



ECC Decision (05)08

The availability of frequency bands for high density applications in the Fixed-Satellite Service (space-to-Earth and Earth-to-space)

approved 24 June 2005

latest amended on 18 November 2022

EXPLANATORY MEMORANDUM

1 INTRODUCTION

This ECC Decision deals with frequency bands for high density applications in the fixed-satellite service (HDFSS) (space-to-Earth and Earth-to-space) in relation to the requirements and priorities of CEPT administrations.

2 BACKGROUND

Satellite systems are a key medium for delivery of future telecommunication services enabling broadband communication to rapidly be established over wide areas. Proposals for systems in the fixed-satellite service FSS indicate that large numbers of user terminals are intended to be deployed on a basis for direct customer access in some frequency bands.

Within the ITU, such concept of large number of user terminals has been named “High-density fixed satellite service” (HDFSS). It is expected to provide access to a wide range of broadband telecommunication applications supported by fixed telecommunication networks (including the Internet), and thus will complement other telecommunication systems, helping at reducing the digital divide.

HDFSS earth stations would be considered as uncoordinated earth stations within CEPT’s regulatory framework.

WRC-03 identified a number of frequency bands for high-density applications in the fixed satellite service (HDFSS) through No. 5.516B and also adopted RESOLUTION 143 (WRC-03) providing “Guidelines for the implementation of high-density applications in the fixed-satellite service in frequency bands identified for these applications.” [1]

Among the bands covered by this Decision, the bands 17.3-17.7 GHz, 19.7-20.2 GHz and 29.50-30 GHz are not allocated to any terrestrial service on a primary basis.

Other bands than those covered by this Decision are also available for HDFSS applications in the Radio Regulations in Region 1. Those bands are designated for uncoordinated earth stations in other ECC Decisions, in particular: (a) the band 39.5-40.5 GHz, while also allocated in the Radio Regulations to terrestrial services on a primary basis, has been designated for uncoordinated FSS earth stations (space-to-Earth) within CEPT through ERC Decision (00)02 [2]; and (b) the band 48.2-50.2 GHz has been designated for uncoordinated FSS earth stations (Earth-to-space) within CEPT through ECC Decision (21)01 [3].

Due to the specific sharing situation of the 27.5-29.5 GHz band this band, also partly identified for HDFSS by WRC-03 through No. 5.516B [1], is covered by ECC Decision (05)01 [4].

3 REQUIREMENT FOR AN ECC DECISION

In order to provide a clear regulatory framework for future investment and deployment of HDFSS, to facilitate the use of transportable FSS earth stations and to take into account the decision taken by WRC-03 with regard to HDFSS, clearly indicating the bands where HDFSS should be deployed in CEPT, a regulatory framework is necessary.

This ECC Decision identifies bands for HDFSS, taking into account the existing other services, if any, in the same bands.

ECC DECISION OF 24 JUNE 2005 ON THE AVAILABILITY OF FREQUENCY BANDS FOR HIGH DENSITY APPLICATIONS IN THE FIXED-SATELLITE SERVICE (SPACE-TO-EARTH AND EARTH-TO-SPACE (ECC DECISION (05)08), AMENDED 8 MARCH 2013 AND AMENDED 18 NOVEMBER 2022

“The European Conference of Postal and Telecommunications Administrations,

considering

- a) that the introduction of future FSS systems will enhance broadband communications over wide areas in CEPT and enable it in areas where terrestrial means are not available;
- b) that WRC-03 has identified a number of frequency bands for high-density applications in the fixed satellite service (HDFSS) through No. 5.516B which also refers to Resolution 143 [1];
- c) that in this Decision, coordinated and uncoordinated earth stations refer to stations for which the process of coordination as per Art. 9 of the Radio Regulations (RR) [1] has been applied or not, respectively;
- d) that a number of FSS systems are operating or planned to operate in some of the bands identified for HDFSS by WRC-03, and that some of them intend to deploy large numbers of user terminals on an uncoordinated basis;
- e) that some FSS systems intend to deploy a small number of large antenna earth stations on a coordinated basis;
- f) that some CEPT administrations are promoting FSS systems in some of these bands in the context of removing the “digital divide” at European level;
- g) that the band 17.3-17.7 GHz is subject to the provisions of RR Appendix 30A and of No. 5.516A;
- h) that FSS earth stations transmitting in 17.3-17.7 GHz are located at a few tens of known locations in CEPT countries;
- i) that the area around an FSS earth station transmitting in 17.3-17.7 GHz where interference to an uncoordinated FSS receive earth station may be created is limited to a few tens of kilometres;
- j) that ECC Decision (05)01 [4] sets out the arrangements for use of the 27.5-29.5 GHz band within CEPT including those parts identified by WRC-03 for HDFSS in Region 1;
- k) that ERC Decision (00)02 [2] designates the band 39.5-40.5 GHz for coordinated and uncoordinated FSS and MSS (space-to-Earth) earth stations;
- l) that ECC Decision (21)01 [3] designates the band 48.2-50.2 GHz for coordinated and uncoordinated FSS (Earth-to-space) earth stations;
- m) that ITU-R has adopted several Recommendations providing technical characteristics applicable to HDFSS stations, such as ITU-R S.524 [5] and ITU-R S.1594 [6];
- n) that ECC Decision (06)03 [7] sets out requirements under which equipment operating in the bands 19.7-20.2 GHz and 29.5-30.0 GHz, among others, have been exempted from individual licensing;

DECIDES

1. that CEPT administrations shall make available the following bands for HDFSS:
 - in the space-to-Earth direction: 17.3-17.7 GHz, 19.7-20.2 GHz;
 - in the Earth-to-space direction: 29.50-30 GHz;
2. that CEPT administrations shall identify in the space-to-Earth direction the bands 47.5-47.9 GHz, 48.2-48.54 GHz and 49.44-50.2 GHz for HDFSS;
3. that earth stations operating under HDFSS identification in the bands listed in Decides 2 shall not claim protection from FSS transmitting earth stations operating in accordance with ECC Decision (21)01 [3];
4. that the identification of the bands in Decides 2 does not preclude the use of these bands by other applications in the FSS or other services to which these bands are allocated;
5. that the designation of the band 17.3-17.7 GHz is without prejudice to the use of this band by BSS feeder links according to the provisions of the RR;
6. that CEPT administrations shall authorise the deployment of uncoordinated FSS earth stations in the bands identified in Decides 1;
7. that administrations shall exempt from individual licensing and allow the free circulation and use of the uncoordinated FSS earth stations operating in the bands specified in Decides 1 (taking into account considering n);
8. that this Decision enters into force on 8 March 2013;
9. that the preferred date for implementation of this Decision shall be 8 September 2013;
10. that CEPT administrations shall communicate the national measures implementing this Decision to the ECC Chairman and to the Office when this ECC Decision is nationally implemented.”

Note:

Please check the Office documentation database <https://docdb.cept.org> for the up to date position on the implementation of this and other ECC Decisions.

ANNEX 1: LIST OF REFERENCES

- [1] ITU Radio Regulations, Edition of 2020
- [2] [ERC Decision \(00\)02](#): “Use of the band 37.5-39.5 GHz by the fixed service and by earth stations of the fixed-satellite service (space-to-Earth) and use of the band 39.5-40.5 GHz by earth stations of the fixed-satellite service and the mobile-satellite service (space-to-Earth)”, approved March 2000, amended March 2022
- [3] [ECC Decision \(21\)01](#): “Use of the bands 47.2-50.2 GHz and 50.4-52.4 GHz by the fixed-satellite service (Earth-to-space)”, approved November 2021, updated March 2022
- [4] [ECC Decision \(05\)01](#): “Use of the band 27.5-29.5 GHz by the Fixed Service and uncoordinated Earth stations of the Fixed-Satellite Service (Earth-to-space)”, approved March 2005, latest amended March 2019
- [5] Recommendation ITU-R S.524: “Maximum permissible levels of off-axis e.i.r.p. density from earth stations in geostationary-satellite orbit networks operating in the fixed-satellite service transmitting in the 6 GHz, 13 GHz, 14 GHz and 30 GHz frequency bands”
- [6] Recommendation ITU-R S.1594: “Maximum emission levels and associated requirements of high density fixed-satellite service earth stations transmitting towards geostationary fixed-satellite service space stations in the 30 GHz range”
- [7] [ECC Decision \(06\)03](#): “Exemption from Individual Licensing of High e.i.r.p. Satellite Terminals (HEST) with e.i.r.p. above 34 dBW operating within the frequency bands 10.70-12.75 GHz or 19.70-20.20 GHz space-to-Earth and 14.00-14.25 GHz or 29.50-30.00 GHz Earth-to-space”, approved March 2006, latest amended November 2022