

*Title:* JCT-VC AHG report: Chroma format support (AHG 20)

*Status:* Input Document to JCT-VC

*Purpose:* Ad-hoc group report

*Author(s):* David Flynn  
Pankaj Topiwala  
Dzung Hoang  
Ken McCann

*davidf@rd.bbc.co.uk*  
*pankajtva@gmail.com*  
*Dzung.Hoang@zenverge.com*  
*ken@zetacast.com*

*Source:* AHG 20

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## Abstract

This report summarizes the activities of Ad Hoc Group 20 on Chroma Formats between the 7th and 8th JCT-VC meetings.

## Mandates

The ad hoc group was mandated to:

- Study aspects of the technical design and software that need modification to support non-4:2:0 chroma formats.
- Assist and advise in the work of removing implicit assumptions of 4:2:0 formatting from the WD and software (where feasible, without introducing technical design changes).

## AHG activities

There was an interesting discussion reminding experts of the various merits of colour spaces and the pro's and cons of so called dumb spatial sub-sampling.

## Contributions

A number of documents have been contributed, covering a number of areas:

- Hybrid coding [1, 2]
- Sub-sampling filters [3]
- Current issues affecting 4:2:0 [4]
- Syntax for monochrome [5]
- Modifications for 4:2:2 [6]

## Recommendations

It is recommended to:

- Hold a BoG to cover the current progress on chroma format support, with reference to the above documents.
- Continue the AHG to investigate incompatibilities with the current working draft and the use of chroma formats other than 4:2:0.

## References

- [1] T. Lin and S. Wang, "Mixed Chroma Sampling-rate coding: combining the merits of 4:4:4 and 4:2:0 and increasing the value of past 4:2:0 investment." JCTVC-H0065, Jan. 2012.
- [2] S. Wang and T. Lin, "4:4:4 screen content coding using Macroblock-Adaptive Mixed Chroma-Sampling-Rate." JCTVC-H0073, Jan. 2012.

- [3] W. Dai, M. Krishnan, and P. T. (FastVDO), "Coding in 444: Preferred Conversions in Color and Sampling." JCTVC-H0394, Jan. 2012.
- [4] E. François, S. Pautet, and C. (Canon), "Non-CE6a: Use of chroma phase in LM mode." JCTVC-H0177, Jan. 2012.
- [5] T. Hellman and W. W. (Broadcom), "Removal of Monochrome Chroma Format Support." JCTVC-H0457, Jan. 2012.
- [6] K. Sugimoto, A. Minezawa, and S. S. (Mitsubishi), "AHG20: 4:2:2 support in HEVC." JCTVC-H0650, Jan. 2012.