



OFFICE OF
THE CHAIRMAN

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON

June 14, 2016

The Honorable Don Beyer
U.S. House of Representatives
431 Cannon House Office Building
Washington, D.C. 20515

Dear Congressman Beyer:

Thank you for your letter concerning your interest in Mr. Marzetta's massive multiple-input and multiple output, or "MIMO." As you know, MIMO is a method for multiplying the capacity of a radio link using multiple transmit and receive antennas. MIMO has become an essential element of wireless communications, including Wi-Fi.

As your letter correctly notes, spectrum below 5 GHz will always be the most valuable because of its resilience to blockage and obstructions, ability to function under high mobility conditions and effective building penetration. MIMO potentially could exploit these frequencies and improve spectral efficiency. It is important to note, however, that the Commission assigns spectrum on a technology-neutral basis, based on the idea that the marketplace and consumers will drive the deployment of the most efficient and cost-effective equipment.

At the same time, part of our mission is to encourage technological development and innovation, which is why the Commission adopted a Spectrum Frontiers Notice of Proposed Rulemaking (NPRM) last year. On March 10, 2016, as part of our consideration of that NPRM, we held a workshop and demonstration of 5G equipment. Participants displayed a broad array of devices, including technology utilizing MIMO. Several interest parties also have provided information concerning MIMO's importance for the Spectrum Frontiers NPRM record.

We welcome referrals of congressional constituents with special expertise and encourage them to participate directly in the NPRM process. In addition, given your special interest and the information that you have conveyed, we will place your letter in the record of the proceeding and consider it as part of the Commission's review.

I appreciate your interest in this matter. Please let me know if I can be of any further assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read "Tom Wheeler", written over a horizontal line.

Tom Wheeler