

<b>Project</b>	<b>IEEE 802.16 Broadband Wireless Access Working Group</b> < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >
<b>Title</b>	<b>Correction to OFDMA uplink burst example with CC encoding</b>
<b>Date Submitted</b>	<b>Initial: 2004-11-01</b> <b>Revision 1: 2004-11-12</b> <b>Revision 2: 2004-11-15</b>
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<b>Re:</b>	Supporting document for call for contribution for corrigendum document
<b>Abstract</b>	In P802.16 REVd/D5 [1] Section 8.4.9.4.4, OFDMA uplink burst example with CC encoding is not correct. The purpose of this contribution is to point to the error and provide the correct test vector.
<b>Purpose</b>	Adoption in P802.16-2004/Cor 1
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## 1. Introduction

UL OFDMA burst example of Section 8.4.9.4.4 is not correct according to the requirements specified in section 8.4.9. In particular, the errors are:

1. The Interleaver output, the first sequence in line 3 of page 622 is incorrect.
2. The step corresponding to the mapping onto subcarriers and multiplying by cover code PN sequence in line 29 of page 622 is incorrect.

The concatenation requirement of Section 8.4.9.2 mistakenly refers to number of subchannels in line 45 page 592. The correct reference would be to the number of slots.

Another related ambiguity is in Section 8.4.6.2.2 where the usage of Equation 110 is described. A clarification is in order ther to guarantee a unique interpretation of the spec.

## 3. Proposed Solution

Replace the test vector including the probed sequences in the pipeline with the correct results as provided in Section 4 of contribution.

Two options are provided depending on the two possible interpretations of usage for Equation (110).

Apply the appropriate changes to Section 8.4.9.2 to clarify the concatenation rules.

## 4. Proposed Changes

### Proposed Text Change 1:

In Section 8.4.9.4.4 of 802.16REVe/D5, replace the text starting from line 53 of page 621 to line 27 of page 622:

#### Input Data (Hex):

ACBC D211 4DAE 1577 C6DB F4C9

#### Randomized Data (Hex):

06DF 2F59 421E 34D7 0319 6846

#### Convolutional encoded Data (Hex):

36F5 E17E E898 6E27 EBB9 F2A6 57B6 A051 FABD 4EE0 E5A9 E7F2

#### Interleaved Data (Hex):

6DB7 EFFD B868 38C9 279E D4A3 AEFC 15DE FEB9 68AD 6856 199A

Constellation Mapping (data shall be transformed to constellation values: I value / Q value. The value 0.707 represents  $\sqrt{2}/2$ ):

#### Subchannel s=16

(0.707/-0.707),(-0.707/0.707),(-0.707/-0.707),(0.707/-0.707),(-0.707/0.707),(-0.707/-0.707),(0.707/-0.707),(-0.707/-0.707),  
 (-0.707/-0.707),(-0.707/0.707),(-0.707/-0.707),(-0.707/-0.707),(-0.707/-0.707),(-0.707/-0.707),(-0.707/-0.707),(0.707/-0.707),  
 (-0.707/0.707),(-0.707/-0.707),(-0.707/0.707),(0.707/0.707),(0.707/-0.707),(-0.707/0.707),(-0.707/0.707),(0.707/0.707),  
 (0.707/0.707),(-0.707/-0.707),(-0.707/0.707),(0.707/0.707),(-0.707/-0.707),(0.707/0.707),(-0.707/0.707),(0.707/-0.707),  
 (0.707/0.707),(-0.707/0.707),(0.707/-0.707),(-0.707/-0.707),(-0.707/0.707),(0.707/-0.707),(-0.707/-0.707),(-0.707/0.707),  
 (-0.707/-0.707),(0.707/-0.707),(0.707/-0.707),(0.707/0.707),(-0.707/0.707),(-0.707/0.707),(0.707/0.707),(-0.707/-0.707),

#### Subchannel s=17

(-0.707/0.707),(-0.707/0.707),(-0.707/-0.707),(-0.707/0.707),(-0.707/-0.707),(-0.707/-0.707),(-0.707/-0.707),(0.707/0.707),  
 (0.707/0.707),(0.707/-0.707),(0.707/-0.707),(0.707/-0.707),(-0.707/-0.707),(0.707/-0.707),(-0.707/-0.707),(-0.707/0.707),  
 (-0.707/-0.707),(-0.707/-0.707),(-0.707/-0.707),(-0.707/0.707),(-0.707/0.707),(-0.707/-0.707),(-0.707/0.707),(0.707/-0.707),  
 (0.707/-0.707),(-0.707/0.707),(-0.707/0.707),(0.707/0.707),(-0.707/0.707),(-0.707/0.707),(-0.707/-0.707),(0.707/-0.707),

(0.707/-0.707),(-0.707/0.707),(-0.707/0.707),(0.707/0.707),(0.707/-0.707),(0.707/-0.707),(0.707/-0.707),(-0.707/0.707),  
 (0.707/0.707),(0.707/-0.707),(-0.707/0.707),(0.707/-0.707),(-0.707/0.707),(0.707/-0.707),(-0.707/0.707),(-0.707/0.707),

### Proposed Text Change 2:

**Option 1:** Choose this option in the case that interpretation of the spec in section 8.4.6.2.2 is as follows:

The mapping (110) in page 573 is applied to running index  $n$  of subcarrier index vector. The output of the mapping determines the index of the data from constellation point vector to be used to load corresponding subcarriers.

In Section 8.4.9.4.4 of 802.16REVe/D5, replace the text starting from line 28 of page 622 to the end of section:

Permutation and Mapping onto data subcarriers, structure includes pilots and is in structure of (Symbol Number,Subcarrier Index, I value / Q Value):

Subchannel 16 in first time slot:

( 35,448,1.000/0.000),( 35,449,-0.707/0.707),( 35,450,-0.707/-0.707),( 35,451,1.000/0.000),  
 ( 35,512,1.000/0.000),( 35,513,-0.707/0.707),( 35,514,0.707/0.707),( 35,515,1.000/0.000),  
 ( 35,984,1.000/0.000),( 35,985,0.707/-0.707),( 35,986,-0.707/0.707),( 35,987,1.000/0.000),  
 ( 35,1189,1.000/0.000),( 35,1190,-0.707/0.707),( 35,1191,0.707/0.707),( 35,1192,1.000/0.000),  
 ( 35,1505,1.000/0.000),( 35,1506,0.707/0.707),( 35,1507,-0.707/-0.707),( 35,1508,1.000/0.000),  
 ( 35,1753,1.000/0.000),( 35,1754,-0.707/0.707),( 35,1755,0.707/0.707),( 35,1756,1.000/0.000),

( 36,448,-0.707/-0.707),( 36,449,0.707/0.707),( 36,450,-0.707/0.707),( 36,451,0.707/-0.707),  
 ( 36,512,0.707/0.707),( 36,513,-0.707/0.707),( 36,514,0.707/-0.707),( 36,515,-0.707/-0.707),  
 ( 36,984,-0.707/0.707),( 36,985,0.707/-0.707),( 36,986,-0.707/-0.707),( 36,987,-0.707/0.707),  
 ( 36,1189,-0.707/-0.707),( 36,1190,0.707/-0.707),( 36,1191,0.707/-0.707),( 36,1192,0.707/0.707),  
 ( 36,1505,-0.707/0.707),( 36,1506,-0.707/0.707),( 36,1507,0.707/0.707),( 36,1508,-0.707/-0.707),  
 ( 36,1753,0.707/-0.707),( 36,1754,-0.707/0.707),( 36,1755,-0.707/-0.707),( 36,1756,0.707/-0.707),

( 37,448,1.000/0.000),( 37,449,-0.707/0.707),( 37,450,-0.707/-0.707),( 37,451,1.000/0.000),  
 ( 37,512,1.000/0.000),( 37,513,0.707/-0.707),( 37,514,-0.707/-0.707),( 37,515,1.000/0.000),  
 ( 37,984,1.000/0.000),( 37,985,-0.707/-0.707),( 37,986,-0.707/0.707),( 37,987,1.000/0.000),  
 ( 37,1189,1.000/0.000),( 37,1190,-0.707/-0.707),( 37,1191,-0.707/-0.707),( 37,1192,1.000/0.000),  
 ( 37,1505,1.000/0.000),( 37,1506,-0.707/-0.707),( 37,1507,-0.707/-0.707),( 37,1508,1.000/0.000),  
 ( 37,1753,1.000/0.000),( 37,1754,-0.707/-0.707),( 37,1755,0.707/-0.707),( 37,1756,1.000/0.000),

Subchannel 17 in second time slot:

( 38,232,1.000/0.000),( 38,233,-0.707/0.707),( 38,234,-0.707/-0.707),( 38,235,1.000/0.000),  
 ( 38,704,1.000/0.000),( 38,705,0.707/-0.707),( 38,706,0.707/-0.707),( 38,707,1.000/0.000),  
 ( 38,908,1.000/0.000),( 38,909,-0.707/0.707),( 38,910,-0.707/0.707),( 38,911,1.000/0.000),  
 ( 38,1225,1.000/0.000),( 38,1226,0.707/0.707),( 38,1227,0.707/-0.707),( 38,1228,1.000/0.000),  
 ( 38,1473,1.000/0.000),( 38,1474,0.707/-0.707),( 38,1475,0.707/-0.707),( 38,1476,1.000/0.000),  
 ( 38,1813,1.000/0.000),( 38,1814,-0.707/0.707),( 38,1815,0.707/0.707),( 38,1816,1.000/0.000),

( 39,232,0.707/-0.707),( 39,233,-0.707/0.707),( 39,234,0.707/-0.707),( 39,235,-0.707/0.707),  
 ( 39,704,0.707/-0.707),( 39,705,-0.707/0.707),( 39,706,-0.707/0.707),( 39,707,-0.707/0.707),  
 ( 39,908,-0.707/0.707),( 39,909,-0.707/-0.707),( 39,910,-0.707/0.707),( 39,911,-0.707/-0.707),  
 ( 39,1225,-0.707/-0.707),( 39,1226,-0.707/-0.707),( 39,1227,0.707/0.707),( 39,1228,0.707/0.707),  
 ( 39,1473,0.707/-0.707),( 39,1474,0.707/-0.707),( 39,1475,0.707/-0.707),( 39,1476,-0.707/-0.707),  
 ( 39,1813,0.707/-0.707),( 39,1814,-0.707/-0.707),( 39,1815,-0.707/0.707),( 39,1816,-0.707/-0.707),

( 40,232,1.000/0.000),( 40,233,-0.707/-0.707),( 40,234,-0.707/-0.707),( 40,235,1.000/0.000),  
 ( 40,704,1.000/0.000),( 40,705,-0.707/0.707),( 40,706,-0.707/0.707),( 40,707,1.000/0.000),  
 ( 40,908,1.000/0.000),( 40,909,-0.707/-0.707),( 40,910,-0.707/0.707),( 40,911,1.000/0.000),  
 ( 40,1225,1.000/0.000),( 40,1226,0.707/-0.707),( 40,1227,0.707/-0.707),( 40,1228,1.000/0.000),

( 40,1473,1.000/0.000),( 40,1474,-0.707/0.707),( 40,1475,-0.707/0.707),( 40,1476,1.000/0.000),  
 ( 40,1813,1.000/0.000),( 40,1814,0.707/0.707),( 40,1815,-0.707/0.707),( 40,1816,1.000/0.000),

Pilot modulation and data cover code sequence:

Symbol Index 35 :

1 1 1 1 1 -1 1 1 -1 -1 -1 -1 1 1 1 1 -1 -1 1 1 -1 -1 -1 -1

Symbol Index 36 :

-1 -1 1 1 -1 1 -1 1 1 -1 1 -1 -1 -1 -1 1 1 -1 -1 -1 -1 1 1

Symbol Index 37 :

-1 -1 1 1 -1 -1 -1 1 -1 -1 -1 1 1 1 1 1 1 -1 1 1 -1 -1 1

Symbol Index 38 :

-1 1 -1 1 1 -1 1 -1 1 -1 1 -1 1 1 1 1 -1 1 1 1 1 -1 1

Symbol Index 39 :

1 1 -1 1 1 1 1 -1 1 1 -1 -1 -1 1 1 1 -1 -1 -1 1 1 -1 1 1

Symbol Index 40 :

1 1 -1 1 -1 1 1 -1 1 -1 -1 -1 -1 1 1 1 1 -1 -1 1 -1 -1 -1 -1

IFFT input with cover code:

Subchannel 16 in first time slot

( 35,448,1.000/0.000),( 35,449,-0.707/0.707),( 35,450,-0.707/0.707),( 35,451,1.000/0.000),  
 ( 35,512,1.000/0.000),( 35,513,0.707/0.707),( 35,514,0.707/0.707),( 35,515,1.000/0.000),  
 ( 35,984,-1.000/0.000),( 35,985,-0.707/0.707),( 35,986,0.707/0.707),( 35,987,-1.000/0.000),  
 ( 35,1189,1.000/0.000),( 35,1190,-0.707/0.707),( 35,1191,0.707/0.707),( 35,1192,1.000/0.000),  
 ( 35,1505,-1.000/0.000),( 35,1506,-0.707/0.707),( 35,1507,-0.707/0.707),( 35,1508,1.000/0.000),  
 ( 35,1753,-1.000/0.000),( 35,1754,0.707/0.707),( 35,1755,-0.707/0.707),( 35,1756,-1.000/0.000),

( 36,448,0.707/0.707),( 36,449,-0.707/0.707),( 36,450,-0.707/0.707),( 36,451,0.707/0.707),  
 ( 36,512,-0.707/0.707),( 36,513,-0.707/0.707),( 36,514,-0.707/0.707),( 36,515,-0.707/0.707),  
 ( 36,984,-0.707/0.707),( 36,985,-0.707/0.707),( 36,986,-0.707/0.707),( 36,987,0.707/0.707),  
 ( 36,1189,0.707/0.707),( 36,1190,-0.707/0.707),( 36,1191,0.707/0.707),( 36,1192,-0.707/0.707),  
 ( 36,1505,0.707/0.707),( 36,1506,-0.707/0.707),( 36,1507,0.707/0.707),( 36,1508,0.707/0.707),  
 ( 36,1753,-0.707/0.707),( 36,1754,0.707/0.707),( 36,1755,0.707/0.707),( 36,1756,0.707/0.707),

( 37,448,-1.000/0.000),( 37,449,0.707/0.707),( 37,450,-0.707/0.707),( 37,451,-1.000/0.000),  
 ( 37,512,-1.000/0.000),( 37,513,-0.707/0.707),( 37,514,0.707/0.707),( 37,515,1.000/0.000),  
 ( 37,984,-1.000/0.000),( 37,985,0.707/0.707),( 37,986,0.707/0.707),( 37,987,1.000/0.000),  
 ( 37,1189,1.000/0.000),( 37,1190,-0.707/0.707),( 37,1191,-0.707/0.707),( 37,1192,1.000/0.000),  
 ( 37,1505,1.000/0.000),( 37,1506,-0.707/0.707),( 37,1507,0.707/0.707),( 37,1508,1.000/0.000),  
 ( 37,1753,1.000/0.000),( 37,1754,0.707/0.707),( 37,1755,-0.707/0.707),( 37,1756,1.000/0.000),

Subchannel 17 in second time slot

( 38,232,-1.000/0.000),( 38,233,-0.707/0.707),( 38,234,0.707/0.707),( 38,235,1.000/0.000),  
 ( 38,704,1.000/0.000),( 38,705,-0.707/0.707),( 38,706,0.707/0.707),( 38,707,-1.000/0.000),  
 ( 38,908,1.000/0.000),( 38,909,0.707/0.707),( 38,910,-0.707/0.707),( 38,911,-1.000/0.000),  
 ( 38,1225,1.000/0.000),( 38,1226,0.707/0.707),( 38,1227,0.707/0.707),( 38,1228,1.000/0.000),  
 ( 38,1473,-1.000/0.000),( 38,1474,0.707/0.707),( 38,1475,-0.707/0.707),( 38,1476,1.000/0.000),  
 ( 38,1813,1.000/0.000),( 38,1814,-0.707/0.707),( 38,1815,-0.707/0.707),( 38,1816,1.000/0.000),

( 39,232,0.707/0.707),( 39,233,-0.707/0.707),( 39,234,-0.707/0.707),( 39,235,-0.707/0.707),  
 ( 39,704,0.707/0.707),( 39,705,-0.707/0.707),( 39,706,-0.707/0.707),( 39,707,0.707/0.707),  
 ( 39,908,-0.707/0.707),( 39,909,-0.707/0.707),( 39,910,0.707/0.707),( 39,911,0.707/0.707),  
 ( 39,1225,0.707/0.707),( 39,1226,-0.707/0.707),( 39,1227,0.707/0.707),( 39,1228,0.707/0.707),  
 ( 39,1473,-0.707/0.707),( 39,1474,-0.707/0.707),( 39,1475,-0.707/0.707),( 39,1476,-0.707/0.707),  
 ( 39,1813,0.707/0.707),( 39,1814,0.707/0.707),( 39,1815,-0.707/0.707),( 39,1816,-0.707/0.707),

( 40,232,1.000/0.000),( 40,233,-0.707/0.707),( 40,234,0.707/0.707),( 40,235,1.000/0.000),

( 40,704,-1.000/0.000),( 40,705,-0.707/0.707),( 40,706,-0.707/0.707),( 40,707,-1.000/0.000),  
 ( 40,908,1.000/0.000),( 40,909,0.707/0.707),( 40,910,0.707/-0.707),( 40,911,-1.000/0.000),  
 ( 40,1225,-1.000/0.000),( 40,1226,0.707/-0.707),( 40,1227,0.707/-0.707),( 40,1228,1.000/0.000),  
 ( 40,1473,1.000/0.000),( 40,1474,0.707/-0.707),( 40,1475,0.707/-0.707),( 40,1476,1.000/0.000),  
 ( 40,1813,-1.000/0.000),( 40,1814,-0.707/-0.707),( 40,1815,0.707/-0.707),( 40,1816,-1.000/0.000),

**Option 2:** Choose this option in the case that interpretation of the spec in section 8.4.6.2.2 is as follows:

The running index  $n$  is on constellation point data vector that load the corresponding subcarriers as specified by mapping (110) in page 573.

In Section 8.4.9.4.4 of 802.16REVe/D5, replace the text starting from line 28 of page 622 to the end of section:

Permutation and Mapping onto data subcarriers, structure includes pilots and is in structure of (Symbol Number,Subcarrier Index, I value / Q Value):

Subchannel 16 in first time slot:

( 35,448,1.000/0.000),( 35,449,0.707/0.707),( 35,450,-0.707/0.707),( 35,451,1.000/0.000),  
 ( 35,512,1.000/0.000),( 35,513,0.707/-0.707),( 35,514,-0.707/-0.707),( 35,515,1.000/0.000),  
 ( 35,984,1.000/0.000),( 35,985,-0.707/0.707),( 35,986,0.707/-0.707),( 35,987,1.000/0.000),  
 ( 35,1189,1.000/0.000),( 35,1190,-0.707/-0.707),( 35,1191,-0.707/0.707),( 35,1192,1.000/0.000),  
 ( 35,1505,1.000/0.000),( 35,1506,-0.707/-0.707),( 35,1507,0.707/-0.707),( 35,1508,1.000/0.000),  
 ( 35,1753,1.000/0.000),( 35,1754,0.707/-0.707),( 35,1755,0.707/0.707),( 35,1756,1.000/0.000),

( 36,448,-0.707/0.707),( 36,449,-0.707/0.707),( 36,450,0.707/0.707),( 36,451,-0.707/-0.707),  
 ( 36,512,0.707/-0.707),( 36,513,-0.707/0.707),( 36,514,-0.707/-0.707),( 36,515,0.707/-0.707),  
 ( 36,984,-0.707/0.707),( 36,985,-0.707/-0.707),( 36,986,0.707/-0.707),( 36,987,-0.707/-0.707),  
 ( 36,1189,-0.707/-0.707),( 36,1190,-0.707/0.707),( 36,1191,-0.707/-0.707),( 36,1192,-0.707/-0.707),  
 ( 36,1505,-0.707/-0.707),( 36,1506,-0.707/-0.707),( 36,1507,-0.707/-0.707),( 36,1508,0.707/-0.707),  
 ( 36,1753,-0.707/0.707),( 36,1754,-0.707/-0.707),( 36,1755,-0.707/0.707),( 36,1756,0.707/0.707),

( 37,448,1.000/0.000),( 37,449,0.707/-0.707),( 37,450,-0.707/0.707),( 37,451,1.000/0.000),  
 ( 37,512,1.000/0.000),( 37,513,-0.707/0.707),( 37,514,0.707/0.707),( 37,515,1.000/0.000),  
 ( 37,984,1.000/0.000),( 37,985,0.707/0.707),( 37,986,-0.707/-0.707),( 37,987,1.000/0.000),  
 ( 37,1189,1.000/0.000),( 37,1190,-0.707/0.707),( 37,1191,0.707/0.707),( 37,1192,1.000/0.000),  
 ( 37,1505,1.000/0.000),( 37,1506,-0.707/-0.707),( 37,1507,0.707/0.707),( 37,1508,1.000/0.000),  
 ( 37,1753,1.000/0.000),( 37,1754,-0.707/0.707),( 37,1755,0.707/-0.707),( 37,1756,1.000/0.000),

Subchannel 17 in second time slot:

( 38,232,1.000/0.000),( 38,233,-0.707/0.707),( 38,234,-0.707/0.707),( 38,235,1.000/0.000),  
 ( 38,704,1.000/0.000),( 38,705,-0.707/-0.707),( 38,706,-0.707/0.707),( 38,707,1.000/0.000),  
 ( 38,908,1.000/0.000),( 38,909,0.707/-0.707),( 38,910,0.707/-0.707),( 38,911,1.000/0.000),  
 ( 38,1225,1.000/0.000),( 38,1226,-0.707/0.707),( 38,1227,-0.707/0.707),( 38,1228,1.000/0.000),  
 ( 38,1473,1.000/0.000),( 38,1474,0.707/0.707),( 38,1475,-0.707/0.707),( 38,1476,1.000/0.000),  
 ( 38,1813,1.000/0.000),( 38,1814,-0.707/0.707),( 38,1815,-0.707/-0.707),( 38,1816,1.000/0.000),

( 39,232,0.707/-0.707),( 39,233,0.707/-0.707),( 39,234,-0.707/0.707),( 39,235,-0.707/0.707),  
 ( 39,704,0.707/0.707),( 39,705,0.707/-0.707),( 39,706,0.707/-0.707),( 39,707,0.707/-0.707),  
 ( 39,908,-0.707/0.707),( 39,909,0.707/0.707),( 39,910,0.707/-0.707),( 39,911,-0.707/0.707),  
 ( 39,1225,0.707/-0.707),( 39,1226,-0.707/0.707),( 39,1227,0.707/-0.707),( 39,1228,-0.707/0.707),  
 ( 39,1473,-0.707/0.707),( 39,1474,-0.707/0.707),( 39,1475,-0.707/0.707),( 39,1476,-0.707/-0.707),  
 ( 39,1813,-0.707/0.707),( 39,1814,-0.707/-0.707),( 39,1815,-0.707/-0.707),( 39,1816,-0.707/-0.707),

( 40,232,1.000/0.000),( 40,233,0.707/0.707),( 40,234,0.707/0.707),( 40,235,1.000/0.000),  
 ( 40,704,1.000/0.000),( 40,705,0.707/-0.707),( 40,706,0.707/-0.707),( 40,707,1.000/0.000),  
 ( 40,908,1.000/0.000),( 40,909,0.707/-0.707),( 40,910,-0.707/-0.707),( 40,911,1.000/0.000),

( 40,1225,1.000/0.000),( 40,1226,0.707/-0.707),( 40,1227,-0.707/-0.707),( 40,1228,1.000/0.000),  
 ( 40,1473,1.000/0.000),( 40,1474,-0.707/0.707),( 40,1475,-0.707/-0.707),( 40,1476,1.000/0.000),  
 ( 40,1813,1.000/0.000),( 40,1814,-0.707/-0.707),( 40,1815,-0.707/-0.707),( 40,1816,1.000/0.000),

Pilot modulation and data cover code sequence:

Symbol Index 35 :

1 1 1 1 1 -1 1 1 -1 -1 -1 -1 1 1 1 1 -1 -1 1 1 -1 -1 -1 -1

Symbol Index 36 :

-1 -1 1 1 -1 1 -1 1 1 -1 1 -1 -1 -1 1 1 -1 -1 1 1 -1 -1 -1 1

Symbol Index 37 :

-1 -1 1 1 -1 -1 -1 1 -1 -1 -1 1 1 1 1 1 1 -1 1 1 -1 -1 1

Symbol Index 38 :

-1 1 -1 1 1 1 -1 1 -1 1 -1 1 1 1 1 -1 1 -1 1 1 1 -1 1

Symbol Index 39 :

1 1 -1 1 1 1 1 -1 1 1 -1 -1 -1 1 1 1 -1 -1 -1 1 1 -1 1 1

Symbol Index 40 :

1 1 -1 1 -1 1 1 -1 1 -1 -1 -1 -1 1 1 1 1 -1 -1 1 -1 -1 -1 -1

IFFT input with cover code:

Subchannel 16 in first time slot

( 35,448,1.000/0.000),( 35,449,0.707/0.707),( 35,450,-0.707/0.707),( 35,451,1.000/0.000),  
 ( 35,512,1.000/0.000),( 35,513,-0.707/0.707),( 35,514,-0.707/-0.707),( 35,515,1.000/0.000),  
 ( 35,984,-1.000/0.000),( 35,985,0.707/-0.707),( 35,986,-0.707/0.707),( 35,987,-1.000/0.000),  
 ( 35,1189,1.000/0.000),( 35,1190,-0.707/-0.707),( 35,1191,-0.707/0.707),( 35,1192,1.000/0.000),  
 ( 35,1505,-1.000/0.000),( 35,1506,0.707/0.707),( 35,1507,0.707/-0.707),( 35,1508,1.000/0.000),  
 ( 35,1753,-1.000/0.000),( 35,1754,-0.707/0.707),( 35,1755,-0.707/-0.707),( 35,1756,-1.000/0.000),

( 36,448,0.707/-0.707),( 36,449,0.707/-0.707),( 36,450,0.707/0.707),( 36,451,-0.707/-0.707),  
 ( 36,512,-0.707/0.707),( 36,513,-0.707/0.707),( 36,514,0.707/0.707),( 36,515,0.707/-0.707),  
 ( 36,984,-0.707/0.707),( 36,985,0.707/0.707),( 36,986,0.707/-0.707),( 36,987,0.707/0.707),  
 ( 36,1189,0.707/0.707),( 36,1190,0.707/-0.707),( 36,1191,-0.707/-0.707),( 36,1192,0.707/0.707),  
 ( 36,1505,0.707/0.707),( 36,1506,-0.707/-0.707),( 36,1507,-0.707/-0.707),( 36,1508,-0.707/0.707),  
 ( 36,1753,0.707/-0.707),( 36,1754,0.707/0.707),( 36,1755,0.707/-0.707),( 36,1756,0.707/0.707),

( 37,448,-1.000/0.000),( 37,449,-0.707/0.707),( 37,450,-0.707/0.707),( 37,451,-1.000/0.000),  
 ( 37,512,-1.000/0.000),( 37,513,0.707/-0.707),( 37,514,-0.707/-0.707),( 37,515,1.000/0.000),  
 ( 37,984,-1.000/0.000),( 37,985,-0.707/-0.707),( 37,986,0.707/0.707),( 37,987,1.000/0.000),  
 ( 37,1189,1.000/0.000),( 37,1190,-0.707/0.707),( 37,1191,0.707/0.707),( 37,1192,1.000/0.000),  
 ( 37,1505,1.000/0.000),( 37,1506,-0.707/-0.707),( 37,1507,-0.707/-0.707),( 37,1508,1.000/0.000),  
 ( 37,1753,1.000/0.000),( 37,1754,0.707/-0.707),( 37,1755,-0.707/0.707),( 37,1756,1.000/0.000),

Subchannel 16 in first time slot

( 38,232,-1.000/0.000),( 38,233,-0.707/0.707),( 38,234,0.707/-0.707),( 38,235,1.000/0.000),  
 ( 38,704,1.000/0.000),( 38,705,0.707/0.707),( 38,706,-0.707/0.707),( 38,707,-1.000/0.000),  
 ( 38,908,1.000/0.000),( 38,909,-0.707/0.707),( 38,910,0.707/-0.707),( 38,911,-1.000/0.000),  
 ( 38,1225,1.000/0.000),( 38,1226,-0.707/0.707),( 38,1227,-0.707/0.707),( 38,1228,1.000/0.000),  
 ( 38,1473,-1.000/0.000),( 38,1474,0.707/0.707),( 38,1475,0.707/-0.707),( 38,1476,1.000/0.000),  
 ( 38,1813,1.000/0.000),( 38,1814,-0.707/0.707),( 38,1815,0.707/0.707),( 38,1816,1.000/0.000),

( 39,232,0.707/-0.707),( 39,233,0.707/-0.707),( 39,234,0.707/-0.707),( 39,235,-0.707/0.707),  
 ( 39,704,0.707/0.707),( 39,705,0.707/-0.707),( 39,706,0.707/-0.707),( 39,707,-0.707/0.707),  
 ( 39,908,-0.707/0.707),( 39,909,0.707/0.707),( 39,910,-0.707/0.707),( 39,911,0.707/-0.707),  
 ( 39,1225,-0.707/0.707),( 39,1226,-0.707/0.707),( 39,1227,0.707/-0.707),( 39,1228,-0.707/0.707),

( 39,1473,0.707/-0.707),( 39,1474,0.707/-0.707),( 39,1475,0.707/-0.707),( 39,1476,-0.707/-0.707),  
( 39,1813,-0.707/0.707),( 39,1814,0.707/0.707),( 39,1815,-0.707/-0.707),( 39,1816,-0.707/-0.707),

( 40,232,1.000/0.000),( 40,233,0.707/0.707),( 40,234,-0.707/-0.707),( 40,235,1.000/0.000),  
( 40,704,-1.000/0.000),( 40,705,0.707/-0.707),( 40,706,0.707/-0.707),( 40,707,-1.000/0.000),  
( 40,908,1.000/0.000),( 40,909,-0.707/0.707),( 40,910,0.707/0.707),( 40,911,-1.000/0.000),  
( 40,1225,-1.000/0.000),( 40,1226,0.707/-0.707),( 40,1227,-0.707/-0.707),( 40,1228,1.000/0.000),  
( 40,1473,1.000/0.000),( 40,1474,0.707/-0.707),( 40,1475,0.707/0.707),( 40,1476,1.000/0.000),  
( 40,1813,-1.000/0.000),( 40,1814,0.707/0.707),( 40,1815,0.707/0.707),( 40,1816,-1.000/0.000),

### **Proposed Text Change 3:**

Apply appropriate clarification to Items 1 and 2 before Equation (110).

## **5. References:**

- [1] IEEE P802.16-REVd/D5-2004 Standard for Local and metropolitan area networks Part 16: Air Interface for Fixed Broadband Wireless Access Systems
- [2] IEEE P802.16-REVe/D5-2004 Standard for Local and metropolitan area networks Part 16: Air Interface for Fixed Amendment for Physical and Medium Access Control Layers for Combined Fixed and Mobile Operation in Licensed Bands