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| **Joint Collaborative Team on 3D Video Coding Extensions**  **of ITU-T SG 16 WP 3 and ISO/IEC JTC 1/SC 29/WG 11**  9th Meeting: Sapporo, JP, 3 – 9 July 2014 | Document: JCT3V-J0047 |

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| --- | --- | --- | --- |
| *Title:* | **Removal of depth\_dc\_flag syntax** | | |
| *Status:* | Input Document | | |
| *Purpose:* | Proposal | | |
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| *Source:* | LG Electronics | | |

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The newly added parts compared to 3D-HEVC working draft 3 are highlighted in green and the removed parts are marked with ~~strikethrough~~.

I.7.3.8.5.2 Coding unit extension syntax

|  |  |
| --- | --- |
| cu\_extension( x0 , y0 , log2CbSize ) { | **Descriptor** |
| if( single\_sample\_flag[ x0 ][ y0 ] ) |  |
| **single\_sample\_idx**[ x0 ][ y0 ] | ae(v) |
| else { |  |
| if ( rpEnableFlag ) |  |
| **iv\_res\_pred\_weight\_idx** | ae(v) |
| if ( icEnableFlag && iv\_res\_pred\_weight\_idx = = 0 ) |  |
| **ic\_flag** | ae(v) |
| if( cuDepthDcPresentFlag ) { |  |
| pbOffset = ( PartMode = = PART\_NxN &&   CuPredMode[ x0 ][ y0 ] = = MODE\_INTRA ) ? ( nCbS / 2 ) : nCbS |  |
| for( j = 0; j < nCbS; j = j + pbOffset ) |  |
| for( k = 0; k < nCbS; k = k + pbOffset ) |  |
| if( DmmFlag[ x0 + k ][ y0 + j ] | | sdc\_flag[ x0 ][ y0 ] ) { |  |
| ~~if( CuPredMode[ x0 ][ y0 ] = = MODE\_INTRA && sdc\_flag[ x0 ][ y0 ] )~~ |  |
| **~~depth\_dc\_flag~~**~~[ x0 + k ][ y0 + j ]~~ | ~~ae(v)~~ |
| dcNumSeg = DmmFlag[ x0 + k ][ y0 + j ] ? 2 : 1 |  |
| ~~if( depth\_dc\_flag[ x0 + k ][ y0 + j ] )~~ |  |
| for( i = 0; i < dcNumSeg; i ++ ) { |  |
| **depth\_dc\_abs**[ x0 + k ][ y0 + j ][ i ] | ae(v) |
| if ( depth\_dc\_abs[ x0 + k ][ y0 + j ][ i ] > 0 ) |  |
| **depth\_dc\_sign\_flag**[ x0 + k ][ y0 + j ][ i ] | ae(v) |
| } |  |
| } |  |
| } |  |
| } |  |
| } |  |

I.7.4.9.5.2 Coding unit extension semantics

**...**

The variable cuDepthDcPresentFlag is derived as specified in the following:

cuDepthDcPresentFlag = ( sdc\_flag[ x0 ][ y0 ] | | ( CuPredMode[ x0 ][ y0 ] = = MODE\_INTRA ) ) (‑36)

**~~depth\_dc\_flag~~**~~[ x0 ][ y0 ] equal to 1 specifies that depth\_dc\_abs[ x0 ][ y0 ][ i ] and depth\_dc\_sign\_flag[ x0 ][ y0 ][ i ] are present. depth\_dc\_flag[ x0 ][ y0 ] equal to 0 specifies that depth\_dc\_abs[ x0 ][ y0 ][ i ] and depth\_dc\_sign\_flag[ x0 ][ y0 ][ i ] are not present. When not present, depth\_dc\_flag[ x0 ][ y0 ] is inferred to be equal to 1.~~

**depth\_dc\_abs**[ x0][ y0 ][ i ], **depth\_dc\_sign\_flag**[ x0 ][ y0 ][ i ]are used to derive DcOffset[ x0 ][ y0 ][ i ]. When not present, the values of depth\_dc\_abs[ x0][ y0 ][ i ] and depth\_dc\_sign\_flag[ x0 ][ y0 ][ i ] are inferred to be equal to 0. The variable DcOffset[ x0 ][ y0 ][ i ] is derived as specified in the following:

* 1. DcOffset[ x0 ][ y0 ][ i ] =   
     ( 1 − 2 \*depth\_dc\_sign\_flag[ x0 ][ y0 ][ i ] ) \* ( depth\_dc\_abs[ x0 ][ y0 ][ i ] − ~~dcNumSeg~~ ( CuPredMode[ x0 ][ y0 ] ! = MODE\_INTRA ) ~~+2~~ ) (‑37)