

## **World's first stand-alone NFC microSD card certified for Visa and MasterCard mobile payments uses AS3922 from ams**

### **DeviceFidelity CredenSE NFC microSD with integrated NFC antenna leverages ams Active Boost technology to achieve global certification**

Unterpremstaetten, Austria (11 February 2014), ams AG (SIX: AMS), a leading provider of high performance analog ICs and sensors, today announced that US-based DeviceFidelity, Inc. is using unique ams RF technology in its latest CredenSE 2.10 Near Field Communication (NFC) microSD card to enable secure, certified NFC transmissions between any mobile phone and contactless payment terminals from Visa and MasterCard.

DeviceFidelity CredenSE 2.10 is the world's first NFC microSD card to successfully achieve global payment certifications from both Visa and MasterCard without requiring external booster antenna or device specific attachments. Using the AS3922 from ams, an integrated NFC front end with Active Boost technology, CredenSE achieves a typical read range of 4cm in a mobile phone's microSD slot.

The mobile phone is a notoriously difficult environment for RF and variations between phone models make it difficult to consistently achieve good performance. The stringent requirements for read range compatibility with payment terminals for payment applications cannot be met in small form factors such as SIM or microSD cards with a traditional passive NFC card emulation front end and simple planar antenna.

Earlier SIM and microSD designs therefore used an additional component such as an external booster antenna or external attachment to amplify RF communication between tag and reader. The use of such external antennas makes mass deployment impractical since it raises bill-of-materials while also increasing the complexity of handling distribution and support for a variety of different handset models.

The DeviceFidelity CredenSE 2.10 is the first commercially produced NFC microSD card that meets EMV standards using only an ultra-small antenna embedded in the card, making distribution and compatibility with hundreds of phone models possible with one easy-to-deploy microSD card.

This means that it can be used to transform any mobile device with a microSD card slot into a contactless payment device without any need for device specific external antenna or attachments. DeviceFidelity has been granted global patents for the design and functionality of such an NFC microSD with built-in antenna and active front end.



The certified solution has been achieved primarily through the use of the Active Boost capability in the AS3922, working in conjunction with a DeviceFidelity-designed 3D miniature antenna, which actively transmits in response to a point-of-sale reader, in contrast to the passive load modulation normally supported by NFC tags.

Active Boost allows for robust tag-to-reader communication at a coupling factor 100 times higher than is possible with conventional passive tag designs. The AS3922 also offers unique Antenna Auto Tuning and Q factor adjustment, which are critical to microSD, SIM and  $\mu$ SIM applications. The IC includes an ACLB interface for communication with the contactless interface of any Dual Interface Secure Element, and DCLB and NFC-WI interfaces for digital communication.

Use of the AS3922 with a 3D antenna also provides for smooth operation with any payment terminal by eliminating the need for the user to hold the phone in any orientation.

In addition to successful performance with Visa and MasterCard payment terminals, DeviceFidelity's CredenSE microSD also provides an option for service providers to deploy mass transit and physical access applications.

"The CredenSE 2.10 NFC microSD packs DeviceFidelity intellectual property, years of innovation and expertise, to offer a high performance plug-and-play NFC card emulation solution that is easy to distribute by any service providers in a device- and network-agnostic fashion. This technology breakthrough is made possible by the AS3922's ability to realize reliable NFC transmissions on most phones while meeting the size constraints of a tiny antenna," said Tuan Dao, EVP of Technology at DeviceFidelity.

"DeviceFidelity is leading the way in the enablement of NFC microSD payments on mobile phones globally, so ams is delighted that it selected the AS3922, which offers superior RF performance in the space-constrained microSD form factor," said Mark Dickson, Senior Product Marketing Manager of ams.

#### **Price & Availability**

The AS3922 NFC tag front end is in volume production now. Please contact your local sales office for more details.

#### **Technical Support**

For further information on the AS3922, please visit [www.ams.com/NFC/AS3922](http://www.ams.com/NFC/AS3922) .

#### **About ams**

ams develops and manufactures high performance analog semiconductors that solve its customers' most challenging problems with innovative solutions. ams' products are aimed at applications which require extreme precision, accuracy, dynamic range, sensitivity, and ultra-low power consumption. ams' product range includes sensors, sensor interfaces, power management ICs and wireless ICs for customers in the consumer, industrial, medical, mobile communications and automotive markets.



With headquarters in Austria, ams employs over 1,400 people globally and serves more than 7,800 customers worldwide. ams is the new name of austriamicrosystems, following the 2011 acquisition of optical sensor company TAOS Inc. ams is listed on the SIX Swiss stock exchange (ticker symbol: AMS). More information about ams can be found at [www.ams.com](http://www.ams.com).

### About DeviceFidelity

DeviceFidelity, Inc. develops plug-and-play technologies that empower a variety of institutions to deploy their services and applications on millions of mobile phones worldwide. Its patented secure microSD and NFC cases for iPhone solutions transform popular mobile phones into interactive contactless transaction devices. DeviceFidelity is a private corporation with headquarters in Richardson (Texas) and offices in San Mateo (California), and Aix-En-Provence (France). For more information visit [devicefidelity.com](http://devicefidelity.com), follow us on Twitter @devicefidelity and at [facebook.com/DeviceFidelity](https://facebook.com/DeviceFidelity).

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