Qualcomm demonstrates DEVC system to charge vehicles while driving

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Qualcomm Technologies, in partnership with Renault and Vedecom, has demonstrated dynamic wireless electric vehicle charging (DEVC) system, based on its Halo wireless electric vehicle charging technology (WEVC).

The system allows vehicles to charge while driving. It is capable of charging an EV dynamically at up to 20 kilowatts at highway speeds.

Qualcomm claims that the technology has been tested in harsh racing environment conditions of the FIA Formula E race series, when it was launched three years ago.

Tests also showed that two vehicles can be charged simultaneously with the wireless charging system.

Qualcomm's Halo WEVC technology was developed at its Auckland facility under a €9m project known as FABRIC, with funding support from European Commission.

The system has a 100m track, which includes 4, 25m stubs, each running from its own power supply. Each stub powers 14 base array network (BAN) blocks coupled magnetically into the backbone cable.

Power is transmitted across the air gap to two 10kW vehicle pads (VPs) located under the EV. The vehicle system converts the 85 kHz AC into DC, as required for the EV's battery management system.

Qualcomm's Halo technology has been designed to work with potentially any electric vehicle. Almost all of the electric vehicles can be charged using this technology, independent from which supplier offers the hardware.

The magnetics can supports a range of power transfer levels and varying ground clearances from SUVs to roadsters and are also suitable for surface, flush and buried installations.

Qualcomm New Zealand Limited Director Engineering Michael Kissin said: "This is a huge achievement, and as someone who's studied wireless power transfer and focused my career on its commercialisation, this is pretty cool stuff.

"Being part of a team helping to drive change and deliver technology to benefit the industry, the planet and how we power passenger vehicles of the future is absolutely fascinating."

Kissin said: "The number of development contracts and requests for quotation from automotive OEMs is on the increase. We expect that production orders will be placed soon, and we will start to see WEVC systems on production vehicles in the next two to three years."

Image: Qualcomm develops and tests wireless electric vehicle charging system. Photo: Courtesy of Qualcomm Technologies, Inc.

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