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September 19, 2018

Ex Parte

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

**Re: *Promoting Investment in the 3550-3700 MHz Band, GN Docket No. 17-258;*
*3.5 GHz SAS and ESC Applications, GN Docket No. 15-319***

Dear Ms. Dortch:

On September 17, 2018, Colleen King and Hossam Hmimy of Charter Communications; David Don, Ken Falkenstein, and Samian Kaur of Comcast Corporation; and the undersigned of NCTA – The Internet & Television Association (NCTA) met with Donald Stockdale, Heather Moelter, and Paul Powell (by telephone) of the Wireless Telecommunications Bureau, and Julius Knapp and Ira Keltz of the Office of Engineering and Technology regarding the above-referenced proceedings. The following industry representatives also participated by telephone: Mark Poletti of CableLabs; Akram Hassanien, Umamaheswar Kakinada, and Praveen Srivastava of Charter Communications; and Nicole Tupman of Midcontinent Communications.

In the meeting, we discussed the attached presentation, which describes concerns regarding a proposal by a small subset of prospective 3.5 GHz operators that would enable Citizens Broadband Radio Service Devices (CBSDs) unilaterally to opt out of Spectrum Access System (SAS) database coordination for coexistence among General Authorized Access (GAA) users. NCTA and its members noted that SAS-controlled frequency assignment for all levels of commercial 3.5 GHz operators is an essential component of the three-tier authorization framework and expressed concern that the proposed opt-out would undermine investment in both GAA and Priority Access License (PAL) deployments and result in inefficient spectrum usage.

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Pursuant to the FCC's rules, I have filed a copy of this notice electronically in the above referenced dockets. Please address any questions regarding the foregoing to the undersigned.

Respectfully Submitted,

/s/ Danielle Piñeres

Danielle Piñeres

Encl.

cc: Ira Keltz
Julius Knapp
Heather Moelter
Paul Powell
Donald Stockdale

3.5 GHz GAA Coexistence Update

WINNFORUM WORK ON GAA COEXISTENCE

- The Wireless Innovation Forum (WInnForum), in which NCTA's members and CableLabs actively participate, has been working toward a specification (Release 2) that will set standards for GAA coexistence
- Despite clear FCC rules that the SAS will determine frequency assignments—including for GAA operations—a small subset of WInnForum participants has sought to “opt-out” of the SAS for GAA operations
- SAS-controlled frequency assignment for GAA is an essential component of the Commission's three-tiered authorization framework. It:
 - Promotes non-discriminatory spectrum access needed to support investment; and
 - Maximizes flexibility and utility of GAA spectrum

PROPOSED SAS 'OPT-OUT'

- WinnForum participants have agreed in principle that the SAS will have the authority to perform GAA resource allocation
- But some WinnForum participants have proposed to allow GAA users to 'opt-out' of SAS decisions relating to GAA frequency assignments
- Under the proposed opt-out:
 - A GAA user would query the SAS; SAS would return a list of available frequencies and identify a channel for GAA operation
 - 'Opt-out' would allow the GAA user unilaterally to select *any channel not occupied by an incumbent Government or PAL user, without regard to the SAS-identified channel for operation*, and inform the SAS of its decision
 - GAA user 'opting out' would provide a telephone number for coordination questions and would base its decision on its own measurements
 - No constraints on opt-out in terms of geography, time, frequency, or type of GAA user

PROPOSED 'OPT-OUT' IS INCONSISTENT WITH PART 96

FCC Rule Part	Opt-out inconsistency with Rule
96.35(e): GAA operators of Category B CBSDs “must make every effort to <u>cooperate in the selection and use of available frequencies provided by an SAS</u> to minimize the potential for interference and make the most effective use of the authorized facilities,” as well as “ <u>cooperate and resolve interference problems</u> through <u>technological solutions</u> or by other <u>mutually satisfactory arrangements</u> .”	<ul style="list-style-type: none">-Unilateral opt-out increases interference risk to other GAA users and undermines efficient use of GAA spectrum resources.-Not mutually satisfactory because no consent required from other affected parties.-Proposed manual coordination with opt-out users an untenable burden, possibly involving several parties and hundreds of deployment sites.
96.39(c)(2): “A CBSD must receive and comply <u>with any incoming commands from its associated SAS about any changes to power limits and frequency assignments</u> . A CBSD must cease transmission, move to another frequency range, or change its power level within 60 seconds as instructed by an SAS.”	CBSDs must comply with SAS commands for allocation of GAA spectrum; opt-out would allow CBSDs to ignore a SAS instruction to operate on a particular frequency.
96.13(c): “An SAS shall assign authorized CBSDs to specific frequencies, which may be reassigned by that SAS, consistent with this part. 96.53(b),(j): The purposes of the SAS include to “ <u>determine and provide to CBSDs the permissible channels or frequencies at their location</u> ” and “ <u>facilitate coordination between GAA users</u> operating Category B CBSDs, consistent with §96.35.”	Allowing some GAA CBSD operators to opt out of SAS GAA coordination and reject SAS-determined channels of operation undermines core stated functions of the SAS.
96.63(n)(2): Each SAS Administrator designated by the Commission must ensure that the SAS “ <u>Does not</u> store, retain, transmit, or <u>disclose operational information</u> on the movement or position of any federal system <u>or any information that reveals other operational information of any federal system</u> that is not required by this part to effectively operate the SAS.”	An opt-out concept that limits the SAS to rejecting GAA spectrum requests if and only if the spectrum is occupied by incumbent or PAL users potentially reveals sensitive incumbent information and therefore violates the obfuscation requirements.

PROPOSED 'OPT-OUT' WOULD REDUCE SPECTRUM EFFICIENCY

- SAS is best positioned to make decisions that promote efficient use of spectrum—not an operator acting on unilateral measurements that lacks information on other nearby GAA operations. For example:
 - SAS sees 6 channels not occupied by an incumbent, and directs prospective GAA user to operate on channels 10 and 11, seeing three GAA users nearby, each operating on a 10 MHz channel (occupying channels 7, 8, and 9)



- GAA opt-out user opts instead for channels 7 and 8, potentially (and unnecessarily) disrupting two other GAA users, undermining certainty for all parties and overall spectrum utility, and incenting other operators to 'opt-out' as well



PROPOSED 'OPT-OUT' COULD REVEAL SENSITIVE INCUMBENT INFORMATION

- Part 96 requires SAS administrators to safeguard operational information of federal systems (see 47 C.F.R. § 96.63(n)(2))
- The WinnForum's implementation requires SAS administrators to have a documented approach "to obfuscate the incumbent frequency in its channel availability lists and channel reassignment mechanisms" (see *CBRS Operational Security*, Document WINNF-TS-0071, V1.0.0, at 8 (July 2017))
- As proposed, opt-out would be permitted for any channel not occupied by an incumbent government or PAL user, undermining an SAS administrator's ability to obfuscate channels where federal government users are active (especially in the 3650-3700 MHz range where no PALs will be assigned)

FCC SHOULD PROVIDE GUIDANCE

- NCTA and its members ask the FCC to:
 - Provide guidance to move the standards discussion along and ensure harmony between the FCC's rules and WinnForum Release 2, including clarifying that, under the FCC's rules:
 - The SAS is the ultimate authority to perform GAA resource allocation;
 - All users must abide by the SAS-determined frequency selection; and
 - The proposed opt-out is inconsistent with the FCC's rules on protection of federal incumbent operational information.
 - Urge WinnForum participants to adopt a reasonable compromise that respects the FCC's rules
 - Clarify that SAS approval will require compliance with the WinnForum's Release 2 spec to formalize GAA coexistence requirements

THANK YOU

- For questions or additional information, please contact:

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