

## NEWS RELEASE

PR0620E

### **Alps Alpine to Release High-Accuracy Positioning System Evaluation Kit**

*Employing Highly Versatile Bluetooth® Low Energy*

Munich, Germany, November 12, 2020 – Alps Alpine Co., Ltd. will commence supply of a High-Accuracy Positioning System Evaluation Kit employing a *Bluetooth®* Low Energy chip in November 2020 in recognition of heightened positioning needs.

There is a growing demand for high-accuracy positioning systems in the Internet of Things (IoT), the automotive industry, and a wide range of other sectors, including production and logistics. In the automotive industry, alongside personal recognition, the ability to pinpoint the location of a device is essential for enabling Mobility-as-a-Service (MaaS) offerings, such as smartphone-based digital keys. However, positioning has often come with issues relating to practicality and the burden on development resources – for example, requirements for physical scanning using barcodes or IC tags, or development of high-end systems employing GPS and Wi-Fi®.

In responding to these issues, Alps Alpine has taken steps to commercialize positioning modules using sub-GHz bands, including its Long-Lifetime Asset Tracker for logistics operations. The company is currently pursuing additional development of high-accuracy positioning technology employing a *Bluetooth®* Low Energy chip, aiming for commercialization and a start to mass production during 2021.



\* Notebook PC not included in evaluation kit

In advance of this, Alps Alpine has developed an evaluation kit for use with a high-accuracy positioning system. The kit will be available November 2020. Alps Alpine's high-accuracy positioning technology employs an original position detection algorithm developed by American firm Greina Technologies, Inc. (RF Ranging, Inc.<sup>1</sup>). Alps Alpine

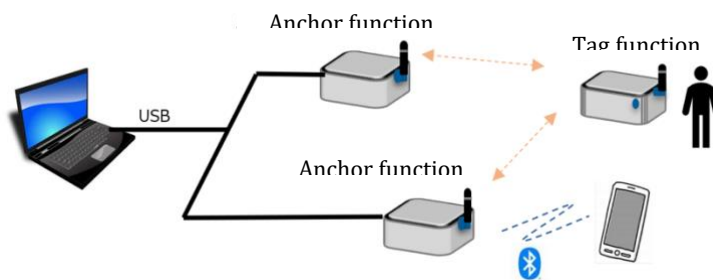
acquired Greina Technologies in May 2018. The system achieves high-accuracy positioning due to being able to measure the angle of arrival (AoA) and time of arrival (ToA) simultaneously. Positioning employs a *Bluetooth*® Low Energy chip that has been adopted widely in the market, enabling easy data communication with existing systems that already use *Bluetooth*®. The system therefore has excellent potential for implementation in society.

Furthermore, the chip inside the development kit is an NXP Semiconductors KW38 Wireless Microcontroller, which has been extensively deployed within automotive, consumer electronics and industrial equipment sectors and boasts excellent security performance. Positioning and *Bluetooth*® Low Energy communication need only a single chip. Under the *Bluetooth*® 5.1 specification, the angle of arrival (AoA) option is already standard. Through participation in the Bluetooth Special Interest Group (SIG)<sup>2</sup>, Alps Alpine is currently pursuing standardization of time of arrival and ranging technology with greater security.

By quickly establishing high-accuracy positioning technology and supplying the evaluation kit to the market, Alps Alpine is looking to heighten added value for finished products while contributing to a user experience that brings safety, peace of mind and outstanding usability to automotive and energy, healthcare and industry (EHI) markets.

1. RF Ranging, Inc. is a sales company for Greina Technologies, Inc.
2. The Bluetooth Special Interest Group (SIG) is a standardization body supervising *Bluetooth®* specification development, *Bluetooth®* technology and trademark licensing to manufacturers.

## System Configuration



Minimum system: 2 anchor function modules + 1 tag function module

## Features

Original AoA/ToA algorithm enables compact, high-accuracy positioning

1. Positioning and data communication employ a highly versatile *Bluetooth®* LOW ENERGY chip
2. Positioning using tags possible with a minimum 1 anchor
3. Internal *Bluetooth®* Low Energy stack allows position measurements and data communication

## Principal Applications

- Automotive market: Smart Electronic Key, digital keys
- Industrial market: Production systems, conveyance systems (e.g. transfer robots, movable warehouse assets)

## Specifications

Product name	High-Accuracy Positioning System Evaluation Kit
Supplied system units	2 anchors and 1 tag (standard) *Additional anchors and tags can be connected
Maximum ranging distance	140m (in line of sight)
Detection accuracy	±30cm (in line of sight) *Ranging accuracy with 1-anchor system
Power supply	Anchor: 5V (via USB)
Interface	USB (UART)
<i>Bluetooth®</i>	<i>Bluetooth®</i> Low Energy 5.0-compliant Custom profile

**Alps Alpine Co., Ltd.** On January 1, 2019, Alps Electric Co., Ltd. and Alpine Electronics, Inc. integrated their businesses and started out afresh as Alps Alpine Co., Ltd with 42,289 employees. Alps Alpine will steadily bring about synergies by drawing on the two companies' advantages in core devices, system design and software development.

The new company will endeavour to create its own unique value for not only the automotive market, but also mobile devices and consumer electronics, as well as new sectors such as energy, healthcare and industry. For more information please visit [www.alpsalpine.com](http://www.alpsalpine.com)

**Alps Alpine Europe GmbH**, a subsidiary of Alps Alpine Co., Ltd., was established in 1979. Since 2013 the European Head Office has been located in Munich and as such co-ordinates the Sales, Marketing and Product Engineering activities of our offices in Dusseldorf, Stuttgart, Wolfsburg, Paris, Milton Keynes, Coventry, Gothenburg, Frolunda and Milan, as well as the production activities of our manufacturing site in Dortmund. Alps Electric Europe GmbH changed its name on 01.04.2020 to Alps Alpine Europe GmbH.

**Contact:**

ALPS ALPINE EUROPE GmbH  
Phone.: +49 89 321421-0  
Fax: +49 89 321421-205  
Inquiry: [www.alpsalpine.com/eu\\_info/](http://www.alpsalpine.com/eu_info/)  
[www.alpsalpine.com](http://www.alpsalpine.com)

**PR Agency:**

MEXPERTS AG  
Peter Gramenz  
Phone: +49 (0)8143 59744-00  
[www.mexperts.de](http://www.mexperts.de)  
Press Portal: [www.presseagentur.com](http://www.presseagentur.com)  
Contact: [peter.gramenz@mexperts.de](mailto:peter.gramenz@mexperts.de)

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