

July 30, 2015

The Honorable Tom Wheeler
Chairman
Federal Communications Commission
445 12th Street S.W.
Washington, DC 20554

Dear Chairman Wheeler:

We are writing today in regards to the Commission's Public Notice to examine the effect new technologies, namely LTE Unlicensed (LTE-U), could have on existing operations in spectrum bands for unlicensed devices. It is critical that this examination be open and thorough to make sure that these new technologies operate fairly and do not impede the availability of the unlicensed spectrum necessary for robust Wi-Fi and other unlicensed technologies or otherwise degrade operations.

Consumers and the larger wireless ecosystem have come to rely greatly on Wi-Fi and other unlicensed technologies. In the 20 years since the FCC unlocked spectrum for unlicensed technologies, consumer use of innovative communications technologies like Wi-Fi and use of the Internet has skyrocketed. Today, nearly half of *all* Internet traffic worldwide travels over Wi-Fi connections and Wi-Fi use is expected to continue to grow over the coming years. And the proliferation of Internet of Things technologies that rely on unlicensed spectrum will further increase unlicensed spectrum utilization.

Several factors have made unlicensed spectrum an incredibly beneficial resource to consumers and businesses. For instance, one of the important attributes of unlicensed spectrum in the U.S. has been that it is a regulated with a very light touch. This very open environment has enabled innovation; however, it has also required cooperation among competing technologies and serious work by industry led standards groups to minimize harmful interference. And, as unlicensed spectrum usage increases, the need for all stakeholders to proactively work together to address interference issues will only grow.

At this juncture, stakeholders have indicated that there is an absence of consensus as to the likely real-world effect on millions of Wi-Fi devices by carrier-scale deployment of these LTE technologies. We are concerned that without proper coordination and management, LTE-U may harm Wi-Fi operations. Thus, we support continued FCC oversight and leadership in this area in order to protect consumers from potential harm.

It remains critical for industry to work together, including through their traditional standards-development bodies, to resolve concerns over interference. In the meantime, we recommend that the FCC initiate a process that allows industry to develop an effective sharing solution—as has been developed with other technologies in the past—to avoid any unnecessary consumer dislocation. This could include a series of meetings led by the FCC's Office of Engineering and

Technology to ensure that constructive dialogue between technical experts continues in an open and neutral forum and to promote continued work on effective spectrum sharing mechanisms. We encourage you to act on this request expeditiously, given reports that some wireless companies plan to begin deploying LTE-U technologies in the near future.

Thank you for your continued efforts to preserve the vitality of the Nation's unlicensed bands.

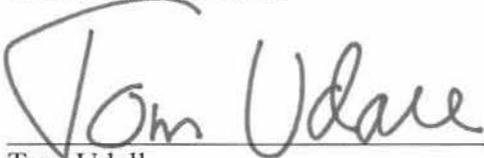
Respectfully,



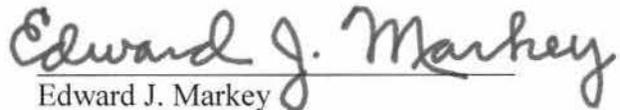
Brian Schatz
United States Senator



Richard Blumenthal
United States Senator



Tom Udall
United States Senator



Edward J. Markey
United States Senator



Maria Cantwell
United States Senator



Claire McCaskill
United States Senator

cc: The Honorable Mignon Clyburn, Commissioner, Federal Communications Commission
The Honorable Jessica Rosenworcel, Commissioner, Federal Communications Commission
The Honorable Ajit Pai, Commissioner, Federal Communications Commission
The Honorable Michael O'Rielly, Commissioner, Federal Communications Commission



FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON

OFFICE OF
THE CHAIRMAN

March 1, 2016

The Honorable Tom Udall
United States Senate
531 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Udall:

Given your ongoing interest in LTE-U, I wanted to take this opportunity to update you on the status of our efforts to encourage an industry-driven process to enable fair coexistence between LTE-U and other technologies in the unlicensed bands. As you are aware, the Commission has been actively studying this issue, closely monitoring industry developments, and meeting with stakeholders to encourage common ground solutions to concerns about perceived spectrum sharing problems.

On January 29, 2016, the Office of Engineering and Technology granted Special Temporary Authority ("STA") to Qualcomm to conduct very small scale performance evaluation tests of LTE-U equipment at two Verizon sites in Oklahoma City, O.K. and Raleigh, N.C. The Wi-Fi Alliance recently submitted a letter expressing appreciation for Qualcomm's continued engagement in coexistence work and voiced no objection to the grant of an STA for equipment testing at Verizon facilities. The Wi-Fi Alliance and LTE-U advocates have made significant progress towards developing a test plan to evaluate the coexistence of LTE-U with Wi-Fi and other devices operating in the unlicensed spectrum. We are hopeful that they can resolve the remaining issues and finalize the test plan soon.

While Qualcomm and Verizon have agreed to participate in subsequent laboratory and real world co-existence testing of LTE-U, significant steps remain before LTE-U can be considered for commercial deployment. Experimental LTE-U device operation at any other location would require a new STA. Also, LTE-U devices will require equipment authorization by the FCC Laboratory before they can be marketed in the United States and applicants for certification will be required to submit sample devices for testing.

I believe that with the dedicated efforts of our staff and the cooperation of industry stakeholders, we have already made significant progress and we will continue to move toward a favorable resolution of this matter.

Sincerely,

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Tom Wheeler



FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON

OFFICE OF
THE CHAIRMAN

March 1, 2016

The Honorable Brian Schatz
United States Senate
722 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Schatz:

Given your ongoing interest in LTE-U, I wanted to take this opportunity to update you on the status of our efforts to encourage an industry-driven process to enable fair coexistence between LTE-U and other technologies in the unlicensed bands. As you are aware, the Commission has been actively studying this issue, closely monitoring industry developments, and meeting with stakeholders to encourage common ground solutions to concerns about perceived spectrum sharing problems.

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WASHINGTON

OFFICE OF
THE CHAIRMAN

March 1, 2016

The Honorable Claire McCaskill
United States Senate
730 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator McCaskill:

Given your ongoing interest in LTE-U, I wanted to take this opportunity to update you on the status of our efforts to encourage an industry-driven process to enable fair coexistence between LTE-U and other technologies in the unlicensed bands. As you are aware, the Commission has been actively studying this issue, closely monitoring industry developments, and meeting with stakeholders to encourage common ground solutions to concerns about perceived spectrum sharing problems.

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WASHINGTON

OFFICE OF
THE CHAIRMAN

March 1, 2016

The Honorable Edward J. Markey
United States Senate
255 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Senator Markey:

Given your ongoing interest in LTE-U, I wanted to take this opportunity to update you on the status of our efforts to encourage an industry-driven process to enable fair coexistence between LTE-U and other technologies in the unlicensed bands. As you are aware, the Commission has been actively studying this issue, closely monitoring industry developments, and meeting with stakeholders to encourage common ground solutions to concerns about perceived spectrum sharing problems.

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March 1, 2016

The Honorable Maria Cantwell
United States Senate
511 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Cantwell:

Given your ongoing interest in LTE-U, I wanted to take this opportunity to update you on the status of our efforts to encourage an industry-driven process to enable fair coexistence between LTE-U and other technologies in the unlicensed bands. As you are aware, the Commission has been actively studying this issue, closely monitoring industry developments, and meeting with stakeholders to encourage common ground solutions to concerns about perceived spectrum sharing problems.

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March 1, 2016

The Honorable Richard Blumenthal
United States Senate
706 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Blumenthal:

Given your ongoing interest in LTE-U, I wanted to take this opportunity to update you on the status of our efforts to encourage an industry-driven process to enable fair coexistence between LTE-U and other technologies in the unlicensed bands. As you are aware, the Commission has been actively studying this issue, closely monitoring industry developments, and meeting with stakeholders to encourage common ground solutions to concerns about perceived spectrum sharing problems.

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