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| **Joint Collaborative Team on 3D Video Coding Extension Development**  **of ITU-T SG 16 WP 3 and ISO/IEC JTC 1/SC 29/WG 11**  5th Meeting: Vienna, AT, 27 July – 2 Aug. 2013 | Document: JCT3V- E0158 |

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| *Title:* | **CE6.h: Results on Removal of DC from SDC Mode** | | |
| *Status:* | Input Document | | |
| *Purpose:* | Proposal | | |
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| *Source:* | LG Electronics | | |

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Spec change:

H.7.4.9.3 Depth mode parameter semantics

The variable Log2MaxDmmCbSize is set equal to 5.

**depth\_intra\_mode**[ x0 ][ y0 ] specifies the depth intra mode of the current prediction unit. Table H‑2 specifies the value for the depth intra mode and the associated names.

The variable SdcFlag[ x0 ][ y0 ] is derived as specified in the following:

* 1. SdcFlag[ x0 ][ y0 ] = ( depth\_intra\_mode[ x0 ][ y0 ]  = =  INTRA\_DEP\_SDC\_PLANAR )  | |   (H‑16)  
      ( depth\_intra\_mode[ x0 ][ y0 ]  = =  INTRA\_DEP\_SDC\_DMM\_WFULL )

The variable DmmFlag[ x0 ][ y0 ] is derived as specified in the following:

* 1. DmmFlag[ x0 ][ y0 ] = ( depth\_intra\_mode[ x0 ][ y0 ]  = =  INTRA\_DEP\_DMM\_WFULL )  | |   (H‑17)  
      ( depth\_intra\_mode[ x0 ][ y0 ]  = =  INTRA\_DEP\_DMM\_CPREDTEX )  | |    
      ( depth\_intra\_mode[ x0 ][ y0 ]  = =  INTRA\_DEP\_DMM\_WPREDTEX )  | |    
      ( depth\_intra\_mode[ x0 ][ y0 ]  = =  INTRA\_DEP\_DMM\_WPREDDIR )

Table ‑2 – Specification of depth\_intra\_mode and associated names

|  |  |
| --- | --- |
| **depth\_intra\_mode** | **DepthIntraMode** |
| 0 | INTRA\_DEP\_SDC\_PLANAR |
| 1 | INTRA\_DEP\_NONE |
| 2 | INTRA\_DEP\_SDC\_DMM\_WFULL |
| 3 | INTRA\_DEP\_DMM\_WFULL |
| 4 | INTRA\_DEP\_DMM\_CPREDTEX |
| 5 | INTRA\_DEP\_DMM\_WPREDTEX |
|  |  |
| 6 | INTRA\_DEP\_DMM\_WPREDDIR |
| 7 | INTRA\_DEP\_CHAIN |

H.8.4.2 Derivation process for luma intra prediction mode

Inputs to this process are:

– a luma location ( xB, yB ) specifying the top-left luma sample of the current block relative to the top‑left luma sample of the current picture,

– a variable log2PbSize specifying the size of the current luma prediction block.

specifies the value for the intra prediction mode and the associated names.

Table H‑4 – Specification of intra prediction mode and associated names

|  |  |
| --- | --- |
| **Intra prediction mode** | **Associated names** |
| 0 | Intra\_Planar |
| 1 | Intra\_DC |
| 2..34 | Intra\_Angular |
| 35...42 | Intra\_DepthPartition (used only for depth) |
| Otherwise (43, 44) | Intra\_Chain (used only for depth) |

[Ed. (GT): Since the Intra\_FromLuma mode has been removed in the HEVC text spec used as base for this document, the dmm mode and intra chain numbers are here decremented by 1 compared to HTM-7.0.]

[Ed. (GT): Consider reducing number of possible IntraPredMode values by using dmm\_dc\_flag and edge\_dc\_flag explicitly. ]

IntraPredMode[ xB ][ yB ] labelled 0..34 represents directions of predictions as illustrated in Figure 8-1.

* If depth\_intra\_mode[ xB ][ yB ] is equal to INTRA\_DEP\_SDC\_PLANAR, IntraPredMode[ xB ][ yB ] is set equal to Intra\_Planar.
* Otherwise, if depth\_intra\_mode[ xB ][ yB ] is equal to INTRA\_DEP\_SDC\_DMM\_WFULL, IntraPredMode[ xB ][ yB ] is set equal to Intra\_DepthPartition( 35 ).
* Otherwise, if depth\_intra\_mode[ xB ][ yB ] is equal to INTRA\_DEP\_DMM\_WFULL, IntraPredMode[ xB ][ yB ] is set equal to Intra\_DepthPartition( 35 + dmm\_dc\_flag[ xB ][ yB ] ) .
* Otherwise, if depth\_intra\_mode[ xB ][ yB ] is equal to INTRA\_DEP\_DMM\_WPREDTEX, IntraPredMode[ xB ][ yB ] is set equal to Intra\_DepthPartition( 37 + dmm\_dc\_flag[ xB ][ yB ] ) .
* Otherwise if depth\_intra\_mode[ xB ][ yB ] is equal to INTRA\_DEP\_DMM\_CPREDTEX, IntraPredMode[ xB ][ yB ] is set equal to Intra\_DepthPartition( 39 + dmm\_dc\_flag[ xB ][ yB ] ) .
* Otherwise, if depth\_intra\_mode[ xB ][ yB ] is equal to INTRA\_DEP\_DMM\_WPREDDIR, IntraPredMode[ xB ][ yB ] is set equal to Intra\_DepthPartition( 41 + dmm\_dc\_flag[ xB ][ yB ] ) .
* Otherwise if depth\_intra\_mode[ xB ][ yB ] is equal to INTRA\_DEP\_CHAIN, IntraPredMode[ xB ][ yB ] is set equal to Intra\_Chain( 43 + edge\_dc\_flag[ xB ][ yB ] ).
* Otherwise ( depth\_intra\_mode[ xB ][ yB ] is equal to INTRA\_DEP\_NONE ), IntraPredMode[ xB ][ yB ] is derived as the following ordered steps.

H.9.2.3.10 Binarization process for depth\_intra\_mode

1. Input to this process is a request for a binarization for the syntax element depth\_intra\_mode, a luma location ( xC, yC ) specifying the top-left sample of the current luma coding block relative to the top-left luma sample of the current picture, and a variable cLog2CbSize specifying the current luma coding block size.
2. Output of this process is the binarization of the syntax element.
3. The binarization for part\_mode is given by Table H‑29 depending on PartMode[ xC ][ yC ] and cLog2CbSize.

Table ‑29 –Binarization for depth\_intra\_mode

|  |  |  |  |
| --- | --- | --- | --- |
| **Name of depth\_intra\_mode** | **Bin String** | | |
| ( cLog2CbSize = =  3 &&  PartMode[ xC ][ yC ] = = PART\_2Nx2N ) | |   ( cLog2CbSize > 3 && cLog2CbSize < 6 ) | cLog2CbSize = = 3 &&  PartMode[ xC ][ yC ] = = PART\_NxN | cLog2CbSize = = 6 |
| INTRA\_DEP\_SDC\_PLANAR | 00 | - | 0 |
| INTRA\_DEP\_NONE | 010 | 0 | 1 |
| INTRA\_DEP\_SDC\_DMM\_WFULL | 011 | - | - |
| INTRA\_DEP\_DMM\_WFULL | 100 | 10 | - |
| INTRA\_DEP\_DMM\_CPREDTEX) | 101 | - | - |
| INTRA\_DEP\_DMM\_WPREDTEX) | 110 | 110 | - |
|  |  |  |  |
| INTRA\_DEP\_DMM\_WPREDDIR) | 1111 | - | - |
| INTRA\_DEP\_CHAIN | 1110 | 111 | - |