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Title	**Modification to UL OFDM Example**	
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Abstract		
Purpose		
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Modification to UL OFDM Example

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Alvarion

Introduction

1:8 and 1:16 subchannelization modes were defined in P802.16d/D3-2003. These modes introduce a special case in which an OFDM symbol may hold a non-integer number of data bytes. It is proposed to add two examples to 8.4.3.5 in order to demonstrate this special case.

Proposed Text Changes

In 8.4.3.5 (“Example UL RS-CC encoding”)

To illustrate the use of RS-CC encoding, three examples are provided, each of one frame ~~an example of one frame~~ of OFDM UL data, illustrating each process from randomization through carrier modulation.

1. Full bandwidth:
   Modulation mode: QPSK, rate 3/4, ~~Slot Offset:~~ OFDM symbol number: 14, UIUC: 7

   [existing example, unchanged]

2. 1:8 subchannelization:
   Modulation mode: QPSK, rate 3/4, OFDM symbol number: 20, UIUC: 7, subchannel index: 0b00010

   Input Data (Hex)
   45 29 C4 79 AD 0F 55 28 AD 87 B5 76

   Randomized Data (Hex)
   3D 0C D4 A7 CF CA 1B B7 0A C6 66 F2 00 4b0000

   Convolutionally Encoded Data (Hex)
   14 97 80 C6 6A B7 AA 11 D8 D1 ED 84 35 C1 CD E4 46 00

   Interleaved Data (Hex)
   36 5C 5A 31 83 39 B3 87 D4 86 63 28 23 BC 4E 08 DF 14

   Carrier Mapping (frequency offset index: I value Q value)

   1st data symbol:

   -100: 1 1, -99: -1 -1, -98: 1 -1, -97: -1 1, -96: 1 -1, -95: 1 -1,

   -38: pilot = -1 0, -37: -1 -1, -36: 1 1, -35: 1 -1, -34: 1 -1, -33: -1 1, -32: -1 1,

1: 1 1, 2: -1 -1, 3: 1 1, 4: 1 -1, 5: -1 1, 6: 1 1,

64: 1 1, 65: -1 -1, 66: 1 1, 67: -1 -1, 68: -1 1, 69: 1 -1

2nd data symbol:

-100: -1 1, -99: -1 -1, -98: 1 1, -97: -1 -1, -96: -1 1, -95: 1 1,

-38: pilot = 1 0, -37: 1 -1, -36: -1 -1, -35: -1 -1, -34: 1 -1, -33: 1 -1, -32: 1 1,

1: -1 1, 2: 1 1, 3: 1 -1, 4: -1 1, 5: 1 -1, 6: -1 1,

64: 1 1, 65: -1 -1, 66: 1 1, 67: -1 1, 68: -1 1, 69: 1 1

3rd data symbol:

-100: 1 1, -99: -1 1, -98: 1 1, -97: -1 -1, -96: -1 1, -95: -1 -1,

-38: pilot = 1 0, -37: -1 -1, -36: 1 1, -35: 1 -1, -34: 1 1, -33: -1 -1, -32: -1 1,

1: 1 1, 2: 1 1, 3: -1 1, 4: 1 1, 5: -1 -1, 6: 1 -1,

64: -1 -1, 65: -1 -1, 66: 1 1, 67: 1 -1, 68: 1 -1, 69: 1 1

3. 1:16 subchannelization
   Modulation mode: QPSK, rate 3/4, OFDM symbol number: 17, UIUC: 7, subchannel index: 0b00001

Input Data (Hex)
45 29 C4 79 AD 0F 55 28 AD 87

Randomized Data (Hex)
DD 0E 94 AA 4F E7 1B 59 08 A2 00 2b00

Convolutionally Encoded Data (Hex)
ED 07 9A 45 68 C7 FA DA 57 C4 0E 17 F7 2C C0

Interleaved Data (Hex)
BD E3 44 60 72 3D EE 99 B7 F4 21 15 FA 7A 09

Carrier Mapping (frequency offset index: I value Q value)

1st data symbol:

-100: -1 1, -99: -1 -1, -98: -1 -1, -37: 1 -1, -36: -1 -1, -35: -1 1,

1: 1 1, 2: -1 -1, 3: 1 -1, 64: 1 1, 65: 1 -1, 66: 1 1

2nd data symbol:

-100: 1 -1, -99: -1 1, -98: 1 1, -37: 1 1, -36: 1 -1, -35: -1 -1,

1: 1 1, 2: -1 1, 3: 1 1, 64: -1 -1, 65: -1 -1, 66: 1 -1

3rd data symbol:

-100: -1 -1, -99: -1 1, -98: -1 -1, -37: -1 1, -36: -1 1 -35: 1 -1,

1: -1 1, 2: 1 -1, 3: -1 1, 64: -1 -1, 65: 1 -1, 66: -1 -1

4th data symbol:

-100: -1 -1, -99: -1 -1, -98: 1 -1, -37: 1 1, -36: 1 1, -35: -1 1,

1: 1 1, 2: 1 -1, 3: 1 1, 64: 1 -1, 65: 1 -1, 66: 1 -1

5th data symbol:

-100: -1 -1, -99: -1 -1, -98: -1 1, -37: -1 1, -36: 1 -1, -35: -1 -1,

1: -1 1, 2: -1 1, 3: 1 1, 64: 1 1, 65: -1 1, 66: 1 -1