

Press Information

Kyocera showcases quantum tech innovations at Quantum Effects 2024

Kyocera participates at the Quantum Effects trade fair taking place in Stuttgart, Germany, unveiling its advanced material solutions for quantum technologies.

Kyoto/London, 17th September 2024. Kyocera is set to participate in [Quantum Effects 2024](#) (Hall C2, Booth #2E31), taking place from October 8-9 in Stuttgart, Germany. The company will be unveiling its innovative material solutions that are accelerating the progression of quantum technologies across various industries, including finance, medicine, automotive, chemical sectors, and quantum sensing applications.

Kyocera's role in shaping quantum technologies

Kyocera is developing a range of ceramic packaging solutions and assembly options, offering excellent thermal management and hermetic solution, thereby facilitating stable and scalable qubits¹. The company's diverse materials, including HTCC and LTCC multilayer ceramic substrates and AlN carriers, offer superior heat dissipation and plating options. This enables low magneticity and brazing material with low permeability, which are crucial for the development and functioning of quantum technologies.

Meeting connection requirements and ensuring quantum state stabilization

Kyocera's packages offer a variety of connection solutions for 2nd assembly such as Pin Grid Array (PGA) packages, and Land Grid Array (LGA) packages. Kyocera offers die assembly service for wire bonding and flip chip technology. Kyocera also provides materials for hermetic sealing, including "Ceramic to Metal" and "Metal to Metal" brazing materials, along with vacuum sealing packaging to support the stabilization of the quantum state.

Sapphire wafer: A game-changer

Kyocera's sapphire wafer, produced with superior crystallinity, is expected to result in lower dielectric loss and excellent thermal conductivity at ultra-low temperatures, marking a significant advancement in quantum technology.

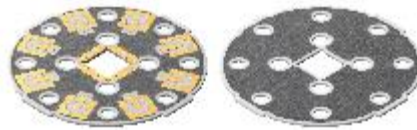
¹ Qubits, the basic unit of quantum information, process information differently from traditional binary bits. They enable more complex, faster calculations and ultra-high sensitive measurements of magnetic fields. This disruptive potential holds promise for numerous sectors.

Kyocera's commitment to quantum technologies

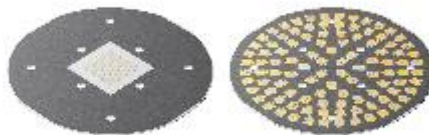
With a firm commitment to shaping the future of quantum technologies, Kyocera continues to provide a range of customized solutions to meet the diverse requirements of different qubit technologies and their applications. Ceramic materials have been investigated for use in harsh environmental applications for several decades. We are confident that our cutting edge technology will support our customers' advancements in quantum technologies.

Overview of Quantum Effects 2024

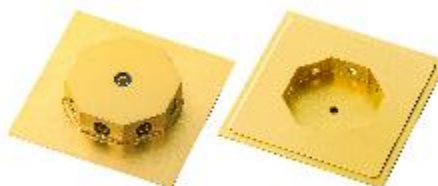
Show	Quantum Effects 2024
Date	8 to 9 October 2024
Location	Stuttgart, Germany
Kyocera's booth	Hall C2, Booth #2E31



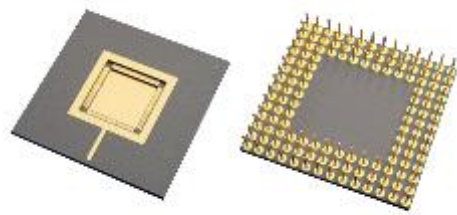
Wire bonding substrate for QPU chip



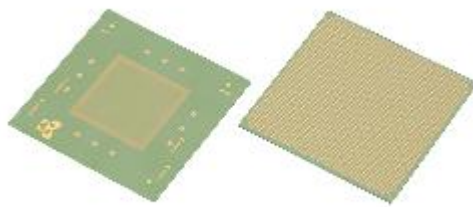
Flip chip substrate for QPU chip



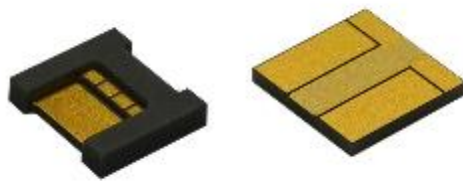
Hermetic seal lid with windows for trapped ion



HTCC PGA package



LTCC LGA package



AIN carrier



For more information on Kyocera: uk.kyocera.com

About Kyocera

Kyocera has been successful in Europe for over 50 years. From its European headquarters in Esslingen am Neckar, KYOCERA Europe GmbH operates 26 sites including manufacturing facilities, with products ranging from fine ceramics, electronics, automotive, semiconductor and optical components to industrial tools, LCDs, touch solutions, industrial printing components, solar systems and consumer goods such as kitchen and office products.

KYOCERA Europe GmbH is a company of the KYOCERA Corporation headquartered in Kyoto/Japan, a world leader in semiconductor, industrial and automotive components as well as electronic components, printing and multifunction systems, and communications technology. The technology group is one of the world's most experienced manufacturers of smart energy systems, with more than 45 years of industry expertise. The Kyocera Group comprises 292 subsidiaries (31 March 2024). In England, Kyocera has a subsidiary in Frimley, KYOCERA Fineceramics Ltd. With around 79,200 employees, Kyocera generated net annual sales of around EUR 12.29 billion in the 2023/2024 fiscal year.

Kyocera is ranked 672 on Forbes magazine's 'Global 2000' list for 2023, and ranked as 'The 100 Most Sustainably Managed Companies in the World' according to the Wall Street Journal. For the second year in a row, Kyocera qualified for the Dow Jones Sustainability Index (Asia-Pacific). As well, Kyocera receives a Gold rating on EcoVadis Sustainability Survey for the second consecutive year and was acknowledged as a 'Top 100 Global Innovator 2023', being one of the world's leading innovators, for the eighth time by Clarivate.

The company also takes an active interest in cultural affairs. The Kyoto Prize, a prominent international award, is presented each year by the Inamori Foundation — established by Kyocera founder Dr Kazuo Inamori — to individuals worldwide who have contributed significantly to the scientific, cultural, and spiritual betterment of humankind (equivalent to approximately €596,500 per prize category).

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