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Project	<b>IEEE 802.16 Broadband Wireless Access Working Group</b> < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >	
Title	<b>Call for Contributions: Requirements for WirelessHUMAN™ Systems</b>	
Date Submitted	<b>2000-04-10</b>	
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Re:	Proposal for the WirelessHUMAN™ Study Group < <a href="http://www.ieee802.org/16/human/docs/80216hp-00_01.pdf">http://www.ieee802.org/16/human/docs/80216hp-00_01.pdf</a> >	
Abstract	At the March IEEE 802 Plenary Meeting, the 802.16 WirelessHUMAN™ Study Group was created to investigate the feasibility of public MAN access in the unlicensed 5-6 GHz bands and to evaluate differences and synergies with the IEEE 802.11 and 802.15 group efforts. This call for contributions initiates that process.	
Purpose	To identify MAC/PHY layer design issues/requirements for a WirelessHUMAN™ system in the 5-6 GHz bands.	
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## Call for Contributions

### Requirements for WirelessHUMAN™ Systems

Durga P. Satapathy

Chair, IEEE 802.16 WirelessHUMAN™ Study Group

The 802.16 WirelessHUMAN™ (Wireless High-speed Unlicensed Metropolitan Area Networks) Study Group seeks to determine the functional requirements for public MAN operation in the 5-6 GHz unlicensed bands, with primary focus on the 5.25-5.35 GHz and the 5.725-5.825 GHz UNII bands. The WirelessHUMAN™ group recognizes the significant achievements of the IEEE 802.11 and IEEE 802.15 members in addressing unlicensed operation for wireless LAN and wireless PAN systems respectively. The current goal of this study group is to identify the unique system design issues/requirements of WirelessHUMAN™ systems from a MAC/PHY layer perspective that justify the need for an IEEE 802 standard for WirelessHUMAN™ systems. Upon identification of such justification, the WirelessHUMAN™ group will recommend procedures to build upon the existing standardization efforts of IEEE 802.16, 802.11, IEEE 802.15, and ETSI BRAN to define an optimal WirelessHUMAN™ air interface, and then commence drafting a PAR for an IEEE WirelessHUMAN™ standard.

Some of the key issues before the WirelessHUMAN™ group:

- What is the current state of the unlicensed industry?
- What are the applications for WirelessHUMAN™ systems?
- What are the existing regulations in the various unlicensed bands, and what unlicensed bands may be appropriate for WirelessHUMAN™ systems?
- What mechanisms for interference avoidance/suppression, resource sharing, and ensuring adequate performance exist in unlicensed bands? Are existing FCC regulations sufficient for providing the QoS required of WirelessHUMAN™ systems, or are additional rules/regulations or modification of existing rules for unlicensed operation necessary?
- What are the unique system design issues/requirements of WirelessHUMAN™ systems from a MAC/PHY layer perspective?
  - Is an 802.16-like MAC appropriate? If not, then why not?
  - Is an 802.11-like MAC appropriate? If not, then why not?
  - Is an 802.16.3-like PHY appropriate? If not, then why not?
  - Is an 802.11a-like PHY appropriate? If not, then why not?
  - Are the ETSI BRAN standards a good starting point?
  - What elements, design issues/approach of 802.15 systems are applicable to WirelessHUMAN™ systems?
- Should the Study Group write a PAR to proceed with a standard? If so, should it try for July or wait until November?

Contributions are requested on the issues identified above to meet the initial objectives of the WirelessHUMAN™ study group. These contributions will serve to initiate discussion at the upcoming 802.16 Session #7 in

Gaithersburg, MD (May1-5, 2000). Contributions should be submitted using Revision 8 of the 802.16 Document Submission Template <[http://www.ieee802.org/16/docs/802\\_16\\_template.doc](http://www.ieee802.org/16/docs/802_16_template.doc)>. Contributions will be considered non-proprietary and will be posted as soon as possible after receipt for public access on the 802.16 web site. Contributions should be submitted no later than 27 April 2000 to be addressed at the meeting.

Email your contribution to each of the following:

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