

# P1900.6b

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**Submitter Email:** [oliver.holland@ieee.org](mailto:oliver.holland@ieee.org)

**Type of Project:** Amendment to IEEE Standard 1900.6-2011

**PAR Request Date:** 10-Jul-2014

**PAR Approval Date:** 21-Aug-2014

**PAR Expiration Date:** 31-Dec-2018

**Status:** PAR for an Amendment to an existing IEEE Standard

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**1.1 Project Number:** P1900.6b

**1.2 Type of Document:** Standard

**1.3 Life Cycle:** Full Use

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**2.1 Title:** Standard for Spectrum Sensing Interfaces and Data Structures for Dynamic Spectrum Access and other Advanced Radio Communication Systems. Spectrum Database Interfaces Amendment

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**3.1 Working Group:** Spectrum Sensing in Advanced Radio Systems (COM/DySPAN-SC/DYSPAN-P1900.6)

**Contact Information for Working Group Chair**

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None

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**3.2 Sponsoring Society and Committee:** IEEE Communications Society/Dynamic Spectrum Access Networks Standards Committee (COM/DySPAN-SC)

**Contact Information for Sponsor Chair**

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None

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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:** 06/2017

**4.3 Projected Completion Date for Submittal to RevCom:** 05/2018

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**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 defines the information exchange between spectrum sensors and their clients in radio communication systems. The logical interface and supporting data structures used for information exchange are defined abstractly without constraining the sensing technology, client design, or data link between the sensor and client.

**5.2.b. Scope of the project:** This amendment adds procedures, protocols and message format specifications for the exchange of sensing related data, control data and configuration data between spectrum sensors and spectrum databases. In addition, it adds specifications for the exchange of sensing related data between the data archive and spectrum databases, and the cognitive engine and spectrum databases.

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

**5.4 Purpose:** The purpose of this standard is to define spectrum sensing interfaces and data structures for dynamic spectrum access (DSA) and other advanced radio communications systems that will facilitate interoperability between independently developed devices and thus allow for separate evolution of spectrum sensors and other system functions.

This amendment provides specifications to assist existing spectrum sharing systems based on spectrum databases through the use of IEEE 1900.6 distributed sensing systems. The intention is to enhance the information and capabilities of spectrum databases through the use of

**Changes in purpose:** The purpose of this standard is to define spectrum sensing interfaces and data structures for dynamic spectrum access (DSA) and other advanced radio communications systems that will facilitate interoperability between independently developed devices and thus allow for separate evolution of spectrum sensors and other system functions. **This amendment provides specifications to assist existing spectrum sharing systems based on spectrum databases through the use of IEEE 1900.6 distributed sensing systems. The intention is to enhance the information and capabilities of spectrum databases through the use of spectrum sensing information.**

spectrum sensing information.

**5.5 Need for the Project:** Spectrum databases are a mandatory part of many spectrum sharing systems, and the dominant technical solution supporting TV white spaces. Methods to improve the optimality of spectrum databases are needed, due to their use of probabilistic models.

Taking TV white spaces spectrum databases as an example, such improvements might allow the databases: (i) to verify their correct operation using the spectrum sensing information, (ii) to optimize their algorithms and calculations, and (iii) to detect more white space in a reliable way, through better knowledge of local context information.

**5.6 Stakeholders for the Standard:** A range of stakeholders will benefit from this amendment. Regulators will benefit through the use of this amendment to enhance the efficiency, reliability and robustness of their spectrum databases, as well as enhancing socio-economic impact through making more white space available. Operators or spectrum rights holders will benefit through greater spectrum availability, and through reliable enhancements to their in-house spectrum databases as might support concepts such as licensed-shared access. End-users will benefit through enhancements to mobile and wireless communications capacity and coverage, as well as reduced interference. Manufacturers will benefit through their spectrum sensing systems and associated logical procedures being able to feed spectrum databases, increasing the market for spectrum sensing solutions. Finally, the standard will increase the market for mobile and wireless communications devices in general.

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### **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

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**7.1 Are there other standards or projects with a similar scope?:** No

### **7.2 Joint Development**

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

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