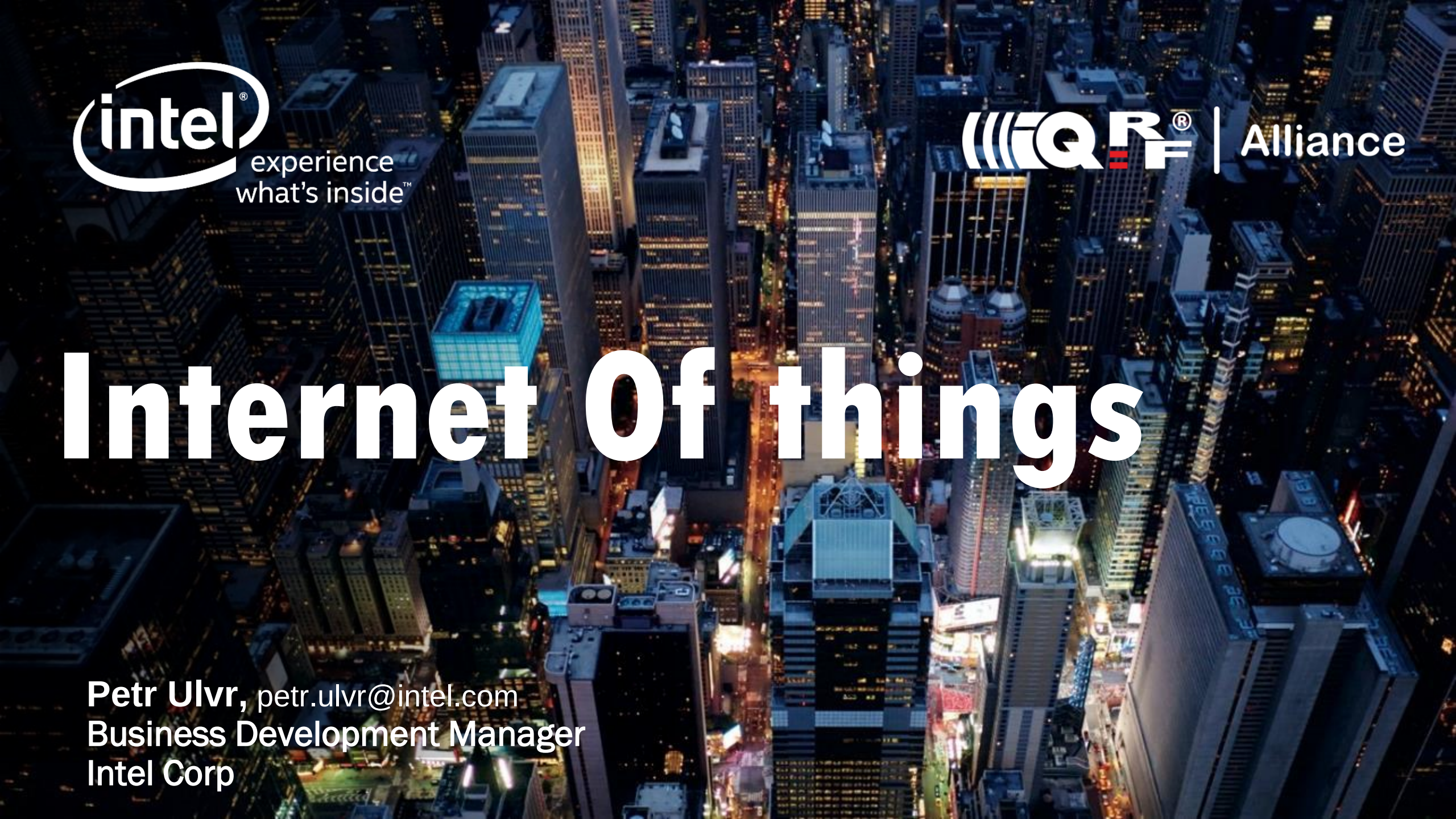


Internet Of things

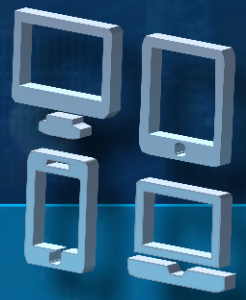
Petr Ulvr, petr.ulvr@intel.com
Business Development Manager
Intel Corp

Intel's vision

If it is smart and connected, it is best with Intel.

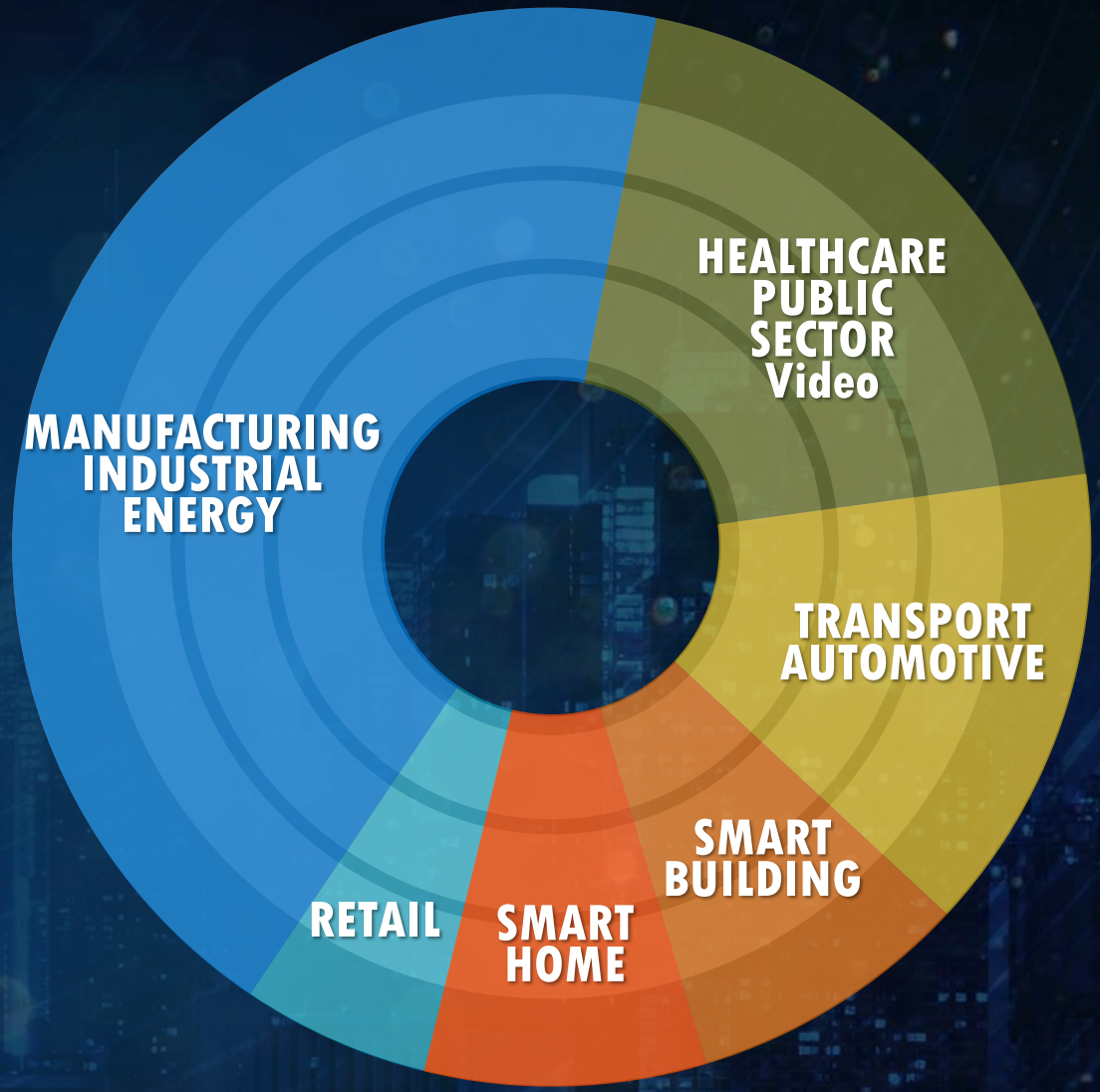
Data Center/Network

Client



Wearables/IoT

IOT OPPORTUNITY



*IDC, IHS, Intel Estimates

Intel's IoT platform: Building blocks for trust & intelligence

Analyze

Manage

Connect

Secure

Solution Enablement

Intel enables the broadest ecosystem of partners to deliver end-to-end IoT solutions for every industry

Service Management

WIND RIVER

intel Security

intel Developer Resources

MASHERY An Intel Company

Things

Gateways

Network

Datacenter

Analytics

Data Platform

Software Defined Infrastructure

intel Security

WIND RIVER

KVM

Xen

Optimized on Intel Architecture

intel Quark

intel inside CORE

intel inside ATOM

intel inside ATOM

intel inside XEON

intel inside XEON PHI

Intel Confidential

*Other names and brands may be claimed as the property of others.

Providing a Flexible Intel® IoT GatewaY

ODM-Provided Device Applications (ILS DeviceWise, ThingWorx, etc.)

Open Source OS

ubuntu

Commercial OS

Microsoft

WIND

Core | Enterprise | “Flex” | “Pro”

intel Quark

intel inside ATOM

intel inside CORE

Today: McAfee ePO*, Intel® IoT Platform software and services (Edge Application Platform, Intel® IoT Analytics)

Coming soon: More open source OS offerings, vertical-specific binaries, and more!

All products, dates, and figures specified are preliminary based on current expectations, and are subject to change without notice.
Microsoft OS* not enabled on Intel® Quark™.

Ecosystem Partners

EMEA IoT Ignition Lab Network across Europe

IoT Gateways

Presenter: Maciej Talalaj
Role: Sales Manager Poland,
Czech Republic, Slovakia

ASUS Group

Open Platform Business Group
AAEON
(Industrial & Embedded Computing platforms)
ASUS
System Business Group
Onyx Healthcare Inc.
Others

AAEON

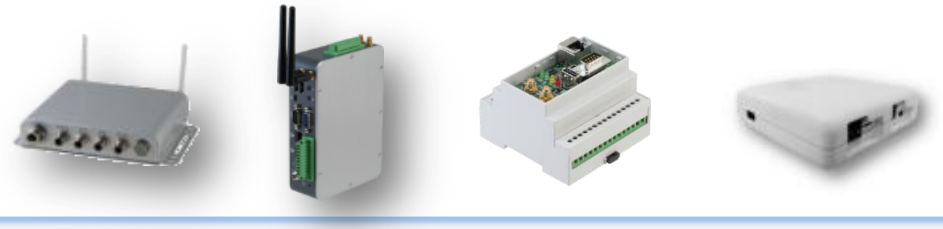
Founded:	1992
Acquired by ASUS:	2011
Chairman:	Y.S. Chuang
Employees:	700 (Europe: 36)
Location:	Taipei, Taiwan
Mftg Sites:	Taipei, Taiwan / SuZhou, China
Product:	Industrial Mother Board, Embedded CPU Board, Industrial Computer, Panel Computer, **IoT Gateway**, Embedded Box Computer, Industrial Mobile Computer
2015 Revenue:	US$142 million

Global Presence

Headquartered in Taipei, Taiwan, AAEON is now serving its global partners in 16 locations worldwide.

IoT solutions

Featured Intel Gateway Systems



Maker Innovation Platform

Module Integration

Wireless

Sensor

Strong Partnership

intel

Microsoft

asuscloud

emutex
where software meets silicon

IoT Vertical Solutions

Smart Vending Machine

Building Management System

Intel Quark Gateway Systems

- Intel® Quark SoC X1000 Series
- Moon Island Capable with McAfee Security
- Onboard 1GB DDR3 800MHz SODIMM
- USB 2.0 x 2
- Operating temperature from -20C to +70C
- 10/100 Ethernet x 2
- RS-232/422/485 x 1, RS-232 x 1
- VDC 9~24V (Lockable VDC connector)
- Mini PCIe expansion for connectivity
- Various designs for different environments

AIOT-QG

General purpose

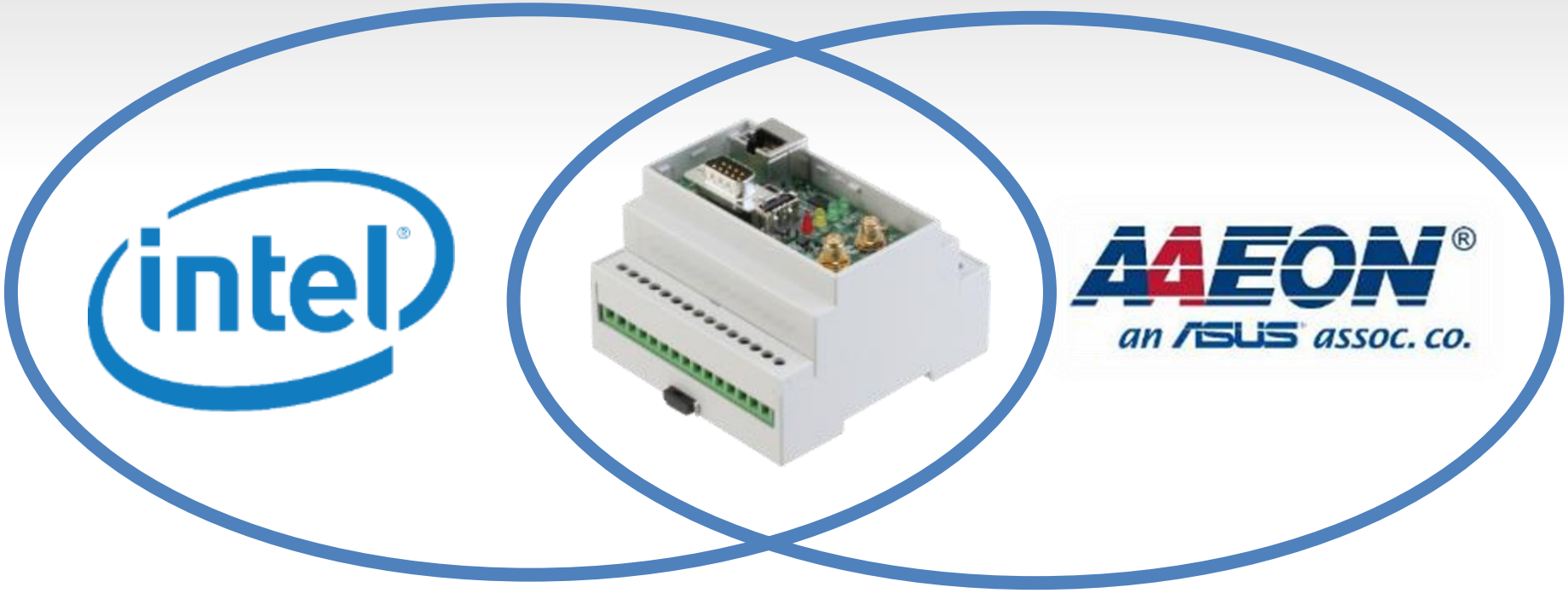
AIOT-QA

Rugged design

AIOT-QM

Outdoor, IP67, M12 connectors

Innovation in Building Management



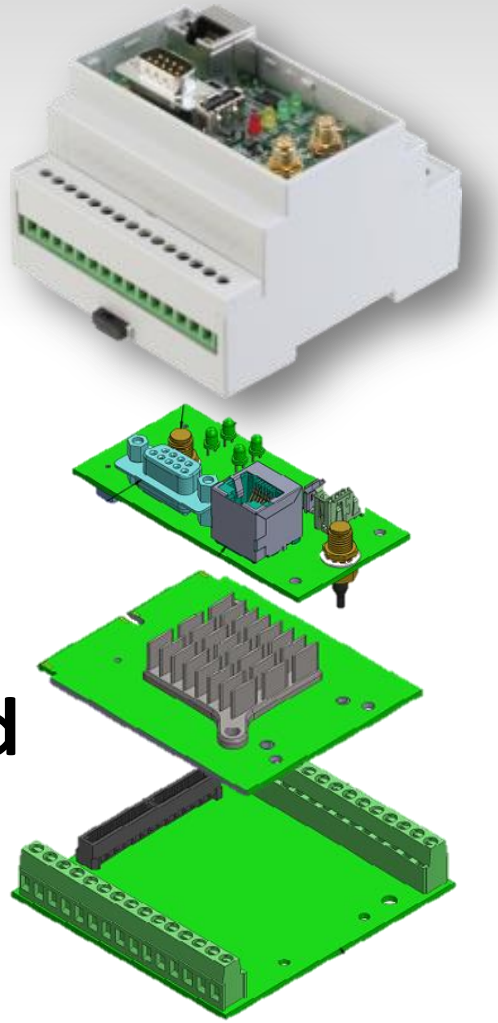
Din Rail Mount BMS
AIOT-DRM

DRM Modular Gateway

- **PC board I/O**

10/100 LAN x1, USB2.0 x1, COM x1

Antenna hole(SMA type) for wireless



- **Intel Quark PC module**

Intel Quark SoC X1021 Dual Core

On board DDR3 512 MB memory & 4GB eMMC

- **Customizable Industrial I/O board**

4 x isolated 4-20mA current loop receivers

1 x isolated 4-20mA current loop transmitter

6 x non-isolated 24V Digital Inputs

2 x non-isolated 24V/100mA Digital Outputs

Power DC24V input

DRM Value Proposition

+

+

> 500 $

Base PLC **Industrial I/O MODs** **Gateway**

AIOT-DRM - a gateway with PLC function < 250 $

Cost Effective: **Reduced Total Cost** (Equipment & Integration)
Secure: **Intel Moon Island Security and Manageability**
Flexible: **Modular design**

Up to 50% Saving of Hardware investment

Home Automation Gateway

Features

- Intel® Bay Trail CPU
- SO-DIMM DDR3L Memory
- 16GB eMMC Storage Onboard
- 1 x Ethernet, 2 x USB3.0/2.0
- 1 x HDMI + 1 x eDP(pin header)
- 1 x RS232/422/485
- 2 x PCIe Mini-Card (for Wi-Fi module or mSATA)
- 1 Power Button

Environment

- Power Requirement: 12Vdc
- Operating Temp: 0°C ~ 50°C
- Storage Temp: -40°C ~ 80°C
- Fanless

OS Support

- Windows 7, 8.1, 10
- Wind River Linux

UP – Quad Core Intel x5-Z8350 CPU board in a Raspberry Pi form factor

X86
64bit
RTC/ WOL/PXE

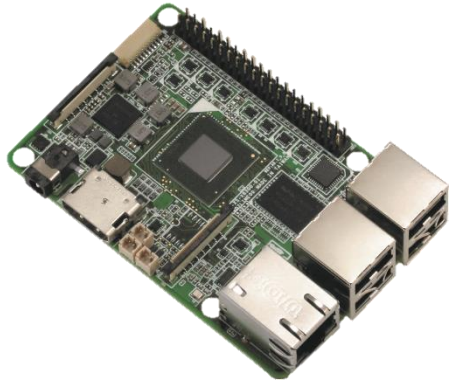
Industrial
operation temp.
0-60 C

3 years available
longevity

Customization
feasibility

eMMC up to 64GB
up to 166MB/s read
up to 45 MB/s write

Memory up to
4GB DDR3L



40 pin GP-bus
Same Pinout of
Raspberry Pi2

Android Lollipop
Windows 10
Linux

14 nm technology
2W SDP CPU

Hardware Security
AES new Instruction

1x USB 3.0 OTG
4x USB 2.0
2x USB2.0 pin header
1 Gb Ethernet

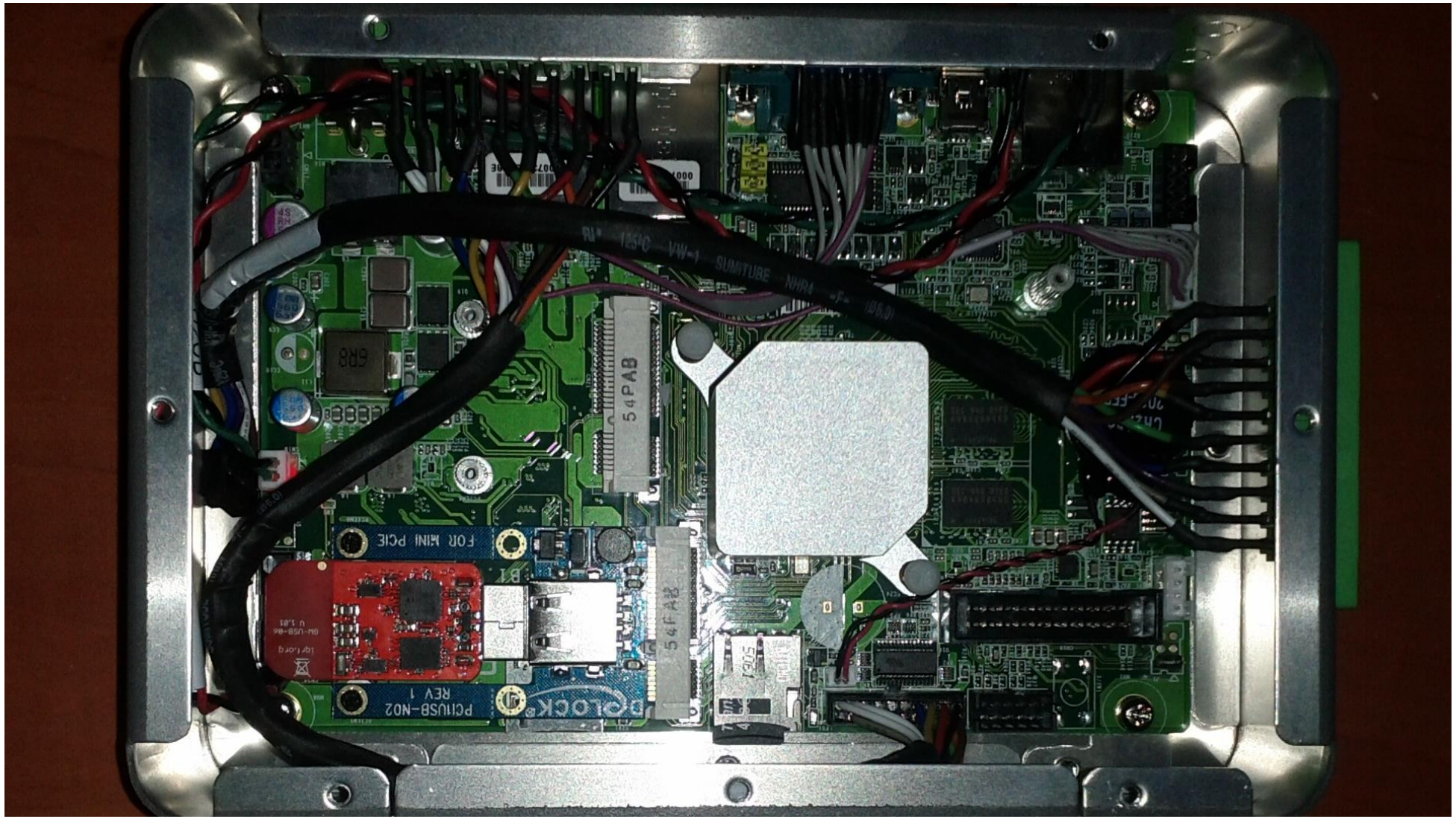
Intel Atom
QuadCore x5-Z8350
up to 1.92Ghz

Intel HD Gen 8
w/12 Graphic
Execution Units

HDMI
DSI for LCD/TFT
MIPI for Camera

IoT ecosystem

* Continuously expanding our ECO Partners.


54PAB
54FAB
FOR MINI PCIE
PCIUSB-N02
REV 1

Let’s make IoT together !

Thank you