

September 15, 2016
Ms. Marlene H. Dortch, Secretary
Office of the Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

RE: GN Docket No. 14-177 – Use of Spectrum Bands Above 24GHz for Mobile Radio Services (Spectrum Frontiers)

IB Docket No. 12-340 – Lightsquared Request to Modify Its ATC Authorization (Lightsquared/Ligado)

RM-11681 – Petition for Rulemaking to Allocate the 1675-1680 MHz Band for Terrestrial Mobile Use (Globalstar)

IB Docket No. 13-213 – Terrestrial Use of the 2473-2495 MHz Band for Low-Power Mobile Networks (Globalstar)

WT Docket No. 16-149 - PCS Partners Requests for Multilateration Location and Monitoring Service Waiver and Construction Extension (PCS Partners)

RM-11771 – Public Notice Regarding Petition for Rulemaking and Stay of Operation of Commercial Services in 5.9 GHz Band (DSRC Petition)

ET Docket No. 13-49 – Revision of Part 15 of the Commission’s Rules (DSRC Sharing Proceeding)

RM-11768 – Petition for Rulemaking to Permit MVDDS Use of the 12.2-12.7 GHz Band for Two-Way Mobile Broadband Service (MVDDS)

WT Docket No. 16-181 - Wireless Telecommunications Bureau Seeks Comment Regarding Request For Relief Of Certain WCS Construction Requirements (WCS)

ET Docket No. 15-105 - Office of Engineering and Technology and Wireless Telecommunications Bureau Seek Information on Current Trends in LTE-U and LAA Technology (LTE-U/LAA)

WT Docket No. 12-354 – Amendment of the Commission’s Rules with Regard to Commercial Operations in the 3550-3650 MHz Band (3.5 GHz Band)

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Dear Ms. Dortch:

On September 12, 2016, Harold Feld, Phillip Berenbroick, and John Gasparini, all of Public Knowledge (PK), met with Jon Wilkins, Wireless Bureau Chief, and Brian Regan, Associate Bureau Chief, regarding the above-captioned proceedings.

Spectrum Frontiers

PK supported use of sharing as a means by which incumbents could meet their performance obligations. Performance obligations are a means to an end, not an end in themselves. They are based on the traditional common carrier public interest obligation that, to ensure universal service, the licensee but provide service throughout the license area – so that the profitable geographic area subsidize the less profitable areas.

The physical propagation characteristics of microwave bands make traditional performance obligations difficult to enforce, and considerably less efficient than sharing. The spectrum has multiple uses, but any given operator will want to construct its network for a specific subset of these uses – and that subset may not suit a particular geographic area of market. It is not merely costly and inefficient for the licensee to build out network operations to geographic areas or populations where those network operations are unsuited, it does not good to the population now “served” by a wireless network they neither want nor need.

Instead, the Commission should allow licensees to use the “private commons” rule to fulfill their performance obligations. Where providers make their spectrum openly available for sharing, that will fulfill their performance obligation. This would require use of a SAS, as well as open protocols to permit general access similar to that permitted under Part 15. Licensees would be free to withdraw the spectrum from the private commons at any time when they wish to use the spectrum themselves on an exclusive basis. Once the spectrum is withdrawn from the private commons, however, performance obligations would once again apply.

While licensees could withdraw their spectrum from shared use at any time, use of the private commons arrangement *not* toll the time to meet performance obligations. Licensee wishing to use their spectrum can build their networks before withdrawing the spectrum. This will encourage maximum, flexible use of the spectrum. Because Licensees can withdraw at any time, it relieves the Commission of determining what would be a sufficient trigger for use.

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In the event that a licensee does not elect to make its spectrum available generally via a private commons, but does not meet its performance obligations in all or part of the geographic area, the unused spectrum would become generally available under a standard “use or share” condition. To prevent licensees from defeating the purpose of putting the spectrum to productive use, the Commission should not consider the arrangement sufficient to meet performance obligations if the licensee charges for access to the private commons.

Lightsquared/Ligado, PCS Partners/ MVDDS/WCS/Globalstar

All of these proceedings share common themes. In all these cases, the licensees seek to repurpose spectrum rights in order to use their licenses more profitably and efficiently. All of these raise common concerns with regard to evaluating whether modification of exclusive use rights constitutes a windfall, whether doing so better serves the public interest than requiring the licensees to operate under the existing licenses terms (or, in the case of licensees that have not met their performance obligations, whether the Commission should simply reclaim the licenses), and how to address interference concerns from existing users of spectrum in other bands.

As the growing list of proceedings raising similar issues demonstrates, the Commission needs to adopt some principles or processes to guide its consideration. The lengthy pendency of some of these proceedings, and the growing number of them, demonstrate that in an environment of intense spectrum use the Commission traditional means of determining whether to grant or deny such requests – which generally favored granting any request that might enhance spectrum use -- has simply broken down. The universe of potentially impacted stakeholders has expanded and in any given proceeding may include multiple federal agencies, multiple licensed services, and users of Part 15 devices. In addition, the Commission must consider whether granting the request for altering existing spectrum rights would simply reward speculators and encourage license trafficking, and whether the prospect of seeking altered spectrum rights provides an “attractive nuisance” that dissuades licensees from building out service within the scope of their license in the hopes of being able to offer more lucrative services.

With regard to the specific proceedings listed, PK reiterated, in accordance with previous filings in the relevant docket, opposition to the PCS Partners position, and conditional support for AT&T’s WCS application, the Ligado Petitioners, the MVDDS Petitioners, and Globalstar. In each case, PK has sought to apply a set of guiding principles. These include:

- a. Is the licensee actually providing service today, or made a good faith effort to provide service? WCS licensees and Ligado have actively tried to provide service, and have spent considerable time and effort negotiating with stakeholders to resolve interference concerns. Globalstar provides satellite service through its spectrum to the limits permitted by the existing license terms, as do MVDDS licensees. By contrast, PCS Partners has simply waited in the hopes that its relatively modest speculative investment in spectrum licenses will someday pay off.

- b. In this regard, PK noted CTIA’s recent filing in the DSRC Petition apparently changing its longstanding position against permitting commercial activity on exclusive use spectrum not obtained at auction.¹ This reversal is relevant in the context of the MVDDS proceeding, for example, which would enhance commercial use of the spectrum without an auction. Similarly, CTIA’s filing would appear to support Globalstar, directly contradicting the objections of Commissioner Pai that granting Globalstar’s request for modification of its ATC rights to create the proposed TLP Service. Given that the trade association that represent licensees that have acquired their spectrum at auction now supports unlimited commercial use on exclusive spectrum not obtained at auction, the Commission should question to what extent the “windfall” objection remains significant.
- c. Are there reasons for granting exclusive use of the new spectrum rights, or can they be shared? As PK has previously stated at length, the best use of spectrum is one which eliminates the need for intermediaries and permits the public to productively access the public airwaves on equal terms. In accordance with the PCAST report, the need for exclusivity should therefore be demonstrated, rather than assumed as the default.
- d. The Commission must regain control of the testing process, which has become a barrier to any changes in the spectrum environment. The Commission can do so by using its authority under Section 303(g), 303(r), and 303(y). In particular, Section 303(y)(2)(C) requires a finding that enhanced flexible use will not cause “harmful interference among *users*.” (emphasis added). The word “users” clearly extends the authority of the commission to protect not merely other licensees, but federal users and users of Part 15 devices. As always, the question of what constitutes “harmful interference” must be based on reasonable user expectations. Thus, application of this standard to Part 15 devices would not protect an individual device, but would apply to deployment of flexible licenses which impact well established uses of Part 15 devices on a broader scale.
- e. The Commission may properly exercise its authority under Section 303(y) by establishing a combination testing regimen and post-deployment rules that would provide reasonable assurance prior to deployment that operation will not cause harmful interference, but would also provide clear authority and means for the Commission to address interference problems that would emerge going forward.

DSRC Petition/DSRC Sharing

PK noted that no one who opposed PK’s Petition, other than CTIA, defended the commercial use of DSRC spectrum. Nor did any party explain how use of commercial applications is consistent with the encryption and security measures that licensees state are incorporated into the non-commercial life & safety network, or why permitting commercial use of the DSRC spectrum is even consistent with the public interest in light of the changes that have occurred since 2004. The closest any stakeholder came to defending commercial use was ITS America in its reply

¹ Opposition to Petition for Rulemaking of CTIA, RM-11771 (filed August 24, 2016) at 16-19.

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comments, which simply noted that no one objected on privacy or cyber security grounds when the Commission authorized commercial use of the spectrum in 2004.²

PK observed that the bulk of the objections from parties who are neither vendors of DSRC equipment, DSRC licensees or potential DSRC licensees (such as the California Department of Transportation) objected primarily to the Commission's continued use of its privacy and cyber security authority recently re-affirmed in the *Spectrum Frontiers R&O and FNPRM*. Setting aside that the Commission rejected precisely these arguments previously, PK noted that the Commission – if it proceeds to a rulemaking – is permitted to seek comment on whether to prohibit commercial operation on the DSRC spectrum as correcting a previous mistaken grant of a spectrum windfall that *also* improves privacy and cybersecurity in light of the additional vulnerabilities and risk to consumers raised by permitting commercial applications on the band. This alone would enhance consumer privacy and cybersecurity, without use of other Commission authority to which commenters such as ITIF object.

In addition, PK noted that the Department of Justice has formed a think tank to consider the national security implications of connected devices – explicitly singling out connected cars as a potential threat to national security.³ As the head of the DoJ National Security Division, Assistant Attorney General John Carlin, explained: “the internet on wheels . . . clearly is going to present national security risks as this transformation takes place.”⁴

In light of this explicit concern about connected cars raised at the highest level of official counter-terrorism planning, opponents casual insistence on ignoring and belittling the concerns raised by the four major auto safety organizations and 20 other public interest advocacy groups is extremely disquieting. In addition, the Department of Justice action emphasizes the need to have every federal agency engaged on cybersecurity. It is absurd to imagine that the agency explicitly charged with maintaining the reliability and safety of all means of communications by wire and radio⁵ does not have the responsibility – let alone the authority – to ensure that all providers of licensed communications services are not cognizant of cybersecurity and have plans to address this evolving threat. Even if one accepts the assurances that DSRC is not merely itself secure, but that using DSRC to connect extremely vulnerable cars to each other and the internet at large does not simply create a secure channel of communication for the transmission of malware, this says nothing as to how DSRC licensees intend to meet future cybersecurity challenges.

Assistant Attorney General Carlin pointed to the truck attack in Nice, which killed 81 people, as an example of the kind of damage a hacked car could do. Yet DSRC licensees object even to

² Reply Comments of ITS America, Docket No. RM-11771 (filed September 9, 2016).

³ See Dustin Volz, “Justice Department Group Studying National Security Threats of Internet Linked Devices,” Reuters (September 9, 2016).

⁴ *Id.* (Ellipses in original.)

⁵ See 47 USC 151.a plan

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submitting a plan for how they will address cyberthreats on DSRC, and insist that the warnings of Petitioners and consumer advocates are “nonsense rhetoric.”

At the same time, PK stressed that the Commission should not delay the ongoing proceeding on spectrum sharing. As noted repeatedly by PK, the concerns raised in the DSRC Petition are separate from the issues raised in the DSRC Sharing Proceeding. Accordingly, PK recommended the following approach.

1. The Commission should move expeditiously to a full Notice of Proposed Rulemaking. The Notice should expressly solicit comment on whether continued commercial use of the band serves the public interest, whether general concerns with regard to spectrum windfalls or other policy concerns – in addition to the privacy and cybersecurity concerns raised by Petitioners – justify eliminating the authorization for commercial services.
2. The Commission should issue an interim rule prohibiting use of DSRC spectrum for commercial applications or services, pending resolution of the proceeding. It should also warn DSRC licensees that any DSRC devices deployed will ultimately need to comply with any future rules adopted by the Commission.
3. The Commission should propose rules consistent with those proposed by Petitioners in the comments filed August 24, 2016.
4. The Commission should use the information gathered in ET Docket No. 13-49 to inform the rulemaking, but should not delay any action in Docket No. 13-49 pending resolution of the rulemaking initiated as a result of this Petition.

LTE-U/LAA

Qualcomm and other supporters of LTE-U continue to obstruct efforts at coexistence testing by Wi-Fi alliance and others. The Commission should make it clear that it will not certify devices where equipment manufacturers act in bad faith to undermine the Commission’s responsibility to manage the public airwaves in the public interest.

In this regard, it is useful to contrast Qualcomm’s behavior with that of AT&T, which is adopting License Assisted Access (LAA) instead of LTE over unlicensed. AT&T has adopted a technology developed by a recognized and reputable standard setting body – 3GPP. In its process, 3GPP engaged in coordination with the IEEE 802.11. Qualcomm, by contrast, created its own “standard body,” the LTE-U Forum, and has restricted membership to a handful of

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industry allies. Additionally, AT&T has voluntarily sought an STA for co-existence testing with Wi-Fi and Bluetooth. All of these are positive indicia that AT&T respects the complex spectrum environment of today.

At the same time, however, the Commission has an ongoing duty – both before and after device certification, to protect the overall functionality of the spectrum commons and to prohibit any deliberate anti-competitive action. In this regard, the Commission should carefully follow the coexistence testing currently being conducted by ETSI in addition to the data AT&T will submit as a result from experiments conducted under its STA. If ETSI finds that LAA does not coexist with Wi-Fi and prohibits its use, the Commission should view this information with concern. Additionally, if the Commission certifies LAA devices for manufacture and operation in the U.S., it must be prepared to act if unanticipated problems emerge, or if carriers seek to disrupt competing services using Part 15 devices.

The Commission should issue a statement clarifying the Commission’s continuing, ongoing authority to directly address anti-competitive use by licensees of Part 15 devices in combination with licensed spectrum, as well as the authority to require remediation if deployment of new Part 15 certified devices causes widespread unanticipated destructive interference for other Part 15 devices beyond the usual parameters expected from simply adding more devices. Issuing a general statement clarifying the Commission’s authority will help to assuage concerns as licensees continue to incorporate unlicensed spectrum into their licensed service offerings.

3.5 GHz

PK urged the Commission to move forward as quickly as possible with SAS certification to enable deployment of GAA devices without waiting to finalize PAL auction rules.

Additionally, PK recommended the Commission begin discussions with OMB and the Department of Commerce on treatment of revenues from PAL auctions under the amendments to the Spectrum Relocation Fund. In particular, PK urged that revenues from the PAL auction should, in the first instance, be directed at ways to reduce the size of the exclusion zone.

In accordance with Section 1.1206(b) of the Commission’s rules, an electronic copy of this letter is being filed in the above-referenced docket. Please contact me with any questions regarding this filing.

Sincerely,

/s/ Harold Feld
Senior Vice President
Public Knowledge

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Cc: Jon Wilkins
Brian Regan