Federal Communications Commission
Washington, D.C. 20554
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DA 14-1418

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RE: Request by AT&T Services, Inc. for Interim Waiver of 47 C.F.R. § 22.913 to Permit the Use of a Power Spectral Density Model for Certain Cellular Service Operations for Cellular Market 248 – Burlington, Vermont (WT Docket No. 14-107)

Dear Ms. Poltronieri and Mr. Roughton:

This letter responds to a request filed on July 1, 2014,[1] by AT&T Services Inc. on behalf of AT&T, Inc. and its subsidiaries (AT&T)[2] for an interim waiver of Section 22.913 of the Commission's rules.[3] Section 22.913 sets forth power limits for the Cellular Radiotelephone (Cellular) Service in terms of effective radiated power (ERP) of base transmitters and Cellular repeaters.[4] As explained below, we grant the Waiver Request to the extent described herein and permit AT&T to use the power spectral density (PSD) model[5] for measuring ERP at a maximum ERP level of 250 Watts/MHz for non-rural counties and 500 Watts/MHz in rural counties for call sign KNKA797 located in Cellular Market Area (CMA) 248 - Burlington, VT.

I. BACKGROUND

In 2007 and 2008, the Commission revised the radiated power rules for various wireless services, including PCS and certain AWS,[6] the 700 MHz Commercial Service,[7] and 700 MHz public safety

[1] AT&T Services, Inc., Request for Rule Waiver (filed July 1, 2014) (Waiver Request) (under cover letter from William L. Roughton, Jr., Esq., AT&T Services, Inc., to Marlene H. Dortch, Secretary, FCC, and attaching a technical study dated May 14, 2014 (May 2014 Study)).

[2] We note that the license subject to the Waiver Request is licensed under New Cingular Wireless PCS, LLC d/b/a AT&T Mobility, which is a wholly owned subsidiary of AT&T, Inc.

[3] *See* 47 C.F.R. § 22.913.

[4] *See id.* (establishing the current ERP maximum of 500 Watts for base transmitters and Cellular repeaters, with a maximum of 1000 Watts ERP when operating in rural counties a certain distance from international borders).

[5] Power spectral density is a method of expressing radiated power over a unit of bandwidth, *e.g*. per megahertz, rather than per emission.

[6] *See* Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27 and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services, *Third Report and Order*, WT Docket No. 03-264, 23 FCC Rcd 5319 (2008) (Streamlining 3d R&O) (revising §§ 24.232 and 27.50(d)).

[7] *See* Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, *Report and Order and Further Notice of Proposed Rulemaking*, WT Docket No. 06-150, 22 FCC Rcd 8064 (2007).

broadband operations,[8] implementing a PSD model as an alternative for measuring ERP (among other related technical rule modifications).[9] The Commission declined at that time to revise the Cellular ERP rules, primarily because of significant restructuring (800 MHz rebanding) ongoing in the immediately adjacent frequencies, which are used by public safety entities.[10] The Commission also noted a lack of industry support and the need for more time to assess the potential impact of using the PSD model in the Cellular band.[11]

In its Waiver Request, AT&T seeks authority to use a PSD model for measuring ERP for the Burlington, VT CMA 248 pending the outcome of AT&T's proposed rulemaking to modify the rule.[12] The Waiver Request specifically proposes PSD limits of 250 Watts/MHz in non-rural areas and 500 Watts/MHz in rural areas.[13]

AT&T states that its proposed Cellular band deployment of advanced digital broadband modulation schemes such as Long Term Evolution (LTE) is hindered by the current radiated power rule, which favors narrowband operations.[14] AT&T argues that it must "rapidly and aggressively roll-out LTE services" in order to maintain a high-quality level of service for its customers.[15] It seeks waiver relief to enhance its already deployed cellular spectrum in the Vermont market to meet the demands associated

[8] *See* Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150, *Second Report and Order*, 22 FCC Rcd 15289 (2007).

[9] More recently, the Commission adopted the PSD model as an alternative for measuring radiated power in the 600 MHz band, AWS-3, H Block and AWS-4. *See, e.g.* Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, *Report and Order*, GN Docket No. 12-268, FCC 14-50, 2014 WL 2464834 at *211-12 (FCC June 2, 2014) (PSD in 600 MHz band); Amendment of the Commission's Rules With Regard to Commercial Operations in the 1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz Bands*, Report and Order*, GN Docket No. 13-185, 29 FCC Rcd 4610, 4642-43 (2014) (PSD in AWS-3 bands); Service Rules for Advanced Wireless Services H Block – Implementing Section 6401 of the Middle Class Tax Relief and Job Creation Act of 2012 Related to the 1915-1920 MHz and 1995-2000 MHz Bands, *Report and Order*, WT Docket No. 12-357, 28 FCC Rcd 9483, 9504-05 (2013) (PSD in H Block); Service Rules for Advanced Wireless Services in the 2000-2020 MHz and 2180-2200 MHz Bands, *Report and Order and Order of Proposed Modification*, WT Docket Nos. 04-356 and ET Docket No. 10-142, 27 FCC Rcd 16102, 16156 (2012) (PSD in AWS-4 bands).

[10] *See* Streamlining 3d R&O, 23 FCC Rcd at 5321, 5341. *See also* Improving Public Safety Communications in the 800 MHz Band, *Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order*, WT Docket No. 02-55, 19 FCC Rcd 14969, 15074 (2004) (other captions and docket numbers omitted) (800 MHz Rebanding Order), *clarified by* Improving Public Safety Communications in the 800 MHz Band, *Memorandum Opinion and Order,* WT Docket No. 02-55, 22 FCC Rcd 9818, 9819-21 (2007).

[11] *See* Streamlining 3d R&O, 23 FCC Rcd at 5338.

[12] *See* AT&T Services, Inc., Petition for Expedited Rulemaking and Request for Waiver of Section 22.913 of the Commission's Rules (filed February 29, 2012) ("Petition"). A technical study dated February 14, 2012, similar to the March 2013 Study, was attached to AT&T's Petition at Appendix A. On May 2, 2012, the Wireless Telecommunications Bureau ("Bureau") sought comment on the Petition, which remains pending. *See* "Wireless Telecommunications Bureau Seeks Comment on Petition for Rulemaking Filed by AT&T Consistent with Rules for Other Mobile Broadband Services," *Public Notice,* RM-11660, 27 FCC Rcd 4926 (WTB 2012). The Bureau did not seek comment on AT&T's request for a blanket interim waiver of 47 C.F.R. § 22.913, which was included with the Petition, and AT&T withdrew the request on July 22, 2013. *See* Waiver Request at 1, n.2.

[13] Waiver Request at 7.

[14] *See id*. at 1, 4, 8.

[15] *Id*. at 5.

with the start of the school year and so that it can make use of its 800 MHz cell spacing for LTE services for greater efficiency by using existing deployment.[16]

AT&T submitted with its Waiver Request a May 2014 Study purporting to show that shifting to PSD-based power limits would not cause harmful interference to public safety licensees in adjacent frequency bands.[17] AT&T specifically indicates that there are no public safety agencies operating in the 800 MHz band in Burlington, VT.[18] AT&T argues that under the PSD limits it proposes, "the power injected into neighboring receivers either in adjacent areas or co-located sites does not increase but remains the same" as under the current rule, because AT&T will maintain "the existing total power levels at its sites."[19] Future deployments of 2X2 Multiple Input Multiple Output (MIMO) LTE in the Cellular band under a PSD limit would, AT&T claims, "maintain the status quo with respect to the potential interference impacts on adjacent services – and in particular, the Public Safety services."[20] As a result, AT&T asserts, "the interference environment into Public Safety units . . . is not appreciably different from that of existing Cellular deployments – and in some cases it is better."[21]

In July, 2014, the Bureau sought comment on the Waiver Request, particularly with respect to any potential adverse impact on public safety operations and Cellular licensees.[22] Three parties filed comments or reply comments during the pleading cycle,[23] none of which are public safety entities. The parties object to granting the waiver relief and express general concerns regarding possible interference to public safety licensees and measurement and testing labs.

Cohen, Dipell and Everist, P.C., (CDE) a professional engineering consulting service for the broadcast and telecommunications industry, note that AT&T does not describe how it would deploy the waiver and does not state definitively that the use of a PSD model for measuring ERP will not increase interference to public safety receivers.[24] Robert F. Gonsett, (Gonsett) a Consulting Radio Engineer, and CDE both state that the long-term and widespread effects of the increase in power on permitted adjacent frequency operations are not yet known.[25] Specifically, Gonsett refers to a new cell tower under construction 1,600 feet from his spectral monitoring lab located in the San Diego, CA area.[26] Gonsett expresses concern regarding Verizon's proposed transmitter power and about the impact on public safety communications generally by the "continued unbridled rollout of cell facilities – or if the cellular rule rewrite now sought by AT&T were granted."[27] Gonsett states that AT&T "should devise a test plan that

[16] *Id.*

[17] *See* Waiver Request at 6 (describing its May 2014 Study).

[18] AT&T Comments at 3; Reply comments of AT&T (filed Aug. 18, 2014) (AT&T Reply Comments) at 1-2.

[19] *See* Waiver Request at 7.

[20] *See id.*

[21] *Id.*

[22] *See* "Wireless Telecommunications Bureau Seeks Comment on AT&T Request for Waiver to Permit Power Spectral Density Model for 800 MHz Cellular Operations in Vermont Market," *Public Notice,* WT Docket No. 14-107, 2014 WL 3547646, (WTB July 16, 2014).

[23] *See* Comments of Cohen, Dippell, and Everist, P.C., (filed Aug. 5, 2014) (CDE Comments); Comments of Robert F. Gonsett (filed Aug. 5, 2014); Reply Comments of Cohen, Dippell, and Everist, P.C. (filed Aug. 15, 2014) (CDE Reply Comments); Reply Comments of Rick Levy (filed Aug. 15, 2014) (Levy Reply Comments).

[24] CDE Comments at 2.

[25] *See generally* Gonsett Comments. *See* CDE Reply Comments at 2.

[26] Gonsett Comments at 2.

[27] *Id.* at 2-3.

includes the specific [radio frequency interference] test objectives acceptable to the FCC."[28] Rick Levy, Certified Senior Radio Engineer, Broadcast Signal Lab, concurs with Mr. Gonsett and specifically opposes the Waiver Request because it does not require "quiet zones" around measurement labs, and other sensitive receiving installations.[29]

AT&T filed reply comments stating that "it is not clear that either commenter has a direct interest in AT&T's request for waiver" and the assertions that the Waiver Request insufficiently addresses its effect on public safety agencies are incorrect.[30] AT&T reiterates that there are no public safety agencies operating in the 800 MHz band in Burlington, VT and AT&T describes the testing it completed with public safety entities in south Florida which resulted in no interference to such entities.[31] AT&T also addresses other concerns raised by CDE, stating that it will comply with RF emissions rules and current requirements regarding Canadian border coordination and does not seek a waiver of these rules.[32]

II. DISCUSSION

Under Section 1.925 of the Commission's rules, a waiver may be granted if the applicant demonstrates that: (i) the underlying purpose of the rule would not be served or would be frustrated by its application to the instant case and that grant of the requested waiver would be in the public interest; or (ii) in view of unique or unusual factual circumstances, application of the rule(s) would be inequitable, unduly burdensome, or contrary to the public interest, or the applicant has no reasonable alternative.[33]

We have weighed the potential public interest benefits against potential adverse effects and believe it is in the public interest to grant the Waiver Request subject to the below conditions. Specifically, we believe it is in the public interest to foster the development of advanced technologies in the Cellular Service, thereby allowing AT&T to launch LTE services and offer its subscribers' access to these valuable broadband wireless services. A grant also furthers the Commission's goal of increasing regulatory parity in technical rules when possible for competing CMRS services.

We find that the commenters expressing general concerns regarding potential increased risk of harmful interference to public safety operations have not made a specific showing demonstrating that harmful interference would be caused in the instant case involving AT&T operation using PSD to measure ERP in the Burlington, Vermont CMA.[34] Such general concerns are more appropriately made and considered in the context of AT&T's Petition for Rulemaking seeking modifications to rule section 22.913 and any further Commission action in that proceeding. In this particular case, we sought public comment from potentially affected parties and received no objections from public safety entities. We also note that, while our records reflect that there are no base stations licensed to 800 MHz public safety systems in CMA 248, we are providing protections to any public safety licensee with base stations located within a 113 km radius of an AT&T base station deployed in the market, even if the public safety base station is located outside CMA 248.

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[28] *Id.* at 5.

[29] Levy Reply Comments.

[30] *See* AT&T Reply Comments at 1.

[31] *Id.* at 1-2.

[32] *Id.* at 2-3.

[33] 47 C.F.R. § 1.925.

[34] We note that the parties who filed objections are neither public safety nor cellular licensees and are not protected by Section 22.913. While Mr. Gonsett and Mr. Levy express concern regarding AT&T's operation in Burlington, VT causing interference to testing labs, their labs are located in San Diego, CA, and Cambridge, MA, respectively.

We also believe that AT&T's May 2014 Study provides a general framework for assessing the likelihood of interference from LTE deployments with MIMO on public safety receivers using various reasonable scenarios to estimate the potential for intermodulation interference, out of band emissions, and overload interference. As noted, the conditions we impose on AT&T will help ensure that public safety systems and neighboring cellular licensees will be protected from increased harmful interference from AT&T's operations using the PSD model for measuring ERP. Based on the totality of the circumstances, we find that permitting AT&T to operate its Burlington, VT license using a PSD model to measure ERP better serves the public interest than strict application of the current Cellular radiated power rule.

We also believe that the underlying purpose of the Section 22.913, to prevent harmful interference from a Cellular licensee to public safety and neighboring Cellular licensees, will not be frustrated by a grant of the Waiver Request. As already noted, there are no public safety entities with licensed base stations in CMA 248; we received no public safety objection to the proposed relief; and Verizon, the only non-AT&T Cellular licensee adjacent to AT&T's Cellular system in CMA248, also raised no objection.[35]

Accordingly, we grant AT&T's request and will permit AT&T to utilize the PSD model for measuring ERP in CMA 248 at an ERP level of 250 W/MHz in non-rural counties and 500 W/MHz in rural counties. AT&T's operation under this waiver is subject to any rule changes resulting from Commission action on AT&T's pending Petition to modify the rule. Further, the waiver grant is conditioned on the following:

1. AT&T's use of PSD is limited to a maximum ERP limit of 250 W/MHz in non-rural counties and 500 W/MHz in rural counties using LTE as described in AT&T's Waiver Request.

2. Before deploying a base station with power specified in terms of PSD under this waiver, AT&T shall provide a minimum of thirty (30) days written advance notice to any public safety[36] licensee authorized in the frequency range 806-824 MHz/851-869 MHz with a base station(s) located within a radius of 113 km[37] of the base station to be deployed. The written notice shall specify (a) the location of the base station(s) by geographical coordinates and street intersection or address, (b) the height above ground level of the radiation center of the base station(s) antenna(s) and the amount of beam tilt, if any, (c) the date and time when the base station(s) will be activated, and (d) a telephone number monitored 24 hours a day to advise AT&T of any resulting interference.

3. If AT&T receives a report that such base station(s) is causing harmful interference with a public safety licensee, it shall immediately suspend operation under this waiver of such base station(s) except for test transmissions to identify and eliminate the interference. AT&T may resume operation under this waiver of such base station(s) after the interference has been successfully mitigated. This condition shall remain in effect until further action of the Commission, and is in addition to, not a replacement for, AT&T's obligations pursuant to 47 C.F.R. §§ 22.971 and 22.972.

[35] There are no co-channel licensees operating in Burlington, VT.

[36] Public safety licensees are defined for purposes of this waiver relief as licensees authorized under the following Universal Licensing System radio service codes: GE, GF, GP, YE, YF and YP.

[37] We note that the general required separation distance between certain co-channel 800 MHz systems is 113 km. *See* 47 C.F.R. § 90.621(b).

4. AT&T must coordinate with adjacent channel and neighboring co-channel cellular licensees prior to commencing operation under this waiver, and must cease operation under this waiver upon receipt of a complaint of harmful interference until such interference concerns are mitigated.

5. The grant of waiver does not absolve AT&T from its requirement to comply with rule section 1.928(a),[38] which mandates compliance with applicable international treaties.[39] If AT&T receives a report that a base station(s) operating pursuant to this waiver is causing harmful interference with a Canadian licensee, it shall immediately suspend operation under this waiver of such base station(s) except for test transmissions to identify and eliminate the interference. AT&T may resume operation under this waiver of such base station(s) after the interference has been successfully mitigated.

We conclude that the waiver relief we grant today strikes the appropriate balance, as it will enable AT&T to deploy LTE in the Burlington, VT CMA, allowing it to start making more effective use of the spectrum and providing enhanced product offerings to consumers, while also protecting public safety and neighboring Cellular licensees from increased risk of harmful interference.

III. ORDERING CLAUSE

Accordingly, IT IS ORDERED that the request filed by AT&T Services, Inc. on behalf of AT&T, Inc. and its subsidiaries is HEREBY GRANTED WITH THE CONDITIONS SET FORTH ABOVE and CONDITIONED ON COMPLIANCE with new rules that may be adopted as a result of AT&T's pending Petition for rulemaking (RM-11660). This action is taken under delegated authority pursuant to sections 0.11, 0.231, 0.131, 0.331 and 1.925 of the Commission's rules, 47 C.F.R. §§ 0.11, 0.231, 0.131, 0.331 and 1.925.

Sincerely,

Roger S. Noel
Chief, Mobility Division
Wireless Telecommunications Bureau

[38] *See* 47 C.F.R. § 1.928(a).

[39] *See* Arrangement between the Department of Communications of Canada and the Federal Communications Commission of the United States of America Concerning the Use of the Band 806 to 890 MHz along the Canada-United States Border (superseded by current Arrangements F and S) *available at* http://transition.fcc.gov/ib/sand/agree/files/can-nb/Interim_Arrangements_F_and_S.pdf.