

FUJIKURA EXHIBITS MILLIMETER-WAVE PRODUCTS at MWC BARCELONA 2025

First presentation of a 28GHz millimeter-wave antenna board and live demonstration of ultra-low latency remote control using a 60GHz mmwave wireless communication module

KOTO-KU, TOKYO, JAPAN, February 7, 2025 /EINPresswire.com/ -- [Fujikura Ltd.](https://www.fujikura.com) (President & CEO: Naoki Okada) has announced that it will exhibit our millimeter-wave products at MWC Barcelona 2025, the largest mobile industry exhibition to be held in Spain.

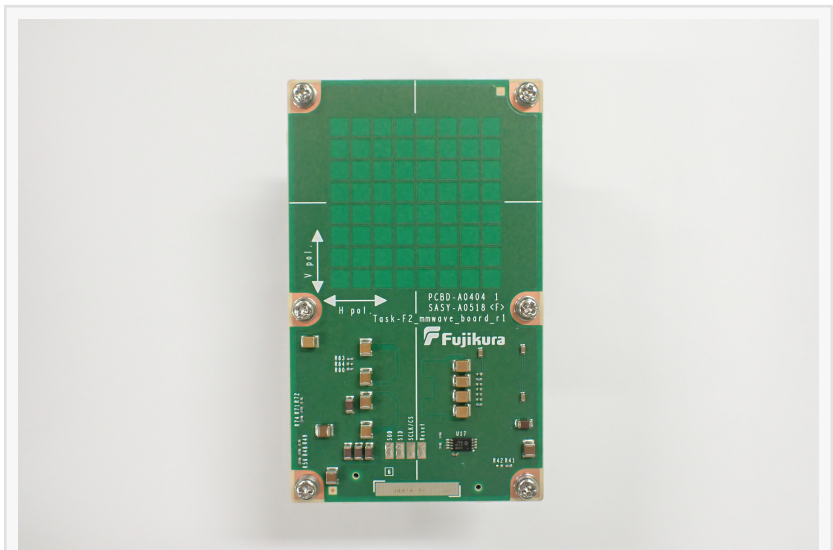
At this exhibition, we will exhibit wafer-level packaged $1 \times 28 \text{ GHz}$ beamformer ICs and frequency converter ICs, as well as a 28 GHz millimeter-wave antenna board that incorporates these and integrates peripheral functions for the first time. A live demonstration using a 60 GHz millimeter-wave wireless communications module will also be held at the venue.

This exhibition will take place at booth 5C81 in Hall 5 at MWC Barcelona 2025, which will be held from March 3rd to 6th, 2025. If you are at the venue, please stop by our booth. MWC Barcelona website: <https://www.mwcbarcelona.com>

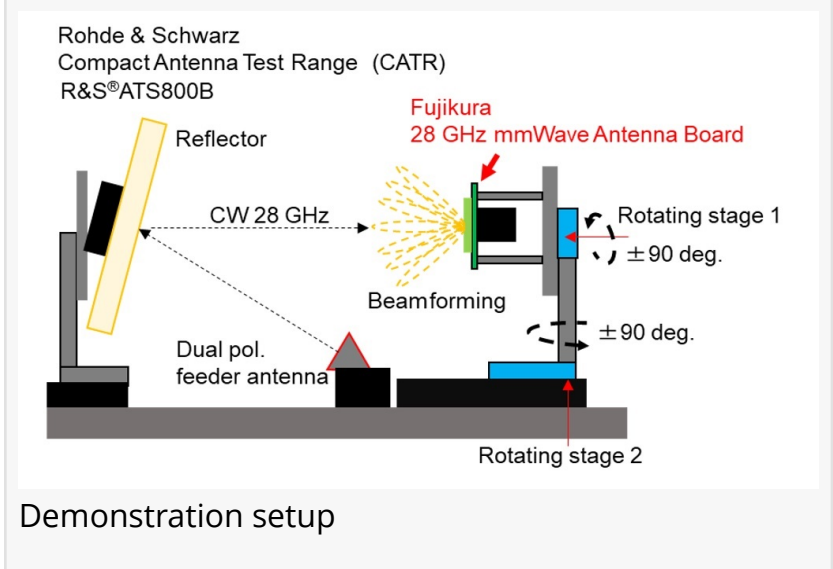
Contents of the Fujikura Booth

28 GHz millimeter-wave antenna board

The newly developed 28 GHz millimeter-wave antenna board for 5G millimeter-wave base



28 GHz millimeter-wave antenna board



Demonstration setup

stations integrates an 8×8 array antenna, a wafer-level packaged beamformer IC and a frequency converter IC, a bandpass filter that passes only specific frequencies, and a combiner/splitter that combines/distributes multiple millimeter-wave signals. In addition, it also integrates a board-to-board (BtoB) connector, a PLL (Phase Locked Loop) that generates a reference signal for frequency conversion, and DC/DC converters that allow the entire board to run on a single 12V power supply. These features are expected to facilitate the design of 5G millimeter-wave base stations and reduce development costs.



60 GHz millimeter-wave wireless communications module

In this demonstration, we will perform "calibration-free beamforming," which does not require phase adjustment (calibration) for beamforming.

Combining this antenna board with a Rohde & Schwarz® VNA vector network analyzer (R&S® ZNA67) enables stable phase measurement of frequency-conversion devices through real space Over-The-Air (OTA). By comparing a beam pattern with an unadjusted beam pattern after initial phase adjustment, you can see that the beam direction accuracy is comparable even without adjustment.

On the day, we will build an OTA measurement environment using the R&S® ATS800B, a benchtop compact antenna test range (CATR), provided by Rohde & Schwarz.

The CATR can create an indirect far-field environment using a reflector within a compact environment of approximately 1.5 m, thereby reducing the size of the anechoic chamber.

60 GHz millimeter-wave wireless communications module

A video transmission demonstration will be held that combines 60 GHz millimeter-wave wireless communication, which has world-class long-distance transmission capabilities and low latency, with the JPEG XS codec. Participants can experience smooth real-time operation with high-quality, low-latency video by playing a simple game while watching the transmitted video and comparing it with video that has delays.

This demonstration will be conducted by combining unlicensed, Fujikura's low-interference 60 GHz wireless communication links, Extrixia Inc.'s ultra-low-latency camera device, and intoPIX's low latency JPEG XS codec.

1 Wafer-level package

A technology that performs the final packaging process directly on a semiconductor wafer. In addition to enabling compact designs, it enables shorter connections between the chip and

external terminals, which improves signal quality. Additionally, the direct packaging of the chip reduces the amount of material needed for external packaging and simplifies the manufacturing process, which helps reduce the environmental impact.

□2 Beamformer IC

An integrated circuit that transmits or receives radio waves in a focused direction.

□3 Frequency converter IC

An integrated circuit that converts the frequency of an input signal to a different frequency.

□4 60 GHz millimeter-wave wireless communications module

A wireless communication module that uses millimeter waves in the 60 GHz frequency band. The 60 GHz band does not require a radio station license and can be used with a simple system configuration, so there are high expectations for the development of communication and industrial equipment that utilize this frequency band. This module offers world-class performance such as automatic beamforming, throughput of 1 Gbps or more at a distance of 500 m, and low latency on the order of milliseconds and is shipped with technical standards compliance certification (Proof that mobile phones, wireless LAN devices, etc. comply with the technical standards of the Radio Law) from a certification body in Japan.

□5 Rohde & Schwarz (Hall 5 booth 5A80)

A company whose headquarters are located in Munich, Germany. The company operates electronic measurement, aerospace, and critical infrastructure businesses, including wireless communications/RF testing and measurement. For the live demonstration of the 28 GHz millimeter-wave antenna board, Rohde & Schwarz provided the R&S®ATS800B benchtop compact antenna test range, which can create an indirect far-field environment using a reflector in a compact environment, creating an OTA measurement environment while keeping the size of the anechoic chamber small.

<https://www.rohde-schwarz.com>

□6 Extrixa Inc.

A company that develops, manufactures, and sells camera, imaging equipment, and communication equipment.

<https://extrixa.com/index.html>

□7 intoPIX

IntoPIX provides advanced compression technologies that optimize bandwidth, reduce latency and power, and maintain high-quality image and video transmission for real-time cloud, mobile and wireless applications.

<https://www.intopix.com>

□8 JPEG XS

An international standard for image compression technology (ISO/IEC 21122) standardized by

the JPEG committee of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC).

Fujikura Millimeter-Wave Product website <https://mmwavetech.fujikura.jp/>

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