

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)
)
Amendment of the Commission’s Rules to Provide) ET Docket No. 08-59
Spectrum for the Operation of Medical Body Area)
Networks)

To: The Commission:

**COMMENTS OF PHILIPS HEALTHCARE AND
GE HEALTHCARE**

Philips Healthcare Systems (“Philips”) and GE Healthcare (“GE”) submit these comments in response to the Further Notice of Proposed Rulemaking (“Further Notice”) in the above captioned proceeding¹ to address Commission selection of a spectrum coordinator(s) for the 2360-2390 MHz band that is to be shared between Aeronautical Mobile Telemetry (“AMT”) as primary user and Medical Body Area Networks (“MBAN”) as secondary user.²

Consistent with their filings at an earlier stage in this proceeding,³ Philips and GE strongly support appointment of a single MBAN coordinator familiar with the microcosm of hospital spectrum use and health care needs as well as expert in technical spectrum propagation and coordination issues. In particular and especially important, the MBAN coordinator must be

¹ Amendment of the Commission’s Rules to Provide Spectrum for the Operation of Medical Body Area Networks, *First Report and Order and Further Notice of Proposed Rulemaking*, 27 FCC Rcd 6422 at 6457-6460 ¶¶ 75-85 (2012) (“*Further Notice*”).

² Operation in the 2390-2400 MHz band is not subject to registration or coordination, *see Further Notice* at 6449, n.182.

³ *See* Philips Healthcare and GE Healthcare, *ex parte* at pp. 4-5 filed in this docket dated May 10, 2011; and Philips Healthcare, GE Healthcare, AFTRCC, and ASHE, *ex parte* filed in this docket dated June 3, 2011 (“June 3 Ex Parte”).

capable of interacting with the relatively small and specialized medical community while correctly applying sound scientific radiofrequency signal propagation principles in specific locations to correctly address potentially important instances in which line-of-sight exists between a hospital and an AMT receive site. Finally, the MBAN coordinator must be able to work effectively with the AMT coordinator to ensure safe and reliable operations for all entities concerned.

While the affected parties repeatedly have expressed agreement on the innovative spectrum sharing arrangement adopted in this proceeding, the multiple regulatory steps to appoint a coordinator could delay roll-out of MBAN networks to improve patient care in a cost-effective manner.⁴ Philips and GE accordingly urge the Commission to proceed expeditiously to meet its articulated target of concluding this proceeding expeditiously so that an MBAN coordinator(s) will be in place by no later than June, 2013.⁵

A Single MBAN Coordinator Would Simplify the Coordination Process, Reduce the Costs of Coordination, and Expedite the Deployment of MBAN Equipment

Philips and GE strongly agree with the FCC's proposal to select a single MBAN coordinator.⁶ The interested parties who helped develop the spectrum-sharing proposals submitted to the Commission – Philips Healthcare; GE Healthcare; the Aerospace & Flight Test Radio Coordinating Council “AFTRCC”); and the American Society for Healthcare Engineering of the American Hospital Association (“ASHE”) – consistently expressed their preference for a

⁴ The MBAN rules will become effective 30 days after publication in the Federal Register, except for those that contain information collection requirements. We recognize that petitions for reconsideration to fine-tune some aspects of the rules might be filed after publication, but we are unaware of any party planning to request such wholesale revisions that the initial MBAN roll-out would be delayed or endangered.

⁵ See *Further Notice* at 6456 ¶ 73.

⁶ *Id.* at ¶ 78.

single coordinator.⁷ Having a single coordinator will simplify the coordination process, accelerate initial implementations, reduce the costs of coordination in the longer term, and generally expedite overall deployment of MBAN networks. A single coordinator is consistent with frequency coordinator designations by the Commission in some of the other services, most importantly including WMTS used in the same hospitals where MBAN networks will be used, and in the AMT which all MBAN operations must protect in the 2360-2390 MHz spectrum.⁸

A single point-of-contact is highly desirable for hospitals, the AMT coordinator, and the MBAN device manufacturers. Knowledge of the microcosm of hospital spectrum use and health care needs, as well as expertise in technical spectrum propagation and coordination issues, will be required to carry out MBAN registration and coordination. The MBAN coordinator must be capable of interacting with and understanding the needs of the relatively small and specialized hospital community while correctly applying sound scientific radiofrequency signal propagation principles in specific locations to correctly address the small but potentially important number of cases in which line-of-sight exists between a hospital and an AMT receive site. Finally, the MBAN coordinator must be able to work effectively with the AMT coordinator to ensure safe and reliable operations for all entities concerned. For all of these reasons, and as the Commission has done for AMT and WMTS, we urge that a single coordinator be selected.

⁷ See, e.g., June 3 Ex Parte at 1.

⁸ See, e.g., Request by Aerospace & Flight Test Radio Coordinating Council for Designation as a Recognized Frequency Advisory Committee, 17 F.C.C.2d 525 (1969) and 47 C.F.R. § 87.305 (designation of AFTRCC as the single coordinator for the AMT spectrum, including the 2360-2390 MHz spectrum for which MBAN coordination is required); Amendment of Parts 2 and 95 of the Commission's Rules to Create a Wireless Medical Telemetry Service, Report and Order, 15 FCC Rcd 11206 at 11218-19 at ¶ 36 (2000) (designation of ASHE as the single WMTS database coordinator for operations in the same hospitals where MBAN coordination will be required). More recently, earlier this year the Wireless Telecommunications Bureau and Media Bureau jointly designated a single frequency coordinator and point of contact for Broadcast Auxiliary Service (BAS) operations at certain events, see Public Notice DA 12-1028, 27 FCC Rcd 7304 (released June 29, 2012).

Finally, an MBAN coordinator should be appointed for at least 10 years with an expectation of renewal. Doing so will help ensure a consistent commencement of MBAN monitoring during the early years. Ten years also will support substantial investment in developing and acquiring the tools needed for successful coordination. This is especially important in Line-of-Sight (“LOS”) situations, where expertise and experience may be especially important.

Selection Criteria Should Emphasize Experience With The Health Care Industry and Knowledge of Propagation Software Tools and Signal Propagation

Philips and GE support the MBAN coordinator qualifications as outlined in the Further Notice.⁹ In particular, experience with the wireless systems already used in the health care industry, such as WMTS, should be required. Equally important, the successful candidate(s) should be required to demonstrate up-to-date knowledge and experience with state-of-the-art software propagation tools and an ability to make on-site measurements if necessary to determine if a site is likely to interfere with AMT operations and to prescribe mitigation techniques that might permit MBAN operation while fully safeguarding AMT operations.

Since this is shared spectrum with MBAN the secondary user, we would expect the MBAN coordinator to be able to work with the AMT coordinator to design solutions acceptable to both AMT and MBAN users. The required expertise must go beyond a mere ability to maintain a database and accurately calculate LOS distances. Because of the interactive nature of the requirements in some small but potentially important subset of coordinations, we expect more than theoretical knowledge from the MBAN coordinator. It is important that the

⁹ *Further Notice* at ¶¶ 80-82.

coordinator be fully familiar with the hospital environment and technological propagation mitigation tools so that robust technical solutions can be designed where and when required.

For the above reasons, we feel that a coordinator who contracts for expert assistance, such as ASHE does with Comsearch for WMTS, is in the public interest.¹⁰ The best of both worlds is achieved by joining deep experience with health care facilities with expert radiofrequency propagation assistance. Indeed, the Commission's own experience with relying on outside coordinators is somewhat analogous and demonstrates the feasibility and advantages of such relationships.¹¹ Therefore we would view favorably an MBAN coordinator who contracts for expertise.

Of course, the Commission and other agencies hold their selectees responsible for administration of the relevant duties, just as in the private sector one often can hold its contractor responsible for deficiencies. Parenthetically, the Commission's list of approved coordinators for various spectrum bands also suggests that any applicant who would obtain technical expertise by contractual arrangements would have multiple potential sources. While we would expect the coordinator itself to be fully responsible to the Commission for complying with the Commission's MBAN coordination requirements, there are clear advantages to obtaining deep expertise for the type of innovative spectrum analysis that may be needed in some instances for MBAN deployment.

¹⁰ See *id.* at ¶ 82.

¹¹ See, e.g., 47 C.F.R. § 90.35 (designating industry-specific coordinators for certain Industrial/Business Pool frequencies).

Proposed MBAN Coordinator Selection Process Should be Expedited

Philips and GE support the Commission's proposed procedures for designating an MBAN coordinator, its proposal to require coordination on a non-discriminatory basis, and its proposal to leave fee-setting to the coordinator.¹² We agree that the MBAN user should reimburse the costs of coordination incurred by virtue of a proposed MBAN deployment, including reasonable costs of both the MBAN and AMT coordinators for both commercial and federal coordination attributable to MBAN deployment. However, fees should be limited to reasonable costs and expenses for MBAN-related coordination activities, and the manner of collection should be left to the coordinators to work out. In our experience, the fees charged by AFTRCC for AMT coordination and those charged by ASHE for WMTS coordination historically have been reasonable, and we would expect that to continue for these or any other designated coordinator(s).

Philips and GE urge the Commission to proceed expeditiously to meet its articulated target of concluding this proceeding so that an MBAN coordinator(s) will be in place by no later than June 2013.¹³ This is essential. MBAN implementation cannot begin until:

- this proceeding concludes,
- applicants are solicited,
- an MBAN coordinator(s) is designated,
- the coordinator(s) conclude an agreement with the Commission,
- the coordinator(s) negotiate and enter into one or more agreements with the AMT coordinator, and finally,

¹² See *Further Notice* at ¶ 85.

¹³ *Id.* at n.5. Commission staff members have indicated that appointment of an MBAN coordinator by June 2013 is "a generous period of time to complete the process." See Philips Healthcare, GE Healthcare, AFTRCC, and ASHE, *ex parte* filed in this docket dated May 14, 2011, at 2.

- the coordinator(s) constructs the systems necessary to perform the MBAN registration and coordination functions.

Only after the above steps are completed can the first coordination take place. The record in the earlier stages of this proceeding clearly demonstrates the public interest in bringing the substantial benefits of MBAN technology to patients at the earliest opportunity and there is a broad consensus on how to proceed among the parties. A speedy Commission selection process is necessary to begin to bring the health benefits of MBAN to patients quickly.

Another issue impacting MBAN implementation is the speed with which the MBAN and AMT coordinators agree upon how to proceed. Effective coordination will require a close working relationship between the two coordinators, as the Commission recognized in the Further Notice. The two coordinators “will have to agree to the procedures they will use to determine when coordination is required and how it is done, but we also are confident that the coordinators will be technically competent and will fully cooperate to develop mutually agreeable procedures to create coordination agreements.”¹⁴ No coordination is possible until some sort of arrangement is concluded between the coordinators.

Given the public interest in implementation as soon as possible, we suggest that at a minimum the MBAN coordinator selectee commit to immediately engaging AFTRCC in discussions and that the MBAN and AMT coordinators be required to report to the Commission no later than 90 days after designation of the MBAN coordinator that agreement has been reached that at a minimum would allow coordination in non-Line-of-Sight (“NLOS”) situations, or to explain to the Commission the status of efforts to reach such an agreement.¹⁵ Such an agreement should be relatively quick given application of standard software packages readily

¹⁴ *Id.* at ¶ 69.

¹⁵ Up to 95 percent of hospitals are located NLOS to AMT receive sites.

available in the marketplace which Philips, GE, and AFTRCC all used for their analyses leading up to their agreement. If no agreement is reached, we would require monthly reporting thereafter and ask that the Commission initiate a meeting with the coordinators to consider any necessary action if no agreement is forthcoming within six months of the designation.

CONCLUSION

The public interest is in bringing the substantial benefits of MBAN technology to patients as soon as possible. We appreciate the Commission articulating a target of having an MBAN coordinator(s) in place by no later than June, 2013. As discussed above, the proposals to carry out this task are reasonable and we believe should be implemented quickly.

Respectfully submitted,



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