

**Remarks of FCC Commissioner Michael O'Rielly
Before the CBRS Alliance, San Diego, CA
August 1, 2017**

I thank the CBRS Alliance for inviting me to speak at your meeting and Qualcomm for generously hosting this event at your headquarters. I must admit it is always nice to get out of D.C. in the summer, even if it is only to enjoy the lovely San Diego weather for 24 hours. Unfortunately, I will not be able to attend more of your event but have to return to D.C. to prepare for the Commission's monthly meeting on Thursday.

I would like to applaud everyone in this room for convening a group to work through the various 3.5 GHz issues. When I think of those working on these issues, I can't help but recall Arthur C. Clarke's self-described third law, "Any sufficiently advanced technology is indistinguishable from magic." We shouldn't get ahead of ourselves, but CBRS may be on the verge of proving Clarke's point.

What is most intriguing about the CBRS Alliance is the diversity of the membership. Your companies range from the largest Fortune 500 companies to smaller wireless providers, and everywhere in between. I have met with many of the companies represented here on various matters and know that you are all dedicated to serving your consumers and deploying wireless services across America, and some of you around the globe.

As you may know, I have been spending much time on 3.5 GHz. And, therefore, I am fully aware that there may be a difference of opinion with my positions in this crowd. Some of you may cheer what I am going to say, and others may want to throw things at me. I, of course, encourage the former and certainly discourage the latter, but for those of you with whom I may not see eye-to-eye, I hope that you will understand my point of view. I always say that I will be totally upfront and honest about where I stand on the issues.

When the Commission started the 3.5 GHz band proceeding, the focus was trying to figure out how to introduce new services into the band while protecting incumbents, especially U.S. Navy radar systems, from harmful interference. We all remember those initial protection zones. You know what I am talking about. The ones that basically showed that 3.5 GHz could be used in Kansas, Oklahoma, Colorado and Nebraska. All great states, but a tad limiting. Okay, it wasn't quite that bad, but I am not that far off.

And look how far we have come. Many of you have been in the trenches since the beginning. I appreciate all the work that has gone into research and development so that the necessary equipment can be manufactured and systems put in place. I had been hearing many concerns about the development of the the Spectrum Access System (SAS) and Environmental Sensing Capability (ESC). Although, due, in part, to the efforts of many of the people in this room, we appear to be in a much better place now than we were even a few months ago. It sounds like work on the SAS is progressing, with systems tests expected to start around the January timeframe.

While the ESC may not be as far along, it is my understanding that the Department of Defense and FCC are working on an interim step to enable some significant deployments prior to the completion of the ESC. Although this is a start, the ESC must be completed with no further delays to permit full utilization of this band, while protecting U.S. Navy radar systems.

I have heard concerns from some that the recent petitions filed at the Commission will mean that your tireless efforts will be undone, investment may be stranded, or that deployments will be delayed. That is not my intention, nor do I believe it will occur. As I have said before, I am not predisposed to disrupt the three-tier structure; I just want all three tiers of this so-called “experiment” to work. I am also not trying to favor one use case over another. My view is that the band should be designed to permit as many uses as possible and the market should decide the highest value use for this spectrum. This is the fundamental thought behind the Commission’s flexible use policies.

Now some of you may be doubting me. Yes, if it were my choice, I would have done things differently in the past. I prefer clearing, over sharing, and I do not view the PCAST report as a seminal document that will forever change spectrum policy. Regardless, this is the structure we have, and I agree that we need to move expeditiously so entities can put this spectrum to good use. Procedurally, the hope is that the Commission will vote on a notice of proposed rulemaking of proposed enhancements to CBRS in the fall and an order by the New Year or soon thereafter.

Substantively, my position from the very beginning has been that the Priority Access License, or PAL, structure was flawed and needed to be fixed. For this reason, I was pleased to accept the Chairman’s offer to lead the effort to review our rules to ensure they maximize innovation, investment and the efficient use of these frequencies. In conducting this review, I have met with many of the entities represented in this room. While a few said make no changes, many agreed that the PALs could use some serious improvements and one provider wanted a do over to license the entire band. The filings that resulted were put out by the Commission for public comment.

Of course, as part of the deliberative process, I will consider the recently filed comments and the replies due next week. And, yes, I will read them all. But it was apparent, early on, that the debate would focus on the request of certain stakeholders for 1) longer license terms, 2) renewability, and 3) larger geographic areas.

Interestingly, many entities, including those companies that filed in opposition to the petitions, expressed that tweaks to the license terms and some level of renewal expectancy would be acceptable. Though term lengths varied anywhere between five and ten years, and entities had differing views on exactly how renewal expectancy would work, most submissions agreed to fix these two components. As for geographic areas, some were firmly entrenched in the camp of auctioning PALs for the more than 74,000 census tracts, which would be quite the auction, while others were interested in pursuing counties or partial economic areas. But most agree that, if a winning bidder for a PAL is not operating in a particular area, it can still be used for General Authorized Access (GAA).

Now it is fair to ask: what problem is the FCC trying to solve by changing CBRS? Since the Commission started this proceeding in 2012, circumstances with regards to this service band have changed. Although many entities are willing to explore unlicensed GAA use, those interested in more extensive, next-generation builds require greater certainty that investment would not be stranded, and this is precisely why they want the protections afforded licenses. To be clear, it is not just the four nationwide wireless providers seeking changes; in fact, I recently met with a mid-sized fixed wireless broadband provider who seeks the same assurances.

At the same time, the international focus on 5G spectrum has now shifted to the mid bands that carry more data than low bands, but propagate farther than millimeter wave. And the 3.5 GHz band is in the spotlight, right in the middle of the frequencies being considered. In fact, Europe has already identified

3.4 to 3.8 GHz as its primary band for early 5G development. Japan, Korea and China are also proponents of using 3.4 to 3.8 GHz for 5G and their manufacturers have all been active in the standards setting process for these bands. And, it was evident at GSMA's Mobile World Congress, this past February, that even more countries are focused on using these and surrounding bands for 5G.

While the U.S. has been known to move ahead without global allocations, harmonization is generally beneficial for promoting innovation and investment. It can reduce the cost of equipment and devices because of the greater economies of scale and allow for the use of devices as consumers cross geographic borders. And when it comes to next-generation wireless services, the global race is on to determine who will take the lead.

In fact, this is the very reason why the Commission is also seeking to expand wireless use of other mid-band frequencies. At our meeting on Thursday, the Commission will vote on a mid-band spectrum Notice of Inquiry. While it provides a great opportunity to point out any frequencies, between 3.7 and 24 GHz, that you think may facilitate wireless broadband services, the main focus is the 3.7 to 4.2 GHz band. Recently, an ad-hoc coalition of equipment manufacturers, wireless providers, and unlicensed users have been discussing ideas on how to open the 3.7 to 4.2 GHz band for licensed mobile services, while protecting or accommodating incumbents. This will provide an excellent opportunity because it is so close to the 3.5 GHz PALs.

Since I have you, I also want to quickly raise two other issues. First, I firmly believe that the Commission needs to fix the auction mechanism for 3.5 GHz. For reasons that are still not entirely clear, it found that PAL licenses are not mutually exclusive to GAA. This led to the Commission's strange decision that, if there isn't excess demand for the seven PALs, it would auction one less license than entities were seeking. This became known to some as the "n-1 solution." Simply put, if there was interest for five of the seven available PALs in a market, only four would be auctioned. This was a ridiculous approach. I think most would agree that, if a PAL is in use in a specific area on a particular spectrum band, then GAA operations are precluded in that location. Therefore, they are mutually exclusive and all seven PALs can be auctioned. If demand is low, PALs may be sold for the reserve price at auction and some may have no bids, but entities in a geographic area who want licenses and priority should be able to obtain one regardless of the interest level of others.

Second, the Commission should modify the emission limits so that, for instance, entities who obtain more than one PAL can aggregate them more efficiently to provide 4G LTE or 5G service. The current rules would require licensees with multiple PALs to use less power, which could hinder the types of services they can provide.

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I thank you for having me here today and listening to my thoughts on the 3.5 GHz band. I hope your meetings are productive and please know that I welcome an open dialogue on the ways in which this band can be used most productively.