

August 12, 2010

Via Electronic Filing

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

Re: *Ex Parte* Presentation
ET Docket No. 09-36

Dear Ms. Dortch:

The Alfred Mann Foundation for Scientific Research (“AMF”) submits this response to the *ex parte* submissions by the Engineers for the Integrity of Broadcast Auxiliary Services Spectrum (“EIBASS”) on May 14 and June 25, 2010.¹

EIBASS bases its opposition primarily upon a fundamental misreading of the *WMTS Reconsideration Order*.² In that order, the Commission clarified the bases for its prior decision to prohibit secondary wireless medical telemetry service (“WMTS”) operations in the portions of the 1427-1432 MHz band where non-medical telemetry operations have primary status.³ The

¹ See Comments of EIBASS (May 14, 2010); *Ex Parte* Letter from Dane E. Ericksen and Richard A. Rudman, EIBASS to Marlene H. Dortch, Secretary, FCC (June 25, 2010) (“EIBASS Letter”).

² See *Amendment of Part 90 of the Commission’s Rules, Order on Reconsideration*, 25 FCC Rcd 5105 (2010) (“*WMTS Reconsideration Order*”). AMF notes that EIBASS opposes the inclusion of only the 451-457 MHz band (and not the 413-419 MHz, 426-432 MHz, or 438-444 MHz band), within the spectrum allocation proposed for medical micropower network (“MMN”) devices. In an unnumbered footnote, EIBASS states that it “has no opinion regarding the three other 6-MHz wide bands proposed.” See Comments of EIBASS at 2 and n.*.

³ *WMTS Reconsideration Order* ¶ 1.

Commission expressly stated that its decision “was not based on a conclusion that operation of medical devices is *per se* contrary to the public interest.”⁴ Rather, the Commission explained that its “decision pertained *only to WMTS*, taking into account the unique technical characteristics of the service, the current lack of safeguards in our rules to promote safe secondary operations, and the operations with which WMTS share spectrum.”⁵

Thus, contrary to EIBASS’ baseless contention, the Commission purposely limited the scope of its decision prohibiting secondary WMTS operations in the 1427-1432 MHz band, and expressly held that the decision is *not* applicable to wireless medical devices operating outside of the 1427-1432 MHz band. The Commission cannot grant the EIBASS request without undermining the very premise of the WMTS decision and the Commission’s stated intent to limit its decision to WMTS *only* in the 1427-1432 MHz band.⁶

Furthermore, EIBASS offers no technical analysis or data and merely speculates about the possibility of harmful co-channel interference from broadcast auxiliary service remote pickup (“RPU”) stations operating at 455-456 MHz to MMN devices.⁷ EIBASS, in fact, fails to consider the various MMN interference avoidance and management mechanisms, which have been discussed at length in prior AMF filings⁸ and are further discussed below.

⁴ *Id.* ¶ 4.

⁵ *Id.* (emphasis added).

⁶ Additionally, in a frivolous attempt to undermine AMF’s credibility, EIBASS submitted material from AMF’s website showing that “AMF has a profit motive in the development of MMNS technology,” which purportedly is inconsistent with AMF’s status as a nonprofit foundation engaged solely in medical research. *See* EIBASS Letter at 1. AMF’s nonprofit status is governed by the laws of the state of California, and contrary to EIBASS’ baseless innuendo, AMF has and continues to maintain its nonprofit status in compliance with the applicable legal requirements. Moreover, as a California nonprofit organization, AMF is required to publish its audited financial statements, and its tax returns also are publicly available.

⁷ Comments of EIBASS at 2.

⁸ *See, e.g.*, Comments of AMF at 8-13 (Aug. 11, 2009).

Dynamic Channel Switching

The proposed MMN band plan consists of four channels currently allocated for various primary and secondary operations. MMN systems, however, are not expected to use all four channels at the same time and place because they incorporate a dynamic channel switching capability allowing them to assess channel quality continuously and, if necessary, to switch to an alternate, available channel. Thus, if a particular channel becomes severely degraded due to strong interference from incumbent systems, MMN systems will identify an alternate, available channel and switch to that channel to avoid harmful interference.

In view of this dynamic channel switching capability, providing MMN systems with as many channel options as possible is crucial. The more channel options an MMN system has, the higher the probability that it will be able to find a useable channel. Even though a channel may be unavailable for MMN use under most circumstances, its availability under other circumstances (*e.g.*, rural areas with fewer, if any, incumbent wireless operations) serves an important function in increasing the total reliability of MMN systems.

In the rare event that the MMN system is unable to implement a planned channel change *and* all other interference management measures are somehow unavailable or ineffective, the MMN system is designed to default to a fail-safe mode to protect the user during the time required for the MCU to select an available channel and reinitiate communications.

Spectral Excision/Notching

The bandwidth difference between an incumbent narrowband system and a wideband MMN system enables the MMN system to implement an important interference management technique known as spectral excision (or notching). Using this technique, the MMN system is able to notch out the signals of incumbent narrowband systems, including most RPU stations, to facilitate the transmission and receipt of its own wideband signals.

Signal Coding

Contrary to EIBASS' speculative claim, MMN systems, including both the MCU and the implant devices, use heavily encoded digital signals that serve as the first line of defense in detecting and limiting the effects of harmful interference. Consequently, an interfering signal cannot be decoded or otherwise interpreted as a valid transmission that could cause an unwanted action. Although an interferer could block an MMN transmission and thus cause the loss of an intended command, this event would prompt the system to engage the retransmission protocol, thus allowing the proper commands to be retransmitted and normal operations to continue.

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Conclusion

Based upon the foregoing, the Commission should reject the unsubstantiated claims raised by EIBASS. The record amply demonstrates that MMN devices will incorporate a full array of effective interference mitigation techniques and can co-exist with RPU stations on a secondary, non-harmful interference basis.

Pursuant to Section 1.1206(b) of the Commission's rules, this letter is being filed electronically with your office.

Yours very truly,

/s/ Cheryl A. Tritt
Cheryl A. Tritt
Counsel to the Alfred Mann Foundation for
Scientific Research

cc: Geraldine Matisse
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