

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

In the Matter of )  
 )  
Commission Staff Requests That Interested )  
Parties Supplement the Record on Draft ) WT Docket No. 07-293  
Interference Rules for Wireless )  
Communications Service and Satellite ) IB Docket No. 95-91  
Digital Audio Radio Service ) GEN Docket No. 90-357

To: The Commission

**COMMENTS OF PHILIPS HEALTHCARE SYSTEMS**

Philips Healthcare Systems (“Philips”) submits these comments in response to the Commission Staff request for comment on draft interference rules for the Wireless Communications Service (“WCS”) and Satellite Digital Audio Radio Service (“SDARS”).<sup>1</sup>

**INTRODUCTION**

In ET Docket No. 08-59, the Commission proposes a secondary allocation in the 2360-2400 MHz band, immediately adjacent to the WCS “upper band” of 2345-2360 MHz, to provide spectrum critically needed for new Medical Body Area Network (“MBAN”) healthcare systems.<sup>2</sup> Philips supports such a new secondary allocation. In this proceeding, Philips respectfully requests that the Commission recognize the potential impact of the proposed out-of-band

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<sup>1</sup> *Commission Staff Requests That Interested Parties Supplement the Record on Draft Interference Rules for Wireless Communications Service and Satellite Digital Audio Radio Service*, DA 10-592 (released April 2, 2010), Order Extending Comment Period, DA 10-622 (released April 13, 2010).

<sup>2</sup> ET Docket No. 08-59, *Amendment of the Commission’s Rules to Provide Spectrum for the Operation of Medical Body Area Networks*, Notice of Proposed Rulemaking, FCC 09-57, 24 FCC Rcd 9589 (2009).

emission (“OOBE”) limits for WCS upon the proposed future use of the adjacent spectrum for MBAN systems.

Employing wireless devices to monitor patients is critical to achieving the national goals adopted by Congress in the HITECH Act of improving patient care, creating electronic health records, and reducing healthcare costs.<sup>3</sup> While Philips does not oppose *per se* the proposed OOBE limits, the proposed OOBE emissions do require analysis of the trade-offs against current and future uses of the adjacent spectrum. The record does not evidence that this potential impact has been fully recognized. Care should be taken in this proceeding to assess the impact upon the proposed future use in the adjacent spectrum and to not inadvertently impair achievement of the national goals set forth in the HITECH Act cited above.

## **PHILIPS HEALTHCARE**

Philips is the world leader in patient monitoring equipment<sup>4</sup> and one of the largest suppliers of medical equipment in the United States. For over 25 years, Philips has delivered solutions that acquire, analyze, and present patient data in ways that are meaningful for clinicians in the most challenging clinical areas. We provide clinical informatics and patient care solutions that help improve and save lives, lower the overall cost of healthcare, and simplify clinician workflow.

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<sup>3</sup> See *Health Information Technology for Economic and Clinical Health Act* (“HITECH Act”), adopted as Title XIII of the American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5 (2009) (“ARRA”). See also <http://healthit.hhs.gov>.

<sup>4</sup> See F&S Market Research Report 2000 - 2008, based on the countries composing 90% of the world market (United States, Canada, France, Germany, Italy, Spain, United Kingdom, Belgium, Netherlands, Russia, Brazil, Mexico, Japan, China, India, Australia, Turkey and Malaysia).

Philips operates in five main healthcare areas: healthcare information, diagnostic imaging systems, clinical solutions, customer services and home healthcare solutions. Its product lines include best in-class technologies in patient monitoring and remote telehealth monitoring as well as in radiology and cardiology enterprise imaging and information management, eICU, X-ray, ultrasound, magnetic resonance, computed tomography, nuclear medicine, PET, personal emergency response systems, and resuscitation products.

## **MBAN DEVICES**

Introduction of MBAN devices for wireless patient monitoring is an essential component to improving patient outcomes and lowering healthcare costs. Through low-cost, wireless devices, patient monitoring can be extended to most if not all patients in many healthcare facilities. However, this advance will occur only if the Commission allocates sufficient and suitable spectrum to enable inexpensive wireless devices to monitor multiple key parameters of patients. With such monitoring, changes in a patient's condition can be recognized at an early stage and appropriate action taken. Achieving this result can substantially improve the outcome for the patient *and* avoid the need for costly acute intervention measures. Patient care will be measurably improved and substantial costs saved.

Deployment of MBAN devices in hospitals and related healthcare facilities will enable sensors to reliably and inexpensively collect multiple medical parameters simultaneously and to relay the monitoring information wirelessly so that clinicians can respond rapidly. Such systems often will include software based upon proven algorithms to identify trends and alert care providers to possible adverse changes earlier than possible through patient observation of individual parameters alone. This is the exciting promise of MBAN -- more efficient and accurate monitoring of multiple parameters so that intervention can be made at the earliest sign

of trouble. Quicker intervention saves lives, improves outcomes, and lowers costs by acting before conditions become life threatening.

**GOOD SPECTRUM MANAGEMENT REQUIRES THAT THE IMPACT OF OOBЕ ON FUTURE USES OF ADJACENT SPECTRUM BE CONSIDERED**

Several years ago healthcare providers identified suitable spectrum for MBAN devices. Philips has proposed that these devices be limited to indoor operation at defined healthcare facilities and operate with 1 mW (EIRP) in the 2360-2390 MHz spectrum that is adjacent to the WCS upper spectrum band. Philips' spectrum analyses concluded that MBAN devices could share the proposed frequencies on a secondary basis without interfering with the primary users nor suffer interference from them by using modern proven cognitive technologies. Philips also determined that this spectrum is unique in allowing production of the sensors and related devices at the low cost that is key to containing the healthcare cost of such monitoring systems.

Philips has full confidence that its intended technologies will achieve these goals and is fully able to design systems for sharing with the incumbent primary users of the proposed 2360-2400 MHz band in the current spectrum environment. Philips also believes that emissions outside the bands allocated and assigned users should be kept to an absolute minimum in order to not foreclose future uses, both known and unknown. Such OOBЕ can be a significant detriment to efficient spectrum use and by definition does not contribute to the usefulness of the intended authorized transmissions, but rather constitutes a type of spectrum pollution.

It would benefit other users, both current and future, if for WCS devices the Commission would minimize the permitted OOBЕ level much as it did in the "White Spaces" proceeding for devices operating on 602-608 and 614-620 MHz to protect the 608-614 MHz band (TV channel

37).<sup>5</sup> Keeping OOB limits to absolute minimums would allow users on both sides of the spectrum division to design their equipment based upon a stable spectrum environment and maximize their use of the spectrum resource.

Philips' proposed MBAN devices will be designed to operate at 1 mW in the band adjacent to WCS, allowing substantial spectrum reuse within healthcare facilities and achieving exceedingly high spectrum efficiency while providing critical healthcare systems at low cost. These and future uses should be taken into account when considering OOB limits for the WCS service.

## **CONCLUSION**

OOB inevitably affects use of the adjacent spectrum and therefore should be kept at the absolute minimum within acceptable technological and economic requirements. We urge the

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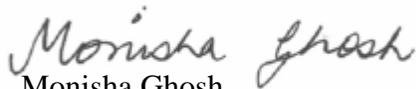
<sup>5</sup> See 47 C.F.R. 15.709(c)(4) (OOB limits for 602-620 MHz) and *Unlicensed Operation in the TV Broadcast Bands*, Second Report and Order and Memorandum Opinion and Order, 23 FCC Rcd. 16807 at paras. 233-236 (2008).

Commission to enable the most productive use of the dwindling spectrum natural resource in a responsible manner in this proceeding by considering all current and contemplated uses of the adjacent spectrum in its consideration of permissible OOB for WCS transmitters.

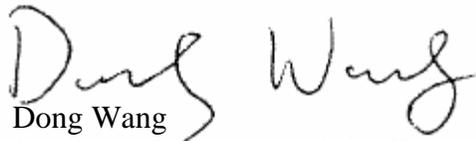
Respectfully submitted,



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