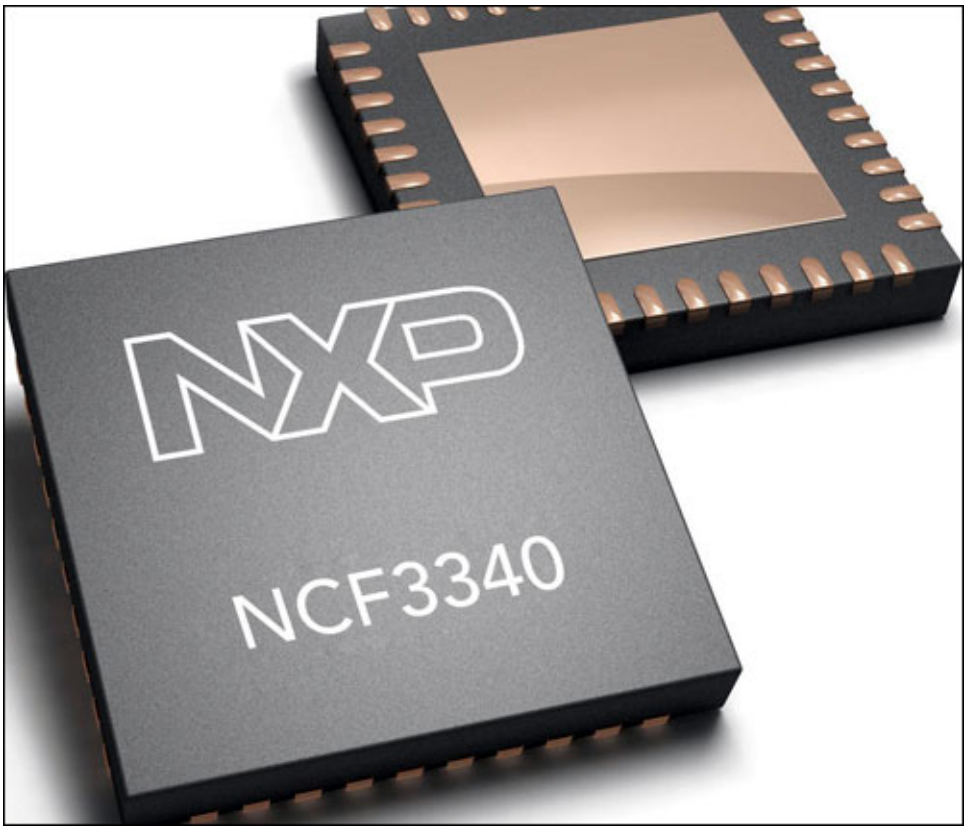
NXP Seeks to Drive NFC Phone App Use in Cars

Automakers have begun sampling a new radio frequency identification product from NXP Semiconductors that enables “connected car” applications that could integrate a driver’s cell phone with a vehicle’s operation. Last week, the company announced the launch of its new automotive portfolio,

beginning with its NCF3340 Near Field Communication (NFC) controller. The NCF3340, which consists of a high-frequency (HF) RFID reader chip that interfaces with a vehicle's controls and other electronic components, meets the Automotive Electronics Council's Q100 Grade 3 requirements for operation across the full temperature range experienced by an automobile.

While car companies are currently testing the technology, none are yet willing to be named, says Drue Freeman, NXP's senior VP of global automotive sales and marketing.



The NCF3340 Near Field Communication controller

NXP's NFC automotive portfolio is intended to enable NFC-supported smartphones and tablets to adjust vehicle controls, such as locks and ignition switches, or to access payment applications—used by car rental agencies, for instance—to help manufacturers more quickly bring new NFC-based applications to their new vehicles. The NCF3340 accomplishes this goal by using an NFC Controller Interface (NCI) protocol to

communicate with the vehicle’s controls.

“With recent announcements in the consumer and mobile domains, we see the momentum around NFC really accelerating,” Freeman says, referring to several new products that his company recently introduced, including its PN66T module for NFC mobile payment, access control and transit transactions. “The automotive industry will be a big part of this growth, and NXP is in the forefront of the rapidly evolving connected car. The company aims to transform the car into a safer, more efficient, more productive and more enjoyable mode of transportation.”

According to Freeman, NXP envisions that developers will create smartphone apps for a variety of NFC-enabled functions intended to make use of the car more convenient or entertaining. For instance, NFC technology could be employed at terminals for charging phones wirelessly in cars, as well as for Web-based entertainment and information systems, and keyless entry and start systems. NFC could also be incorporated into car-sharing and fleet-management systems for vehicles that are rented or borrowed.

In each scenario, an NFC-enabled mobile phone with an app specific to a particular use case could capture the unique identifier of the NCF controller installed somewhere within the vehicle. The phone’s app could confirm that the ID number is correct for that user, and then provide options for managing the car’s settings. For instance, the vehicle could give the driver a personal welcome message (displayed via the phone app), inviting him to set his comfort preferences.

NXP's
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The driver can then simply place an NFC-enabled phone in a dock on the dashboard, which can prompt the vehicle's own NFC RFID controller to adjust that driver's preferred operational settings, such as raising or lower the temperature or silencing the phone. What's more, the phone could become part of the onboard entertainment and communication system, instructing the car to provide music that matches the driver's personal choices, as well as facilitate audio streaming and set up hands-free calling.

In addition, Freeman says, the user's NFC-enabled phone or tablet could have an app for disarming the engine immobilizer and allowing the engine to start. An app could also allow the driver's mobile device to receive important diagnostic data, such as fuel consumption, mileage and service data, to be viewed away from the car at a later time. For car-rental or fleet-management applications, an NFC-enabled smartphone could provide an alternative to using a more traditional car-access system, such as keys borrowed from an agent.

"NCF is the first member out of a whole family of new automotive NFC devices, covering the full range of NFC tags, NFC transceivers and NFC controllers," Freeman states. The company expects the NCF3340 to be released by January 2015, and for the controller to be integrated into new vehicles sometime next year.

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