

Press Release

Smart charging without a cable

Villach, 17 August 2017 – A wireless connection to the hands-free system or streaming music via Bluetooth has been a matter of course for a long time now; but if we want to charge our smartphones or other devices we still have to reach out for a cable. Never again have tangled cables, broken cables or a feverous search for lost cables. The solution for this is called wireless charging, and the trend towards wireless charging is continuing. Infineon supports this charging technology by offering innovative products that transfers electricity as quickly and efficiently as possible from the charging station to the device. These are mainly developed and produced in Villach.

Wireless charging has many advantages, especially now in vacation time. Cables are no longer needed and broken cables are a thing of the past. Charging “on-the-go” is possible in public places and in the car. In addition, multiple devices can now also be charged at the same time with one charging station. This includes smartphones, tablets and notebooks as well as wearables. Devices with low voltage are also profiting from this trend, such as electric tools, household appliances, drones, electric toys or medical devices.

Wireless – how does it work?

Richard Kuncic, Vice President & General Manager Business Line DC/DC with the head office in Villach explains the principle: “Wireless charging does not use any physical connection the recharge the battery of an application. This means that power gets transferred from a transmitter to a receiver application via electromagnetic fields. However, this calls for the same standard for the charger and end device.” Currently, two significant standards exist in the market: inductive and resonant. These standards are mainly driven by two alliances: the Wireless Power Consortium (WPC with the Qi-Standard - inductive) and the AirFuel Alliance

(inductive and resonant). Infineon is a member in both alliances and actively participates to shape this trend of tomorrow. Manufacturers such as Asus, Google, HTC, Huawei, LG, Microsoft, Motorola, Nokia, Samsung, Blackberry and Sony already address the wireless charging market by offering inductive solutions for Qi and inductive AirFuel.

Inductive and resonant standard

The inductive standard (frequency range of 100-300 kHz) offered by WPC and AirFuel has already become established in the market with its good price/performance ratio. The principle has been known for a long time from electric toothbrushes. There are electric coils, both in the charging station as well as on the bottom of the toothbrush. If they lie exactly on top of each other, then electrical energy flows. The communication between the transmitter and receiver uses in-band communication, a transmission protocol from telecommunications. If the coupling is quite accurate, an efficiency of 75 per cent and more is possible.

With resonant technology (frequency range of 6.78 MHz), which is offered exclusively by AirFuel, devices can be positioned quite freely on the transmitter. It allows a greater distance between the transmitter and receiver, around 30 mm in all directions. In addition, multiple devices can be charged at the same time. The communication between the transmitter and receiver is based on bluetooth low energy. Specifications for resonant solutions are available up to 70 W. Transmitter boards can be integrated more easily in items such as furniture. Therefore, the original design doesn't have to be changed. Even devices in a metal casing can be charged without restrictions.

Infineon offers product solutions for charging stations and adapters that ensure optimum wireless electricity transmission to different receiver devices. Richard Kuncic: "With smart charging, the focus is clearly on further increasing efficiency, easier handling or increasing the charging speed."

High growth rates

Richard Kuncic points out the potential: "In 2017, 172 million wireless chargers will be delivered worldwide. A market size of more than 643 million chargers is forecast for 2022, which corresponds to a compound annual growth rate of around 30 percent*. Hence, wireless charging will undoubtedly simplify our daily lives." The future development also depends on how quickly companies of end devices integrate these technologies in the devices. *Source: IHS Wireless Power Tracker – Q2 2017

Worldwide, more than 3,500 public places already offer wireless charging possibilities – in Europe, for example, McDonalds in the UK, the Camp Nuo football stadium in Barcelona or in certain areas of London's Heathrow and Gatwick airports. Car manufacturers are also equipping their vehicles with the new technology. So far more than 150 models from Audi, Honda, Hyundai, Lexus, Toyota, BMW or Chrysler have wireless charging transmitters installed to recharge for example your smartphone. The usage of wireless charging at home is also rising. There are currently more than 400 different chargers available with the Qi standard.

About Infineon Austria

Infineon Technologies Austria AG is a group subsidiary of Infineon Technologies AG, a world-leading provider of semiconductor solutions that make life easier, safer and greener. Microelectronics from Infineon reduce the energy consumption of consumer electronics, domestic appliances and industrial facilities. They make a major contribution to the convenience, security and sustainability of vehicles, and enable secure transactions in a connected world.

Besides Germany, Infineon Austria is the only subsidiary within the group that pools competencies for research and development, production as well as global business responsibility. The head office is in Villach, with further branches in Graz, Klagenfurt, Linz and Vienna. With around 3,600 employees from around 60 countries (including 1,400 in research and development), in the financial year 2016 (ending in September) the company achieved a turnover of € 1.8 billion. An R&D expense rate of more than €400 million makes Infineon Austria one of the strongest industrial research companies' in Austria.

Further information at www.infineon.com/austria

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