



ECC Decision (01)03

ECO Frequency Information System (EFIS)¹

amended 15 June 2011

amended 15 May 2012

¹ Comparable technical specifications to those given in this ECC Decision are given in EC Decision 2007/344/EC for EU Member States and, if so approved by the EEA Joint Committee, Iceland, Liechtenstein and Norway are obliged to implement this EC Decision.

EXPLANATORY MEMORANDUM

1 INTRODUCTION

Understanding how frequencies are actually utilised is an important step in harmonising spectrum within Europe and beyond. Industry, the European Commission and administrations have expressed a strong interest in having a database containing frequency utilisation information that is comparable across Europe.

Its purpose would be

- to give the CEPT a tool to illustrate the extent of harmonisation within Europe,
- to allow administrations to quickly search for and compare spectrum utilisation information of other

CEPT countries, and

- to meet the European Commission and industry requirements that have been made known to CEPT at many occasions.

The ERO made a proposal to develop the ERO Frequency Information System (EFIS), now ECO Frequency Information System that would fulfil this purpose. The development of EFIS takes place in close collaboration with those that have to input information into EFIS (i.e. administrations) and those that will use the information contained in EFIS (i.e. administrations, industry and other interested parties). Comments from EICTA (European Information and Communications Technology Industry association) and ETSI (European Telecommunications Standards Institute) have been received encouraging CEPT to develop EFIS and signalling that industry is willing to support this process with their expertise.

2 BACKGROUND

The issue of frequency databases has been discussed for some time and it is evident that there are many different approaches that have been taken on the national level in presenting frequency data. Discussions have also shown that administrations are reluctant to having all national frequency data collected in one central place and to providing additional resources beyond those needed on the national level.

EFIS can basically be described as a search engine that allows the user to search for a specific utilisation in one or more CEPT countries, thus enabling a comparison between the Radio Regulations, the European table (ERC Report 25) and current national utilisations. The result of the search is a list of frequency bands or a frequency range showing the relevant allocations and applications. Further details are not necessarily contained in EFIS, but can be accessed via a link to the relevant national table or to other important documents. The limitation of the actual database to concise information simplifies the task and the expected workload, while providing a commonly accessible search and comparison tool that complements and adds value to the national initiatives.

One of the main objectives of EFIS is to ensure that it provides good quality information, which is regularly updated and maintained. This ECC Decision is the mechanism for ensuring that this objective is met. Furthermore, this ECC Decision provides two lists of harmonised terms, which are essential for making an efficient and meaningful search for frequency information. Especially the List of Searchable Applications in Annex 2, is an important part of EFIS, because it describes the utilisation of a certain frequency band. This is key information that industry is interested in and the terms provide the starting point for a more detailed search in the national frequency tables, which are established and maintained by administrations.

Just like the List of Radio Services in the ITU RR in Annex 1, the List of Searchable Applications in Annex 2 has several layers of detail that allow administrations to choose the level of detail it would like to indicate within a certain frequency band. When searching for and comparing information EFIS makes use of these layers. For example, a search for a specific term in layer 2 will automatically start a search for all terms in layer 3 under that specific term. This functionality allows for an efficient and meaningful comparison, even though each administration has the flexibility to choose the level of detail it would like to indicate in a specific band. Annex 3 contains the list of parameters for radio interfaces in EFIS, developed on the basis of the template and the guide developed by TCAM RIG II and adopted by TCAM. The use of these parameters in

EFIS allows an efficient comparison of interfaces within Europe. In Annex 4 a standard for information on the right of use for frequency bands of high economic interest, where market mechanisms apply, is given.

3 REQUIREMENT FOR AN ECC DECISION

Administrations have developed different formats for presenting national frequency utilisation information. Furthermore, it is often difficult to compare the information contained in the numerous national tables, because of different expressions and languages being used. Consequently, there is a need for a tool that provides administrations, industry and the interested public with comparable spectrum information. This information will then lead the user to more detailed information on the national level or it will give a reliable picture of the spectrum harmonisation that has been achieved in Europe. For this tool to be successful administrations must agree upon a harmonised list of terms to be used as well as a procedure that will ensure that the information that has been collected is updated regularly and of good quality.

An ECC Decision will ensure that the harmonised terms and procedures, which are essential for the success of the system, are used by administrations and ECO when entering data into EFIS.

“The European Conference of Postal and Telecommunications Administrations,

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considering

- a) that administrations, industry, and the European Commission have expressed a strong interest in having a database containing frequency utilisation information that is comparable across Europe;
- b) that EFIS is designed to fulfil this requirement;
- c) that the data collected in EFIS is to be used for a meaningful search and comparison of spectrum information available within CEPT member countries;
- d) that for EFIS to be successful administrations must agree upon a harmonised list of terms to be used as well as a procedure that will ensure that the information that has been collected is updated regularly and of good quality;
- e) the decision taken at the 12th meeting of the ERO Council to make available the necessary resources within ERO in order to fulfil the tasks required under this Decision;
- f) that the List of Searchable Applications aims to facilitate an efficient and meaningful search and not a legally binding description of the applications used on the national level;
- g) there is a need to administer and further develop EFIS;
- h) that there is a need to establish a contact person within each administration for the maintenance of the national frequency information;
- i) that the future development of EFIS should take into account the R&TTE Directive 1999/5/EC, Proposal for a Decision of the European Parliament and Council on a regulatory framework for radio spectrum policy in the EC, the ERC/DEC/(97)01 and its future revisions on publication of National Tables of Frequency Allocations (NTFAs) and the publication of national frequency utilisation information;
- j) that there is considerable difference in national licensing, laws and regulations;
- k) that the EU Member States and Iceland, Liechtenstein and Norway adopted the EC Decision 2007/344/EC of 16 May 2007 which makes it mandatory for those countries to provide information on the radio interface specifications and rights of use of radio spectrum in accordance with Decides 2, however, the EC Decision does not apply to other CEPT countries which may provide the information on an optional basis;
- l) that there is a need to limit the amount of resources needed to update and maintain EFIS as far as possible;
- m) that the duplication of information should be avoided as far as possible;
- n) that the availability of NTFAs in the English language and in PDF format would be preferable.

DECIDES

1. Administrations shall enter and maintain the following mandatory data into EFIS:
 - a) Spectrum allocations on a national level according to the List of Radio Services in the ITU RR in Annex 1;
 - b) Spectrum applications on a national level according to the List of Searchable Applications in Annex 2;
 - c) A Contact Person within the Administration who will be responsible for the maintenance of the national frequency information related to EFIS.
2. Administrations should enter and maintain the following data into EFIS:
 - a) Radio interface specifications on a national level according to the template in Annex 3;
 - b) Right of use information on a national level only for frequency bands for electronic communication services, where spectrum trading is allowed or where comparative or competitive selection procedures are used according to the model in Annex 4.
3. Administrations may enter and maintain the following optional data into EFIS:
 - a) Short comments related to an allocation or application;
 - b) Documents or hyperlinks that can be filed within EFIS according to a frequency band, an application or both (e.g. related to Activities or R&TTE interface information).
4. Administrations shall provide ECO with a copy of their most detailed public national frequency table (e.g. NTFA or frequency utilisation table) in a format acceptable to ECO. The table should be sent to ECO no later than one week after publication.
5. ECO shall¹ enter and maintain the data in EFIS related to the Radio Regulations (Region 1), the European Table of Frequency Allocations and Utilisations, and other appropriate tables that are not maintained by an administration.
6. ECO shall¹ administer EFIS and execute further developments of EFIS according to agreements reached in the ECC and the ECO Council.
7. For uploading or downloading data to or from EFIS by administrations, the Harmonised Interface in Annex 5 shall be used. Administrations with a national frequency database are encouraged to develop a software tool that will allow automatic transfer of relevant data from their database into EFIS. This will allow for easy updating and maintenance of allocations, applications, radio interfaces and right of use information.
8. The List of Radio Services in the ITU RR, the List of Searchable Applications and the Harmonised Interface are the valid versions when this Decision comes into force. Depending on regulatory and market developments, the ECC or a delegated subgroup may develop new versions of these annexes subject to positive acceptance by administrations that have committed themselves to this Decision without the need for Public Consultation. ECO shall² archive all versions and distribute any new versions to all Contact Persons stating when the new version will come into force. The List of Searchable Applications shall be reviewed at least once a year through a procedure initiated by ECO.
9. that this Decision shall enter into force on 15 May 2012;
10. that CEPT Member 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 documentation database <http://www.ecodocdb.dk> for the up to date position on the implementation of this and other ECC Decisions.

² Subject to approval by the ECO Council

ANNEX 1: LIST OF RADIO SERVICES IN THE ITU RADIO REGULATIONS (RR)

This is the list of services, which have an allocation in Article 5 of the RR.

For the purpose of this decision the List of Radio Services in the ITU RR is divided into three layers of detail in accordance with the definitions given in the RR. When searching for and comparing information EFIS makes use of these layers. For example, a search for a specific term in layer 2 will automatically start a search for all terms in layer 3 under that specific term. If nothing is found in either layer 2 or 3, EFIS also checks layer 1 and informs the user if there is a hit.

Table 1: Layer 1 to 3 structure in EFIS in the allocations

Layer 1	Layer 2	Layer 3
Amateur		
<u>Amateur-Satellite</u>		
Broadcasting		
Broadcasting-Satellite		
<u>Earth Exploration-Satellite</u>	Earth Exploration-Satellite (active) Earth Exploration-Satellite (passive) <u>Meteorological-Satellite</u>	
Fixed		
<u>Fixed-Satellite</u>		
Inter-Satellite		
Mobile	Aeronautical Mobile Land Mobile Maritime Mobile Mobile (distress and safety) Mobile (distress and calling) Mobile (distress, safety and calling) Mobile except aeronautical mobile Mobile except aeronautical mobile (R)	Aeronautical Mobile (R) Aeronautical Mobile (OR) Maritime Mobile (distress and safety) Maritime Mobile (distress and calling) Maritime Mobile (distress, safety and calling) Maritime Mobile (distress and calling via DSC)

Layer 1	Layer 2	Layer 3
<u>Mobile-Satellite</u>	<u>Aeronautical Mobile-Satellite</u> <u>Land Mobile-Satellite</u> <u>Maritime Mobile-Satellite</u> <u>Mobile-satellite except aeronautical mobile-satellite</u> <u>Mobile-satellite except aeronautical mobile-satellite (R)</u>	<u>Aeronautical Mobile-Satellite (R)</u> <u>Aeronautical Mobile-Satellite (OR)</u>
Meteorological Aids		
Radio Astronomy		
Radiodetermination	Radionavigation Radiolocation	Aeronautical Radionavigation Maritime Radionavigation Maritime Radionavigation (radiobeacons)
<u>Radiodetermination-Satellite</u>	<u>Radionavigation-Satellite</u> <u>Radiolocation-Satellite</u>	<u>Aeronautical Radionavigation-Satellite</u> <u>Maritime Radionavigation-Satellite</u>
<u>Space Operation</u>		Space Operation (satellite identification)
<u>Space Research</u>	Space Research (active) <u>Space Research (deep space)</u> Space Research (passive)	
Standard Frequency and Time Signal		
<u>Standard Frequency and Time Signal-Satellite</u>		

Note:

For bolded services it is possible to give additions/attributes (space-to-Earth, Earth-to-space, space-to-space). An alphabetical list of services with all additions as used in the EFIS database, and existing combinations of additions/attributes for allocations is provided below.

**LIST OF ALL RADIOCOMMUNICATION SERVICES WITH ADDITIONS,
USED IN THE EFIS Database**

Radiocommunication service:	Addition:
Aeronautical mobile	(R)
Aeronautical mobile	(OR)
Amateur-satellite	(Earth-to-space)
Amateur-satellite	(space-to-Earth)
Earth exploration-satellite	(Earth-to-space)
Earth exploration-satellite	(space-to-Earth)
Earth exploration-satellite	(Earth-to-space) (space-to-space)
Earth exploration-satellite	(space-to-Earth) (space-to-space)
Earth exploration-satellite	(active)
Earth exploration-satellite	(passive)
Fixed-satellite	(Earth-to-space)
Fixed-satellite	(space-to-Earth)
Fixed-satellite	(Earth-to-space) (space-to-Earth)
Fixed-satellite	(space-to-Earth) (Earth-to-space)
Maritime mobile	(distress and calling via DSC)
Maritime mobile	(distress and calling)
Maritime radionavigation	(radiobeacons)
Meteorological-satellite	(Earth-to-space)
Meteorological-satellite	(space-to-Earth)
Mobile	except aeronautical mobile
Mobile	except aeronautical mobile (R)
Mobile	(distress and calling)
Mobile-satellite	(Earth-to-space)
Mobile-satellite	(space-to-Earth)
Mobile-satellite	except aeronautical mobile-satellite (Earth-to-space)
Radiodetermination-satellite	(Earth-to-space)
Radiodetermination-satellite	(space-to-Earth)
Radiolocation-satellite	(Earth-to-space)
Radionavigation-satellite	(Earth-to-space)
Radionavigation-satellite	(space-to-Earth) (space-to-space)
Space operation	(satellite identification)
Space operation	(Earth-to-space)
Space operation	(space-to-Earth)
Space operation	(Earth-to-space) (space-to-space)
Space operation	(space-to-Earth) (space-to-space)
Space research	(Earth-to-space)
Space research	(space-to-Earth)
Space research	(space-to-space)
Space research	(deep space)
Space research	(Earth-to-space) (space-to-space)
Space research	(space-to-Earth) (space-to-space)
Space research	(deep space) (Earth-to-space)
Space research	(deep space) (space-to-Earth)
Space research	(active)
Space research	(passive)
Standard frequency and time signal	(20 kHz)
Standard frequency and time signal	(2 500 kHz)
Standard frequency and time signal	(5 000 kHz)
Standard frequency and time signal	(10 000 kHz)

Radiocommunication service:	Addition:
Standard frequency and time signal	(15 000 kHz)
Standard frequency and time signal	(20 000 kHz)
Standard frequency and time signal	(25 000 kHz)
Standard frequency and time signal-satellite	(400.1 MHz)
Standard frequency and time signal-satellite	(Earth-to-space)
Standard frequency and time signal-satellite	(space-to-Earth)

ANNEX 2: LIST OF SEARCHABLE APPLICATIONS

Explanatory Note

The list of Searchable Applications has been developed in order to allow an efficient and meaningful search for frequency information within Europe. It is based on the following principles:

1. The list should facilitate an efficient and meaningful search and not a legally binding description of the Application terms used.
2. The list should only use unambiguous terms, which give clear guidance for data entry and retrieval.
3. The List of Searchable Applications is complementary to the List of Radio Services in the ITU RR and it is meant to describe the actual utilisation of the frequency bands. In other words, the List of Radio Services in the ITU RR gives the regulatory framework and the List of Searchable Applications gives the actual use.
4. The List of Searchable Applications should allow administrations to associate the terms used on a national level with the terms used in the list.

The List of Searchable Applications is divided into three layers of detail. This allows each administration to choose the level of detail it would like to indicate within a certain frequency band. When searching for and comparing information EFIS makes use of these layers. For example, a search for a specific term in layer 2 will automatically start a search for all terms in layer 3 under that specific term. If nothing is found in either layer 2 or 3, EFIS also checks layer 1 and informs the user if there is a hit. This functionality allows for an efficient and meaningful comparison, even though each administration has the flexibility to choose the level of detail it would like to indicate in a specific band.

Wherever possible administrations should use the highest detail possible (layer 3) when entering data into EFIS. In general, layer 3 only represents a few more specific expressions that do not necessarily cover all possible applications of the relevant term in layer 2. Those applications that are not covered by these more specific expressions are to be associated with the more general term in layer 2 or even in Layer 1, if necessary.

Due to the fact that some detailed applications can belong to 2 or even more general applications, e.g. the detailed application GPS can be regarded as an aeronautical, maritime or military application, they may show up several times in the list when presented in hierarchical mode. In alphabetical presentation mode each term in the list is only mentioned once.

The layer 1 term TRA-ECS is to be used under certain conditions; i.e. notably for EU Member States to be in line with common EU regulatory approaches or by CEPT administrations for frequency bands for which they find the term applicable. In such case and when more detailed information is available, administrations are urged to fill in information in layers 2 and 3 corresponding to the applications currently in use as listed for the layer 1 applications: e. g. Aeronautical, Broadcasting, Fixed, Land Mobile, and Maritime.

The abbreviations used in the list are described at the end of this annex.

Layer 1	Layer 2	Layer 3
Aeronautical	Aeronautical communications	Aeronautical satcoms AGA communications (civil) SAR (communications)
	Aeronautical navigation	ASDE Airborne doppler navigation aids Airborne weather radar Altimeters Beacons (aeronautical) DME ILS Loran C MLS SAR (navigation) VOR
	Aeronautical surveillance	ADS ASDE Primary radar SSR
	Aeronautical emergency	ELT
	Aeronautical telemetry	
	Aeronautical telecommand	
	Aeronautical telemetry/telecommand	
	Satellite navigation systems	GALILEO GLONASS GPS
Broadcasting	Broadcasting (terrestrial)	AM sound analogue DRM DVB-T FM sound analogue MWS T-DAB TV analogue (terrestrial)
	Broadcasting-satellite receivers	Satellite radio Satellite TV SIT/SUT
	PMSE	In-ear monitor systems Cordless cameras Radio microphones SAP/SAB and ENG/OB SAP/SAB portable audio links SAP/SAB portable video links SAP/SAB airborne video links SAP/SAB engineering links SAP/SAB remote control SAP/SAB telecommand SAP/SAB P to P audio links SAP/SAB P to P video links SAP/SAB vehicular audio links SAP/SAB vehicular video links

Layer 1	Layer 2	Layer 3
		Talkback
Fixed	Point-to-Multipoint	MWS Scanning telemetry Subscriber access excluding MWS Unplanned, uncoordinated fixed links
	Point-to-Point	Private fixed networks Public fixed networks SAP/SAB P to P audio links SAP/SAB P to P video links Unplanned, uncoordinated fixed links
	BWA	BFWA
	MFCN	IMT
Defence systems	Aeronautical military systems	AGA communications (military) IFF JTIDS/MIDS TACAN-DME
	Land military systems	Fixed radio relay (military) Tactical mobile Tactical radio relay
	Maritime military systems	Sonobuoy
	Meteorological aids (military)	
	Radiolocation (military)	Air-defence radar Tactical radar
	Satellite systems (military)	Earth exploration-satellite (military) GLONASS GPS Satellite communications (military)
	Telemetry (military)	
	Telecommand (military)	
Land mobile	Digital cellular	AES GSM GSM-R IMT MCA MCV
	BWA	
	ITS	
	Analogue cellular	NMT
	Cordless telephones	CT0 CT1 CT1+

Layer 1	Layer 2	Layer 3
		CT2 DECT
	D-GPS	
	PPDR	BBDR Emergency services PLB LAES
	Inland waterway communications	
	MFCN	IMT
	Paging	On-site paging POCSAG Talkback pocket unit Wide area paging
	PMR/PAMR	PAMR PMR PMR 446 TETRA TETRAPOL
	PMSE	In-ear monitor systems Cordless cameras Radio microphones SAP/SAB and ENG/OB SAP/SAB airborne video links SAP/SAB engineering links SAP/SAB portable audio links SAP/SAB portable video links SAP/SAB P to P audio links SAP/SAB P to P video links SAP/SAB remote control SAP/SAB telecommand SAP/SAB vehicular audio links SAP/SAB vehicular video links Talkback
	Telemetry (civil)	Scanning telemetry
	Telemetry/Telecommand (civil)	
Maritime	GMDSS	DSC EPIRBs INMARSAT C MSI NAVTEX SAR (communications) SAR (navigation)
	Satellite navigation systems	GALILEO GLONASS GPS
	Maritime communications	AIS INMARSAT Inland waterway communications

Layer 1	Layer 2	Layer 3
		On-board communications
	Maritime navigation	Beacons (maritime) Inland waterway radar Loran C Maritime radar RTE SAR (navigation)
Meteorology	Oceanographic buoys	
	Sondes	
	Weather radar	
	Weather satellites	
	Wind profilers	
Satellite systems (civil)	Aeronautical satcoms	INMARSAT
	Amateur-satellite	
	Broadcasting-satellite receivers	Satellite radio Satellite TV SIT/SUT
	Earth exploration-satellite	Active sensors (satellite) Passive sensors (satellite) Synthetic aperture radar Weather satellites
	Feeder links	
	FSS Earth stations	AES ESV HEST LEST SIT/SUT SNG VSAT
	Inter-satellite links	
	MSS Earth stations	CGC INMARSAT IMT-2000 satellite component S-PCS
	Satellite navigation systems	GALILEO GLONASS GPS
	Standard frequency and time signal-satellite	
	Space operations	
	Space research	Active sensors (satellite) Deep space (satellite) Passive sensors (satellite)

Layer 1	Layer 2	Layer 3
Radio astronomy	Continuum measurements Spectral line observations VLBI observations	
Short Range Devices	Alarms	Social alarms
	Railway applications	AVI Eurobalise Euroloop
	Tracking, tracing and data acquisition	Animal tracking Asset tracking and tracing Detection of avalanche victims Meter reading
	Radiodetermination applications	Detection of movement and alert GBSAR LPR TLPR
	Inductive applications	
	Active medical implants	LP-AMI Medical implants Medical telemetry ULP-AID ULP-AMI ULP-MMI
	Model control	Flying model control
	Non-specific SRDs	
	Radio microphones and ALD	Aids for hearing impaired Consumer radio microphones Personal hearing aids Public hearing aids Radio microphones
	Wideband data transmission systems	DECT Radio LANs
	RFID	
	RTTT	SRR Vehicle and infrastructure radar
	UWB applications	Automotive SRR BMA Communication applications GPR/WPR Material Sensing SRR LT2 LAES
Wireless audio applications	Baby monitoring Band II LPD	

Layer 1	Layer 2	Layer 3
		Cordless headphones and loudspeakers Narrow band analogue voice devices
TRA-ECS		
Other	Amateur	
	CB radio	DSB/SSB AM CB / CEPT PR 27
	GNSS Repeater	
	GNSS Pseudolites	
	HAPS	
	ISM	Microwave ovens
	Meteor scatter communications	
	Land radionavigation	
	Radiolocation (civil)	
	Standard frequency and time signal	
	Tracking systems	

LIST OF SEARCHABLE APPLICATIONS IN ALPHABETIC ORDER

List of searchable applications:	Layer	Comment: (in case of addition of new term, term deleted, indicating reason for change of term etc.)
Active medical implants	2	
Active sensors (satellite)	3	
ADS	3	
Aeronautical	1	
Aeronautical communications	2	
Aeronautical emergency	2	
Aeronautical military systems	2	
Aeronautical navigation	2	
Aeronautical satcoms	3(2)	
Aeronautical surveillance	2	
Aeronautical telecommand	2	
Aeronautical telemetry	2	
Aeronautical telemetry/telecommand	2	
AES	3	
AGA communications (civil)	3	
AGA communications (military)	3	
Aids for hearing impaired	3	
Airborne doppler navigation aids	3	
Airborne weather radar	3	
Air-defence radar	3	
AIS	3	
Alarms	2	
Altimeters	3	
AM sound analogue	1	
Amateur	2	
Amateur-satellite	2	
Analogue cellular	2	
Animal tracking	3	
ASDE	3	
Asset tracking and tracing	3	
Automotive SRR	3	
AVI	3	
Baby monitoring	3	
Band II LPD	3	
BBDR	3	
Beacons (aeronautical)	3	
Beacons (maritime)	3	
BFWA	3	
Broadcasting	1	
Broadcasting (terrestrial)	2	
Broadcasting-satellite receivers	2	
BMA	3	
BWA	2	
CB radio	2	
CEPT PR 27	3	
CGC	3	
Communication applications	3	

List of searchable applications:	Layer	Comment: (in case of addition of new term, term deleted, indicating reason for change of term etc.)
Consumer radio microphones	3	
Continuum measurements	2	
Cordless cameras	3	
Cordless headphones and loudspeakers	3	
Cordless telephones	2	
CT0	3	
CT1	3	
CT1+	3	
CT2	3	
DECT	3	
Deep space (satellite)	3	
Defence systems	1	
Detection of avalanche victims	3	
Detection of movement and alert	3	
D-GPS	2	
Digital cellular	2	
DME	3	
DRM	3	
DSB/SSB AM CB	3	
DSC	3	
DVB-T	3	
Earth exploration-satellite	2	
Earth exploration-satellite (military)	3	
ELT	3	
Emergency services	3	Deletion at next update, term PPDR should be used
EPIRBs	3	
ESV	3	
Eurobalise	3	
Euroloop	3	
Feeder links	2	
Fixed	1	
Fixed radio relay (military)	3	
Flying model control	3	
FM sound analogue	3	
FSS Earth stations	2	
GALILEO	3	
GBSAR	3	
GLONASS	3	
GMDSS	2	
GNSS Pseudolites	2	Used in ECC/REC/(11)08
GPS	3	

List of searchable applications:	Layer	Comment: (in case of addition of new term, term deleted, indicating reason for change of term etc.)
GPR/WPR	3	
GSM	3	
GSM-R	3	
HAPS	2	
HEST	3	
IFF	3	
ILS	3	
IMT-2000 satellite component	3	
IMT	3	
Inductive applications	2	
In-ear monitor systems	3	
Inland waterway communications	2(3)	
Inland waterway radar	3	
INMARSAT	3	
INMARSAT C		
Inter-satellite links	2	
ISM	2	
ITS	2	
JTIDS/MIDS	3	
Land military systems	2	
LAES	3	Used in ECC/REC/(11)10
Land mobile	1	
Land radionavigation	3	
LEST	3	
Loran C	3	
LP-AMI	3	
LPR	3	Used in ECC/DEC/(11)02
LT2	3	Used in ECC/REC/(11)09
Maritime	1	
Maritime communications	2	
Maritime military systems	2	
Maritime navigation	2	
Maritime radar	3	
Material Sensing	3	
MCA	3	
MCV	3	
Medical implants	3	
Medical telemetry	3	
Meteor scatter communications	2	
Meteorological aids (military)	2	
Meteorology	1	
Meter reading	3	
MFCN	2	
Microwave ovens	3	
MLS	3	
Model control	2	

List of searchable applications:	Layer	Comment: (in case of addition of new term, term deleted, indicating reason for change of term etc.)
MSI	3	
MSS Earth stations	2	
MWS	3	
Narrow band analogue voice devices	3	
NAVTEX	3	
NMT	3	
Non-specific SRDs	2	
Oceanographic buoys	2	
On-board communications	3	
On-site paging	3	
Other	1	
Paging	2	
PAMR	3	
Passive sensors (satellite)	3	
Personal hearing aids	3	
PLB	3	
PMR	3	
PMR 446	3	
PMR/PAMR	2	
PMSE	2	
POCSAG	3	
Point-to-Multipoint	2	
Point-to-Point	2	
PPDR	2	
Primary radar	3	
Private fixed networks	3	
Public fixed networks	3	
Public hearing aids	3	
Radio astronomy	1	
Radio LANs	3	
Radio microphones	3	
Radio microphones and ALD	2	
Radiodetermination applications	2	
Radiolocation (civil)	2	
Radiolocation (military)	2	
Railway applications	2	
RFID	2	
RTE	3	
RTTT	2	
SAP/SAB airborne video links	3	
SAP/SAB and ENG/OB	3	
SAP/SAB engineering links	3	

List of searchable applications:	Layer	Comment: (in case of addition of new term, term deleted, indicating reason for change of term etc.)
SAP/SAB P to P audio links	3	
SAP/SAB P to P video links	3	
SAP/SAB portable audio links	3	
SAP/SAB portable video links	3	
SAP/SAB remote control	3	
SAP/SAB telecommand	3	
SAP/SAB vehicular audio links	3	
SAP/SAB vehicular video links	3	
SAR (communications)	3	
SAR (navigation)	3	
Satellite communications (military)	3	
Satellite navigation systems	2	
Satellite radio	3	
Satellite systems (civil)	1	
Satellite systems (military)	2	
Satellite TV	3	
Scanning telemetry	3	
Short Range Devices	1	
SIT/SUT	3	
SNG	3	
Social alarms	3	
Sondes	2	
Sonobuoy	3	
Space operations	2	
Space research	2	
S-PCS	3	
Spectral line observations	2	
SRR	3	
SSR	3	
Standard frequency and time signal	2	
Standard frequency and time signal-satellite	2	
Subscriber access excluding MWS	3	
Synthetic aperture radar	3	
TACAN-DME	3	
Tactical mobile	3	
Tactical radar	3	
Tactical radio relay	3	
Talkback	3	
Talkback pocket unit	3	
T-DAB	3	

List of searchable applications:	Layer	Comment: (in case of addition of new term, term deleted, indicating reason for change of term etc.)
Telecommand (military)	2	
Telemetry (civil)	2	
Telemetry (military)	2	
Telemetry/Telecommand (civil)	2	
Telemetry/Telecommand (military)	2	
TETRA	3	
TETRAPOL	3	
TLPR	3	
Tracking systems	2	
Tracking, tracing and data acquisition	2	
TRA-ECS	1	
TV analogue (terrestrial)	3	
ULP-AID	3	
ULP-AMI	3	
ULP-MMI	3	
Unplanned, uncoordinated fixed links	3	
UWB applications	2	
Vehicle and infrastructure radar	3	
VLBI observations	2	
VOR	3	
VSAT	3	
Weather radar	2	
Weather satellites	2(3)	
Wide area paging	3	
Wideband data transmission systems	2	
Wind profilers	2	
Wireless audio applications	2	

ABBREVIATIONS

Abbreviations	
ADS	Automatic Dependant Surveillance (Aeronautical)
AES	Aircraft Earth Station
AGA	Air-Ground-Air
AIS	Universal Shipborne Automatic Identification System
AM	Amplitude Modulation
ALD	Assistive Listening Devices
ASDE	Airport Surface Detection Equipment
AVI	Automatic Vehicle Identification
BBDR	Broad Band Disaster Relief
BFWA	Broadband Fixed Wireless Access
BWA	Broadband Wireless Access
CB	Citizen's Band
CGC	Complementary Ground Component
CT	Cordless Telephone
DECT	Digital Enhanced Cordless Telecommunications
D-GPS	Differential Global Positioning System
DME	Distance Measuring Equipment
DRM	Digital Radio Mondiale
DSC	Digital Selective Calling
DVB-T	Digital Video Broadcasting -Terrestrial
ELT	Emergency locator transmitter
ENG/OB	Electronic News Gathering / Outside Broadcasting
EPIRBs	Emergency Position Indicating Radio Beacons
ESV	Earth Stations on-board Vessels
FM	Frequency Modulation
FSS	Fixed-Satellite Service
GALILEO	European Global Navigation Satellite System
GBSAR	Ground Based Synthetic Aperture Radar
GLONASS	Globalnaya Navigatsionnaya Sputnikovaya Sistema
GMDSS	Global Maritime Distress and Safety System
GNSS	Global Navigation Satellite System
GNSS Pseudolites	Global Navigation Satellite System Pseudolites
GPS	Global Positioning System

Abbreviations	
GPR	Ground Probing Radar
GSM	Global System for Mobile Communications
GSM-R	Global System for Mobile Communications on Railways
HAPS	High Altitude Platform Station
HEST	High e.i.r.p. Satellite Terminal
IFF	Identification Friend or Foe
ILS	Instrument Landing System
IMT-2000	International Mobile Telecommunications-2000
IMT-Advanced	Systems beyond IMT-2000
IMT	International Mobile Telecommunications (includes IMT-2000 and IMT-Advanced)
ISM	Industrial, Scientific and Medical Applications
ITS	Intelligent Transport Systems
JTIDS	Joint Tactical Information Distribution System
LAES	Location Application for Emergency Services
LANs	Local Area Networks
LEST	Low e.i.r.p. Satellite Terminal
LP-AMI	Low Power Medical Implants
LPD	Low Power Device
LPR	Level Probing Radar
LT2	Location Tracking Type 2
MCA	Mobile Communications on Board Aircraft
MCV	Mobile Communication Services on Board Vessels
MFCN	Mobile/Fixed Communications Networks
MIDS	Multifunctional Information Distribution System
MLS	Microwave Landing System
MSI	Maritime Safety Information
MSS	Mobile-Satellite Service
MWS	Multimedia Wireless System
NAVTEX	Narrow-band direct-printing telegraphy system for transmission of navigational and meteorological warnings and urgent information to ships
NMT	Nordic Mobile Telephone
PAMR	Public Access Mobile Radio
PLB	Personal Locator Beacon
PMR	Private (Professional) Mobile Radio
PMSE	Programme Making and Special Events
POCSAG	Post Office Code Standards Advisory Group

Abbreviations	
PPDR	Public Protection & Disaster Relief
RFID	Radio Frequency Identification
RTE	Radar Target Enhancer
RTTT	Road Transport and Traffic Telematics
SAB	Service Ancillary to Broadcasting
SAP	Service Ancillary to Programme making
SAR	Search and Rescue
SIT/SUT	Satellite Interactive Terminal / Satellite User Terminal
SNG	Satellite News Gathering
S-PCS	Satellite - Personal Communications System
SRDs	Short Range Devices
SRR	Short Range Radars
SSR	Secondary Surveillance Radar
TACAN	Tactical Air Navigation
T-DAB	Terrestrial Digital Audio Broadcasting
TETRA	Terrestrial Trunked Radio
TETRAPOL	Digital PMR technology
TLPR	Tank Level Probing Radar
TRA-ECS	Terrestrial radio applications capable of providing electronic communications services
TV	Television
ULP-AID	Ultra Low Power Animal Implant Devices
ULP-AMI	Ultra Low Power Active Medical Implants
ULP-MMI	Ultra Low Power Medical Membrane Implants
VLBI	Very Long Baseline Interferometry
VOR	VHF Omnidirectional Radio Range
VSAT	Very Small Aperture Terminal
UWB	Ultra Wide Band
WPR	Wall Probing Radar

ANNEX 3: SEARCHABLE RADIO INTERFACE SPECIFICATION

Explanatory Note

The list of parameters for radio interfaces in EFIS is based on the template and the guide developed by TCAM RIG II and adopted by TCAM.

The use of these parameters for entering radio interface information into EFIS allows an efficient and meaningful comparison of interfaces within Europe.

The parameters are divided into normative and an informative parts.

The *normative* part consists of the following parameters:

- Frequency band
- Country
- Application (ref Annex 2 of this Decision)
- Radiocommunication service (Ref Annex 1 of this Decision)
- Channelling
- Modulation/occupied bandwidth
- Transmit power limit
- Channel access and occupation rules
- Direction/separation
- Authorisation regime
- Additional Article 3.3 requirements
- Frequency planning assumptions

The *informative* part consists of the following:

- Planned changes
- Reference
- Remarks
- Notification

ANNEX 4: STANDARD FOR RIGHT OF USE INFORMATION

Explanatory Note

At its 15th meeting (20 April 2006), the EFIS Maintenance Group concluded that providing information on the right of use was important for frequency bands of high economic interest where market mechanisms would apply, and that it was important to define a standard for the information required.

The EFIS MG decided to define the standard for right of use information in EFIS as follows:

- Lower frequency (numeric, EFIS format)
- Upper frequency (numeric, EFIS format)

- License holder name and contact details (free text format)

- Expiry date / duration of the license

- Information on location
 - National (tick box) or
 - Regional or local (free text field, link to national details) or
 - One transmitter (free text field, link to national details)

- Spectrum trading Yes/No (tick box)

ANNEX 5: EFIS HARMONISED INTERFACE

The EFIS Harmonised Interface can be used for uploading or downloading data related to spectrum allocations and spectrum applications only. No other data is included from the start. However, if EFIS is developed further other types of data (e.g. radio interface parameters) might be added at a later stage.

The following Harmonised Interface shall be used:

1. The interface shall be an XML file;
2. The XML file has a defined structure, called the EFIS XML Format, which is defined by the Document Type Definition (DTD) given below;
3. The terms used for allocations and applications shall be taken from the List of Radio Services in the ITU RR (see Annex 1) and the List of Searchable Applications (see Annex 2);
4. All frequencies shall be written in Hertz, i.e. not in kHz, MHz or GHz.

DTD defining the EFIS XML Format:

```
<?xml encoding="UTF-8"?>
<!-- This simple DTD defines the import/export interface for use with the EFIS system -->
<!-- Frequency values are to be specified in Hertz (1 - 999999999999 Hz) -->
<!ELEMENT frequencyInformation (frequencyTable*)>
<!ELEMENT frequencyTable (footnote | allocation | application | document | radiointerface |
Rightofuseinfo)*>
  <!ELEMENT footnote EMPTY>
  <!ELEMENT footnoteref EMPTY
  <!ELEMENT allocation (footnoteref)*>
  <!ELEMENT application EMPTY>
  <!ELEMENT document EMPTY>
  <!ELEMENT radiointerface EMPTY>
  <!ELEMENT Rightofuseinfo EMPTY>
  >

<!ATTLIST frequencyTable
  name ID #REQUIRED
  >

<!ATTLIST footnote
  number CDATA #REQUIRED
  description CDATA #REQUIRED
  >

<!ATTLIST allocation
  lowerFrequency CDATA #REQUIRED
  higherFrequency CDATA #REQUIRED
  term CDATA #REQUIRED
  status (primary | secondary) #REQUIRED
  shortComments CDATA #IMPLIED
  >
<!ATTLIST footnoteref
  number CDATA #REQUIRED
```

```

>
<!ATTLIST application
  lowerFrequency CDATA #REQUIRED
  higherFrequency CDATA #REQUIRED
  term CDATA #REQUIRED
  shortComments CDATA #IMPLIED>

<!ATTLIST document
  title CDATA #REQUIRED
  lowerFrequency CDATA #IMPLIED
  higherFrequency CDATA #IMPLIED
  term CDATA #IMPLIED
  comment CDATA #IMPLIED
  type (activity | NTFA | other | R&amp;TTE | NATIONAL | LICENSING_INFO) #REQUIRED
  expiry CDATA #REQUIRED
  hyperlink CDATA #REQUIRED
>

<!ATTLIST radiointerface
  radiointerfaceid CDATA #IMPLIED
  lower_frequency CDATA #REQUIRED
  higher_frequency CDATA #REQUIRED
  Allocation_Term CDATA #IMPLIED
  Application_Term CDATA #IMPLIED
  Channeling CDATA #IMPLIED
  TransmitPowerLimit CDATA #IMPLIED
  ChannelOccupationRules CDATA #IMPLIED
  DuplexDirection CDATA #IMPLIED
  LicensingRegime CDATA #IMPLIED
  Art33Requirements CDATA #IMPLIED
  FrequencyPlanning CDATA #IMPLIED
  Reference CDATA #IMPLIED
  Remarks CDATA #IMPLIED
  NotificationNo CDATA #IMPLIED
  OccupiedBandwidth CDATA #IMPLIED
  PlannedChanges CDATA #IMPLIED
  Channeling_notes CDATA #IMPLIED
  TransmitPowerLimit_notes CDATA #IMPLIED
  ChannelOccupationRules_notes CDATA #IMPLIED
  DuplexDirection_notes CDATA #IMPLIED
  LicensingRegime_notes CDATA #IMPLIED
  Art33Requirements_notes CDATA #IMPLIED
  FrequencyPlanning_notes CDATA #IMPLIED
  Reference_notes CDATA #IMPLIED
  Remarks_notes CDATA #IMPLIED
  NotificationNo_notes CDATA #IMPLIED
  OccupiedBandwidth_notes CDATA #IMPLIED
  PlannedChanges_notes CDATA #IMPLIED
  FrequencyBand_notes CDATA #IMPLIED
  Allocation_notes CDATA #IMPLIED
  Application_notes CDATA #IMPLIED >

```

```
<!ATTLIST Rightofuseinfo
  Rightofuseinfo CDATA #IMPLIED
  LowerFrequency CDATA #REQUIRED
  HigherFrequency CDATA #REQUIRED
  Application CDATA #IMPLIED
  Company CDATA #IMPLIED
  Surname CDATA #IMPLIED
  Firstname CDATA #IMPLIED
  town CDATA #IMPLIED
  Address CDATA #IMPLIED
  postalcode CDATA #IMPLIED
  Faxno CDATA #IMPLIED
  Telephoneno CDATA #IMPLIED
  Email CDATA #IMPLIED
  Website CDATA #IMPLIED
  Country CDATA #IMPLIED
  Expiry CDATA #IMPLIED
  Tradable CDATA #IMPLIED
  Nationalcoverage CDATA #IMPLIED
  Localcoverage CDATA #IMPLIED
  Onetransmitter CDATA #IMPLIED
  LONGITUDE CDATA #IMPLIED
  LATITUDE CDATA #IMPLIED
```

>