

P802.22.3

Submitter Email: apurva_mody@yahoo.com

Type of Project: Modify Existing Approved PAR

PAR Request Date: ~~09-Mar-2018~~

PAR Approval Date: ~~14-May-2018~~

PAR Expiration Date: ~~31-Dec-2019~~

Status: Modification to a Previously Approved PAR

Root PAR: ~~P802.22.3~~ **Approved on:** ~~21-Aug-2014~~

1.1 Project Number: ~~P802.22.3~~

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Title: Standard for Spectrum Characterization and Occupancy Sensing

3.1 Working Group: ~~Wireless Regional Area Networks Working Group (C/LM/WG802.22)~~

Contact Information for Working Group Chair

Name: ~~Apurva Mody~~

Email Address: ~~apurva_mody@yahoo.com~~

Phone: ~~404-819-0314~~

Contact Information for Working Group Vice-Chair

Name: ~~Oliver Holland~~

Email Address: ~~oliver.holland@ieee.org~~

Phone: ~~+44-7916-311973~~

3.2 Sponsoring Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee (C/LM)

Contact Information for Sponsor Chair

Name: Paul Nikolich

Email Address: p.nikolich@ieee.org

Phone: 8572050050

Contact Information for Standards Representative

Name: James Gilb

Email Address: gilb@ieee.org

Phone: 858-229-4822

4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: ~~11/2018~~

4.3 Projected Completion Date for Submittal to RevCom

Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: ~~10/2019~~

5.1 Approximate number of people expected to be actively involved in the development of this project: 10

5.2 Scope: This Standard defines a Spectrum Characterization and Occupancy Sensing (SCOS) System. It defines the formats for system configuration and spectrum measurement parameters. It includes protocols for reporting measurement information that allow the coalescing of results from multiple systems. The standard leverages interfaces and primitives that are derived from IEEE Std. 802.22-2011. It uses any available transport mechanism to control and manage the system, and to share sensing data. The standard provides means for conveying value added sensing information to various spectrum database services.

Changes in scope: This Standard defines a Spectrum Characterization and Occupancy Sensing (SCOS) System. It ~~specifies~~ **defines** ~~measurement~~ **the parameters** ~~formats for system configuration and devices~~ **spectrum behaviors** ~~measurement parameters~~. It includes protocols for reporting measurement information that ~~enable~~ **allow the** coalescing ~~the~~ **of** results from multiple ~~such devices~~ **systems**. The standard leverages interfaces and primitives that are derived from IEEE Std. 802.22-2011, ~~and~~ **It** uses any ~~on-line~~ **available** transport mechanism ~~available to achieve~~ **control and manage the control** system, ~~and management~~ **to of share the sensing system data**. Interfaces ~~The~~ **and standard primitives** ~~provides~~ **are means** provided for conveying value added sensing information to various spectrum ~~sharing~~ database services. This standard specifies a device operating in the bands below 1 GHz and a second device operating from 2.7 GHz to 3.7 GHz.

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

5.4 Purpose: The purpose is to specify operating characteristics of the components of the Spectrum Characterization and Occupancy Sensing

System.

5.5 Need for the Project: Recently, Federal Communications Commission (FCC), National Telecommunications and Information Administration (NTIA) in the United States and other regulators such as OfCom, UK, have broadened their horizons for cooperative spectrum sharing approaches in order to optimize spectrum utilization. For example see the PCAST Report (See §8.1). FCC/ NTIA are in the process of opening new spectrum bands which specifically require multi-levels of regulated users (e. g. primary, opportunistic etc.) to share the spectrum. There is emphasis on greater spectrum efficiencies, spectrum sharing and spectrum utilization, which requires not only database driven configuration of the radios, but systems that can provide spectrum occupancy at a particular location and at a particular time.

This standard will help fulfil this need by creating a Spectrum Characterization and Occupancy Sensing System. This will enable improved spectrum utilization and support for other shared spectrum applications, hence benefitting the regulators and users alike.

5.6 Stakeholders for the Standard: Manufacturers and users of semiconductor, personal computer, wireless devices and sensors, consumer electronic devices, mobile devices, wireless internet service providers etc.

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: There are no completed or on-going activities that are similar to the proposed SOS project within the IEEE 802 community. However, there are a few other similar standards in this space which are listed below.

a. IEEE Std. 1900.6-2011: IEEE Standard for Spectrum Sensing, Interfaces and Data Structures for Dynamic Spectrum Access and other Advanced Radio Communications Systems

b. IEEE P1900.6a: IEEE Draft Standard for Spectrum Sensing Interfaces and Data Structures for Dynamic Spectrum Access and other Advanced Radio Communication Systems Amendment: Procedures, Protocols and Data Archive Enhanced Interfaces

It is to be noted that although these P1900 standards describe communication protocols, they do not specify the operating characteristics for the sensor.

and answer the following

Sponsor Organization: IEEE P1900 Dynamic Spectrum Access Networks Standards Committee

Project/Standard Number: IEEE Std. 1900.6-2011

Project/Standard Date: 22-Apr-2011

Project/Standard Title: a. IEEE Std. 1900.6-2011: IEEE Standard for Spectrum Sensing, Interfaces and Data Structures for Dynamic Spectrum Access and other Advanced Radio Communications Systems

b. IEEE P1900.6a: IEEE Draft Standard for Spectrum Sensing Interfaces and Data Structures for Dynamic Spectrum Access and other Advanced Radio Communication Systems Amendment: Procedures, Protocols and Data Archive Enhanced Interfaces

7.2 Joint Development

Is it the intent to develop this document jointly with another organization?: No

8.1 Additional Explanatory Notes: This provides further explanation to Item 5.5 on the Need the Spectrum Characterization and Occupancy Sensing System.

[1] President' s Council of Advisors on Science and Technology Report - Realizing Full Potential of the Government Held Spectrum to Spur Economic Growth.

http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast_spectrum_report_final_july_20_2012.pdf