|  |  |
| --- | --- |
| seq\_parameter\_set\_rbsp( ) { | Descriptor |
| **profile\_space** | u(3) |
| **profile\_idc** | u(5) |
| **constraint\_flags** | u(16) |
| **level\_idc** | u(8) |
| for( i = 0; i < 32; i++ ) |  |
| **profile\_compatability\_flag[** i **]** | u(1) |
| **seq\_parameter\_set\_id** | ue(v) |
| **video\_parameter\_set\_id** | ue(v) |
| **chroma\_format\_idc** | ue(v) |
| if( chroma\_format\_idc = = 3 ) |  |
| **separate\_colour\_plane\_flag** | u(1) |
| **sps\_max\_temporal\_layers\_minus1** | u(3) |
| **pic\_width\_in\_luma\_samples** | ue(v) |
| **pic\_height\_in\_luma\_samples** | ue(v) |
| **pic\_cropping\_flag** | u(1) |
| if( pic\_cropping\_flag ) { |  |
| **pic\_crop\_left\_offset** | ue(v) |
| **pic\_crop\_right\_offset** | ue(v) |
| **pic\_crop\_top\_offset** | ue(v) |
| **pic\_crop\_bottom\_offset** | ue(v) |
| } |  |
| **bit\_depth\_luma\_minus8** | ue(v) |
| **bit\_depth\_chroma\_minus8** | ue(v) |
| [Ed. (BB): chroma bit depth present in HM software but not used further ] |  |
| **pcm\_enabled\_flag** | u(1) |
| if( pcm\_enabled\_flag ) { |  |
| **pcm\_sample\_bit\_depth\_luma\_minus1** | u(4) |
| **pcm\_sample\_bit\_depth\_chroma\_minus1** | u(4) |
| } |  |
| **log2\_max\_pic\_order\_cnt\_lsb\_minus4** | ue(v) |
| for( i = 0; i <= sps\_max\_temporal\_layers\_minus1; i++ ) { |  |
| **sps\_max\_dec\_pic\_buffering[** i **]** | ue(v) |
| **sps\_num\_reorder\_pics[** i **]** | ue(v) |
| **sps\_max\_latency\_increase[** i **]** | ue(v) |
| } |  |
| **restricted\_ref\_pic\_lists\_flag** | u(1) |
| if( restricted\_ref\_pic\_lists\_flag ) |  |
| **lists\_modification\_present\_flag** | u(1) |
| **log2\_min\_coding\_block\_size\_minus3** | ue(v) |
| **log2\_diff\_max\_min\_coding\_block\_size** | ue(v) |
| **log2\_min\_transform\_block\_size\_minus2** | ue(v) |
| **log2\_diff\_max\_min\_transform\_block\_size** | ue(v) |
| if( pcm\_enabled\_flag ) { |  |
| **log2\_min\_pcm\_coding\_block\_size\_minus3** | ue(v) |
| **log2\_diff\_max\_min\_pcm\_coding\_block\_size** | ue(v) |
| } |  |
| **max\_transform\_hierarchy\_depth\_inter** | ue(v) |
| **max\_transform\_hierarchy\_depth\_intra** | ue(v) |
| **scaling\_list\_enable\_flag** | u(1) |
| if( scaling\_list\_enable\_flag ) { |  |
| **sps\_scaling\_list\_data\_present\_flag** | u(1) |
| if( sps\_scaling\_list\_data\_present\_flag ) |  |
| scaling\_list\_param( ) |  |
| } |  |
| **chroma\_pred\_from\_luma\_enabled\_flag** | u(1) |
| **transform\_skip\_enabled\_flag** | u(1) |
| **seq\_loop\_filter\_across\_slices\_enabled\_flag** | u(1) |
| **asymmetric\_motion\_partitions\_enabled\_flag** | u(1) |
| **nsrqt\_enabled\_flag** | u(1) |
| **sample\_adaptive\_offset\_enabled\_flag** | u(1) |
| **adaptive\_loop\_filter\_enabled\_flag** | u(1) |
| if( pcm\_enabled\_flag ) |  |
| **pcm\_loop\_filter\_disable\_flag** | u(1) |
| **sps\_temporal\_id\_nesting\_flag** | u(1) |
| [Ed. (BB): x y padding syntax missing here, present in HM software ] |  |
| **num\_short\_term\_ref\_pic\_sets** | ue(v) |
| for( i = 0; i < num\_short\_term\_ref\_pic\_sets; i++) |  |
| short\_term\_ref\_pic\_set( i ) |  |
| **long\_term\_ref\_pics\_present\_flag** | u(1) |
| **sps\_temporal\_mvp\_enable\_flag** | u(1) |
| **vui\_parameters\_present\_flag** | u(1) |
| if( vui\_parameters\_present\_flag ) |  |
| vui\_parameters( ) |  |
| **sps\_extension\_flag** | u(1) |
| if( sps\_extension\_flag ) |  |
| while( more\_rbsp\_data( ) ) |  |
| **sps\_extension\_data\_flag** | u(1) |
| rbsp\_trailing\_bits( ) |  |
| } |  |

|  |  |
| --- | --- |
| pic\_parameter\_set\_rbsp( ) { | Descriptor |
| **pic\_parameter\_set\_id** | ue(v) |
| **seq\_parameter\_set\_id** | ue(v) |
| **sign\_data\_hiding\_flag** | u(1) |
| **cabac\_init\_present\_flag** | u(1) |
| **num\_ref\_idx\_l0\_default\_active\_minus1** | ue(v) |
| **num\_ref\_idx\_l1\_default\_active\_minus1** | ue(v) |
| [Ed. (BB): not present in HM software ] |  |
| **pic\_init\_qp\_minus26** | se(v) |
| **constrained\_intra\_pred\_flag** | u(1) |
| **transform\_skip\_enabled\_flag** | u(1) |
| **slice\_granularity** | u(2) |
| **diff\_cu\_qp\_delta\_depth** | ue(v) |
| **cb\_qp\_offset** | se(v) |
| **cr\_qp\_offset** | se(v) |
| **weighted\_pred\_flag** | u(1) |
| **weighted\_bipred\_flag** | u(1) |
| **output\_flag\_present\_flag** | u(1) |
| **transquant\_bypass\_enable\_flag** | u(1) |
| **dependent\_slice\_enabled\_flag** | u(1) |
| **tiles\_or\_entropy\_coding\_sync\_idc** | u(2) |
| if( tiles\_or\_entropy\_coding\_sync\_idc = = 1 ) { |  |
| **num\_tile\_columns\_minus1** | ue(v) |
| **num\_tile\_rows\_minus1** | ue(v) |
| **uniform\_spacing\_flag** | u(1) |
| if( !uniform\_spacing\_flag ) { |  |
| for( i = 0; i < num\_tile\_columns\_minus1; i++ ) |  |
| **column\_width[**i **]** | ue(v) |
| for( i = 0; i < num\_tile\_rows\_minus1; i++ ) |  |
| **row\_height[**i **]** | ue(v) |
| } |  |
| **loop\_filter\_across\_tiles\_enabled\_flag** | u(1) |
| } else if( tiles\_or\_entropy\_coding\_sync\_idc = = 3 ) |  |
| **cabac\_independent\_flag** | u(1) |
| **deblocking\_filter\_control\_present\_flag** | u(1) |
| if( deblocking\_filter\_control\_present\_flag ) { |  |
| **deblocking\_filter\_override\_enabled\_flag** | u(1) |
| **pps\_disable\_deblocking\_filter\_flag** | u(1) |
| if( !pps\_disable\_deblocking\_filter\_flag ) { |  |
| **beta\_offset\_div2** | se(v) |
| **tc\_offset\_div2** | se(v) |
| } |  |
| } |  |
| **pps\_scaling\_list\_data\_present\_flag** | u(1) |
| if( pps\_scaling\_list\_data\_present\_flag ) |  |
| scaling\_list\_param( ) |  |
| **log2\_parallel\_merge\_level\_minus2** | ue(v) |
| **slice\_header\_extension\_present\_flag** | u(1) |
| **slice\_extension\_present\_flag** | u(1) |
| **pps\_extension\_flag** | u(1) |
| if( pps\_extension\_flag ) |  |
| while( more\_rbsp\_data( ) ) |  |
| **pps\_extension\_data\_flag** | u(1) |
| rbsp\_trailing\_bits( ) |  |
| } |  |