

Exhibit A – Narrative and Justification

Pursuant to Section 5.63(c)(1) of the Federal Communications Commission’s (“FCC” or “Commission”) Rules, Vivint Wireless, Inc. (“Vivint”) provides this narrative statement in support of its license application to conduct a market trial, as defined under Sections 5.5 and 5.602, in Salt Lake County, Utah to undertake experiments that will advance the radio art with respect to Citizens Broadband Radio Service (“CBRS”) 3550-3700 MHz band.¹ Vivint seeks a regular license term of one (1) year from grant for the market trial. Vivint respectfully requests that the FCC act on this application as soon as possible but not later than May 18, 2018.²

[REDACTED]

Description of the Trial

Vivint seeks permission to conduct a market trial in Salt Lake County, Utah. [REDACTED]
[REDACTED]
[REDACTED] Salt Lake County represents an optimal site for a trial utilizing CBRS 3550-3700 MHz spectrum. Salt Lake County enjoys flat topographies that facilitate line-of-sight transmission with minimal links. In addition, Salt Lake County is hundreds of miles removed from coastal regions where higher priority incumbent radar operations occur. Accordingly, Vivint’s proposed trial presents no interference threat to these important incumbents.

With respect to other incumbent services, Vivint will take appropriate steps to ensure interference protection. No international ground stations requiring protection in the 3650-3700

¹ 47 CFR §§ 5.5, 5.63(c)(1) and 5.602.

² 47 CFR § 5.71(a).

³ Commercial deployment of CBRS devices cannot occur prior to certification of at least one SAS administrator given the need to enable geolocation capabilities to protect incumbent coastal radar systems.

⁴ 47 C.F.R. § 5.63(c)(1).

MHz band operate in Utah.⁵ Vivint will coordinate with Wireless Broadband Services (“WBS”) operated under Subpart Z of the Commission’s Part 90 Rules.⁶ As described in Exhibit B, Vivint will also provide a 24/7 point of contact with “kill switch” capability.

Exhibit B provides technical characteristics for the trial proposed by Vivint. Vivint’s trial will involve communications between small cell transmitters and antennas capable of supporting aggregated communications for backhaul purposes, as well as communications between CPE transmitters and small cell antennas mounted externally and internally on market trial participant residences. Equipment involved in the proposed trial will support the voluntary Long-Term Evolution (“LTE”) transmission standard. Vivint will deploy and test [REDACTED] equipment. With respect to [REDACTED] equipment, power and OOB limits will conform to the Part 96 rules adopted in the *CBRS Order* and the *Order on Reconsideration and Second Report and Order*.⁷

[REDACTED]

Grant of this experimental license will not affect possible rule changes currently pending before the Commission, and all equipment proposed to be used by Vivint pursuant to this market trial complies with all existing and proposed future CBRS rules. [REDACTED]

[REDACTED]

Vivint will retain ownership of all transmitting and/or receiving equipment used in the trial and will notify all end users in the market trial that devices will be rendered inoperable or retrieved at the conclusion of the market trial as required by Section 5.602(e). Vivint also agrees to notify all end users in the market trial that the service they will be receiving is being provided in part or in whole under experimental authority, and as a condition of the experimental license, Vivint may be required at any time, without prior notice, to cease operations in the 3550-3700 MHz band. Upon expiration of the market trial, Vivint plans to cease operations in 3550-3700 MHz, or, transition to Part 96 General Authorized Access (“GAA”) in the event that equipment is certified and authorized under GAA rules prior to the end of the requested experimental license term.

⁵ See <https://transition.fcc.gov/bureaus/ib/sd/3650/grandftr.pdf> (last visited 3/6/2018).

⁶ See 47 C.F.R. §§ 90.1301, *et seq.*

⁷ See 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, 30 FCC Rcd 3959 (2015); Amendment of the Commission’s Rules with Regard to Commercial Operations in the 3550-3650 MHz Band, GN Docket No. 12-354, Order on Reconsideration and Second Report and Order, 31 FCC Rcd 5011 (2016).

a. Purpose of the Market Trial

The market trial is necessary to enable Vivint to learn a significant amount of information regarding the CBRS band, including customer acceptance of quality of service at various speeds and price points. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

⁸ Contributions to the WinnForum are voluntary, and no enforcement mechanism exists if a member fails to submit a deliverable.

[REDACTED]

b. Parameters for the Market Trial

Vivint will use the market trial to engage in collaborative troubleshooting of SAS and to evaluate the ability of the equipment manufacturer to meet the needs of an ultra-dense network in suburban communities. Specifically, Vivint expects to evaluate the following:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

⁹ The FCC has designated the NTIA-ITS to undertake certification testing. The FCC remains responsible for the ultimate grant of certification.

[REDACTED]

[REDACTED]

[REDACTED]

In addition, Vivint intends to use the market trial to test overall performance of services provided to customers using the CBRS band, including throughput speeds, jitter, delay, signal quality at recommended and peak performing distances, and the number of customers able to be served by access points in various locations. Vivint also plans to test price points and the influence of quality of service and price on customer take-rates.

c. Criteria for Success of the Market Trial

A successful market trial will provide Vivint with data that will enable it to understand the potential for success in commercial deployment of the CBRS band, including likely customer take-rates at different service levels, speeds, and price points. Vivint hopes to gain concrete information that will assist Vivint in assessing the financial and technical viability of the CBRS band.

[REDACTED]

Vivint's trial will be a success if it can gain an effective understanding of the real-world capabilities (e.g., throughput) and limitations (e.g., ability to tolerate ambient noise) of the equipment identified in its application.

d. Number of Devices Necessary to Meet Market Trial Objectives

Vivint has applied to conduct the market trial using approximately 1,800 end-user devices (e.g., 900 outdoor and 900 indoor).

[REDACTED]

This volume of end-user devices is necessary to ensure that the market trial provides an opportunity for Vivint to identify and understand the quality of services and viable price points. Additionally, a market trial of this size will enable Vivint to more accurately gauge customer acceptance of the service by simulating the use of CBRS in as close to real-world conditions as possible. Granting the trial will allow issues to be identified and ironed out more effectively than in a smaller market trial limited to only a small fraction of prospective real-world users and use cases.

For the foregoing reasons, Vivint respectfully requests that the Commission expeditiously grant the requested experimental license.