**Project**
IEEE 802.16 Broadband Wireless Access Working Group &lt;http://ieee802.org/16&gt;  

**Title**
AAS enhancements for OFDMA PHY

**Date Submitted**
2004-06-25

**Source(s)**
Adam Kerr, Paul Petrus, ArrayComm Inc.  
Hassan Yaghoobi, Atul Salvekar, Intel Corp  
adam@, petrus@arraycomm.com  
hassan.yaghoobi, atul.salvekar@intel.com

**Re:**
IEEE P802.16-REVe/D3

**Abstract**
This contribution introduces AAS enhancements for the OFDMA PHY to better support the scalable FFT sizes

**Purpose**
Adopt into P802.16e/D4 draft

**Notice**
This document has been prepared to assist IEEE 802.16. 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 802.16.

**Patent Policy and Procedures**
The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures &lt;http://ieee802.org/16/ipr/patents/policy.html&gt;, 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 &lt;mailto:chair@wirelessman.org&gt; 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 802.16 Working Group. The Chair will disclose this notification via the IEEE 802.16 web site &lt;http://ieee802.org/16/ipr/patents/notices&gt;.
1 Introduction

The definition of the AAS Diversity Map Zone in the optional Diversity-Map Scan Method (section 8.4.4.6 in IEEE802.16-REVd/D5) has two fixed subchannels assigned. These two fixed subchannels are a significant fraction of the available subchannels when considering the 128-FFT mode of the OFDMA PHY.

In this contribution, we describe a modification to the AAS Diversity Map Zone reducing the number of subchannels assigned to it to only one subchannel.

2 Proposed Text Changes

Add the following text changes, including bracketed instructions to Section 8.4.4.6 in IEEE P802.16e/D3.

[Modify the text in Section 8.4.4.6.1 “AAS Frame Structure” in IEEE P802.16-REVd/D5 as follows.]

In the AMC permutation, the 4th and (N-4)th subchannels of the total N subchannels of the DL frame may be dedicated at the discretion of the BS for the AAS Diversity-Map Zone when \( N_{FFT} \) is greater than or equal to 512. For \( N_{FFT} = 128 \), only the highest subchannel will be dedicated to the AAS Diversity Map Zone.

[Modify the figure captions to Figures 223 and 224 in Section 8.4.4.6.1 “AAS Frame Structure” in IEEE P802.16-REVd/D5 as follows.]

Figure 223—Example of allocation for AAS-DLFP when \( N_{FFT} \) is greater than or equal to 512
Figure 224: AAS Diversity Map Frame Structure when \( N_{FFT} \) is greater than or equal to 512