Product Overview
Intel is proud to announce the first x86-based Intel® Quark™ microcontroller D2000, a low-power, battery-operated, 32-bit microcontroller with a more robust instruction set than other entry-level microcontrollers. The Intel Quark microcontroller D2000 also increases input/output options over other entry-level microcontrollers.

Within its small footprint, the Intel Quark microcontroller D2000 includes an ultra-low-power core running at 32 MHz, with 32k integrated flash and 8 KB OTP memory, and 8 KB SRAM.

Integrated Security Features
The Intel Quark microcontroller D2000 extends excellent Intel security down to the device level with software- and hardware-based features to help protect your data at every endpoint.

Intelligence at the Edge
The Intel Quark microcontroller D2000 brings intelligence to the edge for real-world applications. It is interoperable with other Intel®-based systems—simplifying integration of edge products in end-to-end IoT architectures. More can be handled at the device level, reducing the need for more costly and potentially unnecessary gateways, depending on application.

The Intel® Quark™ Microcontroller D2000 is ideal for:

- Smart tags/readers for industrial applications
- Sensor and device controllers for medical and biometric use
- Display controllers for retail
- Motor controllers in smart buildings

The newest Intel Quark microcontrollers provide flexible, low-power computing for a wide variety of vertical industry solutions—bringing low-cost integration and x86 architecture compatibility to the next wave of intelligent connected devices.

Internet of Things
Faster Time to Market
The Intel Quark microcontroller D2000 simplifies design and reduces bill of materials (BOM) by minimizing external components required on the platform. The Intel® System Studio integrated development environment is included with all Intel® microcontrollers. This maximizes investment of time and money by reusing software to scale up or down to any Intel® processor without additional costs.

Tremendous Flexibility
The Intel Quark microcontroller D2000 provides tremendous flexibility by requiring a single DC power source with an operating range of 2.0–3.3 volts and supporting the serial interfaces typically seen on sensors, wireless modules, flash devices, and EEPROMs. Additionally, all 25 of its bidirectional I/O pins can be used as general purpose I/O (GPIO). With programmable drive strength and integrated pull-ups, they can be connected directly to LEDs, relays, H-bridges, or switches.

Moreover, with 19 analog comparators, 19 input channels for ADC, 2.28 MSps SAR ADC with selectable 6/8/10/12-bit resolution—and with 6 high-speed analog comparators and 13 low-power wake-up comparators—it boasts solid mixed-signal capabilities.

The Intel Quark microcontroller D2000 comes in a 6x6 mm 40-pin QFN and is qualified over an industrial temperature range (-40 °C to +85 °C), with 10-year reliability for IoT devices.

Learn more about Intel IoT solutions at intel.com/iot.