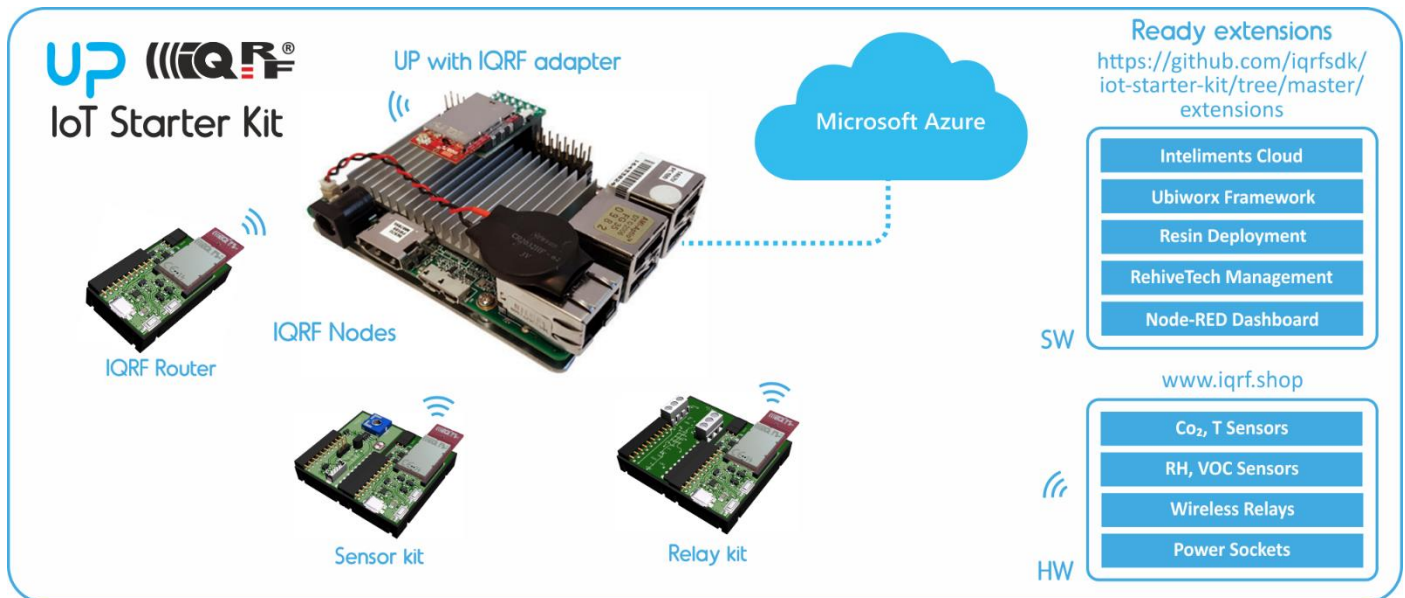# IoT Starter Kit Datasheet

About

This development tool is prepared for quick development of your wireless IoT application.


Content

- **DS-IOT-01**
  - **IQRF set for wireless connectivity**
    - **Sensor kit** DDC-SE-01 is intended to measure **temperature, light intensity** and **voltage** selected by the potentiometer.
    - **Relay kit** DDC-RE-01 enables to switch connected equipment on/off using two relays inside.
    - These kits are controlled by **DPA commands** implemented in Custom DPA handlers delivered with the set. The handlers specify HWP identification (HWPID) to individual kits which allows their identification.
    - DS-IOT-01 devices can be connected via the adapter to the UP board and then to any cloud. The gateway as well as the cloud can be adapted for communication with IQRF devices utilizing their **HWPIDs**.
  - **Components**
    - 4 x DCTR-72DAT – IQRF transceiver
    - CK-USB-04A – IQRF programmer and debugger
    - 3 x DK-EVAL-04A – Universal portable development kit for TR modules
    - DDC-SE-01 – IQRF evaluation and development kit
    - DDC-RE-01 – IQRF evaluation and development kit
    - KON-RASP-01 – Adapter to connect IQRF transceiver to UP board
    - CAB-USBABMICRO – Micro USB cable 18.5 cm
    - USB flash drive – Software and documentation (including HWPs and Custom DPA handlers)
- **UP board 2GB + 32 GB eMMC memory**
  The 40 Pin I/O connector, the USB 3.0 OTG, the Gigabit Ethernet, the HDMI and more other features make it a perfect solution for different domains and products like Robotics, Drone, Machine Vision, Smart Home, Education, Digital Signage, Intelligent Cars, Internet Of Things. The compatibility with Linux, Android, and all the Windows 10 distributions give you great flexibility, scalability and quick time to market.
  - **Consists of**:
    - Intel® Atom™ x5 Z8350 Processor 64 bit - up to 1.92GHz
    - Intel® HD 400 Graphics ,12 EU GEN 8, up to 500MHz Support DX*11.1/12, Open GL*4.2, Open CL*1.2 OGL ES3.0, H.264, HEVC(decode), VP8
    - 2GB DDR3L system memory, 32GB eMMC storage capacity
    - 4 x USB2.0 external connector, 2 x USB2.0 port (pin header), USB 3.0 port (OTG)
    - 1 x Gb Ethernet (full speed) RJ-45

- HDMI video output
- DSI / eDP display interface
- MIPI-CSI camera interface
- 5V DC-in @ 3A 5.5/2.1mm jack power input
- Power supply

Architecture
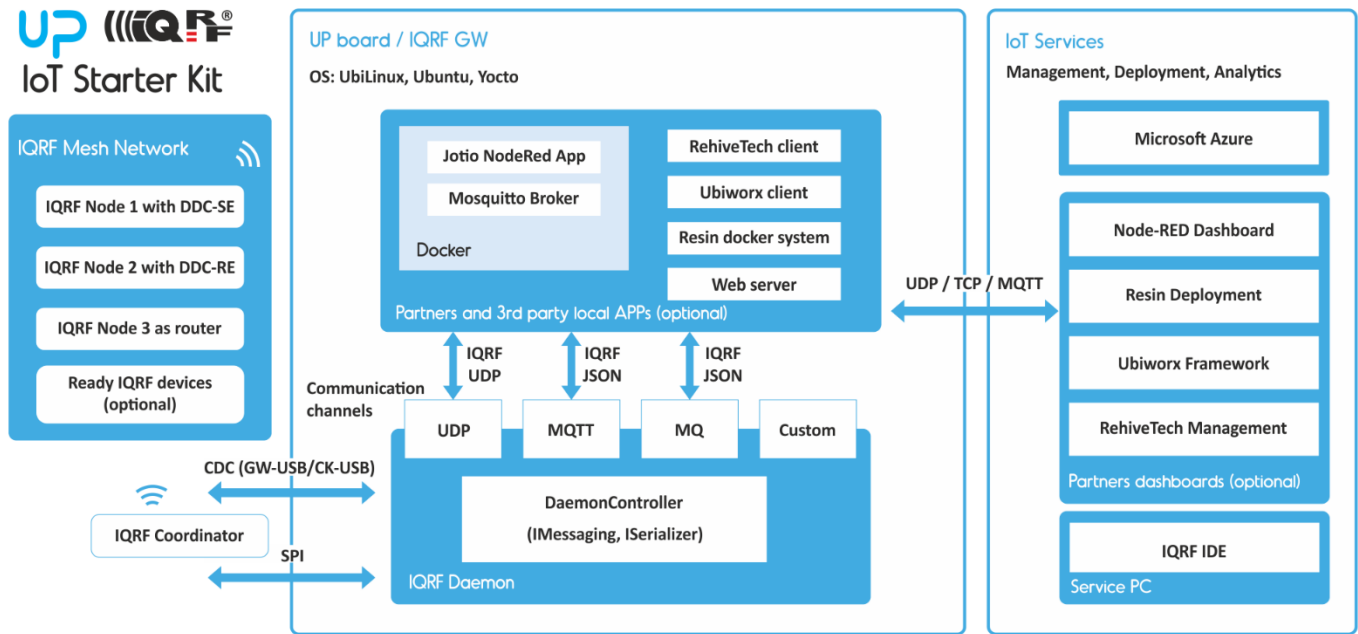
UP board is connected to the IQRF network via SPI interface (adapter) of via CDC interface (GW-USB/CK-USB).

You can find installation steps in documentation on https://github.com/iqrfsdk/iot-starter-kit.

There is the IQRF Daemon prepared for easy communication between IQRF network and other platforms. Follow the steps to install it to UP.

IQRF Daemon has several communication channels (UDP, MQTT, MQ) allowing it to be easily connected to 3rd party local or remote services and applications (e.g. Microsoft Azure, Node-RED Dashboard, remote control from RehiveTech etc.).

You can also connect to your IQRF network ready HW extensions as sensors and actuators.

HW providers

DS-IOT-01 (http://www.iqrf.org/products/development-tools/development-sets/iot-starterkit-01)

IQRF Tech s.r.o., Prumyslova 1275, 506 01 Jicin, Czech Republic, EU
Tel: +420 493 538 125, www.iqrf.tech

UP board (http://up-shop.org/up-boards/19-up-board-2gb-32-gb-emmc-memory.html)

Aaeon Europe BV, Ekkersrijt 4002, 5692 DA ,SON, the Netherlands
Registration number 814153653, info@aaeon.eu, www.up-board.org