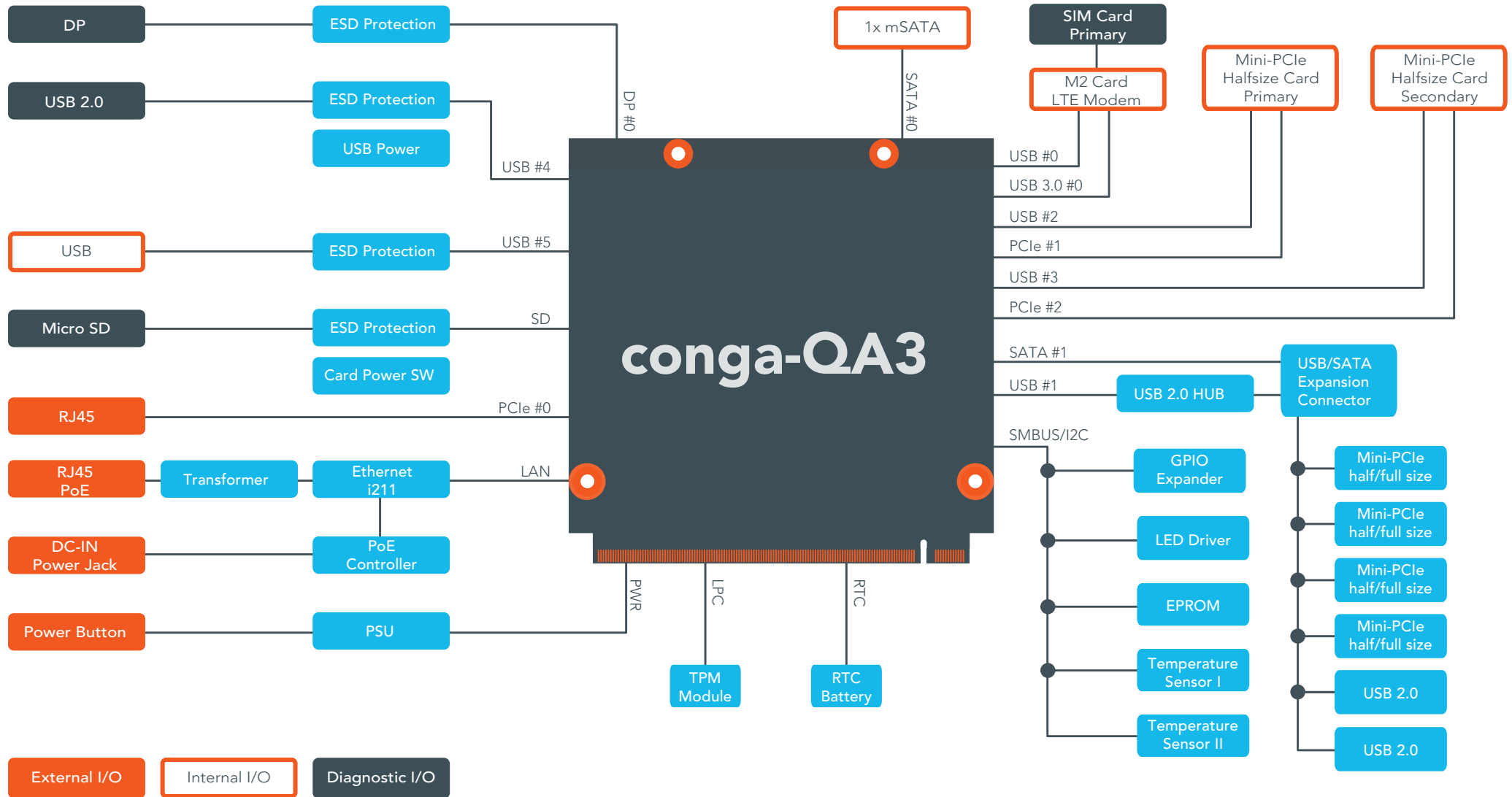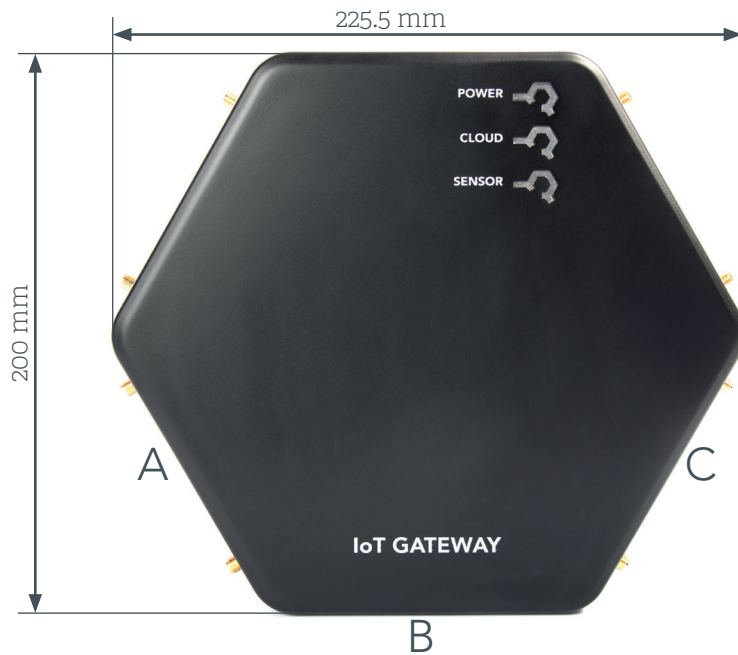# IoT GATEWAY HARDWARE PLATFORM

conga-IoT

- Highly Flexible IoT Gateway
- Based on Intel® Atom™ Architecture
- Application Ready Platform
- Easily Customizable for Rapid Field Deployment
- Flexible and Scalable:
  - Computing Performance
  - Wireless Connectivity
  - Software Integration

Form Factor	Hexagon, outside dimension approx. 220 x 225,5mm (without antennas)
CPU	conga-QA3 Qseven Module Based on 3rd Gen. Intel® Atom™ Processor Intel® Atom™ E3845 1.91 GHz Quad Core L2 cache 2MB 10W TDP
DRAM	Dual channel 4 GByte DDR3L memory
Mass Storage	eMMC 32 GByte MLC Flash
External I/O Interfaces	2x LAN 10/100 (Intel® I211AT), 1x PoE support Connector for external PSU - 19V DC | power button 4x RP-SMA antenna connectors 4x SMA antenna connectors
Internal I/O Interfaces	2x USB 2.0 1x M.2 card slot (for 3G/LTE cellular) 6x miniPCIe (USB 2.0) for wireless extension cards 2x mSATA
Diagnostic I/O Interfaces	1x DisplayPort max. resolution 2560x1600 1x USB 2.0 1x SD card slot 1x Micro SIM (for 3G/LTE cellular)
On-board functionality	1x EEPROM (8k) 2x temperature sensor RTC battery TPM 2.0 3x multicolor LEDs
Cooling	Integrated in housing
congatec Board controller	Multi Stage Watchdog | non-volatile User Data Storage | Manufacturing and Board Information | Board Statistics | BIOS Setup Data | Backup I²C bus (fast mode | 400 kHz | multi-master) | Power Loss Control
Embedded BIOS Features	AMI Aptio® UEFI 2.x firmware | congatec Embedded BIOS features (OEM Logo | OEM CMOS Defaults | LCD Control | Display Auto Detection | Backlight Control | Flash Update)
Input Voltage	DC 19V or Power over Ethernet (PoE)
Temperature	Operating : Commercial: 0 to +40°C Extended: -20 to +50°C Storage : -40 to +85°C
Humidity	Operating: 10 to 90% r. H. non cond. Storage: 5 to 95% r. H. non cond.

conga-IoT | Block Diagram

conga-QA3

- DP — ESD Protection — DP #0
- USB 2.0 — ESD Protection / USB Power — USB #4
- USB — ESD Protection — USB #5
- Micro SD — ESD Protection — SD / Card Power SW
- RJ45 — PCIe #0
- RJ45 PoE — Transformer — Ethernet i211 — LAN
- DC-IN Power Jack — PoE Controller
- Power Button — PSU — PWR
- 1x mSATA — SATA #0
- SIM Card Primary
- M2 Card LTE Modem — USB #0
- Mini-PCIe Halfsize Card Primary — USB 3.0 #0 / USB #2 / PCIe #1
- Mini-PCIe Halfsize Card Secondary — USB #3 / PCIe #2
- SATA #1 — USB/SATA Expansion Connector
- USB #1 — USB 2.0 HUB
- SMBUS/I2C
- GPIO Expander
- LED Driver
- EPROM
- Temperature Sensor I
- Temperature Sensor II
- TPM Module — LPC
- RTC Battery — RTC
- USB/SATA Expansion Connector:
  - Mini-PCIe half/full size
  - Mini-PCIe half/full size
  - Mini-PCIe half/full size
  - Mini-PCIe half/full size
  - USB 2.0
  - USB 2.0

Legend: External I/O | Internal I/O | Diagnostic I/O

conga-IoT | Dimensions

225.5 mm

200 mm

POWER

CLOUD

SENSOR

A   C

B

IoT GATEWAY

A

B

C

40 mm

Power Button

Standard I/O Interfaces
- 2x Gb Ethernet (1x PoE)
- DC Power Input

Diagnostic I/O Interfaces
- DisplayPort
- USB 2.0
- SD Card
- SIM Card

conga-IoT | Order Information

Article	PN	Description
conga-IoT/E3845	020399	congatec IoT Gateway based on Intel® Atom™ E3845 quad core processor with 1.91GHz core frequency, 2MB L2 cache, 4GB 1600MT/s DDR3L on-board memory and 32GB eMMC on-board flash. Intel® Dual Band Wireless-AC 7260 WiFi/BT adapter 802.11 ac/a/b/g/n. Huawei ME936 LTE module supporting LTE (FDD), Penta-band DC-HSPA+/HSPA+/HSPA/WCDMA for North America and Europe, Global Navigation Satellite System (GNSS).

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