

Newsletter ARIB SEASON



Event

The 8th Regional WiMAX Promotion Association Symposium

Regional WiMAX Promotion Association held its 8th Symposium in Tokyo on 26 January 2015 under the joint sponsorship of ARIB. WiMAX (Worldwide Interoperability for Microwave Access) is based on IEEE802.16 technology.

About 130 participants were given lectures and panel discussion about "system development to advance regional BWA (Broadband Wireless Access) system" and "regional BWA platform initiative"

The program of the Symposium was as follows.

- (1) "Explanations for the regional BWA system (revision)" by MIC (Ministry of Internal Affairs and Communications)
- (2) "Concept of Regional BWA platform" by JCTA (JAPAN Cable and Telecommunications Association)
- (3) "Explanations for the regional BWA joining manual" by Regional WiMAX Promotion Council
- (4) Panel Discussion: Effectiveness of the application using Regional BWA



The 8th Regional WiMAX
Promotion Association Symposium



Panel Discussion

CISPR Frankfurt Conference Briefing Session

CISPR Frankfurt Conference Briefing Session was held in Tokyo on 27 February 2015 under the sponsorship of Electromagnetic Compatibility Conference Japan (EMCC). ARIB is a secretariat of EMCC. 88 participants were attended to the Session.

The Session covered CISPR meeting held in Frankfurt, Germany from 13 to 23 October 2014 with 38 participants including Prof. Masao Taki of Tokyo Metropolitan University Graduate School from Japan.

Following the opening remarks by Dr. Yoshio Kami (Professor Emeritus of the University of Electro-Communications), chairman of this Conference, 7 lecturers who participated in the CISPR Frankfurt Conference had lectured on deliberation overview of the plenary meeting and subcommittee meeting.

CIPR: Comité international spécial des perturbations radioélectriques



CISPR Frankfurt Conference Briefing Session

The 18th meeting of the APT Wireless Group held in Kyoto

The 18th APT Wireless Group (AWG-18) meeting was held from 9 to 13 March 2015 at Kyoto International Conference Hall. About 230 participants from 24 countries attended the meeting.

This was the first AWG meeting that Dr. Kohei Satoh (Managing Director of ARIB) served as the chairperson.

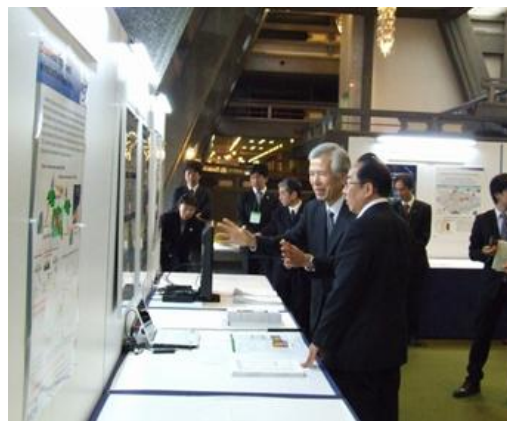
In this meeting, "AWG Workshop on Future Mobile Communications (5G)" was held to deepen the understanding of the fifth generation mobile communication system (5G), and about 160 people participated.

From the Fifth Generation Mobile Communications Promotion Forum (5GMF) , the chairman of 5GMF, Dr. Susumu Yoshida (Professor Emeritus of Kyoto University) carried out the presentation and an acting chairman of its Strategy & Planning Committee, Mr. Takehiro Nakamura participated in the panel discussion.

In addition, exhibition corner was set up by several Japanese companies. 5GMF also exhibited the panel in the conference hall. Mr. Kousaburo Nishime, State Minister for Internal Affairs and Communications, Mr. François Rancy, Director of ITU Radiocommunication Bureau and Ms. Areewan Haorangi, Secretary General of APT visited the exhibition corner and showed high interest to the future activities of 5GMF.



Dr. Satoh at AWG-18 meeting



Mr. Nishime, State Minister and
Dr. Yoshida
at the exhibition corner

Visit of Atty. Cordova, NTC Commissioner, to ARIB

On 10 March 2015, Attorney G. A. Cordova, Commissioner, National Telecommunications Commission (NTC) of the Republic of the Philippines, visited the office of ARIB together with 5 other executive members, including Mr. A. N. Blanco, Chief of Broadcast Services Division. The NTC mission had a meeting with DiBEG members on the ISDB-T implementation.

Since the Filipino government re-asserted the adoption of the Japanese ISDB-T as its national digital TV standard in November, 2013, DiBEG has been supporting NTC in developing Filipino ISDB-T standards. During the meeting Commissioner Cordova highly appreciated DiBEG's support and cooperation so far, and also expressed his expectation of the continuing support in the standardization of the specifications of the receivers, adding an encouraging remark that the Filipino ISDB-T implementation might be a great showcase toward other south-east Asian countries.

Commissioner Cordova, at this occasion, handed a certificate of appreciation to Mr. T. Watanabe, Chairman of DiBEG, expressing his thanks for the support and cooperation extended to NTC by DiBEG.



Meeting between DiBEG and NTC Delegation



Certificate of Appreciation



Attendees at DiBEG-NTC Meeting

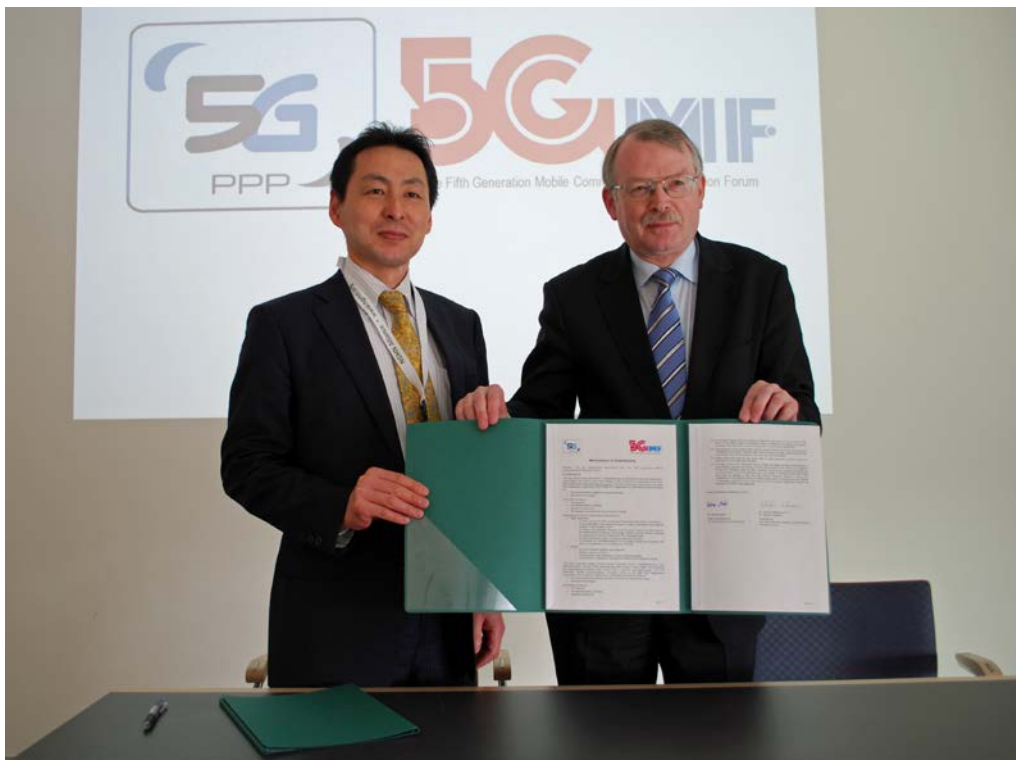
The 5G Infrastructure Association and 5GMF concluded the Memorandum of Understanding of 5G

The 5G Infrastructure Association based in Europe and 5GMF (The Fifth Generation Mobile Communications Promotion Forum) based in Japan have agreed to conclude the Memorandum of Understanding (MoU) to collaborate in road mapping and developing the next generation mobile communication system, 5G.

On 25 March 2015, the MoU was signed in Frankfurt by Dr. Werner Mohr, Chair of the Board of 5G Infrastructure Association and Mr. Takehiro Nakamura on behalf of 5GMF.

The purpose of the MoU is to exchange information and views on high interest fields about 5G and to explore collaboration opportunities on 5G including a meeting or workshop jointly.

The MoU endorses to create cooperative framework between two organizations. So hereafter, it is highly expected that information and views exchange of Europe and Japan will proceed rapidly and the study to realize 5G mobile communication system will be promoted.



MoU signed by Dr. Werner Mohr and Mr. Takehiro Nakamura

Monthly seminars on radio wave use

No.127	30 January 2015
Title	Report from the Information and Communications Council on "Information and Communications Policies Expected toward the 2020's"
Speaker	Yoshinori Shibayama Senior Advisor Telecommunications Policy Division Telecommunications Business Department Telecommunications Bureau Ministry of Internal Affairs and Communications
Summary	The seminar covered report from the Information and Communications Council on "Information and Communications Policies Expected toward the 2020's" and outlook on policy deployment.
No.128	18 February 2015
Title	Latest research trends of cognitive radio in ITU-R
Speaker	Mr. Hitoshi Yoshino, the Chairman of ITU-R WP5A WG5 (Softbank Mobile)
Summary	The seminar covered basic information on cognitive radio system and progress of its study in ITU-R.
No.129	26 February 2015
Title	Technology and Policy for Millimeterwave 5G and Backhaul
Speaker	Michael J. Marcus, Sc.D., FIEEE
Summary	The seminar covered the latest trend in Europe and the US to use mobile communication system with millimeter waveband. FCC's Notice of Inquiry was one of the main topic.

Standards

AUDIO DATA FORMAT IN THE INTERFACE FOR UHDTV PRODUCTION SYSTEMS (STD-B64 Ver. 1.0)

This standard specifies a data structure and multiple method when digital audio signal is transmitted using auxiliary data area in the interface signal between studio equipment of UHDTV.

English version is not available.

PORTABLE 120GHz BAND DIGITAL TRANSMISSION SYSTEM FOR ULTRA-HIGH DEFINITION TELEVISION PROGRAM CONTRIBUTION (STD-B65 Ver. 1.0)

This standard specifies a digital field pickup unit (FPU) system for broadcasting program material transmission using 120GHz band (116-134GHz) that can transmit UHDTV with 24Gbit/s.

The system is expected to operate as a "short-range FPU" when cabling is difficult to cross roads and rivers.

English version is not available.

Technology

Study for Telecommunication System

Radio utilization system for robots

The study on radio utilization system for robots started in November 2014. About 90 participants including observers who offer information related to the robot took part in the first meeting.

Discussion covered the trend of unmanned construction systems, robots for disasters, unmanned aircrafts and frequency bands available for a robot.

R&D for Telecommunication System

1 Wireless LAN System

The work on following three new subjects has been conducted.

- (1) To analyze the interference between APs (Access Points) and STAs (Stations) in the dense environment.
- (2) To study the utilization-rate by time and frequency concerning OFDM.
- (3) To investigate the interference by adjacent channels in 5GHz band.

Based on the study result for the last year's subject "suppression of using 2.4GHz band overlap channel", draft of revised ARIB standard to add recommended channel in operation has been made.

As a result, Standard Assembly has approved to revise ARIB STD-T66 reflecting the result of study.

2 IMT Standardization

The work has been conducted to prepare for the 20th WP5D (15 to 22 October 2014 in Geneva).

6 input documents has been drafted. With some correction, they have been submitted to 20th WP5D.

Study for Broadcasting System

Quality Evaluation Method for Broadcasting

(1) Sound Quality Evaluation

For the requirements of the renderer as a reference for use in the evaluation of sound metadata, evaluation purposes, the minimum required set of metadata, the provision destination of renderer and desired speaker layout has been discussed.

The study on subjective quality evaluation method for three-dimensional arrangement of speakers has been conducted to find appropriate directivity of the speaker, evaluation facilities size and reverberation time.

1 Digital Broadcasting Systems

Following new and revised standards have been drafted to submit Standard Assembly.

- ① ARIB STD-B63 (Receiver for Advanced Wide Band Digital Satellite Broadcasting) V1.0
- ② ARIB STD-B24 (Data Coding and Transmission Specification for Digital Broadcasting) V6.1
- ③ ARIB STD-B32 (Video Coding, Audio Coding and Multiplexing Specifications for Digital Broadcasting) V3.1
- ④ ARIB STD-B46 (Transmission System for Terrestrial Mobile Multimedia Broadcasting based on Connected Segment Transmission) V2.1
- ⑤ ARIB STD-B53 (Receiver for Terrestrial Mobile Multimedia Broadcasting Based on Connected Segment Transmission) V2.1
- ⑥ ARIB STD-B60 (MMT – Based Media Transport Scheme in Digital Broadcasting Systems) V1.1

The Standard Assembly has approved above six Standards.

(1) Multiplexing Technology

Clarification and Corrections of STD-B60 has been drafted.

STD-B24 has been drafted to revise the system to transmit subtitles and captions using ARIB-TTML (Timed Text Markup Language) by TS (Transport Stream).

New descriptor, file split transmission technology and content cache, etc. for the multi programming have been studied.

ARIB STD-B60 is planned to be revised.

(2) Video Coding Technology

ARIB STD-B32 has been drafted to clarify description on HEVC.

(3) Audio Coding Technology

ARIB STD-B32 has been revised to enhance MPEG-4 AAC (Advanced Audio Coding) to improve sound quality of the V-Low multimedia broadcasting and enhancements of dialog (narration, speech).

The guidelines of seamless switching in MPEG-4 AAC and MPEG-4 ALS is planned to study.

(4) Data Coding Technology

ARIB STD-B24 has been discussed to add the TTML (Timed Text Markup Language) transmission scheme in TS and the result of deliberation has been inputted to Multiplexing Technology WG.

(5) Data Broadcasting

ARIB STD-B62 (Multimedia Coding Specification for Digital Broadcasting (Second Edition)) has been studied to add the provisions of local storage area and data resources cache control.

(6) Receiver for Digital Broadcasting

ARIB STD-B53 has been discussed to add the receiver function of disaster prevention and safety information, and higher sound quality for V-Low multimedia broadcasting.

ARIB STD-B63 has been discussed to draft.

(7) Terrestrial Digital Broadcasting Transmission Coding

ARIB STD-B46 has been revised to add disaster information to AC (Auxiliary Channel).

2 Program Production Systems

(1) Video Program Production Systems

“Video Program Production Systems WG” had a joint meeting with “Video Program Production Systems for UHD TV WG” belonging to “R&D Group on Ultra-High-Definition Television Broadcasting Systems”.

Requirement of color bar for UHD TV is planned to establish in July 2015.

Conversion formula from the Recommendation BT.709 to BT.2020 has been in work to develop a standard or a technical report.

(2) Sound Program Production Systems

“Sound Program Production Systems WG” had a joint meeting with “Sound Program Production Systems for UHD TV WG” belonging to “R&D Group on Ultra-High-Definition Television Broadcasting Systems”.

Issue of stereo-mono downmix has been discussed.

In Japan, measurement of loudness is based on stereo playback. In case of automatic downmix in mono playback equipment, there exists sound level difference by 6dB. So It has been discussed to find how to correct it.

(3) Digital Closed-caption Production

Since the ARIB-TTML has been standardized in ARIB STD-B62, it is necessary to work on the improvement of the conversion method and the operating rules when it would be used in the non-broadcasting area.

3 Transmission of Television Program Contribution

ARIB STD-B65 (Portable 120GHz Band Digital Transmission System for Ultra-High Definition Television Program Contribution) was drafted.

This standard specifies technical standards, compatibility between manufacturers and operational conditions of the newly available 120GHz band FPU.

4 Ultra-High-Definition Television Broadcasting Systems

(1) Video Program Production Systems for UHDTV

“Video Program Production Systems for UHDTV WG” had a joint meeting with “Video Program Production Systems WG” belonging to “R&D Group on Program Production Systems”.

(2) Sound Program Production Systems for UHDTV

“Sound Program Production Systems for UHDTV WG” had a joint meeting with “Sound Program Production Systems WG” belonging to “R&D Group on Program Production Systems”.

(3) Interface between Program Production Equipment

The work has been conducted to revise STD-B58 regarding the inter-studio and inter-station transmission using wavelength division multiplexing system.

As for the payload ID packet, it has been concluded that 10bit/word would be appropriate in line with the deliberation in SMPTE.

The standard about the audio data format in the interface for UHDTV production systems has been drafted.



Association of Radio Industries and Businesses

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