



ORGANIZATION OF AMERICAN STATES
Inter-American Telecommunication Commission

**XIII MEETING OF PERMANENT
CONSULTATIVE COMMITTEE III:
RADIOCOMMUNICATIONS
September 6 to 10, 1999
México, D.F., México**

**OEA/Ser.L/XVII.4.3
PCC.III/doc. 1439/99 rev.1
1 October 1999
Original: Spanish**

FINAL REPORT

TABLE OF CONTENTS

I. AGENDA.....	2
II. MEETING AUTHORITIES.....	2
III. RESOLUTIONS	2
PCC.III/RES. 87 (XIII-99).....	2
<i>SEMINAR ON BROADBAND FIXED WIRELESS ACCESS ABOVE 20 GHz.....</i>	2
PCC.III/RES. 88 (XIII-99).....	2
<i>PROCEDURE FOR PCC.III REPRESENTATION IN THE WORKING GROUPS OF OTHER REGIONAL ORGANIZATIONS FOR THE PURPOSE OF SHARING THE PROGRESS OF COMMON PROPOSALS IN PREPARATION FOR THE ITU'S WORLD RADIOCOMMUNICATIONS CONFERENCES (WRCs)</i>	6
PCC.III/RES. 89 (XIII-99).....	2
<i>METHODOLOGY FOR IDENTIFICATION OF SPECTRUM FOR FIXED WIRELESS ACCESS SYSTEMS IN THE AMERICAS</i>	9
PCC.III/RES. 90 (XIII-99).....	2
<i>BROADBAND WIRELESS SYSTEMS OPERATING IN THE</i>	2
<i>24 GHz FREQUENCY RANGE.....</i>	2
PCC.III/RES. 91 (XIII-99).....	2
<i>CREATION OF WORKING GROUP RELATIVE TO SATELLITE SYSTEMS TO PROVIDE FIXED AND MOBILE SERVICES</i>	2
PCC.III/RES. 92 (XIII-99).....	2
<i>AGENDA, VENUE AND DATE OF THE FOURTEENTH MEETING</i>	2
PCC.III/RES. 93 (XIII-99).....	2
<i>CREATION OF A DATABASE ON THE POLICIES, CRITERIA, ADMINISTRATIVE PROCEDURES, STANDARDS AND RANGES THAT THE CITEL MEMBER STATES APPLY IN ORDER TO AWARD GRANTS AND AUTHORIZATIONS FOR THE USE OF THE RADIOELECTRICAL SPECTRUM AND ORBIT POSITIONS OF THE SATELLITE NETWORKS.</i>	2
PCC.III/RES. 94 (XIII-99).....	2
<i>DEVELOPMENT OF A CITEL PCC.III COMMON PROPOSAL INPUT DOCUMENT TO THE CPM IN NOVEMBER 1999, ON CHAPTER 1 – IMT-2000.....</i>	2
IV RECOMMENDATIONS	2
PCC.III/REC.50 (XIII-99).....	2
<i>VSAT NETWORK TECHNOLOGIES</i>	2
PCC.III/REC.51 (XIII-99).....	2
<i>USE OF THE 401- 406 MHz BAND BY MEDICAL IMPLANT COMMUNICATION SYSTEMS.....</i>	2
PCC.III/REC.52 (XIII-99).....	2
<i>MANDATES OF THE SUMMIT OF THE AMERICAS AND THE ACTIVITIES PERFORMED BY CITEL IN COMPLIANCE WITH THOSE MANDATES</i>	2
PCC.III/REC.53 (XIII-99).....	2
<i>BROADBAND WIRELESS SYSTEMS OPERATING.....</i>	2
<i>IN THE 38 GHz FREQUENCY RANGE</i>	2
PCC.III/REC.54 (XIII-99).....	2
<i>COORDINATION OF FSS GSO SATELLITE NETWORKS ON THE C AND KU BANDS.....</i>	2

V. DECISIONS	2
PCC.III/DEC.29 (XIII-99).....	2
<i>REQUEST FOR COMMENTS ON THE COORDINATION OF STANDARDS CONTAINED IN DOCUMENT 1332 REV.1 RELATING TO LOW POWER SYSTEMS AND PUBLIC FIXED WIRELESS ACCESS SYSTEMS IN THE 1910-1930 MHz</i>	2
PCC.III/DEC. 30 (XIII-99)	2
<i>IMPLEMENTATION OF THE GMPCS MOU-ARRANGEMENTS</i>	2
<i>IN THE AMERICAS</i>	2
PCC.III/DEC. 31 (XIII-99).....	2
<i>COLLECTION OF INFORMATION ON CHARACTERISTICS OF LOW POWER DEVICES AND NATIONAL APPROACHES TO REGULATING SUCH DEVICES</i>	2
VI. LIST OF THE BASIC DOCUMENTS RESULTING FROM THE THIRTEENTH MEETING OF PCC.III: RADIOCOMMUNICATIONS.....	2

FINAL REPORT

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

The Thirteenth Meeting of the Permanent Consultative Committee III: Radiocommunications was held in Mexico City, Mexico on 6 to 10, September of 1999.

I. AGENDA¹

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 Chairpersons on the following topics:
 - 4.1 World Radiocommunication Conference.
 - 4.2 Satellite systems on the geostationary orbit.
 - 4.3 Networks and services that use very small aperture terminals (VSAT).
 - 4.7 Broadband Wireless Systems in Frequency bands above 20 GHz.
 - 4.8 Implementation of mobile satellite services above 1 GHz.
 - 4.9 Terrestrial Wireless Access.
 - 4.10 Consideration of the proposal to unify the working groups related to satellite systems.
5. Report of the Steering Committee of CITEL.
6. Implementation of cost recovery for Satellite Networks Fillings.
7. Agenda, Venue and Date of the XIV Meeting of PCC.III.
8. Other related matters.
9. Approval of the Final Report of the XIII Meeting.

II. MEETING AUTHORITIES

Chairperson:	Ms. Salma Jalife	(Mexico)
Vice Chairman:	Mr. Amadeo Castro Neto	(Brazil)
Acting Executive Secretary,	Mr. William Moran	(CITEL)

Group for the Drafting of the Final Report ²

Chairperson:	Ms. Leticia Diaz (Mexico)
Members:	Mr. Victor Hugo Perez Salinas (Mexico)
	Mr. Héctor Hugo Huerta (Mexico)

¹ Reference Document: PCC.III/doc.1300/99 rev.1.

² Reference Document: PCC.III/doc.1400/99 rev.1.

Mr. Guy Mitchell (Canada)
Mr. Edison Ayala (Ecuador)
Mr. Carmelo Rivera (United States)
Mr. Jonathan Siverling (United States)
Mr. Tom Walsh (United States)
Mr. Luis Ramos (Venezuela)

III. RESOLUTIONS

PCC.III/RES. 87 (XIII-99)³

SEMINAR ON BROADBAND FIXED WIRELESS ACCESS ABOVE 20 GHZ

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

CONSIDERING:

- a) That the usefulness of seminars has received wide recognition with CITELE as an effective mechanism to focus the attention on important current topics and raise the level of understanding on them;
- b) That a number of successful seminars have been held within PCC.III;
- c) That Members and Associates Members of CITELE should receive copies of seminar documents prior to the beginning of seminars;
- d) That the Declaration of Principles and Plan of Action for the Americas adopted by the Meeting of Senior Telecommunication Officials in September, 1996 highlighted the need to facilitate the dissemination of information on important developments in telecommunication environment among the countries of the Region;
- e) That the Permanent Consultative Committees of CITELE have undertaken efforts to schedule seminars on regular basis on a wide variety of topics in the interest of information dissemination;
- f) That Broadband Fixed Wireless systems can be characterized as high-density fixed systems that use considerable bandwidth on the order of 100-1000 MHz to provide a range of telecommunications services for private or business customers;
- g) That Broadband Fixed Wireless systems can operate in bands allocated to the fixed service, for point-to-point and point-to-multi-point, and
- h) That some of the bands considered are shared with other services,

RECOGNIZING:

³ Reference document: PCC.III/doc.1315/99

- a) That several Administrations have proposed to use Broadband Fixed Wireless System at bands above 20 GHz;
- b) That it is advantageous to have information on broadband wireless technology and deployment strategies for their use by CITELE country members;
- c) That Resolution PCC.III/RES.35 (IX-97) on LMDS/LMCS systems operating in frequencies around 27 GHz recommends criteria for harmonizing regional spectrum use, and
- d) That Resolution PCC.III/RES. 76 (XI-98) determined that terms of reference should be modified and recommendations developed for harmonization of spectrum use by CITELE members for fixed service broadband wireless systems operating in frequencies over 20 GHz. It was also decided that information should be provided regarding the deployment of different broadband technology and services and, if needed, guidelines prepared for deployment of broadband wireless systems in the Americas,

NOTING:

- a) The implementation of broadband wireless systems by member countries can offer an alternative for broadband multimedia, including video and telephony data for individual and business subscribers;
- b) There is a need to ensure an opportunity for new broadband fixed wireless systems to be implemented in the Americas, and
- c) That sharing studies are required to determine compatibility with systems in other services,

RESOLVES:

1. That a Seminar on Broadband Wireless Access operating at frequencies above 20 GHz be held in conjunction with the meeting of PCC.III XIV.
2. That the seminar be held in accordance with PCC.III/RES. 86 (XII-99) entitled "Concerning Procedures for the Organization of Seminars".
3. That Mr. Paul Krebs, Tel (972) 685-7123, Fax (972) 685 -35558 Pjkrebs@nortelnetwork.com, Nortel Networks, will act as the organizer of the Seminar.
4. That CITELE Members and Associate Members interested in participating in the Seminar contact the organizer of the Seminar.

PCC.III/RES. 88 (XIII-99)⁴

PROCEDURE FOR PCC.III REPRESENTATION IN THE WORKING GROUPS OF OTHER REGIONAL ORGANIZATIONS FOR THE PURPOSE OF SHARING THE PROGRESS OF COMMON PROPOSALS IN PREPARATION FOR THE ITU'S WORLD RADIOCOMMUNICATIONS CONFERENCES (WRCS)

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

CONSIDERING:

- a) That the management of the radioelectric spectrum has become an increasingly important regulated function because radio frequencies continue to be a limited resource;
- b) That the new mobile and fixed, or low mobility technologies, such as local wireless access and the constellations of low and medium orbit satellites, are being increasingly applied as regional or regulated frequency assignments;
- c) That CITELE, through PCC.III, has done an excellent job at the regional level of preparing common proposals, to be presented at ITU' WRCs, for regulating the radioelectric spectrum;
- d) That WRC-97 adopted Resolution 72 addressing the need for the regional harmonization of common proposals, and
- e) That the ITU Plenipotentiary Conference (Minneapolis, 1998) adopted Resolution COM 5-1 which resolved to encourage both informal and formal collaboration in the interval between radio conferences;

ACKNOWLEDGING:

- a) That PCC.III has a working group for the preparation of CITELE's common proposals to the ITU' WRCs;
- b) That the sharing of experiences with regional proposals for the allocation of frequency bands to radiocommunications services has intensified during recent years among various regional organizations, and
- c) That there has been an increase in the number of invitations extended by regional organizations to PCC.III representatives, asking them to participate in their radiocommunications working meetings to present the progress of CITELE's common proposals,

⁴ Reference document: PCC.III/doc.1430/99 Corr.1

TAKING INTO ACCOUNT:

- a) That CITELE's Regulations provide in Article 93, section 10: "PCCs are allowed to change and adapt their work methods to most efficiently meet the needs of their members, provided they do not infringe the provisions of the CITELE Statute and Regulations.";
- b) That there is a need to create a procedure for PCC.III representatives to officially attend the meetings of working groups of other regional organizations so as to disseminate the progress of CITELE's common proposals and also to learn of the progress of other regions' common proposals in order to inform and up-date the other PCC.III members and associate members;
- c) That this sharing of proposals will enrich the work done in the Working Group in its preparation of common proposals for WRCs which, in turn, will allow CITELE to strengthen its regional strategy to one of international scope;
- d) That the Chairperson of the PCC.III submitted the Resolution PCC.III/RES. 81 (XII/99) to be analyzed by the Steering Committee of CITELE which concluded that the aforementioned resolution is not in accordance with the terms of Article 17h) of the Statutes of CITELE and it was decided to send it to the Department of Legal Services of OAS for its revision.
- e) That the Director of the Department of Legal Services of OAS sent a memorandum to the Acting Executive Secretary of CITELE in which he submits an analysis on resolutions PCC.III/RES.81(XII/99) and PCC.II/RES.25 (V-99) pointing out that there are some dispositions in the resolution that do not adjust from the legal point of view, to what is established by the Statute and Regulations of CITELE and should therefore be modified.
- f) That the procedure for the Representation of PCC.III in the Working Groups of other Regional organizations in order to exchange information on the progress of common proposals in the preparation for World Radiocommunication Conferences (WRCs) of the International Telecommunication Union (ITU) has been modified taking into account the remarks made by the aforementioned Department.

RESOLVES:

1. Supersede resolution PCC.III/RES.81(XII-99).
2. To adopt the new procedure outlined in detail in the attachment to this Resolution.

INSTRUCTS THE EXECUTIVE SECRETARIAT:

1. To distribute this resolution and its attachment to the CITELE Member States and the associate members of PCC.III, pointing out that the procedures have been modified taking into account the remarks made by the Department of Legal Services of OAS.
2. To send a communication to the Chairman and Secretariat of other regional organizations to inform them of these new procedures and to provide them with the schedule of CITELE PCC.III meetings.

3. To extend an invitation to other regional organizations to participate in the PCC.III meetings in order to facilitate the exchange of regional views and positions.
4. To send this resolution to COM/CITEL for their consideration.

ANNEX

PROCEDURE FOR PCC.III REPRESENTATION IN THE WORKING GROUPS OF OTHER REGIONAL ORGANIZATIONS FOR THE PURPOSE OF SHARING THE PROGRESS OF COMMON PROPOSALS IN PREPARATION FOR THE ITU's WORLD RADIOCOMMUNICATION CONFERENCES

RECEIVING THE INVITATION

1. The Chairperson of PCC.III shall forward to the Chair of COM CITEL and the Executive Secretariat of CITEL any formal invitation received from regional organizations to attend meetings of their radiocommunications working groups.

INFORMING MEMBER COUNTRIES AND ASSOCIATE MEMBERS OF THE INVITATION

2. Within five (5) days from receipt of the invitation, the Executive Secretariat shall send a communication, signed by the PCC.III Chairperson, to the PCC.III Member States and associate member contacts (whose contributions are up-to-date), informing them of the invitation and the place, date and agenda of the meeting. In his communication, the PCC.III Chairperson shall request the contacts send him by a given date the name(s) of anyone who may be interested in attending the meeting.
3. Within five (5) days from receipt of the notices from the PCC.III Member States and associate members, the Executive Secretariat shall send a communication signed by the PCC.III Chairperson to the regional organization that extended the invitation with the name(s) of the person(s) who shall be attending the meeting on behalf of PCC.III. A copy of that communication shall be sent to the PCC.III representative attendees.

WHO SHOULD PARTICIPATE

4. It is understood that the PCC.III representative attends the meeting on behalf of PCC.III.
5. Representation must always include at least one representative of a Member State.
6. If there is no representative to attend the meeting above mentioned, the Executive Secretariat shall inform the regional organization in writing that no representative will be attending representing PCC.III
7. PCC.III may be represented by :
 - a) Chair of PCC.III
 - b) ViceChair of PCC.III
 - c) Chair of the Working Group for the preparation for WRCs

- d) ViceChair of the Working Group for the preparation for WRCs
 - e) Coordinators, rapporteurs and delegates identified by CITEL Member States, that have been identified by the Member States of CITEL in consultation with the Chairperson of PCC.III and the Chairman of the Working Group for the preparation of WRCs
8. In order not to create an imbalance in the meetings of the working groups of other regional organizations, the Chair of PCC.III shall carefully consider the number of representatives attending, taking into account the topics to be covered and the organization and structure of the work being undertaken in the PCC.III Working Group for the preparation for WRCs..

REPRESENTATIVE[S]'S OBLIGATIONS

9. Taking into account the topics to be considered by the meeting of the regional organization that is inviting PCC.III as well as the organization and structure of the work being undertaken in the Working Group preparing for WRCs, the PCC.III Chair consulting the Chair of the Working Group for the preparation for WRCs, will determine which representative of a Member State of the delegation who attends representing PCC.III, as identified in 8 above, may act as a spokesperson and present a report on the progress of CITEL's common proposals.
10. The representative(s) shall also report to the following PCC.III meeting on the activities that occurred during the regional meeting. Furthermore, the report(s) shall be one of the documents to the PCC.III meeting and will be posted on the CITEL website.

PCC.III/RES. 89 (XIII-99)⁵

METHODOLOGY FOR IDENTIFICATION OF SPECTRUM FOR FIXED WIRELESS ACCESS SYSTEMS IN THE AMERICAS

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

CONSIDERING:

- a) That Recommendation PCC.III/REC.10(III-95) on the identification of spectrum for Fixed Wireless Access (FWA) requested contributions on this topic;
- b) That Recommendation PCC.III/REC.26 (VI-96) on the identification of spectrum for fixed wireless access systems in the Americas, recommended that Administrations implementing fixed wireless access at 1850-1990 MHz and 3.4-3.7 GHz, consider technical and operational measures for FWA to take to coexist with other services and also that PCC.III continue to study the suitability of additional frequency bands for use by the Fixed Wireless Service in the future;
- c) That Recommendation PCC.III/REC.39 (X-98) on the identification of spectrum in the bands 440-450 and 485-495 MHz for fixed wireless access systems in the Americas recommended identification

⁵ Reference document: PCC.III/doc.1416/99

of these frequencies for implementation of FWA and that this implementation must be coordinated or technical and operational measures taken to coexist with other radio services in these bands, and

- d) That a commercial interest exists within the Americas for CITELE PCC.III to continue to develop recommendations for Administrations to use when considering implementation of FWA systems within their countries,

RECOGNIZING:

- a) That when considering potential frequency bands for use by FWA systems to avoid spectrum compatibility difficulties, CITELE PCC.III needs to take into account existing and planned spectrum utilization in the Americas ;
- b) That ITU-R Joint Rapporteur Group 8A-9B on Fixed Wireless Access has initiated actions to; identify frequency bands that might allow compatible operation between FWA systems and systems of existing radio services, conduct appropriate sharing studies and develop associated recommendations;
- c) That the ITU-R has developed a Draft New Recommendation on a Methodology for Identification of Frequency Bands for Terrestrial Fixed Wireless Access (FWA) Systems, and
- d) That, in order to avoid potentially unacceptable interference under some circumstances, a clear process should be used to evaluate frequency bands and associated technologies for suitability for FWA,

RESOLVES:

When developing CITELE Recommendations on specific bands for FWA use, the Administrations should take into account the methodology derived from ITU-R Recommendation F.1401 (annex 1) including the following steps:

- 1) Identify frequency bands giving priority for those:
 - a) FS bands already in use for FWA or bands for which equipment is available;
 - b) Bands identified in existing Resolutions from Radiocommunications conference (e.g., HDFS);
 - c) Bands with greatest possibility for global harmonization (less sharing constraints);
 - d) FS bands which may be under-utilized (candidates for re-farming);
- 2) Consider the spectrum implications of the performance and availability requirements for the required telecommunications services.
- 3) Consider cost-effectiveness and equipment availability of the bands under consideration.
- 4) Identify sharing and regulatory constraints, listing the applicable ITU-R Recommendations (Technical) and the Radio Regulations, including footnotes (Regulatory).
- 5) Identify complementary sharing studies with other primary radio services in the bands identified in accordance with Step 1.

- 6) If steps 4 and 5 indicate ITU-R sharing studies are inconclusive or there is potential for interference, perform analysis to determine if sharing between FWA systems and these services is feasible.
- 7) Identify the frequency bands that have passed the tests above.

Annex 1

RECOMMENDATION ITU-R F.1401^{*,} FREQUENCY BANDS FOR FIXED WIRELESS ACCESS SYSTEMS AND THE IDENTIFICATION METHODOLOGY**

(Questions ITU-R 215/8 and ITU-R 140/9)

(1999)

1 Introduction

1.1 Purpose

The objective of this Recommendation is to provide guidance for the identification of suitable frequency spectrum for terrestrial FWA applications, taking due account of sharing issues. Both traditional wireless telephony applications as well as emerging broadband wireless applications are considered.

The potential for FWA to enhance availability of telecommunications services in both developing and developed countries is substantial.

1.2 Background

Wireless access has been defined (see Recommendation ITU-R F.1399 as “end-user radio connection(s) to core networks”, where core networks include, for example, PSTN, ISDN, PLMN, PSDN, Internet, WAN/LAN, CATV, etc. Wireless access applications can be provided within the definitions of the radio services FS, MS, FSS and MSS contained in the ITU Radio Regulations (RR) (see § 4 for list of acronyms). FWA is one of these wireless access applications in which the location of the end-user termination and the network access point to be connected to the end-user are fixed.

Technologies in use today for implementing wireless access include cellular systems, cordless phone and cordless telecommunication systems, satellite systems, and specialized P-P and P-MP radio systems. New technologies and systems such as IMT-2000, wireless broadband ISDN, wireless ATM, etc., also form part of wireless access if their application satisfies the basic criteria of end-user radio connection(s) to core networks (see § 4 for list of acronyms).

* This Recommendation was developed jointly by Radiocommunication Study Groups 8 (Working Party 8A) and 9 (Working Party 9B), and any further revision should be undertaken jointly.

** This Recommendation should be brought to the attention of Radiocommunication Study Groups 4 (Working Party 4A) and 8 (Working Party 8A).

1.3 Traditional telephony wireless access applications

Advances in technology and competitive access are driving the revolution towards wireless access infrastructure for the provision of basic telephone service. Traditionally the most difficult component of the network to build and the least cost-effective to maintain has proven to be the LAN, regardless of a developing or a developed economy. The sheer scope of investment and engineering efforts required to build and maintain copper-based networks has made high penetration rates for basic telephone service available only to industrialized nations of the world. Even the relatively low target subscriber density (teledensity) rate of 20 lines per 100 population set by the ITU, has been far beyond the capability of many nations until recently.

Wireless access is an application of radio technology and personal communication systems experiencing tremendous growth, especially in developing economies.

Generally, a wide range of radio system designs could be used for FWA and the suitability is a function of a number of factors. The most suitable system for a particular application will tend in general to depend on the requirements of the end-user (POTS only or many service features), the cost of deployment (which will depend on the density of the subscriber population and the type of system being considered) and the availability of the appropriate radio-frequency spectrum for that system. The requirement for mobility, or evolution for mobility, would tend to drive the deployment of systems derived from cellular technologies. Alternatively, the requirement for wireline quality and services (such as G3 FAX and voiceband data or even ISDN) would tend to be drivers towards special-purpose designed systems.

Understanding the drivers for the deployment of each technology is a key factor in minimizing the cost and maximizing the effectiveness of the solution. In some cases wireless access may offer potential for evolution and synergy with mobile services. An infrastructure supporting a fixed wireless system using an air interface developed for mobile services, (e.g. Recommendations ITU-R F.757, ITU-R M.622, ITU-R M.687, ITU-R M.819, ITU-R M.1033, and ITU-R M.1073) might be readily extended to support mobile users. Alternatively, special-purpose systems can be designed to meet the quality requirements in an optimal manner. Volume I of the ITU-R Land Mobile (including Wireless Access) Handbook provides further information on the basic principles and descriptions of wireless access systems.

1.4 Broadband wireless access

Local access and other high density radio-relay service planning and system deployments have rapidly accelerated in the last few years in many Administrations. This acceleration is due in large part to the trend towards increased demand and competition in the provision of high bit-rate local telecommunications and video distribution services. Because of cost and speed of deployment considerations, these developments are placing a major new focus on the provision of services directly to end-users via fixed wireless access systems.

Current broadband wireless access data rates over individual circuit paths range from about 1.5 Mbit/s to about 45 Mbit/s, and are expected to reach at least 310 Mbit/s within the next few years, as radios utilizing higher order modulation schemes become available (see Recommendation ITU-R F.758).

The variety of possible broadband FWA network configurations includes: conventional P-P, conventional P-MP, and combinations thereof, e.g. P-P systems deployed in multisectorized P-MP configurations. High

density deployment of independent P-P links similarly results in clusters that assume the essential characteristics of P-MP deployment. An emerging system architecture is that of MP-MP, similar to mesh systems used at, for example, HF.

These broadband FWA systems are predominantly deployed in dense urban, suburban, and campus environments where transmission path elevation angles may reach up to about 40° to 60°. Links are regularly deployed on an on-demand basis to meet specific end-user requirements as they develop.

2. Scope

This Recommendation provides, as an initial response to Questions ITU-R 215/8 and ITU-R 140/9, a methodology for identification of suitable frequency spectrum for FWA and a list of items to be addressed in identifying candidate bands. These take into account the results of ITU-R studies on compatible operations with systems of existing radio services in FS and MS frequency allocations, characteristics and operational requirements, spectrum requirements, spectrum sharing criteria, and technologies for enhancing spectrum sharing. The bands identified could support traditional telephony wireless access applications or new and emerging broadband wireless access.

The scope of this Recommendation covers only FWA system operation in the FS and MS allocations; i.e. terrestrial.

3. References

This list of references includes both those specifically used in this document and other general references relevant to the topic of FWA.

- Recommendation ITU-R F.637: Radio-frequency channel arrangements for radio-relay systems operating in the 23 GHz band
- Recommendation ITU-R F.746: Radio-frequency channel arrangements for radio-relay systems
- Recommendation ITU-R F.755: Point-to-multipoint systems used in the fixed service
- Recommendation ITU-R F.757: Basic system requirements and performance objectives for fixed wireless local loop applications using cellular type mobile technologies
- Recommendation ITU-R F.758: Considerations in the development of criteria for sharing between the terrestrial fixed service and other services
- Recommendation ITU-R F.1399: Vocabulary of terms for wireless access
- Recommendation ITU-R F.1400: Performance and availability requirements and objectives for fixed wireless access to public switched telephone network
- Recommendation ITU-R F.1402: Frequency sharing criteria between a land mobile wireless access system and a fixed wireless access system using the same equipment type as the mobile wireless access system
- Recommendation ITU-R M.819: International Mobile Telecommunications-2000 (IMT-2000) for developing countries
- Recommendation ITU-R M.1033: Technical and operational characteristics of cordless telephones and cordless telecommunication systems

- Recommendation ITU-R M.1073: Digital cellular land mobile telecommunication systems
- Resolution 122 (WRC-97): Use of the bands 47.2-47.5 GHz and 47.9-48.2 GHz by high altitude platform stations in the fixed service and by other services
- Resolution 726 (WRC-97): Frequency bands above 30 GHz available for high-density applications in the fixed service
- RR Number S5.547.

4 List of acronyms

ATM	Asynchronous transfer mode
CATV	Community antenna television
CDMA	Code division multiple access
FDD	Frequency duplex division
FPLMTS	Future public land mobile telecommunication systems (see IMT-2000)
FS	Fixed service
FSS	Fixed satellite service
FWA	Fixed wireless access
HAPS	High altitude platform stations
HDFS	High density applications in the fixed service
IMT-2000	International mobile telecommunications-2000
ISDN	Integrated services digital network
LAN	Local area network
LMCS	Local multipoint communications systems
LMDS	Local multipoint distribution systems
MMDS	Multichannel multipoint distribution systems
MP-MP	Multipoint to multipoint
MS	Mobile service
MSS	Mobile satellite service
MVDS	Multipoint video distribution systems
PCS	Personal communications systems
PLMN	Public land mobile network
P-MP	Point-to-multipoint
POTS	Plain old telephone service
P-P	Point-to-point
PSDN	Public switched digital network
PSTN	Public switched telephone network

RLAN	Radio local area network
TDD	Time division duplex
TDMA	Time division multiple access
WAN	Wide area network

5 Considerations related to the use of the spectrum for FWA

5.1 General

The terms fixed (radio) service and mobile (radio) service are defined by the Radio Regulations. The radio service definitions form the basis for the allocation of radio spectrum internationally by the ITU as well as domestically by each country. For the most part, the ITU has made joint allocations to the mobile and fixed services in various frequency bands. In some countries a choice has been made to limit use to one of the two services.

Certain evolving FWA applications do not fit explicitly into the definitions of either the FS or the MS. The appropriate approach is to apply some flexibility in the interpretation of these definitions to be able to embrace these integrated applications under the umbrella of the FS and the MS. A key to the interpretation of the use of these terms is the concept of mobility. If the device is intended to be used in motion or is normally moved from place to place, it is considered as part of the MS. On the other hand it is generally understood that portable systems, which are moveable but operate always in the fixed state, belong to the FS.

Applications are envisaged for fixed radio service systems where the integration of wireless access devices that function as mobile (requiring mobile allocations) radio stations might be required. These situations have resulted from the converging requirements of both mobile and fixed radio services and the use of wireless access devices in integrated radio applications.

In order to facilitate the introduction of FWA systems the following factors should be considered:

- Systems can use technologies derived from both mobile and fixed P-P systems.
- There is a growing trend in certain frequency bands where fixed and mobile applications are converging.
- Frequency reuse becomes increasingly effective at higher (millimetre wave) frequencies.
- Adaptive technologies and other advances are likely to afford greater effective capacity and spectrum efficiency in the future.
- Flexibility is needed in the frequency band structure to provide for multiple technologies and a variety of services.
- Area-wide and site-by-site frequency assignments are commonly used for FWA.
- Service providers may benefit from economies of scale in bands where there is significant regional or worldwide harmonization.
- In the future the convergence of telecommunications and broadcast applications may prompt the development of hybrid FS/broadcasting service applications.

5.2 Spectrum characteristics for wireless access

This section points out relevant characteristics of the radio spectrum for FWA implementation. Most of these characteristics are also relevant for other services.

The main characteristics of the use of the frequency bands allocated on a primary basis to FS and MS, suitable for wireless access are summarized as follows:

Below 1 GHz:

- telephony and low-speed data;
- good propagation for long reach – beyond horizon (rural systems);
- high-level of coverage reliability;
- limited bandwidth available;
- many bands heavily used for MS, broadcasting and other services;
- difficult to achieve high antenna gains with small antenna structures;
- easy to generate high transmit power at base station;
- components very readily available;
- coordination distances between co-channel systems is quite large;
- frequencies below 50 MHz suffer from propagation anomalies – ducting due to temperature inversion – ionosphere skip.

1-3 GHz:

- telephony and low/medium speed data;
- good propagation – limited-trans-horizon path (particularly suitable for both fixed and mobile applications);
- good coverage reliability – limited blockage problems;
- many bands already heavily used by existing MS, FS, satellite and radiolocation/radionavigation services;
- moderate bandwidth available;
- good range for urban and rural applications;
- antenna structures can be quite small (e.g. cellular, cordless);
- easy to generate high transmit power at base station;
- components readily available.

3-10 GHz:

- telephony and low/medium/high speed data;
- propagation generally limited to near line of sight;
- propagation through foliage is relatively good;
- path length generally less than 20 km for P-MP, more for P-P;
- more bandwidth available;
- many fixed/mobile bands shared with satellite services:

- sharing constraints more favourable to P-P systems;
- components of reasonable cost and availability;
- more expensive to generate transmit power;
- coverage reliability is moderate-poor due to blockage;
- bands can be suitable for FWA applications employing high-gain antennas at the base station and subscriber station.

10-30 GHz:

- telephony, low, medium and high data rates, video;
- mature P-P and multipoint technology;
- propagation:
 - line of sight required;
 - rain attenuation is a factor;
 - urban/suburban applications;
 - employ small antenna structures;
 - path lengths generally less than 10 km for P-MP, more for P-P;
 - substantial contiguous bands of FS spectrum are available;
 - support broadband applications;
 - transmit power is more expensive;
 - high-level of frequency reuse, especially in the 20-30 GHz range;
 - many FS/MS bands shared with satellite services;
 - sharing between FS (including FWA) and FSS/MSS may be difficult.

30-50 GHz:

- telephony, low-medium and high data rates, video;
- propagation:
 - line of sight;
 - rain attenuation – a significant factor;
 - antenna structures can be very small, and have high levels of gain;
 - path lengths generally less than 5 km for P-MP, more for P-P;
 - large contiguous bands of spectrum available for broadband FWA applications;
 - applications are urban/suburban;
 - very high level of frequency reuse;
 - sharing between FS (including FWA) and FSS/MSS may be difficult;
 - some countries have broadband FWA systems in the 38 GHz band.

Above 50 GHz:

- high atmospheric losses in the 55-66 GHz range;

- rain attenuation – a significant factor;
- generally the range is up to 10 km;
- very high level of frequency reuse;
- technology under development;
- sufficient spectrum available for FWA systems due to decisions at WRC-97.

Table 1 provides a generalized categorization of frequency bands by service and constituency. For the purposes of this Recommendation, the types of services are defined in Recommendation ITU-R F.1400 – Performance and availability requirements and objectives for fixed wireless access to public switched telephone network.

Type 1: Analogue signals such as voice and voiceband data at rates up to 64 kbit/s (minimum 3.1 kHz audio as identified in ITU-T Recommendation G.174).

Type 2: Access bearer service from 64 kbit/s to bit rates below the primary rate.

Type 3: Digital services operating at the primary rate or above.

TABLE 1
Frequency bands broadly categorized by service and constituency

Class of service	Service constituency		
	Rural	Suburban	Urban
Type 1	≤ 5 GHz	≤ 5 GHz	≤ 5 GHz
Type 2	≤ 5 GHz	1-11 GHz	1-11 GHz
Type 3	3-70 GHz ⁽¹⁾	3-70 GHz	3-70 GHz

⁽¹⁾The bandwidth requirements for Type 3 services cannot be accommodated, generally, in frequency bands below 3 GHz and may need higher frequencies, up to 70 GHz, even if the range is therefore severely reduced.

5. Recommendations

The ITU Radiocommunication Assembly recommends that the following points be taken into consideration in the identification of suitable frequency bands for the implementation of FWA systems.

6.1 Methodology to identify possible bands for FWA

Step 1: Identify either or both FS and MS bands taking into account the following considerations:

- bands already in use for FWA or for which equipment is available;

- bands identified in existing Resolutions from radiocommunication conferences (e.g. HDFS);
- bands with greatest possibility for global harmonisation (less sharing constraints);
- FS bands which may be under-utilized (candidates for re-farming).

Step 2: Consider the spectrum implications of the performance and availability requirements for the required telecommunication services.

Step 3: Consider cost-effectiveness and equipment availability of the bands under consideration.

Step 4: Identify sharing and regulatory constraints:

- List of applicable ITU-R Recommendations (technical);
- Radio Regulations, including footnotes (regulatory).

Step 5: Identify complementary sharing studies with other primary radio services in the bands identified in accordance with Step 1.

Step 6: If Steps 4 and 5 indicate ITU-R sharing studies are inconclusive or there is potential for interference, perform analysis to determine if sharing between FWA systems and these services is feasible.

Step 7: Identify the frequency bands that have passed the tests above.

6.2 Information to be compiled for the identification of frequency bands

Based on the above methodology, the following items are necessary for the identification of possible FS and MS bands eligible for FWA systems covering the range 400 MHz to 70 GHz:

- frequency band,
- bandwidth,
- ITU-R Recommendations on spectrum,
- other ITU-R Recommendations,
- regional Recommendations on spectrum,
- other regional Recommendations,
- sharing studies,
- current use,
- other information.

Studies are invited addressing these items with a view to identifying candidate frequency bands.

PCC.III/RES. 90 (XIII-99)⁶

⁶ Reference document: PCC.III/doc.1425/99

BROADBAND WIRELESS SYSTEMS OPERATING IN THE 24 GHZ FREQUENCY RANGE

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

CONSIDERING:

- a) That broadband wireless systems can offer a range of telecommunication services including high data rate local access, multimedia and telephony;
- b) That broadband wireless systems include point to point and point to multipoint fixed systems;
- c) That there is an increasing demand for broadband wireless spectrum;
- d) That a number of Administrations have implemented broadband wireless access systems in 400 MHz of spectrum at 24 GHz in addition to the spectrum at 28 GHz and 38 GHz;
- e) That Regions 1 and 3 currently have a primary allocation to the fixed service in this frequency range, and
- f) That equipment is currently available in this band,

NOTING:

That some Administrations are using the bands 24.25-24.45 GHz and 25.05-25.25 GHz for broadband wireless access systems; and that this spectrum is divided into 40+40 MHz block pairs.

RESOLVES:

That CITEL Administrations study the possibility of considering the inclusion of the fixed service on a co-primary basis in Region 2 in the bands 24.25-24.45 GHz and 25.05-25.25 GHz at a future competent conference taking into account ITU Resolution 26.

PCC.III/RES. 91 (XIII-99)⁷

CREATION OF WORKING GROUP RELATIVE TO SATELLITE SYSTEMS TO PROVIDE FIXED AND MOBILE SERVICES

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

⁷ Reference document: PCC.III/doc.1433/99

CONSIDERING:

- a) That in the Twelfth meeting of the Permanent Consultative Committee III: Radiocommunications, by Resolution PCC.III/RES.85 (XII-99), entrusted the Administration of Venezuela an exam to unify the following Working Groups:
 - i. - Networks and Services which use Very Small Aperture Terminals (VSATs)
 - ii. - Mobile Satellite Services above 1.0 GHz and
 - iii.- Identification of Alternative Frequency Bands for geostationary satellite use.
- b) That it is necessary to achieve a greater participation in the existing Working Groups within the PCC.III;
- c) That the proposal to unify Working Groups relating to Satellite Systems have as their aim improve the development of tasks in the groups on satellite systems in the framework of PCC.III;
- d) That with the aim of making the handling of topics related to the communication services and technologies by satellite more efficient, it is necessary to unify the Working Groups mentioned in point 1;
- e) That it is necessary to emphasis, focus on and broaden the studies of the CITEI on the applications of satellite services;
- f) That the satellite services provide beneficial applications to the Members States of CITEI through new technologies;
- g) That it is of interest to all the Administrations which form part of the CITEI, to plan the radioelectric spectrum use, in relation to the development and the implementation of the satellite networks, and
- h) The need that all the Member States represented in the CITEI, have access to the use of outer space for pacific aims and to the orbit/radioelectric spectrum resource of geostationary and non-geostationary orbits in an equitative and non-discriminative way;

TAKING INTO ACCOUNT:

- a) The ever increasing competitiveness of the manufacturers, suppliers of communication services by satellite, the emergence and deployment of new technologies which use both geostationary and stationary orbits;
- b) The need for the Member Administrations of CITEI to improve their telecommunication infrastructure, to develop, formulate and maintain up to date their Technical-Regulatory frameworks in relation to the use, exploitation and commercialization of satellite communication systems, and
- c) The impact of the globalization of the new telecommunication services and technologies by satellite,

RECOGNIZING:

That the Radio Regulations of the ITU is the basis for the work of coordination of satellite networks of the Member Countries of CITEL.

RESOLVES:

1. Derogate resolutions
 - **PCC.III/RES.6 (II-95)** PCC.III/RES.6 (II-95): The Creation of a Working Group within PCC which is Responsible for the Study of Mobil Satellite Services above 1GHz.
 - **PCC.III/RES.11 (II-95)**: Continuation of the Efforts of the Working Group on the Use of Very Small Aperture Terminals (VSATs) in the Americas.
 - **PCC.III/RES.46 (VI-96)** The establishment of an *Ad Hoc* Working Group for the identification of alternative frequency bands for use of geostationary satellites.
 - **PCC.III/RES. 85 (XII-99)** Creation of an Ad Hoc Group to unify the Satellite Working Groups
2. To create a Working Group denominated **WORKING GROUP RELATIVE TO SATELLITE SYSTEMS TO PROVIDE FIXED AND MOBILE SERVICES**
3. To approve the structure of the Working Group of Satellite Services which will consist of:
 - i) Chair: Administration of Venezuela.
 - ii) Vice-chair for the Subgroup of Fixed Satellite Services: Administration of Mexico.
 - iii) Vice-chair for the Subgroup of Mobile Satellite Services: Administration of Venezuela.
4. To request the Chair of the Working Group to submit the respective working plan and the objective, mandate and terms of reference for the XIV Meeting of PCC.III.
5. That the PCC.III after a year of the functioning of the Working Group, evaluates the results obtained from this structure and determines whether it should form two Working Groups.

PCC.III/RES. 92 (XIII-99)⁸

AGENDA, VENUE AND DATE OF THE FOURTEENTH MEETING

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

RESOLVES:

⁸ Reference document: PCC.III/doc.1424/99

1. To hold the XIV meeting of PCC.III at San Diego, United States of America, December 6-10, 1999.
2. To coordinate with the Chair of the PCC.II the agreement for a joint meeting with the Committees in order to take charge of the Preparation for the World Radiocommunications Conference.
3. To approve the draft for the agenda for XIV PCC.III Meeting attached to the following resolution:

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 Chairpersons on the following topics:
 - 4.1 World Radiocommunication Conference.
 - 4.2 relative to satellite systems to provide of fixed and mobile services
 - 4.3 Broadband Wireless Systems in Frequency bands above 20 GHz.
 - 4.4 Terrestrial Wireless Access.
 - 4.5 Exam of the procedures for submitting Joint proposals to ITU.
5. Report of the tasks realized in coordination with ITU
6. Situation of the developing databases.
7. Agenda, Venue and Date of the XV Meeting of PCC.III.
8. Other related matters.
9. Approval of the Final Report of the XIV Meeting.

PCC.III/RES. 93 (XIII-99)⁹

CREATION OF A DATABASE ON THE POLICIES, CRITERIA, ADMINISTRATIVE PROCEDURES, STANDARDS AND RANGES THAT THE CITEL MEMBER STATES APPLY IN ORDER TO AWARD GRANTS AND AUTHORIZATIONS FOR THE USE OF THE RADIOELECTRICAL SPECTRUM AND ORBIT POSITIONS OF THE SATELLITE NETWORKS.

The Thirteenth Meeting of the Permanent Consulting Committee: Radiocommunications,

CONSIDERING:

- a) The growing adoption of the policies of the CITEL Members of Governments aimed at freeing and deregulating the exploitation of the telecommunications services that in some cases are linked to commitments made by the Governments within the World Trade Organization (WTO) in the opening framework of the services market.

⁹ Reference document: PCC.III/doc.1414/99

- b) The interest shown by the CITEL Members in relation to accessing the information given in the title, as elements of judgement to help in the decision making on their behalf and that in some cases is partially carried out through the diligence of Questionnaires to respond to such interest.
- c) The policy and strategy followed by the CITEL in its relationship with the International Telecommunication Union (ITU) with respect to the coordination of activities of both Organizations to provide a better service to the needs of the Region via an efficient use of the resources.

TAKING INTO CONSIDERATION:

That the availability of the resources which the ITU is still assigning to the performance of joint CITEL/ITU projects and that these are finalized within the spirit described under Considering 3 and that it is a common Policy in both Organizations.

NOTING:

That the acquisition and transference of data which could be done by means of the project aimed to meet the need for information of the Members of CITEL and of the Associate Members, could also be used to cope with the need for information of the Permanent Consultative meetings relating with the tasks assigned to achieve the development of telecommunications in the Region

RESOLVES:

To submit to COM/CITEL the principles stated in this Resolution on the feasibility of coping with the need for information of the Members of CITEL, of the Associate Members and the organisms of CITEL through the means outlined in the title and according to its decision, continue with the feasibility study that will call for the realization of the CITEL/UIT joint project which could rely on the assistance of resources from the latter.

PCC.III/RES. 94 (XIII-99)¹⁰

**DEVELOPMENT OF A CITEL PCC.III COMMON PROPOSAL INPUT DOCUMENT TO
THE CPM IN NOVEMBER 1999, ON CHAPTER 1 – IMT-2000**

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

CONSIDERING:

- a) That the band 2700-2900 MHz has been designated as a candidate band for the implementation of the terrestrial component IMT-2000 in the CPM Report on Technical, Operational and Regulatory Procedural Matters to be Considered by the 2000 World Radiocommunication Conference;

¹⁰ Reference document: PCC.III/doc.1435/99.

- b) That the session of ITU-R Conference Preparatory Meeting will start on November 15, 1999, and it would be very much in the interests of the CITELE members to have common proposals on the text of the CPM on IMT-2000 and that these be examined in the framework of item 1.6 on the WRC-2000 Agenda;
- c) That, in accordance with resolution PCC.III/RES. 65 (X-98), it is possible to present common proposals to the ITU-R, as long as the procedure indicated in the Annex to that resolution are adopted;
- d) That further in keeping with PCC.III/RES. 65 (X-98), it is possible to send a proposal supported by five Administrations as a common proposal; and
- e) That one procedure contained in the aforesaid resolution consists in removing the square brackets around the names of member countries in the document containing the common proposal.

RECOGNIZING:

- a) That the band 2700-2900 MHz is allocated in the Radio Regulations to the aeronautical radionavigation Service on a primary basis and the radiolocation service on a secondary basis in all 3 ITU Regions;
- b) That ground based radars used for meteorological purposes are authorized to operate in this band on a basis of equality with stations in the aeronautical radionavigation service (S5.423);
- c) That the radionavigation service is a safety service as specified by No. S4.10 of the Radio Regulations and harmful interference to it cannot be accepted;
- d) That the utilization of this band in the Americas is primarily for Airport Surveillance Radars and Meteorological Radars; and
- e) That initial studies show that IMT-2000 systems and radar systems can not share spectrum on a co-channel, adjacent channel or band segmentation basis.

RESOLVES:

1. To request that Administrations study the Annex (Draft CPM text) of this Resolution;
2. To request the Administrations that disagree with any part of the text in the Annex to send their proposed modification by email to points of contact:

Carmelo Rivera
Carmelo.Rivera@noaa.gov
 Phone: +1 (301) 713-1853
 Fax: +1 (301) 713-1861

Darlene Drazenovich
Ddrazenovich@ntia.doc.gov
 Phone: +1 (202) 482-3480
 Fax: +1 (202) 501-8189

And to the Chairman of the Working Group preparing for the WRC-2000:

Félix Castro
internac@mincomunicaciones.gov.co
Phone: + (571) 344-3460 Ext.2206
Fax:: + (571) 344-3445

by October 13, 1999;

3. That the Points of Contact will consolidate all modifications and electronically distribute the modified proposal via the CITEL Electronic Forum and by email to Administrations providing comments by October 15;
4. That if there are no further modifications, the Points of Contact will submit the final proposal to the CITEL Secretariat by October 17;

INSTRUCTS THE CITEL SECRETARIAT;

To forward the consolidated Annex to the Member States, adding at the beginning of the annex, a list of their names in square brackets.

URGES THE ADMINISTRATIONS:

1. That agree with the final version of the Annex to inform the CITEL Secretariat by October 21, 1999, in order to have the square brackets removed from their names and to apply other relevant procedures set forth in Resolution PCC.III/RES. 65 (X-98).
2. To provide data regarding the use of this band in their countries, so that the points of contact can submit an information paper at the CPM meeting in Geneva. This information paper will also contain sharing studies information.
3. That are unable to reply by the dates listed above, may also sign on to this proposal at the CPM in Geneva in November 1999.

COMMON CITEL PROPOSALS FOR THE CONFERENCE PREPARATORY MEETING (CPM)

TEXT MODIFICATIONS TO CHAPTER 1 OF THE DRAFT CONFERENCE PREPARATORY MEETING (CPM) TEXT

Submitted by the following Administrations:

[Antigua and Barbuda], [Argentina], [Bahamas], [Barbados], [Belize], [Bolivia], [Brazil], [Canada], [Chile], [Colombia], [Costa Rica], [Dominica], [Dominican Republic], [Ecuador] [El Salvador],

[Grenada], [Guatemala], [Guyana], [Haiti], [Honduras], [Jamaica], [Mexico], [Nicaragua], [Panama], [Paraguay], [Peru], [Saint Lucia], [Saint Vincent and the Grenadines], [St. Kitts and Nevis], [Suriname], [Trinidad and Tobago], [United States], [Uruguay], [Venezuela]

Background Information:

CITEL PCC.III having considered the status of the CPM text preparation on Chapter 1, WRC-2000 Agenda Item 1.6 on IMT-2000, has decided to send to the CPM a proposed modification to Sub-sections 1.1.1.3.1 and 1.1.1.3.2 of the draft CPM-99 report as indicated below. This modification was discussed and developed by CITEL PCC.III at its XIII meeting, 6-10 September, 1999 in Mexico City, Mexico.

Proposal:

1.1 Agenda item 1.6

“Issues related to IMT-2000”

MOD 1.1.1.3.1 Relevant ITU-R sharing studies

{text not reprinted}

Recommendations ITU-R M Series (Section 1.1.1.2 a)) contain technical and operational characteristics and protection criteria of radiodetermination systems for use when assessing the compatibility of these services with other services in frequency bands under consideration as candidate bands for IMT-2000 (Section 1.1.1.3.2). It is vital to note that the radionavigation service operating in these bands is a safety service as specified by RR No.S4.10 and provides a safety of life function, therefore requiring special measures to ensure their freedom from harmful interference. Appropriate technical and operational characteristics are required to determine the feasibility of introducing new types of systems or services in the bands between 420 MHz and 34 GHz, in particular the band 2700-2900 MHz that is currently an IMT-2000 candidate band, used by radionavigation and meteorological radars. Because the radiodetermination service and meteorological ~~aids services~~ radars perform indispensable functions and because their missions have requirements for large bandwidths in particular frequency bands, it is necessary to show by comprehensive studies that potential reallocations of radiodetermination and/or meteorological ~~aids~~ radar allocations will not erode their ability to perform their essential functions.

Given the technical characteristics of the radionavigation, radiolocation and meteorological radars (e.i.r.p. in the order of 1 GW in some systems and the trend towards high duty cycles) and the need to operate in accordance with the protection criteria contained in the Recommendations ITU-R M-series referenced in Section 1.1.1.2a), sharing with IMT-2000 systems is considered to be feasible only when explicitly confirmed by ITU-R sharing studies.

Some administrations conducted initial sharing studies between radars and IMT-2000 systems in the 2700-2900 MHz band, for their country, in accordance with ITU-R Draft New Recommendations

M.[RAD.PROC]. [RADCHAR2], [IMT.RKEY] and [IMT:RSPC], and Recommendation ITU-R M.687. These initial studies place the usability of the band 2700-2900 MHz, by IMT-2000 systems, into question. Before this band is considered for IMT-2000, comprehensive ITU-R studies are required.

Reasons: The addition of a lead-in sentence clarifies that the information in the remainder of the paragraph is the subject of ITU-R recommendations and is not just relevant information. New information has become available on the results of initial sharing studies conducted by some Administrations. Other changes are editorial.

{text not reprinted}

MOD 1.1.1.3.2Candidate bands for additional IMT-2000 terrestrial spectrum

Possible candidate bands for additional terrestrial IMT-2000 spectrum are given in Table 1-3 below.

Further information regarding the use of these bands (and others) may be found in Report ITU-R [IMT.SURVEY].

Table 1-3

Possible candidate bands for the terrestrial component of IMT-2000

<p>Frequency Band 2 700 - 2 900 MHz</p> <p>This band is allocated on a world-wide <u>on a primary basis</u> to the aeronautical radionavigation service. There is a <u>and on a secondary basis</u> world-wide allocation to the radiolocation service. Meteorological aids <u>radars</u> can also operate in this band <u>with equality to the aeronautical radionavigation service</u>, based on RR No. S5.423.</p> <p><u>This band is used extensively for radar systems in some countries (aeronautical radio navigation systems and meteorological radars).</u></p> <p>Unlike other bands in this table, this band is not currently allocated to the mobile service. Since the radionavigation service is a safety service, the appropriate sharing studies and impact assessment would have to be undertaken to ensure the necessary protection to this service.</p> <p>This band is mainly used for radar systems (aeronautical radio navigation systems and MetAids).</p> <p>Advantages</p> <p>In some countries, a limited number of <u>radar</u> systems are deployed in this band and future <u>increased</u> usage is under consideration. Therefore, where existing usage can be phased out or <u>In countries where usage is limited and</u> geographical sharing with existing services is possible, this band could possibly be made available for IMT-2000.</p> <p>Disadvantages</p> <p>There is great uncertainty about the potential impact that IMT-2000 operations would have on the existing radionavigation <u>and meteorological</u> use of this band.</p> <p>A number of administrations have indicated that this band is the primary band for air traffic control and primary airport surveillance radars <u>as well as for meteorological radars</u>. <u>In some countries where usage is low, use for radionavigation and meteorological radars is expected to increase, making the band unavailable for IMT-2000 in those areas.</u></p> <p><u>Airport surveillance and meteorological radars operating in this band are typically located in or near densely populated areas, where IMT-2000 (terrestrial) spectrum is most needed, precluding geographical sharing within some countries. IMT-2000 use of this band would lead to spectrum that is not globally available, which is inconsistent with the goals of IMT-2000.</u></p> <p>A similar situation prevails in the use of this band by the meteorological aids service. Sharing studies between the potential use of this band by IMT-2000 and <u>meteorological aids stations incumbent radar</u> systems need to be undertaken.</p> <p>In some countries usage for radionavigation and meteorological radars is expected to increase, making this band not available in all geographical areas for us by IMT-2000.</p>

Reasons: Allocation status and usage in the band are clearly stated and accurately reflected. In the U.S. this band is used by more than 430 airport surveillance radars and 150 meteorological radars. As long as air traffic exists and the need for meteorological data remains, many administrations will continue to use this

band as currently allocated. The characteristics of this band provide the best solution for maximum radar range and system performance.

IV RECOMMENDATIONS

PCC.III/REC.50 (XIII-99)¹¹

VSAT NETWORK TECHNOLOGIES

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

CONSIDERING:

- a) That the opening of new markets and development of new services has generated growing demand for telecommunications services, amongst others those associated with Fixed Satellite Services;
- b) That the exchange of information in real time is continually growing and demanding new technology;
- c) That existing VSAT technologies have helped meet the telecommunications needs of CITELE member countries;
- d) That the trend in new VSAT technology can further help the development of telecommunications in Latin America, and
- e) That the trend in new VSAT technology demands the use of smaller diameter terrestrial antennae,

RECOMMENDS:

1. That CITELE member Administrations consider the introduction of VSAT transceiver antennae of smaller diameter than is traditionally used, for application in future systems and operational projects, provided they comply with Recommendation UIT-R S.580-5.
2. That CITELE member Administrations which currently use terrestrial VSAT transceiver stations with antennae of smaller diameter than is traditionally used share their experiences in the Working Group relative to Satellite Systems to provide Fixed and Mobile Services.

¹¹ Reference document: PCC.III/doc.1367/99

PCC.III/REC.51 (XIII-99)¹²

USE OF THE 401- 406 MHZ BAND BY MEDICAL IMPLANT COMMUNICATION SYSTEMS

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

CONSIDERING:

- a) That the ITU has allocated worldwide the band 401-406 MHz to the Meteorological Aids, and portions of this band to Meteorological Satellite, Space Operations and Earth Exploration Satellite Services on a primary basis;
- b) That Recommendation ITU-R SA.1346, specifies the feasibility of sharing in the band 401-406 MHz between the Meteorological Aids Service and Medical Implant Communication Systems (MICS) that are in compliance with the technical and operational characteristics described in the Recommendation;
- c) That interference mitigation techniques used by MICS equipment, as described in Annex 1 to Recommendation ITU-R SA.1346 provide a high level of protection to their operation from possible interference by the Meteorological Aids systems;
- d) That with a limit of -16 dBm on the e.i.r.p. of MICS equipment, MICS will not cause interference to the Meteorological Aids, Meteorological Satellite, Space Operations or Earth Exploration Satellite Services;
- e) That the World Meteorological Organization accepted the proposal for sharing of the band 401-406 MHz with MICS based on the interference analysis performed by the ITU;
- f) That, due to patient travel for personal and business reasons, MICS require a single band available worldwide, and may operate in the 401-406 MHz band on the basis that they do not cause interference to and that they accept interference from the Meteorological Aids, and other primary services;
- g) That spectrum occupancy studies have shown that a minimum of 3 MHz of spectrum in the 401-406 MHz band is needed to insure availability of at least one 300 kHz channel in some locations, and
- h) That the European Organization of Post and Telecommunications Authorities (CEPT) has adopted ANNEX 12 to CEPT/ERC/REC 70-03 to provide for 3 MHz of spectrum for MICS from 402-405 MHz,

RECOGNIZING:

- a) That MICS are designed for radiocommunication operation over a distance of 2 meters or less between an active implantable medical device that is implanted within a patient's body, and a separate programmer/controller used by a medical professional;

¹² Reference document: PCC.III/doc.1427/99

- b) That a radiocommunication link between a programmer/controller and a medical implant device occurs only occasionally;
- c) That implanted device proliferation is limited by medical need;
- d) That due to the ultra low power of MICS transmitters, no harmful interference would occur to the operation of Meteorological Aids, Meteorological Satellite, Space Operations and Earth Exploration Satellite Services from the MICS;
- e) That a channel bandwidth of up to 300 kHz will permit high data rate communication between devices operating in a MICS;
- f) That the applications for active medical implants serve a variety of purposes such as pacemakers, defibrillators, nerve stimulators, injection pumps, and others, and
- g) That among the many benefits to the public from this technology are improved patient quality of life and mobility, maintenance of a more sterile environment during implant surgery as a result of the extended communications distance and reduced medical costs resulting from more rapid diagnosis and treatment of the patient,

RECOMMENDS:

1. That the CITEL Member States consider adopting provisions, consistent with their national laws and regulations, to allow 3 MHz (402 - 405 MHz) of the 401-406 MHz band to be used by the MICS on the basis that MICS does not cause harmful interference to and can accept interference from the Meteorological Aids systems and other primary users.
2. That the e.i.r.p. of MICS transmitters be limited to -16 dBm (25 microwatts) in a reference bandwidth of 300 kHz in order to provide adequate protection from harmful interference to the Meteorological Aids systems and other primary users.
3. That the CITEL member states consider adopting a technical specification, as the one shown in the attached Annex, to ensure that the selection of the channel of operation is based upon the channel with the lowest ambient noise level.

ANNEX

TECHNICAL SPECIFICATION FOR A CHANNEL SELECTION AND SPECTRUM MONITORING PROTOCOL

A medical implant communications session must be initiated by a medical implant programmer/control transmitter. Medical Implant programmer/control transmitters must incorporate a system for monitoring the channel or channels that the MICS devices intend to occupy. The monitoring system bandwidth must be equal to or greater than the emission bandwidth of the MICS session transmitter with the greatest bandwidth. The monitoring system antenna shall be the antenna normally used by the programmer/control transmitter for a communications session. Before a medical implant programmer/control transmitter initiates a MICS communications session, the following spectrum access criteria must be met:

1. Within 5 seconds prior to initiating a communications session, circuitry associated with a medical implant programmer/control transmitter must monitor the channel or channels the MICS devices intend to occupy for a minimum of 10 milliseconds per channel.
2. Based on use of an isotropic monitoring system antenna, the monitoring system measured power level must not be more than $10\log B(\text{Hertz}) - 150 (\text{dBm}/\text{Hertz}) + G (\text{dBi})$ where B is the emission bandwidth of the MICS communication session transmitter having the widest emission and G is the medical implant programmer/control transmitter monitoring system antenna gain relative to an isotropic antenna. For purposes of showing compliance with the above provision, the above calculated threshold power level must be increased or decreased by an amount equal to the monitoring system antenna gain above or below the gain of an isotropic antenna, respectively.
3. If no signal in a MICS channel above the calculated monitoring threshold power level is detected, the medical implant programmer/control transmitter may initiate a MICS communications session involving transmissions to and from a medical implant device on that channel. The MICS communications session may continue as long as any silent period between consecutive data transmission bursts does not exceed 5 seconds. If a channel meeting the criteria in paragraph (3) above is unavailable, the channel with the lowest ambient power level may be accessed.
4. When a channel is selected prior to a MICS communications session, it is permissible to select an alternate channel for use if communications is interrupted, provided that the alternate channel selected is the next best choice using the above criteria. The alternate channel may be accessed in the event a communications session is interrupted by interference. The following criteria must be met:
 - (i) Before transmitting on the alternate channel, the channel must be monitored for a period of at least 10 milliseconds.
 - (ii) The detected power level during this 10 millisecond or longer period must be no higher than 6 dB above the power level detected when the channel was chosen as the alternate channel.
 - (iii) If the alternate channel provision is not used by the MICS or the criteria in (i) and (ii) above are not met, a channel must be selected using the access criteria specified in paragraphs 1 through 4 above.

MICS communications sessions that are initiated by a medical implant event are not required to use the above access criteria.

As used above, the following definitions apply:

1. Emission bandwidth. Measured as the width of the signal between the points on either side of carrier center frequency that are 20 dB down relative to the maximum level of the modulated carrier. Compliance will be determined using instrumentation employing a peak detector function and a resolution bandwidth approximately equal to 1% of the emission bandwidth of the device under test.
2. MICS Channel. Any continuous segment of spectrum that is equal to the emission bandwidth of the device with the largest bandwidth that is to participate in a MICS communications session.
3. MICS communications session. A collection of transmissions that may or may not be continuous between MICS devices.
4. Medical implant event. An occurrence or the lack of an occurrence recognized by a medical implant device, or duly authorized health care professional, that requires the transmission of data from a medical implant transmitter in order to protect the safety or well-being of the person in whom the medical implant transmitter has been implanted.

**MANDATES OF THE SUMMIT OF THE AMERICAS AND THE ACTIVITIES PERFORMED
BY CITEL IN COMPLIANCE WITH THOSE MANDATES**

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

CONSIDERING:

- a) The Mandates assigned by the Summit of the Americas to CITEL and its obligation to submit a Report about the activities performed by CITEL in relation with those Mandates, and
- b) The convenience of encouraging the elaboration of the said Report for the Member States of the OAS and the public in general to learn thoroughly about the importance that CITEL has in the development of telecommunications in the Region,

RECOMMENDS TO COM/CITEL:

To instruct the Executive Secretary so that the corresponding Report of the Summit of the Americas is elaborated annually according to determined criteria, such as:

- a) The orderly and detailed presentation of the information about all and each one of the activities performed by CITEL,
- b) The participation of the different organisms of CITEL in the elaboration of the Report by turning in the information within a regulated framework.
- c) The timely submission of the Report and its publication to the Governments of the Member States of CITEL and the public in general for them to learn about the existence of CITEL, its objectives, its activities, and its results.

¹³ Reference document: PCC.III/doc.1422/99

**BROADBAND WIRELESS SYSTEMS OPERATING
IN THE 38 GHZ FREQUENCY RANGE**

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

CONSIDERING:

- a) That the band 37.0-40.0 GHz (38 GHz band) is allocated, *inter alia*, to the Fixed Service;
- b) That several ITU-R groups (TG8/1, JRG 8A/9B, WP 9A, and WP 4-9S) are currently studying the spectrum needs, channelization plans, and performance requirements of fixed wireless access (FWA) systems, including Broadband Fixed Wireless Access (BWA);
- c) That High Density Fixed Services (HDFS) systems can be characterized as BWA systems that have the capability to use large bandwidth segments to offer a range of multimedia, broadband Internet and packet data, and voice services, to private and business customers;
- d) That broadband wireless systems operating in the 38 GHz range include point to point and point to multipoint fixed systems;
- e) That several CITEL Administrations have adopted band plans and issued licenses or are planning to issue licenses in the 38 GHz band for HDFS services (see Annex);
- f) That the implementation of BWA services within the 37.0-40.0 GHz band will be according to the national allocation plans of each administration, and
- g) That WRC-2000 Conference is expected to consider the issues of sharing between HDFS and other co-primary services in the 37.0-40.0 GHz band according to Resolution 133 of WRC-97,

RECOGNIZING:

- a) That it could be beneficial to CITEL Administrations to reach consensus on BWA band planning and performance characteristics;
- b) That it is important to amend the ITU-R Recommendation F.749-1 to include a new annex concerning the channelization planning arrangement for the 38 GHz band preferred by the CITEL Administrations; and
- c) That Res. PCC III 76/98 determined that the terms of reference should be modified and recommendations developed for harmonization of spectrum use by CITEL Administrations for BWA systems operating in the 38 GHz band,

NOTING:

¹⁴ Reference document: PCC.III/doc.1426/99 Rev.1

- a) That implementation of BWA systems by member Administrations will provide an alternative method for offering broadband multimedia, Internet and packet data, and voice services to individuals and businesses;
- b) That it is important to ensure that these BWA systems can offer the broadband services with a high degree of availability, spectrum efficiency, and flexibility;
- c) That it is desirable for Administrations to adopt band planning based on frequency blocks, with flexibility afforded to operators to divide the blocks into multiple smaller segments or to combine the blocks into super blocks;
- d) That frequencies may be reused in geographically contiguous, cellular-type deployments;
- e) That national band planning should accommodate both frequency division duplex (FDD) and time division duplex (TDD) systems, in an efficient manner;
- f) That it is necessary to consider both point-to-point (P-P) and point-to-multipoint (P-MP) systems in developing the BWA planning parameters, and
- g) That compatibility with systems of other co-primary radio services operating in this band must be taken into consideration,

RECOMMENDS:

That the CITEL Administrations consider, according to their rules on regulations, frequency block plans described in Annex 1 for broadband wireless systems operating in the 38 GHz range with a view to harmonize their spectrum use.

INVITES:

CITEL Administrations to provide additional information on broadband wireless systems operating in the 38 GHz bands and to submit any proposals for possible harmonization of parts or all of the 37.0-40.0 GHz channelization plans in Region 2¹⁵.

INSTRUCTS THE EXECUTIVE SECRETARIAT:

To include in Annex 1 the additional information on the broad band wireless systems operating in the 38 GHz bands provided by the Administrations members of CITEL.

ANNEX 1

¹⁵ It is up to individual Administrations to adopt the channel plans.

Frequency Block Plans for Broadband Wireless Systems Operating in the 38 GHz Band

1. Argentina

BAND 37/40 GHz				
	T X		R x	
	From (GHz)	To (GHz)	From (GHz)	To (GHz)
Band A	37,140	37,240	37,840	37,940
Band B	37,240	37,340	37,940	38,040
Band C	38,600	38,700	39,300	39,400
Band D	38,700	38,800	39,400	39,500
Band E	39,100	39,200	39,800	39,900
Band F	39,200	39,300	39,900	40,000
Band G	37,340	37,440	38,040	38,140
Band H	37,440	37,540	38,140	38,240
Band I	38,240	38,340	39,500	39,600
Band J	37,040	37,140	37,740	37,840
Band K	37,640	37,740	38,340	38,440
Band L	38,900	39,000	39,600	39,700
Band M	38,440	38,540	39,700	39,800

MXD		
1	37,5445	38,8045
2	37,5515	38,8115
3	37,5585	38,8185
4	37,5655	38,8255
5	37,5725	38,8325
6	37,5795	38,8395
7	37,5865	38,8465
8	37,5935	38,8535
9	37,6005	38,8605
10	37,6075	38,8675
11	37,6145	38,8745
12	37,6215	38,8815
13	37,6285	38,8885
14	37,6355	38,8955

2. **Brazil**

The frequency band 37 to 39.5 GHz to **Point to Point Digital Microwave Radio Relay Systems**, with transmission capacities ranging from 2Mbit/s up to 155 Mbit/s. The frequency plans adopted, based on the ITU-R Recommendation F. 749, are shown below.

Capacity (Mb/s):	Occupied BW (MHz):	Freq plan:
2	3.5	$F_n = 3700.25 + 3.5x_n$ $F'_n = 38260.25 + 3.5x_n$ $n = 1$ to 353
8	7	$F_n = 36998.5 + 7x_n$ $F'_n = 38258.5 + 7x_n$ $n = 1$ to 175
17	14	$F_n = 36995 + 14x_n$ $F'_n = 38255 + 14x_n$ $n = 1$ to 88
34	28	$F_n = 36988 + 28x_n$ $F'_n = 38248 + 28x_n$ $n = 1$ to 144
140	56	$F_n = 36974 + 56x_n$ $F'_n = 38234 + 56x_n$ $n = 1$ to 122
155	56	$F_n = 36974 + 56x_n$ $F'_n = 38234 + 56x_n$ $n = 1$ to 122

Also, there are allocations for Point to Point TV signal repetition in the band 38.6 to 39.5 GHz and for Point to Point transmission for News Gathering purposes at 39.5 to 40.0 GHz, both with 50MHz wide bandwidth, as follows:

a) TV signal repetition

Ch 1	38,600-38650 MHz
·	·
·	·
·	·
Ch 18	39,450-39,500 MHz

b) News Gathering

Ch 1	39,500-39,550 MHz
·	·
·	·
·	·
Ch 10	39,950-40,000 MHz

3)

3a) Canada, Peru and United States

Frequency Band: 38.6-40 GHz
 Block Pairing: 50+50 MHz
 Usage: Point to Point
 Point to Multipoint

BLOCK PAIR				LOWER FREQUENCY BLOCK (MHz)	UPPER FREQUENCY BLOCK (MHz)
Canada	Peru	United States			
A/A'	1	1-A/1-B	38600-38650	39300-39350	
B/B'	2	2-A/2-B	38650-38700	39350-39400	
C/C'	3	3-A/3-B	38700-38750	39400-39450	
D/D'	4	4-A/4-B	38750-38800	39450-39500	
E/E'	5	5-A/5-B	38800-38850	39500-39550	
F/F'	6	6-A/6-B	38850-38900	39550-39600	
G/G'	7	7-A/7-B	38900-38950	39600-39650	
H/H'	8	8-A/8-B	38950-39000	39650-39700	
I/I'	9	9-A/9-B	39000-39050	39700-39750	
J/J'	10	10-A/10-B	39050-39100	39750-39800	
K/K'	11	11-A/11-B	39100-39150	39800-39850	
L/L'	12	12-A/12-B	39150-39200	39850-39900	
M/M'	13	13-A/13-B	39200-39250	39900-39950	
N/N'	14	14-A/14-B	39250-39300	39950-40000	

3b) Additionally, Canada has allocated

Frequency Band: 38.4-38.6 GHz

Block: 50 MHz

Usage: Point to Point (One way)

Point to Multipoint (One way)

BLOCK

A

FREQUENCY (MHz)

38400-38450

B

38450-38500

C

38500-38550

D

38550-38600

3c) Additionally, Peru has allocated

Channel	Lower Frequency Block (MHz)	Upper Block (MHz)	Frequency
15	37 350 – 37 400	38 050 – 38 100	
16	37 400 – 37 450	38 100 – 38 150	
17	37 450 – 37 500	38 150 – 38 200	
18	37 500 – 37 550	38 200 – 38 250	

**COORDINATION OF FSS GSO SATELLITE NETWORKS ON THE
C AND KU BANDS**

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

CONSIDERING:

- a) That the number of satellites using the geostationary satellite orbit has been increasing rapidly;
- b) That up to now, established ITU procedures have contributed to the success of satellite network coordination in the Americas;
- c) That CITELE member countries have been trying to expedite the coordination process for satellite networks;
- d) That Mexico, Canada, and the USA have carried out satisfactory operation of FSS networks on the basis of a trilateral arrangement which has simplified the coordination of their satellite systems amongst the three Administrations;
- e) That the successful coordination of satellite networks, pursuant to the ITU Radio Regulations, depends on having agreements on a number of parameters in addition to satellite spacing, for example: transmitting power levels, antenna characteristics, and receiver performance criteria;
- f) That the ITU Radio Regulations provide for an administration to request to be included in coordination with another GSO FSS network using criteria other than satellite orbital separation, and
- g) That it is desirable to identify other practical methods, in addition to the existing ones, to simplify the coordination process between CITELE member country satellite networks,

RECOMMENDS:

That in order to facilitate the technical coordination process of satellite networks, CITELE member Administrations should consider that geostationary FSS networks, operating in C-band and Ku-band, utilizing parameters generally conforming to the ITU-R Recommendations, with separation of at least 10 degrees, are coordinated favorably with each other, unless an administration has identified coordination concerns at a greater separation angle. Administrations should accordingly, respond in the ITU coordination process.

¹⁶ Reference document: PCC.III/doc.1420/99 Rev.2

V. DECISIONS

PCC.III/DEC.29 (XIII-99)¹⁷

REQUEST FOR COMMENTS ON THE COORDINATION OF STANDARDS CONTAINED IN DOCUMENT 1332 REV.1 RELATING TO LOW POWER SYSTEMS AND PUBLIC FIXED WIRELESS ACCESS SYSTEMS IN THE 1910-1930 MHZ

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

DECIDES:

1. The Executive Secretariat of CITEL asks the Administrations of the CITEL and its associate members to give their comments on the documents of standards coordination contained in Document PCC.III.doc 1332 Rev.1.
2. The Administrations of CITEL in conjunction with its associate members, who have observations or comments on these documents, send them before the XI meeting of PCC.I (25 to 29 of October 1999) to the Coordinator of these documents.

Coordinator:

Mr. Benigno González
Tel.(525) 627-0255
E-mail: Gonzalez_Benigno@MXMC-SA .ccgw.nec.com

PCC.III/DEC. 30 (XIII-99)^{18/}

IMPLEMENTATION OF THE GMPCS MOU-ARRANGEMENTS IN THE AMERICAS

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

DECIDES:

1. That the Executive Secretariat should send to all CITEL Member Administrations a letter advising them of the status of the implementation of the GMPCS MoU-Arrangements in the Americas;
2. That, in this regard, the letter should include PCC.III/doc.1317/99rev.1 which provides detailed information on the status of the implementation of the GMPCS MoU-Arrangements in the Americas and elsewhere;
3. That the letter should also encourage CITEL Member Administrations to implement the GMPCS MoU-Arrangements by: a) notifying the ITU Secretary-General of this intention and b) responding

¹⁷ Reference document PCC.III/doc.1428/99

¹⁸ Reference document PCC.III/doc 1421/99

to the system specific implementation letters issued by the ITU for GMPCS systems that have fulfilled their obligations under the Arrangements; and

4. That, in accordance with PCC.III/Rec.49 (XII-99), that the CITELE Executive-Secretariat continue to monitor and report on the progress of the implementation of the GMPCS MoU-Arrangements in the Americas.

DRAFT

Letterhead of the OAS CITELE Executive Secretary

Letter to CITELE Member Administrations

Dear [CITELE Member Administration Contact];

In accordance with Decision PCC.III/DEC. 30 (XIII-99) of the Thirteenth Meeting of CITELE PCC.III (Radiocommunication), held in Mexico, D.F. from 6-10 September 1999, I am transmitting to each CITELE Member Administration information on the status of the implementation of the GMPCS MoU-Arrangements in the Americas. Administrations are asked to review this information and to provide responses, as appropriate, directly to the Secretary-General of the International Telecommunication Union ("ITU") in Geneva.

The promise of service by Global Mobile Personal Communications by Satellite ("GMPCS") systems to the public, both to developed and developing countries, was noted by the first World Telecommunication Policy Forum (Geneva 1996). CITELE, too, has recognized the tremendous potential benefits that GMPCS services can provide to this region in Recommendation 40 (X-98), "Timely Implementation of ITU GMPCS Arrangements" and Recommendation 49 (XII-99), "Facilitating Trans-Border Circulation of GMPCS Terminals in the Americas." Implementation of the GMPCS MoU-Arrangements by the Administrations of the Americas makes possible the introduction of GMPCS service by facilitating the circulation of GMPCS terminals throughout the countries of this Hemisphere.

The attached document (PCC.III/doc.1317/99) provides updated information on the implementation of the GMPCS MoU-Arrangements in the Americas and the world. It identifies CITELE Administrations that have signed the MoU and notified the ITU of their intention to implement the Arrangements. It further provides information on the four system specific implementation letters that have been issued by the ITU so far for the two GMPCS systems that have met the requirements for approval of their terminals.

CITELE Administrations are encouraged to notify the ITU of their intention to implement the GMPCS Arrangements and to respond to each of the system specific implementation letters by filling out the short response form(s) attached to each letter and submitting it directly to the ITU Secretary-General. Further information is available from the ITU's GMPCS website at: <http://dmsprod.itu/int/gmpcs>.

William Moran
Acting Executive Secretary



CITEL
ORGANIZATION OF AMERICAN STATES
Inter-American Telecommunication Commission

**XIII MEETING OF PERMANENT
CONSULTATIVE COMMITTEE III:
RADIOCOMMUNICATIONS**
September 6 to 10, 1999
México, D.F., México

**OEA/Ser.L/XVII.4.3
PCC.III/inf. 1317/99
22 August 1999
Original: English**

**UPDATE ON IMPLEMENTATION
OF GMPCS MoU & ARRANGEMENTS**

(Item on the Agenda: 4.6)

**(Information Document submitted by the delegation of
United States of America)**

1.0 Introduction

This paper briefly surveys recent progress in implementing the Global Mobile Personal Communications by Satellite Memorandum of Understanding ("GMPCS MoU") and Arrangements in CITELE and elsewhere. It encourages CITELE Member Administrations to continue to undertake activities to implement the GMPCS MoU and Arrangements, and, in particular to respond to the System Specific Implementation Letters that are being circulated by the ITU Secretary-General.

2.0 Recent GMPCS Activities in the Americas

At its Natal meeting in June 1998, CITELE PCC.III reviewed the results of 1998 ITU Council and the World Telecommunication Development Conference (Malta, 1998) and, in response, adopted Recommendation PCC.III/REC.40 (X-98) on the "Timely Implementation of ITU GMPCS Arrangements," which recommends:

"That CITELE Administrations implement the GMPCS Arrangements, and, where necessary adopt national licensing procedures or regulations, to introduce GMPCS services and associated terminals as early as possible."

At its most recent meeting in San José, PCC.III adopted Recommendation PCC.III/REC.49 (XII-99) on "Facilitating the Trans-Border Circulation of GMPCS Terminals in the Americas." Recommendation PCC.III/REC.49 (XII-99) notes that eleven CITELE Administrations (now twelve) have signed the GMPCS MoU and recognizes that CITELE members will benefit from the early implementation of GMPCS services in all countries and from the unhindered trans-border circulation of GMPCS Terminals.

Recommendation PCC.III/REC.49 (XII-99) further recommends that CITELE Member Administrations implement the GMPCS-MoU and Arrangements –including responding to the System Specific Implementation Letters sent by the ITU Secretary-General and coordinating with their Customs Authorities to facilitate circulation of GMPCS terminals through their borders. CITELE Member Administrations that have not signed the MoU were urged to nevertheless initiate procedures within their countries to permit the free circulation of GMPCS terminals and, in such cases, to inform the ITU of their efforts.

The San José meeting further instructed the CITELE Executive-Secretariat to develop and maintain a list of Region 2 participants in the GMPCS-MoU and Arrangements so that the continuing progress of GMPCS implementation in the Americas could be easily reviewed and analyzed on an ongoing basis. To this end, the Executive-Secretariat has prepared a link from the CITELE internet website to the GMPCS website of the ITU. This link can be found at: <http://www.citel.oas.org/PCC3/gmpcs.htm>.

A copy of this web page is provided in Annex A.

In the United States, the Federal Communications Commission acted last year to implement the GMPCS MoU and Arrangements on a provisional basis until such time as formal rules are adopted. The Commission began a rule making proceeding on March 5, 1999, proposing rules to permanently implement the GMPCS MoU and Arrangements in the United States, including free circulation of GMPCS terminals bearing the ITU Mark, blanket licensing for GMPCS terminals, and adoption of out-of-band emissions limits for MSS terminals (between 1-3 GHz) consistent with the applicable ITU

standard.¹⁹ Interested parties filed comments on the FCC's proposals in June and July. The FCC is currently considering these comments before it will issue its final rules.

The FCC's Notice of Proposed Rule Making, IB Docket No. 99-67, can be downloaded from the FCC's website at: <http://www.fcc.gov/Bureaus/International/Notices/1999/fcc99037.txt>. Comments of the parties can also be viewed electronically from the FCC's website by using its Electronic Comment Filing System, see : <http://www.fcc.gov/searchtools.html>.

2.0 Other GMPCS Activities of Note

The ITU Development Sector, together with members of the GMPCS MoU community, is organizing a series of workshops in cooperation with the five regions of the world to explore GMPCS implementation issues, including licensing and commercial issues. The first of these GMPCS Workshops was held 5-7 July, 1999 in Seoul, Korea, in cooperation with the Asia Pacific Telecommunity. The Workshop, which was attended by approximately 100 people from 25 countries, focussed on GMPCS implementation at an early date; prompt responses to the ITU's Secretary-General's request for information on cross border movement of terminals for systems that have implemented the MoU Arrangements; and cooperation between Operators and Administrations with regard to licensing.

At the conclusion of the meeting, the participants adopted a Final Declaration recognizing the benefits to the Asia Pacific region that can be realized through early implementation of the GMPCS MoU and Arrangements, and adopting eight recommendations on how to achieve these benefits. The APT Final Declaration and the recommendations contained therein serve as a useful model for CITELE and so are attached at Annex B.

Additional GMPCS Workshops will take place later this year in Eastern Europe and the Middle East. GMPCS Workshops for the Americas and Africa will be held in early 2000.

2.0 ITU-GMPCS Checklist

The following CITELE Member Administrations have signed the GMPCS MoU:

- Argentina
- Brazil
- Canada
- Chile
- Guyana
- Honduras
- Mexico
- Nicaragua
- Panama
- United States
- Uruguay
- Venezuela

Venezuela, Brazil and the United States have also informed the ITU Secretary-General of their intention to implement the GMPCS MoU-Arrangements.

¹⁹ Recommendation ITU-R M.1343, *Essential Technical Requirements of Mobile Earth Stations for Global Non-Geostationary Mobile-Satellite Service Systems in the Bands 1-3 GHz*.

In addition to the MoU, the following GMPCS implementation items have been circulated by the ITU Secretary-General and await responses from Administrations (or their Competent Authorities) with regard to systems that have met the GMPCS MoU requirements regarding approval of their terminals:

- 12 October 1998 (DM No. 1188) System Specific Implementation Letter regarding the Iridium system;
- 6 April 1999 (DM No. 1025) Second System Specific Implementation Letter regarding the Iridium system;
- 16 July 1999 (DM No. 1059) System Specific Implementation Letter regarding the Globalstar system.
- 2 August 1999 (DM No. 1065) Third System Specific Implementation Letter regarding the Iridium system

As noted in Recommendation 49, CITELE Member Administrations are encouraged to review each of these System Specific Implementation Letters and to respond promptly to the ITU Secretary-General with respect to each of them. Responses to System Specific Implementation Letters are a key component to the implementation of the GMPCS MoU and Arrangements.

The ITU is currently in the process of improving its GMPCS website so that these System Specific Implementation Letters and all of the underlying documentation are readily available for review at: <http://dmsprod.itu.int/gmpcs>. Further information is available from the ITU by contacting Max-Henri Cadet, Manager, GMPCS Project, phone: +41 22 730 6323; e-mail: Max-Henri.Cadet@itu.int.

2.0 Conclusion

CITELE Member Administrations should continue to act, as guided by Recommendation 49, to expeditiously undertake activities to implement the GMPCS MoU and Arrangements, giving particular attention to responding to the ITU Secretary-General's System Specific Implementation Letters as they are issued.

ANNEX A

Global Mobile Personal Communications by Satellite (GMPCS)

GMPCS is a personal telephony system providing transnational, regional or global coverage from a constellation of satellites accessible with small and easily transportable terminals. Whether the GMPCS satellite systems are geostationary or non-geostationary, fixed or mobile, broadband or narrowband, global or regional, they are capable of providing telecommunication services directly to end users. GMPCS services include two-way voice, fax, messaging, data and even broadband multimedia.

The GMPCS-MoU is a cooperative framework signed by Member States, GMPCS System Operators, GMPCS Terminal Manufacturers and Service Providers to memorialize the non-contractual and non-legally binding terms of their cooperation. The objective of the cooperation is to allow GMPCS subscribers to take their terminals anywhere and, more importantly, to use them in countries where they are licensed. The final text of the GMPCS-MoU was adopted on 18 February 1997. It contains six (6) articles dealing with type approval of terminals, licensing of terminals, marking of terminals, customs arrangements, access to traffic data and review.

- Text of the MoU (english)

- Text of MoU (spanish)

- Text of MoU (french)

- List of Signatories of the MoU

- Resolutions/Recommendations/Decisions of CITEL

- Recommendation 40 (X-98)

- Recommendation 49 (XII-99)

Send mail to citel@oas.org with questions or comments about this web site.
Copyright © 1999 Inter-American Telecommunication Commission
Last modified: July 25, 1999
Organization of American States
Disclaimer

ANNEX B



GMPCS REGIONAL WORKSHOP ON LICENSING AND COMMERCIAL ISSUES FOR ASIA & PACIFIC REGION



SEOUL, 5-7 JULY 1999

Recommendation

The participants at the GMPCS Workshop,

RECOGNIZING

that the Administrations and peoples of the Asia Pacific region will benefit from the early implementation of GMPCS services in all countries of the region and from the unhindered trans-border circulation of GMPCS terminals,

RECOMMEND:

1. That Administrations of the Asia Pacific Region should take appropriate measures to facilitate introduction of GMPCS services in their jurisdiction, in conformity with applicable laws and regulations;
2. That GMPCS system operators and service providers co-operate with Administrations during the license process to ensure early and effective implementation of GMPCS services in individual countries in the Asia Pacific region;
3. That participating Administrations of the Asia Pacific Region, GMPCS system operators, service providers and manufacturers be strongly encouraged to sign the GMPCS-MoU, implement its Arrangements and so notify the Secretary-General of the ITU;
4. That Administrations of the Asia Pacific Region co-ordinate with their Customs Authorities to facilitate the movement of – and in case of licensed systems, support roaming across their borders of – GMPCS terminals, and take steps to effect mutual recognition of type approval for terminals bearing the ITU's GMPCS-MoU mark;
5. That Administrations of the Asia Pacific Region which have not taken the steps outlined in paragraphs 3 and 4 consider the advisability of initiating procedures in their own countries to facilitate licensing procedures, and of permitting the free circulation of GMPCS terminals across their borders, and in such cases, inform the Secretary-General of the ITU of the adoption of such procedures;
6. That Administrations respond promptly to policy information requests from the ITU Secretary-General for systems that have implemented the GMPCS-MoU Arrangements;
7. That the ITU Regional office and the APT encourage Members of Region 3 to actively participate in the GMPCS-MoU and implement its Arrangements; and

8. That the ITU and the APT be encouraged to pursue studies, through the appropriate study group, of licensing procedures with respect to GMPCS systems, in order to provide Administrations with information which will assist them to effect timely introduction of GMPCS services in their respective jurisdictions.

Dated: 7 July 1999.

PCC.III/DEC. 31 (XIII-99)²⁰

**COLLECTION OF INFORMATION ON CHARACTERISTICS OF LOW POWER DEVICES
AND NATIONAL APPROACHES TO REGULATING SUCH DEVICES**

The Thirteenth Meeting of the Permanent Consultative III: Radiocommunications,

DECIDES:

1. CITELE Administrations and Associate Members through their Administration provide information on basic characteristics of low power devices in accordance with the format shown in the table 1.
2. CITELE Administrations provide information on national approaches to regulating such devices (provided in whatever format is thought to be adequate to explain each administration's approach).
3. This information should be provided to the next meeting of PCC.III in San Diego and be considered to create a new draft recommendation(s) to be used as a reference guide for Administrations.

<u>Frequency or Frequency Range</u>	<u>Type of Use</u>	<u>Bandwidth</u>	<u>Modulation</u>	<u>Power</u>	<u>other additional technical characteristics</u>
4.7 - 7 GHz 24 GHz	Radar Gauges in Storage Tanks	.1xFreq 2GHz.	Pulsed FM CM	100 mW 2w	
59-64 GHz	Short-range, broadband wireless for video, position sensors, point-to-multi-point links, wireless LANS	100 MHz	Various	500 mW	

Table 1 - Low Power Radiocommunication Devices – Basic Characteristics

²⁰ Reference document PCC.III/doc. 1415/99 Rev.1

VI. LIST OF THE BASIC DOCUMENTS RESULTING FROM THE THIRTEENTH MEETING OF PCC.III: RADIOCOMMUNICATIONS

Summary Minutes of the Inaugural and First Plenary Sessions	PCC.III/doc.1400/99 rev.1 cor.1
Summary Minutes of the Second Plenary Session	PCC.III/doc 1412/99 cor.1
Summary Minutes of the Third Plenary Session	PCC.III/doc. 1438/99 rev.1 cor.1
Summary Minutes of the Fourth Plenary Session	PCC.III/doc. 1440/99
List of Documents	PCC.III/doc. 1298/99 rev.2
List of Participants	PCC.III/doc. 1299/99 rev.2
Draft Proposals for the WRC-2000	PCC.III/doc. 1436/99 rev.1
Draft Report for the WRC-2000	PCC.III/doc. 1441/99 rev.1
Final Report	PCC.III/doc. 1439/99 rev.1