

**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)	

REPLY COMMENTS OF FEDERATED WIRELESS, INC.

Federated Wireless, Inc. ("Federated Wireless") hereby replies to the comments filed in response to the petitions for rulemaking in the above-captioned proceedings.¹ Federated Wireless is pleased with the significant record support for the principles it advanced in its initial comments urging the Federal Communications Commission ("Commission") to: (1) act to resolve pending petitions for rulemaking related to the Priority Access License ("PAL") tier of the Citizens Broadband Radio Service ("CBRS"), but expeditiously move forward with certifications for Spectrum Access System ("SAS") administrators and Environmental Sensing Capability ("ESC") operators by January 2018 and enable commencement of commercial operations on General Authorized Access ("GAA") spectrum; (2) summarily reject the request by T-Mobile USA, Inc. ("T-Mobile") to convert the CBRS into a traditional, exclusive licensing regime; and (3) seek comment on how to best balance the data security and privacy needs of CBRS users with the need to securely share certain information to maximize the

¹ See CTIA, Petition for Rulemaking, GN Docket No. 12-354 (filed June 16, 2017) ("CTIA Petition"); T-Mobile USA, Inc., Petition for Rulemaking, GN Docket No. 12-354 (filed June 19, 2017) ("T-Mobile Petition"); Letter from Dean R. Brenner, Senior Vice President, Spectrum Strategy & Technology Policy, and John W. Kuzin, Vice President and Regulatory Counsel, Qualcomm, Inc. to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-354 (filed June 19, 2017) ("Qualcomm *Ex Parte*"); see also *Wireless Telecommunications Bureau and Office of Engineering and Technology Seek Comment on Petitions for Rulemaking Regarding the Citizens Broadband Radio Service*, GN Docket No. 12-354, RM-11788, RM-11789, Public Notice, DA 17-609 (WTB 2017).

efficiency of spectrum use. In addition, Federated Wireless joins the Wireless Innovation Forum (“WINNF”) in encouraging the Commission to act to ensure CBRS operations do not suffer interference from adjacent-band commercial weather radars.

I. A BROAD CROSS SECTION OF COMMENTERS AGREE WITH FEDERATED WIRELESS THAT ANY POTENTIAL CHANGES TO THE CBRS RULES FOR PAL SPECTRUM MUST NOT DELAY THE LAUNCH OF COMMERCIAL CBRS OPERATIONS.

Many commenters joined Federated Wireless in urging the Commission to ensure that any consideration of potential changes to PAL tier license areas, terms, or out-of-band emissions (“OOBE”) limits does not delay the commencement of commercial operations on CBRS spectrum. Parties representing a broad cross-section of the CBRS ecosystem—including wireless carriers,² cable operators,³ equipment manufacturers,⁴ wireless Internet Service Providers,⁵ prospective SAS administrators,⁶ public interest advocates,⁷ and stakeholder associations⁸—highlighted the importance of an expeditious resolution of the issues raised by the CTIA and T-Mobile Petitions, as well as the Qualcomm *Ex Parte*, with respect to PAL license terms and areas and OOBE limits, while the

² See Comments of Verizon, GN Docket No. 12-354, RM-11788, RM-11789 (filed July 24, 2017) (“Verizon Comments”); Comments of AT&T, GN Docket No. 12-354, RM-11788, RM-11789 (filed July 24, 2017) (“AT&T Comments”).

³ See Comments of Charter Communications, Inc., GN Docket No. 12-354, RM-11788, RM-11789 (filed July 24, 2017) (“Charter Comments”).

⁴ See Comments of Nokia, GN Docket No. 12-354, RM-11788, RM-11789 (filed July 24, 2017) (“Nokia Comments”); Comments of Ruckus Wireless, GN Docket No. 12-354, RM-11788, RM-11789 (filed July 24, 2017) (“Ruckus Comments”); Comments of Starry, Inc., GN Docket No. 12-354, RM-11788, RM-11789 (filed July 24, 2017).

⁵ See, e.g., Comments of Alsat Wireless, GN Docket No. 12-354, RM-11788, RM-11789 (filed July 24, 2017); Comments of Fourway Computer Products, Inc., GN Docket No. 12-354, RM-11788, RM-11789 (filed July 24, 2017).

⁶ See Nokia Comments; Comments of Google and Alphabet Access, GN Docket No. 12-354, RM-11788, RM-11789 (filed July 24, 2017) (“Google and Alphabet Access Comments”); Comments of Sony Electronics Inc., GN Docket No. 12-354, RM-11788, RM-11789 (filed July 21, 2017).

⁷ See Comments of the Open Technology Institute at New America and Public Knowledge, GN Docket No. 12-354, RM-11788, RM-11789, at 33 (filed July 24, 2017) (“OTI/PK Comments”).

⁸ See Comments of NCTA – The Television & Internet Association, GN Docket No. 12-354, RM-11788, RM-11789, at 3 (filed July 24, 2017) (“NCTA Comments”); Comments of the Telecommunications Industry Association, GN Docket No. 12-354, RM-11788, RM-11789, at 2 (filed July 24, 2017) (“TIA Comments”); Comments of the Wireless Internet Service Providers Association, GN Docket No. 12-354, RM-11788, RM-11789, at iv (filed July 24, 2017) (“WISPA Comments”); Comments of the Dynamic Spectrum Alliance, GN Docket No. 12-354, RM-11788, RM-11789, at 20 (filed July 24, 2017) (“DSA Comments”); Comments of the Rural Wireless Association, Inc. and NTCA – The Rural Broadband Association, GN Docket No. 12-354, RM-11788, RM-11789, at 2 (filed July 24, 2017) (“RWA/NTCA Comments”).

Commission in parallel completes SAS and ESC certification in preparation for launch of GAA operations in early 2018.

Federated Wireless agrees with the Telecommunications Industry Association that the Commission should “first and foremost to move quickly to consider any potential changes to the CBRS rules in order to promote predictability and finality for all market participants.”⁹ Indeed, as NCTA – The Television & Internet Association (“NCTA”) notes, prompt resolution of the issues raised in the petitions will “provide stakeholders with the regulatory certainty they need to continue their investment in standards, equipment, and eventual deployment.”¹⁰ Verizon similarly “encourages the Commission to ensure that the band is available for commercial use as soon as practically possible and that the deployment of CBRS is unimpeded and expeditious.”¹¹

Commenters also agree with Federated Wireless that there is no reason for the Commission’s consideration of the issues raised in the petitions to impact the timelines for final certification of SAS administrators, expected in January 2018, or commercial launch of GAA operations shortly thereafter.¹² AT&T observes that “[r]egardless of whether the Commission initiates a rulemaking vis-à-vis PAL licensing, its GAA rules would remain unchanged and in force. Under these rules, GAA use of the band is not contingent on PAL use in any way.”¹³ Verizon likewise urges the Commission to “make the band available for GAA use as quickly as practicable,”¹⁴ and the Dynamic Spectrum Alliance encourages the Commission to “move ahead with the final approval of SAS operators and an Environmental Sensing System so businesses can finally bring the band into service for American consumers.”¹⁵

⁹ TIA Comments at 2.

¹⁰ NCTA Comments at 3.

¹¹ Verizon Comments at 2.

¹² See Comments of Federated Wireless, Inc., GN Docket No. 12-354, RM-11788, RM-11789, at 2-3 (filed July 24, 2017) (“Federated Wireless Comments”).

¹³ AT&T Comments at 3.

¹⁴ Verizon Comments at 9.

¹⁵ DSA Comments at 20.

In addition, a number of commenters joined Federated Wireless in pointing out that it is particularly crucial that the Commission act with all expedition to resolve the questions regarding PAL license areas and terms, as well as OOB limits, in light of the significant industry investment and momentum toward launch of GAA operations in early 2018.¹⁶ Nokia observes that it has “seen tremendous interest and early activity in General Authorized Access (GAA) as well as Priority Access License (PAL) uses of the 3.5 GHz band.”¹⁷ Nokia further notes that “it is important to continue the momentum for the 3.5 GHz band” and urges the Commission to “avoid actions that would delay this deployment timeline.”¹⁸ Ruckus Wireless emphasizes that it is “critical that the huge amounts of time, money, and resources that industry has invested in operationalizing the current CBRS framework result in the opportunity for commercial deployments as soon as possible.”¹⁹ Federated Wireless agrees with these commenters, and encourages the Commission to act promptly on the petitions in order preserve the widespread industry momentum toward commercial launch of CBRS operations.

There is significant evidence and broad support in the record demonstrating the benefits to be gained by the expeditious resolution of the questions raised by the CTIA and T-Mobile Petitions, as well as the Qualcomm *Ex Parte*, with respect to PAL license terms and areas and OOB limits. Federated Wireless thus urges the Commission to promptly initiate a proceeding to consider these issues, while in parallel working to complete SAS and ESC certifications by January 2018, as planned,²⁰ so that commercial service on GAA spectrum can be deployed in early 2018. Doing so will maintain industry momentum, promote investment, and ensure that this valuable spectrum is put to beneficial use at the earliest opportunity.

¹⁶ Federated Wireless Comments at 3-4.

¹⁷ Nokia Comments at 2.

¹⁸ *Id.*

¹⁹ Ruckus Comments at 9.

²⁰ Formal testing to certify SAS products' compliance with the Part 96 rules is scheduled to begin in mid-November 2017 and be complete by January 2018, with formal testing to certify ESC products beginning in mid-December 2017 and completing by late January 2018.

II. THE RECORD CLEARLY SHOWS THAT THE COMMISSION SHOULD REJECT T-MOBILE’S ATTEMPT TO EVISCERATE THE CAREFULLY CONSTRUCTED BALANCE BETWEEN PAL AND GAA USE OF THE BAND.

The majority of commenters agree with Federated Wireless that T-Mobile’s proposal to license the entire 150 MHz of CBRS on a PAL basis and create fixed spectrum allocations constitutes an unsupportable attempt to relitigate arguments the Commission carefully considered and rejected in developing the CBRS framework. As the Open Technology Institute at New America and Public Knowledge (“OTI/PK”) note, “T-Mobile effectively asks the Commission to reverse the CBRS framework in its entirety, eliminate the GAA allocation, and exclusively auction the entire 150 megahertz for exclusive use.”²¹ The Wireless Internet Service Providers Association (“WISPA”) further observes that the T-Mobile proposals would effectively “upset the carefully balanced, three-tier spectrum access model into a two-tier ‘command and control’ licensing approach that the Commission previously rejected.”²²

Commenters joined Federated Wireless in highlighting the ways in which the T-Mobile proposals would undermine the balance that the Commission carefully struck between PAL and GAA operations and threaten the viability of the GAA tier. The Rural Wireless Association and NTCA – The Rural Broadband Association correctly point out that the T-Mobile proposals would “shut out many small and rural providers and new entrants, and essentially would obliterate the GAA tier.”²³ Indeed, “[r]elegating GAA only to opportunistic use in areas where there is no PAL usage renders the tier entirely unpredictable and unviable.”²⁴ Federated Wireless agrees and reiterates that the Commission should retain “an appropriate balance between incumbents, PALs and GAA users that will

²¹ OTI/PK Comments at 28.

²² WISPA Comments at 2.

²³ RWA/NTCA Comments at 6.

²⁴ *Id.*

support 5G deployment across the entire band.”²⁵ The existing rules do just that, and T-Mobile’s requested changes must therefore be rejected.

Moreover, T-Mobile’s proposals with respect to licensing the entire CBRS band on a PAL basis and permitting PAL users to bid on fixed spectrum blocks garnered only tepid support. Tellingly, neither the other carriers nor CTIA filed in support of either of these proposals. As Google and Alphabet Access note, this lack of support confirms that “T-Mobile’s view is far outside the mainstream.”²⁶ Only one other party offered any support for the proposal to auction the entire band on a PAL basis, with a single statement that the Commission should “carefully consider” the proposal.²⁷ Support for T-Mobile’s request that fixed spectrum blocks be available to PAL users was similarly lukewarm, with only a few commenters arguing for the proposal’s adoption.²⁸ Unsurprisingly, these commenters are able to offer little support for this proposal, and are instead forced to reiterate the arguments that carriers require a “stable and predictable spectrum environment” for network planning and that the Commission has previously assigned fixed spectrum blocks to winning bidders at auction.²⁹ However, as Federated Wireless noted in its initial comments, the Commission has previously considered and rejected these arguments with respect to the CBRS, and these commenters offer no reason for the Commission to reverse course here.³⁰

III. THE COMMISSION SHOULD CLARIFY SAS ADMINISTRATORS’ OBLIGATIONS WITH RESPECT TO THE PUBLICATION OF CERTAIN CBSD REGISTRATION INFORMATION.

The record clearly demonstrates the need for the Commission to clarify SAS administrators’ obligations with respect to the protection of CBRS user data and the publication of certain Citizens

²⁵ Charter Comments at 2.

²⁶ Google and Alphabet Access Comments at 13.

²⁷ Ericsson Comments at 5.

²⁸ See Comments of Qualcomm, GN Docket No. 12-354, RM-11788, RM-11789, at n.9 (filed July 24, 2017); Ericsson Comments at 8; Comments of 5G Americas, GN Docket No. 12-354, RM-11788, RM-11789, at 12 (filed July 24, 2017) (“5G Americas Comments”).

²⁹ Ericsson Comments at 8; 5G Americas Comments at 12.

³⁰ Federated Wireless Comments at 6 (citing *Amendment of the Commission’s Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, GN Docket No. 12-354, Report and Order and Second Further Notice of Proposed Rulemaking, FCC 15-47, at ¶ 83 (2015)).

Broadband Service Device (“CBSD”) registration information. Carriers and equipment manufacturers request that the Commission eliminate section 96.55(a)(3),³¹ which requires that SAS administrators publish CBSD registration while obfuscating the licensee’s identity, raising concerns that such publication could implicate security and competitive concerns.³² Ericsson argues that, “[i]n addition to concerns about competition and consumer privacy, the Commission should take into account cybersecurity and national security risks. Disclosing CBSD registration information to the general public will not serve any useful purpose, and the harms outweigh any purported benefits.”³³

In contrast, some commenters argue that the elimination of section 96.55(a)(3) would hinder other CBRS users’ ability to plan future deployments. OTI/PK contend that eliminating the rule would “make it nearly impossible for WISPs and other operators to assess whether there is enough vacant PAL spectrum in an area to support a deployment. Secrecy would also make it difficult for PAL holders to assess on their own why they might be experiencing interference, or to assess whether certain PALs are more likely to be available for auction because licensees have not built out.”³⁴ Similarly, WISPA argues that “GAA users can make use of the public data to plan their deployments, identifying which frequencies are most likely to be clear and which base station locations are least likely to cause conflict.”³⁵ Federated Wireless agrees that current and prospective users will require sufficient information and certainty to plan their deployments and invest to build out their networks.

To balance these legitimate needs, Federated Wireless urged the Commission to clarify SAS administrators’ obligations with respect to CBSD registration information publication and protection. NCTA and Charter joined Federated Wireless in urging the Commission to strike a balance between the need to protect the privacy and security of certain CBRS user data with the need to enable current

³¹ 47 C.F.R. § 96.55(a)(3).

³² See AT&T Comments at 12; Verizon Comments at 9; CTIA Comments at 2; Ericsson Comments at 8-9; Nokia Comments at 8-9.

³³ Ericsson Comments at 8.

³⁴ OTI/PK Comments at 31-32.

³⁵ WISPA Comments at 31.

and prospective users to plan their network deployments. Cable operators, through their Wi-Fi offerings, have a great deal of experience in providing consumer wireless services characterized by the publication of certain service-related information, and thus have had to balance enabling spectrum access with the types of competitive and security concerns as those raised by the commenters advocating for the elimination of section 96.55(a)(3). It is significant that, in view of their experience with these concerns, the cable operators nevertheless advocate for a balanced approach that provides the information necessary for CBRS users to meaningfully plan their deployments. Federated Wireless agrees that “[s]o long as prospective users of the band can obtain sufficient information to plan and execute their network deployments, there should be no need for public disclosure of detailed registration information.”³⁶ Charter notes that, in view of the need to both protect proprietary CBRS user information and facilitate other users’ network planning efforts, “information should therefore be made sufficiently available in order to understand where operations are located so that GAA operations can be deployed.”³⁷

To strike this balance, Federated Wireless again encourages the Commission to seek comment on how best to clarify the meaning of “CBSD registration information” and “obfuscate the identities of the licensees providing the information” as these terms are used in section 96.55(a)(3). Doing so will help ensure that the privacy and security of CBRS user data is maintained while also enabling current and prospective users to successfully plan their deployments. Without such clarification, even the adoption of the prohibition CTIA proposes—“SAS Administrators shall not make CBSD registration information available to the general public”³⁸—will not resolve these concerns, as the meaning of “CBSD registration information” and “general public” would remain undefined. Clarification of the meaning of section 96.55(a)(3), then, is perhaps more significant than any potential changes to the phrasing of the rule itself. The Commission should thus act promptly to provide clarity and certainty

³⁶ NCTA Comments at 17.

³⁷ Charter Comments at 4.

³⁸ CTIA Petition, Appendix A, at 2.

for all CBRS stakeholders with respect to SAS administrators' data publication and protection obligations.

IV. THE COMMISSION SHOULD ACT PROMPTLY TO ENSURE THAT ADJACENT-BAND COMMERCIAL WEATHER RADARS DO NOT NEGATIVELY AFFECT CBRS OPERATIONS.

In its comments, the WINNF encourages the Commission to, in connection with any proceeding initiated with respect to the CBRS rules, modify the Part 90 rules governing non-federal radiolocation operations to “incorporate interference rules that will protect the CBRS ecosystem from commercial weather radar systems licensed in the adjacent band on a secondary basis.”³⁹ The WINNF requests that the Commission do so to “address the growing operations of commercial weather radars in the immediately adjacent, 3500-3550 MHz band.”⁴⁰

Federated Wireless agrees with the WINNF that “even with the secondary nature of the non-federal radiolocation service allocation, there is tremendous uncertainty caused by high-power radar system operations up to the 3550 MHz band edge.”⁴¹ To avoid potential harmful impacts from these high-power, secondary radar systems to CBRS base stations or ESCs, Federated Wireless urges the Commission to adopt the measures proposed by the WINNF:

1. Require weather radars to include filters to protect against interference;
2. License weather radars below 3540 MHz to provide a guard band;
3. Modify section 90.175 of the Commission's rules to require frequency coordination with ESC operators within 150 km of proposed radiolocation stations operating in the 3500-3550 MHz band; and
4. Establish a neutral frequency coordination body to conduct coordination.⁴²

Federated Wireless agrees with the WINNF that these measures will provide CBRS stakeholders with the certainty needed to promote investment in the band and ensure that commercial weather radar operators are able to continue deploying their systems in accordance with the secondary

³⁹ Comments of the Wireless Innovation Forum, GN Docket No. 12-254, RM-11788, RM-11789, at 1 (filed July 24, 2017) (“WINNF Comments”).

⁴⁰ *Id.* at 3.

⁴¹ *Id.* at 4.

⁴² *Id.* at 6

allocation of that service. Federated Wireless therefore encourages the Commission to promptly adopt these measures to forestall the possibility of harmful impacts on CBRS operations, particularly as more and more commercial weather radar systems are deployed, as well as to provide both CBRS users and commercial weather radar operators needed certainty.

V. CONCLUSION.

Federated Wireless appreciates the Commission's efforts to ensure the success of the CBRS while also enabling the timely launch of commercial service on this valuable spectrum. To accomplish these aims, the Commission should heed the comments of Federated Wireless and other parties who agree that the Commission must: (1) resolve the pending petitions for rulemaking related to the PAL tier while in parallel pushing forward with final certification of SAS administrators and ESC operators by January 2018, as planned, so that GAA deployment and operations can commence in 2018; (2) summarily reject the request by T-Mobile to convert the CBRS into a traditional, exclusive licensing regime; (3) seek comment on how best to balance the data security and privacy needs of CBRS users with the need to allow current and prospective users to plan their deployments and maximize the efficiency of spectrum use; and (4) act to ensure that adjacent-band commercial weather radars do not negatively impact CBRS operations.

Respectfully submitted,

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August 8, 2017

CERTIFICATE OF SERVICE

I hereby certify that on this day, true and correct copies of the foregoing Reply Comments of Federated Wireless, Inc. were sent by first-class mail to the following parties to the proceeding:

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August 8, 2017