

3G BACKHAUL INFRASTRUCTURE

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

DECIDES:

1. To request from the Member States views for the XIX meeting of PCC.III on the need to identify fixed service frequency bands that can be used for backhaul in support of the rapid deployment of 3G wireless telecommunication networks and bearing in mind the information contained in the Annex.
2. To instruct the Executive Secretary to distribute this decision to the Member States.

¹ Document PCC.III/doc.1986/01 cor.1

ANNEX

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Low/medium capacity microwave facilities at various frequencies are currently used for fixed services, which can support backhaul applications for 1G and 2G cellular systems. In many CITEL countries, wide-scale deployment of 3G technologies will start within 2-3 years and extend over at least the next 10 years. In the near term, there is likely to be a substantial demand for new infrastructure, including new backhaul facilities, to support the initial deployment of new base stations. This backhaul may use fiber or wireless facilities.

It is therefore timely for PCC.III to consider which fixed service bands should potentially provide support for wireless backhaul applications with a view to harmonization within CITEL countries and resulting economies of scale. Due to spectrum exhaustion at lower bands and due to 3G systems offering higher bit rate services than 1G or 2G systems, it is likely that new backhaul applications will use fixed service bands above 10 GHz.

It is noted that ITU-R WP-9B is looking into this fixed service issue and is developing a document as the basis of a PDNR [9B/IMT-2000] "Consideration of fixed service spectrum requirements in deployment scenario of IMT-2000 infrastructure networks". The current version of this draft report is contained within the March 2001 Meeting Report of WP-9B (doc 9B/84, attachment 9B/TEMP/45, 12-20 March 2001). An extract from this TEMP document indicates the fixed service bands being considered for backhaul applications.

It is obvious that in the transport network part of IMT-2000 infrastructure where no fibre optics are available classical long haul bands below about 13 GHz might become essential. Beside other bands, such as 18 GHz and 23 GHz the HDFS bands (i.e. 32 GHz, 38 GHz and 52 GHz), especially for the UMTS-base station access will become vital.

In addition, in Region 2, it can be expected that operators of low/medium capacity fixed services in the 15 GHz band and 28 GHz band may also be used for this backhaul infrastructure applications. In some locations (e.g., remote areas), the microwave infrastructure may support traffic from multiple 3G operators.

Therefore, CITEL Administrations should provide PCC.III with their experience and proposals for fixed services facilities, particularly in terms of suitable frequency bands for that purpose, which can support 3G backhaul applications with a view to possible harmonization on the use of such facilities within CITEL administrations. This should facilitate the rapid deployment of 3G in Region 2.

A number of bands above 10 GHz are available for use by fixed services. For example, any of the following bands or parts thereof could support 3G backhaul applications taking into consideration sharing requirements with other services:

10.7 – 11.7 GHz, 14.5 – 15.35 GHz, 17.7 – 19.7 GHz, 21.2 - 23.6 GHz, 24.25 – 24.45 GHz, 25.05 – 25.25 GHz, 25.35 – 28.35 GHz, 31.8 – 33.4 GHz, 38.6 – 40.0 GHz, and 59 - 64 GHz.

