|  |  |
| --- | --- |
| **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**  2nd Meeting: Shanghai, CN, 13–19 Oct. 2012 | Document: JCT3V-B0055 |

|  |  |  |  |
| --- | --- | --- | --- |
| *Title:* | **AHG7: Comments on MVC+D** | | |
| *Status:* | Input Document | | |
| *Purpose:* | Proposal | | |
| *Author(s) or Contact(s):* | Ying Chen Ye-Kui Wang  5775 Morehouse Drive San Diego, CA 92121, USA | Tel: Email: | 1-858-845-6589 [cheny@qti.qualcomm.com](mailto:cheny@qti.qualcomm.com)  1-858-651-8345 [yekuiw@qti.qualcomm.com](mailto:yekuiw@qti.qualcomm.com) |
| *Source:* | Qualcomm Incorporated | | |

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

# Abstract

This document proposes a change to the semantics of applicable\_op\_num\_views\_minus1[ i ][ j ], for clarification of the relationship with the syntax element applicable\_op\_num\_depth\_views\_minus1[ i ][ j ] adopted at the previous JCT-3V meeting.

# Introduction

In MVC+D, the texture view and depth view with the same view\_id may have different view dependencies, which are specified in two sequence parameter set MVC extension syntax tables. Thus, the number of texture views and the number of depth views needed for the decoding a particular 3DV operation point identified by a set of target output views may be different. At the previous JCT-3V meeting, it was agreed that in 3DV the number of texture views to be decoded is signalled by the existing syntax element applicable\_op\_num\_views\_minus1[ i ][ j ], and the number of depth views to be decoded is signalled using a new syntax element applicable\_op\_num\_depth\_views\_minus1[ i ][ j ]. The existing syntax element is signalled in the sequence parameter set MVC extension syntax table, and the new syntax element is signalled in the sequence parameter set 3DVC extension syntax table.

However, in the latest HEVC+D wording draft, the semantics of existing syntax element applicable\_op\_num\_views\_minus1[ i ][ j ] is the same as in Annex H without being changed, and thus there were confusions regarding what exactly the syntax element signals and what is the relationship between the two syntax elements.

In this document, we propose changes to the semantics for both syntax elements for clarification.

# Proposal

The proposed specification text changes are provided below, with newly added text highlighted as green and deleted text highlighted as red strikethrough (~~red strikethrough~~).

I.7.3.2.1.4 Sequence parameter set MVC extension semantics

The semantics specified in subclause H.7.4.2.1.4 apply with the substitution of texture view component or depth view component for view component~~.~~, and with the following semantics for the syntax element applicable\_op\_num\_views\_minus1[ i ][ j ].

**applicable\_op\_num\_views\_minus1[** i **][** j **]** plus 1 specifies the number of texture views required for decoding the target output views corresponding to the j-th operation point to which the level indicated by level\_idc[ i ] applies. The number of texture views specified by applicable\_op\_num\_views\_minus1 includes the texture views of the target output views and the texture views that the target output views depend on. The value ofapplicable\_op\_num\_views\_minus1[ i ][ j ] shall be in the range of 0 to 1023, inclusive.

I.7.4.2.1.5 Sequence parameter set 3DVC extension semantics

**applicable\_op\_num\_depth\_views\_minus1[** i **][** j **]** plus 1 specifies the number of depth views required for decoding the target output views corresponding to the j-th operation point to which the level indicated by level\_idc[ i ] applies. The number of depth views specified by applicable\_op\_num\_depth\_views\_minus1 includes the depth views of the target output views and the depth views that the target output views depend on ~~as specified by sub-bitstream extraction process in I.8.5 with tIdTarget equal to applicable\_op\_temporal\_id[ i ][ j ] and viewIdTargetList equal to the list of applicable\_op\_target\_view\_id[ i ][ j ][ k ] for all k in the range of 0 to applicable\_op\_num\_target\_views\_minus1[ i ][ j ], inclusive, as inputs~~. The value ofapplicable\_op\_num\_depth\_views\_minus1[ i ][ j ] shall be in the range of 0 to 1023, inclusive.

# Patent rights declaration(s)

**Qualcomm Incorporated may have current or pending patent rights 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).**