



April 10, 2015

**WRITTEN *EX PARTE* COMMUNICATION  
SUBMITTED VIA ECFS**

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554

Re: **Amendment of the Commission's Rules with Regard to Commercial  
Operations in the 3550-3650 MHz Band; GN Docket No. 12-354**

Dear Ms. Dortch:

Wi-Fi Alliance has supported the Commission's proposal in this proceeding to make additional spectrum available for unlicensed operations.<sup>1</sup> The Commission has an opportunity to make 3550-3650 MHz a true "innovation band" by following the successful legacy of the 2.4 GHz and 5 GHz bands, heavily used by Wi-Fi, and ensuring that the 3.5 GHz band is characterized by clear regulations, fair competition, and fair and equal access to the spectrum for the end user. Rules should refrain from selecting or preferring technologies, but must also protect against advantaging specific technologies which may then result in barriers to entry and thereby discourage a vibrant and competitive marketplace.

Recent submissions raise a new issue that merits additional consideration. In particular, several parties have referenced unlicensed use of Long Term Evolution ("LTE") platforms – LTE-Unlicensed ("LTE-U") and/or LTE License Assisted Access ("LAA") – in the 3.5 GHz band.<sup>2</sup> While Wi-Fi Alliance does not object to the introduction of LTE-U or LAA

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<sup>1</sup> See Comments of Wi-Fi Alliance®, GN Docket No. 12-354, at 2 (filed Feb. 20, 2013); Comments of Wi-Fi Alliance, GN Docket No. 12-354, at 16 (filed July 14, 2014); Reply Comments of Wi-Fi Alliance, GN Docket No. 12-354, at 3 (filed Aug. 15, 2014).

<sup>2</sup> See, e.g., Letter from Michael Calabrese, Director, Wireless Future Project, Open Technology Institute, and Harold Feld, Senior Vice President, Public Knowledge, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-354, at 1-3 (filed Feb. 18, 2015); Letter from Rick Chessen, National Cable & Telecommunications Association, to Ms. Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-354, at 1-2 (filed Feb. 27, 2015) ("NCTA Letter"); Letter from Kurt Schaubach, Chief Technology Officer, Federated Wireless, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-354, at 7-9 (filed Mar. 4, 2015) ("Federated Wireless Letter"); Letter from Steve B. Sharkey, Chief Engineering and Technology Policy, Federal Regulatory Affairs, T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-354, at 1 (filed Mar. 13, 2015); Letter from Scott K. Bergmann, Vice President, Regulatory Affairs, CTIA – The Wireless Association®, to Ms. Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-354, at 1-2 (filed Mar. 24, 2015) ("CTIA Letter"); Letter from Dean R. Brenner, Senior Vice President, Government Affairs, QUALCOMM Incorporated, to Ms. Marlene Dortch, Secretary, FCC, GN Docket No. 12-354, at 1 (filed Apr. 3, 2015); Letter from Mark Racek, Director, Spectrum Policy,

technologies in the subject band *per se*, the Commission must give additional consideration to whether these technologies – which operate in conjunction with licensed spectrum – will, in practice, share spectrum fairly with other unlicensed technologies. We agree with concerns expressed by others that the anchoring of an unlicensed component in the 3550-3650 MHz band to a licensed technology could introduce barriers to entry by allowing the licensed spectrum holder to manage unlicensed spectrum to the detriment of other unlicensed users.<sup>3</sup>

Wi-Fi Alliance understands that LTE-U is a channel management format developed by a handful of companies using the current generation of LTE. While others have asserted that LTE-U is “designed to be a good neighbor and coexist harmoniously with Wi-Fi,”<sup>4</sup> LTE-U is a non-Listen-Before-Talk (“non-LBT”) “duty cycle” system, in contrast to Wi-Fi, which uses a demonstrably effective LBT scheme for fair medium access. LAA is a technique under consideration – but which has not yet been developed or adopted – by 3GPP. There is no LAA standard completed, there is no LAA equipment to test, and LAA simulations up to now have not adequately represented typical Wi-Fi operation. Any claim that LAA will be a better neighbor in the 3550-3650 MHz band than other GAA technologies is speculative. While there are assertions about LTE-U and LAA being good neighbors, there is little firm information describing how that would occur. To the contrary, Wi-Fi Alliance is concerned that use of LTE-U and LAA channel management platforms may compromise *overall* management of the 3.5 GHz band to the detriment of unlicensed users.

Therefore, although the promulgation of rules implementing sharing of the 3.5 GHz band should proceed as soon as possible, we urge the Commission to also explore, in parallel, whether technologies that manage unlicensed equipment in the 3.5 GHz band from a licensed network will ensure that all unlicensed devices operating in the band have fair and reasonable access to 3.5 GHz spectrum, whether or not the operator also holds spectrum for exclusive use.

Wi-Fi Alliance is also concerned that General Authorized Access (“GAA”) use of the spectrum not be preempted merely by the existence of a Priority Access License (“PAL”) holder. PAL holders should be entitled to interference protection against GAA when their assigned channels are in use, but they must also not be able to hoard that spectrum to the possible detriment of GAA users. Accordingly, licensed priority access spectrum should be available for GAA use until the license holder brings its network on-line. And then, the spectrum access system (“SAS”) database should protect only the PAL license holder’s actual operations, which may permit opportunistic GAA use of otherwise vacant spectrum. Restricting GAA operations outside the areas where PAL holders are actually operating could needlessly exclude GAA operations in vast areas of urban and suburban populations.

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Ericsson, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-354 and ET Docket No. 13-49, at 1 (filed April 6, 2015).

<sup>3</sup> See, e.g., Federated Wireless Letter at 7-8 (citing NCTA Letter at 2) (explaining that LAA’s dependence on existing licensed spectrum “would be directly contrary to the Commission’s goal of ensuring that the entire Citizens Band is available for dynamic use as an ‘innovation band’”).

<sup>4</sup> See, e.g., CTIA Letter at 2.

Pursuant to Section 1.1206 of the Commission's rules, a copy of this letter is being submitted in the docket of this proceeding. Should you have any questions, please contact the undersigned directly.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Edgar Figueroa", with a long horizontal flourish extending to the right.

**WI-FI ALLIANCE**

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