.6x55mm, gray color, IP67 enclosure

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