|  |  |
| --- | --- |
| **Joint Collaborative Team on 3D Video Coding Extensions**  **of ITU-T SG 16 WP 3 and ISO/IEC JTC 1/SC 29/WG 11**  8th Meeting: Valencia, ES, 29 March – 4 April 2014 | Document: JCT3V-Hxxxx |

|  |  |  |  |
| --- | --- | --- | --- |
| *Title:* | **Proposed text** | | |
| *Status:* | Input document | | |
| *Purpose:* | Proposal | | |
| *Author(s) or Contact(s):* | Jin Young Lee, Byeongdoo Choi, Min Woo Park, Yongjin Cho, and Chanyul Kim | Email: | [jinyoung79.lee@samsung.com](mailto:jinyoung79.lee@samsung.com) |
| *Source:* | Samsung Electronics Co. Ltd. | | |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

I.7.3.2.1.2 Video parameter set extension 2 syntax

|  |
| --- |
| vps\_extension2( ) { |
| … |
| if ( !VpsDepthFlag[ layerId ] ) { |
| **…** |
| } else { |
| **mpi\_flag**[ layerId ] |
|  |
| **lim\_qt\_pred\_flag**[ layerId ] |
| **segment\_dc\_coidng\_flag**[layerId] |
| **depth\_modeling\_mode\_flag**[layerId] |
|  |
| } |
| … |
| } |

**segment\_dc\_coding\_flag**[ layerId ]equal to 1 specifies that segment-wise DC coding is used for the layer with nuh\_layer\_id equal to layerId. Segment\_dc\_coding\_flag[ layerId ] equal to 0 specifies that segment-wise DC coding is not used for the layer with nuh\_layer\_id equal to layerId. When not present, the value of segment\_dc\_coding\_flag[ layerId ] is inferred to be equal to 0.

**depth\_modeling\_mode\_flag**[ layerId ]equal to 1 specifies that depth map modelling modes are used for the layer with nuh\_layer\_id equal to layerId. vps\_inter\_sdc\_flag[ layerId ] equal to 0 specifies that depth map modelling modes are not used for the layer with nuh\_layer\_id equal to layerId. When not present, the value of depth\_modeling\_mode\_flag [ layerId ] is inferred to be equal to 0.

I.7.3.8.5 Coding unit syntax

|  |
| --- |
| … |
| if( sdcEnableFlag ) |
| **sdc\_flag**[ x0 ][ y0 ] |
| if( CuPredMode[ x0 ][ y0 ] = = MODE\_INTRA ) { |
| if( PartMode = = PART\_2Nx2N && pcm\_enabled\_flag &&   log2CbSize >= Log2MinIpcmCbSizeY &&  log2CbSize <= Log2MaxIpcmCbSizeY ) |
| **pcm\_flag**[ x0 ][ y0 ] |
| if( pcm\_flag[ x0 ][ y0 ] ) { |
| while( !byte\_aligned( ) ) |
| **pcm\_alignment\_zero\_bit** |
| pcm\_sample( x0, y0, log2CbSize ) |
| } else { |
| pbOffset = ( PartMode = = PART\_NxN ) ? ( nCbS / 2 ) : nCbS |
| for( j = 0; j < nCbS; j = j + pbOffset ) |
| for( i = 0; i < nCbS; i = i + pbOffset ) { |
| if( depth\_modeling\_mode\_flag[ nuh\_layer\_id ] ) |
| intra\_mode\_ext( x0 + i ,  y0+ j , log2CbSize ) |
| if( !dmm\_flag[ x0 + i ][ y0 + j ] ) |
| **prev\_intra\_luma\_pred\_flag**[ x0 + i ][ y0 + j ] |
| } |
| … |

The variable sdcEnableFlag is derived as specified in the following:

* If sdcEnableFlag is set equal to (  segment\_dc\_coding\_flag[ nuh\_layer\_id ]  &&  PartMode  = = PART\_2Nx2N )
* Otherwise (CuPredMode[ x0 ][ y0 ] is equal to MODE\_SKIP), sdcEnableFlag is set equal to 0

**sdc\_flag**[ x0 ][ y0 ] equal to 1 specifies that segment-wise DC coding of residual blocks is used for the current coding unit. sdc\_flag[ x0 ][ y0 ] equal to 0 specifies that segment-wise DC coding of residual blocks is not used for the current coding unit. When not present, the value of sdc\_flag[ x0 ][ y0 ] is inferred to be equal to 0.

I.7.3.8.5.1 Intra mode extension syntax

|  |
| --- |
| intra\_mode\_ext( x0 , y0 , log2CbSize ) { |
| if(depth\_modeling\_mode\_flag[ nuh\_layer\_id ] ) { |
| if( log2CbSize < 6 ) |
| **dmm\_flag**[ x0 ][ y0 ] |
| if ( dmm\_flag[ x0 ][ y0 ]) |
| **dmm\_type\_flag**[ x0 ][ y0 ] |
| if( DepthIntraMode[ x0 ][ y0 ] = = INTRA\_DEP\_DMM\_WFULL ) |
| **wedge\_full\_tab\_idx**[ x0  ][ y0 ] |
| } |
| } |

**dmm\_flag**[ x0 ][ y0 ] equal to 1 specifies that depth modeling modes are used for the current coding unit. dmm\_flag[ x0 ][ y0 ] equal to 0 specifies that depth modeling modes are not used for the current coding unit. When not present, the value of dmm\_flag[ x0 ][ y0 ] is inferred to be equal to 0.

**dmm\_type\_flag**[ x0 ][ y0 ] is used to specify the depth modeling mode type of the current prediction unit.

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

DepthIntraMode[ x0 ][ y0 ] = !dmm\_flag[ x0 ][ y0 ] ? −1 : dmm\_type\_flag[ x0 ][ y0 ]

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

Table ‑3 – Specification of DepthIntraMode and associated name

|  |  |
| --- | --- |
| **DepthIntraMode** | **Associated name** |
| −1 | INTRA\_DEP\_NONE |
| 0 | INTRA\_DEP\_DMM\_WFULL |
| 1 | INTRA\_DEP\_DMM\_CPREDTEX |

**wedge\_full\_tab\_idx**[ x0 ][ y0 ]specifies the index of the wedgelet pattern in the corresponding pattern list when DepthIntraMode[ x0 ][ y0 ] is equal to INTRA\_DEP\_DMM\_WFULL.

I.7.3.8.5.2 Coding unit extension syntax

|  |
| --- |
| … |
| if( dmm\_flag[ x0 + k ][ y0 + j ] | | sdc\_flag[ x0 ][ y0 ] ) { |
| if( CuPredMode[ x0 ][ y0 ] = = MODE\_INTRA ) { |
| **depth\_dc\_flag**[ x0 + k ][ y0 + j ] |
| dcNumSeg = dmm\_flag[ x0 + k ][ y0 + j ] ? 2 : 1 |
| } else |
| … |

# Patent Rights Declaration(s)

**Samsung Electronics Co. Ltd. may have IPR relating to the technology described in this contribution and, conditioned on reciprocity, is prepared to grant licenses under reasonable and non-discriminatory terms as necessary for implementation of the resulting ITU-T Recommendation | ISO/IEC International Standard (per box 2 of the ITU-T/ITU-R/ISO/IEC patent statement and licensing declaration form).**