

Newsletter **ARIB** **SEASON**



Welcome to the summer edition of ARIB SEASON that covers both telecommunication and broadcasting related subject.

Event

13th CJK IT Standards Meeting

CJK Meeting on Information and Telecommunication Standards started on June 2002 with an initiative of ARIB of Japan, CCSA of China, TTA of Korea, and the TTC of Japan to promote growth of the information and telecommunication fields with the aim to promote actively mutual cooperation among the standards development organization of Japan, China and South Korea.

The 13th CJK IT Standards Meeting hosted by TTA was held from Tuesday, 15 April to Thursday, 17 April 2014 at Paradise Hotel in Busan, Korea. The Meeting was attended by 102 participating delegates representing ARIB, CCSA, TTA and TTC. 15 delegates from ARIB led by Dr. Kohei Satoh, Managing Director, participated in this meeting.

CJK HoD (Head of Delegation) Adhoc was established at the 12th CJK meeting to initiate high-level discussion to explore ways to enhance standardization cooperation among ARIB, CCSA, TTA and TTC, and discussed through the conference call. The result was that the meeting agreed a principle and procedure for CJK joint adoption of standards among CJK SDOs and common adoption of international standards, after that it was reflected to the amended MoU and signed by HoD of each SDO at the end of this meeting. The 38th IMT (International Mobile Telecommunication) WG, the 5th WPT (Wireless Power Transmission/Transfer) WG and other WGs were held parallelly with the 13th Plenary meeting.

The IMT WG had exchanged information and opinions in relation to correspondence for the 19th ITU-R WP5D meeting held in Halifax, Canada. And establishment of VoLTE (Voice over LTE) Interworking Adhoc was approved.

The WPT WG had approved Technical Report-2, which will be input to the SG1 WP1A ITU-R.

Next 14th CJK IT Standards Meeting will be held from Tuesday, 21 April to Thursday, 23 April 2015 in Sapporo, Japan, hosted by ARIB/TTC.

Communique of the 13th CJK IT Standards Meeting is posted on the TTA website.

http://www.tta.or.kr/English/new/external_relations/CJK/cjk_m_document.jsp



CJK-13 Plenary Meeting

ARIB : Association of Radio Industries and Businesses

CCSA : China Communications Standards Association

TTA : Telecommunications Technology Association

TTC : The Telecommunications Technology Committee

Expanding ISDB-T to the world

On 15 April 2014, Mr. Abdulla Yameen Abdul Gayoom, President of the Republic of Maldives, transferred their decision to Mr. Shinzo Abe, Prime Minister of Japan, to adopt ISDB-T (terrestrial digital TV system of Japan) as his country's standard.

On 20 May 2014, Minister of Internal Affairs and Communications remarked on the adoption of ISDB-T by Democratic Socialist Republic of Sri Lanka.

Sponsorship of SMPTE Tokyo Meeting

SMPTE (Society of Motion Picture & Television Engineers) had held Technology Committees meeting (Spring session) in Tokyo from 2 to 6 June 2014 hosted by ITE (Institute of Image Information and Television Engineers) and sponsored by 19 Japanese companies/organizations.

Based on MoU (Memorandum of Understanding) between ARIB and SMPTE and recent cooperative work, ARIB accepted to be a sponsor.

Radio Day Memorial Lecture

On 26 May 2014, "Radio Day Memorial Lecture" was held in Tokyo with the theme of "Present status and prospects of use of radio waves".

1 Keynote Speech: "Outlook for the current status and future of use of radio waves"

Mr. Yoshihiro Kira, Director-General of the Telecommunications Bureau Ministry of Internal Affairs and Communications

2 "Challenge to mobile innovation - Toward the realization of smart life -"

Mr. Kaoru Kato, President and CEO, NTT DOCOMO, INC.

3 "Current Status and Issues of FM broadcast"

Mr. Katsumi Chiyo, President and COO, TOKYO FM Broadcasting Co., Ltd.

4 "Culture of living and explosive expansion of demand of radio waves"

Mr. Keiichiro Shimada, SVP, Corporate Executive, Sony Corporation



The memorial lecture

The 25th Radio Achievement Award ceremony

The 25th Radio Achievement Award ceremony was held on 17 June 2014. This award is presented every year by the Minister of Internal Affairs and Communications and the Chairman of the Board of ARIB to individuals and groups who have made a significant achievement relating to effective and proper radio wave use.

1 The Award of the Minister of Internal Affairs and Communications

- (1) Development of ultra-high-definition television (8K) satellite broadcasting system
Mr. Shinichi Sakaida, Japan Broadcasting Corporation
- (2) Development and commercialization of the very small base station (femtocells) applicable for both LTE and 3G systems
Mr. Narumi Umeda, NTT DOCOMO

2 The Award of the Chairman of the Board of ARIB

- (1) World first practical application of WiMAX Release 2.1
Mr. Akio Nosaka, UQ Communications
- (2) Practical application of SNG transmission technology with full utilization of the frequency by 5% roll-off filter, etc.
Mr. Tetsuo Makino, Nippon Television Network, Mr. Makoto Ozawa, MOUBIC,
Mr. Naoki Tsuji, SKY Perfect JSAT
- (3) Development of a 5-frequency-sharing antenna for a mobile communication base station
Mr. Narumi Umeda, NTT DOCOMO, Mr. Tsuyoshi Shimoda, Denki Kogyo,
Mr. Seishi Nagamatsu, Nihon Dengyo Kosaku,
Mr. Katsuhiro Kasai, Hitachi Metals
- (4) Practical application of high-density Wi-Fi solutions at a stadium with multi-terminal environment.
Mr. Yuuichi Kobayashi, Cisco Systems,
Mr. Nobuhiro Hara, NTT Broadband Platform,
Mr. Shigeru Yanagisawa, MIRAIT Corporation, Mr. Kouji Takeuchi, Seibu Lions
- (5) Development and commercialization of narrow-band 60GHz high-speed wireless transmission system
Mr. Shnichi Morimoto, NEC Corporation



Commemorative photo with awardees

Monthly seminars on radio wave use

No.119	3 April 2014
Title	Trends and prospects of mobile satellite communications systems and relevant services using 2 GHz or other bands
Speaker	Mr. Takao Arai, Mobile Satellite Communications division, Telecommunications Bureau, Ministry of Internal Affairs and Communications
Summary	The seminar covered trends for space policy of Japan, mobile satellite communication systems, mobile satellite communication systems, and the outlook of the future.
No.120	22 April 2014
Title	The latest developments of IEEE802 technology that uses white space of television broadcast band and the results of outdoor field trials of long-range broadband communication
Speaker	Mr. Hiroshi Harada, Graduates School of Information, Kyoto University Mr. Katsuhiro Asano, Hitachi Kokusai Electric
Summary	The seminar covered latest trends about communication technology using white space of TV broadcast band, and frequency sharing technology. Also, the results of field test with related technology were covered.

No.121	12 June 2014
Title	Future developments and the latest trends in ultra-high definition television broadcasting system - From studios to broadcast -
Speaker	Mr. Tetsuya Yamano, Ministry of Internal Affairs and Communications Mr. Masayuki Sugawara, Japan Broadcasting Corporation
Summary	The seminar covered the latest trends about ultra-high definition television broadcasting system and, the detail of developed ARIB studio standard.

Standards

No new development of standards during this period.

Technology

R&D for Telecommunication System

1 Public broadband wireless communication system

Public broadband mobile communication system provides video transmission with reliability and flexibility in the field of disaster to share accurate information among authorities.

The work on interoperability and synchronization is in progress.

2 Wireless LAN System

The Group works on the following issues.

- Suppression of the 2.4GHz band overlap channel utilization
- Reduction of management and control frames occupancy time
- Modeling of dense state public wireless LAN access points (AP)
- Methods to check the conformity to technical standards

An information document for the dense state of the access point of the public wireless LAN in Japan, were input to IEEE802.11 HEW SG.

3 Advanced Wireless Communications Study Committee

Advanced Wireless Communications Study Committee (ADWICS) conducts technical studies on advanced wireless communications systems and conducts the international standardization.

(1) Mobile Partnership

Through the contribution and the participation in 3GPP, 3GPP2 and oneM2M, the international standardization of IMT and M2M and creates standards in Japan is in progress.

In September 2011, ARIB Standards “LTE-Advanced system ARIB STD-T104” and “WirelessMAN-Advanced system ARIB STD-T105” were established.

A work to support oneM2M activity and to exchange information on M2M with other organization is conducted.

(2) Standardization

For standardization, the work includes the liaison, coordination and cooperation with relevant national and international organizations such as CJK and WP5D.

(3) Broadband Wireless Access

Technical studies on Broadband Wireless Access and standardizes access systems in the 2.5 GHz band are conducted.

The work includes the development of ARIB standard relating to WiMAX, 802.20, and XGP specification in cooperation with international standards bodies.

(4) Mobile Commerce

Technical studies on mobile commerce such as application technology of mobile PKI and NFC and promotes its standardization are conducted.

(5) 2020 and Beyond

The work is to study system concept, basic functions and function distribution/architecture of mobile communication system in 2020 and beyond.

1 Quality Evaluation Method for Broadcasting

(1) Flat Display Image Quality Evaluation

The experiment on the relationship between screen size and visual distance is conducted. It is observed that proportional relationship exists between screen size and visual distance, but appropriate environment is needed in the evaluation experiment.

(2) Evaluation Sequence

The candidate image of ultra-high-definition standard still image chart has been chosen.

(3) Sound Quality Evaluation

Regarding the evaluation of the 3D multi-channel sound system, the method that is appropriate for 22.2 channel system for UHDTV (4K, 8K), and stipulated in ITU-R BS.1116 is being studied.

2 New Technology for the Next-generation Broadcasting System

(1) Future 3D Television

The research and study had been conducted for the future glassless 3D television system.

The activity finished in March 2014.

(2) Hybrid broadcast broadband service

The research and study had been conducted on hybrid broadcast broadband service and roles of broadcast and broadband communication.

The activity finished in March 2014.

(3) Transmission Technology for Next-Generation Digital Broadcasting

The study had been conducted on transmission technologies and transmission systems for the television program contribution that exceed current transmission bit rate.

The activity finished in March 2014.

1 Digital Broadcasting Systems

(1) Multiplexing Technology

Standardization of the MMT (MPEG Media Transport) • TLV(Type-Length-Value) method is being studied.

The standardization of the transmission system of data and caption by MMTP packet is in progress.

(2) Video Coding Technology

Regarding the MPEG-4 AAC system, the experiment of listening quality and interconnection using real-time transmission by LOAS / LATM format is conducted.

The work is in progress to make operational guidelines and to find constraints of encoding parameters in case of using HEVC.

(3) Audio Coding Technology

Regarding the input format and coding technology for UHD TV audio, the studies are in progress taking into account the lossless audio coding technology and transmission bandwidth.

(4) Data Coding Technology

The work on a closed caption coding technology for UHD TV system is in progress.

(5) Data Broadcasting

The work on use case of the data broadcasting on UHD TV (4K/8K) is in progress.

(6) Access Control Technology

The work on the access control technology of UHD TV is in progress.

(7) Receiver for Digital Broadcasting

The standardization of the receiver for VHF-Low multimedia broadcasting is in progress.

(8) Satellite Digital Broadcasting

Technical experiment to find transmission coding for UHD TV has been executed. As a result, 0.03 for the roll-off rate and 33.7561Mbaud for the symbol rate have been

selected as provisional values, and confirmed to be appropriate through the satellite transmission experiment using NSAT-110 and BSAT-4a.

(9) Terrestrial Digital Broadcasting STL/TTL Technology

The work is in progress to revise ARIB Standard that will be applied to the VHF-Low multimedia broadcasting.

(10) Mobile Multimedia Broadcasting

The work is in progress to revise ARIB Standard that will be applied to download-type services.

2 Program Production Systems

(1) Video Program Production Systems

The studies related to video specification and technical trends are conducted.
The work will be focused mainly on research and development of UHDTV.

(2) Sound Program Production Systems

The work is mainly on operational guidelines for Loudness of digital television programs.
The studies will be extended to Loudness for UHDTV.

(3) File Format of Television Program

The studies on the file format of television program to be used for exchange programs between broadcasting stations are in progress.
The studies will be extended to the file format for UHDTV.

(4) Digital Closed-caption Production

The work is conducted to standardize multipurpose closed-caption language.
The studies will be extended to multipurpose closed-caption language for UHDTV.

3 Transmission of Television Program Contribution

(1) Terrestrial Radio Transmission of Television Program Contribution

The work to revise the ARIB STD-B57 (1.2GHz/2.3GHz-Band Portable OFDM Digital Transmission System for Television Program Contribution) is conducted to add MIMO (Multiple-Input and Multiple-Output) system.

4 Ultra-High-Definition Television Broadcasting Systems

(1) Video Program Production Systems for UHDTV

The work is conducted to revise “UHDTV System Parameters for Program Production (STD-B56)” in line with the discussion on BT.2020 in ITU-R.

Discussion is in progress with the consideration of HFR TC in SMPTE.

Further study will include the file format for programs exchange, color gamut conversion, and test chart and multi-format color bar.

(2) Sound Program Production Systems for UHDTV

The work on 3D sound program production system that exceeds 5.2-channel-surround system is conducted. In March 2014, ARIB Standard “Three-dimensional multichannel stereophonic sound system for programme production (STD-B59)” was developed.

(3) Interface between Program Production Equipment

The work is conducted to standardize equipment interfacing to meet “UHDTV System Parameters for Programme Production (STD-B56)” based on Recommendation ITU-R BT.2020. In March 2014, ARIB Standard “Interface for UHDTV Production Systems (STD-B58)” was developed.

Editor's Note

The rainy season, called "tsuyu", lasting one month is almost over.

Although tsuyu is quite a gloomy time, rain during this period is important to the crop, and we enjoy iris and hydrangea with their beautiful blue color in full bloom.



Iris



Hydrangea



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