**Submitter Email:** apurva\_mody@yahoo.com
**Type of Project:** Amendment to IEEE Standard 802.22-2011

**1.1 Project Number:** P802.22c
**1.2 Type of Document:** Standard
**1.3 Life Cycle:** Full Use

**2.1 Title:** Standard for Information technology-- Local and metropolitan area networks-- Specific requirements-- Part 22: Cognitive Wireless RAN Medium Access Control (MAC) and Physical Layer (PHY) specifications: Policies and procedures for operation in the TV Bands Amendment: Radio Environment Map

**3.1** **Working Group:** Wireless Regional Area Networks Working Group (C/LM/WG802.22)
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**3.2** **Sponsoring Society and Committee:** IEEE Computer Society/LAN/MAN Standards Committee (C/LM)
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**4.1 Type of Ballot:** Individual
**4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot:** 11/2014
**4.3 Projected Completion Date for Submittal to RevCom:** 05/2015

**5.1 Approximate number of people expected to be actively involved in the development of this project:** 20
**5.2.a. Scope of the complete standard:** This standard specifies the air interface, including the cognitive medium access control layer (MAC) and physical layer (PHY), of point-to-multipoint wireless regional area networks comprised of a professional fixed base station with fixed and portable user terminals operating in the VHF/UHF TV broadcast bands between 54 MHz to 862 MHz.

**5.2.b. Scope of the project:** This amendment adds new material to Clause 10 of the IEEE 802.22-2011 on cooperative spectrum sensing. This amendment adds new material on Spectrum Sensing Information Representation, Dissemination and Fusion. If provides ways in which the spectrum sensing information can be stored, interpreted and fused. This information includes spectrum sensing information such as power, carrier frequency, signal classification and other features such as device locations and their activities, policies and regulations, geographical features, services, and how to store this information. REM is a dumb database that is consulted by intelligent entities

**5.3 Is the completion of this standard dependent upon the completion of another standard:** No

**5.4 Purpose:** This standard provides a method by which the spectrum sensing information can be stored, interpreted and fused. Wireless operation in many of the bands that allow spectrum sharing require an access to a database service. This amendment provides a way for the database service to get an access to the local spectrum sensing information, store it, and use that information to create a much better understanding of the spectrum usage patterns in that area.

**5.5 Need for the Project:**

Although the regulators in many countries are moving in the direction of using a database service for accessing white space spectrum (e. g. TV Bands), However, in many developing countries, not much documentation exists on the primary user deployments such as their locations, the power that they use, the antenna patterns. Hence, it is difficult for a database service to create an accurate database to enable white spaces and spectrum sharing operation. The information contained in the database could be complemented by local spectrum sensing information, coming from various IEEE 802.22 and other cognitive radios. This in turn could be used to create a much better and more accurate database service. The current IEEE 802.22 standard does not address this problem. Hence the need for this project.

**5.6 Stakeholders for the Standard:**

**Intellectual Property**
**6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?:** No
**6.1.b. Is the Sponsor aware of possible registration activity related to this project?:** No

**7.1 Are there other standards or projects with a similar scope?:** Yes
**If Yes please explain:** P1900.6

**and answer the following**   **Sponsor Organization:** DYSPAN-SC
   **Project/Standard Number:** P1900.6
   **Project/Standard Date:** 02-Feb-2011
   **Project/Standard Title:** IEEE Standard for Spectrum Sensing Interfaces and Data Structures for Dynamic Spectrum Access and Other Advanced Radio Communication Systems
**7.2 Joint Development**
   **Is it the intent to develop this document jointly with another organization?:** No

**8.1 Additional Explanatory Notes (Item Number and Explanation):**