

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Amendment of the Commission's Rules with	)	GN Docket No. 12-354
Regard to Commercial Operations in the	)	
3550-3650 MHz Band	)	
	)	
Petition for Rulemaking to Amend the	)	RM-11788
Commission's Rules Regarding the Citizens	)	
Broadband Radio Service in the	)	
3550-3700 MHz Band	)	
	)	
Petition for Rulemaking to Maximize	)	RM-11789
Deployment of 5G Technologies in the	)	
Citizens Broadband Radio Service	)	

**NCTA – THE INTERNET & TELEVISION ASSOCIATION  
REPLIES TO COMMENTS ON PETITIONS FOR RULEMAKING**

**I. INTRODUCTION AND SUMMARY.**

CTIA's and T-Mobile's petitions raise reasonable concerns regarding the priority access license (PAL) term and geographic area established for the 3.5 GHz band. NCTA – The Internet & Television Association (NCTA) supports reasonable solutions to address these concerns and urges the Commission to adopt a Notice of Proposed Rulemaking (NPRM) that will encourage stakeholders to fully explore potential middle-ground approaches to term, renewal expectancy, and geographic area for PALs. The NPRM should avoid proposals that could mire the proceeding in controversy and delay the delivery of innovative 3.5 GHz services to consumers. For example, the Commission need not auction the entire 3550-3700 MHz band and undermine General Authorized Access (GAA) use in order for 5G services to flourish at 3.5 GHz and should not request further comment on this proposal. However, in response to the Wireless Innovation Forum's (WinnForum) concerns regarding interference to Part 96 operations from adjacent weather radar, NCTA urges the Commission to seek comment on the proposed

mitigation options as part of the NPRM and adopt any rule changes necessary to protect CBRS from harmful interference.

## **II. RESPONSES TO THE CTIA AND T-MOBILE PETITIONS DEMONSTRATE AMPLE SUPPORT FOR PRESERVING ACCESS TO GAA SPECTRUM.**

Most commenters agree that in order to maximize 3.5 GHz innovation and investment, the Commission should preserve access to sufficient GAA spectrum in every market. Those same stakeholders note that T-Mobile’s proposal to auction the entire band would effectively eliminate guaranteed access to GAA spectrum. Such an outcome would drastically change the nature of the band and depress investment by the those planning GAA-intensive deployments and the Commission should decline to consider T-Mobile’s proposal as part of an NPRM.

Equipment makers, technology companies, trade associations, and public interest groups all note the importance of GAA spectrum to the 3.5 GHz ecosystem. NCTA agrees with Motorola that “GAA spectrum will be important for many less critical applications, and should be preserved as much as possible.”<sup>1</sup> Google notes that “[e]liminating dedicated GAA spectrum would reduce the utility of the CBRS band for an array of entities—ranging from WISPs to local businesses to venues that want to provide on-premises services—that have indicated their interest in using GAA rather than PAL spectrum.”<sup>2</sup> According to Dynamic Spectrum Alliance, T-Mobile’s proposal to auction the entire band would be a “drastic change” and a “disaster for

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<sup>1</sup> Comments of Motorola Solutions, Inc. In Response to Petitions for Rulemaking, GN Docket No. 12-354, at 4 (Motorola Comments). Unless otherwise noted, all comment citations herein are to comments filed in GN Docket No. 12-354, RM-11788, and RM-11789 on July 24, 2017.

<sup>2</sup> Comments of Google Inc. and Alphabet Access In Response to Petitions for Rulemaking at 13 (Google Comments).

the many business[es] that have invested in the band in reliance on a three-tiered framework with robust GAA, coordinated by the SASs.”<sup>3</sup> Moreover, “open access, low-power spectrum has proven to be a uniquely positive complement to licensed carrier spectrum, benefitting consumers by making mobile device connectivity more available, fast and affordable,” and public interest groups are rightly skeptical that a model designed to benefit licensed users to the detriment of GAA would best serve the public interest.<sup>4</sup>

The record also demonstrates that 3.5 GHz need not resemble an exclusive licensed band in order to attract 5G investment or support 5G use cases. T-Mobile’s and CTIA’s petitions,<sup>5</sup> and many of the comments filed by carriers and their vendors in response,<sup>6</sup> argue that the Commission must make significant changes to the 3.5 GHz rules in order to promote international harmonization and U.S. leadership on 5G. In fact, as many other commenters highlight, robust development of 5G in the United States will require diverse regulatory approaches and business models. 5G is “a catch-all term for . . . a variety of high-capacity wireless networking solutions – including many (if not most) that will be fueled by access to

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<sup>3</sup> Comments of the Dynamic Spectrum Alliance at 14 (DSA Comments).

<sup>4</sup> Comments of Open Technology Institute at New America and Public Knowledge at 28 (OTI & PK Comments).

<sup>5</sup> CTIA Petition for Rulemaking to Amend the Commission’s Rules Regarding the Citizens Broadband Radio Service in the 3550-3700 MHz Band, GN Docket No. 12-354, RM-11788 at 4-6 (filed June 16, 2017); T-Mobile Petition for Rulemaking to Maximize Deployment of 5G Technologies in the Citizens Broadband Radio Service, GN Docket No. 12-354, RM-11789 at 7-8 (filed June 19, 2017).

<sup>6</sup> 5G Americas Comments on T-Mobile Petition at 1-2 (5G Americas Comments); Comments of AT&T Services, Inc. at 2 (AT&T Comments); Comments of Ericsson at 3-5 (Ericsson Comments).

mid-band GAA spectrum,”<sup>7</sup> not just traditionally licensed spectrum. “5G will require an ‘umbrella’ of technologies, deployers, and operators,” according to Ruckus Wireless, and “[i]t is only via this ‘rich tapestry’ of diverse deployment types that the densification, latency, reliability, and positioning accuracy goals of 5G will be obtained.”<sup>8</sup> The Commission correctly determined that the 3.5 GHz band rules would be technology neutral to accommodate this expected diversity of technologies and business models. It would now be remiss to refashion the band to accommodate only licensed mobile 5G technology when the uses already contemplated for 3.5 GHz “include multiple technologies including LTE, WiMAX, and proprietary technologies.”<sup>9</sup> Moreover, as Google and DSA point out, U.S. government radar operations that require protection constitute the major impediment to international harmonization at 3.5 GHz, not GAA use nor PAL license term or size.<sup>10</sup> NCTA supports the goal of ensuring that the 3.5 GHz rules enable robust development of 5G services in the band. To meet that goal, the Commission should make modest changes to support PAL investment while preserving access to sufficient GAA spectrum in every market.

### **III. THE COMMISSION’S RULEMAKING SHOULD FULLY EXPLORE MIDDLE-GROUND OPTIONS FOR PAL GEOGRAPHIC AREA AND LICENSE TERM.**

The carriers and their vendors support major changes to the 3.5 GHz licensing rules to accommodate ten-year license terms with an expectation of renewal and large PEA-sized license areas, while many 3.5 GHz stakeholders defend the current rules and ask that the Commission

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<sup>7</sup> OTI & PK Comments at 28.

<sup>8</sup> Comments of Ruckus related to Public Notice DA 17-609 regarding petitions to further amend the Commission’s rules with regard to commercial operations in the 3550-3650 MHz Band, GN Docket No. 12-354, at 2-3 (Ruckus Comments).

<sup>9</sup> Comments of Federated Wireless, Inc. at 7.

<sup>10</sup> Google Comments at 15; DSA Comments at 14.

make no changes. Although some commenters propose middle-ground options, potential compromise solutions have not been fully fleshed out. NCTA therefore recommends that the Commission's NPRM seek comment on middle-ground options for term and geographic area that have the potential to promote PAL investment while encouraging the development of a diverse array of 3.5 GHz technologies and business models.

Although several commenters supported the request by CTIA and T-Mobile to adopt PEA-sized license areas,<sup>11</sup> many expressed the concern that such large license areas would exclude many new entrants that the Commission hoped to attract in adopting the current rules.<sup>12</sup> Others argued that PEA-sized license areas would be a poor fit for the propagation characteristics and likely small-cell use of the band.<sup>13</sup> Fortunately, many commenters expressed openness to a middle-ground approach.<sup>14</sup> We recommend that the Commission seek comment on such proposals and we look forward to working with the Commission and all stakeholders to arrive at a reasonable compromise.

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<sup>11</sup> See, e.g., 5G Americas Comments at 13; AT&T Comments at 7; Ericsson Comments at 6-7; Comments of Qualcomm Incorporated at 5-6 (Qualcomm Comments); Comments of Verizon at 7-9 (Verizon Comments).

<sup>12</sup> See, e.g., Comments of Charter Communications, Inc. at 3 (Charter Comments); DSA Comments at 8-9; Google Comments at 22; Motorola Comments at 3; OTI & PK Comments at 20; Ruckus Comments at 8; Joint Comments of the Rural Wireless Association, Inc. and NTCA—The Rural Broadband Association at 5 (RWA & NTCA Comments); Comments of the Wireless Internet Service Providers Association at 22-23 (WISPA Comments).

<sup>13</sup> See, e.g., DSA Comments at 8; Google Comments at 22; Motorola Comments at 3; OTI & PK Comments at 23.

<sup>14</sup> Charter Comments at 3-4; DSA Comments at 11; Motorola Comments at 3-4; OTI & PK Comments at 24; Ruckus Comments at 9.

With regard to license term, NCTA and many others agree with CTIA and T-Mobile that three-year license terms (even with the possibility of a six-year initial term) may not provide licensees with sufficient time to obtain return on investment.<sup>15</sup> Moreover, the lack of any renewal expectation could leave network operators without access to the interference-protected spectrum they need to deliver quality of service for their established customers.<sup>16</sup> Opponents of a term extension argue that ten-year terms with an expectation of renewal would significantly increase barriers to entry and could lead to inefficient spectrum use.<sup>17</sup> For example, commenters point out that adopting an expectation of renewal without performance requirements could result in spectrum warehousing and leave considerable gaps in coverage, especially in rural areas.<sup>18</sup>

Although several commenters oppose extending the license term at all,<sup>19</sup> others recognize that a moderate extension of the license term could attract additional PAL investment.<sup>20</sup> The

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<sup>15</sup> See, e.g., 5G Americas Comment at 11; AT&T Comments at 3-4; Ericsson Comments at 6; Verizon Comments at 4-6; NCTA – The Internet & Television Association Comments on Petitions for Rulemaking at 10-11 (NCTA Comments).

<sup>16</sup> AT&T Comments at 5; Ericsson Comments at 6; Qualcomm Comments at 7.

<sup>17</sup> DSA Comments at 12; Google Comments at 17-18; Motorola Comments at 4-5; Letter from Miguel A. Gamiño Jr., Chief Technology Officer, City of New York, to Ajit Pai, Chairman, FCC et al., GN Docket No. 12-354, at 2 (filed July 24, 2017) (NYC Letter); OTI & PK Comments at 25-27; Ruckus Comments at 9; RWA & NTCA Comments at 9; WISPA Comments at 17.

<sup>18</sup> Google Comments at 22; WISPA Comments at 18-19; OTI & PK Comments at 27.

<sup>19</sup> See, e.g., Google Comments at 18; NYC Letter at 2.

<sup>20</sup> See, e.g., Charter Comments at 3 (suggesting a six year term with expectation of renewal); Motorola Comments at 4-5 (suggesting a five year term with the possibility to renew once after the initial term); Letter from Stephen E. Coran, Counsel, JAB Wireless, Inc. (d/b/a/ Rise Broadband) and Baicells Technologies, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-354, RM-11788, RM-11789 at 2 (filed July 28, 2017) (same); NCTA Comments at 10-11; WISPA Comments at 19-20 (suggesting that the Commission could extend the license term for some, not all, PALs to five years); RWA & NTCA Comments at 7-10 (suggesting a

Commission should continue to explore moderate approaches to license term and renewal in its NPRM. Should the Commission adopt longer terms and an expectation of renewal, however, the record in response to the petitions suggests that it should also consider the need for accompanying performance requirements.

#### **IV. THE COMMISSION SHOULD SEEK COMMENT ON PROTECTING CBRS FROM ADJACENT WEATHER RADAR OPERATIONS.**

WinnForum raises a new concern that out-of-band emissions from adjacent-channel weather radars could cause harmful interference to CBRS operations.<sup>21</sup> Specifically, WinnForum explains that adjacent, secondary non-federal weather radars could harmfully interfere with CBRS both directly and by causing false positives to occur in the Environmental Sensing Capability system.<sup>22</sup> Such false positives could result in the suspension of CBSD operations in large areas even where no federal radars require protection.<sup>23</sup> WinnForum asks the Commission to consider providing additional interference protection to CBRS as it contemplates other 3.5 GHz rule changes, including creating a 10 MHz guard band from 3540-3550 MHz, establishing frequency coordination rules, and requiring weather radars to use filters.<sup>24</sup> Given these concerns, as part of the NPRM, the Commission should seek comment on the severity of the problem and possible solutions to ensure that the Commission's rules adequately protect new CBRS services.

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term between three and five years with the opportunity to renew for another three to five year term).

<sup>21</sup> Comments of the Wireless Innovation Forum at 1.

<sup>22</sup> *Id.* at 4-5.

<sup>23</sup> *Id.*

<sup>24</sup> *Id.* at 6.

## V. CONCLUSION

CTIA's and T-Mobile's petitions raise legitimate concerns regarding the PAL framework and NCTA and other commenters support moderate changes to PAL geographic area and license term. The Commission's NPRM should focus on identifying middle-ground approaches that all stakeholders can support, and addressing technical issues such as the weather-radar-related concerns raised by WinnForum. The record developed in response to the petitions demonstrates that auctioning the entire band is not moderate and would undermine GAA investment. The Commission's NPRM therefore should not address this aspect of T-Mobile's petition.

Respectfully submitted,

*/s/ Rick Chessen*

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I, Sarah Speaks, hereby certify that on this 8th day of August, 2017, I served one copy of the foregoing Replies to Comments on Petitions for Rulemaking by U.S. mail on the following parties:

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