

P802.22

Submitter Email: whu@ieee.org

Type of Project: Modify Existing Approved PAR

PAR Request Date: 19-Oct-2009

PAR Approval Date: 09-Dec-2009

PAR Expiration Date: 31-Dec-2010

Status: Modification to a Previously Approved PAR

Root PAR: P802.22 **Approved on:** 23-Sep-2004

Project Record: 802.22

1.1 Project Number: P802.22

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Title: Standard for Information Technology -Telecommunications and information exchange between systems - Wireless Regional Area Networks (WRAN) - 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

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

Contact Information for Working Group Chair

Name: wendong hu

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Contact Information for Working Group Vice-Chair

Name: Gerald Chouinard

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3.2 Sponsoring Society and Committee: IEEE Computer Society/Local and Metropolitan Area Networks (C/LM)

Contact Information for Sponsor Chair

Name: Paul Nikolich

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Contact Information for Standards Representative

None

4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 03/2010

4.3 Projected Completion Date for Submittal to RevCom: 07/2010

5.1 Approximate number of people expected to be actively involved in the development of this project: 50

5.2 Scope: 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 and 862 MHz.

Old Scope: This standard specifies the air interface, including the medium access control layer (MAC) and physical layer (PHY), of fixed point-to-multipoint wireless regional area networks operating in the VHF/UHF TV broadcast bands between 54 MHz and 862 MHz.

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

5.4 Purpose: This standard is intended to enable deployment of interoperable 802 multivendor wireless regional area network products, to facilitate competition in broadband access by providing alternatives to wireline broadband access and extending the deployability of such systems into diverse geographic areas, including sparsely populated rural areas, while preventing harmful interference to incumbent licensed services in the TV broadcast bands.

5.5 Need for the Project: There is a large, untapped market for broadband wireless access in rural and other unserved/underserved areas where wired infrastructure cannot be economically deployed. Products based on this standard will be able to serve those markets and increase the efficiency of spectrum utilization in spectrum currently allocated to, but unused by, the TV broadcast service.

5.6 Stakeholders for the Standard: Manufacturers and users of semiconductor, personal computer, enterprise networking devices, consumer electronic devices, home networking equipment, mobile devices.

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?: No

7.2 International Activities**a. Adoption**

Is there potential for this standard (in part or in whole) to be adopted by another national, regional or international organization?: Do Not Know

Organization:

Technical Committee Name:

Technical Committee Number:

Contact Name:

Phone:

Email:

b. Joint Development

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

c. Harmonization

Are you aware of another organization that may be interested in portions of this document in their standardization development efforts?: No

8.1 Additional Explanatory Notes (Item Number and Explanation): Wireless Regional Area Network (WRAN) - a point-to-multipoint network for operation over large, potentially sparsely populated areas (e.g. rural areas) for fixed user terminals, taking advantage of the favorable propagation characteristics in the VHF and low UHF TV bands as well as for portable user terminals operating over a likely smaller area with sufficient margin to the fixed base station. The unique requirements of operating on a strict non-interference basis in spectrum assigned to, but unused by, the incumbent licensed services requires a new approach using purpose-designed cognitive radio techniques that will permeate both the PHY and MAC layers. The IEEE 802.18 Study Group chartered to develop this PAR does not believe that any existing IEEE 802 PHY/MAC combination can meet these requirements without extensive modifications. The Study Group has therefore concluded that placing the project in a new Working Group is the most efficient approach.

The Working Group will maintain ongoing communications with the joint effort of the IEEE Communications and EMC Societies as it determines the technical definition of non-interference, harmful interference, their measurement and acceptable mitigation.

It is in the best interest of users and the industry to strive for a level of coexistence between wireless systems. The IEEE 802.22 WG provides mechanisms for coexistence with other systems in the TVWS band. One approach is a common coexistence mechanism that may be used by other TVWS systems; other approaches are also possible.