Automakers Drive Development of In-Vehicle Wireless Charging

Global automakers including General Motors, Volkswagen and Audi are putting their horsepower behind wireless in-vehicle charging, a technology that allows motorists to recharge the batteries of their mobile devices while on the road, new IHS iSuppli research indicates.

“Conventional approaches to charging mobile devices in cars, such as plugging into a cigarette lighter, 12-volt charger or Universal Serial Bus (USB) port, are too inconvenient for most consumers,” said Stacey Oh, analyst and regional manager for Asia automotive research at IHS. “Wireless charging, however, allows car drivers and passengers to recharge batteries simply by setting their cell phone or other mobile device on a flat pad or shelf, providing a far more handy solution when on the go.”

The automotive segment represents only a tiny portion of the global wireless charging market, which is set to soar this year to $885.8 million, up more than sevenfold from $123.9 million in 2010. The overall wireless charging market during the next several years is expected to be dominated by product-specific solutions for mobile phones. However, wireless charging solutions in cars still represent a significant growth opportunity for automakers and their suppliers.

GM invests in Powermat

GM and wireless charging product maker Powermat in January announced a $5 million investment from the new GM Ventures subsidiary, which could put Powermat inductive charging in many Chevrolet, Buick, GMC and Cadillac cars as soon as mid-2012.

Powermat already sells wireless chargers for personal use. In most instances when charging a smart phone, the Powermat system requires a case to be attached with a small receiver to the device. The receiver then allows the device to communicate with a power mat, and through induction, charges the battery without the use of cords.

While the GM announcement pegged the Chevrolet Volt as one of the first GM vehicles to offer this technology, higher-volume automobiles will be the ones that could deliver a true revolution in wireless charging for cars.

VW and Audi get into the action

Audi at the 2010 Las Vegas SEMA show in November demonstrated a device along with Qualcomm and Peiker that allowed for the wireless charging of smart phones, personal digital assistants (PDAs) and other devices. The wireless charging solution

would be sold as an accessory by Audi.

Meanwhile, at Volkswagen's new Electronics Research Laboratory in Silicon Valley, research is being conducted on a center console that can wirelessly charge smart phones, similar to the power mats now on the market for home use. The project, in development with Qualcomm, reportedly could use magnetic near-field resonance to power rear-seat entertainment or ambient lighting systems as well.

Chinese OEMs and their role

The Shanghai Auto Show in April revealed that Chinese original equipment manufacturers (OEM) are gearing up for the wireless charging of mobile devices in the car. Some Chinese OEMs are attempting to lead the new race in deploying mobile wireless charging with various approaches, including integrating the mobile wireless charger into the car.

Chinese automaker Geely showed its flagship sedan, the Emgrand EC8, with a mobile wireless charging system on the bottom of its center stack. According to Geely, wireless charging is designed for mass production, but the moment of launch has not been determined yet.

Fellow Chinese automaker Chang'an showcased a future car prototype with several advanced driver assist system (ADAS) features as well as a wireless charging system for mobile devices in the center armrest. According to Chang'an, the car employs a wireless charging standard known as Qi, developed by the Wireless Power Consortium (WPC), and promoted in Beijing as an industrial standard since August 2010. Many Chinese enterprises now have their own Qi Wireless Power Standard products, and Chinese OEMs seem keen on bringing the technology to market.

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