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Ultra-Wideband (UWB)

November 20, 2020

Question & Answer

Q. What is the current adoption rate of UWB?

- A. As discussed in the presentation, there has already been several public announcements in the automotive and mobile industries. Additionally, there is strong participation in industry groups to accelerate UWB adoption and build an interoperable ecosystem. We anticipate high rate of adoption.

Q. How far away can a person be and still utilize UWB to enable access control?

- A. UWB-based products can reach up to 100 meters of range under line-of-sight conditions. However, in a typical access control use case, we see a typical need for UWB functionality limited to more of a 3-meter range.

Q. What does UWB do to battery life on a mobile device?

- A. There's still a lot to learn here. It will be highly dependent on the mobile provider implementation, the access allowed by applications and above all, the use case for peer-to-peer interaction, including variables like refresh rate and background tasks.

Q. When will Allegion have a product that utilizes this UWB technology? Will current products be backwards compatible?

- A. Today's call was really focused on thought leadership within this emerging technology and not a product launch discussion. You'll have to stay tuned for any future announcements on product launch information from Allegion as it becomes available.

Q. What resources exist if I want to learn more about UWB?

- A. We encourage you to check out the FiRa website to learn more about UWB and other use cases that exist with this technology. The Security Industry Association has hosted a webinar and posted an article on UWB too, or just watch the news for the latest announcements. The Consumer Electronics Show is always a great show to watch for the latest in innovations and breakthrough technologies as well.

Q. What is "PHY"?

- A. The physical layer. In this case the physical circuitry for the UWB radio.

Q. Could the ranging and angle of arrival technology in Bluetooth 5.2 offer the same capabilities with a faster potential rollout in handsets than UWB? Does FiRa plan on including Bluetooth 5.2 in the standard?

- A. Although Bluetooth 5.2 does offer angle of arrival for localization, distance is still limited to the receive signal strength indication (RSSI) and not based on time of flight (ToF). This results in a less accurate estimation.

Q. Can you explain “intent”? Is intent something that the user has to do, or is it passive?

- A. We envision intent being seamless (passive). Think phone/tag in pocket with no interaction needed to access a secure passageway.

Q. Does UWB require a different antenna/hardware or can it utilize BLE/NFC?

- A. Yes. UWB operates at a different frequency than BLE and NFC. This results in the need for separate antenna(s).

Q. Do you think Apple will join FiRa?

- A. As a FiRa Sponsor Member, we are not at liberty to discuss or speculate on potential members. However, we hope we see continued momentum in FiRa membership.

Q. Will UWB distinguish the side of the door you are on?

- A. This is dependent on the implementation of UWB. It can be designed to distinguish what side of the door a user is on.

Q. Please give us a view of the entry process as you see it?

- A. Seamless. A valid user should have the ability to approach an access point and have verified access and passage without the need to interact with their mobile device.

Q. What does an access control reader look like to support UWB localization

- A. An access control reader would need to be designed to support both BLE and UWB.

Q. Are there any chip makers doing dual radio chips of BLE & UWB or say Zigbee & UWB?

- A. Based on the current proposal to use BLE to initialize a UWB session, we would anticipate seeing multi-tech chips that support BLE and UWB.

Q. What is the relative cost of UWB chips versus say BLE? Same, more or less?

- A. Like most new technologies, the initial price is going to be higher than mature technologies. However, as the adoption/volumes increase we anticipate the cost falling in-line with other connectivity solutions.