

October 31, 2008

Via Electronic Filing

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, DC 20554

Re: Notification of Written *Ex Parte* Presentation
WT Docket Nos. 07-195, 04-356

Dear Ms. Dortch:

Ericsson Inc (“Ericsson”) files this *ex parte* presentation regarding the pending AWS rulemaking. As Ericsson previously discussed in its comments responding to the *AWS-3 FNPRM*, the Commission can effectively achieve its objectives of reducing regulatory burdens, promoting innovative services, and encouraging flexible use by designating the 2155-2180 MHz band for asymmetric pairing.¹

One important benefit of this approach is that it avoids dictating a more prescriptive allocation model that caters to a single company’s unique business plan. While a range of technical, business and economic concerns have been raised regarding the FCC’s proposal, in this filing, Ericsson provides additional information regarding the benefits of asymmetric pairing and flexible use of the band. Because this spectrum has been globally identified for 3G services by the ITU,² it is of particular importance to the broadband mobile community and can be more effectively paired asymmetrically as additional downlink spectrum with a licensee’s AWS-1 uplink spectrum.³

Consumer use of spectrum is still largely asymmetric and is more heavily concentrated in the downlink direction, as Ericsson has previously noted.⁴ Downlink capacity is particularly important to consumers’ ability to access broadband services, such as Internet browsing. By employing asymmetrical pairing, a larger downlink can be paired with a smaller uplink so that the spectrum allocation more closely matches network demands. For example, many more consumers download videos or photos to view than upload them. Although evolving standards have continually improved radio network throughput, such as by employing Multiple Input Multiple Output (“MIMO”) technology and higher order modulation techniques, downlink capacity is still needed.

¹ See Ericsson–Sony Ericsson FNPRM Comments at 10-12 (filed July 25, 2008).

² See *id.* at 7-8.

³ See *id.* at 10-12; Ericsson NPRM Reply Comments at 10 (filed Jan. 14, 2008).

⁴ See Ericsson–Sony Ericsson FNPRM Comments at 11.

Asymmetric pairing also allows for a more dynamic network and improved consumer experience. As the traffic volume in data services over HSDPA increases, there will be a corresponding need for wider bandwidth in the downlink.⁵ In this regard, asymmetric pairing enables the deployment of additional network resources, such as a second HSPA carrier, which creates an opportunity for network resource pooling — targeted to the downlink traffic — as a way to enhance the user experience. This is especially desirable when the radio conditions are such that existing techniques (*e.g.*, MIMO) cannot be used. This additional spectrum can also be used to increase network speed and responsiveness in areas at the edge of a cell's coverage, where the performance of a symmetrical network is more constrained.⁶ Alternatively, spectrum such as the AWS-3 band could be dedicated to carrying particular forms of high-bandwidth traffic, such as video services. AWS-3 spectrum could also be used to increase the overall downlink bandwidth available for 3G broadband voice and data services.

There is also a concern that the prescriptive allocation being considered for AWS-3 is not supported by an evident or planned supplier ecosystem. This is understandable: What manufacturer, during difficult economic times, is going to give a high priority to designing and manufacturing low-cost hardware for this unique spectrum “island,” when there will be no global market for the product?⁷ On the other hand, asymmetrical pairing of the spectrum will provide beneficial services and important spectral efficiencies.⁸ In addition, as demonstrated in the record, the AWS-1 band enjoys an extremely large ecosystem which is being deployed nationwide and which is utilizing globally identified 3G spectrum. Allowing the AWS-3 band to be asymmetrically paired with AWS-1 will be consistent with global spectrum practices and will not require development of unique equipment that would lack a global market. The asymmetric allocation will thus further the Commission's policy of providing ubiquitous, affordable broadband service to the public.

⁵ 3GPP Technical Steering Group (TSG) Radio Access Network (RAN) #40, *Proposed way forward for Dual-Cell HSDPA Operation*, RP-080467, available at <http://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_40/docs/RP-080467.ZIP>

⁶ See, *e.g.*, 3GPP TSG RAN #40, *Dual-Cell HSDPA operation on adjacent carriers*, RP-080490, available at <http://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_40/docs/RP-080490.ZIP> (The companies that are active in this work item are Ericsson, Qualcomm Europe, Huawei, Alcatel-Lucent, 3, TeliaSonera, Orange, Bouygues Telecom, eMobile Softbank Mobile, Telefonica, and Vodafone); see also 3GPP TSG RAN #39, *Work Item: Feasibility Study on Dual-Cell HSDPA Operation*, RP-080228, available at <http://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_39/docs/RP-080228.ZIP>.

⁷ See 3G Americas LLC FNPRM Comments (filed October 23, 2008).

⁸ Asymmetrical pairing will allow the entire AWS-3 block of spectrum to be used, thus allowing this spectrum to be used at full efficiency. Allowing mobile transmissions in the AWS-3 spectrum is inherently less efficient, because it requires guard bands and power limitations to prevent harmful interference to the adjacent AWS-1 band.

The 3GPP has already established a work item on asymmetric allocation (Dual-Cell HSDPA⁹) operation and has assessed the feasibility, benefits and complexity of combining network radio resources (*i.e.*, cells on adjacent carriers) to address the operators' desire for enhanced user experience and consistency. Based on the schedule, Phase 1 covering adjacent HSDPA carriers will be part of the 3GPP Release 8 specifications, with core functionality to be finalized by December 2008. Phase 2 Dual Cell HSDPA, with releases expected in 2009, will permit nonadjacent downlink carriers such that other spectrum pairings will also be possible.

To confirm, asymmetrical pairing of the AWS-3 spectrum will provide synergy with an existing global market and a developing domestic market. Collectively, the global and domestic markets create the economies of scale necessary to achieve a more rapid and successful deployment of a nationwide broadband network. And the fact that the AWS-1 band is already being deployed provides added assurances that broadband policy goals can be met.

An asymmetric allocation will permit the deployment of flexible services by a wide range of bidders. It is not necessary to establish an overly prescriptive auction catering to a particular business model in an attempt to achieve objectives that are already in process and can be better met by a more neutral approach.

Pursuant to the Commission's rules, a copy of this notice is being filed electronically in the above-captioned dockets.

Sincerely,

ERICSSON INC

By:

/s/ Mark Racek

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⁹ See 3GPP TSG RAN #40, RP-080490. Dual-Cell HSDPA operation is capable of supporting user equipment (UE) that is in compliance with the legacy networks supporting Release '99 to Release 7.