

# **ELECTRONIC COMMUNICATIONS COMMITTEE**

ECC Decision  
of 12 November 2004  
on the designation of the bands  
1518 - 1525 MHz and 1670 - 1675 MHz  
for systems in the Mobile-Satellite Service

(ECC/DEC/(04)09)  
amended 26 June 2009



## **EXPLANATORY MEMORANDUM**

### **1 INTRODUCTION**

The bands 1626.5-1660.5 MHz and 1525-1559 MHz have been heavily used by MSS for many years prior to 2003, leaving little scope for further expansion in these bands. New systems, some of which are planned for the 1.6/1.5 GHz bands, would therefore have to seek access to other bands. The congestion of the 1.6/1.5 GHz band MSS spectrum has been confirmed by successive 1.6/1.5 GHz MSS operators' review meetings.

To respond to these issues and based on European proposals, WRC-03 allocated the bands 1518-1525 MHz and 1668-1675 MHz to the MSS. The band 1518-1525 MHz, which is used by the fixed and mobile service in a number of European countries, was allocated to the MSS at WRC-03 with the internationally applicable provision that MSS shall not claim protection from the fixed service (see RR footnote 5.348).

### **2 BACKGROUND**

ECC Decision ECC/DEC/(02)07 withdrew the "ERC Decision on the frequency bands to be designated for the coordinated introduction of the Terrestrial Flight Telecommunications System (TFTS)" (ERC/DEC/(92)01) and reserved the bands 1670-1675 MHz and 1800-1805 MHz for harmonised European use. ECC/DEC/(02)07 however also noted that "Since the future use of these bands will partly depend on the results of WRC-03 on MSS which is one possible service proposed for the band 1670 - 1675 MHz, it is suitable to postpone the identification of new harmonised applications until after the WRC-03". With the decision of WRC-03 to allocate spectrum to the MSS, it is now appropriate to designate the bands 1518-1525 MHz and 1668-1675 MHz to the MSS.

According to the ITU SRS database, globally there are about 30 radio astronomy stations operating in the band 1668-1670 MHz, of which 18 are in CEPT countries. Protection of the radioastronomy stations would require separation distances of the order of 500 km. In view of the number of radio astronomy stations in Europe operating in this frequency band sharing between radio astronomy and MSS would be hardly feasible in most of the CEPT area, whereas sharing elsewhere on a global basis would be feasible considering the large areas outside CEPT where there are no radio astronomy stations operating in this band.

ITU-R studies conducted prior to WRC-03 concluded that if the unwanted emission limits of Recommendation ITU-R M.1480 are used as a guide for the level of unwanted emissions for MESs operating above 1670 MHz, then in order to protect radio astronomy in the band 1660-1670 MHz, separation distances in the range of about 20 to 58 km are required to meet the protection criteria of recommendations ITU-R RA.769 and RA.1513. Hence, exclusion zones would be required with regard to radio astronomy stations operating in the band 1660-1670 MHz. Due to the number and distribution of radio astronomy sites in CEPT that operate in the band 1668-1670 MHz, this band is not included with those designated for systems in the MSS.

Resolution 744 of WRC-03 required the ITU-R to finalise studies between MSS and Space Research Service SRS (passive) at 1668-1668.4 MHz and between MSS and MS (mobile service) in the band 1668.4-1675 MHz. ITU-R completed this work and provided WRC-07 with its conference report. WRC07 made some changes to the co-ordination requirements of MSS and SRS (passive). WRC07 also included certain radiated power restrictions on transportable radio relay system operating in the fixed or mobile services for the band 1668.4-1675 MHz. From 1<sup>st</sup> April 2007 CEPT has agreed to the designation of MSS in the uplink band 1670-1675 MHz.

### 3 REQUIREMENT FOR AN ECC DECISION

Following the WRC-03 decision to allocate to MSS the bands 1518-1525 MHz and 1668-1675 MHz and the conclusions of WRC-07, an ECC Decision is appropriate to facilitate the harmonised introduction of the MSS in parts of these bands in CEPT countries.

The allocation or designation of a frequency band for its use by a service or a system under specified conditions in CEPT member countries is laid down by law, regulation or administrative action. The ECC recognises that for the successful global expansion of the MSS, manufacturers and operators must be encouraged to make the necessary investments in MSS systems. An ECC Decision would provide this confidence for the MSS community

The review of this document has highlighted the fact that decisions by the ITU at WRC-07 and by the ECC, requires an update to wording of this Decision. The considering section is updated due to WRC-07, while the decide element have been updated due to changes in the ECC rules of procedure.

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“The European Conference of Postal and Telecommunications Administrations,

*considering*

- a) that, recognising the MSS congestion in the bands 1525-1559 MHz and 1626.5-1660.5 MHz, the CEPT proposed to extend these allocations at WRC-03;
- b) that WRC-03 allocated the bands 1518-1525 MHz and 1668-1675 MHz to the Mobile-Satellite Service on a primary basis;
- c) that according to Resolution 225 (Rev. WRC-07) administrations wishing to implement the satellite component of IMT may use the frequency bands 1518-1525 MHz and 1668-1675 MHz, subject to the regulatory provisions in the Radio Regulations;
- d) that ECC Decision (02)07 reserved the band 1670-1675 MHz for harmonised European use, but postponed the identification of new harmonised applications until after the WRC-03;
- e) that the band 1668-1670 MHz is heavily used by the radio astronomy service in Europe and therefore in order to protect radio astronomy use, it would not be appropriate for the mobile-satellite service to operate in the band 1668-1670 MHz within CEPT countries;
- f) that, in a number of European countries, the band 1518-1525 MHz is also used by the fixed and mobile services, and according to ITU RR 5.342, by telemetry services in the aeronautical mobile service in a number of European countries;
- g) that in accordance with ITU RR 5.348, MSS shall not claim protection from the fixed service and is subject to technical conditions for coordination given in Appendix 5 in respect of the countries identified in ITU RR 5.342;
- h) that administrations may take measures in order to reduce the impact of terrestrial systems on MSS operations in the bands 1518-1525 MHz and 1670-1675 MHz;
- i) that the majority of fixed links currently operating in the band 1670-1675 MHz within CEPT countries should have been removed;
- j) that Resolution 744 (Rev. WRC-07) resolves that the use of the band 1 668.4-1 675 MHz by systems in the mobile service is limited to transportable radio-relay systems;
- k) that Resolution 744 (Rev. WRC-07) resolves that administrations operating transportable radio-relay systems should take into account Recommendation ITU-R M.1799, which states that, to adequately protect MSS networks, the e.i.r.p. of transportable radio-relay stations should not exceed  $-27$  dB(W/4 kHz) in the band 1 668.4-1 675 MHz in the direction of the geostationary orbit;
- l) that Resolution 744 (Rev. WRC-07) resolves that from 1 January 2015 administrations operating such systems in the mobile service shall limit the e.i.r.p. spectral density radiated in the direction of the geostationary orbit by these systems to  $-27$  dB(W/4 kHz) in the band 1 668.4-1 675 MHz;
- m) that MSS systems capable of using the band 1668-1675 MHz are now under development.

**DECIDES**

1. to designate the band 1518-1525 MHz for systems in the Mobile-Satellite Service (space-to-Earth) and the band 1670-1675 MHz for systems in the Mobile-Satellite Service (Earth-to-space) from 1 April 2007;
2. that this revised Decision will enter into force on 26 June 2009;
3. that CEPT administrations shall communicate the national measures implementing this Decision to the ECC Chairman and the Office when the Decision is nationally implemented.”

**Note:**

Please check the Office web site (<http://www.ero.dk>) for the up to date position on the implementation of this and other ECC decisions.