

PCC.III/RES. 71 (XI-98)¹

**RESOLUTION TO DEVELOP A CITEL PCC.III COMMON PROPOSAL INPUT
DOCUMENT TO ITU-R TG 8/1 IN NOVEMBER 1998, ON THE IMT-2000 SPECTRUM
VISION**

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

CONSIDERING:

- a)* That documents PCC.III/doc. 1084, 1098, 1102 y 1105 were submitted at the Eleventh Meeting of PCC.III and that some Administrations have requested more time to study these extensive documents;
- b)* That the session of ITU-R TG 8/1 will start on November 9 and it would be very much in the interests of the CITEL 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-00 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 procedures 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;
- e)* That one procedure contained in the aforesaid resolution consists in removing the square brackets around the names of Member States in the document containing the common proposal.

RESOLVES:

- 1. To request the Administrations to study **Annexes 1 and 2** included in this resolution.
- 2. To request the Administrations that disagree with any part of the text in **Annexes 1 and 2** to send their proposed modifications by e-mail to Mr. Charles Breig at cbreig@fcc.gov and to Darlene Drazenovich at ddrazenovich@ntia.doc.gov by October 7, 1998.
- 3. That the proposed modifications received will be consolidated by the aforementioned persons, who shall send the final text of **Annexes 1 and 2** to the CITEL SECRETARIAT by October 15, 1998

INSTRUCTS THE EXECUTIVE SECRETARIAT:

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

¹ Reference: PCC.III-1145/98 rev.1.

URGES:

1. The Administrations that agree with the final version of the **Annexes to inform the CITEL SECRETARIAT by October 22**, 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. **The CITEL Member States to send their contributions to, and participate actively in the work of, ITU-R Task Group 8/1, paying special regard to Addendum 1 to Circular Letter 8/LCCE/58.**

ATTACHMENT 1
SET OF PRINCIPLES FOR UTILIZATION OF TERRESTRIAL COMPONENT IMT-2000 SPECTRUM AS THE BASIS FOR IMT-2000 CPM-99 TEXT

I. Introduction

The principles that are explained in this attachment should be considered as objectives to be considered in the development of the CPM-99 text element on the IMT-2000 agenda item. The intent of WRC-00 agenda item 1.6.1 is to consider the need to provide additional frequency spectrum for IMT-2000, with emphasis on terrestrial component spectrum needs, since recent WRCs have not addressed issues pertaining to Mobile Service (MS) allocations. Given the anticipated growth of many types of wireless services, including IMT-2000, and given that the frequency bands suitable for mobile wireless applications are already heavily used, it will be a difficult task to locate suitable and adequate spectrum, if found necessary, for IMT-2000. Recognizing the challenges inherent in addressing this agenda item, it is viewed that this set of principles can facilitate the completion of the CPM text element on IMT-2000 and help to propose constructive methods to satisfy the IMT-2000 agenda item.

CEPT administrations proposed a spectrum vision for IMT-2000 at the 14th meeting of TG 8/1 in April – May 1998 in Doc. 8-1/60, subsequently reflected in the existing draft CPM text on IMT-2000 in Section 1.1.1 of Attachment 19 to Doc. 8-1/110. There was no agreement on this draft CPM text at the May TG 8/1 meeting. Administrations were encouraged to provide contributions at the November meeting to further the CPM text development. This current draft spectrum vision reflects a framework for satisfying this agenda item in the context of a global band for IMT-2000 and other bands that differ on a Region or country basis. This proposed set of principles are offered as the basis for a CITEL common proposal contribution to TG 8/1 that proposes a revision to the existent draft CPM text on a spectrum vision for the IMT-2000 terrestrial component.

II. SET OF PRINCIPLES FOR IMT-2000 TERRESTRIAL COMPONENT AS THE BASIS OF SECTION 1.1 OF THE CPM-99 TEXT

CITEL PCC.III, having examined spectrum issues regarding IMT-2000 implementation in Region 2, and at the same time taking account of the situation in other areas of the world, has developed the following spectrum utilization principles for the terrestrial component of IMT-2000:

- 1) Since most of the Personal Communications Systems' (PCS) bands lie in frequency spectrum already identified for IMT-2000 use, they can be considered as core IMT-2000 bands in the countries that choose to use the PCS bands.

Rationale: A benefit of using the PCS bands is that digital wireless communications can be implemented immediately, and tomorrow one can evolve to IMT-2000 systems and services, as they become available.

A significant investment has been made in the PCS bands, which lie in 1850-1990 MHz. Considering that the PCS systems are 2+ generation digital mobile systems and that most of the PCS bands overlap with IMT-2000 identified bands, these bands are ready candidates for IMT-2000 deployment. Several administrations in Region 2 adopted all or part of the PCS

band plan. It bears noting that some administrations are deploying only parts of the PCS band plan at the outset, while holding certain PCS bands in reserve for future applications. In 1995 CITEL PCC.III adopted PCC.III/REC.12(III-95), a Recommendation entitled “Designation of Spectrum for Personal Communication Systems in the Americas in the 2 GHz Band.”

- 2) Depending on market demand, a future worldwide IMT-2000 band could be considered, that is common on a global basis, to satisfy WRC-99/00 agenda item 1.6.1, while recognizing the need to avoid disrupting other radio services.

Rationale: The reason that IMT-2000 is on the WRC-00 agenda is to identify sufficient bandwidth to meet the IMT-2000 requirements and expected market demand. A separate US contribution² to the XI CITEL PCC.III meeting describes the ITU-R activity to determine the future spectrum requirements for IMT-2000.

Given that the PCS band pairing is likely to differ from those used by countries within other Regions for the 2 GHz IMT-2000 bands, it could be beneficial to have an expansion IMT-2000 band that is truly global, common on a worldwide basis, to satisfy the agenda item at WRC-00.

This band would be available after the year 2005. While it is probably not feasible to satisfy all IMT-2000 spectrum needs via a global band, the consideration of at least some global spectrum renders matters, such as spectrum management, easier for IMT-2000 deployment. The emphasis in the search for global IMT-2000 bands should be on bands practicable for mobile applications and possibly already allocated to mobile services. This facilitates spectrum management for applications such as roaming where spectrum resources are limited.

- 3) All existing frequency bands allocated to the Mobile Service for which first or second-generation mobile (cellular and PCS) systems are in operation could be used for IMT-2000 in those Regions/countries where they are currently used, consistent with their current allocation within the Radio Regulations.

Rationale: Frequency bands currently allocated to the Mobile Service and being deployed for cellular/PCS telephony are also ready candidates for IMT-2000/3G usage, via evolution of systems and services. However, one issue to keep in mind is that, in certain circumstances, it may be difficult to use some of these frequency bands to support systems meeting the IMT-2000 minimum requirements, due to insufficient bandwidth. Considering that different administrations and Regions of the world deploy cellular mobile telephony in different bands, it is not likely that these bands would be global, but would vary on a Regional and country-by-country basis. In addition, the difficulties in locating spectrum on a global basis to satisfy all expected IMT-2000 terrestrial component spectrum requirements must be considered. If current cellular bands were permitted to evolve to IMT-2000, according to service provider discretion, it would help to avoid or reduce the need to reallocate other bands and services in order to provide additional IMT-2000 spectrum that is suitable for mobile applications under WRC-00 agenda item 1.6.

² “IMT-2000 Spectrum Requirements,” PCC.III/Doc1093/98, submitted by the Delegation of the United States to the XIth of CITEL PCC.III, September 14-18, 1998.

- 4) The use of spectrum for IMT-2000 systems should continue to be at the discretion of Administrations.

Rationale: Once a spectrum requirement is determined for IMT-2000 in the ITU-R TG 8/1 studies currently undertaking this matter, there is the question of just how such a spectrum requirement is addressed by WRC-00. CITEP PCC.III is of the opinion that the use of spectrum for IMT-2000 systems should continue to be an option for administrations, as is the case with the frequency bands already identified for IMT-2000, 1885-2025/2110-2200 MHz, via No. S5.388 of the Radio Regulations.

- 5) There should be no distinction or prioritization within the Radio Regulations about the use of spectrum for IMT-2000 systems.

Rationale: Depending on their bandwidth, certain bands used by IMT-2000 may be able to support higher data rates than others. That fact notwithstanding, CITEP PCC.III would like to convey to ITU-R TG 8/1 that Administrations should have maximum flexibility to determine their use of spectrum for IMT-2000. While terms such as "core bands" and "extension bands" may certainly be apt and descriptive in CPM-99 text and/or TG 8/1 documentation, such terms should not be proposed to be added to the Radio Regulations in terms of agenda item 1.6.1.

- 6) Some future IMT-2000 applications may require very high data bit rates where the user is likely to be stationary. For such applications, it may be possible to utilize frequency bands above 3 GHz, if the results of TG 8/1 studies demonstrate that spectrum will be required for these applications.

Rationale: This principle speaks to the issue of efficient spectrum management where spectrum resources are very limited, as is in the case of frequency bands likely to be suitable for IMT-2000 applications. IMT-2000 services may range from applications requiring high mobility to those considered to be stationary or fixed applications. In situations where mobility is of importance, then with regards to WRC-00 agenda item 1.6.1 priority should be given to identification of spectrum which is suitable to the provision of user mobility, generally considered to be frequencies below about 3 GHz. This is a matter of the limitations of the radio frequency spectrum.

However, IMT-2000 may also be deployed in scenarios where mobility is not a major requirement, such as scenarios where the user is stationary and/or the delivery of very high user data bit rate services. In situations where congestion of frequency bands is an issue, frequency bands over 3 GHz could be considered for certain IMT-2000 applications where mobility is not a major requirement, such as scenarios where the user is stationary and/or the delivery of very high user data bit rate services. Another factor to consider is that such applications may require bandwidth not readily available in the frequency bands below 3 GHz.

- 7) Given the limitations in available frequency spectrum for IMT-2000, it should be determined whether certain IMT-2000 applications can share with other IMT-2000 operating environments and/or other radio services.

Rationale: It may prove difficult for IMT-2000 applications requiring mobility to share frequency spectrum with other services. However, certain IMT-2000 applications, such as

the delivery of very high data rates to stationary users, that include in-building applications, may be able to be shared with other IMT-2000 applications and/or other services in particular situations. Obviously these sharing scenarios would have to be thoroughly studied before the CPM text element on IMT-2000 could draw any conclusions.



Source: Docs. 8-1/18, 8-1/TEMP/47 (Rev. 1)

CITEL PCC.III

Modifications to Sub-section 1.1.1.1 of the draft CPM text element on WRC-00 agenda item 1.6.1, extracted from Doc. 8-1/TEMP/47 (Rev. 1) of the 14th meeting of ITU-R TG 8/1

Introduction

CITEL PCC.III, having considered the status of the CPM text preparations on the IMT-2000 WRC-00 agenda item 1.6, in ITU-R TG 8/1, has decided to send to TG 8/1 a proposed modification to Sub-Section 1.1.1.1 of the draft CPM-99 report as indicated below. This modification was discussed and developed by CITEL PCC.III at its XI meeting, 14-18 September, 1998, which occurred in Lima, Peru.

1.1.1.1 Summary of spectrum vision for IMT-2000 terrestrial component;

Although highly desirable it must be recognized that it will be difficult to find a global IMT-2000 extension band to meet the total additional spectrum demand. It may however be feasible to find a portion of this total demand on a global basis and the remainder on a regional basis.

It is suggested that the bands identified for IMT-2000 ~~extension~~ should allow Regions/countries to implement IMT-2000 in the Global IMT-2000 extension band and then the Regional/country IMT-2000 extension band according to the demands of the ~~country~~/Region/country.

IMT2000 extension bands might ~~be include~~ some bands already allocated to the mobile service, and which would be ~~identified~~ considered for IMT2000, based on ITU-R sharing studies, ~~or some new~~ allocations to the mobile service taking into account existing radio services, ~~also may be considered identified~~ for IMT2000. The concept in Figure 1 provides a possible solution for a flexible use of spectrum designation for IMT2000.

There should be no distinction or prioritization within the Radio Regulations about the use of spectrum for IMT-2000 systems. While terms such as "core bands" and "extension bands" may certainly be apt and descriptive in CPM-99 text and/or TG 8/1 documentation, such terms should not be proposed to be added to the ITU Radio Regulations nor Res. 212(Rev. WRC-97) in terms of agenda item 1.6.1. Given the limitations in available frequency spectrum for IMT-2000, it should be determined whether certain IMT-2000 applications can share with other IMT-2000 operating environments and/or other radio services. All existing frequency bands allocated to the Mobile Service for which first or second-generation mobile (cellular and PCS) systems are in operation could be used for IMT-2000 in those Regions/countries where they are currently used, consistent with their current allocation within the Radio Regulations. Any use of spectrum for IMT-2000 systems should continue to be implemented at the discretion of Administrations.

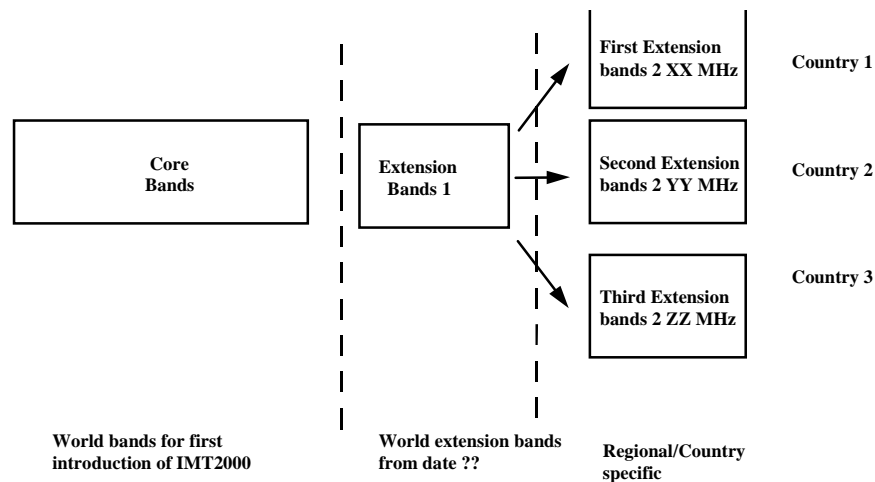


Figure 1 : Spectrum Vision

Core Bands (1885-2025 MHz and 2110-2200 MHz): The Core bands are defined in footnote S5.388 where initial deployment of IMT-2000 systems ~~could~~ should be made by administrations wishing to implement these systems. However, some Administrations may deploy IMT-2000 systems through an evolutionary process in bands other than those defined in S5.388

Extension Bands 1 : Extension bands 1, yet to be identified, that could be used ~~should be identified as a~~ worldwide bands for IMT2000. These extension bands are intended to be used for the traffic demand which could not be accommodated in the core band. It would be desirable that the expansion of traffic up to the year 2010 could be taken in this band. Where implementation of IMT-2000 systems is through an evolutionary process in bands others than the ones defined in S5.388, these bands ~~should~~ could be initially considered ~~for designation~~.

Extension Bands 2 : Extension bands 2 may differ in frequency range and size from region to region and country to country. World wide harmonisation should not be the main requirement. Such bands could be used as:

- an overflow band for regions where higher capacity is needed, because of high population density and high penetration rate regarding mobile communications,
- ~~[a preferred band for business and private in building limited mobility applications characterized by low mobility and cordless applications (perhaps combined with fixed radio),]~~
- ~~separate~~ bands for fixed applications services bands using the same radio standard outside the regions mentioned in the first bullet and where a higher capacity is needed.

~~It is extremely important to avoid that too many bands are defined as Extension band 2, which would undermine the global concept of IMT2000 and the spectrum designation for IMT-2000 band.~~

Some future IMT-2000 applications may require very high data bit rates where the user is likely to be stationary. for such applications, it may be possible to utilize frequency bands above 3 GHz, if the results of TG 8/1 studies do demonstrate that spectrum will be required for these applications.

