

Joint Press Release—for immediate release

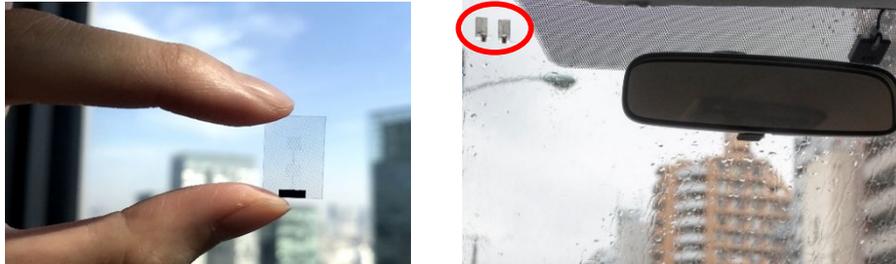
**DOCOMO, AGC and Ericsson Achieve World's First 5G Communication
Using Glass Antenna for 28 GHz**

—Thin, compact antenna enables 5G communication under difficult conditions—

TOKYO, JAPAN, May 29, 2019—NTT DOCOMO, INC., AGC Inc. and Ericsson announced today that they have achieved what is believed to be the world's first 5G mobile telecommunications using an antenna embedded in synthetic fused silica glass to transmit and receive 28 GHz 5G radio signals for stable, high-speed mobile communication in buildings, vehicles and trains.

The antenna was used to verify 28 GHz 5G mobile communication with downlink speeds averaging 1.3 Gbps within a 100-meter range and reaching a maximum of 3.8 Gbps at 400 MHz. The verification tests, which used a vehicle fitted with multiple antennas and traveling about 30 km/h, were conducted in the Sumida area of Tokyo between April 22 and May 28.

Radio signals in the 28 GHz band are more linear than 4G LTE signals, so they are not strong enough to adequately penetrate windows in buildings, vehicles and railway cars. The new glass antenna can be attached to window surfaces to enable radio waves to be received and relayed in ideal directions for stable, high-speed 5G communications under challenging indoor and in-vehicle conditions.



5G glass-embedded antenna

Antennas were used in multiple spots on the test vehicle, including the windshield, side windows and rear window, enabling data to be transmitted and received in ideal directions for maximum signal strength. As a result, stable, high-speed communication was achieved even in urban areas where signals were blocked or reflected by obstacles.

The 5G glass antenna's small size and transparent appearance allow it to be installed unobtrusively in buildings, vehicles, etc. without impairing the installation object's appearance or design, or people's line of sight.

Going forward, DOCOMO, AGC and Ericsson will continue to refine antenna technology to enable the glass antenna to function compatibly with Massive MIMO, a technology that uses multiple antennas to transmit and receive data, aiming to achieve faster 5G

communication speeds and expanded 5G use under diverse conditions.

Field Trial Video of 5G Communication Using Glass Antenna for 28GHz

<https://youtu.be/A8X3maTIBGQ>

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About NTT DOCOMO

NTT DOCOMO, Japan's leading mobile operator with over 78 million subscriptions, is one of the world's foremost contributors to 3G, 4G and 5G mobile network technologies. Beyond core communications services, DOCOMO is challenging new frontiers in collaboration with a growing number of entities ("+d" partners), creating exciting and convenient value-added services that change the way people live and work. Under a medium-term plan toward 2020 and beyond, DOCOMO is pioneering a leading-edge 5G network to facilitate innovative services that will amaze and inspire customers beyond their expectations. DOCOMO is listed on the Tokyo Stock Exchange (9437). www.nttdocomo.co.jp/english.

About the AGC Group

AGC Inc. (Headquarters: Tokyo, President & CEO: Takuya Shimamura) is the parent company of the AGC Group, a world-leading glass solution provider and supplier of flat, automotive and display glass, chemicals, ceramics and other high-tech materials and components. Based on more than a century of technical innovation, the AGC Group has developed a wide range of cutting-edge products.

The AGC Group employs some 54,000 people worldwide and generates annual sales of approximately 1.5 trillion Japanese yen through business in about 30 countries. For more information, please visit www.agc.com/en

About Ericsson Japan

Ericsson enables communications service providers to capture the full value of connectivity. The company's portfolio spans Networks, Digital Services, Managed Services, and Emerging Business and is designed to help our customers go digital, increase efficiency and find new

revenue streams. Ericsson's investments in innovation have delivered the benefits of telephony and mobile broadband to billions of people around the world. The Ericsson stock is listed on Nasdaq Stockholm and on Nasdaq New York. www.ericsson.com