

Easier Wireless Charging Via Shared Antenna

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The NFC Forum presents means to charge NFC-enabled IoT devices through a single antenna, with a power transfer rate of up to 1 watt-- the Wireless Charging Candidate Technical Specification (WLC).



The WLC enables a single antenna in the NFC-enabled device to manage both communications and charging. Such a solution should allow for easier charging of low-power IoT devices, such as smartwatches, fitness trackers, headsets and other consumer devices. It uses the 13.56MHz base frequency, and leverages the NFC communication link to control power transfer.

According to the forum, NFC technology is unique in allowing the transfer of power to an NFC tag, enabling communication by providing a constant carrier signal. As such, WLC simply extends the communication functionality of NFC to enable wireless charging. The specification ensures safe charging between 2 NFC-enabled devices in either static (uses standard RF field strength for consistent power level) and negotiated (uses a higher RF field to support 4 power transfer classes of 250, 500, 750 and 1000 milliwatts) modes.

“The NFC Forum’s Wireless Charging Candidate Technical Specification allows for wireless charging of small battery-powered devices like those found in many IoT devices,” the organisation says. “Our approach can help avoid the need for a separate wireless charging unit for small devices if the device includes an NFC communication interface. For example, a Bluetooth headset which includes NFC technology for pairing could also use the NFC interface for wireless charging. In this case, the NFC antenna is used to exchange the pairing information and to transfer power.”

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