



1200 EIGHTEENTH STREET, NW  
WASHINGTON, DC 20036  
TEL 202.730.1300 FAX 202.730.1301  
WWW.HARRISWILTSHIRE.COM  
ATTORNEYS AT LAW

May 20, 2008

**Ex Parte – Via Electronic Submission**

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

**Re: Service Rules for Advanced Wireless Services in the 2155-2175 MHz Band,  
WT Docket No. 07-195**

Dear Ms. Dortch:

3G Americas, the leading industry association representing the GSM family of technologies (GSM, EDGE, HSPA, and LTE) in the Americas, submits this *ex parte* letter with regard to the Commission's Notice of Proposed Rulemaking in the above-referenced proceeding, concerning service rules for licensed fixed and mobile services, including Advanced Wireless Services (AWS), in the 2155-2175 MHz band (AWS-3).<sup>1</sup> 3G Americas has a broad membership of leading wireless operators and vendors promoting and facilitating the seamless deployment and widespread adoption throughout the Americas of the GSM evolution to 3G and beyond.<sup>2</sup>

3G Americas supports the most efficient use of the AWS-3 spectrum and looks forward to operators offering consumers new, innovative applications in this spectrum. However, 3G Americas emphasizes that it is essential that the Commission protect incumbent AWS-1 users, and prospective AWS-2 users, from interference from AWS-3 users. Based on analysis of the record in this proceeding, including data submitted from 3G Americas' members, 3G Americas encourages the Commission to adopt the downlink-only plan for the AWS-3 spectrum. The

---

<sup>1</sup> *Service Rules for Advanced Wireless Services in the 2155-2175 MHz Band*, Notice of Proposed Rulemaking, WT Docket No. 07-195 (rel. Sep. 19, 2007) (“*NPRM*”).

<sup>2</sup> 3G Americas Board of Governor members include Alcatel-Lucent, AT&T, Cable & Wireless, Ericsson, Gemalto, HP, Huawei, Motorola, Nortel Networks, Nokia, Openwave, Research in Motion (RIM), Rogers, T-Mobile USA, Telcel, Telefónica, and Texas Instruments.

Commission's proposed downlink-only plan will result in the highest and best use of this spectrum by maximizing the utility of the AWS-3 bands while minimizing the interference risk to AWS-1 incumbents and prospective AWS-2 users. Restricting the AWS-3 spectrum to downlink-only uses will advance the Commission's broadband and competition policy goals, consistent with the public interest.

## **I. The Commission should adopt the downlink-only plan for the AWS-3 spectrum.**

In the *Notice of Proposed Rulemaking*, the Commission proposed three possible uses of the AWS-3 spectrum: uplink/downlink use, structured uplink/downlink use, and downlink-only use.<sup>3</sup> The Commission noted that the AWS-3 band presented special interference challenges to the directly-adjacent AWS-1 and AWS-2 bands.<sup>4</sup> Given these interference concerns, 3G Americas believes that the downlink-only plan will best meet the Commission's goal of making the most effective and efficient use of the AWS-3 spectrum.<sup>5</sup>

### *A. The Uplink/Downlink and Structured Uplink/Downlink plans would create interference to AWS-1 and AWS-2 users.*

Both the uplink/downlink and structured uplink/downlink plans inherently contain several limitations on possible ways to mitigate interference to AWS-1 and AWS-2 users, making these plans less desirable than the downlink-only plan.

First, many AWS-1 receivers cannot withstand undesired transmissions from mobile units in the AWS-3 band. In its comments, Motorola explained how receiver blocking would be a problem because "the duplexers currently used in AWS-1 handsets do not provide much attenuation from transmissions originating in the 2155-2175 MHz band[.]" and so AWS-1 handsets have "only limited isolation from AWS-3 mobile transmissions."<sup>6</sup> Similarly, Ericsson explained that filtering is not a solution to the receiver overload problem because many AWS-1 handsets are not designed to reject ASW-3 signals.<sup>7</sup>

Second, the uplink/downlink plan cannot utilize the standard interference mitigation techniques of geographic separation and frequency separation to protect AWS-1 and AWS-2 users. If mobile units are permitted in the AWS-3 band, it would be impossible to mitigate interference through geographic separation. Because this plan does not provide for guard bands, it would be impossible to mitigate interference through frequency separation.

Third, although the structured uplink/downlink plan does allow for some frequency separation by proposing guard bands, as AT&T explained in its comments, the proposed guard bands are insufficient to protect AWS-1 and AWS-2 users.<sup>8</sup>

---

<sup>3</sup> *NPRM* ¶ 13.

<sup>4</sup> *Id.* ¶ 10.

<sup>5</sup> *Id.* ¶ 10.

<sup>6</sup> Comments of Motorola, Inc. at 6, WT Docket No. 07-195 (filed Dec. 14, 2007) ("Motorola Comments").

<sup>7</sup> Reply Comments of Ericsson at 6, WT Docket No. 07-195 (filed Jan. 14, 2008) ("Ericsson Reply Comments").

<sup>8</sup> *See* Reply Comments of AT&T at 5-6, WT Docket No. 07-195 (filed Jan 14, 2008) ("AT&T Reply Comments").

Because of these inherent limitations on possible interference mitigation techniques, the Commission would have to rely solely, or almost solely, on operating restrictions on AWS-3 units to protect AWS-1 and AWS-2 users. However, as the record in this proceeding reflects, the technical parameters that would be needed to protect AWS-1 and AWS-2 users from interference would be so great as to preclude viable commercial mobile services from operating in the AWS-3 spectrum. Based on its review of the technical information submitted by Verizon, Avago and Motorola in this proceeding, as well as the technical standards for its own Universal Mobile Telecommunications System (UMTS) technology it will be deploying in AWS-1 spectrum, T-Mobile concluded that protection of AWS-1 incumbents would require extremely restrictive transmit power limits and out-of-band emissions limits.<sup>9</sup> AT&T likewise agreed that the uplink/downlink proposal would require stringent limits on power and out of band emissions.<sup>10</sup> As T-Mobile also discussed, none of the comments supporting the uplink/downlink or structured uplink/downlink plans provided technical data that demonstrated an effective method to protect AWS-1 and AWS-2 users with less restrictive operating parameters.<sup>11</sup>

*B. The downlink-only plan most efficiently uses the AWS-3 spectrum and best maintains the efficient use of AWS-1 and AWS-2 spectrum.*

The Commission's downlink-only plan allows for the most efficient use not only of the AWS-3 spectrum, but also of the adjacent AWS-1 and AWS-2 spectrum. The downlink-only plan eliminates the concerns about mobile-to-mobile interference created by the alternative plans. It also allows for the most efficient use of AWS-3 spectrum because it does not necessitate highly rigorous operating restrictions to protect adjacent bands from interference, and therefore allows for commercially viable use of the AWS-3 band. The downlink only plan would result in uniform technical standards across the entire 2110-2180 MHz band, while protecting the investments of AWS-1 and MSS licensees.<sup>12</sup>

*C. The downlink-only plan is consistent with the Commission's previous recognition of the interference challenges raised by mobile operation.*

The Commission has recognized previously that mobile operations create interference challenges which the Commission should consider as it allocates spectrum. For example, the Spectrum Policy Task force has encouraged "the Commission [to] consider making spectrum policy decisions encouraging like systems or devices to be grouped in spectrum 'neighborhoods' with like systems."<sup>13</sup> And, in the AWS-2 H Block proceeding, the Commission recognized interference potential and tentatively concluded that an out of band emission limit of at least -60

---

<sup>9</sup> See Reply Comments of T-Mobile USA, Inc. at 8, WT Docket No. 07-195 (filed Jan. 14, 2008) ("T-Mobile Reply Comments")

<sup>10</sup> See AT&T Reply Comments at 4-5.

<sup>11</sup> See T-Mobile Reply Comments at 4-7.

<sup>12</sup> *Id.* at 3.

<sup>13</sup> Spectrum Policy Task Force Report at 22, ET Docket No. 02-135 (Nov. 2002).

dBm/MHz into the Personal Communications Service mobile receive band was needed.<sup>14</sup> 3G Americas encourages the Commission to follow its established practice of recognizing the interference concerns from mobile operations and, consistent with its previous positions, to adopt the downlink-only plan to protect AWS-1 and AWS-2 users from interference.

*D. The downlink-only plan benefits consumers by allowing asymmetric pairing in support of data-intensive, high bandwidth applications.*

In the *NPRM*, the Commission noted the potential benefits to consumers of using the AWS-3 spectrum for asymmetric pairing, a plan which would allow for matching of this spectrum with existing AWS-1, AWS-2 or other CMRS spectrum to allow for asymmetric pairing that benefits high data-rate Internet applications.<sup>15</sup> 3G Americas supports the use of this spectrum for asymmetrical pairing, and notes several national operators also support asymmetrical pairing.<sup>16</sup> The downlink-only plan will benefit consumers by meeting needs for asymmetric pairing in support of data-intensive, high-bandwidth applications.

## **II. The downlink-only plan allows U.S. consumers to realize benefits from harmonization with regional allocations.**

As noted by Ericsson, implementing the downlink-only plan would be consistent with international recommendations for the allocation of the bands 2110-2170 MHz and 1710-1770 MHz.<sup>17</sup> This means that if the Commission selects the downlink-only plan, U.S. consumers will realize benefits related to international roaming and increasingly competitive prices related to the economies inherent in manufacturing devices that can use spectrum consistently internationally.<sup>18</sup>

In addition, as Ericsson pointed out, the international recommendations for use of those bands have led to existing AWS-1 equipment with filters that are designed to include the entire AWS-3 spectrum within their pass band and so cannot mitigate interference from mobile transmitters in the AWS-3 band.<sup>19</sup> U.S. consumers, who benefit from scale economies associated with existing AWS-1 equipment, should thus be protected from interference.

---

<sup>14</sup> *Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands; Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands*, Notice of Proposed Rulemaking, 19 FCC Rcd 19263 (¶¶ 87-91) (2004); see also Comments of T-Mobile USA, Inc. at 3, WT Docket No. 07-195 (filed Dec. 14, 2007) (“T-Mobile Comments”) (noting same).

<sup>15</sup> *NPRM* ¶ 21.

<sup>16</sup> T-Mobile Comments at 4 (T-Mobile “believe[s] it could use the AWS-3 spectrum as downlink-only spectrum in conjunction with its 1900 MHz Personal Communications Service (‘PCS’) and AWS-1 spectrum for asymmetric pairing”); Motorola Comments at 2; Verizon Wireless Comments at 15, WT Docket No. 07-195 (filed Dec. 14, 2007) (citing Comments of Verizon Wireless at 7, ET Docket No. 00-258 (filed Apr. 14, 2003) (“Verizon Wireless recommends that the Commission reallocate the 2155-2180 MHz band to AWS, and license this spectrum with the 1710-1755/2110-2155 MHz bands as part of an asymmetrical band plan.”))

<sup>17</sup> Ericsson Reply Comments at 3.

<sup>18</sup> See *id.* at 4.

<sup>19</sup> *Id.* at 3.

### III. Other matters.

In the *NPRM*, the Commission proposed to license the AWS-3 spectrum under its Part 27 rules.<sup>20</sup> 3G Americas supports this proposal and encourages the Commission to adopt the same Part 27 rules for the AWS-3 band as those that govern the adjacent AWS-1 band.

In the *NPRM*, the Commission also proposed that it not adopt any service rules addressing spectrum aggregation limits applicable to the initial licensing of the AWS-3 band, and that open eligibility, rather than eligibility restrictions, in the AWS-3 band was consistent with the Commission's "statutory mandate to promote the development and rapid deployment of new technologies, products and services; economic opportunity and competition; and the efficient and intensive use of the electromagnetic spectrum."<sup>21</sup> 3G Americas supports both of these proposals by the Commission as leading to the most efficient use of the AWS-3 spectrum, as such requirements would discourage participation in the auction and could prevent the most efficient use of the AWS-3 band.

### Conclusion

Allocation of the 2155-2175 MHz spectrum band to qualified licensees has tremendous potential to advance the Commission's goals of expediting broadband deployment and increasing wireless competition. 3G Americas commends the Commission for its continued commitment to facilitating the deployment of Advanced Wireless Services. Adoption of the downlink-only proposal will facilitate the swift deployment of services over this spectrum, while ensuring that the provision of services on adjacent spectrum is not jeopardized.

Respectfully submitted,

/s/

---

Chris Pearson  
1750 112<sup>th</sup> Ave NE, Suite B220  
Bellevue, Washington 98004

*President, 3G Americas LLC*



Patricia Paoletta  
Harris, Wiltshire & Grannis LLP  
1200 Eighteenth St., NW  
Washington, DC 20036

*Counsel to 3G Americas LLC*

---

<sup>20</sup> *NPRM* at ¶ 82.

<sup>21</sup> *NPRM* at ¶¶ 102, 103 (citation omitted).