

UMTS Forum views on the WAPECS-concept

The Forum represents a significant group of spectrum users, which are directly involved in the development and operation of public mobile networks, including UMTS/IMT-2000 and therefore have a strong interest in the related spectrum topics. The UMTS Forum gathers many different players involved in third generation mobile systems, including equipment manufacturers, operators, administrations, service providers and software developers.

UMTS Forum has followed with interest the development of the WAPECS concept and the related discussions, e.g. the public consultation and the WAPECS Workshop in Brussels on 21.2.2006. Although the concept may have benefits in the longer term the Forum wants to raise some concerns, especially on the implementation of the WAPECS concept in the UMTS/IMT-2000 bands in the near term.

2.6 GHz Band

The 2.6 GHz band is a very valuable resource for European ICT interests and will contribute to EU economic development. The band benefits from considerable work done over many years to harmonise it throughout the EU. (Starting with WRC-2000 then further in CEPT and ITU-R WP8F). It is critically important that the full benefits of use of this valuable harmonised spectrum are achieved not only for the European ICT sector, but also for EU citizens. The band also has a large degree of global harmonisation, bringing further benefits of interoperability and availability of competitively priced terminals for consumers as well as scalability in manufacturing for industry, if used in a harmonized way. This also gives industry better regulatory stability to invest in development of systems.

The high degree of harmonized availability of the band naturally makes it attractive also for other uses than UMTS/IMT-2000 for which this harmonization has been performed. Fixed wireless access applications is one example of other uses being attracted to this band. The timing of licensing of the 2.6GHz band should be carefully considered in order to allow for a full evaluation of the best solution for this band.

UMTS Forum has strong concerns that implementation of WAPECS in the near term in 2.6 GHz band could lead to a situation, where the harmonization achieved is destroyed through fragmented use. Such fragmentation may assign a large part of necessary future mobile spectrum capacity to other services and the evolution of existing UMTS/IMT-2000 service and technologies will be unnecessarily slowed or even prevented.

Interference

The RSPG opinion on WAPECS states many times that interference between different technologies and services is an issue that needs to be taken into account. However, there are not many suggestions on how the interference issue would be solved. It is noted that Mobile Service (MS) and Fixed Service (FS) may have the potential to co-exist, e.g. many bands in ITU-R Radio Regulations are allocated to both Services. This does not mean that MS and FS can be used according to same band plans adjacent to each other without the use of guard bands or other additional means to guarantee interference free operation.

Typically, bands allocated to both MS and FS are used either for MS or for FS in a geographical area or, if both Services are in use, there are separate spectrum blocks for each and the situation is coordinated by the regulator.

In addition to the interference issues between different Services, there are open issues related to the compatibility between systems e.g. with different bandwidths. The reference mask, assuming one can be defined, may be too loosely defined for narrowband systems/technologies and at the same time prevent practical implementation of wideband systems/technologies that would be needed for the provision of high bit rate services.

Cross-border coordination and interference management will be highly relevant issues for all bands and services in bands where implementation of WAPECS is considered. Today these coordination principles are agreed separately for each technology and work is currently going on e.g. for the GSM 900/1800 bands to facilitate the implementation of UMTS 900/1800 in these bands.

Conclusions

UMTS Forum does not support the implementation of the WAPECS concept in the UMTS/IMT-2000 bands, at least in the short term (3-5 years) before the major interference issues have been solved. Even if adjacent channel interference issues have been solved, cross-border coordination needs to be achieved for a new technology/service to be used in the band.

Implementation of WAPECS in the 2.6 GHz band in the short term could make the band unavailable and less suitable for UMTS/IMT-2000, when in the medium term it will be needed to cope with UMTS/IMT-2000 capacity requirements. This will have significant impact on EU technology development and interoperability capability for EU citizens.

Since the 2.6 GHz band is the only significant new spectrum band to become globally available in the near future, it is certain to attract the interest of many non-mobile services and technologies that may already have sufficient amount of suitable spectrum available.

UMTS Forum calls for caution not to endanger the significant harmonization that has been achieved at a global level through the ITU process to designate this band as an (almost) global extension band for UMTS/IMT-2000.

Finally the Forum would like to draw the attention to the fact that an analysis of the current usage, in terms of both traffic and number of users, the UMTS/IMT-2000 identified bands (900, 1800, 2100) are among the heaviest used spectrum bands in Europe and also on a global scale and 2.6GHz is expected to follow that trend. Therefore, it is questionable what the added benefit would be for Europe from an introduction of to WAPECS in this band.
