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Via Electronic Submission

January 16, 2014

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12th Street, SW  
Portals II, Room TW-A325  
Washington, DC 20554

**RE: Petition for Rulemaking Filed by AT&T To Make 800 Cellular Base Station Power Rules Consistent with Rules for Other Mobile Broadband Services, RM 11660; AT&T Request for Waiver to Permit Power Spectral Density Model for 800 MHz Cellular Operations in Three Florida Markets, WT Docket No. 13-202**

Dear Ms. Dortch:

This is in response to the FCC's request that AT&T explain how it will continue to comply with the FCC's Cellular Geographic Service Area rules when the FCC approves the power spectral density ("PSD") model for measuring power levels. As AT&T stated in its waiver filing "to the extent that the PSD measure would change an AT&T CGSA's contour, AT&T will manage the power level in the CGSA until the company can make the appropriate filings with the Commission and receive approval for the changed contours." (AT&T's July 18, 2013 Waiver Request, WT Docket No. 13-202 footnote 21)

The attachment provides an example demonstrating the manner in which AT&T would manage power so that the existing SAB contour of license KNKA484 would not change with the implementation of PSD.

In accordance with section 1.1206(b)(2) of the Commission's rules, this letter is being filed electronically with your office. Please feel free to contact me if you have any questions.

Sincerely,

Cc: Roger Noel  
Nina Shafran  
Denise Walter  
Gabriel Ubieto



**PSD – Conformity with existing CSAB/CGSA Rules**



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# Overview

AT&T recognizes that changes to the contour generally require extension agreements and prior FCC approval. To the extent implementation of the PSD model causes changes to the contour, AT&T will adjust the power level until it acquires any necessary approvals.

In order to keep the contours the same, and meet the requirements of the FCC, AT&T is planning to utilize a *PSD adjustment factor* which will maintain the ERP at current limits for CSAB border sectors:

- Per CFR 22.911 SAB formula, Service Area Boundary of a site is determined by  
Distance (of service in km) =  $2.531 * H^{0.34} * P^{0.17}$   
H = Height of Antenna above Average Terrain (meters)  
P = Effective Radiated Power (ERP in Watts)  
Contour is the locus of computation along 8 cardinal radials (0, 45, 90, ...)

- For exhibit UMTS border sector:  
Filed ERP (Filed P) = 500W = 56.9dBm  
Filed HAAT = 64.1meters  
Distance with filed ERP =  $2.531 * 64.1^{0.34} * 500^{0.17} = 30 \text{ km}$

ERP with no restriction = 57.9 dBm = 612.4 Watts  
PSD ERP limit for 5MHz bandwidth sector in urban county = 250Watts \* 5MHz = 1250 Watts

PSD ERP = minimum of (612.4Watts, 1250 Watts) = 612.4Watts  
PSD adjustment factor = PSD ERP (dBm) – Filed ERP (dBm) = 57.9dBm – 56.9dBm = 1dB  
New ERP = PSD ERP (dBm) – PSD adjustment factor (dB) = 57.9dBm – 1dB = 56.9dBm = 500 Watts  
Distance with new ERP =  $2.531 * 64.1^{0.34} * 500^{0.17} = 30\text{km}$

Using the PSD adjustment factor will enable AT&T to establish the proper ERP settings while making sure that the CSAB does not exceed the current filing. AT&T will continue to negotiate extension agreements with neighboring carriers as required.



# Map Example Using PSD Conversion Factor - License KNKA484

