

CEPT/ECC/RA
Project Team RA6
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Subject: GSM use aboard planes

ELECTRONIC COMMUNICATIONS COMMITTEE

DRAFT

ECC Decision

of DD MMM 2005

on the harmonised use of airborne GSM systems

in the frequency bands

1710 – 1785 and 1805 – 1880 MHz

(ECC/DEC/(05)**)

EXPLANATORY MEMORANDUM

1 INTRODUCTION

There is increasing demand to use mobile communications from wherever you are located, including the use of GSM mobile phones on board aircraft. However, to ensure successful operation of systems which will facilitate this there is a need to establish a basis for the free circulation of such equipment within Europe and to provide access to the required spectrum.

2 BACKGROUND

It is a general aim of the Electronic Communications Committee (ECC) to facilitate the free circulation and use of radio equipment. An objective of this Decision is to extend this general goal to include the air transportation domain.

The system under consideration in this Decision, (i.e. the equipment necessary to establish a GSM 1800 MHz pico-cell on board an aircraft, “the System”), together with the spectrum used on board an aircraft, are intended to provide an interface between the on board GSM handsets and the terrestrial networks providing the full range of services normally provided on a GSM network. It is important to ensure that the mobile phones on board the aircraft do not attempt to register with terrestrial Base Transceiver Stations (“BTS”) and can only register with the on board System. The link between the on board System and the terrestrial network does not form part of this Decision. The link will operate in a different frequency range using satellite links. These satellite links will be operated in accordance with relevant ECC Decisions. The System will only be operated during certain phases of the flight and will not be operated while the aircraft is on the ground or during take-off and landing.

There is a need for a harmonised approach to the System together with its harmonised use to ensure the provision of an uninterrupted service whilst aircraft cross the borders of various countries and to reduce the regulatory requirements placed on administrations, GSM network operators and aircraft operators.

The GSM BTS shall conform to the relevant harmonised ETSI specifications detailed in EN 301 502 except where different parameters are required to meet airworthiness certification demands.

It will frequently be the case that on any one flight an aircraft will travel through the airspace of more than one country with the time spent in the airspace of any individual country being of short duration. Thus a procedure is required to ensure that the GSM 1800 MHz spectrum utilised by the System can be used in any national airspace that the aircraft is crossing.

Having regard to: -

- (i) the provisions of Article 18 of the ITU Radio Regulations;
 - (ii) the provisions of Articles 1 and 30(a) of the Chicago Convention (1944);
 - (iii) the provisions of the International Civil Aviation Organisation General Assembly Resolution A29-19;
 - (iv) the fact that the System will be controlled so as to ensure that there is no harmful interference with any other system operating outside the aircraft cabin; and
 - (v) the ECC report [WGSE PT7 report on GSM-use on board aircraft]
- for the purposes of this Decision it is considered that the responsibility for control of the spectrum utilised on board an aircraft as part of the system should be that of the country of registration of the aircraft.

Airworthiness verification of the System will be required and is the separate responsibility of the civil aviation authorities of the country of registration of the aircraft.

3 REQUIREMENT FOR AN ECC DECISION

There is a need for an ECC Decision to allow for the harmonised operation of the System in, and to permit access to, the GSM 1800 MHz frequency band.

ECC Decision
of DD MMM 2005

on the harmonised use of airborne GSM systems
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“ The European Conference of Postal and Telecommunications
Administrations,

Considering

- a) That the bands 1710 – 1785 and 1805 – 1880 MHz are allocated to the mobile service on a co-primary basis in the ITU Radio Regulations;
- b) That within Europe the bands 1710 – 1785 and 1805 -1880 MHz have been designated for GSM usage;
- c) That it is possible to enable the use of GSM handsets on board an aircraft during flight by use of the equipment necessary to establish a GSM 1800 MHz pico-cell on board an aircraft “the System”);
- d) That, provided the power levels and frequency bands used are suitably controlled so that the mobile phones on board an aircraft in flight do not attempt to register with terrestrial systems and can only register with the on board System, it is possible to ensure that there is no harmful interference to aircraft or any other systems operating outside the aircraft;

- e) That, as the System will confine the effect of the relevant GSM spectrum within the aircraft, it will therefore also facilitate the sharing of spectrum resulting in more efficient use of spectrum;
- f) That the System will not be operated while the aircraft is on the ground.
- g) That the System will be switched on at the top of the ascent phase, will be operational during the cruise phase and switched off at the top of the descent phase. In any event, the System will not be operated below a height of 3000 metres above the ground;
- h) That administrations may place additional altitude or phase of flight restrictions on the operation of the System over their territory;
- i) That for the purposes of the Decision the aircraft cabin space is considered to be subject to the control of the country of aircraft registry and the System will only be used within the aircraft;
- j) That accordingly responsibility for control of the GSM spectrum utilised on board an aircraft as part of such a system is that of the country of registration of the aircraft, in accordance with that country's licensing regime;
- k) That the use of the relevant frequencies will be authorised by one administration but those frequencies could also be used within the airspace of other countries, subject to the regulation of those countries;
- l) That the System and its associated components will be subject to airworthiness approval by the aviation safety authorities;

- m) That the link between the on board System and its terrestrial gateway does not form part of this Decision.
- n) That despite measures to ensure interference free operation referred to in considering d), e), f), g) and h) it may remain necessary for administrations to assist with the resolution of reports of interference;
- o) That the equipment shall comply with the R&TTE Directive and its article 3(2), which may be demonstrated by compliance with any relevant harmonised standard or equivalent technical specifications;
- p) That this Decision shall not impede EEA member countries from fulfilling their obligations according to Community laws;

DECIDES

1. That administrations shall allow the use of the System provided that the system operator is either authorised to use the required spectrum or has been exempted from the need to be so, in each case by the country of registration of the aircraft and in accordance with the restrictions referred to in considerings (f), (g) and (h);
2. That the System shall not claim protection from nor shall it cause harmful interference to any other system;
3. That this Decision only applies if the System and its associated components has the appropriate airworthiness certification from the relevant aviation authority;

4. That the power levels and frequency bands shall be controlled to ensure that there is no harmful interference to aircraft systems or any other systems operating outside the aircraft.
5. That this Decision enters into force on [dd mmm yyyy];
6. 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) for the up to date position on the implementation of this and other ECC Decisions.