



NEWS RELEASE

Ambiq and Northern Mechatronics Delivers Pre-Certified Ultra-Low Power Edge Computing LoRa Bluetooth Low Energy Connectivity for Predictive and Preventive IoT in a Single Package Module Solution

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Austin, TX, December 15, 2020 / GlobeNewswire / – Ambiq today announces that Northern Mechatronics, a Canada-based manufacturer of radio frequency (RF) and wireless solutions, has chosen Apollo3 Blue system on chip (SoC) for its latest LoRa Bluetooth Low Energy 5 Module, NM180100, a revolutionary single-package solution for IoT applications.

The NM180100 is purpose-built to enable edge and edge computing with short and long-range wireless communication capability in a highly integrated and flexible single package module solution. By combining Apollo3 Blue SoC, the NM180100 can achieve ultra-low power consumption in all application states, including computing, transmitting, receiving, or deep sleep.

Wireless communications expertise has always been at a deficit, especially for commercial industries such as agriculture, electric and gas metering control, and property management. With the rapid growth of Industrial IoT and the recent 5G rollout, the need for faster time-to-market can easily make or break a solution provider in today's competitive landscape. The NM180100, supported by a wide range of design resources, including the evaluation board NM180100EVB, the NM180310 small form factor application board, a software development kit, full programmability, and regulatory certifications for FCC and IC/ISED, is the only turnkey solution in the growing IoT market.

“We partnered with Ambiq because of its record-breaking ultra-low power energy efficiency. IoT sensors provide unprecedented insights to businesses across the spectrum, including commercial, industrial, and consumer levels,” said Dr. Joshua Wong, Executive Chairman and CEO at Northern Mechatronics. “Until the development of the NM180100, an ultra-low power single package IoT solution possessing short-range and long-range communications and edge computing capability without sacrificing battery life has been a pipe dream.”

ABOUT THE NM180100 LORA BLUETOOTH LOW ENERGY 5 MODULE

With 1MB of on-module flash memory and 384kB of SRAM, the NM180100 allows applications to run two radio stacks simultaneously (Bluetooth Low Energy and LoRaWAN) with ample memory remaining for over-the-air (OTA) firmware updates via either LoRaWAN or Bluetooth Low Energy. Page-level locking in the flash memory allows the application to maintain regulatory certifications without impacting critical firmware components such as the radio stacks. The architecture design significantly reduces the end-product cost by eliminating the need for an additional application processor typical of many other LoRaWAN module solutions.

The Apollo3 possesses a secure interface (ISO 7816), including secure boot and secure OTA firmware upgrade over Bluetooth. Built on Ambiq’s patented Sub-threshold Power Optimized Technology (SPOT®) platform, the Apollo3 Blue further enhances the power efficiency on Arm® Cortex®-M4F with DSP instructions by enabling designers to perform raw data pre-processing before transmission over the air, in so doing improving the battery life by reducing the amount of raw data transmitted.

For more information, visit www.northernmechatronics.com/nm180100.

ABOUT NORTHERN MECHATRONICS

Northern Mechatronics Inc. (NMI) was founded in May 2017 in Waterloo, Ontario, Canada. Our team comprises key leaders with extensive experience in product development with core expertise in RF and antenna design. We use our world-class expertise to offer component solutions for the IoT space to accelerate time-to-market without compromising performance. In addition, we provide research and development services ranging from component-

level design using our core technologies to complete product design through our team and partners.
<https://www.northernmechatronics.com/about>

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