

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
GE Healthcare Petition for Rulemaking)	ET Docket No. 08-59
for New Medical Body Area Network)	
Service at 2360-2400 MHz)	

Via the ECFS

EX PARTE COMMENTS OF IEEE 802

IEEE 802¹ hereby submits its Comments in the above-captioned Proceeding.²

IEEE 802, as a leading consensus-based industry standards body, produces standards for wireless networking devices, including wireless local area networks (“WLANs”), wireless personal area networks (“WPANs”), and wireless metropolitan area networks (“Wireless MANs”). We appreciate the opportunity to provide these comments to the Commission.

INTRODUCTION

1. On April 24, 2008, the Commission issued a Public Notice, under ET Docket 08-59, in which the Commission seeks comment on an *ex parte* comment from GE Healthcare (GEHC) that was deemed a petition for rulemaking under Section 1.401 of the Commission’s rules.
2. GEHC has provided a comprehensive proposal for a new allocation on a secondary basis in the 2360-2400 MHz band and for service rules for a new Medical Body Area Network Service under Part 95.

¹ The IEEE Local and Metropolitan Area Networks Standards Committee (“IEEE 802” or the “LMSC”)

² This document represents the views of IEEE 802. It does not necessarily represent the views of the IEEE

3. The IEEE 802.15 WPAN Task Group 6 was formed to define a standard for Body Area Networks. The scope, needs and objectives of the 802.15.6 Task Group are defined in the group's project authorization request (PAR) ³ and include highly reliable, medical body area networks as proposed by the GEHC petition.
- **Scope:** This is a standard for short range, wireless communication in the vicinity of, or inside, a human body (but not limited to humans). It can use existing ISM bands as well as frequency bands approved by national medical and/or regulatory authorities. Support for Quality of Service (QoS), extremely low power, and data rates up to 10 Mbps is required while simultaneously complying *with strict non-interference guidelines* where needed. This standard considers effects on portable antennas due to the presence of a person (varying with male, female, skinny, heavy, etc.), radiation pattern shaping to minimize Specific Absorption Rate into the body, and changes in characteristics as a result of the user motions.
 - **Purpose:** The purpose is to provide an international standard for a short range (i.e. about human body range), low power and highly reliable wireless communication for use in close proximity to, or inside, a human body. Data rates, typically up to 10 Mbps, can be offered to satisfy an evolutionary set of entertainment and *healthcare services*. Current Personal Area Networks (PANs) do not meet the medical (proximity to human tissue) and relevant communication regulations for some application environments. They also do not support the *combination of reliability (QoS), low power, data rate and noninterference* required to broadly address the breadth of body area network applications.
 - **Need for the Project:** There is a need for a standard optimized for ultra low power devices and operation on, in or around the human body to serve *a variety of applications including medical* and personal entertainment. Examples of the

as a whole or the IEEE Standards Association as a whole.

³ <https://development.standards.ieee.org/P625900033/par>

applications served by the proposed standard are: Electroencephalogram (EEG), Electrocardiogram (ECG), Electromyography (EMG), vital signals monitoring (temperature (wearable thermometer), respiratory, wearable heart rate monitor, wearable pulse oximeter, wearable blood pressure monitor, oxygen, pH value, wearable glucose sensor, implanted glucose sensor, cardiac arrhythmia), wireless capsule endoscope (gastrointestinal), wireless capsule for drug delivery, deep brain stimulator, cortical stimulator (visual neuro-stimulator, audio neuro stimulator, Parkinson's disease, etc...), remote control of medical devices such as pacemaker, actuators, insulin pump, hearing aid (wearable and implanted), retina implants, disability assistance, such as muscle tension sensing and stimulation, wearable weighing scale, fall detection, aiding sport training. This will include body-centric solutions for future wearable computers. In a similar vein, the same technology can provide effective solutions for personal entertainment as well. The existence of a body area network standard will provide opportunities to expand these product features, better healthcare and well being for the users. It will therefore result in economic opportunity for technology component suppliers and equipment manufacturers.

4. IEEE 802 notes that there is a benefit of specialized, protected spectrum for coexistence and noninterference of medical body area networks.

CONCLUSION

5. IEEE 802 recommends that the FCC support this petition for rulemaking and the establishment of the Medical Body Area Network Service. IEEE 802 encourages the Commission to move expeditiously towards an NPRM to make the next generation of wireless medical devices a reality.

Respectfully submitted,

/s/

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