Project	**IEEE 802.16 Broadband Wireless Access Working Group** <http://ieee802.org/16>
Title	**TDD Frame Structure Configuration for IEEE 802.16m Draft**
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Re:	IEEE 802.16m-08/053 "Call for comments and contributions on Project 802.16m Amendment Working Document" Target topic: comment associated contribution (about frame structure)
Abstract	This contribution proposes text for the 802.16m TDD frame structure configuration.
Purpose	To be discussed and adopted by TGm for incorporation in the P802.16m Amendment Working Document.
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TDD Frame Structure Configuration for IEEE 802.16m

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Introduction

This contribution proposes text for the TDD frame structure configuration for the 802.16m amendment.

In the 802.16 TDD systems, there are multiple system parameters, including DL/UL split, offset between 16m frame and legacy frame when legacy support is enabled, and number of switching points, which will determine a TDD frame structure configuration.

The 802.16 TDD BS shall make its TDD frame structure configuration known to MSs at the network entry time. In this contribution, we propose to define a 4-bit TDD frame structure configuration code to present different TDD frame configurations, and the TDD BS shall announce its TDD frame configuration by providing the frame configuration code in the P-BCH.

Proposed Changes in 802.16 Amendment Working Document (802.16m-08/050)

Proposed Change #1:

On page 22, line 32, change the section number from 15.3.3.6 to 15.3.3.7.

Proposed Change #2:

Add the following text into line 29 on page 22.

---------- Text Start ----------

15.3.3.6 TDD Frame Structure Configurations

The TDD frame configurations are defined in Table 648, where each TDD frame structure configuration is assigned a 4-bit configuration code. The TDD BS shall announce its TDD frame configuration by providing the frame configuration code in the P-BCH.

Table 648. TDD Frame Structure Configurations

Configuration code (4 bits)	Frame Configuration D= 6-symbol DL; U= 6-symbol UL D_s=5-symbol DL; U_s=5-symbol UL	Transition Gaps	Notes
0b0000	D D D D_s g_0 U U U U g_1	g_0= 102.86 μs; g_1= 62.86 μs;	T_{offset} = 0, i.e., AAIF only. DL/UL split: 4:4

			# of switching points = 2.
0b0001	D D D D D_s g_0 U U U g_1	g_0= 102.86 μs; g_1= 62.86 μs;	T_{offset} = 0, i.e., AAIF only. DL/UL split: 5:3 # of switching points = 2.
0b0010	D D D D D D_s g_0 U U g_1	g_0= 102.86 μs; g_1= 62.86 μs;	T_{offset} = 0, i.e., AAIF only. DL/UL split: 6:2 # of switching points = 2.
0b0011	D D D D D D D D g_1	g_1= 62.86 μs;	T_{offset} = 0, i.e., AAIF only. DL/UL split: 8:0 (DL only)
0b0100	D D g_0 U U g_1 D D_s g_2 U U g_3	g_0 = 50 μs; g_1= 32.86 μs; g_2 = 50 μs; g_3 = 32.86 μs;	T_{offset} = 0, i.e., AAIF only. DL/UL split: 4:4 # of switching points = 4.
0b0101	D D D_s g_0 U g_1 D D g_2 U U g_3	g_0 = 50 μs; g_1= 32.86 μs; g_2 = 50 μs; g_3 = 32.86 μs;	T_{offset} = 0; i.e., AAIF only DL/UL split: 5:3 # of switching points = 4.
0b0110	D D D_s g_0 U g_1 D D D g_2 U g_3	g_0 = 50 μs; g_1= 32.86 μs; g_2 = 50 μs; g_3 = 32.86 μs;	T_{offset} = 0; i.e., AAIF only DL/UL split: 6:2 # of switching points = 4.
0b0111	D D_s g_0 U U U U g_1 D D	g_0=102.86 μs; g_1= 62.86 μs;	T_{offset} = 2 Type-1 subframes; DL/UL split: 4:4 # of switching points = 2.
0b1000	D g_0 U U U U_s g_1 D D D	g_0=102.86 μs; g_1= 62.86 μs;	T_{offset} = 3 Type-1 subframes; DL/UL split: 4:4 # of switching points = 2.
0b1001	D D D_s g_0 U U U g_1 D D	g_0=102.86 μs; g_1= 62.86 μs;	T_{offset} = 2 Type-1 subframes; DL/UL split: 5:3 # of switching points = 2.

0b1010	D D_s g_0 U U U g_1 D D D	g_0=102.86 μs; g_1= 62.86 μs;	T_{offset} = 3 Type-1 subframes; DL/UL split: 5:3 # of switching points = 2.
0b1011	D D D D_s g_0 U U g_1 D D	g_0=102.86 μs; g_1= 62.86 μs;	T_{offset} = 2 Type-1 subframes; DL/UL split: 6:2 # of switching points = 2.
0b1100	D D_s g_0 U U g_1 D D D D	g_0=102.86 μs; g_1= 62.86 μs;	T_{offset} = 4 Type-1 subframes; DL/UL split: 6:2 # of switching points = 2.
0b1101	D g_0 U U_s g_1 D g_2 U U g_3 D D	g_0 = 50 μs; g_1= 32.86 μs; g_2 = 50 μs; g_3 = 32.86 μs;	T_{offset} = 2 Type-1 subframes; DL/UL split: 4:4 # of switching points = 4.
0b1110	D D_s g_0 U g_1 D g_2 U U g_3 D D	g_0 = 50 μs; g_1= 32.86 μs; g_2 = 50 μs; g_3 = 32.86 μs;	T_{offset} = 2 Type-1 subframes; DL/UL split: 5:3 # of switching points = 4.
0b1111	D D_s g_0 U g_1 D D g_2 U g_3 D D	g_0 = 50 μs; g_1= 32.86 μs; g_2 = 50 μs; g_3 = 32.86 μs;	T_{offset} = 2 Type-1 subframes; DL/UL split: 6:2 # of switching points = 4.

---------- Text End ----------

References

[1] IEEE 802.16m-08/003r6, “IEEE 802.16m System Description Document”

[2] IEEE 802.16m-07/002r7, “IEEE 802.16m System Requirements”