Avnet Silica Launches NB-IoT Arduino Shield Enabling Next Generation Low Power WAN Connectivity

Multi-mode connectivity board supports LTE CAT NB1, M1 and E-GPRS

Poing, Germany, 21 February 2018 – Avnet Silica, an Avnet (NYSE: AVT) company, today announced a new development board that delivers next-generation, low-power wide-area (LPWA) connectivity that targets use in machine-to-machine (M2M) and Internet of Things (IoT) applications. The new Avnet Silica NB-IoT Sensor Shield is compatible with the Arduino UNO R3 connector layout and is a multi-mode connectivity board that supports both the LTE Cat M1 and NarrowBand-IoT (LTE Cat.NB) air interfaces. In addition, the board also provides fall-back compatibility with the E-GPRS standard.

The LPWA LTE cellular-based standards enable the connection of IoT and M2M devices that have low-to-medium data rate requirements with the need to securely and reliably transfer small amounts of data on a fairly infrequent basis. The data transfer rate for Cat M1 is up to 1Mbps (full-duplex), while NB-IoT provides up to 100kbps. The technologies also enable significantly longer battery lifetimes – up to 10 years for many applications – when compared to standard cellular technologies such as 2, 3 or 4G. These new IoT connectivity technologies are ideal for deployment when used with devices in a wide range of applications, such as gas detectors or environmental sensors in the industrial or agricultural sectors, or in the public utility applications such as water or gas metering or in smart parking systems.

The new Avnet Silica NB-IoT Sensor Shield is based on the Quectel BG96 M1/NB-IoT modem, which is a low-power module that supports Cat M1 and Cat.NB1 with fall-back to E-GPRS (850/900/1800/1900MHz). The board also offers an embedded SIM connector and support for Voice-Over LTE (VoLTE) – in Cat M1 mode – which can be useful for specific health or security applications, for example. It also provides an option for GNSS (Global Navigation Satellite System) based location services with support for signals from the GPS, GLONASS, BeiDou/Compass, Galileo and QZSS systems. Other features of the board include very low consumption of approximately 10μA in power saving mode.

Key to the new board is Arduino compatibility, as the board comes with Arduino UNO R3 connector. Leveraging the huge ecosystem of compatible boards, Arduino connector

compatibility provides a very high level of flexibility for developers. It enables users to choose the microcontroller board that best fits their application, such as mixing the board with sensors and other peripheral boards, or building a project around the STM32 Nucleo-64 and X-NUCLEO-IKS01A2 (X-Nucleo sensor boards) from STMicroelectronics, for example. The NB-IoT board also offers Pmod connectors for extended compatibility with a large range of additional boards.

The board supports all major operating systems including Android, Linux and Windows. When it comes to embedded development, the board can be easily programmed through AT commands and it provides its own network stack, including SSL stack. Additional examples are provided for ARM mbed operating system for fast and easy integrated embedded development providing additional free network stacks like COAP and MQTT.

Further information are available on the Avnet Silica webpage www.avnet-silica.com/nbiotshield.

Avnet Silica will showcase NB-IoT Arduino Shield at Embedded World 2018 in Nuremberg, Germany from 27th February to 1st March 2018 in Hall 1 on stand 1-370.

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About Avnet Silica

Avnet Silica is the European semiconductor specialist division of Avnet, one of the leading global technology distributors, and acts as the smart connection between customers and suppliers. The distributor simplifies complexity by providing creative solutions, technology and logistics support. Avnet Silica is a partner of leading semiconductor manufacturers and innovative solution providers over many years. With a team of more than 200 application engineers and technical specialists, Avnet Silica supports projects all the way from the idea to the concept to production. For more information, visit www.avnet-silica.com

About Avnet

From idea to design and from prototype to production, Avnet supports customers at each stage of a product's lifecycle. A comprehensive portfolio of design and supply chain services makes Avnet the go-to guide for innovators who set the pace for technological change. For nearly a century, Avnet has helped its customers and suppliers around the world realize the transformative possibilities of technology. Learn more about Avnet at: www.avnet.com.

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