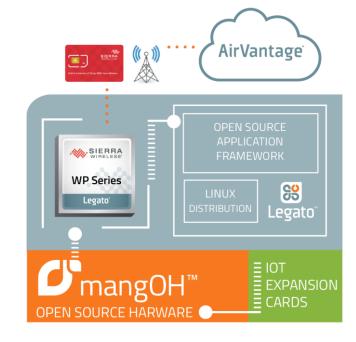
# **U**mangOH™

a new category of open hardware sensor-to-cloud platforms for IoT

# to PROTOTYPE to PRODUCT



Designed specifically for cellular-enabled IoT applications, **mangOH™** reference designs provide a sensor-to-cloud platform for rapidly prototyping ideas and getting them to production quickly. This new category of open hardware makes it easy to develop industrial-grade products with vetted components, open source software, and a business-friendly open license enabling users to modify and reproduce the design.

Partnering with the open source Legato™ platform on the WP Series of embedded modules from Sierra Wireless, mangOH delivers 90% of an IoT prototype out-of-the-box so users can begin creating their software and web applications immediately.

In addition to reference designs, the mangOH project released IoT Expansion Cards to provide plugand-play wireless, wired, and sensor technologies that can be used in final product designs. Integrated seamlessly with Legato, mangOH reference designs:

- Automatically detect the IoT Expansion Cards to load drivers and applications (no integration required, just plug in and start building your apps)
- Provide data management service that builds local intelligence on the "edge" as well as pushes data to the big data servers.





# mangOH Green is the ultimate prototyping platform for any IoT use-case with more expansion possibilities

- 3 IoT Expansion Card connectors
- 2 CF3<sup>™</sup> sockets
- Arduino compatible connector
- Built-in Accelerometer and Gyroscope
- USB 2.0 Micro
- RS232/Serial
- RJ45/Ethernet
- Audio Jack
- Micro SD Card slot
- 2 SIM slots
- Fits into any Eurocard size case (100mm x 120mm)



# mangOH Red is designed for low-power IoT use-cases in a smaller, lower-cost form factor.

- IoT Expansion Card connector
- CF3<sup>™</sup> socket
- Raspberry Pi shield connector
- Wi-Fi and Bluetooth
- Built-in Accelerometer, Gyroscope, Light, and Altimeter
- MCU (Cortex M4)
- USB 2.0 Micro
- Audio Jack
- · Micro SD Card slot
- SIM slot
- 3D-printable case designs (61mm x 69mm)

# HARDWARE HIGHLIGHTS

- Includes a cellular modem for wirelessly connecting your IoT applications over a mobile network
- Powerful ARM-based application processor with GNSS receiver
- Built-in sensors including Accelerometer, and Gyroscope
- Can be powered by a battery for low-power wireless applications

# **SOFTWARE HIGHLIGHTS**

- Pre-integrated with the open source Legato Linux platform for application-level development
- Robust connectivity APIs lets you access cloud and network services such as voice calls, SMS, data, radio controls
- Maintained Linux distribution based on the long-term supported Linux kernel (LTSI) hosted by the Linux Foundation

# **CLOUD SERVICES HIGHLIGHTS**

- Pre-integrated with the AirVantage® cloud platform from Sierra Wireless
- HTTP-based RESTful APIs for integrating IoT data
- Big Data storage and analytics with aggregated data APIs for driving trend visualization
- Operations console provides a SIM and device management with monitoring dashboards and remote update capabilities for your edge applications

