IEEE P802.22  
Wireless RANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TGb LB2 Comment Resolution for Section 3 and 4 | | | | |
| Date: 2014-06-19 | | | | |
| Author(s): | | | | |
| Name | Company | Address | Phone | email |
| cwpyo | NICT |  |  | [cwpyo@nict.go.jp](mailto:cwpyo@nict.go.jp) |
|  |  |  |  |  |

Abstract

Implementation of resolution for Section 3 and 4

**Notice:** This document has been prepared to assist IEEE 802.22. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.

**Release:** The contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE’s name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE’s sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that this contribution may be made public by IEEE 802.22.

**Patent Policy and Procedures:** The contributor is familiar with the IEEE 802 Patent Policy and Procedures

<[**http://standards.ieee.org/guides/bylaws/sb-bylaws.pdf**](http://standards.ieee.org/guides/bylaws/sb-bylaws.pdf)>, including the statement "IEEE standards may include the known use of patent(s), including patent applications, provided the IEEE receives assurance from the patent holder or applicant with respect to patents essential for compliance with both mandatory and optional portions of the standard." Early disclosure to the Working Group of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and increase the likelihood that the draft publication will be approved for publication. Please notify the Chair Apurva Mody <[apurva.mody@ieee.org](mailto:apurva.mody@ieee.org)> as early as possible, in written or electronic form, if patented technology (or technology under patent application) might be incorporated into a draft standard being developed within the IEEE 802.22 Working Group. **If you have questions, contact the IEEE Patent Committee Administrator at <**[**patcom@ieee.org**](mailto:patcom@ieee.org)**>**.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **Commenter Name** | **Comment** | **Suggested Remedy** | **Implementation Status** |
| 21 | Shigenobu Sasaki | Add additional abbreviations and acronyms, if necessary. | Add additional abbreviations and acronyms, if necessary. | 22-14-78/r1 |

**3. Definitions**

Advanced Wireless Regional Area Network (A-WRAN): The A-WRAN provides all essential functionalities of PHY, MAC, security, and cognitive radio technologies defined in the IEEE 802.22 WRAN and supports additional functionalities of an additional PHY mode, multihop relay operations, multiple channel operations, multiple input multiple output (MIMO) operations, and advanced security to extend regional area broadband services to the regional monitoring applications and the enhanced broadband services.

Advanced Base Station (A-BS): A generalized equipment set providing connectivity, management and control of the customer premise equipment (CPE) such as the advanced customer premise equipment (A-CPE) and the subscriber CPE (S-CPE). The functionalities attributed to the A-BS, in the context of this standard, may be implemented by a device or a collection of devices.

Advanced Customer Premise Equipment (A-CPE): A generalized equipment set providing direct or relay connectivity between an A-BS and S-CPEs.

Multiple channel: Refers to more than one specific physical radio frequency channel in the TV broadcast frequency bands, which may be 6 MHz, 7 MHz, or 8 MHz wide depending on the relevant regulatory domains.

Multiple input multiple output (MIMO): A system employing at least two transmit (Tx) antennas and at

least two receive (Rx) antennas to improve the system capacity, coverage, or throughput.

Centralized scheduling mode: A mode where an A-CPE operates as a centralized scheduling A-CPE.

Distributed scheduling mode: A mode where an A-CPE operates as a distributed scheduling A-CPE.

Centralized scheduling A-CPE: A generalized equipment set providing relay connectivity between an A-BS and S-CPEs.

Distributed scheduling A-CPE: A generalized equipment set providing relay connectivity between an A-BS and S-CPEs, and providing connectivity, management and control of the subscriber CPEs (S-CPEs) within a local network.

Subscriber CPE (S-CPE): A generalized equipment set providing connectivity between a BS and a subscriber premise, or between an A-CPE and a subscriber premise.

Local cell: A cell is formed by a distributed scheduling A-CPE and zero or more S-CPEs associated with and under control of the distributed scheduling A-CPE. The coverage area of this local cell extends up to the point where the signal received from the distributed scheduling A-CPE is sufficient to allow S-CPEs to associate and maintain communication with the A-BS on relay connection.

PHY mode 1: A physical layer mode supporting the system defined in Clause 9

PHY mode 2: A physical leyer mode supporting the system defined in Clause 9a

Access zone (AZ): A communication zone between an A-BS and A-CPE or between an A-BS and S-CPE in a frame.

.

Centralized relay zone (CRZ): A communication zone between a centralized scheduling A-CPE and S-CPE in a frame.

Distributed relay zone (DRZ): A communication zone between a distributed scheduling A-CPE and S-CPE in a frame.

Channel allocation manager (CAM):

Channel transceiver unit (CTU):

Group resource allocation (GRA):

Multidimensional Trellis Coded Modulation (MD-TCM):

Receive/Transmit Transition Gap (RTG):A gap between the last sample of the upstream subframe and the first sample of the subsequent downstream subframe at the antenna port of the BS in a time division duplex (TDD) transceiver. This gap allows time for the BS to switch from receive (Rx) to transmit (Tx) mode. During this gap, the BS is not transmitting modulated data but simply allowing the BS transmitter carrier to ramp up and the Tx/Rx antenna switch to actuate.

Transmit /Receive Transition Gap (TTG):A gap between the last sample of the downstream subframe and the first sample of the subsequent upstream subframe at the antenna port of the BS in a time division duplex (TDD) transceiver. This gap allows time for the BS to switch from transmit (Tx) to receive (Rx) mode. During this gap, the BS is not transmitting modulated data but simply allowing the BS transmitter carrier to ramp down and the Tx/Rx antenna switch to actuate, and the BS receiver section to activate.

Relay Receive/Transmit Transition Gap (RRTG): A gap between the last sample of the downstream access zone and the first sample of the subsequent downstream relay zone at the antenna port of the A-CPE in a time division duplex (TDD) transceiver. This gap allows time for the A-CPE to switch from receive (Rx) to transmit (Tx) mode. During this gap, the A-CPE is not transmitting modulated data but simply allowing the A-CPE transmitter carrier to ramp up and the Tx/Rx antenna switch to actuate.

Relay Transmit /Receive Transition Gap (RTTG): A gap between the last sample of the upstream access zone and the first sample of the subsequent upstream relay zone at the antenna port of the A-CPE in a time division duplex (TDD) transceiver. This gap allows time for the A-CPE to switch from transmit (Tx) to receive (Rx) mode. During this gap, the A-CPE is not transmitting modulated data but simply allowing the A-CPE transmitter carrier to ramp down and the Tx/Rx antenna switch to actuate, and the A-CPE receiver section to activate.

**4. Abbreviations and acronyms**

A-BS Advanced Base Station:

A-CPE Advanced Customer Premise Equipment

AZ access zone:

A-WRAN Advanced Wireless Regional Area Network

CRZ centralized relay zone:

CAM channel allocation manager:

CTU channel transceiver unit:

DRZ distributed relay zone:

DTT downstream transit test

Ex-FCH Extended Frame Control Header

GRA group resource allocation):

LCU Local cell update

MIMO multiple input multiple output

OSIC ordered successive interference cancellation

OSTBC Orthogonal Space-Time Block Codes

RRTG Relay Receive/Transmit Transition Gap

RTTG Relay Transmit /Receive Transition Gap

S-CPE Subscriber CPE:

STC space time coding:

TD-TCM Multidimensional Trellis Coded Modulation

ZF zero-forcing