



**ORGANIZACION DE LOS ESTADOS AMERICANOS  
ORGANIZATION OF AMERICAN STATES**

**Comisión Interamericana de Telecomunicaciones  
Inter-American Telecommunication Commission**

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**XXI MEETING OF PERMANENT  
CONSULTATIVE COMMITTEE III:  
RADIOCOMMUNICATIONS  
July 15 to 19, 2002  
Fortaleza, Brazil**

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**FINAL REPORT**

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## FINAL REPORT

### XXI MEETING OF THE PERMANENT CONSULTATIVE COMMITTEE III: RADIOCOMMUNICATIONS (PCC.III)

The XXI Meeting of the Permanent Consultative Committee III: Radiocommunications was held in Fortaleza, Brazil, July 15 to 19, 2002.

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

1. Approval of the Agenda and Calendar.
2. Appointment of the Drafting Group for the Final Report.
3. Restructuring of the working methods of PCC.III.
4. Meeting and Report of Working Groups and Ad Hoc Chairs on the following topics:
  - 4.1 World Radiocommunication Conference.
  - 4.2 Satellite systems to provide fixed and mobile services.
  - 4.3 Terrestrial Fixed and Mobile Radiocommunication Services.
  - 4.4 ITU Radiocommunication Assembly and Radiocommunication Advisory Group Matters.
  - 4.5 Procedure for recognition of the CITEL International Amateur Radio Permit (IARP) with the CEPT
5. Report of the tasks realized in coordination with ITU.
6. Agenda, Venue and Date of the XXII Meeting of PCC.III.
7. Other matters.
8. Approval of the Final Report of the XXI Meeting.

#### II. AUTHORITIES OF THE MEETING

**Chair:** Mr. Fernando Carrillo (Mexico)  
**Vice-Chair:** Mr. Marco Bafutto (Brazil)  
**Executive Secretary:** Mr. Clovis Baptista (CITEL)

#### **Drafting Group:**

**Chair:** Mr. José Bastos Mollica (Brazil)  
**Members:** Mr. Gains Gardner (United States)  
Ms. Jina MacEachern (Canada)  
Mr. Michel Oliver Ndi (Canada)  
Mr. Franklin Palate Criollo (Ecuador)  
Mr. Miguel Rodas (Honduras)

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<sup>1</sup> Document PCC.III/doc.2235/02.

### **III. RESOLUTIONS**

#### **PCC.III/RES. 138 (XXI-02)<sup>2</sup> SEMINAR ON BROADBAND SERVICES BY SATELLITE SERVICES**

The XXI Meeting of the Permanent Consultative Committee III: Radiocommunications,

#### **CONSIDERING:**

- a) That satellite-based communication technologies have been highly important in the development of the telecommunication systems of the CITELE Member Countries;
- b) That, in recent years, Broadband Communication applications have been those experiencing the most growth, and
- c) That the meetings of PCC.III are an appropriate Forum for the CITELE Member Countries to receive necessary information on the current technological development of radiocommunications,

#### **RESOLVES:**

1. To organize a seminar on Broadband Services by Satellite during the XXIII meeting of the PCC.III.
2. To hold this seminar in accordance with resolution PCC.III/RES. 86 (XII-99), titled "Concerning Procedures for the Organization of Seminars".
3. To assign a maximum duration of half a day for this seminar.
4. To designate Mr Manoel Almeida (e\_mail: [manoel.almeida@intelsat.com](mailto:manoel.almeida@intelsat.com)) as coordinator of this seminar.
5. To request that CITELE Member States and Associate Members interested in attending the Seminar contact the organizer of the seminar.

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<sup>2</sup> Document PCC.III/doc.2297/02 rev.2.

**PCC.III/RES. 139 (XXI-02)<sup>3</sup>**  
**NEW DATA BASE FOR EARTH STATION ANTENNA PATTERNS FOR USE IN  
SHARING STUDIES WITH THE FIXED-SATELLITE SERVICE**

The XXI Meeting of Permanent Consultative Committee III: Radiocommunications,

**CONSIDERING:**

- a) That Administrations have a need to conduct interference analysis both within the fixed satellite service and with other services;
- b) That measured earth station antenna data can improve the results of sharing studies which use standard reference radiation patterns;
- c) That this information should be made available in a common database to which all interested and involved administrations could access, and
- d) That this common database would only be feasible if some kind of standardization could be established for antenna pattern submission,

**RESOLVES:**

- 1. To instruct the Executive Secretary of CITELE to establish, within a one-year period, a new database for FSS earth station antenna radiation patterns to the CITELE Web site, including measured and theoretical patterns, sidelobe masks or sidelobe envelopes.
- 2. That data files submitted for inclusion in the database should comply with the format described in ANNEX 1.
- 3. To invite Member States to send to the Secretariat measured earth station antenna data in the format specified in Annex 1.

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<sup>3</sup> Document PCC.III/doc.2298/02 rev.3.

**ANNEX 1 TO RESOLUTION PCC.III/RES. 139 (XXI-02)**  
**DRAFT DATA FORMAT FOR EARTH STATION ANTENNA PATTERN**

**1. GENERIC DESCRIPTION**

The basic file types considered here are block structured. These data blocks are detailed in the next sections.

In all files, HEADER has to be formatted in accordance with:

Line	Description / Content
1	Title
2	Comments
3	Comments
4	File identification code

Maximum number of characters:

- Title: 52 characters
- Comments: 80 characters

**1.1. File identification code**

Code	File type
200	3D Fields – co-polar, cross-polar
201	3D Fields – rectangular coordinates
202	3D Fields – cylindrical coordinates
203	3D Fields – spherical coordinates

**NOTE: For the purpose of this application only File Code 200 will be considered and described in details**

## 1.2. Block structured files

For the block structured files a fifth row has to be used containing the total number of blocks.

Line	Description / Content
5	Total number of blocks

After row 5 the sequence of blocks is included with the main function data.

A single file block has a generic structure as following:

*Control line*

<i>n</i>	<i>m</i>		
$a_{1,1}$	$a_{1,2}$	...	$a_{1,m}$
$a_{2,1}$	$a_{2,2}$	...	$a_{2,m}$
...	...	...	...
...	...	...	...
$a_{n,1}$	$a_{n,2}$	...	$a_{n,m}$

Where:

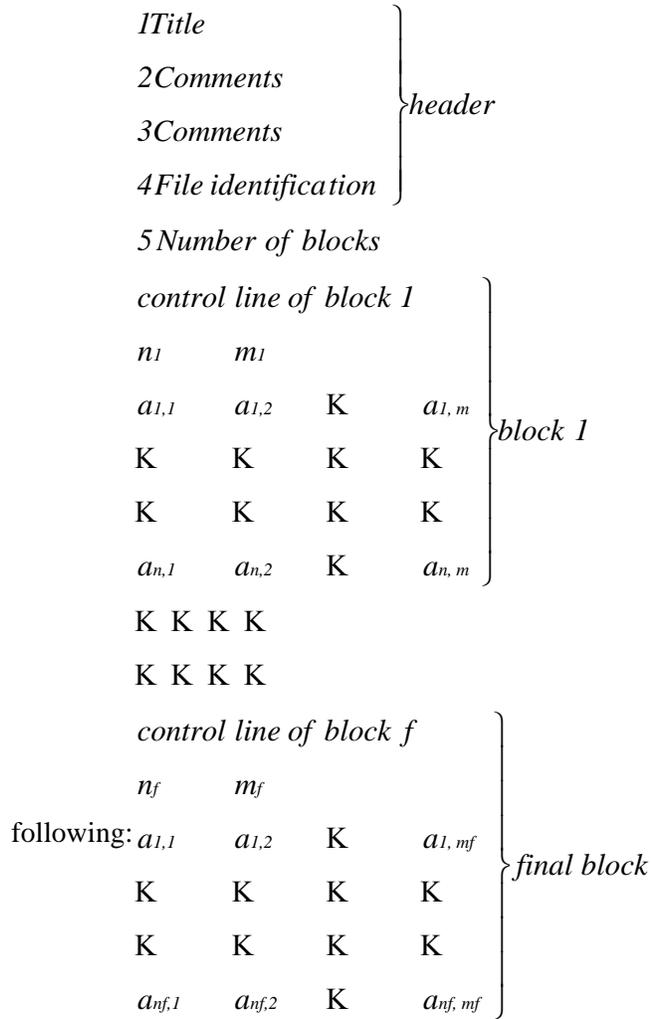
*Control line* = Contains relevant data concerning the specific block (see details in the following sections);

$n$  = number of block rows,

$m$  = number of block columns.

### 1.2.1. File general structure

The general structure of a block structured file is described as



## 2. 3D Fields - Block Structured Files

In this section the content of field data is described only for the file type 200 (**3D Fields – Co-polar and Cross-polar**). See figure 1 as a reference for parameters described

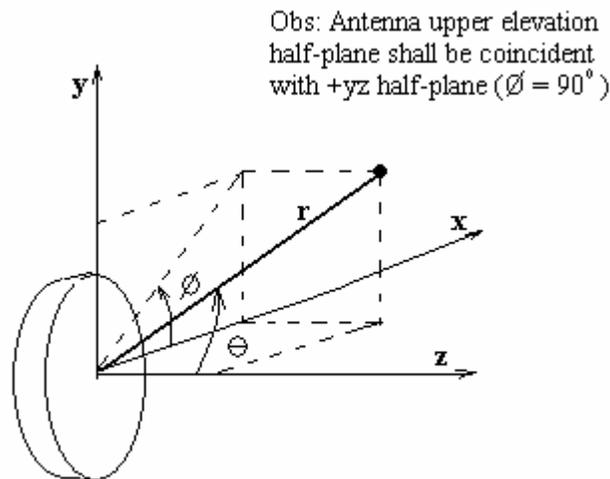
	<i>Title</i>								
	<i>Comments</i>								
	<i>Comments</i>								
	<i>id</i>	<i>pol</i>	<i>orientation</i>	<i>freq</i>					
	<i>Number of blocks</i>								
	$\phi_k$	$r_j$							
	$n$	$m$							
	$\theta_1$	$ C\alpha(\theta_1, \phi_k, r_j) $	$\angle C\alpha(\theta_1, \phi_k, r_j)$	$ X(\theta_1, \phi_k, r_j) $	$\angle X(\theta_1, \phi_k, r_j)$				} <i>block</i>
	...	.	.	.	.	...	.	..	
below.	...	.	.	.	.	.	.	..	
	$\theta_n$	$ C\alpha(\theta_n, \phi_k, r_j) $	$\angle C\alpha(\theta_n, \phi_k, r_j)$	$ X(\theta_n, \phi_k, r_j) $	$\angle X(\theta_n, \phi_k, r_j)$				

Where:

- *id*, file identification, is 200,
- *pol*, antenna polarization, assumes values 1 (linear); 2 (circular/elliptical ) or 0 (non determined),
- *orientation*:
  - when *pol* = 1, “orientation” indicates plane  $\phi$  which contains the main component of the electric field (preferably 90°);
  - when *pol* = 2, “orientation” is 1 (for *left-hand* circular/elliptical polarization) , or 2 (for *right-hand* circular/elliptical polarization),
  - For non-determined cases use *pol* = 0 and *orientation* = 0;
- *freq*, frequency (in GHz). Not relevant in case of general sidelobe masks or envelopes.
- $\phi_k$ , pattern cut half plane angle  $\phi$  (in degrees) , related to block data, (use  $\phi = 90$  for **upper elevation** cut). Varies from 0 to 360°.

- $\theta_i$ , Angular direction (in degrees) relative to the antenna boresight ( $\theta_i = 0^\circ$ ) which shall indicate satellite pointing and maximum gain direction.
- $r_j$ , radial distance  $r$  in meters related to specific block, (this value can be suppressed if data relates to far-field region )
- $n$ , number of block rows, i.e., number of  $\theta_i$  samples (where  $\theta$  varies from 0 to  $180^\circ$ ). Value of  $n$  shall be adequate to allow pattern resolution for data plotting or for use in coordination and interference calculations.
- $m$ , number of block columns (for the 200 type file  $m = 5$ ),
- $|Co(\theta_i, \phi_k, r_j)|$ , co-polar field amplitude in dB or dBi, at the point  $(\theta_i, \phi_k, r_j)$ ,
- $\angle Co(\theta_i, \phi_k, r_j)$ , co-polar field phase (in degrees), at the point  $(\theta_i, \phi_k, r_j)$ ,
- $|X(\theta_i, \phi_k, r_j)|$ , cross-polar field amplitude in dB or dBi, at the point  $(\theta_i, \phi_k, r_j)$ ,
- $\angle X(\theta_i, \phi_k, r_j)$ , cross-polar field phase (in degrees), at the point  $(\theta_i, \phi_k, r_j)$ ,

When amplitudes are indicated in dB, the antenna maximum gain (dBi) value must be supplied (use comments lines). When phase values are not available or not relevant, insert 0.0 (not blanks).



**Figure 1** – Example of a reflector antenna in a spherical coordinate system as per the proposed standard file format

### 3. Examples

In this section a pattern data file is illustrated as an example as well as some resulting applications.

Figure 2 shows some parts of the example file containing four blocks with 360 rows (n) in each and representing the radiation pattern cut planes  $\phi_k$  equal to  $0^\circ$ ,  $90^\circ$ ,  $180^\circ$  and  $270^\circ$  respectively.

Offset antenna XXX - 1,8m Ku - Measured freq 14 GHz - EL/H - Pol H				
Model BO 05355				
Original MI -2095 file:F:\XXX\HCOHELTX.TXT				
200	1	90	14,000	
4				
0				
360	5			
0	46,13	132,131	-1,976	48,183
0,5	42,503	119,138	3,083	-63,6
1	29,327	86,983	3,126	-48,484
1,5	20,601	9,116	-5,148	-7,781
2	15,948	81,549	-23,206	86,305
2,5	7,158	60,242	-17,033	89,719
...				
177,5	-5,305	-143,914	-34,487	-175,838
178	-5,006	-14,855	-17,404	86,68
178,5	-5,433	130,715	-20,464	158,715
179	-5,928	-77,425	-29,24	-9,018
179,5	-5,846	65,336	-30,317	123,385
90				
360	5			
0	46,13	38,426	14,575	-14,098
0,5	43,405	40,238	22,746	165,781
1	32,697	24,047	20,087	168,983
1,5	22,179	-36,461	0,228	71,216
2	2,554	17,435	4,258	99,239
2,5	15,386	-165,509	0,391	161,129
...				

Figure 2 – Example of a measured radiation pattern file in the proposed format

Figure 3 illustrates the graphical representation of the co-polar field pattern measured in the cut plane  $\phi_k = 90^\circ$  (2<sup>nd</sup> block / 2<sup>nd</sup> row). In this case, this cut-plane corresponds to one side of the azimuth plane and the polarization is horizontal. In this same figure a reference pattern envelope is represented as per the Brazilian Regulatory Standard which is based on Recommendations ITU-R 580-5 and 465-5 for the co-polar pattern sidelobes.

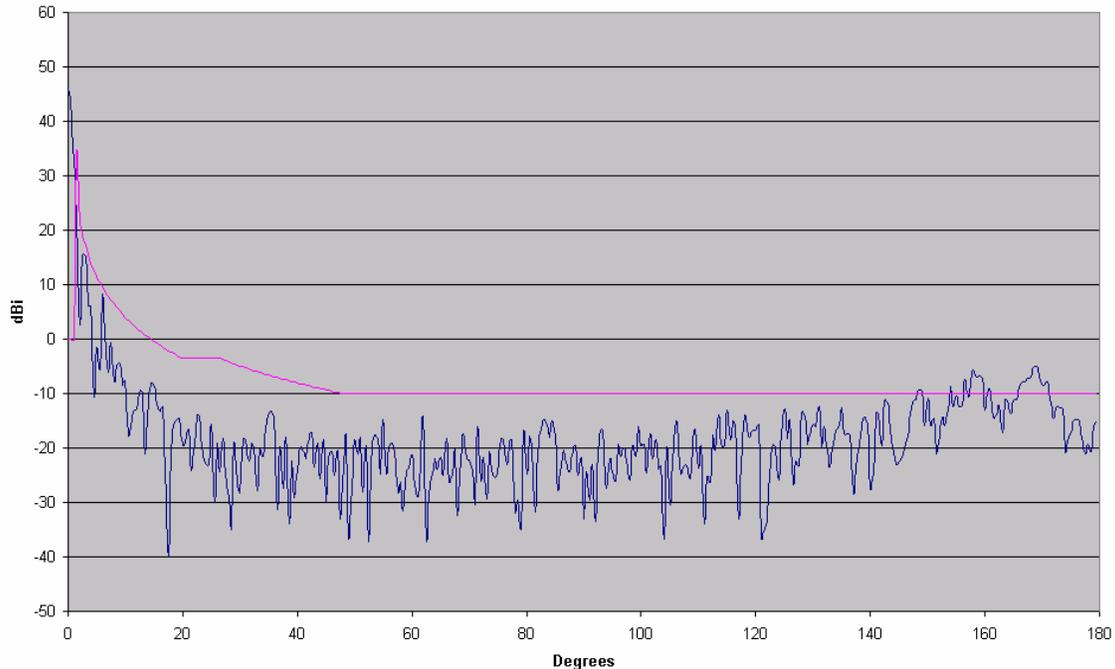


Figure 3 - Co-polar field measured pattern example in the cut plane  $\phi_k = 90^\circ$  (Az /Pol H )

**PCC.III/RES. 140 (XXI-02)<sup>4</sup>**  
**PROCEDURE FOR RECOGNITION OF THE CITEL INTERNATIONAL AMATEUR**  
**RADIO PERMIT (IARP) WITH THE CEPT**

The XXI Meeting of Permanent Consultative Committee III: Radiocommunications,

**NOTING :**

That several CITEL Member States have independently entered into bilateral reciprocity agreements concerning mutual recognition of radio amateur licenses, and that these agreements exist not only among countries of the Americas but also among countries located in other continents, Europe in particular,

**BEARING IN MIND:**

The aim of CITEL to facilitate and promote by all possible means the continuous development of telecommunications in the American States,

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<sup>4</sup> Document PCC.III/doc.2351/02.

## **CONSIDERING:**

- a) The benefits brought by the implementation of the Lima Convention with regard to the authorization for temporary radio amateur licenses in member countries, approved in 1987 and modified in 1988, as well as the Inter-American Convention on the International Amateur Radio Permit (IARP), approved by the General Assembly of the OAS by Resolution AG/RES.1316 (XXV-O/95) and opened for signature on 8 June 1995;
- b) That within the scope of the European Conference of Postal and Telecommunications Administrations in Recommendation T/R 61-01, under the title "CEPT Radio Amateur License", approved in Nice in 1985, revised in Paris in 1992 and by correspondence in August 1992, conditions were established for mutual recognition of radio amateur licenses among the countries of the CEPT, and
- c) That simplification of the administrative procedure for awarding radio amateur licenses enables administrations to reduce their logistic and economic costs,

## **OBSERVING:**

That subsequent to comparative analyses, it was shown that the characteristics and conditions of the IARP Convention and the T/R 61-01 system are fully compatible in substance, as is made evident in the Annex to this Resolution,

## **RESOLVES:**

To propose to the CITEL Assembly that a recommendation be approved at its next meeting, containing the following elements:

- a) To recommend to the CITEL Member States that they adhere to the IARP Convention.
- b) To recommend to the CITEL Member States that are parties to the IARP Convention and future parties thereto, that they should extend the same treatment to the T/R 61-01 system license users as granted to the IARP permit users.
- c) To request the Executive Secretary to sign a Memorandum of Understanding between CITEL and CEPT establishing:
  - The acceptance by CEPT of the CITEL proposal to reach an agreement on the use of radio amateur operator equipment by persons licensed by the CITEL Member States, in the CEPT countries and vice-versa.
  - The procedure for adhering to the T/R 61-01 system for the CITEL Member States interested in doing so, through the good offices of the CITEL Secretariat.
  - The procedure for recognizing licenses granted under the framework of the T/R 61-01 system by the CITEL Member States.
  - The function of the CITEL Secretariat is serving as the depositary for documents related to this matter, updating the records of the CITEL Member States that have reached agreement with CEPT on the reciprocal use of the IARP and T/R 61-01 systems.

**ANNEX TO RESOLUTION PCC.III/RES. 140 (XXI-02)**

**COMPARATIVE ANALYSIS OF THE IARP AND T/R 61-01 SYSTEMS**

**A.- SIMILARITIES**

- 1.- Licensing procedure
- 2.- Wording of the documents
- 3.- No checking of examination levels
- 4.- Same number of license categories

**B.- DIFFERENCES**

1.- License Form

IARP	T/R 61-01
A single specified format	No specific format
Written in: Spanish, French and English and the language of the issuer country	Written in: German, French, English and the language of the issuer country
Contains text stipulating that the station operations are permitted only at the frequency bands determined by the State visited	Does not contain this provision. Located in the wording of Recommendation T/R 61-01
Contains text stipulating that the IARP holder should comply with the regulations of the State party visited	Does not contain this provision. Located in the wording of Recommendation T/R 61-01
Establishes the need for notification to be requested by the State party visited, on the date, place and duration of the stay in this State party	Does not contain this provision. Located in the wording of Recommendation T/R 61-01

**PCC.III/RES. 141 (XXI-02)<sup>5</sup>**  
**AGENDA, VENUE AND DATE OF THE XXII MEETING**

The XXI Meeting of the Permanent Consultative Committee III: Radiocommunications,

**RESOLVES:**

1. To hold the XXII meeting of PCC.III in Ecuador, 11 al 14 November 2002.
2. To approve the draft agenda for the XXII PCC.III Meeting attached in the Annex.

**ANNEX**

1. Approval of the Agenda and Calendar.
2. Appointment of the Drafting Group for the Final Report.
3. Restructuring of the working methods of PCC.III.
4. Meeting and Report of Working Groups and Ad Hoc Chairs on the following topics:
  - 4.1 World Radiocommunication Conference.
  - 4.2 Satellite systems to provide fixed and mobile services.
  - 4.3 Terrestrial Fixed and Mobile Radiocommunication Services.
  - 4.4 ITU Radiocommunication Assembly and Radiocommunication Advisory Group Matters.
5. Report of the tasks realized in coordination with ITU.
6. Agenda, Venue and Date of the XXIII Meeting of PCC.III.
7. Other matters
8. Approval of the Final Report of the XXII Meeting.

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<sup>5</sup> Document PCC.III/doc.2360/02.

**PCC.III/RES. 142 (XXI-02)<sup>6</sup>**  
**JOINT COOPERATION BETWEEN CITEL AND AHCJET**  
**ON THE STUDY OF TECHNOLOGIES FOR BROADBAND WIRELESS INTERNET**  
**ACCESS IN THE AMERICAS**

The XXI meeting of the Permanent Consultative Committee III: Radiocommunications,

**CONSIDERING:**

- a) That in accordance with decision COM/CITEL DEC.11 (IV-96), the chairman of COM/CITEL signed a cooperative agreement with AHCJET to undertake joint projects of mutual interest to both organizations for the purpose of promoting the development of telecommunications in the Americas;
- b) That AHCJET submitted to CITEL a proposal to perform joint studies on the use of Technologies for Broadband Wireless Internet Access toward the Information Society in the Region, and
- c) That the AHCJET proposal is aligned with the mandates of CITEL PCC.III,

**NOTING:**

- a) That in fulfillment of the Plan of Action of the Summit of the Americas (Quebec, 2001) CITEL was instructed to work with regional organizations and agencies to develop a cooperative and collaborative program to support an Agenda for Connectivity in the Americas;
- b) That according to the Action Plan of Quito established to fulfill the mandates of the Summit of the Americas, CITEL is committed to work with partners to organize regional or sub-regional workshops to assist telecommunications officials to understand and collaborate with others interested in the development of national Agendas for Connectivity in the Americas, and
- c) That CITEL is also committed to create a Forum on Connectivity on the CITEL web site to facilitate an exchange between interested parties and the development of a storehouse of information related to Connectivity,

**RESOLVES:**

- 1. To establish an Ad-hoc Group to coordinate the activities resulting from the Ahcjet proposed study. The group will use the Electronic Forum to formulate a detailed Action Plan based on descriptions contained in Annex 1.
- 2. To present the Action Plan, containing the working procedures, at the XXII meeting of PCC.III for approval.
- 3. To designate Mr. Eduardo Gabelloni from Argentina to chair the Ad-hoc group and Mr. Charles Glass from United States as Vice chair.

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<sup>6</sup> Document PCC.III/doc.2353/02 rev.2.

**REQUESTS THE CHAIRMAN OF PCC.III:**

- a) To inform AHCJET of this resolution;
- b) To include information on the development of this study in the report of PCC III to CITELE General Assembly

**INSTRUCTS THE EXECUTIVE SECRETARY OF CITELE TO:**

- a) To assist the Chairman of PCC.III and the chair of the Ad-hoc group in conducting the joint work with AHCJET;
- b) To establish a discussion group within the CITELE Electronic Forum, and
- c) Inform PCC.I of this resolution.

## ANNEX TO RESOLUTION PCC.III/RES. 142 (XXI-02)

### CITEL – AHCET COOPERATION 2002

#### **Proposal : Conduct a joint study on Technologies for Broadband Wireless Access.**

Customer access to telecommunication services has shown sensitivity to the capacity and possibilities that the customers themselves may have in the final segment of the network, the last mile.

The growing need for broadband to support telecommunication services and the new applications available to the customers today is taking on an important role. In this sense the last mile is a bottleneck.

Knowing the current situation and the possibilities that telecommunication technology provides for resolving these concerns and the possibilities for its application to commercial networks has a direct impact on outreach and marketing plans for products and services of operating companies. Therefore, the influence of telecommunication technology transfers directly to the bottom line.

Moreover, trends highlight the growing importance of data networks on voice networks, independent of the mobility factor. Furthermore, the *de facto* adoption of the IP protocol is contingent upon the development of a large number of new telecommunication products and services and also, The future adoption of 2.5 G and 3 G digital mobile communication systems is a factor that leads one to think about the convergence between the mobile access networks and the Internet network itself.

The rapid familiarization of customers to the IP environment and its use together with the high rate of development of mobile services causes the product developers to think that the next milestone in the development of mobile communication markets will have to come from the convergence of both: wireless Internet.

The development of the Information Society of the Americas requires a considerable increase in connectivity, both for the citizens in the area of their population centers and between cities.

The initial situation in large areas of Latin America, with scarce fixed network density and the probability of having a cellular network sooner than a fixed network, makes fixed applications of cellular telephony an important element when it is time to procure a rapid development of the Information Society of the Americas.

However, in this regard, there is a series of regulatory, technological and harmonization circumstances, which make the study of these applications advisable before they are used as a foundation for incorporating the citizens of the continent into the Information Society.

The following is the proposal for this report:

- Current status of the problem of the last mile for wireless and fixed network access: regulation, spectrum and technological limitations.
- Technological possibilities for the last mile: solutions for fixed and mobile access networks.
- Comparative study of existing technological solutions: advantages vs. disadvantages.
- Versatility vs. price of last mile solutions.
- Presentation of case studies in implementing technologies for the last mile: lessons learned.
- Guidelines for telecommunication technology implementation projects in the last mile.

- Digital systems possibilities for mobile communications used in America for IP support.
- Implications of Internet access on mobile network elements: modifications of those elements and of the network operational and supervisory functions.
- Impact of mobile applications based on the IP protocol for cellular operators: interoperability of networks and roaming.
- Mobile network security in IP applications: transnational fraud.
- Products and services susceptible to being marketed through mobile networks with Internet access: access business vs. content business.
- Role of mobile service in the development of the Information Society of the Americas.
- Cellular technologies in fixed uses: description and functions.
- Advantages and disadvantages of these applications.
- Regulatory situation in the Americas.
- Guidelines for a harmonious development of the fixed and mobile network in the Americas.
- Information Society Services that can be supported by these solutions.
- Experiences in America: lessons learned.
- Conclusions and recommendations.
- Reference cases in development of cellular networks with Internet access: lessons learned.
- Conclusions and recommendations.

#### **IV. RECOMMENDATIONS**

### **PCC.III/REC. 69 (XXI-02)<sup>7</sup> VIEWS TOWARDS MAXIMIZING THE HARMONIZATION OF THE FREQUENCY ARRANGEMENTS.**

The XXI Meeting of Permanent Consultative Committee III: Radiocommunications,

#### **CONSIDERING:**

- a) That the Working Party 8F of the ITU-R has held eight meetings;
- b) That Region 2 (Americas) has not presented an official position at any of these meetings on the frequency arrangements;
- c) That it is important for CITELE member countries to submit their own position at PCC.III meetings with relation to the different options of frequency arrangements as established in the Document WP-8F/TEMP/290;
- d) That the progress attained by ITU-R WP-8F should be presented at the next PCC.III meeting;
- e) That significant progress has been achieved on frequency arrangements, reflected through various options in the Draft Revision of Recommendation ITU-R M.1036-1, and

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<sup>7</sup> Document PCC.III/doc.2357/02.

- f) That it is important for CITEL administrations, operators and equipment suppliers to know the final plans from each country regarding the frequency plans that will be chosen to develop their 3G services, to facilitate roaming services and develop the right equipment,

**TAKING INTO ACCOUNT:**

That the ninth meeting of WP-8F will be held from September 25 through October 2 of this year,

**RECOMMENDS:**

- a) CITEL Member States to analyze the Draft Revision of Recommendation ITU-R M.1036-1 and urge them to participate in the WP8F, and
- b) That CITEL Member States exchange views on frequency arrangements that are being considered in WP 8F with a view towards maximizing the harmonization of the frequency arrangements.

**PCC.III/REC. 70 (XXI-02)<sup>8</sup>**  
**FREQUENCY ARRANGEMENTS FOR IMT-2000 IN THE BANDS 806 TO 960 MHZ,  
1710 TO 2025 MHZ AND 2110 TO 2200 MHZ**

The XXI Meeting of the Permanent Consultative Committee III: Radiocommunications,

**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 CITEL 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 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;
- d) 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;
- e) 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;
- f) That Administrations should harmonize frequency arrangements to the greatest extent possible to facilitate worldwide compatibility, global roaming and create economies of scale;

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<sup>8</sup> Document PCC.III/doc.2366/02 cor.1.

- g) That evolution from pre-IMT-2000 systems to IMT-2000 is enabled by providing compatible frequency arrangements thus leading to flexible regulatory approach;
- h) That indication of mobile transmit or base transmit operation does not preclude the use of these frequency bands for TDD applications, and
- i) That the IMT-2000 identified bands are shared on a co-primary basis with other Services, which should be protected accordingly,

## **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 CITELE 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 the use of the entire 1710-1850 MHz band ;
  - c) Maximize harmonization with the global 2110-2170 MHz Base Transmit Band;
  - d) Facilitate global roaming;
  - e) Minimize equipment costs.
2. That for the purpose of economies of scale, and roaming, CITELE 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 band plan.
3. That CITELE Member States consider selecting some of the following pairing options of frequency bands.

## **Recommended Spectrum Band Pairing Options<sup>9</sup>**

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

- 1) 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.
- 2) 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 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.

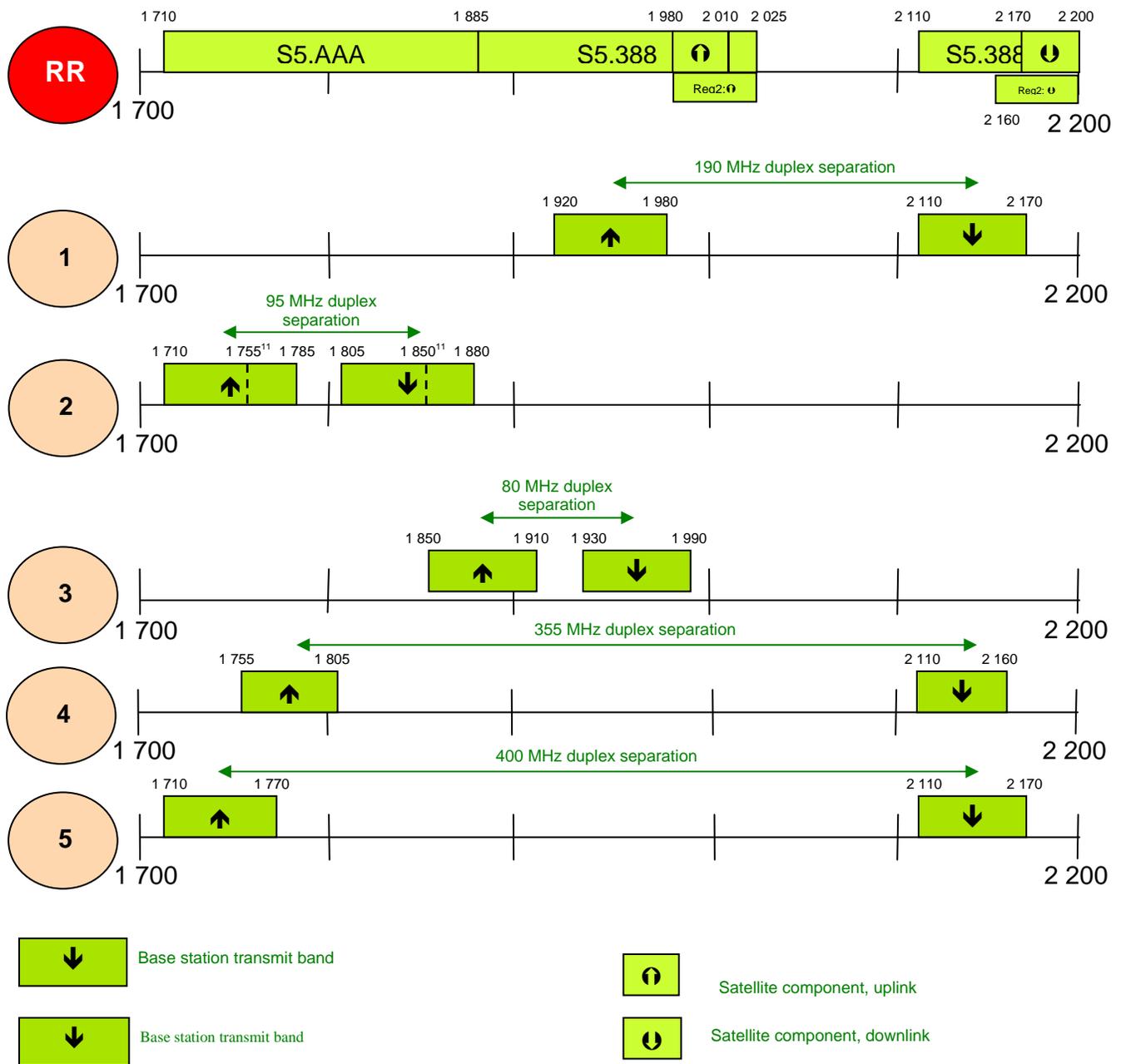
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<sup>9</sup> Timing and availability may vary by country.

- 3) 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).
- 4) Mobile transmit band 1 755-1 805 MHz<sup>10</sup>, paired with the global base transmit band 2 110-2 160 MHz, with a 355 MHz duplex separation.
- 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 starting at 824 MHz paired with a base transmit band starting at 869 MHz, consistent with a duplex separation of 45 MHz.

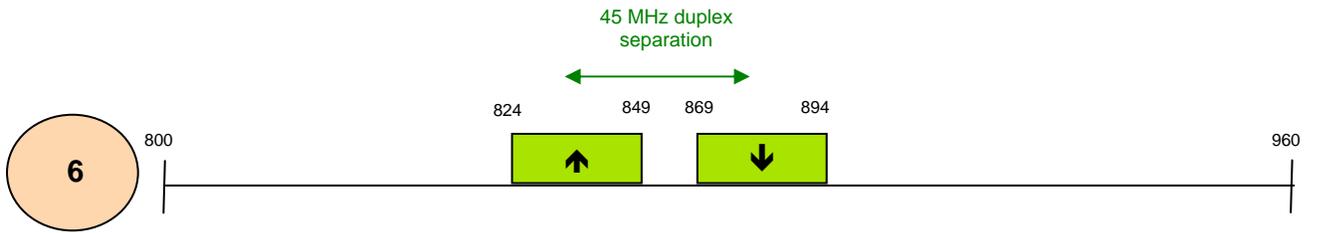
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<sup>10</sup> The precise band edges of 1 755 – 1 805 MHz are under discussion in some Administrations.



**Figure 1: Recommended Band Pairing Options (1710-2200 MHz Band)**

<sup>11</sup> The upper band limits in some countries are 1755 and 1850 MHz.



**Figure 2: Recommended Band Pairing Options (806-960 MHz Band)**

## V. DECISIONS

The XXI Meeting of Permanent Consultative Committee III: Radiocommunications,

### DECIDES:

<b>PCC.III/DEC.53 (XXI-02)<sup>11</sup></b>	To instruct the Executive Secretary to send the Member States the document PCC.III/doc.2299/02 "Spectrum Vision for the Fixed Service", inviting administrations and Associate members to submit their contributions, views and information on this document in time for the next PCC.III meeting (Working Group on terrestrial fixed and mobile radiocommunication services).
<b>PCC.III/DEC.54 (XXI-02)<sup>12</sup></b>	To request the Executive Secretary to send to the member states document Draft Resolution PCC.III/RES XXX (Band V) "Power Flux-Density (pfd) Limits in the Bands 37.5-42.5 GHz for the Fixed-Satellite Service" contained in document PCC.III/doc.2312/02. Administrations and associate members are invited to forward their comments to the XXII Meeting of PCC.III (Working Group relative to satellite systems to provide fixed and mobile services).
<b>PCC.III/DEC.55 (XXI-02)<sup>13</sup></b>	To instruct the Executive Secretary to send to the member States the attached questionnaire "Information on procedures for granting licenses for satellite systems", requesting Administrations to return it to Mr. Alonso Picazo (e-mail: apicazo@satmex.com) no later than 27 September 2002.

<sup>11</sup> Document PCC.III/doc.2356/02 cor.1

<sup>12</sup> Document PCC.III/doc.2365/02.

<sup>13</sup> Document PCC.III/doc.2355/02.

	<p><b>Questionnaire</b> “Information on procedures for granting licenses for satellite systems”:</p> <ol style="list-style-type: none"> <li>1.- In your Administration, does the entity responsible for granting authorizations for the earth stations have an Internet website?</li> <li>2.- If so, are the procedures for obtaining licenses published on this website?</li> <li>3.- Does your Administration have an OSS-type system for granting licenses?</li> <li>4.- If so, would your Administration be willing to be linked through an Internet website that allows a single access system?</li> <li>5.- If your Administration does not have an Internet website, would it be willing to develop a website with the assistance of CITELE, including the possibility of authorizing the earth stations?</li> <li>6.- If your Administration already has an Internet website that can grant on-line authorizations for the earth stations, would it be willing to develop a system jointly with CITELE or upgrade the current system to include this capacity?</li> <li>7.- What functions should be met by an OSS in the Americas and what functions should not be included?</li> <li>8.- Would your Administration agree to share the costs of a Regional OSS?</li> <li>9.- Do you believe that the benefits of a Regional OSS would justify the development and maintenance costs of this system?</li> <li>10.- Could your Administration suggest sources of financing for the development of the OSS?</li> <li>11.- Where would be the most convenient place to “install and develop” the OSS?</li> <li>12.- Who should be in charge of operating the OSS?</li> </ol>
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<b>PCC.III/DEC.56 (XXI-02)</b>	<ol style="list-style-type: none"> <li>1. To conclude the work of the Ad Hoc Group Procedure for recognition of the CITEL International Amateur Radio Permit (IARP) with the CEPT.</li> <li>2. To instruct the Executive Secretary to send, in the name of PCC.III, a letter to the Administration of Uruguay in which he communicates CITEL's appreciation of the work of Mr. Héctor Budé as Chairman of this Group.</li> </ol>
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## **VI. LIST OF BASIC DOCUMENTS**

Summary Minutes of the Inaugural Session and the First Plenary Session:	PCC.III/doc. 2335/02
Summary Minutes of the Second Plenary Session:	PCC.III/doc. 2369/02 rev.1
Summary Minutes of the Third Plenary Session and Closing Session:	PCC.III/doc. 2370/02
List of Documents:	PCC.III/doc. 2233/02 rev.8
List of Participants:	PCC.III/doc. 2234/02rev.2
Final Report for the Meeting	PCC.III/doc. 2371/02 rev.2