Press RELEASES

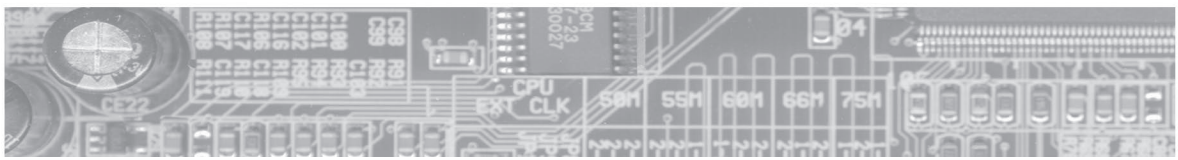
PR-No. 10 – 25. June 2024

Winbond extends its secure flash family with new memory densities, PQC support and secure supply chain management

Taichung, Taiwan – 2024-03-27 – Winbond Electronics Corporation, a leading global supplier of semiconductor memory solutions, today unveils the latest extension of TrustME® Secure Flash W77Q family with 256Mb, 512Mb and 1Gb devices. These ground-breaking secure flash devices are the first in the market implementing Leighton–Micali Signature (LMS) algorithm for PQC (Post Quantum Cryptography), a critical enhancement for securing connected IoT edge devices used in commercial, industrial and server segments.

PQC (Post Quantum Cryptography) is considered crucial as it replaces classical cryptographic algorithms that are no longer considered to be safe in lieu of Quantum Computers. Governments and security analysts portray 2030 as the year traditional cryptography will become obsolete. In response, US NSA and UK NCSC have adopted LMS as the preferred PQC algorithms for digitally signing and authenticating firmware and software updates. Compliance with the new CNSA 2.0 guidelines for software and firmware signing is expected by 2025, with a complete transition mandated by 2030.

The newly released TrustME® W77Q series in densities of 256Mb, 512Mb, 1Gb are the cutting-edge technology, supporting asymmetric key cryptography algorithm and enabling devices to facilitate both Secure OTA with asymmetric PQC signatures and Secure Supply chain via LMS-OTS (NIST 800-208). Winbond is proud to be the first memory vendor to integrate PQC, meeting the emerging regulations requirements and setting a new standard in the industry. These devices are optimally designed for applications in Industrial IoT, networking, servers, and critical infrastructure applications.



These new W77Q devices support high-performance Quad-SPI at 166MHz, extended Replay Protected Monotonic Counters (RPMC) with 8 counters for PC based implementation. The 512Mb and 1Gb devices enable simultaneous read and write option enhancing operational efficiency for software OTA operation.

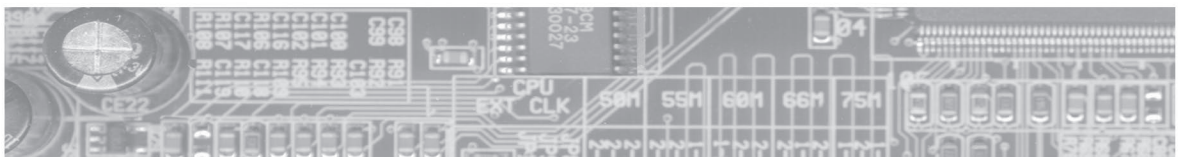
Winbond's W77Q Secure Flash is backward compatible with the popular W25Q family and comes equipped with an arsenal of features designed to ensure platform security:

- Code and Data Protection : Robust protection for both code and data, making it exceedingly difficult for hackers to tamper. RoT implementation follows the TCG DICE attestation mechanism.
- Authentication : Winbond Secure Flash devices employ stringent authentication protocols, ensuring that only authorized actors and software layers gain access.
- Secure Software Updates with Rollback Protection : The devices facilitate remote secure software updates while safeguarding against rollback attacks, ensuring that only legitimate updates are executed. To maintain the highest level of security and integrity during software updates, W77Q employs Leighton-Micali Signature (LMS) algorithms, as recommended by NIST Special Publication 800-208. This method guarantees the authenticity and integrity of the updating software, thereby providing an additional layer of security.
- Platform Resiliency : Follows NIST 800-193 recommendations, unauthorized code changes are automatically detected, enabling the system to recover to a secure state and disturbing potential cyber threats.
- Secure Supply Chain : The origin and integrity of flash content is guaranteed by Secure Flash at every stage of the supply chain. W77Q implements remote attestation based on LMS-OTS (NIST 800-208). This advanced approach effectively prevents content tampering and misconfiguration during platform assembly, transportation, and configuration, safeguarding against cyber adversaries.

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Moreover, these security features are designed to meet the stringent certification requirements of Common Criteria, SESIP, and FIPS 140-3, underscoring our commitment to providing secure and reliable memory solutions.

"PQC represents the future of secure communications in the face of rapidly advancing quantum computing technologies. Our latest TrustME® W77Q devices are not just products, they are a testament to Winbond's commitment to innovation and security in an ever-evolving digital world," said Winbond. "By being the first memory to integrate the PQC algorithm, we are setting a new industry standard, ensuring our clients are equipped with the most advanced and secure memory solutions available."

Availability and Pricing

These new W77Q secure flash devices are optimized for consumer IoT, Industrial IoT, critical infrastructure equipment, MFP, Industrial PC and server applications. W77Q 256Mb, 512Mb and 1Gb samples are available now. More Information about availability, samples and pricing, please visit email: sales.europe@macnica.com.

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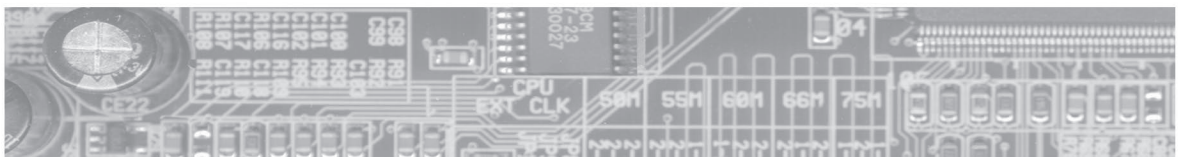
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About Winbond

Winbond Electronics Corporation is a total memory solution provider. The Company provides customer-driven memory solutions backed by the expert capabilities of product design, R&D, manufacturing, and sales services.

Winbond's product portfolio, consisting of Specialty DRAM, Mobile DRAM, Code Storage Flash, and TrustME® Secure Flash, is widely used by tier-1 customers in communication, consumer electronics, automotive and industrial, and computer peripheral markets.



Winbond is headquartered in Central Taiwan Science Park (CTSP), and it has subsidiaries in the USA, Japan, Israel, China and Hong Kong, and Germany. Based on Taichung and Kaohsiung 12-inch fabs in Taiwan, Winbond keeps pace to develop in-house technologies to provide high-quality memory IC products.

For further information, please visit website https://www.winbond.com/.

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About Macnica ATD Europe GmbH
Macnica's ATD Europe GmbH, (former Macnica GmbH), was originally established in the UK in 2006, and moved to Germany in July 2008, to increase efficacy of its service for European customers.

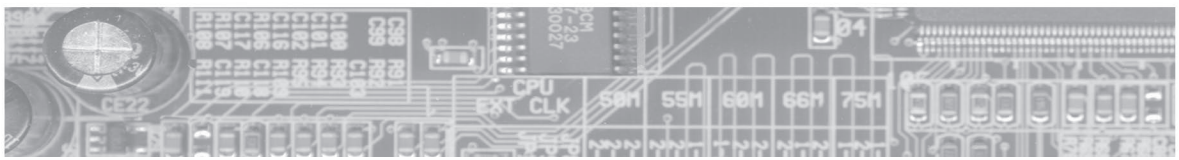
By it's acquisition of the Munich based company Scantec Mikroelektronik in 2014 Macnica Europe formed a powerful semiconductor distribution with headquarter in Ingolstadt and offices in Munich, Regensburg, Milton Keynes (UK) and Warsaw offering an attractive and competitive portfolio of highly sophisticated devices.

Macnica provides end to end support from design-in to production through its global service network to its customers, regardless of the final destination of the product shipment to customers' manufacturing locations.

About Macnica ATD Europe S.A.S.
Founded in 1990 as ATD Electronique, Macnica ATD Europe headquarter offers innovative components dedicated to imaging applications for the European market. Its product portfolio includes: image sensors (CCD, CMOS, InGaAs, Thermal etc.), optics, interface circuits, FPGA & IPs, imaging processors, cables and OLED microdisplays.

It also covers development tools and design services enabling fast and efficient realization of new high-performance camera systems for markets such as machine vision, medical, life sciences, surveillance, automotive and others. After the acquisition of the company by Macnica Inc. as of October 1, 2020 the company operates under the name Macnica ATD Europe.

About Macnica, Inc.
Macnica was established in 1972 as a semiconductor distribution company headquartered in Yokohama, Japan, and has over 85 sales offices worldwide in eastern Asia,



Europe and the USA. Total number of employees is over 3,900 and its consolidated revenue for fiscal 2021 was approximately US$ 7.6 B.

Macnica is famous for having an excellent engineering team of more than 900 application support engineers, IC designers and software developers with strong focus on providing technical support for its customers including custom design services. Macnica is continuing to extend its presence globally by having successful partners in strategic areas in the electronics market.

More information about Macnica: https://www.macnica.com/global/en/home.html.

