

# 60GHz MM-WAVE WIRELESS COMMUNICATIONS MODULE -DEMONSTRATED EFFECTIVENESS by APPLYING TO BACKHAUL of PRIVATE 5G SYSTEM-

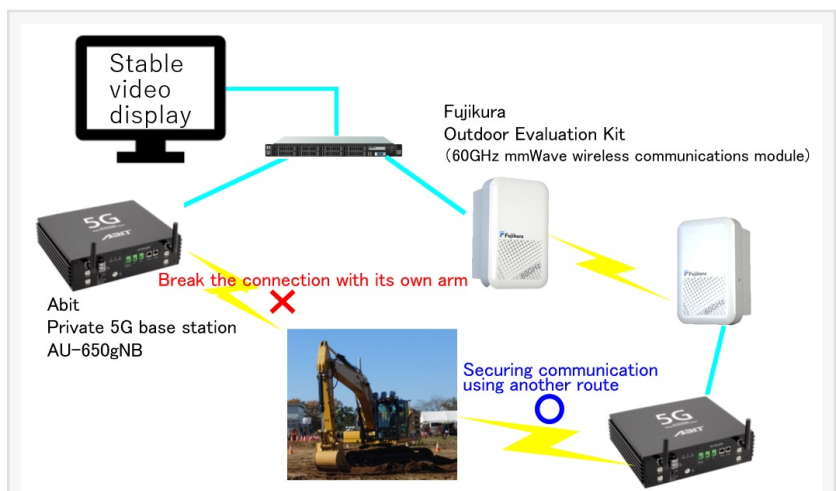
*Fujikura's module was used as a private 5G backhaul in "Remote construction demonstration" and its effectiveness was demonstrated.*

KOTO-KU, TOKYO, JAPAN, December 7, 2023 /EINPresswire.com/ -- Fujikura Ltd. (President and CEO: Naoki Okada) supplied a wireless device (Hereafter outdoor evaluation kit) equipped with a [60 GHz](#) millimeter wave wireless communications module to ABiT Corporation (Representative Director and President: Takeo Hiyama, Hereafter "ABiT") at the "Remote Construction Demonstration (Construction DX Challenge 2023)" sponsored by the Ministry of Land, Infrastructure, Transport and Tourism of Japan.

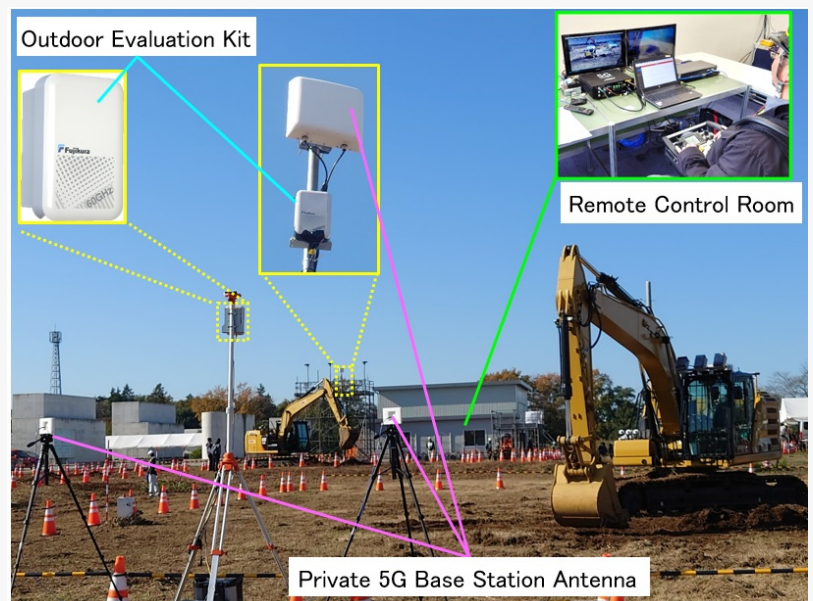
The effectiveness of the outdoor evaluation kit was proven during a demonstration in which it was applied as a [backhaul](#)\*1 for a highly reliable [private 5G](#) communication system.

□Main Points□

□Provided an outdoor evaluation kit as



Overview of demonstration



Demonstration scene

a wireless backhaul for ABiT's highly reliable private 5G communication system at the "Remote Construction Demonstration (Construction DX Challenge 2023)" hosted by the Ministry of Land, Infrastructure, Transport and Tourism of Japan.

□60 GHz millimeter wave wireless communications module has the advantages of long distance coverage, large capacity, and low latency communication (over 1 Gbps at communication distance of 500 m, delay time on the order of milliseconds)

□Demonstration involving construction work equipment proved its effectiveness as a backhaul.

This demonstration was sponsored by the Ministry of Land, Infrastructure, Transport and Tourism with the aim of advancing construction technology, and was held on November 20th at the Construction DX Experimental Field in Tsukuba City, Ibaraki Prefecture, Japan.

Fujikura supplied ABiT with an outdoor evaluation kit equipped with a 60 GHz millimeter wave wireless communications module, which was used as a wireless backhaul to connect private 5G base stations to each other and the backbone network.

In the demonstration, a highly reliable, low-latency "uninterrupted wireless environment" was created using a private 5G base station and an outdoor evaluation kit, and video transmission using these enabled smooth operation of construction equipment from remote locations.

This demonstration proved that Fujikura's 60 GHz millimeter wave wireless communications module, which features long-distance coverage, high-capacity, and low-latency communication, can effectively function as a wireless backhaul for private 5G communication systems.

Traditionally, building a private 5G communication system requires construction work such as installing new optical fiber lines as backhaul, but significant cost reductions can be achieved by applying wireless connectivity.

□The private 5G communication system allows for ultra-high speed, high reliability, low latency, and multiple simultaneous connections to be configured under optimal conditions for each user, and is expected to be an indispensable tool for solving local community issues using DX. With this module, we will continue to contribute to the spread of private 5G communication systems by providing this module.

□60 GHz millimeter wave wireless communications module□

Fujikura provides a compact embedded 60 GHz millimeter wave wireless communications module using a high gain phased array antenna. These are capable of achieving high-speed wireless communication in the 60 GHz frequency band. Their compact design combines a baseband wireless modem function and an antenna with an included RF front end function.

This module has 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\*2 from a certification body in Japan.

By incorporating this module that has obtained Technical standards compliance certification in advance, it is possible to develop communication and industrial equipment that uses the 60 GHz band in a short period of time and at low cost.

For detailed information about the performance of our 60 GHz millimeter wave wireless communications module, please visit our product website.

<https://mmwavetech.fujikura.jp/60g/>

#### \*1 Backhaul

In a communications network, this is a relay line that connects a base station to the backbone network.

#### \*2 Technical standards compliance certification

Certification that specified radio equipment (designated by ordinance of the Ministry of Internal Affairs and Communications of Japan as radio equipment for use in small-scale radio stations, including mobile phones, wireless LAN equipment, etc.) complies with the technical standards of the Radio Law.

□Fujikura's main efforts in 60 GHz millimeter wave research and development are as follows:

Developed a highly sensitive version of the module and started various on-site communication experiments.

[https://www.fujikura.co.jp/eng/newsrelease/products/2067042\\_11777.html](https://www.fujikura.co.jp/eng/newsrelease/products/2067042_11777.html)

Exhibited high-sensitivity version of the module at MWC Barcelona 2023

[https://www.fujikura.co.jp/eng/newsrelease/products/2067012\\_11777.html](https://www.fujikura.co.jp/eng/newsrelease/products/2067012_11777.html)

Started providing samples of modules that have obtained domestic radio law and technical compliance certification.

[https://www.fujikura.co.jp/eng/newsrelease/products/2066450\\_11777.html](https://www.fujikura.co.jp/eng/newsrelease/products/2066450_11777.html)

Participated in safe driving support demonstration in Sanda City, Hyogo Prefecture, and succeeded in establishing wireless connection between utility poles

[https://www.fujikura.co.jp/eng/newsrelease/products/2065793\\_11777.html](https://www.fujikura.co.jp/eng/newsrelease/products/2065793_11777.html)

Exhibited live demonstration of 4K video transmission at MWC Barcelona 2022

[https://www.fujikura.co.jp/eng/newsrelease/products/2065446\\_11777.html](https://www.fujikura.co.jp/eng/newsrelease/products/2065446_11777.html)

Conducted successful high-quality, ultra-low-latency video transmission experiment

[https://www.fujikura.co.jp/eng/newsrelease/products/2065194\\_11777.html](https://www.fujikura.co.jp/eng/newsrelease/products/2065194_11777.html)

Conducted successful high-speed communication experiment in safe driving support demonstration using route buses

[https://www.fujikura.co.jp/eng/newsrelease/products/2063554\\_11777.html](https://www.fujikura.co.jp/eng/newsrelease/products/2063554_11777.html)

Takaharu Hondo

Fujikura Ltd.

+81 43-484-3967

mmwavetech@jp.fujikura.com

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