Decawave Announces New Module Aimed at Democratizing Ultra-Accurate, Ultra-Reliable Real-Time Location Services

Easy development and low-cost change the game for high-performance micro-location implementations in consumer and industrial markets

SAN FRANCISCO, CA and DUBLIN, IRL – February 22, 2018 – Following a very successful CES 2018, where its local area location capabilities appeared in a swath of the latest devices from consumer electronics manufacturers worldwide, Decawave today announced the availability of a new module family that will enable high-performance local area location capabilities to be built into an even wider array of products. The new modules will dramatically reduce integration and build costs, while also significantly reducing the time it takes customers to bring new products incorporating Decawave's technology to market.

"Customers are telling us they want to build ultra-accurate and reliable real-time location capabilities into an increasing range of products," said Mickael Viot, Vice President of Marketing at Decawave. "Traditional solutions such as Wi-Fi, Bluetooth and RFID are simply too unreliable, inaccurate and costly to meet their needs. Our new modules deliver on all fronts and will enable them to get new products to market faster, cheaper and more easily."

Millions of Decawave chips are already built into a broad range of solutions from the company's tier-one customers and partners. In addition to devices seen at CES 2018, such as drones, remote controls, smart home devices and smart luggage, Decawave's ultra-accurate and ultra-reliable systems can also be found in smart parking, hospitals, factories, warehouses, retail solutions and even sports tracking.

Product Capabilities

The new modules are built around Decawave's Ultra-Wideband (UWB) technology, which provides customers with access to market leading local area location capabilities. The new modules include both hardware and software.

Hardware – The DMW1001 module includes:

- Decawave's DW1000 chip. Decawave's technology is immune to multipath fading, which guarantees high reliability—within 2cm precision—in indoor environments. The 6.8Mbps data rate capability also reduces air time, enabling the real-time location of thousands of tags, as well as low power consumption for battery-operated devices.
- Embedded Nordic nRF52832 Bluetooth Low Energy (BLE) SoC to enable customers to interface with phones and tablets, whether for configuration or visualization purposes; BLE can also be used for power management with anchors waking-up or shutting down tags as they enter/leave pre-defined areas.
- Built-in antenna and power management which drastically simplifies the design of the tags and anchors.

- Three-axis accelerometer which enables battery life optimization and the use of a large number of tags through adaptive blink rates.

Software – The software solution includes:

- Embedded Real-Time Location Services (RTLS) software stack to operate tags and anchors, enabling customers to focus on developing their applications.
- Scalable, embedded software stack offering mesh capability over UWB removing the need for additional backhaul technology. (Q2'18)
- Border router functionality for customers in the form of a software reference design running on a Raspberry Pi 3; Integrating an MQTT broker, the border router can directly push location information from the location network into the Decawave web client reference design, allowing customers to visualize the location of the tags and anchors in the network, push data onto the network to control the devices and quickly build analytics, geo-fencing and automation procedures. (Q2'18)
- Decawave-defined embedded application programming interfaces (APIs) and left-user memory space so customers can customize their unique solution.
- Clean separation of the radio frequency (RF) software protocol stack from the developer's application code, eliminating the possibility of code development and compilation corrupting the stack, simplifying design and further accelerating time-to-market.

Product Delivery

The DWM1001 module is available now at $11.95 per module in 10Ku quantities. For customers looking to begin development using the new module, or to evaluate its capabilities, it is also available in the following formats:

- The DWM1001-DEV development board offers USB flashing/debug, access to all the module's GPIOs, buttons, and LEDs as well as battery connector and battery charging.
- The development board is available in packs of 12 via the new Decawave MDEK1001 evaluation kit. Composed of 12 units enclosed in plastics and running from RCR123 battery or USB for ease of use, the evaluation kit also comes with an Android application to configure the network and visualize the devices. The kit will be compatible with the border router functionality and each unit can be used as a development platform as it is based on the DWM1001-DEV.

DWM1001, DWM1001-DEV and MDEK1001 are already available on Decawave distributors websites.

About Decawave
Decawave delivers the semiconductors, software and services that enable ultra-accurate, ultra-reliable, indoor and outdoor micro location services anytime, anywhere. Decawave is headquartered in Dublin Ireland, with presence in China, US and South Korea. For more information, visit
http://www.decawave.com.