The changes of CD text are highlighted in yellow. The base text is JCTVC-I0296[2].

### 9.2.3.1.4 Derivation process of ctxIdxInc for the syntax element significant\_coeff\_flag

Inputs to this process are the colour component index cIdx, the current coefficient scan position ( xC , yC ), the previously decoded bins of the syntax element significant\_coeff\_group\_flag, the transform block width log2TrafoWidth and the transform block height log2TrafoHeight.

Output of this process is ctxIdxInc.

The variable sigCtx depends on the current position ( xC, yC ), the colour component index cIdx, the transform block size and previsously decoded bins of the syntax element significant\_coeff\_group\_flag. For the derivation of sigCtx, the following applies.

* If log2TrafoWidth is equal to log2TrafoHeight and log2TrafoWidth is equal to 2, sigCtx is derived using ctxIdxMap4x4[ ] specified in as follows..

sigCtx = ctxIdxMap4x4[ ((cIdx > 0) ? 15 : 0) + (yC << 2) + xC ] (9‑17)

* Otherwise if log2TrafoWidth is equal to log2TrafoHeight and log2TrafoWidth is equal to 3, sigCtx is derived using ctxIdxMap8x8[ ] specified in as follows.

sigCtx = ((xC + yC) = = 0) ? 10 : ctxIdxMap8x8[ ((yC >> 1 ) << 2) + (xC >> 1) ] (9‑18)

sigCtx += ( cIdx > 0) ? 6: 9 (9‑19)

* Otherwise if xC + yC is equal to 0, sigCtx is derived as follows.

sigCtx = ( cIdx > 0) ? 17: 20 (9‑20)

* Otherwise, sigCtx is derived using previously decoded bins of the syntax element significant\_coeff\_group\_flag as follows.
* The variable xCG is derived as follows.

xCG = xC >> 2 (9‑21)

* The variable yCG is derived as follows.

yCG = yC >> 2 (9‑22)

* The variable cntCG is initialized as follows.

cntCG = 0 (9‑23)

* When xC is less than ( 1 << log2TrafoWidth ) − 1, the following applies.

cntCG = cntCG + significant\_coeff\_group\_flag[ xCG + 1 ][ yCG ] (9‑24)

* When yC is less than ( 1 << log2TrafoHeight ) − 1, the following applies.

cntCG = cntCG + significant\_coeff\_group\_flag[ xCG ][ yCG + 1 ] << 1 (9‑25)

* If cntCG is equal to 0, the the following applies.

sigCtx = ( xC - (xCG << 2) ) + ( yC - (yCG << 2) ) == 0 ? 2 :

( xC - (xCG << 2) ) + ( yC - (yCG << 2) ) <=2 ? 1: 0 (9‑26)

~~sigCtx = ( xC - (xCG << 2) ) + ( yC - (yCG << 2) ) <= 2 ? 1 : 0 (9‑26)~~

* Otherwise, if cntCG is equal to 1, the following applies.

sigCtx = ( yC - (yCG << 2) ) == 0 ? 2 : (( yC - (yCG << 2) ) == 1 ? 1 : 0 (9‑27)

~~sigCtx = ( yC - (yCG << 2) ) <= 1 ? 1 : 0 (9‑27)~~

* Otherwise, if cntCG is equal to 2, the following applies.

sigCtx = ( xC - (xCG << 2) ) == 0 ? 2 : ( xC - (xCG << 2) ) == 1 ? 1 : 0 (9‑28)

~~sigCtx = ( xC - (xCG << 2) ) <= 1 ? 1 : 0 (9‑28)~~

* Otherwise ( cntCG is equal to 3 ), the following applies.

sigCtx = 2 (9‑29)

~~sigCtx = ( xC - (xCG << 2) ) + ( yC - (yCG << 2) ) <= 4 ? 2 : 1 (9‑29)~~

* The variable sigCtx is modified as follows.
  + If cIdx is equal to 0 and (xC>>2) + (yC>>2) are greater than 0, the following applies.

sigCtx = sigCtx + 24 (9‑30)

* + Otherwise, the following applies.

sigCtx = sigCtx+ ( (cIdx > 0) ? 18 : 21 ) (9‑31)

The context index increment ctxIdxInc is derived using the colour component index cIdx and sigCtx as follows.

* If cIdx is equal to 0, ctxIdxInc is derived as follows.

ctxIdxInc = sigCtx (9‑32)

* Otherwise (cIdx is greater than 0), ctxIdxInc is derived as follows.

ctxIdxInc = 27 + sigCtx (9‑33)

Table 9‑42 – Specifcation of ctxIdxMap4x4[ i ]

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **i** | **0** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** |
| **ctxIdxMap4x4[ i ]** | 0 | 1 | 4 | 5 | 2 | 3 | 4 | 5 | 6 | 6 | 8 | 8 | 7 | 7 | 8 |
| **i** | **15** | **16** | **17** | **18** | **19** | **20** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** | **29** |
| **ctxIdxMap4x4[ i ]** | 0 | 1 | 2 | 4 | 1 | 1 | 2 | 4 | 3 | 3 | 5 | 5 | 4 | 4 | 5 |

Table 9‑43 – Specifcation of ctxIdxMap8x8[ i ]

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **i** | **0** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** |
| **ctxIdxMap8x8[ i ]** | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 3 | 8 | 6 | 6 | 7 | 9 | 9 | 7 | 7 |

[Ed. (BB): The context derivation assumes maximum transform sizes less than or equal to 32x32 for luma and 16x16 for chroma and minimum transform sizes greater than or equal to 4x4.]