

**Joint Video Experts Team (JVET)
of ITU-T SG 16 WP 3 and ISO/IEC JTC 1/SC
29/WG 11**

Document: JVET-B1011-v2

MPEG: m38182

2nd Meeting: San Diego, February 2016

Title: Description of Exploration Experiments on Coding Tools

Status: Input document to JVET

Purpose: Proposal

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Source: E. Alshina, J. Boyce, Y.-W. Huang, S.-H. Kim, L. Zhang (EE coordinators)

HEADER EXCERPT FROM SOURCE DOCUMENT

Abstract

Documents describes Exploration Experiments (EEs) planned to be performed between JVET-B and JVET-C meetings in order to get better understanding of technologies considered for inclusion to the next version of JEM, analyse and verify their performance, complexity and interaction with existing JEM tools.

Introduction

JVET group coordinated experiments have been planned and following principles were agreed:

"Exploration experiments" (EEs) are the coordinated experiments on coding tools which are deemed to be interesting but require more investigation and could potentially become part of the main branch of JEM by the next meeting.

A description of each experiment is to be approved at the meeting at which the experiment plan is established. This should include the issues that were raised by other experts when the tool was presented, e.g., interference with other tools, contribution of different elements that are part of a package, etc.

Built from JVET-B1011-v2.docx

CARD

<http://vexpertise.stbit.ru/documents/JVET-B1011>

The screenshot displays the Jupyter Search web application. At the top, the title "Jupyter Search" is shown in blue. Below it, a search bar contains the text "Jupyter Search". To the right of the search bar are four buttons: "Elmo Abhinav", "Jill Boyce", "Y.-W. Huang", and "Seung Hwan Kim". Below these buttons, the text "Description of Exploration Experiments on Coding Tools" is displayed. Underneath this, the text "Authors:" is shown. The main content area is divided into two sections: "ABSTRACT" and "MEETING NOTES". The "ABSTRACT" section contains a single line of text. The "MEETING NOTES" section contains three lines of text. In the bottom right corner, there is a QR code.

https://jvet-experts.org/doc_end_user/documents/2_SanDiego/wg11/JVET-B1011-v2.zip

A screenshot of a document viewer interface. At the top left, the word 'Archive' is written in a light blue font. Below it, a light blue rounded rectangle contains the text 'DOC' in bold blue letters, followed by the filename 'JVET-B1011-v2.docx'. In the bottom right corner, there is a square QR code.

https://jvet-experts.org/doc_end_user/current_document.php?id=2613

The screenshot displays the JvET User Interface. At the top, a dark blue header contains the text "JVET DOCUMENT MANAGEMENT SYSTEM" and "Joint Adult Experts Team". On the left, a vertical sidebar lists navigation options: "User" (highlighted in dark blue), "Login", "Create new user", "Claim your password", and "Contact". The main content area is titled "Preview document JvET-B1011" in red. Below this, a section titled "Document Information" is separated by a red line. It contains the following details: "Submitted by" (Jana-Robert Oden), "Title" (Description of Exploration Experiments on Coding Tools), "Authors" (V. Sengler), "Document" (JVET-B1011, upload document), and "Associated Resources". A "Comments" section is visible at the bottom, featuring a red line and a large empty text area for input. On the right side of the interface, there is a QR code.

http://vexpertise.stbit.ru/meeting-notes/source/meeting_2_b

Joint Video Experts Team (JVET)			
of ITU-T SG21 WP3/21 and ISO/IEC JTC 1/SC 29			
2nd Meeting: San Diego, February 2016			
Title:	Meeting Report of the 41st Meeting of the Joint Video Experts Team		
Status:	Report document from the chair of JVET		
Purpose:	Report		
1 Summary			
X-117c			

MEETING NOTES

JVET-B1011 Description of Exploration Experiments on coding tools [E. Alshina, J. Boyce, S.-H. Kim, L. Zhang, Y.-W. Huang] [2016-03-11]

AHG Title and Email Reflector	Chairs	Mtg
Tool evaluation (AHG1) jvet@lists.rwth-aachen.de • Coordinate the exploration experiments. • Investigate interaction of tools in JEM and exploration experiment branches. • Discuss and evaluate methodologies and criteria to assess the benefit of tool. • Study and summarize new technology proposals.	E. Alshina, M. Karczewicz (co-chairs)	N
JEM algorithm description editing (AHG2) jvet@lists.rwth-aachen.de • Produce and finalize JVET-B1001 Algorithm Description of Joint Exploration Test Model 2 • Gather and address comments for refinement of the document • Coordinate with the JEM software development AHG to address issues relating to mismatches between software and text.	J. Chen (chair) E. Alshina, J. Boyce (vice chairs)	N
JEM software development (AHG3) jvet@lists.rwth-aachen.de • Coordinate development of the JEM2 software and its distribution. • Produce documentation of software usage for distribution with the software. • Prepare and deliver JEM2 software version and the reference configuration encodings according to JVET-B1010 common conditions. • Suggest configuration files for additional testing of tools.	X. Li, K. Suehring (co-chairs)	N

• Coordinate with AHG on JEM model editing and errata reporting to identify any mismatches between software and text. • Investigate parallelization for speedup of simulations.		
Test material (AHG4) (jvet@lists.rwth-aachen.de) • Maintain the video sequence test material database for development of future video coding standards. • Identify and recommend appropriate test materials and corresponding test conditions for use in the development of future video coding standards. • Identify missing types of video material, solicit contributions, collect, and make available a variety of video sequence test material. • Study coding performance and characteristics in relation to video test materials.	T. Suzuki (chair), J. Chen, J. Boyce, A. Norkin (vice chairs)	N
Objective quality metrics (AHG5) (jvet@lists.rwth-aachen.de) • Study metrics which are useful to evaluate the quality of video compression algorithms with closer match to human perception. • Collect and make software implementing the computation of such metrics available.	P. Nasiopoulos, M. Pourazad (co-chairs)	N

Future meeting plans, expressions of thanks, and closing of the meeting

Future meeting plans were established according to the following guidelines:

- Meeting under ITU-T SG 16 auspices when it meets (starting meetings on the Thursday of the first week and closing it on the Tuesday or Wednesday of the second week of the SG 16 meeting – a total of 6–6.5 meeting days), and
- Otherwise meeting under ISO/IEC JTC 1/SC 29/WG 11 auspices when it meets (starting meetings on the Saturday prior to such meetings and closing it on the last day of the WG 11 meeting – a total of 6.5

meeting days).

Some specific future meeting plans (to be confirmed) were established as follows:

- Thu. 26 May – Wed. 1 June 2016, 3rd meeting under ITU-T auspices in Geneva, CH.
- Sat. 15 – Fri. 21 Oct. 2016, 4th meeting under WG 11 auspices in Chengdu, CN.
- Thu. 12 – Wed. 18 Jan 2017, 5th meeting under ITU-T auspices in Geneva, CH.
- Sat. 1 – Fri. 7 Apr. 2017, 6th meeting under WG 11 auspices in Hobart, AU.

The agreed document deadline for the 3rd JVET meeting is Monday 16 May 2016. Plans for scheduling of agenda items within that meeting remain TBA.

The USNB of WG11 and the companies that financially sponsored the meeting and associated social event – Apple, CableLabs, Google, Huawei, InterDigital, Microsoft, Mitsubishi Electric, Netflix and Qualcomm – were thanked for the excellent hosting of the 2nd meeting of the JVET.

InterDigital, Qualcomm, Samsung and Sony were thanked for providing viewing equipment.

The 2nd JVET meeting was closed at approximately 1555 hours on Thursday 25 February 2016.

Annex A to JVET report:

List of documents

JVET number	MPEG number	Created	First upload	Last upload	Title	Authors
JVET-B0001	m38092	2016-02-19 23:07:31	2016-02-20 16:04:33	2016-02-20 16:04:33	Report of VCEG AHG1 on Coding Efficiency Improvements	M. Karczewicz, M. Budagavi
JVET-B0002	m38155	2016-02-23 03:59:29	2016-02-23 04:01:30	2016-02-23 04:01:30	VCEG AHG report on Subjective Distortion Measurement (AHG2 of VCEG)	TK Tan
JVET-B0004	m38077	2016-02-19 06:37:30	2016-02-20 21:07:58	2016-02-21 23:03:29	VCEG AHG report on test sequences selection (AHG4 of VCEG)	T. Suzuki, J. Boyce, A. Norkin

JVET-B0006	m38064	2016-02-18 17:56:47	2016-02-20 07:37:18	2016-02-20 07:37:18	Report of AHG on JEM software development	X. Li, K. Suehring
JVET-B0021	m37606	2016-01-29 02:32:08	2016-02-20 18:09:50	2016-02-20 18:09:50	Proposed Improvements to Algorithm Description of Joint Exploration Test Model 1	J. Chen, E. Alshina, G.-J. Sullivan, J.-R. Ohm, J. Boyce
JVET-B0022	m37610	2016-02-02 07:28:11	2016-02-12 18:05:42	2016-02-17 13:57:41	Performance of JEM 1 tools analysis by Samsung	E. Alshina, A. Alshin, K. Choi, M. Park
JVET-B0023	m37673	2016-02-08 09:57:19	2016-02-08 10:03:12	2016-02-20 17:37:03	Quadtree plus binary tree structure integration with JEM tools	J. An, H. Huang, K. Zhang, Y.-W. Huang, S. Lei (MediaTek)
JVET-B0024	m37750	2016-02-10 10:02:09	2016-02-15 15:35:39	2016-02-17 15:20:11	Evaluation report of SJTU Test Sequences	Thibaud Biatek, Xavier Ducloux
JVET-B0025	m37778	2016-02-12 06:09:39	2016-02-12 06:38:55	2016-02-15 05:47:05	Evaluation Report of Chimera Test Sequence for Future Video Coding	H. Ko, S.-C. Lim, J. Kang, D. Jun, J. Lee, H. Y. Kim (ETRI)
JVET-B0026	m37779	2016-02-12 06:10:40	2016-02-12 06:39:27	2016-02-15 05:47:37	JEM1.0 Encoding Results of Chimera Test Sequence	S.-C. Lim, H. Ko, J. Kang, H. Y. Kim (ETRI)
JVET-B0027	m37796	2016-02-13 03:07:31	2016-02-13 03:10:27	2016-02-13 03:10:27	SJTU 4K test sequences evaluation report from Sejong University	Nam Uk Kim, JunWoo Choi, Ga-Ram Kim, Yung-Lyul Lee
JVET-B0028	m37809	2016-02-15 02:17:32	2016-02-15 15:55:10	2016-02-20 17:30:17	Direction-dependent sub-TU scan order on intra prediction	Shunsuke Iwamura, Atsuro Ichigaya

JVET-B0029	m37820	2016-02-15 04:31:35	2016-02-15 04:47:27	2016-02-15 04:47:27	Evaluation report of B-Com test sequence (JCTVC-V0086)	O. Nakagami, T. Suzuki (Sony)
JVET-B0030	m37821	2016-02-15 04:43:04	2016-02-15 05:11:26	2016-02-15 05:11:26	Comment on test sequence selection	O. Nakagami, T. Suzuki (Sony)
JVET-B0031	m37822	2016-02-15 05:14:56	2016-02-16 05:08:49	2016-02-16 05:08:49	Evaluation report of Huawei test sequence	Kiho Choi, E. Alshina, A. Alshin, M. Park
JVET-B0032	m37823	2016-02-15 05:14:58			Withdrawn	
JVET-B0033	m37824	2016-02-15 05:21:46	2016-02-16 05:09:44	2016-02-21 04:32:07	Adaptive Multiple Transform for Chroma	Kiho Choi, E. Alshina, A. Alshin, M. Park, M. Park, C. Kim
JVET-B0034	m37825	2016-02-15 05:26:09	2016-02-16 05:10:38	2016-02-16 05:10:38	Cross-check of JVET-B0023	E. Alshina, Kiho Choi, A. Alshin, M. Park, M. Park, C. Kim
JVET-B0035	m37829	2016-02-15 08:58:14	2016-02-16 12:11:43	2016-02-16 12:11:43	Evaluation Report of Chimera and Huawei Test Sequences for Future Video Coding	Pierrick Philippe (Orange)
JVET-B0036	m37840	2016-02-15 11:59:37	2016-02-15 14:43:11	2016-02-21 23:10:45	Simplification of the common test condition for fast simulation	X. Ma, H. Chen, H. Yang (Huawei)
JVET-B0037	m37841	2016-02-15 12:04:45	2016-02-15 14:43:51	2016-02-19 15:10:34	Performance analysis of affine inter prediction in JEM1.0	H. Zhang, H. Chen, X. Ma, H. Yang (Huawei)

JVET-B0038	m37842	2016-02-15 12:07:39	2016-02-15 14:44:23	2016-02-19 15:09:18	Harmonization of AFFINE, OBMC and DBF	H. Chen, S. Lin, H. Yang, X. Ma (Huawei)
JVET-B0039	m37845	2016-02-15 12:40:11	2016-02-15 23:18:30	2016-02-24 18:34:20	Non-normative JEM encoder improvements	Kenneth Andersson, Per Wennersten, Rickard Sjoberg, Jonatan Samuelsson, Jacob Strom, Per Hermansson, Martin Pettersson
JVET-B0040	m37855	2016-02-15 14:32:47	2016-02-15 17:39:50	2016-02-20 21:26:34	Evaluation Report of Huawei and B-Com Test Sequences for Future Video Coding	Fabien Racape, Fabrice Le Leannec, Tangi Poirier
JVET-B0041	m37862	2016-02-15 15:20:43	2016-02-18 03:12:59	2016-02-21 10:06:43	Adaptive reference sample smoothing simplification	Alexey Filippov, Vasily Rufitskiy (Huawei Technologies)
JVET-B0042	m37888	2016-02-15 17:34:11	2016-02-15 18:03:23	2016-02-20 18:27:21	Evaluation Report of B-COM Test Sequence for Future Video Coding (JCTVC-V0086)	Han Boon Teo, Meng Dong
JVET-B0043	m37890	2016-02-15 18:06:12	2016-02-15 23:23:21	2016-02-20 18:03:10	Polyphase subsampled signal for spatial scalability	Emmanuel Thomas
JVET-B0044	m37898	2016-02-15 18:40:36	2016-02-15 23:54:59	2016-02-23 20:29:56	Coding Efficiency / Complexity Analysis of JEM 1.0 coding tools for the Random Access Configuration	H. Schwarz, C. Rudat, M. Siekmann, B. Bross, D. Marpe, T. Wiegand (Fraunhofer HHI)
JVET-B0045	m37956	2016-02-16 01:58:25	2016-02-16 07:35:03	2016-02-20 21:27:44	Performance evaluation of JEM 1 tools by Qualcomm	J. Chen, X. Li, F. Zou, M. Karczewicz, W.-J. Chien, T. Hsieh

JVET-B0046	m37957	2016-02-16 02:17:57	2016-02-16 02:25:03	2016-02-21 23:16:32	Evaluation report of Netflix Chimera and SJTU test sequences	F. Zou, J. Chen, X. Li, M. Karczewicz (Qualcomm)
JVET-B0047	m37958	2016-02-16 02:18:53	2016-02-16 04:07:53	2016-02-21 03:33:27	Non Square TU Partitioning	K. Rapaka, J. Chen, L. Zhang, W. -J. Chien, M. Karczewicz
JVET-B0048	m37961	2016-02-16 04:31:59	2016-02-16 15:59:49	2016-02-21 17:54:10	Universal string matching for ultra high quality and ultra high efficiency SCC	Liping Zhao, Kailun Zhou, Jing Guo, Shuhui Wang, Tao Lin (Tongji Univ.)
JVET-B0049	m37962	2016-02-16 04:34:23	2016-02-16 16:02:14	2016-02-23 08:35:43	Four new SCC test sequences for ultra high quality and ultra high efficiency SCC	Jing Guo, Liping Zhao, Tao Lin (Tongji Univ.)
JVET-B0050	m37963	2016-02-16 04:36:58	2016-02-16 16:54:00	2016-02-21 15:52:23	Performance comparison of HEVC SCC CTC sequences between HM16.6 and JEM1.0	Shuhui Wang, Tao Lin (Tongji Univ.)
JVET-B0051	m37964	2016-02-16 05:10:48	2016-02-16 05:26:13	2016-02-20 02:47:22	Further improvement of intra coding tools	S.-H. Kim, A. Segall (Sharp)
JVET-B0052	m37965	2016-02-16 07:46:08	2016-02-16 08:02:52	2016-02-21 21:55:29	Report of evaluating Huawei surveillance test sequences	Ching-Chieh Lin, Jih-Sheng Tu, Yao-Jen Chang, Chun-Lung Lin (ITRI)
JVET-B0053	m37966	2016-02-16 07:49:02	2016-02-16 08:04:05	2016-02-20 02:32:14	Report of evaluating Huawei UGC test sequences	Jih-Sheng Tu, Ching-Chieh Lin, Yao-Jen Chang, Chun-Lung Lin (ITRI)
JVET-B0054	m37972	2016-02-16	2016-02-16	2016-02-21	De-quantization and scaling for next	J. Zhao, A. Segall, S.-H. Kim, K. Misra

		09:25:00	09:44:13	19:04:12	generation containers	(Sharp)
JVET-B0055	m37973	2016-02-16 09:46:19	2016-02-21 17:00:07	2016-02-21 17:00:07	Netflix Chimera test sequences evaluation report	Maxim Sychev, Huanbang Chen(Huawei)
JVET-B0056	m37980	2016-02-16 10:57:10	2016-02-16 10:59:30	2016-02-16 10:59:30	Evaluation report of SJTU Test Sequences from Sharp	T. Ikai (Sharp)
JVET-B0057	m37990	2016-02-16 17:23:15	2016-02-18 14:15:40	2016-02-21 10:10:21	Evaluation of some intra-coding tools of JEM1	Alexey Filippov, Vasily Rufitskiy (Huawei Technologies)
JVET-B0058	m37994	2016-02-16 23:18:03	2016-02-16 23:35:44	2016-02-23 21:54:07	Modification of merge candidate derivation	W. -J. Chien, J. Chen, S. Lee, M. Karczewicz (Qualcomm)
JVET-B0059	m37998	2016-02-17 05:06:31	2016-02-17 05:29:50	2016-02-21 03:32:20	TU-level non-separable secondary transform	X. Zhao, A. Said, V. Seregin, M. Karczewicz, J. Chen, R. Joshi (Qualcomm)
JVET-B0060	m38000	2016-02-17 05:19:30	2016-02-17 05:28:11	2016-02-20 01:40:08	Improvements on adaptive loop filter	M. Karczewicz, L. Zhang, W. -J. Chien, X. Li (Qualcomm)
JVET-B0061	m38004	2016-02-17 06:29:45	2016-02-17 07:17:22	2016-02-17 12:18:47	Evaluation report of SJTU test sequences for future video coding standardization	Sang-hyo Park, Haiyan Xu, Euee S. Jang
JVET-B0062	m38019	2016-02-17 13:12:30	2016-02-19 15:06:12	2016-02-19 15:06:12	Crosscheck of JVET-B0022(ATMVP)	X. Ma, H. Chen, H. Yang (Huawei)

JVET-B0063	m38078	2016-02-19 07:08:45	2016-02-19 07:20:12	2016-02-19 07:20:12	Cross-check of non-normative JEM encoder improvements (JVET-B0039)	B. Li, J. Xu (Microsoft)
JVET-B0064	m38079	2016-02-19 07:13:04			Withdrawn	
JVET-B0065	m38096	2016-02-20 04:16:23	2016-02-20 17:58:16	2016-02-23 03:21:38	Coding results of 4K surveillance and 720p portrait sequences for future video coding	K. Kawamura, S. Naito (KDDI)
JVET-B0066	m38100	2016-02-20 09:55:37	2016-02-21 04:28:46	2016-02-21 04:28:46	Cross-check of JVET-B0058: Modification of merge candidate derivation	H. Chen, H. Yang (Huawei)
JVET-B0067	m38103	2016-02-20 18:50:57	2016-02-26 20:58:09	2016-02-26 20:58:09	Cross-check of JVET-B0039: Non-normative JEM encoder improvements	C. Rudat, B. Bross, H. Schwarz (Fraunhofer HHI)
JVET-B0068	m38104	2016-02-20 19:58:43	2016-02-22 00:38:06	2016-02-22 00:38:06	Cross-check of Non Square TU Partitioning (JVET-B0047)	O. Nakagami (Sony)
JVET-B0069	m38105	2016-02-20 21:06:16	2016-02-25 10:41:24	2016-02-25 10:41:24	Crosscheck of the improvements on ALF in JVET-B060	C.-Y. Chen, Y.-W. Huang (MediaTek)
JVET-B0070	m38106	2016-02-20 21:19:55	2016-02-25 19:48:36	2016-02-25 19:48:36	Cross-check of JVET-B0060	B. Li, J. Xu (Microsoft)
JVET-B0071	m38108	2016-02-20			Withdrawn	

		23:59:39				
JVET-B0072	m38109	2016-02-21 02:21:38	2016-02-21 02:24:37	2016-02-21 19:33:56	SJTU 4k test sequences evaluation report	Seungsu Jeon, Namuk Kim, HuikJae Shim, Byeungwoo Jeon
JVET-B0073	m38117	2016-02-21 20:17:28	2016-02-21 20:31:14	2016-02-24 03:10:14	Simplification of Low Delay configurations for JVET CTC	Maxim Sychev (Huawei)
JVET-B0074	m38122	2016-02-22 00:16:55	2016-02-23 03:14:00	2016-02-24 23:17:46	Report of BoG on parallel encoding and removal of cross-RAP dependencies	K. Suehring, H. Yang
JVET-B0075	m38160	2016-02-23 08:26:10	2016-02-23 15:37:54	2016-02-23 15:37:54	Report on BoG on informal subjective viewing related to JVET-B0039	K. Andersson, E. Alshina
JVET-B0076	m38172	2016-02-24 18:14:39	2016-02-24 20:22:20	2016-02-24 20:22:20	Report of BoG on selection of test material	T. Suzuki, J. Chen
JVET-B1000	m38200	2016-02-27 21:17:38			Meeting Report of 2nd JVET Meeting	G. J. Sullivan, J.-R. Ohm
JVET-B1001	m38201	2016-02-27 21:20:40	2016-03-08 18:04:59	2016-03-25 22:30:44	Algorithm description of Joint Exploration Test Model 2	J. Chen, E. Alshina, G. J. Sullivan, J.-R. Ohm, J. Boyce
JVET-B1002	m38199	2016-02-26 23:44:07	2016-03-05 23:52:05	2016-03-05 23:52:05	Call for test material for future video coding standardization	A. Norkin, H. Yang, J.-R. Ohm, G. J. Sullivan, T. Suzuki

JVET-B1010	m38202	2016-02-27 21:31:20	2016-04-01 15:29:21	2016-04-04 13:20:09	JVET common test conditions and software reference configurations	K. Suehring, X. Li
JVET-B1011	m38182	2016-02-25 02:05:31	2016-02-25 16:41:35	2016-03-14 07:26:38	Description of Exploration Experiments on Coding Tools	E.Alshina, J. Boyce, Y.-W. Huang, S.-H. Kim, L. Zhang

Annex B to JVET report:

List of meeting participants

The participants of the second meeting of the JVET, according to a sign-in sheet circulated during the meeting sessions (approximately 161 people in total), were as follows:

1. Anne Aaron (Netflix)
2. Yong-Jo Ahn (Kwangwoon Univ. (KWU))
3. Elena Alshina (Samsung Electronics)
4. Peter Amon (Siemens AG)
5. Kenneth Andersson (LM Ericsson)
6. Maryam Azimi (UBC)
7. Giovanni Ballocca (Sisvel Tech)
8. Yukihiro Bandoh (NTT)
9. Gun Bang (ETRI)
10. Guillaume Barroux (Fujitsu Labs)
11. David Baylon (Arris)
12. Ronan Boitard (UBC)
13. Jill Boyce (Intel)
14. Benjamin Bross (Fraunhofer HHI)
15. Madhukar Budagavi (Samsung Research)
16. Alan Chalmers (Univ. Warwick)
17. Yao-Jen Chang (ITRI Intl.)
18. Chun-Chi Chen (NCTU/ITRI)
19. Jianle Chen (Qualcomm)
20. Peisong Chen (Broadcom)
21. Wei-Jung Chien (Qualcomm)

22. Haechul Choi (Hanbat Nat. Univ.)
23. Kiho Choi (Samsung Electronics)
24. Keiichi Chono (NEC)
25. Takeshi Chujoh (Toshiba)
26. Gordon Clare (Orange Labs FT)
27. André Dias (BBC)
28. Xavier Ducloux (Thomson Video Networks)
29. Alberto Duenas (NGCodec)
30. Thierry Fautier (Harmonic)
31. Alexey Filippov (Huawei)
32. Christophe Gisquet (Canon Research France)
33. Zhouye Gu (Arris)
34. Wassim Hamiclouche (IETR/INSA)
35. Ryoji Hashimoto (Renesas)
36. Dake He (Blackberry)
37. Yuwen He (InterDigital Commun.)
38. Hendry (Qualcomm)
39. Jin Heo (LG Electronics)
40. James Holland (Intel)
41. Seungwook Hong (Arris)
42. Ted Hsieh (Qualcomm Tech.)
43. Yu-Wen Huang (MediaTek)
44. Atsuro Ichigaya (NHK (Japan Broadcasting Corp.))
45. Tomohiro Ikai (Sharp)
46. Masaru Ikeda (Sony)
47. Shunsuke Iwamura (NHK (Japan Broadcasting Corp.))
48. Euee S. Jang (Hanyang Univ.)
49. Wonkap Jang (Vidyo)
50. Seungsu Jeon (Sungkyunkwan Univ. (SKKU))
51. Minqiang Jiang (Huawei)
52. Guoxin Jin (Qualcomm Tech.)
53. Rajan Joshi (Qualcomm)
54. Dongsan Jun (ETRI)
55. Joël Jung (Orange Labs)
56. Jung Won Kang (Electronics and Telecom Research Institute (ETRI))
57. Marta Karczewicz (Qualcomm Tech.)
58. Kei Kawamura (KDDI)

59. Louis Kerofsky (Interdigital)
60. Dae Yeon Kim (Chips & Media)
61. Hui Yong Kim (ETRI)
62. Jae-Gon Kim (Korea Aerosp. Univ.)
63. Jungsun Kim (MediaTek USA)
64. Namuk Kim (Sungkyunkwan Univ. (SKKU))
65. Seung-Hwan Kim (Sharp)
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1. The definitions of PB and PU are tricky for a 64x64 intra luma CB when the prediction control information is sent at the 64x64 level but the prediction operation is performed on 32x32 blocks. The PB, PU, TB and TU definitions are also tricky in relation to chroma for the smallest block sizes with the 4:2:0 and 4:2:2 chroma formats. Double-checking of these definitions is encouraged. [↑](#)

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