60GHz Millimeter-Wave Wireless Communication Module High Sensitivity Version Developed

~ Fujikura Acquires Experimental License and Begins Field Experiments~

60 GHz millimeter-wave wireless communication module high sensitivity version

KIBA, TOKYO, □□, February 17, 2023 /EINPresswire.com/ -- Fujikura Ltd. (President & CEO: Naoki Okada) has developed a high sensitivity version of the 60 GHz millimeter-wave wireless communication module (high-sensitivity module), which enables km-class long-distance transmission. Having obtained a license of the experimental radio station *1, Fujikura has begun various communication experiments in the field.

The high-sensitivity module has improved antenna gain owing to having double the number of antenna elements compared to conventional module and an optimally designed antenna with a limited frequency range of 61-71 GHz where attenuation due to oxygen absorption *2 is small. The module can achieve long-distance transmission performance thanks to these effects.
Furthermore, the module has a function that narrows the bandwidth to 1/2 or 1/4. This function increases the transmission power density per unit frequency by narrowing the frequency, enabling further long-distance transmission.
In Europe and the United States, the frequency bands supported by the high-sensitivity module can be used without a license *3. By taking advantage of this long-distance performance, Fujikura will promote sales expansion mainly in these areas for applications that require long-distance transmission, such as backhaul *4 applications and mobile communications.

-Points-
□Developed high-sensitivity module that achieves km-class long-distance transmission performance with millimeter waves

Started communication experiments in the field
Promoting sales expansion in Europe and the United States

The high-sensitivity module will be on display in Hall 5 at booth 5J56 at MWC Barcelona 2023 in Spain from February 27, 2023 to March 2, 2023. The booth will also feature live demonstrations of the 60 GHz standard module, as well as the 28 GHz PAAM for 5G base stations.
Come to our booth to see our latest samples and live demos.
URL: https://www.fujikura.co.jp/eng/newsrelease/products/2067012_11777.html

Wireless communication using millimeter waves is gathering attention for the construction of broadband networks around the world.
While expectations are high for “advancements in communications technology” around the world, Fujikura will contribute to the development of equipment for realizing ultra-high-speed, low-latency, and large-capacity communications.

60 GHz millimeter wave wireless communication module high sensitivity version specifications
Radio interface: 61-71 GHz
Occupied bandwidth: 0.55/1.1/2.2 GHz
Interface: PCIe x2 lane
Power supply: DC +12 V
Size: Typ. 78 mm(W) × 128 mm(H) × 14.4 mm(D)/205 g
61-66 GHz for Japan

For inquiries, please visit the following website.
URL: https://mmwavetech.fujikura.jp/

[Explanation of terms]
*1 Experimental radio station
It is defined as “a radio station established for the purpose of conducting experiments for the development of science or technology, testing the efficiency of the use of radio waves, or surveying the demand for the use of radio waves, but not for practical use,” and may be established for the purpose of carrying out experiments, tests or investigations.

*2 Oxygen absorption
A phenomenon in which electromagnetic waves in the vicinity of 60 GHz are absorbed by oxygen molecules in the air, resulting in significant attenuation.

*3 Frequency bands supported by the high-sensitivity module can be used without a license
In Europe and the United States, 57-71 GHz is approved as a frequency band that can be used without a license. On the other hand, in Japan, 57-66 GHz can be used without a license, but 66-71 GHz requires a license.

*4 Backhaul

Relay link that connects the base stations to the core network.

[Development history]
Start Shipping Evaluation Sample of 60GHz mmWave Wireless Communications Module
URL: https://www.fujikura.co.jp/eng/newsrelease/products/2060091_11777.html (January 27, 2020)
Fujikura Acquires Experimental License on New 5G Band (66~71GHz) and Begins Field Experiments
URL: https://www.fujikura.co.jp/eng/newsrelease/products/2062503_11777.html (August 5, 2020)
Fujikura succeeds in 60 GHz band high-speed communication experiment in safe driving support demonstration using local bus
URL: https://www.fujikura.co.jp/eng/newsrelease/products/2063554_11777.html (April 7, 2021)
Successful Transmission of High-Quality, Ultra-Low-Latency Video over 60 GHz Wireless Communications System
- High-quality real-time video transmission achieved by combining endpoint AI equipment, JPEG-XS codec, and 60GHz band wireless communication -
URL: https://www.fujikura.co.jp/eng/newsrelease/products/2065194_11777.html (January 18, 2022)
Fujikura plays a key role in a demonstration of safe driving support in Sanda City, Hyogo Prefecture —Successful wireless connection between electric poles using 60 GHz millimeter-wave—
URL: https://www.fujikura.co.jp/eng/newsrelease/products/2065793_11777.html (May 17, 2022)

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