



ORGANIZACION DE LOS ESTADOS AMERICANOS  
ORGANIZATION OF AMERICAN STATES

Comisión Interamericana de Telecomunicaciones  
Inter-American Telecommunication Commission

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**IV MEETING OF PERMANENT  
CONSULTATIVE COMMITTEE II:  
RADIOCOMMUNICATIONS  
INCLUDING BROADCASTING  
December 6 to 9, 2004  
Buenos Aires, Argentina**

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**FINAL REPORT**

**(Item on the Agenda: 8 )**

**(Document submitted by the Drafting Group)**

**INDEX**

**I. AGENDA .....3**

**II. AUTHORITIES OF THE MEETING.....3**

**III. RESOLUTIONS .....4**

PCC.II/RES. 18 (IV-04) .....4

*DIGITAL TERRESTRIAL TELEVISION (DTT) IMPLEMENTATION GUIDE.....4*

PCC.II/RES. 19 (IV-04).....9

*ACTIVITIES OF THE AD HOC GROUP TO COORDINATE THE ACTIVITIES RESULTING FROM THE AHCJET PROPOSED STUDY OF TECHNOLOGIES FOR BROADBAND WIRELESS INTERNET ACCESS IN THE AMERICAS.....9*

PCC.II/RES. 20 (IV-04) .....10

*AGENDA, VENUE AND DATE FOR THE V MEETING .....10*

PCC.II/RES. 21(IV-04) .....13

*ESTABLISHMENT OF A RAPPORTEUR GROUP ON THE TECHNICAL AND REGULATORY ASPECTS RELATED TO THE EFFECTS OF ELECTROMAGNETIC NON-IONIZING EMISSIONS.....13*

**IV. RECOMMENDATIONS .....15**

PCC.II/REC. 8 (IV-04) .....15

*FREQUENCY ARRANGEMENTS FOR IMT-2000 IN THE BANDS 806 TO 960 MHZ, 1710 TO 2025 MHZ, 2110 TO 2200 MHZ AND 2500 TO 2690 MHz.....15*

**V. DECISIONS .....15**

**VI. LIST OF BASIC DOCUMENTS .....15**

## FINAL REPORT

### IV MEETING OF THE PERMANENT CONSULTATIVE COMMITTEE II: RADIOCOMMUNICATIONS INCLUDING BROADCASTING (PCC.II)

The IV Meeting of the Permanent Consultative Committee II: Radiocommunications including Broadcasting was held in Buenos Aires city, Argentina, December 6 to 9, 2004.

#### I. AGENDA<sup>1</sup>

1. Approval of the Agenda and Calendar.
2. Appointment of the Drafting Group for the Final Report.
3. Working methods of PCC.II.
4. Meeting and Report of Working Groups and Ad Hoc Groups on the following topics:
  - 4.1 Regional and World Radiocommunication Conferences.
  - 4.2 Terrestrial Fixed and Mobile Radiocommunication Services.
  - 4.3 Satellite systems to provide fixed and mobile services.
  - 4.4 Broadcasting.
  - 4.5 Coordination of the activities resulting from the AHCIIET proposed study.
5. Report of the tasks performed in coordination with ITU.
6. Agenda, Venue and Date of the V Meeting of PCC.II.
7. Other matters.
8. Approval of the Final Report of the IV Meeting.

#### II. AUTHORITIES OF THE MEETING

<b>Alternate Chair</b>	Mr. Mikhail Marsiglia (Venezuela)
<b>Deputy Chair:</b>	Mr. Henry Batson (Jamaica)
<b>Deputy Chair:</b>	Mr. Héctor Carril (Argentina)
<b>Deputy Chair:</b>	Mr. Reinaldo González Bustamante (Mexico)
<b>Executive Secretary</b>	Mr. Clovis Baptista Neto (CITEL)

#### Drafting Group:

<b>Chair</b>	Mr. Juan Manuel López Alcoba (Argentina)
<b>Members</b>	Mr. Bill Davies (Canada)
	Ms. Sandra Rodríguez (Mexico)
	Mr. Raymond Willis (United States)
	Ms. Molly Gavin (United States)
	Ms. Juleymar Jaimes (Venezuela)
	Ms. Nyurka Rodríguez (Venezuela)

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<sup>1</sup> CCP.II-RADIO/doc. 480/04 rev. 3

### **III. RESOLUTIONS**

#### **PCC.II/RES. 18 (IV-04)<sup>2</sup>**

#### **DIGITAL TERRESTRIAL TELEVISION (DTT) IMPLEMENTATION GUIDE**

The IV Meeting of the Permanent Consultative Committee II: Radiocommunications including Broadcasting,

#### **CONSIDERING:**

- a) That in the III meeting of PCC.II it was agreed among other things:
- To work together to encourage the successful transition from analogue to digital terrestrial television technology as rapidly as possible, recognizing the economic and social conditions in individual countries; and
  - To continue to support Member States in the implementation of Digital Terrestrial Television (DTT) broadcasting;
- b) That a number of countries in the Americas region have been examining the benefits of Digital Terrestrial Television broadcasting for several years, and that extensive testing of DTT systems has been conducted in some countries in the region, and that DTT services have already been deployed in some of these countries;
- c) That countries that have not yet begun the transition to DTT broadcasting could benefit from understanding the policies and experiences of those that have gone ahead;
- d) That Resolution PCC.II/RES. 15 (III-04) approved “ to conduct a work program between now and the end of 2005 to support the CITELE Member States in their efforts *i*) to establish goals and to define policies for the implementation of Digital Terrestrial Television broadcasting, and *ii*) to develop their individual plans for the implementation of DTT services; and to assist the Member States with the actual implementation of those plans”; and
- e) That said Resolution PCC.II/RES. 15 (III-04) includes the development of a DTT Implementation Guide with a draft outline,

#### **RECOGNIZING:**

That the specific needs, goals and conditions in each Member State may well warrant unique approaches for individual countries;

#### **RESOLVES:**

1. To approve the table of contents for the Digital Terrestrial Television (DTT) Implementation Guide attached in the Annex.
2. To adopt the following work program:

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<sup>2</sup> CCP.II-RAD/doc. 575/04 rev.1 cor.1

a. The first draft of the national approaches related to chapter 2 of the DTT Guide and the national experiences stated in chapter 5 will be submitted by the corresponding Administrations in the V meeting of the PCC.II. The format is free but it must not be longer than ten pages in each case.

b. The chapters of the DTT Guide will have the coordinators indicated below, whose responsibility is to produce a draft of the chapter which takes into account the contributions and considerations of the Administrations concerned. Drafts will be submitted in the V meeting of the PCC.II.

Chapter 1:Administration of United States: Mr. Robert Graves <rgraves@atscforum.org>

Chapters 3 and 4: Administration of Brazil: Mr. Pedro Lobo, <phlobo@anatel.gov.br >

Chapter 6: Administration of Mexico: Mr. Arturo López Torres, <alopezt@sct.gob.mx

c. There will be extensive use of the discussion group in the electronic forum of CITEL to collect and assess the corresponding contributions.

3. That the completed Guide will continue to be updated and expanded to include new information and the experiences of additional countries, and that the Guide will be reissued from time to time, after 2005, to reflect this additional information.

4. To revoke Resolution PCC.II/RES.15 (III-04).

**ANNEX TO RESOLUTION PCC.II/RES. 18 (IV-04)**  
**OUTLINE**  
**DIGITAL TERRESTRIAL TELEVISION BROADCASTING IMPLEMENTATION GUIDE**

**TABLE OF CONTENTS**

- 1. Introduction and Background**
  - 1.1 Benefits of Digital Terrestrial Television (DTT) Broadcasting
  - 1.2 CITEL's Guide to assist with the development of national DTT policies and DTT implementation (explains the purpose of this guide)
  
- 2. National Goals for DTT Broadcasting**
  - 2.1 Assessing the unique needs and goals of your nation with respect to DTT broadcasting
  - 2.1.1 National Approaches for determining needs, goals and policies
    - 2.1.1.1 Argentine approach
    - 2.1.1.2 Brazilian approach
    - 2.1.1.3 Canadian approach
    - 2.1.1.4 Mexican approach
    - 2.1.1.5 U.S. approach
    - 2.1.1.6 (add others in alphabetical order as they become available)
  - 2.2 Providing access to free over-the-air television to all citizens
  - 2.3 Upgrading the video and audio technical quality of television broadcasts
  - 2.4 Expanding the quantity and variety of broadcast TV services, including revolutionary new information services
  - 2.5 Addressing pressing social problems in education, health care, public safety, etc. Promoting social inclusion and the universal availability of innovative DTT services
  - 2.6 Achieving more efficient use of the broadcast television spectrum, including the possibility of recovering spectrum for new uses
  - 2.7 Adopting a flexible DTT system that provides affordable solutions that meet national goals
  - 2.8 Other goals
  
- 3. National Policies for DTT Broadcasting**
  - 3.1 Eligibility for DTT licenses
    - 3.1.1 Existing broadcasters, new entrants, others?
  - 3.2 Procedures for awarding DTT licenses and DTT channel assignments
  - 3.3 Terms and conditions for DTT licenses
    - 3.3.1 Linked to analog TV license, or separate?
    - 3.3.2 Duration of license, eligibility for renewal
  - 3.4 Scope of permitted terrestrial DTT services
    - 3.4.1 Public interest obligations?
    - 3.4.2 Minimum service requirements, hours of operation
    - 3.4.3 Degree of flexibility afforded to DTT broadcasters
    - 3.4.4 Requirements for high-definition or other types of services?
    - 3.4.5 Pay services? Spectrum use fees for any pay services?
    - 3.4.6 Requirements to carry analog TV programming on digital channels?
  - 3.5 Transition plans and timetables
    - 3.5.1 Rationale and timetable for making DTT channel allotments and assignments
    - 3.5.2 Construction deadlines for stations. Vary by size of market?
    - 3.5.3 Goals and/or deadlines for cessation of analog TV broadcasts and recapture and reuse of spectrum

- 3.6 Expediting the DTT transition
    - 3.6.1 Engendering production of value-added programming
    - 3.6.2 Engendering program distribution
      - 3.6.2.1 Requirements for carriage of terrestrial broadcasts over other transmission media, e.g., cable, satellite and MMDS
    - 3.6.3 Engendering distribution of consumer equipment
      - 3.6.3.1 Requirements for DTT receivers and other consumer electronics products
        - 3.1.6.1.1 Requirement for all-format decoding
        - 3.1.6.1.2 Requirements for reception and decoding capability in all receivers
        - 3.1.6.1.3 Potential performance requirements for receivers
        - 3.1.6.1.4 Compatibility with other transmission media, e.g., cable, satellite and MMDS
  - 3.7 Protecting broadcast television content from unauthorized redistribution.
- 4. Spectrum Planning for DTT Broadcasting**
- 4.1. Principles for channel planning
    - 4.1.1 Coverage and service availability objectives
  - 4.2. Channel planning parameters
  - 4.3. Algorithms and software tools for channel planning
- 5. National Experiences and Approaches to DTT Planning and Implementation**
- 5.1 Argentina
  - 5.2 Brazil
  - 5.3 Canada
  - 5.4 Mexico
  - 5.5 United States
  - 5.6 (add others in alphabetical order as they become available)
- 6. Examples of DTT Services, Applications and Implementation Approaches**
- 6.1 CBS (Attachment 6-1)
  - 6.2 WRAL (Attachment 6-2)
  - 6.3 APTS (Attachment 6-3)
  - 6.4 Implementation Approaches and Cost Implications
  - 6.5 Others

## **APPENDIX 1**

### **ATSC Standards, Recommended Practices, and Implementation Guidelines to Support DTT Broadcasting in the Americas**

- 1.1. Overview of ATSC Standards and Standards Activities (Appendix 1-1)
- 1.2. Guide to DTV Standards (Appendix 1-2)
- 1.3. ATSC Standard A/52B: Digital Audio Compression (AC-3) Standard, Rev. B (Appendix 1-3)
- 1.4. ATSC Standard A/53C with Amendment No. 1: ATSC Digital Television Standard, Rev. C (Appendix 1-4)
- 1.5. ATSC Recommended Practice A/54A: Guide to the Use of the ATSC Digital Television Standard (Appendix 1-5)
- 1.6. Approved Proposed Standard A/57A: Content Identification and Labeling for ATSC Transport (Appendix 1-6)

- 1.7. ATSC Standard A/64A: Transmission Measurement and Compliance for Digital Television, Rev. A (Appendix 1-7)
- 1.8. ATSC Standard A/65B: Program and System Information Protocol for Terrestrial Broadcast and Cable, Rev. B (Appendix 1-8)
- 1.9. ATSC Recommended Practice A/69: Program and System Information Protocol Implementation Guidelines for Broadcasters (Appendix 1-9)
- 1.10. ATSC Standard A/70A: Conditional Access System for Terrestrial Broadcast, Rev. A (Appendix 1-10)
- 1.11. ATSC Standard A/76: Programming Metadata Communication Protocol Standard (Appendix 1-11)
- 1.12. ATSC Standard A/80: Modulation and Coding Requirements for Digital TV (DTV) Applications Over Satellite (Appendix 1-12)
- 1.13. ATSC Standard A/81: Direct-to-Home Satellite Broadcast Standard (Appendix 1-13)
- 1.14. ATSC Standard A/90 with Amendment 1 and Corrigendums 1 and 2: Data Broadcast Standard (Appendix 1-14)
- 1.15. ATSC Recommended Practice A/91: Implementation Guidelines for the Data Broadcast Standard (Appendix 1-15)
- 1.16. ATSC Standard A/92: Delivery of IP Multicast Sessions over Data Broadcast Standard (Appendix 1-16)
- 1.17. ATSC Standard A/93: Synchronized/Asynchronous Trigger Standard (Appendix 1-17)
- 1.18. ATSC Standard A/94: ATSC Data Application Reference Model (Appendix 1-18)
- 1.19. ATSC Standard A/95: Transport Stream File System Standard (Appendix 1-19)
- 1.20. ATSC Standard A/96: ATSC Interaction Channel Protocols (Appendix 1-20)
- 1.21. ATSC Standard A/100: DTV Application Software Environment - Level 1 (DASE-1)
  - 1.21.1. A/100-1, DASE-1 Part 1: Introduction, Architecture, and Common Facilities (Appendix 1-21.1)
  - 1.21.2. A/100-2, DASE-1 Part 2: Declarative Applications Environment (Appendix 1-21.2)
  - 1.21.3. A/100-3, DASE-1 Part 3: Procedural Applications and Environment (Appendix 1-21.3)
  - 1.21.4. A/100-4, DASE-1 Part 4: Applications Programming Interface (Appendix 1-21.4)
  - 1.21.5. A/100-5, DASE-1 Part 5: ZIP Archive Resource Format (Appendix 1-21.5)
  - 1.21.6. A/100-6, DASE-1 Part 6: Security (Appendix 1-21.6)
  - 1.21.7. A/100-7, DASE-1 Part 7: Application Delivery System - ARM Binding (Appendix 1-21.7)
  - 1.21.8. A/100-8, DASE-1 Part 8: Conformance (Appendix 1-21.8)
- 1.22. ATSC Candidate Standard CS/T3-606 Revision A: Amendment No. 1 to ATSC Standard: Program and System Information Protocol for Terrestrial Broadcast and Cable (Doc. A/65B) (Appendix 1-22)
- 1.23. ATSC Candidate Standard CS/T3-608 Revision A: Amendment to ATSC Digital Television Standard, Doc. A/53C (AVC/H.264 Version) (Appendix 1-23)
- 1.24. ATSC Candidate Standard CS/T3-609 Revision A: Amendment to ATSC Digital Television Standard, Doc. A/53C (VC-9 Version) (Appendix 1-24)
- 1.25. ATSC Candidate Standard CS/T3-614 Revision A: Amendment to ATSC Digital Television Standard, Doc. A/53C, Annex G: High Efficiency Audio System Characteristics (Appendix 1-25)

- 1.26. ATSC Candidate Standard CS/101: Advanced Common Application Platform (ACAP) (Appendix 1-26)
- 1.27. ATSC Standard A/110: Synchronization Standard for Distributed Transmission (Appendix 1-27)
- 1.28. ATSC Recommended Practice A/111: Design Of Synchronized Multiple Transmitter Networks (Appendix 1-28)
- 1.29. ATSC Recommended Practice A/58: Harmonization with DVB SI in the Use of the ATSC Digital Television Standard (Appendix 1-29)
- 1.30. ATSC Recommended Practice A/75: Developing DTV Field Test Plans (Appendix 1-30)
- 1.31. Implementation Finding: Multichannel Audio Program Delivery and Metadata Considerations (Pre-emission) (Appendix 1-31)
- 1.32. Implementation Finding: Optimization of Image Formatting for Transmission and Display (Appendix 1-32)
- 1.33. Implementation Finding: Relative Timing of Sound and Vision for Broadcast Operations (Appendix 1-33)
- 1.34. Assessment of Data Content and Delivery for Control of the Digital Broadcast Transport Stream and PSIP Generation (Appendix 1-34)
- 1.35. Implementation Finding: Report on Latency and Timing Issues (Appendix 1-35)
- 1.36. Implementation Finding: DTV Frequently Asked Questions (Appendix 1-36)
- 1.37. Implementation Finding: DTV Transport and Data Interfaces (Appendix 1-37)
- 1.38. Implementation Finding: Essential Information to be Carried in DTV Program Streams (Appendix 1-38)
- 1.39. Implementation Finding: Program Interchange Identification Requirements and Solutions (Appendix 1-39)
- 1.40. Implementation Finding: PTS Time Stamping AC-3 Bit Streams (Appendix 1-40)
- 1.41. Implementation Finding: Implementation of Data Broadcasting in a DTV Station (Appendix 1-41)
- 1.42. Implementation Finding: Top Down Summary Report (Appendix 1-42)

### **PCC.II/ RES. 19 (IV-04)3**

#### **ACTIVITIES OF THE AD HOC GROUP TO COORDINATE THE ACTIVITIES RESULTING FROM THE AHCJET PROPOSED STUDY OF TECHNOLOGIES FOR BROADBAND WIRELESS INTERNET ACCESS IN THE AMERICAS**

The IV Meeting of the Permanent Consultative Committee II: Radiocommunications including Broadcasting,

#### **CONSIDERING:**

- a) That the Ad Hoc Group to coordinate the activities resulting from the AHCJET proposed study of technologies for broadband wireless Internet access in the Americas was created at the XXI Meeting of the PCC.III (Fortaleza, Brazil);

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<sup>3</sup> CCP.II-RAD/doc. 590/04 cor.1

- b) That a two-day joint seminar on Wireless Broadband Access was successfully held within the framework of the II Meeting of the PCC.II (San Salvador, El Salvador), and that the Final Report of the seminar was prepared (document CCP.II-RADIO/doc.320/03 rev 2);
- c) That several issues of interest came up during the Seminar, which were referred to the different PCC.II working groups for their consideration;
- d) That this Ad Hoc Group drafted an action plan to publish the Seminar procedures, which was approved at the III Meeting of PCC.II (Orlando, United States of America); and
- e) That the publication was finished for this meeting in a CD that is being distributed to CITEL Member States and Associate Members,

**RECOGNIZING:**

That this group worked in a very positive way between meetings, through the discussion group of CITEL's Electronic Forum, a great number of members becoming interested and making contributions,

**RESOLVES:**

1. To approve all the activities performed by this Ad Hoc Group as it carried out the Seminar on Wireless Broadband Access and published its procedures.
2. To consider the mandate entrusted to this group as fulfilled, its activities finishing at this meeting.
3. To send a special letter of appreciation and congratulations to the Ad Hoc Group's Chair, Mr. Eduardo Gabelloni, and Alternate Chair, Mr. Charles Glass, for the excellent work carried out and for the results achieved.

**INSTRUCTS THE EXECUTIVE SECRETARY:**

To notify AHCIET of this resolution, pointing out it was a pleasure to contribute jointly to the development of broadband in the countries of the Americas.

**PCC.II/RES. 20 (IV-04)<sup>4</sup>**

**AGENDA, VENUE AND DATE FOR THE V MEETING**

The IV Meeting of the Permanent Consultative Committee II: Radiocommunications including Broadcasting,

**RESOLVES,**

1. To hold the V Meeting of PCC.II from 26 to 29 April 2005 in Guatemala.
2. To approve the draft agenda for the V Meeting which is attached as an Annex.

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<sup>4</sup> CCP.II-RAD/doc. 579/04 rev.1 cor.1

## ANNEX TO RESOLUTION PCC.II/RES.20 (IV-04)

### DRAFT GENERAL AGENDA

1. Approval of the Agenda and Calendar.
2. Appointment of the Drafting Group for the Final Report.
3. Working methods of PCC.II.
4. Meeting and Report of Working Groups on:
  - 4.1 Preparation for Regional and World Radiocommunication Conferences.
  - 4.2 Terrestrial Fixed and Mobile Radiocommunication Services.
  - 4.3 Satellite systems to provide fixed and mobile services.
  - 4.4 Broadcasting.
5. Report of the tasks performed in coordination with ITU.
6. Agenda, Venue and Date of the VI Meeting of PCC.II.
7. Other matters.
8. Approval of the Final Report of the V Meeting.

#### **4.1 Draft Agenda of the Working Party for the preparation of CITEL for Regional and World Radiocommunication Conferences**

1. Presentation and approval of the agenda
2. Working methods
3. Structure of the Working Group and assignment of functions to Coordinators and Rapporteurs
4. Assignment of documents to the subgroups

SGT 1	1.2, 1.3, 1.5, 1.6, 1.13, 1.14, 1.15, 1.16, 1.20
SGT 2	1.7, 1.8, 1.10, 1.11, 1.17, 1.18, 1.19, 1.21
SGT 3	1.1, 1.12, 2, 3, 4, 5, 6, 7.1
SGT 4	1.4, 1.9
SGT – AD-HOC	7.2
5. Reports of the spokespersons to other organization's meetings
6. CITEL's Strategic Plan
7. Other matters

#### **4.2 Draft Agenda of the Working Party on Terrestrial Fixed and Mobile Radiocommunication Services**

1. Opening remarks
2. Approval of the agenda
3. New Recommendation for 400 MHz bands
4. RLAN in the 5 GHz band
5. Recommendation on harmonized frequencies for property protection
6. Revision to Recommendation PCC.II/REC. 67 (XIX-01) on Low Power Radiocommunication devices,
7. Radio frequency identification devices (RFID)
8. Broadband Power Line Communications (BPL)
9. Refarming of 700 MHz band

10. Answer to Market questionnaire on IMT 2000 and systems beyond
11. Results of the video conference on wireless broadband
12. CITELE's Strategic Plan
13. Answer to the survey on bands for IMT-2000
14. Other business

#### **4.3 Draft Agenda of the Working Group relative to Satellite systems to provide fixed and mobile services**

1. Approval of the agenda
2. General guidelines for licensing global mobile personal communications system networks (GMPCS)
3. Considerations on the authorization of broadband communication services by networks of the aeronautical mobile-satellite service (AMSS)
4. Procedures to be followed for authorization of earth stations on board vessels (ESV)
5. Implementation of regulations providing for the deployment of satellite services
6. Harmful interferences by non authorized transmissions in satellite networks
7. CITELE's Strategic Plan
8. Other business

#### **4.4 Draft Agenda of the Working Party on Broadcasting**

1. Opening remarks
2. Approval of the agenda
3. Reports of the Rapporteurs
  - a. Río de Janeiro 1981 Plan
  - b. Digital Television
  - c. Digital Sound Broadcasting
4. Establish and schedule the duties of the subgroups
5. Allocation of documents
6. Consideration of the results of the tasks of the subgroups
7. Future work
8. CITELE's Strategic Plan
9. Other business

**PCC.II/ RES. 21(IV-04)<sup>5</sup>**

**ESTABLISHMENT OF A RAPPORTEUR GROUP ON THE TECHNICAL AND REGULATORY ASPECTS RELATED TO THE EFFECTS OF ELECTROMAGNETIC NON-IONIZING EMISSIONS**

The IV meeting of the Permanent Consultative Committee II: Radiocommunications including Broadcasting,

**HAVING SEEN:**

- a) That by virtue of the continuing evolution of technologies used in wireless communications, the demand for the installation of antennas has increased, especially in highly populated areas; and
- b) That the population is concerned with the possible effects of non-ionizing emissions, specifically due to the proliferation of antennas,

**CONSIDERING:**

- a) That the duty of the telecommunication authorities is to establish technical regulations for the use of the radioelectric spectrum;
- b) That it is important that the population have adequate information on the regulations in force regarding radioelectric emissions;
- c) That the Administrations of the Americas are interested in having scientific information for the development of its own regulations;
- d) That the gathering of information will contribute to the availability of more background for decision-making of CITELE members; and
- e) That the Rapporteur Group in the framework of the V meeting of the PCC.II identified important additional sources of information,

**RECOGNIZING:**

- a) That in PCC.II the Administrations and Associate Members may have useful information regarding this issue; and
- b) That it is advantageous to share information among CITELE member countries,

**RESOLVES:**

1. To establish a Rapporteur Group ascribed to the Chair of PCC.II for the gathering of information on the technical and regulatory aspects related to the effects of electromagnetic non-ionizing emissions, as per the terms of reference in the Annex.

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<sup>5</sup> CCP.II-RADIO/doc. 587/04

2. To establish that the work of this Rapporteur Group must be completed prior to the VI PCC.II Meeting.
3. To appoint Mr. Hector Carril (Argentina) as Rapporteur, and Mr. Marc Girouard (Canada), Mr. Claudio Palomares Sartor (Peru) and Mr. Maximiliano Martinhao (Brazil) as Alternate Rapporteurs.
4. To revoke PCC.II/RES.17 (III-04)

## **ANNEX TO RESOLUTION PCC.II/RES. 21 (IV-04)**

### **TERMS OF REFERENCE**

#### **RAPPORTEUR GROUP ON THE TECHNICAL AND REGULATORY ASPECTS RELATED TO THE EFFECTS OF ELECTROMAGNETIC NON-IONIZING EMISSIONS**

- To compile the available information and regulations of the following organizations with respect to the effects of non-ionizing radiation and the established technical standards:

World Health Organization  
Pan American Health Organization  
International Telecommunication Union.  
ICNIRP (International Commission on Non-Ionizing Radiation Protection)  
MMF (MMF Mobile Manufacturers Forum)  
IEEE (Institute of Electrical and Electronics Engineers)  
IEC (International Electrotechnical Commission)

- To do a compilation of the regulations in force on electromagnetic radiation in the various Administrations of the Region and other Regions.
- To consider the AHCJET Study on legislative rules and Control Procedures on radio electric emissions in Latin America, in view of the significant data contained therein.
- To identify additional sources of information and submit them to the consideration of PCC.II at the V Meeting of PCC.II.
- To post the final report in the CITELE Webpage.

#### **IV. RECOMMENDATIONS**

##### **PCC.II/REC. 8 (IV-04)<sup>6</sup>**

##### **FREQUENCY ARRANGEMENTS FOR IMT-2000 IN THE BANDS 806 TO 960 MHZ, 1710 TO 2025 MHZ, 2110 TO 2200 MHZ AND 2500 TO 2690 MHZ**

The IV Meeting of the Permanent Consultative Committee II: Radiocommunications including Broadcasting,

#### **CONSIDERING:**

- a) That the ITU Radio Regulations identify the bands 806-960 MHz, 1 710-1 885 MHz, 1 885-2 025 MHz, 2 110-2 200 MHz and 2 500-2 690 MHz as intended for use on a worldwide basis by administrations wishing to implement IMT-2000;
- b) That CITELE Recommendation PCC.III/REC.12 (III-95) "Designation of Spectrum for Personal Communications Systems in the Americas in the 2GHz Band" recommends that PCS systems consider strategies for the evolution towards 3G;
- c) That CITELE Recommendation PCC.II/REC.7(III-04) "Frequency Arrangements for Implementation of the Terrestrial Component of International Mobile Telecommunication 2000 (IMT-2000) in the Bands 2500-2690 MHz" provides recommendations for planning the implementation of IMT-2000 in the band 2500-2690 MHz;
- d) That IMT-2000 represents an opportunity for a major improvement in mobile or portable communication services for individuals or businesses which would be integrated into a variety of competing networks;
- e) That spectrum arrangements should be defined which are technology neutral i.e. any of the proposed IMT-2000 technologies can be used in these bands;
- f) That the bands identified for IMT-2000 should be considered on a global basis as a set, to achieve a comprehensive, global solution that will ensure that there is an approach that meets all requirements and that a significant level of interoperability is achieved;
- g) That Administrations should harmonize frequency arrangements to the greatest extent possible to facilitate worldwide compatibility, global roaming and create economies of scale;
- h) That common frequency bands and duplex separation are desirable to enable economies of scale in the implementation of IMT-2000 networks;
- i) That evolution from pre-IMT-2000 systems to IMT-2000 is enabled by providing compatible frequency arrangements thus leading to flexible regulatory approach;
- j) That indication of mobile transmit or base transmit operation does not preclude the use of these frequency bands for TDD applications;
- k) That the IMT-2000 identified bands are shared on a co-primary basis with other Services, which should be protected accordingly, and

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<sup>6</sup> CCP.II-RAD/ doc. 578/04 rev. 2

- 1) That CITEL members may have different requirements for the use of these bands,

**RECOGNIZING:**

That some administrations have not finalized their decisions regarding spectrum to be made available for IMT-2000. Consequently, further revisions to these frequency arrangements may be required in order to maximize the harmonization of spectrum within the Region,

**RECOMMENDS:**

1. That CITEL Member States consider identifying spectrum for IMT-2000 systems based on the following principles :
  - a) Maximize harmonization of the IMT-2000 identified bands with existing 2G and 3G band plan pairings for implementation of IMT-2000 services;
  - b) Maximize harmonization with the global 2110-2170 MHz Base Transmit Band;
  - c) Facilitate global roaming;
  - d) Minimize equipment costs.
2. That for the purpose of economies of scale, and roaming, CITEL Member States that consider using only one part of one frequency band, take into account that channel pairing should be consistent with the duplex frequency separations of the full frequency arrangement.
3. That CITEL Member States consider selecting some of the following pairing options of frequency bands (see Note 1).

**DECIDES:**

To revoke Recommendation PCC.III/REC. 70 (XXI-02).

**ANNEX TO RESOLUTION PCC.II/REC. 8 (IV-04)**

**Recommended Frequency Arrangement Options<sup>7</sup>**

Figures 1, 2 and 3 show the recommended spectrum band pairing options.

- 1) Mobile transmit band starting at 824 MHz paired with a base transmit band starting at 869 MHz, consistent with a duplex separation of 45 MHz.
- 2) Mobile transmit band 1 920-1 980 MHz, paired with the global base transmit band 2 110 2 170 MHz, with a 190 MHz duplex separation - some countries may wish to implement part of the band.
- 3) Mobile transmit band 1 710-1 785 MHz, paired with a base transmit band 1 805-1 880 MHz, consistent with a duplex separation of 95 MHz (aligned with GSM1800 bandplan). For countries

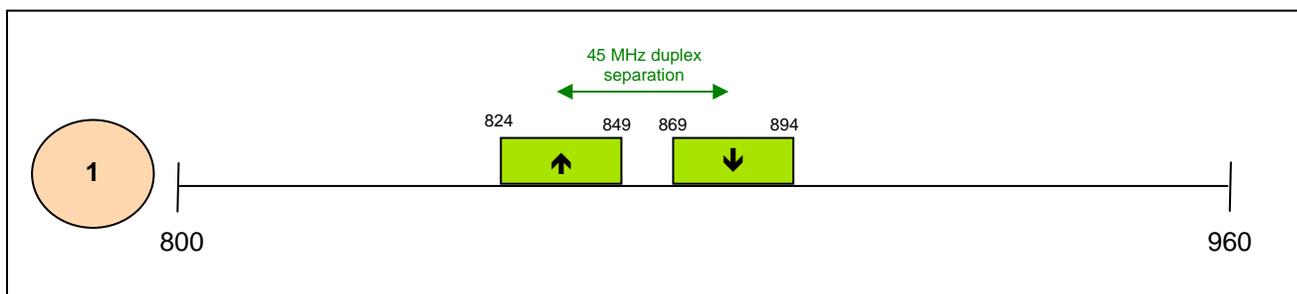
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<sup>7</sup> Timing and availability may vary by country.

having implemented option 3, the upper edge for the mobile transmit band is 1 755 MHz and for the base transmit band is 1 850 MHz.

- 4) Mobile transmit band 1 850-1 910 MHz, paired with a base transmit band 1 930-1 990 MHz, consistent with a duplex separation of 80 MHz (aligned with PCS1900 bandplan).
- 5) Mobile transmit band 1 710-1 770 MHz, paired with the global base transmit band 2 110-2 170 MHz, consistent with a duplex separation of 400 MHz.
- 6) Mobile transmit band 2 500-2 570 MHz paired<sup>8</sup> with a base transmit band 2 620–2 690 MHz, consistent with a duplex separation of 120 MHz.
  - Any guard band should be kept to a minimum and taken from the centre portion.

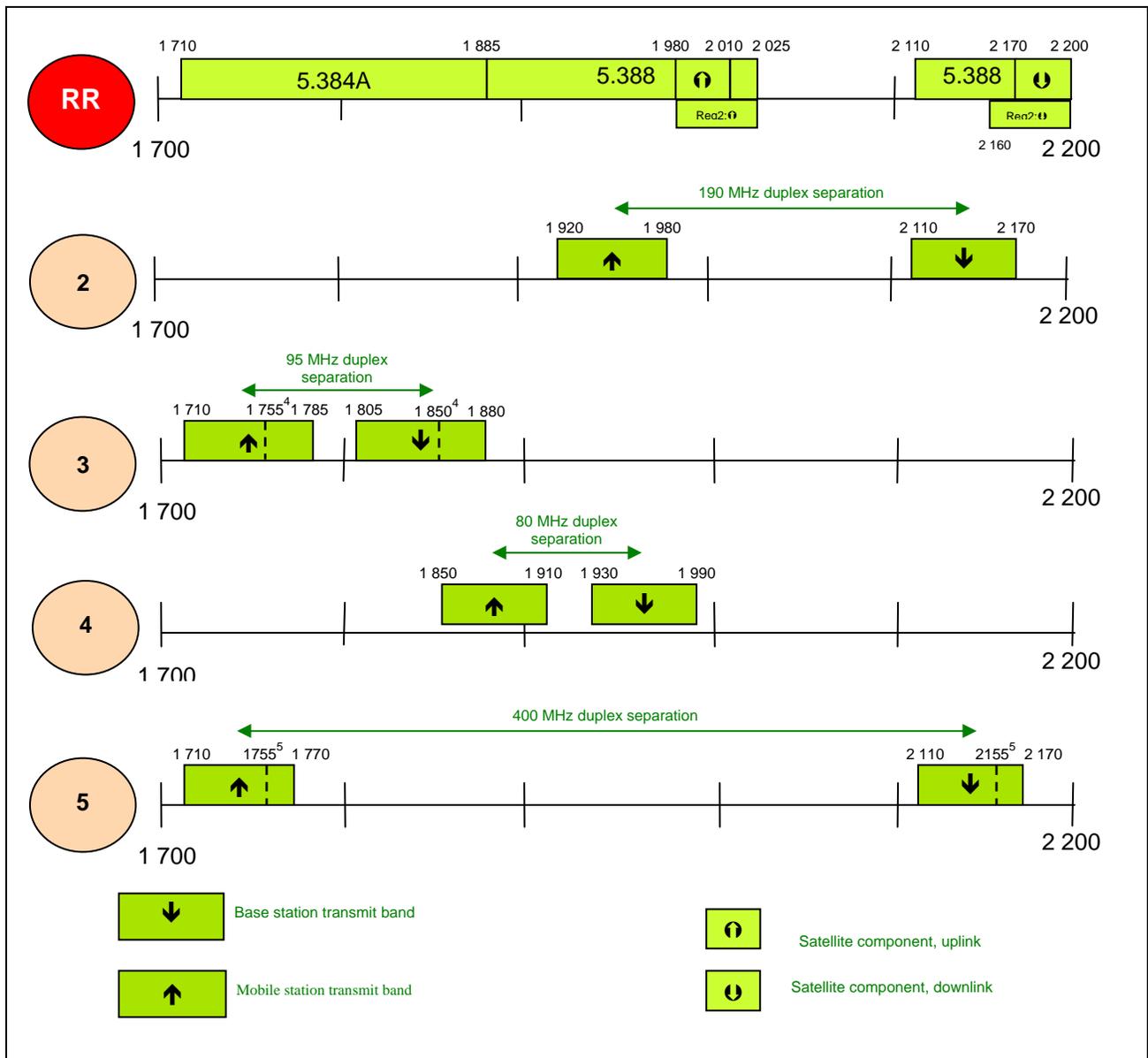
**Note 1:** Administrations can implement all or parts of these frequency arrangements, taking into account other services allocated in the 2 500-2 690 MHz band.



**Figure 1: Recommended Frequency Arrangement (806-960 MHz Band)**

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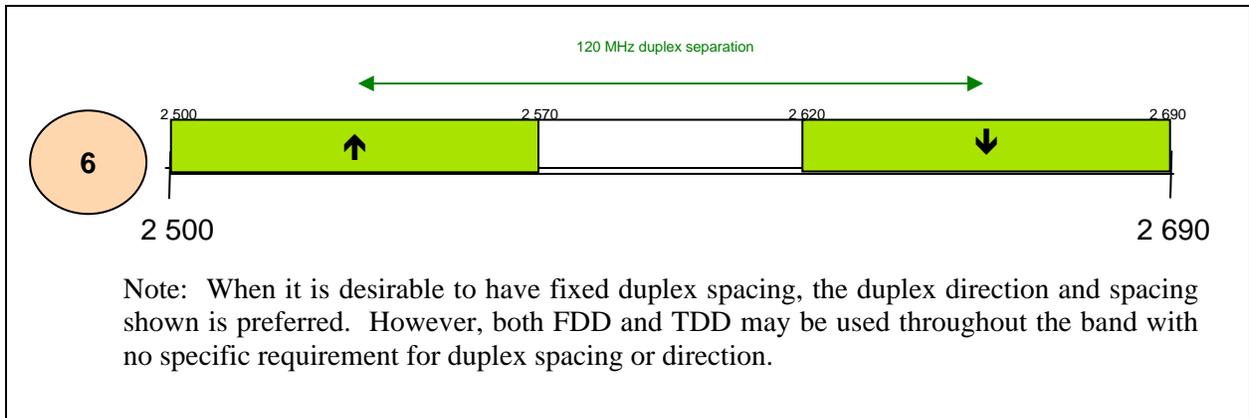
<sup>8</sup> When it is desirable to have fixed duplex spacing, the duplex direction and spacing in Figure 3 is preferred. However, both FDD and TDD may be used throughout the band with no specific requirement for duplex spacing or direction.



**Figure 2: Recommended Frequency Arrangement Options (1710-2200 MHz Band)**

4 The upper band limits in some countries are 1755 and 1850 MHz.

5 The upper band limits in some countries are 1755 and 2155 MHz



**Figure 3: Recommended Frequency Arrangement Options (2 500-2 690 MHz Band)**

## V. DECISIONS

The IV Meeting of the Permanent Consultative Committee II: Radiocommunications including Broadcasting,

### DECIDES:

#### **PCC.II/DEC. 21 (IV-04)<sup>9</sup>**

To accept the proposal submitted by USTTI, Regional Training Center of CITEI, to hold a workshop on wireless broadband by videoconference and it is suggested to hold this videoconference in the afternoon immediately prior to the V meeting of PCC.II for a maximum period of 3 hours. CITEI's coordinator will be Mr. Marco Antonio Escalante, from the Administration of Guatemala. A gratitude note shall be sent, through CITEI's Secretariat, to USTTI for the interesting proposal. The aspects shall be coordinated with the World Bank's GDLN network that offers the base structure for CITEI to avoid costs for the realization of this event.

#### **PCC.II/DEC.22 (IV-04)<sup>10</sup>**

1. To instruct the Executive Secretary to send to Member States document CCP.II-RADIO/doc. 488/04, "Request for information submitted to CITEI Administrations on the use of frequency bands 5925-6425 MHz and 14.0-14.5 GHz by the fixed or mobile services that may require agreement for earth stations on board vessels (ESV) operations", inviting them to submit the corresponding answers to the coordinator of the subgroup relative to earth stations on board vessels (Manoel Almeida, manoel.almeida@intelsat.com.br), with a copy to the Secretariat of CITEI ([citel@oas.org](mailto:citel@oas.org)) before March 15, 2005.

2. To request the coordinator of the subgroup to consolidate, review and analyze the received information, and to put forward the resulting report to the discussion group ESGROUP ("Use of earth stations on board vessels") in the CITEI Electronic Forum for its consideration and comments of the Administrations previous to the V Meeting of the PCC.II.

#### **PCC.II/DEC.23 (IV-04)<sup>11</sup>**

1. To instruct the Executive Secretary to send to Member States document CCP.II-RADIO/doc. 561/04 rev.3, "Status of regulatory systems for the deployment of broadband services via satellite in the Americas" inviting them to update Annex 1 and submit their comments to the chairman of the Working Group relative to satellite systems to provide fixed and mobile services (Mr. Claudio Palomares, cpalomares@mtc.gob.pe), with a copy to the Secretariat of CITEI ([citel@oas.org](mailto:citel@oas.org)) before March 15, 2005.

2. To request the Chairman of this Working Group to consolidate, review and analyze the information received and to publish the resulting

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<sup>9</sup> CCP.II-RADIO/doc. 573/04 rev.1

<sup>10</sup> CCP.II-RADIO/doc. 585/04 rev.2

<sup>11</sup> CCP.II-RADIO/doc. 585/04 rev.2

report in the REGSAT discussion group (“Development of Broadband via satellite in the Americas”) of CITEL’s Electronic Forum to provide the Administrations with the opportunity to review it and make their comments before the Fifth Meeting of PCC.II, taking into account that such document will act as a base for the report which will be submitted by PCC.II to COM/CITEL, for the IV Summit of the Americas.

**PCC.II/DEC.24 (IV-04)<sup>12</sup>**

To instruct the Executive Secretary to send to Member States, document CCP.II-RADIO/DOC. 563/04 rev.1, “Report of the Subgroup to develop common procedures and guidelines for block or generic earth station licensing”, inviting them to send the corresponding comments to the Subgroup coordinator (Mr. Ricardo Fontes, rfontes@starone.com.br), with copy to CITEL’s Secretariat ([citel@oas.org](mailto:citel@oas.org)) before January 30, 2005.

**PCC.II/DEC. 25 (IV-04) <sup>13</sup>**

To instruct the Secretariat of CITEL to request Member States and associate members to answer the ITU-R Questionnaire on possible terrestrial candidate frequency bands for the future development of IMT-2000 and systems beyond IMT-2000 (document CCP.II-RADIO/doc. 592/04) and to send a copy to the CITEL Secretariat (Tel. +1 202 458 3004, Fax. +1 202 458 6854, e-mail: [citel@oas.org](mailto:citel@oas.org)) and to the Rapporteur for this activity, Ms. Molly Gavin (Tel. + 1(858)651-6462, Fax. + 1(858) 658-2011, E-mail: [mgavin@qualcomm.com](mailto:mgavin@qualcomm.com)).

**PCC.II/DEC. 26 (IV-04) <sup>14</sup>**

1. To establish a Subgroup of the Working Group Relative to Satellite Systems to Provide Fixed and Mobile Services to develop general guidelines for the licensing of GMPCS services. The topics to be considered should take into account, but not to the exclusion of others and consistent with national law those indicated in the Annex.

2. That the Subgroup presents the recommended general guidelines to the Vth meeting of PCC.II.

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<sup>12</sup> CCP.II-RADIO/doc. 585/04 rev.2

<sup>13</sup> CCP.II-RADIO/doc. 596/04 rev.1

<sup>14</sup> CCP.II-RADIO/doc. 591/04 rev.1

## ANNEX TO DECISION PCC.II/DEC. 26 (IV-04)

1. Topics for consideration by the sub group may include but not be limited to:
  - a. To specify the concept of GMPCS;
  - b. To indicate characteristics of systems that are operating such as band, coverage, status of notifications, countries where they have authorization to operate, services to be provided, etc;
  - c. Common recommended procedures for licensing, such as, requirements, rights and obligations, etc;
  - d. The licenses of GMPCS Satellite Systems issued in all ITU member countries including those of CITEL;
  - e. The local legal corporate presence of a GMPCS provider/operator for System licensing purposes;
  - f. The promotion of competition through multiple service providers within the regulations of each member;
  - g. Provision for the licensing of GMPCS terminals through blanket, block, or class licenses;
  - h. To analyze the possibility for licensing and use by GMPCS systems using the spectrum allocations identified in the ITU Radio Regulations for Mobile Satellite Services (MSS), 1610-1626.5 MHz, and 2483.5-2500MHz, taking into account of other services in the bands;
  - i. Proceedings for homologation of GMPCS terminals and the circulation of such units, taking into account the CITEL MRA.
2. To designate Mr. Don Jansky (United States of America) to coordinate the work of this Subgroup.
3. To request the CITEL Secretariat to bring this Decision to the attention of Administrations and ask them to designate a point of contact for participation in the Subgroup.
4. The work of the Subgroup may be carried out electronically using the CITEL Electronic forum, and may also use international teleconference to be provided by the coordinator.

## **VI. LIST OF BASIC DOCUMENTS**

Summary Minutes of the Inaugural Session and the

First Plenary Session:

Summary Minutes of the Second Plenary Session:

Summary Minutes of the Third Plenary Session  
and Closing Session:

List of Documents:

List of Participants:

Final Report for the Meeting

CCP.II - RADIO/doc. 576 /04 rev.1

CCP.II - RADIO/doc. 597/04

CCP.II - RADIO/doc. 607/04

CCP.II - RADIO/doc. 478/04 rev.5

CCP.II - RADIO/doc. 479/04 rev.3

CCP.II - RADIO/doc. 606/04 rev.1