This PAR is valid until 31-Dec-2018.
**PAR Extension Request Date:**01-Feb-2018
**Extension Request Submitter Email:**apurva\_mody@yahoo.com
**Number of Previous Extensions Requested:**0
**1. Number of years that the extension is being requested:**2
**2. Why an Extension is Required (include actions to complete):**The 802.22.3 PAR was approved in 2014, however the group really coalesced in 2016 time-frame.

Since then, the Task Group has completed Three rounds of Working Group Ballots. It is likely that the draft will be sent to the Sponsor Ballot by November 2018.

**3.1. What date did you begin writing the first draft:**10-Jan-2017
**3.2. How many people are actively working on the project:**15
**3.3. How many times a year does the working group meet?**
   **In person:**3
   **Via teleconference:**15
**3.4. How many times a year is a draft circulated to the working group:**2
**3.5. What percentage of the Draft is stable:**60%
**3.6. How many significant work revisions has the Draft been through:**3
**4. When will/did initial sponsor balloting begin:**01-Nov-2018
**When do you expect to submit the proposed standard to RevCom:**01-Oct-2019
**Has this document already been adopted by another source? (if so please identify):**No

For an extension request, the information on the original PAR below is not open to modification.

**Submitter Email:**apurva\_mody@yahoo.com
**Type of Project:**New IEEE Standard

**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 20 7848 1916

**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:**11/2016
**4.3 Projected Completion Date for Submittal to RevCom
Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.:**10/2017

**5.1 Approximate number of people expected to be actively involved in the development of this project:**30
**5.2 Scope:**This Standard defines a Spectrum Characterization and Occupancy Sensing (SCOS) System. It specifies measurement parameters and device behaviors. It includes protocols for reporting measurement information that enable coalescing the results from multiple such devices. The standard leverages interfaces and primitives that are derived from IEEE Std. 802.22-2011, and uses any on-line transport mechanism available to achieve the control and management of the system. Interfaces and primitives are 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