

Project	<b>IEEE 802.16 Broadband Wireless Access Working Group</b> < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >	
Title	<b>Comments on OL Transmit Diversity</b>	
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Re:	Comments on IEEE 802.16m-08/003r5	
Abstract	Comments on open loop transmit diversity.	
Purpose	Text proposal modification for 802.16m transmit diversity for 4x2 and 8x2 configurations in SDD	
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## Comment on OL Transmit Diversity

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### 1. Introduction

The current transmit diversity  $\mathbf{W}$  matrix is not defined for 4Tx and 8Tx rate 1. We propose  $\mathbf{W}$  matrices that provide simple generation of the signal while the performance is not impacted.

### 2. Proposed change

[Delete on p. 80, the lines 39 and 40, and insert in place the following text while re-labeling the equation numbers]

where by using  $v = \text{floor}(k/2)$ ,  $k = 0, 1, 2, \dots$ , with  $k$  being the symbol index, the  $\mathbf{W}$  precoder is given by:

$$\mathbf{W} = \frac{1}{2} \begin{bmatrix} 1 & 0 \\ 0 & 1 \\ e^{j(1+v)\pi/6} & 0 \\ 0 & e^{j(1+v)\pi/3} \end{bmatrix}$$

[Delete on p. 81, the lines 3 and 4, and insert in place the following text while re-labeling the equation numbers]

where by using  $v = \text{floor}(k/2)$ ,  $k = 0, 1, 2, \dots$ , with  $k$  being the symbol index, the  $\mathbf{W}$  precoder is given by:

$$\mathbf{W} = \frac{1}{\sqrt{8}} \begin{bmatrix} 1 & 0 \\ 0 & 1 \\ e^{j(1+v)\pi/6} & 0 \\ 0 & e^{j(1+v)\pi/3} \\ 1 & 0 \\ 0 & 1 \\ e^{j(1+v)\pi/6} & 0 \\ 0 & 1 \end{bmatrix}$$

[Delete on p. 99, the lines 18 and 19, and insert in place the following text while re-labeling the equation numbers]

where  $\mathbf{D}$  is identity matrix and by using  $v = \text{floor}(k/2)$ ,  $k = 0, 1, 2, \dots$ , with  $k$  being the symbol index, the  $\mathbf{W}$  precoder is given by:

$$\mathbf{W} = \frac{1}{2} \begin{bmatrix} 1 & 0 \\ 0 & 1 \\ e^{j(1+\nu)\pi/6} & 0 \\ 0 & e^{j(1+\nu)\pi/3} \end{bmatrix}$$