

## **ELECTRONIC COMMUNICATIONS COMMITTEE**

ECC Decision  
of 24 March 2006  
on Exemption from Individual Licensing of  
high e.i.r.p. satellite terminals (HEST)  
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  
(ECC/DEC/(06)03)



## **EXPLANATORY MEMORANDUM**

### **1 INTRODUCTION**

Licensing is an appropriate tool for administrations to regulate the effective use of the frequency spectrum and to avoid harmful interference. However intervention from the administrations as far as the installation and use of equipment is concerned needs to be proportionate. Administrations and especially users, retailers and manufacturers will benefit from a more deregulated system of authorising the use of radio equipment.

This Decision intends to provide for individual licence exemption of satellite terminals operating with e.i.r.p. above 34 dBW and below 60 dBW within the CEPT. These terminals operate within the frequency bands 10.70 - 12.75 or 19.70 - 20.20 GHz (space-to-Earth) and 14.00 - 14.25 GHz or 29.50 - 30.00 GHz (Earth-to-space) under the control of the satellite system, providing digital communications. They operate with geostationary satellites, and they are envisaged for unattended operation.

### **2 BACKGROUND**

There is a general agreement that when the efficient use of the frequency spectrum is not at risk and as long as harmful interference is unlikely, the installation and use of radio equipment might be exempted from individual licensing. Within the EEA, Directive 1999/5/EC (the R&TTE Directive) introduces the principle that individual licensing is only justified for reasons related to the effective/efficient use of the spectrum and the avoidance of harmful interference. Furthermore, Directive 2002/20/EC (the Authorisation Directive) provides that, when the risk of harmful interference is negligible, the use of radio frequencies shall be governed by general authorisation.

In general the CEPT administrations apply similar systems of licensing and exemption from individual licensing. However, different criteria are used to decide whether radio equipment should be licensed or exempted from an individual licence.

The provision of Pan European wide services will be greatly assisted when all CEPT administrations would exempt the same categories of radio equipment from licensing and apply -to achieve that- the same criteria to decide on this.

When radio equipment is subject to an exemption from individual licensing, anyone can have installed and use the radio equipment without any prior individual permission from the Administration. Furthermore, the Administration will not register the individual equipment. The use of the equipment can be subject to general provisions or general authorisation.

The electromagnetic compatibility between satellite terminals and aircraft avionics has been examined in ECC Report 66 on the "Protection of Aircraft From Satellite Earth Stations Operating on The Ground in the Vicinity of Airfields". According to the report, the risk is dependent on aircraft immunity and the power and antenna gain of the satellite terminal transmitter and its distance from the aircraft. Those aircraft approaching or taking-off from the runway are especially vulnerable as these are critical procedures which may bring the aircraft close to a transmitter. The Report showed that an aircraft immunity level of no more than 20 V/m should be assumed if adequate protection is to be given to electronic aircraft control and navigation systems. Taking into account an aircraft immunity level of 20 V/m, the geometry of the "glide path" and the characteristics of this type of satellite terminal, the Report indicates safe distances for the use of satellite terminals beyond which no coordination is necessary with respect to aircraft avionics and these are reflected in this Decision. The report additionally noted that administrations or aviation authorities may coordinate satellite terminals against other flight trajectories (e.g. helicopters), other navigation systems and on-airfield operations. Terminals that are sited within the coordination zones given in the Annex to this Decision are not covered by this Decision. This does not mean that they may not be used, but that individual coordination is required and recommendations regarding this are also detailed in ECC Report 66.

The users and installer of the terminals should be made aware of the siting restrictions via information in the user manual and on the package of the equipment to be provided by manufacturers or service providers.

It is not in the scope of this Decision to cover the requirements applicable for the limitation of exposure of the general public to electromagnetic fields as defined in Council Recommendation 1999/519/EC.

### **3 REQUIREMENTS FOR AN ECC DECISION**

ERC/REC 01-07 that was adopted in 1995 listed harmonised criteria for the administrations to decide whether an exemption of individual license should be applied.

The aim of this Decision is to exempt satellite terminals with e.i.r.p. above 34 dBW and less than 60 dBW, and for which the conditions of this Decision apply, from individual licensing, because they fulfill the criteria for exemption listed in ERC/REC 01-07

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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**

**(ECC/DEC/(06)03)**

“The European Conference of Postal and Telecommunications Administrations,

*considering*

- a) that within the CEPT administrations there is a ongoing awareness of a need for harmonisation of licensing regimes in order to facilitate the provision of Pan European wide services;
- b) that it therefore would be desirable for CEPT administrations to have common licence regimes at their disposal in order to control the installation, ownership and use of radio equipment;
- c) that there is a strong desire within the CEPT administrations to reduce the control exercised by administrations in the form of mandatory provisions;
- d) that there is a common EU regulatory framework for electronic communications applying to the Member States of the EU, to the EEA and to some countries associated to the EU;
- e) that there are sometimes considerable differences in national licensing, laws and regulations amongst CEPT administrations and that harmonisation therefore can only be introduced gradually;
- f) that national licensing regimes should be as simple as possible, in order to minimise the burden upon the administrations and users of equipment;
- g) that intervention by the national administrations with respect to the use of radio equipment should in general not exceed the level necessary for the efficient use of the frequency spectrum;
- h) that administrations should work towards the exemption of relevant radio equipment from individual licensing based on harmonised criteria detailed in ERC/REC 01-07;
- i) that in the frequency band 10.70 - 12.50 GHz, fixed service systems are being operated on a shared basis;
- j) that ERC Decision (00)08 establishes the priority between fixed service and uncoordinated earth stations in the fixed satellite service and the broadcasting satellite service in the band 10.70 - 12.50 GHz;
- k) that ERC Decisions DEC(00)03, DEC(00)04 and DEC(00)05 have been developed, providing exemption from individual licensing of SITs, SUTs and VSATs with e.i.r.p. not exceeding 50 dBW;
- l) that there is an increasing demand for systems providing broadband access to the internet and that this may require satellite terminals operating at higher transmit powers than those previously used;
- m) that in EU/EFTA countries the use of such equipment shall comply with the R&TTE Directive. Conformity with the essential requirements in its Article 3(2) may be demonstrated by compliance with harmonised standard EN 301 459 or EN 301 428 or equivalent technical specifications;
- n) that some CEPT administrations may require that HEST network operators obtain frequency authorisation due to national regulatory requirements; similarly, some CEPT administrations may require a simple form of registration or location check prior to transmission from any location;

- o) that some CEPT administrations may require a maximum e.i.r.p. for license exempted HESTs in the range 50 - 60 dBW;
- p) that RR 5.492 addresses the use of broadcasting-satellite service assignments by the fixed-satellite service (space-to-Earth) in the band 11.7 – 12.5 GHz ;
- q) that this Decision shall not impede EEA member countries from fulfilling their obligations according to Community law;

#### DECIDES

1. to exempt from individual licensing HESTs that fulfil considering m), without prejudice to considering n), and
  - a) operate with geostationary satellites as part of the fixed satellite service (FSS) within the frequency bands 10.70 – 12.75 GHz or 19.7 – 20.2 GHz (space-to-Earth) and 14.00 – 14.25 GHz or 29.50 – 30.00 GHz (Earth-to-space), and the broadcasting satellite service (BSS) within the frequency bands 11.70 – 12.50 GHz (space-to-Earth) under the control of the satellite system, providing digital communications, and
  - b) use an equivalent isotropically radiated power (e.i.r.p.) greater than 34 dBW and not exceeding 60 dBW or the appropriate e.i.r.p. value in accordance with Decides 2. When an antenna is coupled to more than one transmitter or a transmitter provides more than one carrier (multi-carrier operation), the above e.i.r.p. level is the sum of all simultaneous emissions from the antenna on the main lobe, and
  - c) operate beyond the appropriate terminal coordination zone (airfields) as identified in Annex 1
2. Administrations implementing this Decision shall inform the Office which is the maximum e.i.r.p. for licence exempted HESTs in their country within the range 50 - 60 dBW.
3. that this Decision enters into force on 24 March 2006.
4. that the preferred date for implementation of this Decision shall be 1 October 2006.
5. 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 ( [www.ero.dk](http://www.ero.dk) ) for the up to date position on the implementation of this and other ERC/ECC Decisions.

## Annex 1

### Coordination zone for various e.i.r.p.s

based on the ECC Report 66 using a maximum field strength of 20 V/m

The coordination zone comprises the area within the airfield boundary fence in addition to an area surrounding the boundary fence, the width of which depends on the e.i.r.p., see the table below

ES_e.i.r.p. range	34 dBW to 50 dBW	> 50 dBW to 55,3 dBW	>55,3 dBW to 57 dBW	>57 dBW to 60 dBW
ES_latitude	From boundary	From boundary	From boundary	From boundary
>35-70°N	500 m	1800 m	2300 m	3500 m
30-35°N	600 m	2000 m	2600 m	3900 m