

ELECTRONIC COMMUNICATIONS COMMITTEE

ECC Decision
of 13 March 2009
on the harmonised use
of the 63-64 GHz frequency band for
Intelligent Transport Systems (ITS)

(ECC/DEC/(09)01)



EXPLANATORY MEMORANDUM**1 INTRODUCTION**

This CEPT/ECC Decision addresses frequency designation within the band 63-64 GHz for the harmonised implementation of Intelligent Transport Systems (ITS). This frequency band is allocated to the Fixed Service, the Mobile Service, the Inter-Satellite Service and to the Radiolocation Service on a primary basis in ITU Region 1.

The objective of frequency designation for road safety applications in the 63-64 GHz band is to support the European Union eSafety initiative with its goals to reduce the number of road fatalities and improving the efficiency of road traffic with Intelligent Vehicle Safety Systems. ITS road safety and traffic efficiency systems in Europe are being developed within the 6th Framework programme of the European Union. The intelligent car is a flagship initiative of the i2010 policy of the European Union.

ITS road safety and traffic efficiency communication includes both Inter Vehicle Communication (IVC) and related Roadside to Vehicle (R2V) communication in highly dynamic ad hoc networks where the focus in some bands is on IVC in other bands on R2V communication. In order to support the time critical road safety applications where fast information exchange is necessary to warn and support the driver without time delay both IVC and R2V applications are necessary.

To support a quick development and deployment of ITS systems within a trans-European road network, it is essential that common frequency bands and associated harmonised equipment standards are available throughout Europe. A stable and permanent solution needs to be made available as soon as possible in order to support the European industry developments in this area.

The CEPT/ECC compatibility studies for ITS at 63-64 GHz in ECC Report 113 concludes that

- ITS needs to implement mitigation techniques such as a guard band in their operating band in order to reduce the impact of the unwanted emissions from FS system close to 64 GHz;
- If the unwanted emissions from ITS are limited to -29dBm in the first 200 MHz of the FS band no problems are expected;
- No problems are expected with regard to compatibility with the Inter-Satellite Service;
- No military usage was reported however, one administration reported that this band is used for radiodetermination systems. This should be considered on a national basis in countries where radiolocation systems are operated (in particular to calculate the separation distances).

It is essential for the implementation and deployment of ITS road safety and traffic efficiency applications in the CEPT countries and thus the possibility to meet the general European Union policies on road safety that a European harmonised solution on spectrum availability is adopted within the CEPT/ECC providing the necessary regulatory certainty for the ITS industry.

An ECC Decision making spectrum available for ITS within the band 63-64 GHz based on compatibility studies developed within the CEPT/ECC will also ensure that future radio services or radio applications in this frequency band will have to prove their compatibility with ITS as well as with other existing radio services and radio applications in the band.

2 BACKGROUND

The frequency band 63-64 GHz has been identified by ETSI within the system reference document TR 102 400 as a frequency band for development and deployment of RTTT and of ITS providing road safety and traffic efficiency applications all over Europe.

The need for Road Traffic and Transport Telematics (RTTT) data links and a suitable frequency assignment has been recognised for several years. ERC Report 3 dealing with Harmonisation of Frequency Bands to be designated for Road Transport Information Systems provided initial considerations on the bands for RTTT (ITS) systems.

As a result of some EC-funded work in the early 1990s, which investigated frequency and design options, CEPT recommended the band 63-64 GHz for future V2V and (in a later amendment) R2V communications see ECC/DEC/(02)01. The current regulations permitting RTTT (ITS) devices are given in ERC/REC 70-03 Annex 5.

Within Europe, the largest research programme concerned with the improvement of road safety, transport efficiency and environmental quality was the European Community's Research and Development Programme DRIVE (Dedicated Road Infrastructure for Vehicle Safety in Europe), adopted by Council Decision 88/416/EEC in 1988. DRIVE identified a number of applications requiring radio frequencies and, through the Commission of the European Communities, approached the former ERC ("European Radiocommunications Committee", now ECC) with a request to identify suitable frequency bands which could be made available throughout Europe.

CEPT/ECC adopted ECC/DEC(08)01 "*on the harmonised use of the 5875-5925 MHz frequency band for Intelligent Transport Systems (ITS)*" in March 2008 and ECC/REC/(08)01 on "*Use of the band 5855-5875 MHz for Intelligent Transport Systems (ITS)*" in February 2008.

3 REQUIREMENT FOR AN ECC DECISION

The allocation or designation of frequency bands for use by a service or system under specified conditions in CEPT administrations is laid down by law, regulation or administrative action. ECC Decisions are required to deal with the radio spectrum related matters and for the carriage and use of equipment throughout Europe. The harmonisation on an European basis supports the *Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity*. A commitment by CEPT administrations to implement an ECC Decision will provide a clear indication that the required frequency bands will be made available on time and on a European-wide basis.

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"The European Conference of Postal and Telecommunications Administrations,

considering

- a) that there is an industry requirement for designation of frequency spectrum within the band 63-64 GHz for harmonised implementation and deployment of Intelligent Transport Systems (ITS);
- b) that the deployment of ITS in Europe would support the European Union e-Safety initiative with the goals to reduce road fatalities and improve the efficiency of road traffic and the i2010 policy of the European Union;
- c) that the frequency band 63-64 GHz is allocated to the Mobile Service, the Radiolocation Service and to the Inter-Satellite Service on a primary basis in the European Common Allocation table (ERC Report 25);
- d) that ITS applications providing communication to and from mobile units are considered as an application in the Mobile Service and that frequency spectrum should be designated to ITS as to any other Mobile Service application based on the agreed compatibility conditions;
- e) that ERC Report 3 on '*Harmonisation of frequency bands to be designated for road transport information systems*' concluded that three frequency bands are required to meet the short and long term needs of road transport information systems;
- f) that ECC/DEC/(02)01 designated the 63-64 GHz band for RTTT applications (now referred to as ITS);
- g) that ECC Report 113 on '*Compatibility studies around 63 GHz between ITS and other systems*' provides the results of compatibility studies between the ITS and other services/systems within the band 63-64 GHz as well as requirements to protect other services/systems above 64 GHz;
- h) that the main conclusions of the compatibility study performed by the CEPT/ECC indicate that within the frequency band 63-64 GHz, ITS applications will not suffer from excessive interference resulting from other services/systems and ITS in this band is compatible with all other services.
- i) that ITS devices can not claim protection from radiolocation systems in the frequency band 63-64 GHz;
- j) that ITS applications may be developed and deployed in Europe based on the conditions described in the ECC Report 113;
- k) that standardisation of radio equipment and communication protocols to ensure cross-border interoperability for various applications envisaged is ongoing within ETSI, which has started to develop EN 302 686, and other international standardisation organisations;
- l) that road safety systems in the 63-64 GHz band are based on channel access technology where only one device is active on a channel at the same point in time in a given area and all mobile as well as roadside units are operating in the same network. However, a coordination mechanism of roadside infrastructure may need to be considered to ensure that different ITS operators can coexist;
- m) that in the EU/EEA-EFTA countries the radio equipment that is under the scope of this Decision shall comply with the R&TTE Directive. Conformity with the essential requirements of the R&TTE

Directive may be demonstrated by compliance with the applicable harmonised European standard(s) or by using the other conformity assessment procedures set out in the R&TTE Directive.

DECIDES

1. that the purpose of this Decision is to harmonise the use of the 63-64 GHz frequency band for Intelligent Transport Systems (ITS);
2. that for the purpose of this Decision, Intelligent Transport Systems (ITS) mean those applications whose aim is to reduce the number of traffic fatalities and improving the efficiency of road traffic using inter vehicle or roadside to vehicle communications;
3. that CEPT administrations shall designate the frequency band 63-64 GHz for ITS applications;
4. that the maximum radiated power (e.i.r.p.) for ITS stations should be limited to 40 dBm e.i.r.p.;
5. that, subject to decides 6 and 7 below, CEPT administrations shall permit free circulation and use of ITS equipment;
6. that CEPT administrations shall exempt in-vehicle ITS equipment from individual licensing;
7. that, although ITS roadside units are designed to be self-coordinating, CEPT administrations may, if necessary, impose an authorisation process;
8. that this ECC Decision enters into force on 13 March 2009;
9. that the preferred date for implementation of this ECC Decision shall be 31 August 2009;
10. 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.