



Media information

Huf Phone as a Key achieves high localization accuracy with NXP Ultra Wideband ICs

Velbert, July 13th, 2021 | With Phone as a Key, Huf offers a reliable system for digital key management. And with the use of Ultra Wideband (UWB) technology, localization accuracy increases even more. The Huf system establishes communication between smartphones and the Huf UWB satellites and determines the position with an accuracy of up to 10 cm – also under extreme conditions.

The Huf Phone as a Key system enables passive localization at greater distance using Bluetooth Low Energy (BLE), which detects and imperceptibly authenticates the digital key on the approaching owner's smartphone at 30 m. UWB is used for localization within a radius of 10 m around the car and detects the smartphone very precisely. As recent measurements have shown, the Huf Phone as a Key system achieves a location accuracy of up to 10 cm. Even under extreme conditions: Huf engineers regularly test the system in the laboratory, where different scenarios can be simulated. In addition, Phone as a Key must also meet the high requirements under real conditions, for instance in underground parking lots. Here also the system achieves exact positioning despite high interference levels and possible shielding by people and objects. This is due to the very good antenna characteristics and the intelligent algorithm – both core competencies of Huf.

OEM customers can experience the high performance by testing the demo cars which are available worldwide. Jürgen Stadler, Head of Development in the Business Unit Locking & Authorization at Huf, comments: "We have been working on digital keys for years and achieved very good performance with our system, regardless of whether the customer chooses variants with NFC or passive car access with BLE and UWB. By using NXP's latest product generations, we are driving the integration of digital key technologies in automotive business at full speed. As a highly specialized automotive supplier, we see it as our duty to ensure that Phone as a Key has a very high level of compatibility and thus fulfills the wishes of our customers, the car manufacturers."

Huf Phone as a Key: Scalable system offers additional functions on demand

Huf is a member of the Car Connectivity Consortium, which defines active and passive car access via smartphones. Huf has already actively contributed to and pioneered the establishment of Near Field Communication (NFC): In 2016, for example, Huf was the world's first automotive supplier to introduce NFC for active car access in an outer door handle. It was the first time a car was opened via NFC.

Intelligent software is at the heart of Huf Phone as a Key. It calculates the smartphone's position and checks its digital keys. Depending on the customer's specifications, the algorithm authorizes access, fulfilling Thatcham security requirements for maximum theft protection any time. The software has been implemented in line with the globally valid AUTOSAR standard and can therefore be easily integrated into almost all car architectures. Car manufacturers who choose a variant with UWB technology will in future be able to release so-called "functions on demand" via software and opening up additional

business fields via in-app purchases. In addition, functions such as child presence detection, which will be included in the 5-star rating in the NCAP crash test from 2022, can be added over the air (OTA).

Images and further information are available via the following link:

[Huf Group Newsroom](#)

About Huf Group

The Huf Group develops and produces mechanical and electronic locking systems as well as car access and authorization systems for the global automotive industry. Established in Velbert by Ernst Hülsbeck and August Fürst in 1908, the family-owned company today has locations in Europe, America and Asia. According to a study conducted by Handelsblatt, Huf is among the 20 most innovative companies in Germany. In the 2020 financial year, the Huf Group generated sales of roughly 1 billion EUR and employed 7,800 people worldwide.

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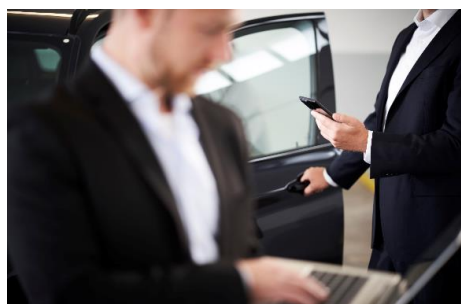
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The Huf Phone as a Key-System enables a handsfree access. Car manufacturers who choose this option with UWB technology will in future be able to release so-called "functions on demand" via software and opening up additional business fields via in-app purchases.



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