

September 26, 2008

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

VIA ELECTRONIC FILING

Re: Written Ex Parte Notice
WT Docket Nos. 07-195, 04-356

Dear Ms. Dortch:

This filing is in response to the report filed by the Commission's Office of Engineering and Technology ("OET"), dated September 12, 2008, containing the results of its Advanced Wireless Service ("AWS") interference tests. Those tests were conducted jointly with industry representatives at a Boeing facility on September 3-5. Ericsson also responds to certain misleading statements made by M2Z in its September 23 filing concerning the tests which cite Ericsson's comments.

Ericsson commends the Commission for participating in this series of tests and for its efforts to consider the technical impacts resulting from proposed two-way operations in the 2155-2180 MHz band. Given the significant potential for interference, Ericsson and others have emphasized the need for testing and careful Commission analysis of the test results.¹ Previously, T-Mobile conducted its own series of laboratory tests and reported the results in an exhibit to its comments on July 25.² Those tests demonstrated interference from AWS-3 devices to AWS-1 handsets.

OET's report contained raw testing data, but did not analyze of the data or reach any conclusions. The press reports that Chairman Martin recently asked OET if it can place more information in the record on its interpretation of the data and its relevance to the rulemaking. Ericsson supports placing OET's conclusions into the record and giving the public a brief opportunity to formally comment. Providing this information can be done quickly and will help ensure completeness of the record and reasoned decisionmaking.

As OET's report makes clear, the recent September joint tests followed essentially the same procedures as were used in T-Mobile's earlier tests. The data show that the two tests derived essentially the same results, as well. The joint test results confirm T-Mobile's conclusion that

¹ See, e.g., Ericsson Inc and Sony Ericsson *ex parte* letter to Chairman Martin and Commissioners Copps, Adelstein, Tate, and McDowell, filed June 4, 2008; Comments of Ericsson and Sony Ericsson in Support of T-Mobile Request for Extension, filed July 2, 2008.

² *AWS-3 to AWS-1 Interference: Laboratory Test Report*, Exhibit I to Comments of T-Mobile USA, Inc. (filed July 25, 2008).

out-of-band emissions (“OOBE”) from AWS-3 transmitters will be the predominant type of harmful interference caused by AWS-3 to AWS-1 operations, although receiver overload interference will also be significant.³ The testing data in the record also confirms T-Mobile’s conclusion that the Commission’s proposed OOBE limit and power limit will not be sufficient to guard against interference from AWS-3 mobiles to AWS-1 mobiles.⁴

Moreover, parties present at the joint tests concluded that “[t]he interference scenarios would not be rare — under normal operating conditions interference to AWS-1 devices from AWS-3 operations . . . would be *widespread* and *prevalent*.”⁵ This is particularly true, as Ericsson has previously indicated, because “users of mobile devices tend to congregate in particular areas resulting in higher concentrations of user densities.”⁶

Thus, the results of the recent joint laboratory tests support Ericsson’s warning that two-way operation in the AWS-3 spectrum will put AWS-1 operations at risk of interference and that the Commission’s proposed OOBE limit of $60 + 10 \log P$ “will not effectively mitigate the interference.”⁷ Given this likely outcome, the test results support the designation of the AWS-3 spectrum for downlink usage only, asymmetrically paired with AWS-1 spectrum, which would allow for a “more dynamic network and improved user experience.”⁸

Finally, M2Z recently filed an *ex parte* comment on the test results claiming, among other things, that Ericsson’s comments on the Further Notice conceded that -103 dBm is the AWS-1 “noise floor” and thus the “limit of sensitivity,” and attempted to use this to contradict T-Mobile’s assertions concerning received signal strengths.⁹ This is a mischaracterization of Ericsson’s submission. The -103 dBm figure used by Ericsson in its calculation¹⁰ was the thermal noise floor. T-Mobile, in its calculations, also used -103 dBm for the thermal noise floor,¹¹ and therefore this fact does not support M2Z’s argument that -105 dBm signals are rare or below the effective minimum received signal strength.¹² Accordingly, Ericsson’s -103 dBm noise floor figure does not contradict T-Mobile’s calculations regarding real-world AWS-1 received signal strengths.

³ See *AWS-3 Interference: Lab Testing, Simulations, and a Path Forward*, attached to *ex parte* letter from T-Mobile to the Secretary, filed September 18, 2008, at 13 (“Tests showed consistent and comparable results.”).

⁴ *Ex parte* letter from AT&T Inc., CTIA–The Wireless Association, MetroPCS Communications, Inc., Nokia Siemens Networks, and T-Mobile USA, Inc., to the Secretary, filed September 10, 2008, at 1-2 (emphasis added).

⁵ *Id.* at 2.

⁶ *Ex parte* letter from Ericsson Inc to the Secretary, filed September 9, 2008, at 3.

⁷ Comments of Ericsson Inc and Sony Ericsson Mobile Communications (USA) Inc. at 5 (filed July 25, 2008) (“Ericsson Further Notice Comments”).

⁸ See *id.* at 10-12.

⁹ *Ex parte* letter from M2Z to the Secretary, dated September 23, 2008, at 6, Attachment at 7.

¹⁰ Ericsson Further Notice Comments at 5.

¹¹ *Ex parte* letter from T-Mobile to the Secretary, dated September 3, 2008, Attachment at 4. T-Mobile determined its minimum Receive Code Signal Power (“RSCP”) parameter based on the -103 dBm thermal noise floor, but also included direct sequence spread spectrum processing gain, which permits CDMA receivers to receive signals below the thermal noise floor. In fact, T-Mobile expressly stated that “CDMA receivers can and do receive signals below the thermal noise floor,” and that “UMTS receive sensitivity is far lower than the noise floor,” indeed as low as -120 dBm. *Id.*

¹² In fact, T-Mobile conducted a drive test study in a dense urban market to help determine appropriate RSCP parameters and found that signals typically are distributed as 26% < -90 dBm, 9% < -100 dBm and 5% < -105 dBm, noting that the drive test did “not include indoor locations where RSCP values would typically be much lower.” *Id.* at 3.

Pursuant to Section 1.1206 (b) of the Commission's rules, an electronic copy of this letter is being filed with your office for inclusion in the record.

Sincerely,

ERICSSON INC

By:

/s/ Mark Racek

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