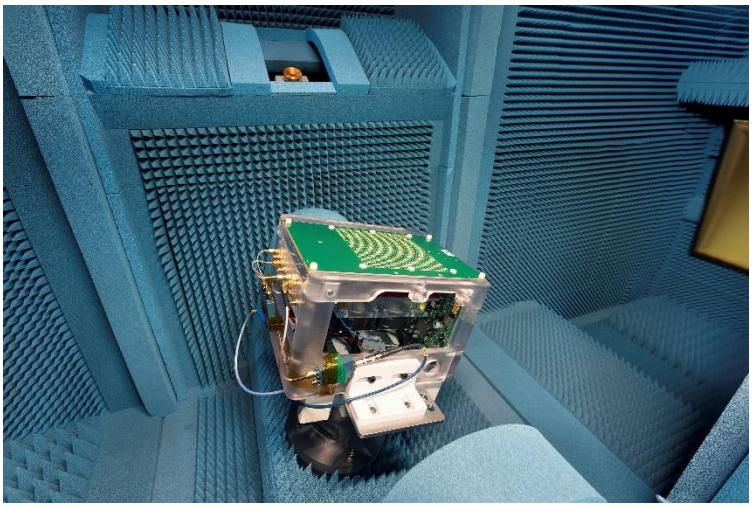
NEWS RELEASE – For Release May 27, 2025

Kyocera and Rohde & Schwarz to Demonstrate Over-the-Air Characterization of mmWave PAAM at IMS San Francisco, June 17-19, 2025



Inside of the R&S ATS1800M test chamber showing OTA-characterization of Kyocera's PAAM. (Image: Kyocera)

Kyocera has developed an innovative mmWave phased array antenna module (PAAM) that simultaneously creates multiple beams in different directions at different frequencies. These PAAMs can enable a wide range of 5G FR2 infrastructure installations, including site co-location of different operators running networks on different frequency bands, as well as critical infrastructure threat-sensing, homeland security, and other high-reliability applications. To ensure optimal beam steering and beam directivity of its groundbreaking product, Kyocera relies on CATR-based multi-reflector Over-the-Air (OTA) testing technology from Rohde & Schwarz.

Munich — May 27, 2025 — Kyocera and Rohde & Schwarz today announced that they will showcase the characterization of a novel mmWave, phased array antenna for a variety of sensing and communication applications, June 17-19, at IMS San Francisco 2025. Crucial to the demonstration at the Kyocera booth (1651) is the R&S ATS1800M 5G NR multi-directional mmWave test chamber from Rohde & Schwarz, designed for over-the-air (OTA) testing with an exceptionally small footprint.

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The demonstration will focus on mobile communications in the 5G FR2, n257 band. Mobile communications in this frequency range experience a high path loss, which can be solved using beamforming antenna arrays. In contrast to traditional antennas, FR2 antennas typically use phased arrays with a high number of individual antenna elements. Kyocera has developed a novel phased array antenna module (PAAM) featuring 384 dual polarization elements, which can create up to 8 simultaneous beams in different directions at different frequencies. With this design, the PAAM can be used in site installations allowing multiple operators to run networks on different frequency bands. In protection applications, PAAM technology can be adapted to sense threats, perform surveillance, and communicate simultaneously. However, all of these antenna elements must work together perfectly to form an RF beam with the desired characteristics. Rohde & Schwarz offers a patented approach for OTA testing of such a complex antenna array in a fully shielded environment, which helps engineers verify the correct beam pattern and supports the process of minimizing sidelobes.

The R&S ATS1800M is a unique solution that features four feed antennas and CATR reflectors, each with a 30cm quiet zone (QZ). At IMS 2025, the Kyocera PAAM device under test (DUT) is placed on a rugged 3D positioner in the center, where all four QZs overlap, coming from multiple directions. This allows Kyocera's engineers to address a variety of different tests, including the simultaneous reception of RF beams from four different directions, as will be shown at IMS 2025. Thanks to the vertical CATR design patented by Rohde & Schwarz, this setup takes up a fairly small footprint in the lab compared to other OTA solutions.

The full test setup contains multiple test instruments from Rohde & Schwarz in addition to the mmWave test chamber, which work seamlessly together: four 5G NR-capable R&S SMW200A vector signal generators, two 5G NR-capable signal and spectrum analyzers (R&S FSW and R&S FSVA3044), as well as an R&S ZNA 4-port vector network analyzer and two R&S NGP power supplies. Each generator simulates a 5G NR FR2 signal which will be fed through one of the R&S ATS1800M feed antennas. The DUT receives the signal via one of the CATR reflectors. With the combination of all signal sources, feed antennas and reflectors, Kyocera's engineers can simulate complex reception scenarios of four frequency-independent signals from four different locations. The received signal quality can be observed using the signal analyzers connected to the Kyocera PAAM.

Visitors to IMS 2025 can experience this milestone demonstration live at the Kyocera booth #1651 at Moscone Center in San Francisco, June 17-19. To schedule a demonstration appointment, please click here or follow the link below:

https://outlook.office.com/owa/calendar/KyoceraInternationalMillimeterWaveDemonstrationBooth1651@kyocera4.onmicrosoft.com/bookings/

For further information on antenna testing solutions from Rohde & Schwarz, click here or visit: https://www.rohde-schwarz.com/_231852.html

About Kyocera

Kyocera Corporation (TOKYO:6971, https://global.kyocera.com/), the parent and global headquarters of the Kyocera Group, was founded in 1959 as a producer of fine ceramics (also known as “advanced ceramics”). By combining these engineered materials with metals and integrating them with other technologies, Kyocera has become a leading supplier of industrial and automotive components, semiconductor packages, electronic devices, LCDs, smart energy systems, printers, copiers, and mobile phones. During the year ended March 31, 2025, Kyocera Corporation’s consolidated sales revenue totaled 2.0 trillion Japanese yen (approx. US$13.2 billion). Kyocera is ranked #874 on *Forbes* magazine’s 2024 “Global 2000” list of the world’s largest publicly traded companies, and has been named among “The World’s 100 Most Sustainably Managed Companies” by *The Wall Street Journal.*

About Rohde & Schwarz

Rohde & Schwarz is striving for a safer and connected world with its Test & Measurement, Technology Systems and Networks & Cybersecurity Divisions. For over 90 years, the global technology group has pushed technical boundaries with developments in cutting-edge technologies. The company's leading-edge products and solutions empower industrial, regulatory and government customers to attain technological and digital sovereignty. The privately owned, Munich based company can act independently, long-term and sustainably. Rohde & Schwarz generated a net revenue of EUR 2.93 billion in the 2023/2024 fiscal year (July to June). On June 30, 2024, Rohde & Schwarz had more than 14,400 employees worldwide.