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January 31, 2017

Ms. Marlene Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Opposition to Petitions for Reconsideration Filed by CTIA, T-Mobile USA Inc., Competitive Carriers Association, Telecommunications Industry Association and 5G Americas

Re: Use of Spectrum Bands Above 24 GHz For Mobile Radio Services (GN Docket No. 14-177, IB Docket Nos. 15-256 and 97-95, RM-11664, and WT Docket No. 10-112)

Dear Ms. Dortch:

The Dynamic Spectrum Alliance ("DSA") hereby submits its Opposition to portions of three Petitions for Reconsideration ("Petitions") filed in the Commission's Spectrum Frontier proceeding. Our Opposition focuses on proposed changes to rules established with respect to the 64-71 GHz band and the 37.0-37.6 GHz band.

DSA is a global organization advocating for laws and regulations that will lead to more efficient and effective spectrum utilization.[1] The DSA's three goals are closing the digital divide globally, enabling the Internet of Things and alleviating the "spectrum crunch."

I. The Record Supports the Commission's Decision to Authorize Part 15 Operations in the 64-71 GHz Band Under Rules Similar to Those Covering Unlicensed Use in the 57-64 GHz Band

DSA opposes the Petitions for Reconsideration filed by CTIA[2], T-Mobile[3], and CCA[4] ("Petitioners") regarding the Commission's decision to authorize unlicensed use of the 64-71 GHz band under similar technical rules as the unlicensed 57-64 GHz band.

[1] Our membership spans multinationals, small-and medium-sized enterprises, and academic, research, and other organizations from around the world, all working to create innovative solutions that will increase the amount of available spectrum to the benefit of consumers and businesses alike. A full list of DSA members is available on the DSA's website at www.dynamicspectrumalliance.org/members/.
[2] Petition for Reconsideration of CTIA, GN Docket No. 14-177, IB Docket No. 15-256, RM-11664, WT Docket No. 10-112, IB Docket No. 97-95 ("CTIA Petition").
[3] T-Mobile USA, Inc. Petition for Reconsideration, GN Docket No. 14-177, IB Docket No. 15-256, RM-11664, WT Docket No. 10-112, IB Docket No. 97-95 ("T-Mobile Petition").
[4] Petition for Reconsideration of Competitive Carriers Association, GN Docket No. 14-177, IB Docket No. 15-256, RM-11664, WT Docket No. 10-112, IB Docket No. 97-95 ("CCA Petition").

The Report and Order and Further Notice of Proposed Rulemaking states:

> *"As the Commission has consistently stated, it is optimal to include a balance of licensed rights and opportunities to operate on an unlicensed basis in order to meet the country's wireless broadband needs."*[5]

Unless directed specifically by the U.S. Congress, the Commission as the expert agency, after conducting the required administrative process, and based on the public input, can determine where the public interest is best served by allocating a specific band for licensed operations, unlicensed operations, or shared use. For this reason, the FCC's approach to achieving this balance must be considered in the aggregate -- across all spectrum bands under consideration for mobile broadband service -- rather than on a band-by-band basis, or over a specific spectrum range. Commission decisions on the technical and service rules of specific spectrum bands should be determined based on the specific facts associated with each spectrum band.

DSA believes that the Commission fully considered the record in its Spectrum Frontiers proceeding, a record which provides strong support to extend the current 60 GHz band (57-64 GHz) to 64-71 GHz under its Part 15 rules (with some modification). Additionally, the Petitioners separately and collectively do not provide any new information nor identify any procedural or substantive error or omission by the Commission that would warrant it to reconsider its decision. Finally, the Petitioners ignore the amount of millimeter wave spectrum the Commission is proposing to make available for exclusive licensed use in the Spectrum Frontiers Further Notice. For these reasons, the Commission should reject each of these Petitions for Reconsideration.

A. The Record Supports the Commission's Decision Regarding the 64-71 GHz Spectrum Band

From the Notice of Inquiry[6] to the Notice of Proposed Rulemaking[7] through the Order and Further Notice, the record in the Spectrum Frontiers proceeding is clear – a strong case was made by numerous commenters for the Commission to extend a modified form of its Part 15 technical rules covering the 57-64 GHz band to the 64-71 GHz band.

The arguments were driven by the potential high throughput applications that will be enabled by a contiguous 14 GHz block of spectrum, versus that of a contiguous 7 GHz block of spectrum. Another way of looking at it is that the current 57-64 GHz band supports three 2.16 GHz wide channels. Extending the 60 GHz band to 71 GHz, doubles the number of these ultrawide channels.

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[5] *See Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd. 8014, ¶ 125 (2016) ("Order and Further Notice").
[6] *In the Matter of Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, Notice of Inquiry, 29 FCC Rcd 13020 (2014) (Notice of Inquiry).
[7] *In the Matter of Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, Notice of Proposed Rulemaking, 30 FCC Rcd 11878 (2015) (Notice of Proposed Rulemaking).

And, now that the Commission has decided to extend the 60 GHz band to create a contiguous 14 GHz block,[8] industry has the regulatory certainty necessary to make investments to develop these very high throughput unlicensed applications. The Commission often establishes technical and services rules for a specific spectrum band prior to commercial activity taking off in the band. In this instance, there should be a relatively low incremental cost to extend and expand the unlicensed technology for relatively short range devices operating in the 57-64 GHz band to the 64-71 GHz band.

B. Petitioners Have Not Provided New Information Nor Identified Any Procedural Flaws

In the Report and Order, the Commission summarizes the two primary arguments made by parties seeking that it reserve the 66-71 GHz band for licensed use: (1) the 66-76 GHz band has been selected at WRC-15 to be studied for potential identification as a globally harmonized band for international mobile telecommunications 2020 (IMT-2020) service, also referred to as 5G services; and (2) there is an imbalance in the Commission's proposals for licensed and unlicensed uses of the mmW spectrum[9].

The Commission was clear that it made its decision on the 64-71 GHz spectrum band based on U.S.-specific factors – and offered considerable justification as to why it should not wait to see the outcome of the study called out in WRC-15 and any decision taken by WRC-19 before making its decision.[10] The FCC action runs counter to T-Mobile Petition's claim that "[t]he Commission was too quick to dismiss the possibilities for licensed mobile operations in the 64-71 GHz band, despite there being increasing evidence of this band's potential".[11] It is evident the Commission was aware of the band's potential for licensed mobile service during its deliberations, and thus T-Mobile's rationale for its Petition provides no new information.

Similarly, the Commission decided to authorize licensed mobile use in the 28 GHz band, which was contrary to the WRC-15 decision not to study the 28 GHz band as a potentially globally harmonized band for IMT-2020. Here too, the Commission's decision was justified on U.S.-specific factors. The Commission's actions with respect to the 28 GHz band undercut the primary arguments made by licensed interests for the Commission to license spectrum between 66-71 MHz.

What remained then was the secondary argument claiming an imbalance between licensed and unlicensed in the mmW bands. As DSA noted above, the Commission as a matter of policy seeks to strike a balance between licensed and unlicensed spectrum. There is no rule, though, that requires the balance between licensed and unlicensed spectrum to be on a hertz-by-hertz or band-by-band basis. If this were the case, unlicensed (and shared spectrum) is severely underrepresented in low- and mid-band spectrum with respect to spectrum licensed for mobile use. Given that more broadband data is carried over a smaller amount of mid-band unlicensed spectrum than over a much greater amount of licensed spectrum, under this line of reasoning, the

[8] Order and Further Notice at ¶125.
[9] Order and Further Notice at ¶ 129.
[10] Order and Further Notice at ¶ 130.
[11] T-Mobile Petition at 7.

Commission should consider reallocating considerable low- and mid-band mobile spectrum for unlicensed use. DSA does not expect this to happen.

The Commission provided its reasoning for why a strict linear comparison per frequency unit of spectrum amount in different frequency bands is not a valid comparison.[12] Even CTIA acknowledges that different spectrum bands will have different physical and propagation characteristics.[13] DSA believes that the Commission met the requirements under the Administrative Procedures Act.

Unfortunately, in the act of responding to licensed mobile interests in the Order and Further Notice, the Commission created a term called 'gigahertz parity' to pithily describe the mobile interests' claims of imbalance in the mmW bands. In doing so, the agency gave name to, and implies a degree of legitimacy surrounding, such a claim that is not justifiable. At its core, the so-called spectrum imbalance is nothing more than arm-waving by mobile interests.

The CTIA Petition makes claims regarding technical analysis it believes the Commission should have performed but did not, claims regarding the Commission's use of undisclosed factors, and combines spectrum in the Order and Further Notice with unlicensed spectrum allocated 20 years ago[14]. In fact, the Order and Further Notice allocates 7 GHz of spectrum for unlicensed use and 3.85 GHz spectrum for licensed use, with 600 MHz of that where licensed mobile operators would be co-primary with federal users – but still can license the spectrum. CTIA should change the claim in its statement accordingly from 'more than four times' to 'less than two times'.

Fundamentally, CTIA's arguments fall flat because the Commission's statement that a strict linear comparison per frequency unit of spectrum is not a valid comparison is true one. An example CTIA should be familiar with is the spectrum auction. For example, based on the amount of money raised in the 2015 AWS-3 auction, the expectations were that the 600 MHz forward auction would raise even more. It did not turn out that way – different spectrum bands, different sharing situation, different competitive situation, different time, and different outcome.

All the spectrum parity claims raised in the CTIA Petition are irrelevant to the policy decision the Commission made regarding whether the mobile services in the 64-71 GHz band should be under a licensed regulatory scheme or an unlicensed regulatory scheme. Again, the Commission examined each band on a band-by-band basis and made its decision based on the facts in the record.

Finally, the CCA Petition argues that by the Commission requiring the licensing of the spectrum between 66-71 GHz, it would greatly improve the prospects for its members looking towards mmW spectrum to bolster its networks.[15] CCA's argument is neither new nor does it identify any procedural flaw.

[12] Order and Further Notice at ¶130.
[13] CTIA Petition at 22.
[14] CTIA Petition at 21.
[15] CCA Petition at 8.

C. Petitioners Ignore the Spectrum Frontiers Further Notice

The Order and Further Notice includes several spectrum bands that the Commission is currently considering for exclusive licensed use. These include the 24 GHz band (24.25-24.45 GHz and 24.75-25.25 GHz)[16]; the 32 GHz band (31.8-33.4 GHz)[17]; the 42 GHz band (42.0-42.5 GHz)[18], and the 50 GHz band (50.4-52.6 GHz)[19]. The Commission's proposed regulatory framework for the 70/80 GHz bands (71-76 GHz and 81-86 GHz band)[20] is a variation of its Part 96 rules developed for the 3550-3700 MHz band. Excluding the 70/80 GHz band, the FPRM proposes an additional 7.6 GHz of spectrum for licensed mobile use and 0 GHz of spectrum for unlicensed / shared use. The 70 / 80 GHz band represents another 10 GHz of potential spectrum for mobile use. Based on the comments and reply comments, the Commission's direction for these bands is unclear. As a minimum, the Petitioners should have acknowledged in their discussion regarding spectrum imbalance, the several bands under consideration in the Order and Further Notice for licensed mobile broadband use.

II. The Record Supports the Commission's Decision to Reserve 37 – 37.6 GHz for Non-Exclusive Sharing with Federal Users on a License-by-Rule Basis

DSA strongly supports retaining the modest 600 megahertz allocation that the Commission made for non-exclusive sharing among Federal and non-Federal users in the lower segment of the 37 GHz band (37 – 37.6 GHz). DSA supported this outcome in its filings and fully concurs with the Commission's conclusion that "[a]llowing part of the band to be made available on a non-exclusive, shared basis will promote access to spectrum by a wide variety of entities, support innovative uses of the band, and help ensure that spectrum is widely utilized."[21]

As a rationale for re-litigating the Commission's well-grounded decision, mobile carriers and their associations advance a number of arguments in favor of restricting 37 – 37.6 GHz to exclusive-use licenses over large geographic areas that we find unavailing.

A. Record Support for the FCC's Rules Is Plentiful

First, several petitioners suggest, as T-Mobile opines, that "there is no support in the record" for this outcome.[22] To the contrary, a number of parties supported variations on hybrid shared access frameworks for the 37 GHz band, including dynamic sharing and opportunistic access, as a means of promoting innovation, market entry, intensive spectrum re-use, and access by more diverse uses and users. In extensive comments and reply comments, the Open Technology

[16] Order and Further Notice at ¶ 385.
[17] Order and Further Notice at ¶ 386.
[18] Order and Further Notice at ¶ 404.
[19] Order and Further Notice at ¶ 418.
[20] Order and Further Notice at ¶ 424.
[21] *R&O* at ¶ 112.
[22] T-Mobile Petition at 6. *See also* CTIA Petition at 25 (FCC "ignored the record" that supported exclusive licensing by geographic area); 5G Americas Petition at 4 (the decision "appears to reflect a 'spectrum grab' by the Federal government" that surfaced only after an *ex parte* letter from NTIA).

Institute at New America and Public Knowledge (OTI/PK) specifically proposed applying the three-tier Part 96 framework the Commission adopted for the 3550-3700 MHz band to the 37 GHz band. Those parties called on the Commission to divide the band equally between Priority Access Licenses and General Authorized Access, with GAA sharing 800 megahertz in the lower segment of the 37 GHz band (37 – 37.8 GHz) dynamically with Federal users and subject to coordination by a "mmW Spectrum Access System."[23] Starry Inc., a fixed wireless start-up, made a similar proposal, which was also cited in the Report and Order.[24]

DSA's reply comments argued that "in bands where the Commission decides to assign exclusive licenses, it should consider adopting a three-tier sharing framework similar to the one recently adopted for the 3550-3700 GHz band."[25] DSA noted that the feasibility of geolocation database mechanisms would "allow intensive sharing among a diversity of users."[26] In its initial comments, Facebook supported "a balanced approach utilizing licensed, unlicensed, and hybrid mechanisms . . . that will best accommodate a wide variety of services, providing multiple opportunities to put the spectrum to use, and encourage the development of different technologies and business models in these bands."[27] Federated Wireless and some other parties supported the hybrid licensing scheme for the 37 GHz band initially proposed in the NPRM, which would have conveyed licensed-by-rule "local area" operating rights for indoor use by premises occupants and, separately, award geographic area licenses for wide area use.[28] The Commission specifically declined to adopt that hybrid authorization scheme "because it is unsupported by the record"[29] and instead adopted a variation on two other options described in the Notice of Proposed Rulemaking.

In addition to industry and public interest group support for various hybrid options, the NTIA filed a detailed and technical *ex parte* letter last July 12 stating that the agency "supports a flexible and innovative sharing framework in the 37-38.6 GHz band."[30] NTIA went on to specifically propose the 37 – 37.6 MHz lower band segment for dynamic sharing. The agency explained that current NASA operations and planned deployments at 14 military facilities will

[23] Comments of Open Technology Institute and Public Knowledge at 13-15 ("OTI and PK recommend that the Commission divide the [37 GHz] band's 1,600 megahertz into two contiguous blocks of 800 megahertz for shared GAA and 800 megahertz for PA licensing"). In support OTI/PK cited the Commission's conclusion in the 3.5 GHz Report & Order that "ensuring that a stable and significant quantity of spectrum is available for both Priority Access Licensees and GAA will foster innovation, encourage efficient use of the band, and create an environment conducive to a wide array of potential users and uses." *Amendment of the Commission's Rules in Regard to Commercial Operations in the 3550-3650 Band*, Report and Order and Further Notice of Proposed Rulemaking, GN Docket No. 12-354 (rel. April 21, 2015) , at ¶ 64.
[24] Starry Inc., *Ex Parte* Letter (May 5, 2016).
[25] DSA Reply Comments at 3.
[26] *Id. See also* Federated Wireless Comments at 20-21; NCTA Comments at 11; OTI/PK Comments at 19-20.
[27] Facebook Comments at 5.
[28] Federated Wireless Comments at ii, 15-18 ("The Commission should adopt the hybrid licensing scheme proposed for the 37 GHz band because it will efficiently allocate spectrum for indoor uses, support an important service need, and exploit the natural propagation characteristics of the band"); Comments of Huawei at 19; Comments of OTI/PK at 16-19.
[29] *Report & Order* at ¶ 111.
[30] *Ex Parte* Presentation of NTIA, GN Docket No. 14-177, et al. (July 12, 2016), at 1.

require ongoing and flexible use of the lower band segment. NTIA stated that one of the government's specific objectives is to share on a co-primary basis and through mechanisms that "accommodate potential future developments in technology and equipment" by Federal agencies, including expanded use of the band.[31]

The DoD and other Federal users are fully aware that they will face fewer constraints to extend and evolve their own operations in a band open for dynamic sharing by non-Federal users with no expectations of exclusive use. As NTIA told the Commission: "Federal and non-federal users would access the band through a coordination mechanism, including exploration of potential dynamic sharing mechanisms in the lower 600 megahertz that can be developed through a federal and industry collaborative process."[32] Accordingly, the Commission explained at length in the Report and Order why non-exclusive sharing on a licensed-by-rule basis "meet the twin goals of expanding commercial access in this band while facilitating continued and expanded Federal use."[33] The Report and Order also took explicit account of satellite interests and concluded that co-primary, shared access in the lower band segment "provides satellite operators the certainty they need to be able to expand their operations into the 37 GHz band in the future."[34]

B. Dynamic Spectrum Sharing Is Feasible and Proven

A second argument made by several petitioners is that dynamic spectrum sharing is unproven and possibly infeasible. As CTIA articulates it, "a wholesale sharing and complex coordination approach, similar to what has been adopted for the 3.5 GHz band, has not been implemented in a commercial system and remains, at best, experimental."[35] This argument will soon be moot because by the time the Commission certifies a SAS or similar geolocation database to manage sharing in the 37 - 37.6 GHz band, its effectiveness (or not) in the 3.5 GHz band will be well established. In relation to protecting Federal users, dynamic sharing in the 37 – 37.6 GHz band will be *less* complex than protecting Navy radar in 3.5 GHz since no sensing system is needed and no Shared Access licensees will need to change channels on short notice. Dynamic sharing is a more static and straightforward coordination challenge at 37 – 37.6 GHz. Moreover, the Commission can still decide based on input in response to the Further Notice to make dynamic sharing contingent on future certification and testing of one or more qualified database administrators. That is exactly what the Commission is doing with respect to both the SAS and an Environmental Sensing Capability (ESC) at 3.5 GHz to ensure protection of Federal incumbent operations.

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[31] *Id* at 4.
[32] *Ibid*.
[33] *Report & Order* at ¶ 102.
[34] *Id*. at ¶ 112.
[35] CTIA Petition at 25.

Several petitioners suggest, in the alternative, that a smaller number of exclusive licensees could more effectively coordinate with co-primary Federal operations, referencing carrier experience with transitional sharing and coordination on the AWS-3 spectrum.[36] However, as noted above, in its detailed filing NTIA expressed no preference for coordination with either exclusively-licensed or license-by-rule operations, but simply stated that "a coordination mechanism, including exploration of potential dynamic sharing mechanisms in the lower 600 megahertz that can be developed through a federal and industry collaborative process."[37]

C. Millimeter Wave Spectrum Is Not Sufficient

A third rationale for reconsideration, advanced primarily by T-Mobile, is that the Commission's goal to provide "easy access to spectrum" for diverse uses and users (e.g., inside factories, schools and other venues with specialized needs) "is already feasible in millimeter wave spectrum at 57-64 GHz, which is designated for unlicensed use."[38] Needless to say, like the 3.5 GHz band, both the spectrum itself and the license-by-rule scheme make use cases for the 37 – 37.6 GHz band segment very different than use of the 57 – 71 GHz unlicensed band. The propagation characteristics and channel sizes of the bands are entirely different. Deployments expected on 37 – 37.6 GHz will be very different from the unlicensed WiGig technologies that are making use of the very wide channels but extremely attenuated propagation above 60 GHz.

Because of the operability requirement across the 37 – 39 GHz band, DSA expects that thousands of small operators and tens of thousands of individual venues (from school and industrial campuses to factories, hotels and convention centers) will deploy "5G" gear driven by the overall 37 – 39 GHz market, but in innovative, customized and/or carrier-neutral configurations that would not be possible if those users had to go to a one-time auction and purchase an expensive geographic-area exclusive license. Indeed, the Report and Order put the use of the spectrum above 37.6 GHz even further out of reach for individual venues and small operators by adopting very large geographic license areas (PEAs) that are consistent with the 39 GHz licensing scheme, but which pointedly favor national and regional operators. The diversity of spectrum access promoted by non-exclusive and small-area Shared Access Licenses (SALs) in the lower 37 GHz band segment will spur innovations in use cases that are both different from unlicensed technologies above 60 GHz and complementary to 5G technologies deployed above 37.6 GHz.

In sum, petitioners seeking to reverse the Commission's decision to enable open access and intensive use on a shared basis by Federal and non-Federal users in 37 – 37.6 GHz make at best a

[36] *See* CTIA Petition at 25; CCA Petition at 7; T-Mobile Petition at 6.
[37] *Ex Parte* Presentation of NTIA, GN Docket No. 14-177, et al. (July 12, 2016), at 4.
[38] T-Mobile Petition at 6.

half-hearted effort to re-litigate an outcome supported in the record and explained at length in the Report and Order. Petitioners bring no new facts or arguments to the table. The Commission's final decision to allocate a fraction (16%) of the 3,850 megahertz of licensed spectrum in the 28 and 37 – 40 GHz bands for license-by-rule sharing was, DSA believes, an appropriate and correct balancing of the views and interests expressed by a wide variety of stakeholders in the record.

III. The Operability Requirement Promotes Deployment and Mass Markets for Devices Across the Entire 37 – 39 GHz Band

Several mobile industry petitioners contend that applying an operability requirement to the entire 37 – 39 GHz band "before a sharing regime for the lower 37 GHz band is determined would delay equipment development, investment, and deployment across the entire band."[39] CCA proposes "exclud[ing] the 37-37.6 GHZ band from the operability requirements while the sharing regime is being finalized and until there are rules governing the band."[40] Similarly, 5G Americas proposes the Commission remove the requirement "or alternatively remove the operability requirement for the full band until the 37 GHz sharing rules have been finalized."[41] TIA acknowledges "it may eventually turn out that there is no impact, depending upon the specific sharing mechanism adopted," but suggests that as an interim measure "the 37-40 GHz operability requirement should be clarified now to explicitly state that any mobile or transportable device will meet the requirement if it is tunable across this band on each air interface it uses to operate in the band."[42] CTIA, for its part, does not address the issue.

DSA supports retaining an operability requirement that applies to both the lower and upper portion of the 37 GHz band. An operability requirement across the full 37-40 GHz band serves the same public interest purposes as the similar requirement adopted by the Commission for the entire CBRS band (3550 – 3700 MHz). It encourages a mass-market device ecosystem for small providers and promotes competition by lowering the risk that chips, devices or standards will be tailored only to the post-auction holdings of the very largest 5G ISPs. The Commission correctly concluded in the Report and Order that band-wide operability will "help further efforts to facilitate sharing between Federal and non-Federal users, and will give Federal users and consumers an opportunity to take advantage of speed-to-market and lower cost of broadly deployed commercial technologies, and provide Federal users opportunities for current use and future growth."[43]

[39] CCA Petition at 14.
[40] *Ibid.*
[41] 5G Americas Petition at 9.
[42] TIA Petition at 5-6.
[43] *Report & Order* at ¶ 117.

Operability across the lower and upper segments of the 37 GHz band makes the two band segments complementary, each enhancing the value of the other, exactly as the operability requirement that applies to both PAL and GAA spectrum at 3.5 GHz is intended to do. As the Commission explains in the Report and Order, "users in the shared portion of the band will benefit from efforts by equipment manufacturers and licensees to develop equipment for the portion of the band licensed on a geographic area basis."[44]

Like the GAA segment of the 3.5 GHz band, the SAL spectrum in the lower segment of the 37 – 39 GHz band will encourage innovation, investment and deployment both by upper segment licensees and by opportunistic users across the entire band. Upper segment licensees can expand their operations at low cost by adding capacity using 37 – 37.6 GHz spectrum, even if it's on an as-needed or best-efforts basis. Because coverage areas will be very small, it's highly likely that a licensee with exclusive access to channels above 37.6 GHz will discover that it can greatly enhance that capacity with opportunistic access to 37 – 37.6 GHz spectrum. The Report and Order explicitly recognized this benefit.[45] Indeed, the exclusive licensees above 37.6 GHz will be in the best position to do so.

Although DSA supports the operability requirement as adopted in the Report and Order, it may be reasonable to permit devices to be certified only for operation above 37.6 GHz until the sharing mechanism is finalized for operation on the lower band segment. TIA's proposal that devices should be certified if they are "tunable" across the entire band seems reasonable for certifications granted during the time period prior to the Commission finalizing any technical mechanism related to dynamic sharing in the 37 – 37.6 GHz band that would impact operability. This should be at most a temporary exception that DSA expects will impact a relatively small number of devices (if any) if the Commission proceeds expeditiously, as it should, to resolve remaining issues in the Further Notice this year.

Sincerely,

Kalpak Gude
President
Dynamic Spectrum Alliance

[44] *Report & Order* at ¶ 112.
[45] *Report & Order* at ¶ 117.