



EL-20-3710-32G (rev. 1.0)

Intel® Bear Ridge IoT Gateway Solution

Key Features

- Intel® Pentium® processor N3710
- 2 x SO-DIMM DDR3L slots
- 2 x GbE LAN ports (Realtek RTL8111HS)
- 32GB onboard eMMC memory
- 1 x Full-size Mini-PCIe slot for 3G module or mSATA storage
- 1 x SDXC card slot
- Supports Windows 7/ 8.1/ 10 and Android 5.1

Application

- IoT applications

SPECIFICATION

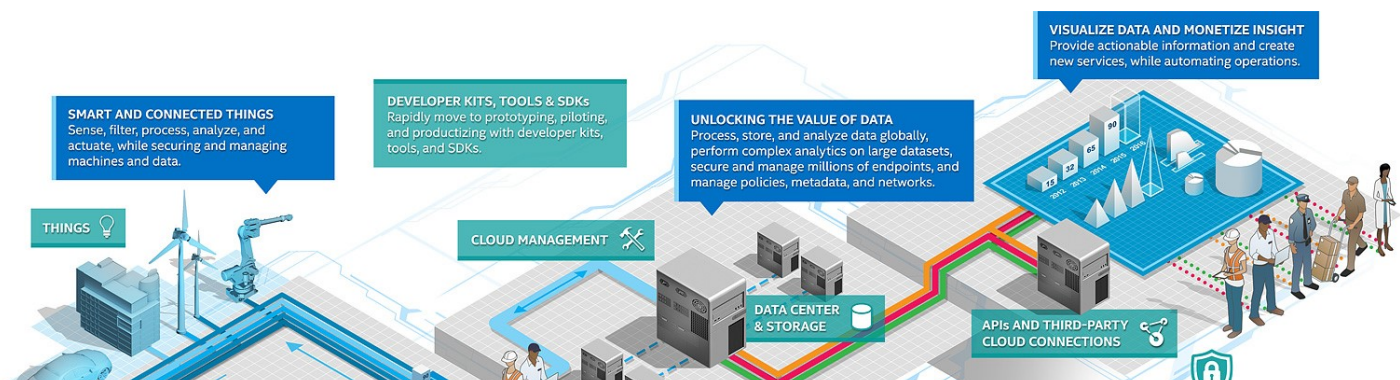
EL-20 IoT Gateway System Overview

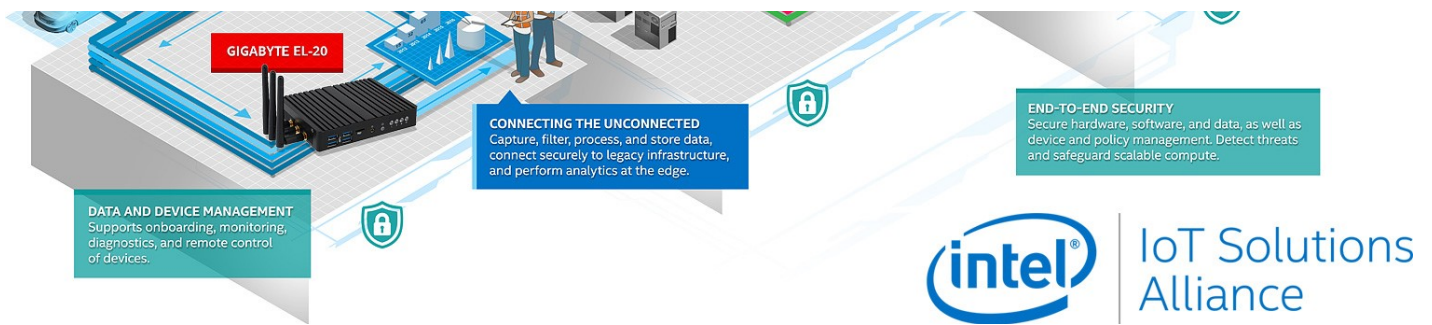


Simple Devices for the IoT Era

Being an associate member of the [Intel IoT Solutions Alliance](#) GIGAIPC (GIGABYTE Group) is at the heart of the booming Internet of Things computing market. We create reference designs for Intel's new platforms, and develop them further into a large range of professional IoT products and customer-optimized solutions.

The EL-20 series is one of those products, developed as the reference design for Intel's Bear Ridge platform. It is a small form factor (SFF) industrial computer with leading performance and security, robust build quality and the Input/output (I/O) flexibility required of the perfect IoT gateway solution. Business deploying the EL-20 series IoT gateways can quickly establish and future-proof their environments. By using it as a solution to bridge unconnected legacy system, aggregate data output or establish secure data flow between edge devices and the cloud.





Specification

Operating Properties	<p>Operating temperature: 0°C to 40°C Operating humidity: 0%-90% (non-condensing) Non-operating temperature: -20°C to 60°C Non-operating humidity: 0%-95% (non-condensing)</p>
CPU	<p>Intel® Pentium® processor N3710 4 cores, 4 threads 1.6 - 2.56 GHz 2MB L2 cache 6W max. TDP</p>
Socket	1 x BGA 1170
Memory	<p>2 x SO-DIMM slots 1.35V DDR3L memory Up to 8GB 1333/1600MHz</p> <p>Pre-installed 2 x 2GB DDR3L memory module</p>
Flash Memory	32GB eMMC
LAN	2 x GbE LAN ports (Realtek RTL8111HS)
Video	<p>Intel HD Graphics supports dual display Max. resolution via HDMI ports: 3840 x 2160 @ 30Hz or 2560 x 1600 @ 60Hz with 2 memory installed</p>
Audio	<p>Realtek ALC255 controller Supports 2/4/5.1/7.1 channel configurations via HDMI</p>
Expansion Slots	<p>1 x Full-size Mini-PCIe slot (for 3G module or mSATA storage) 1 x Half-size Mini-PCIe slot (for pre-installed WiFi+BT module)</p>

Rear I/O	1 x DC-in 2 x HDMI v1.4b 2 x RJ45
TPM	-
OS Compatibility	Windows 10 64bit Windows 8.1 64bit Windows 7 32bit / 64bit Ubuntu 15.10 Ubuntu 16.04 LTS Android 5.1 - Please download the "Windows USB Installation Tool" from GIGABYTE's website and install it before installing Windows 7
Power Supply	AC 100~240V 19V DC-in 65W/3.42A
Packaging Content	1 x Quick start guide 1 x EL-20-3710-32G 1 x 19V AC/DC power adapter 1 x US type power cord * Please contact region sales for antenna modules
Ordering Information	9BTCV5MR-SI
Storage	1 x SDXC card slot
Front I/O	4 x USB 3.0 1 x SDXC card slot 1 x Headphone-out / MIC-in 1 x Power button with LED 1 x HDD activity LED 3 x LEDs reserved for user configuration
System Fans	Fanless
Dimension	140.8 x 107.5 x 27 mm
Motherboard	MZBSWFP
Weight	560g
Side I/O	1 x Micro-B USB 2.0 1 x Micro-B 5-pin *RS232 full-duplex port (TxD, RxD, CTS, RTS, GND) *[NOTE]: 1. Please check the pin definition and ensure the port is suitable for your peripherals. 2. The serial driver GIGABYTE provided for Windows 10 and 8 is a trial version, please contact your peripheral vendor to get the correct driver.

Operating Properties	<p>Operating temperature: 0°C to 40°C</p> <p>Operating humidity: 0%-90% (non-condensing)</p> <p>Non-operating temperature: -20°C to 60°C</p> <p>Non-operating humidity: 0%-95% (non-condensing)</p>
CPU	<p>Intel® Pentium® processor N3710</p> <p>4 cores, 4 threads</p> <p>1.6 - 2.56 GHz</p> <p>2MB L2 cache</p> <p>6W max. TDP</p>
Socket	1 x BGA 1170
Memory	<p>2 x SO-DIMM slots</p> <p>1.35V DDR3L memory</p> <p>Up to 8GB</p> <p>1333/1600MHz</p> <p>Pre-installed 2 x 2GB DDR3L memory module</p>
Flash Memory	32GB eMMC
LAN	2 x GbE LAN ports (Realtek RTL8111HS)
Video	<p>Intel HD Graphics supports dual display</p> <p>Max. resolution via HDMI ports:</p> <p>3840 x 2160 @ 30Hz or</p> <p>2560 x 1600 @ 60Hz with 2 memory installed</p>
Audio	<p>Realtek ALC255 controller</p> <p>Supports 2/4/5.1/7.1 channel configurations via HDMI</p>
Expansion Slots	<p>1 x Full-size Mini-PCIe slot (for 3G module or mSATA storage)</p> <p>1 x Half-size Mini-PCIe slot (for pre-installed WiFi+BT module)</p>
Rear I/O	<p>1 x DC-in</p> <p>2 x HDMI v1.4b</p> <p>2 x RJ45</p>
TPM	-
OS Compatibility	<p>Windows 10 64bit</p> <p>Windows 8.1 64bit</p> <p>Windows 7 32bit / 64bit</p> <p>Ubuntu 15.10</p> <p>Ubuntu 16.04 LTS</p> <p>Android 5.1</p> <p>- Please download the "Windows USB Installation Tool" from GIGABYTE's website and install it before installing Windows 7</p>

Power Supply	AC 100~240V 19V DC-in 65W/3.42A
Packaging Content	1 x Quick start guide 1 x EL-20-3710-32G 1 x 19V AC/DC power adapter 1 x US type power cord * Please contact region sales for antenna modules
Ordering Information	9BTCV5MR-SI
Storage	1 x SDXC card slot
Front I/O	4 x USB 3.0 1 x SDXC card slot 1 x Headphone-out / MIC-in 1 x Power button with LED 1 x HDD activity LED 3 x LEDs reserved for user configuration
System Fans	Fanless
Dimension	140.8 x 107.5 x 27 mm
Motherboard	MZBSWFP
Weight	560g
Side I/O	1 x Micro-B USB 2.0 1 x Micro-B 5-pin *RS232 full-duplex port (TxD, RxD, CTS, RTS, GND) *[NOTE]: 1. Please check the pin definition and ensure the port is suitable for your peripherals. 2. The serial driver GIGABYTE provided for Windows 10 and 8 is a trial version, please contact your peripheral vendor to get the correct driver.