

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Parts 1 and 22 of the Commission's)	WT Docket No. 12-40
Rules with Regard to the Cellular Service,)	
Including Changes in Licensing of Unserved Area)	RM No. 11510
)	
Amendment of the Commission's Rules with)	
Regard to Relocation of Part 24 to Part 27)	
)	
Amendment of Parts 0, 1, and 22 of the)	
Commission's Rules with Regard to Frequency)	
Coordination for the Cellular Service)	
)	
Amendment of the Commission's Rules)	RM No. 11660
Governing Radiated Power Limits for the)	
Cellular Service)	

REPLY COMMENTS OF AT&T

AT&T Services, Inc., on behalf of its wholly-owned and controlled wireless affiliates (collectively "AT&T"), provides these reply comments on the Federal Communications Commission's (the "Commission") Further Notice of Proposed Rulemaking ("Further Notice").¹

I. POWER SPECTRAL DENSITY.

A. The Record Supports Adopting a Power Spectral Density ("PSD") Option for Cellular Licensees Operating Broadband Networks.

The record in this docket demonstrates a consensus for revising the Commission's rules to provide Cellular licensees operating broadband networks with the option to calculate base

¹ Amendment of Parts 1 and 22 of the Commission's Rules with Regard to the Cellular Service, Including Changes in Licensing of Unserved Area, Amendment of the Commission's Rules with Regard to Relocation of Part 24 to Part 27, Interim Restrictions and Procedures for Cellular Service Applications, Amendment of Parts 0, 1, and 22 of the Commission's Rules with Regard to Frequency Coordination for the Cellular Service, Amendment of the Commission's Rules Governing Radiated Power Limits for the Cellular Service, *Report and Order and Further Notice of Proposed Rulemaking*, WT Docket No. 12-40, RM No. 11510, RM No. 11660, 29 FCC Rcd 14100 (2014) ("Further Notice").

station power using a PSD measurement. No commenter objected to this proposal. Verizon observes that “[a]pplying PSD limits on a per-transmitter basis would prevent requiring licensees deploying MIMO configurations from having to decrease power at each transmitter when deploying multiple transmitters at a base station location.”² The Rural Wireless Association (“RWA”) supports “increasing the ERP limits in terms of PSD in the Cellular service as it will enhance the deployment of wireless broadband networks using wideband technologies such as LTE.”³ AT&T agrees with these supporting comments and encourages the Commission to revise its rules forthwith to adopt a PSD base station power option, allowing Cellular licensees to expeditiously transition to wideband systems without a power disadvantage.

B. The Record Supports Adoption of PSD Limits at Levels at Least as High as Proposed by AT&T.

Although commenters differ on the ideal maximum PSD limit, the limits proposed by AT&T—250 W/MHz in non-rural areas and 500 W/MHz in rural areas—fall well within the limits proposed by other commenters and that the Commission has applied in other commercial service bands. Further, no one has controverted the AT&T study entered into the record demonstrating the absence of increased interference from operating at these PSD limits. Thus, the Commission should set the PSD limits, at a minimum, at the levels proposed by AT&T.

² Comments of Verizon, WT Docket No. 12-40, RM No. 11510, RM No. 11660 at 3 (filed Jan. 21, 2015).

³ Comments of Rural Wireless Association, WT Docket No. 12-40, RM No. 11510, RM No. 11660 at 7 (filed Jan. 21, 2015). *See also* Comments of Pericle Communications Company and Shulman, Rogers, Gandal, Pordy, & Ecker, P.A., WT Docket No. 12-40, RM No. 11510, RM No. 11660 at 5 (filed Jan. 21, 2015) (“Pericle”) (“We have no objection to adopting new ERP and power spectral density limits in this band . . .”).

RWA mistakenly concludes that the ERP limits proposed by AT&T would cause a reduction in existing coverage areas for 2G GSM/EDGE networks.⁴ As the Commission explains, “AT&T . . . does not seek to substitute the PSD limits for existing ERP limits, but only to supplement the rule to permit carriers to use whichever model is better suited to their circumstances.”⁵ Thus, licensees operating 2G GSM/EDGE narrowband networks can continue using the existing ERP limits per channel, avoiding the reductions in coverage about which RWA is concerned.

Verizon, Union Telephone Company and RWA seek maximum PSD levels higher than the levels sought by AT&T. As AT&T referenced in its initial comments, higher PSD levels may be advisable and needed to most-efficiently use the Cellular band in the near future. And, AT&T is hopeful that Cellular licensees will be able to operate at these higher PSD levels in the future with minimal risk to public safety radios. As Pericle observes, the public safety interference issue remains “largely a receiver performance issue.”⁶ As far back as the Commission’s 2004 800 MHz Rebanding Order, the Commission and the wireless industry anticipated an improvement in public safety receiver resistance to interference.⁷ These expectations have been realized, as today, public safety portable and mobile units are commercially available with technology that minimizes the interference risks from adjacent

⁴ See Comments of Rural Wireless Association at 8.

⁵ Further Notice at 14140.

⁶ Comments of Pericle at 19.

⁷ See *Improving Public Safety Communications in the 800 MHz Band*, WT Docket 02-55, *Report and Order*, *Fifth Report and Order*, *Fourth Memorandum Opinion and Order*, and *Order*, 19 FCC Rcd 14969, 15034 ¶114 (2004), as amended by *Erratum*, 19 FCC Rcd 19651 (2004) and *Erratum*, DA 04-3459 (2004).

services. Even that minimal interference risk can be addressed through existing interference mitigation processes established in the 800 MHz Rebanding Order and in use since that time.⁸ Consequently, as public safety entities retire poorer performing radios, Cellular licensees should be allowed to operate at higher power levels. The Commission should consider and adopt in this docket an aggressive timeline for transitioning the base station power rules to PSD levels higher than proposed by AT&T.

II. OTHER PROPOSED RULE MODIFICATIONS.

A. Power Measurement. AT&T agrees with the proposal to measure base station transmitter power using average power as measured with a root mean square power averaging detector. In AT&T's estimation, measuring average power is relatively straightforward and avoids the need to consider peak signals. However, AT&T agrees with Verizon that it would be "neither necessary nor useful to specify a resolution bandwidth beyond simply specifying 'channel power.'"⁹ Specifying a resolution bandwidth would add unnecessary complications to the power calculations and offset the benefits from measuring base station power based on average power.

B. Out of Band Emissions ("OOBE"). AT&T agrees with Verizon that the Commission should not change the existing OOBE limits because they have worked well and have been adopted by standards bodies.¹⁰ The OOBE limits will continue to work well for both licensees using the current power limits with narrowband networks and licensees using PSD limits with broadband networks.

⁸ See 47 C.F.R. §§22.970-22.973, 90.672-90.675.

⁹ Comments of Verizon at 11.

¹⁰ *Id.*

C. Domestic Coordination. AT&T further agrees with Verizon’s assessment that coordination is unnecessary for systems not dividing frequencies into channels because the field strength limits substitute for channel coordination.¹¹ Thus, AT&T supports modifying Section 22.907 to add language at the end of the introductory paragraph reading: “Licensees utilizing systems employing a frequency reuse factor of 1 (universal reuse) are exempt from this requirement.”

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Respectfully submitted,



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¹¹ *Id.* at 13.