Sensor-enabled RFID tags extend wireless data-logging beyond identification

On-board temperature sensor enables physiological or environmental data to be logged by a simple wireless tag

Unterpremstaetten, Austria (August 27, 2013), ams AG (SIX: AMS), a leading provider of high performance analog ICs and sensors, today announced next-generation sensor-enabled RFID tags offering breakthroughs for medical, automotive safety and other applications where temperature, physiological or environmental data is required. The new devices, the SL13A and SL900A enable a simple, low-cost implementation of a new class of wireless data-logging applications.

The SL13A is an ISO15693-compliant tag for use with near field communications (NFC-V) and high-frequency radio-frequency identification (HF RFID) readers. The SL900A is an EPC Gen 2 Class 3 tag for use with RFID readers.

The devices include an on-board temperature sensor, an interface to an external sensor, and can operate in passive (batteryless) mode. In this mode, the tag harvests energy from a reader's broadcast, using the power to read the temperature or data from an external sensor, and transmits the information back to the reader together with a unique ID. The data is time-stamped by the reader.

The SL13A and SL900A can be powered by a single-cell or 3V battery. In battery-assisted passive (BAP) mode, the tag's on-board real-time clock is enabled, and can be used to trigger periodic sensor readings. Up to 762 (SL13A) or 841 (SL900A) time-stamped events may be saved in the on-chip EEPROM, from where they may be read when the device is in range of a reader.

The combination of a sensor interface, NFC compatibility and support for passive mode offers designers the opportunity to invent new kinds of wireless data-logging applications, or to find better ways to implement existing data-logging systems. Applications as diverse as patient monitoring, building control and automotive safety can benefit from the ability to read bio-medical, humidity or pressure measurements via the SL13A using harvested energy from an NFC reader such as an Android smartphone or tablet.

Both the SL13A and SL900A feature a serial peripheral interface for connection to a microcontroller. They can operate from a power supply ranging from 1.2V to 3.6V. The tags provide for very long battery life, drawing a typical 1.6μA in stand-by mode with the real-time clock running. The on-board temperature sensor is accurate to up to 0.5%.

Oluf Alminde, Senior Marketing Manager for the Power & Wireless Business Unit of ams, said: "RFID tags are ideally suited for many applications in the transportation, logistics and retail sectors for simple passive, battery-less identification of objects. The SL13A and SL900A represent the next generation of

RFID tag, allowing the reading of identification data, as well as temperature and many other environmental conditions."

For medical equipment OEMs, the SL13A and SL900A offer opportunities for exciting new applications, such as an NFC sensor tag that can be safely and easily implanted or swallowed, enabling patients to monitor specific physiological conditions around the clock, reading data simply by holding an NFC-enabled phone or tablet close to the body.

Price & Availability
The SL13A and SL900A sensor-enabled RFID tags are in volume production now. The SL13A is priced at $2.59 and the SL900A at $3.63 for 1,000 pieces.

Technical Support
A demonstration kit, the SL13A-DK-STQFN16, is available for the SL13A. The SL900A DK demo kit is for the SL900A. Both are available online from ams, priced at $55. For further information on the SL13A or SL900A or to request samples, please visit www.ams.com/RF-Products/Sensor-Tags.

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 1,300 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.

for further information

Media Relations	**Technical Contact**
ams AG	**ams AG**
Ulrike Anderwald	Oluf Alminde
Director Marketing Communications	Senior Marketing Manager
T +43 (0) 3136 500 31200	T +41 55 220 8202
press@ams.com	oluf.alminde@ams.com
www.ams.com	www.ams.com