

New STM32 Nucleo expansion board with boostedNFC from ams provides complete hardware and software blueprint for ultra compact NFC designs

Joint ST and ams NFC solution with software running on STM32 family of microcontrollers is ideal for IoT nodes and contactless card emulation in wearables

Unterpremstaetten, Austria (17 November, 2015) -- ams AG (SIX: AMS), a leading provider of high performance sensors and analog ICs, today announced that its proven boostedNFC technology, which enables reliable NFC coupling in space-constrained devices, has been implemented in a complete system development board compatible with the popular STM32 family of microcontrollers from STMicroelectronics.

The new NFC expansion board released today by ST, which plugs into Nucleo STM32 main boards, provides a complete design blueprint for implementing NFC in applications such as IoT nodes, in which NFC can be used for configuration and network commissioning, and wearable devices, in which it may securely carry data for contactless payments, ticketing or access control.

The expansion board is supplied with a full suite of NFC firmware provided by ST for its broad family of ARM® Cortex®-M based STM32 microcontrollers. The NFC board is complemented by other expansion boards implementing fingerprint recognition, Bluetooth® connectivity, M2M communications and a display, to enable rapid prototyping of a complete NFC-enabled end product.

ST's NFC expansion board is based on the ams AS39230 boostedNFC analog front end, and ST's own ST54E system-in-package (incorporating the ST21NFCC controller and the ST33G1M2 Secure Element). Depending on application requirements, the board can be connected to various antenna sizes, ranging from 400mm² supporting NFC Reader/Writer functionality down to ultra-tiny SMD antennas for Card Emulation-only functionality.

The circuit implemented in the new board provides outstanding NFC performance in conditions hostile to RF signals, for instance when operating close to or inside metal surfaces, or when transmitting through a very small antenna. Designers of IoT nodes and wearables, for instance, often have to enclose their devices in metal housings, or must accommodate an antenna inside an extremely small enclosure. The new expansion board gives them a ready-made NFC implementation that will achieve fast, reliable coupling with any standard NFC reader, such as smartphones, contactless payment terminals, transit system entry barriers and access control card readers.

The design implemented in the expansion board is also suitable for use in applications which require worldwide certification, including for Common Criteria, EMVCo, GlobalPlatform, and Visa, Mastercard, Amex, and the People's Bank of China (PBoC). It enables OEMs using an STM32 MCU to quickly implement a new design for a wearable device, such as a wristband or smart watch, which can be used to pay for goods at contactless payment terminals, to emulate smart cards such as metro transit ticket cards, or to perform access control functions such as keyless entry to hotel rooms.



Press Release
NFC expansion board from ST uses boosted NFC
technology from ams

The excellent RF performance of the NFC expansion board is due to the active load modulation method of boosting the NFC signal implemented in the AS39230. This produces an operating volume some 10 times larger than the passive load modulation method used in smart cards. At the same time, the AS39230 based system draws as low as 15µA average current in listening mode, thus draining far less power from the battery than conventional NFC solutions.

“The secure NFC expansion board’s RF performance is absolutely outstanding, and since it contains very few components it is remarkably easy for users of STM32 MCUs to implement. Because it is supported by a full suite of ST firmware for NFC applications, this board provides the quickest, surest way to implement a successful new NFC design,” said Laurent Degauque, Secure Microcontrollers Division Marketing Director of STMicroelectronics.

“No other NFC development system can operate completely reliably through an antenna as small as 100mm², or even use the metal casing of the product as an antenna. The AS39230 in the NFC expansion board can do this, and that is why it is the best choice on the market for designers of any product with a space- or performance-constrained antenna,” said Mark Dickson, Business Line Director of Wireless Connectivity at ams.

The secure NFC expansion board is available now from STMicroelectronics.

The AS39230 NFC AFE is available now in production volumes from ams. Unit pricing is available on request.

For sample requests and for more technical information about the AS39230, go to www.ams.com/NFC-HF-Booster/AS39230.

Further information on ST secure MCUs can be found at www.st.com/securewearable

About ams

ams is a global leader in the design and manufacture of advanced sensor solutions and analog ICs. Our mission is to shape the world with sensor solutions by providing a seamless interface between humans and technology. ams’ high-performance analog products drive applications requiring extreme precision, dynamic range, sensitivity, and ultra-low power consumption. Products include sensors, sensor interfaces, power management and wireless ICs for consumer, communications, industrial, medical, and automotive markets.

With headquarters in Austria, ams employs over 1,800 people globally and serves more than 8,000 customers worldwide. ams is listed on the SIX Swiss stock exchange (ticker symbol: AMS). More information about ams can be found at www.ams.com.

Join ams social media channels:

Follow us on twitter <https://twitter.com/amsAnalog> or

Share with <https://www.linkedin.com/company/ams-ag>



Press Release
NFC expansion board from ST uses boostedNFC
technology from ams

for further information

Media Relations

ams AG

Ulrike Anderwald

Head of Marketing Communications

T +43 (0) 3136 500 31200

press@ams.com

www.ams.com

Technical Contact

ams AG

Giancarlo Cutrignelli

Senior Marketing Manager Wireless Connectivity

T +43 3136 500 32365

giancarlo.cutrignelli@ams.com

www.ams.com