

# ECO Frequency Information System (EFIS) Overview

*RSC#48 – 2-3 July 2014*

## What is EFIS – A first overview

- Frequency information system that **should show the actual spectrum use in CEPT countries – Mandated by EC - EC Decision for EFIS & Spectrum Inventory (Radio Spectrum Policy Program art. 9) – EFIS as source of information**
- Administered by ECO
- National information uploaded by the CEPT administrations
- European Common Allocation Table and ITU Region 1 Allocations uploaded by ECO
- It links documentation to the agreed application terminology and frequency ranges – so, it's easy to find applicable documentation for a frequency range/application – this saves time!
- It also provides information on equipment regulations (national radio interfaces, equipment subclass information) under the R&TTE Directive / RED Directive

# Overview & general info

## Tables/accounts available in EFIS:

- 45 countries, including all EU Member States (Administrations upload their information)
- ITU-R Region 1 Table
- European Common Allocation (ECA) Table
- TCAM table (R&TTE equipment subclasses 1 and 2 information, searchable by frequencies and/or applications)

## Data types in EFIS:

- Allocations - this is basically all the National Tables of Frequency Allocations, ECA and ITU Region 1
- Applications – ECA and national frequency utilisation (applications) planning – more details than allocations
- Radio interfaces (national radio interfaces and radio interface templates for ECC Decisions)
- Documents (regulatory - Decisions /Recommendations) and non-regulatory (Reports, e.g. CEPT, ECC, questionnaire summaries etc.)
- Right of use info

All data types are searchable and types 1 – 3 are comparable  
for national as well as ECA and ITU tables

## What has been done recently?

Most of the development work being applied to EFIS since October 2013 (shift of EFIS project manager as well as shift of software experts) was related to the following special items:

- **The EFIS web-design and graphical user interface has been completely renovated and modernised;**
- **Complete inclusion of ERC Recommendation 70-03** on SRDs in EFIS including national implementation information. The result was already presented satisfactorily in SRD/MG. Therefore, from the spectrum inventory perspective, EFIS now contains sufficient information about the vast majority of applications under general authorisations;
- The content of **ECO Report 03** containing the licence information in the ECS frequency bands is now also fully in EFIS available and for 44 CEPT countries;
- **ERC Report 25 generation** out of the EFIS database has been improved; The software provides now many **'check' functions** with regard to the ECA entries

## Graphical Visualisation

- **Graphical Visualisation** of National Table of Frequency Allocation (NTFA) and applications information (search and compare) is included in EFIS.
- **The tool can also be separately used outside the EFIS database** on other webpages (without the EFIS design) and with the allocation and application terminology translated in **national language**.
- Alternatively, administrations can also **generate pictures** or use **a link to the tool** of parts of their national frequency table **or tables and export them**.
- The 'external usage' features are especially considered as **helpful for smaller administrations which otherwise could not have such a tool**.

## Recent features/issues

- **Visualisation of allocations and applications (2 options: table search or graphical search)**
- **Questionnaires overview**
- **ECS Bands – Rights of use (ECO Report 03 information)**
- **ERC/REC 70-03 information on SRDs**

## Sources of information/relevant documents for detailed guidance/information on EFIS

- [www.efis.dk](http://www.efis.dk) and [EFIS website page](#) and [www.ecodocdb.dk](http://www.ecodocdb.dk) (all documents are available here)
- [ECC Report 180](#) on guidance on the interpretation of requirements in ECC/DEC/(01)03
- [ECC/DEC/\(01\)03](#) on EFIS (current version February 2013)
  - List of searchable allocations (Annex 1) is updated as required (after a WRC)
  - List of searchable applications (Annex 2) is updated as required (EFIS/MG proposes changes to WGF, if appropriate)



# ECO Frequency Information System



EFIS is the tool to fulfill EC Decision 2007/344/EC on the harmonised availability of information regarding spectrum use in Europe and the ECC Decision ECC/DEC/(01)03 on EFIS.

## Latest News

Wed Apr 23 15:30:49 CEST 2014

### News in English

ECC Newsletters are published 3-4 times a year. They contain articles developed by ECC officials and ECO experts on topics and areas of current interest in the field of electronic communications.

[Read more](#)

Wed Jan 08 14:41:55 CET 2014

### Spectrum Inventory

Notes on non-regulatory information for spectrum inventory purposes and the evolution of spectrum use, available in EFIS.

[Read more](#)

[More news](#)

## Popular

### Documents

Here you may search for all documents for a table or for a specific type of documents. If no selection criteria apart from the table name are entered, all documents related to that table will be sh...

### ECA Table Information

In order to develop European common positions and proposals for use in the framework of international and regional bodies, and to forward plan and harmonise within Europe the efficient use of the r...

### Recommendation 70-03

The electronic Version of ERC Recommendation 70-03 on SRDs is now available in EFIS.

## Quick Search

### Search by

General

### Frequency

from  to  MHz

### Frequency table

- Europe (ECA) -
- ITU (Region 1) -
- Albania
- Andorra
- Austria
- Azerbaijan
- Belarus
- Belgium
- Bosnia and Herzegovina
- Bulgaria

# New EFIS Design

Help Toggle search options

Frequency bands

- 3 - 30 kHz
- 30 - 300 kHz
- 300 kHz - 3 MHz
- 3 - 30 MHz
- 30 MHz - 300 MHz
- 300 MHz - 3 GHz
- 3 - 30 GHz
- 30 - 300 GHz

Frequency table

- Europe (ECA) -
- ITU (Region 1) -
- Albania
- Andorra
- Austria
- Azerbaijan
- Belarus
- Belgium
- Bosnia and Herzegovina
- Bulgaria

Language

- English
- Estonian
- Finish
- French
- German
- Hungarian
- Latvian
- Portuguese
- Romanian
- Russian

Search type

- Allocation
- Application
- Compare (Select multiple frequency tables)

Allocation orientation

- Horizontal
- Vertical

Search

Create Image/Export table

Highlight term

Input field for highlighting a term

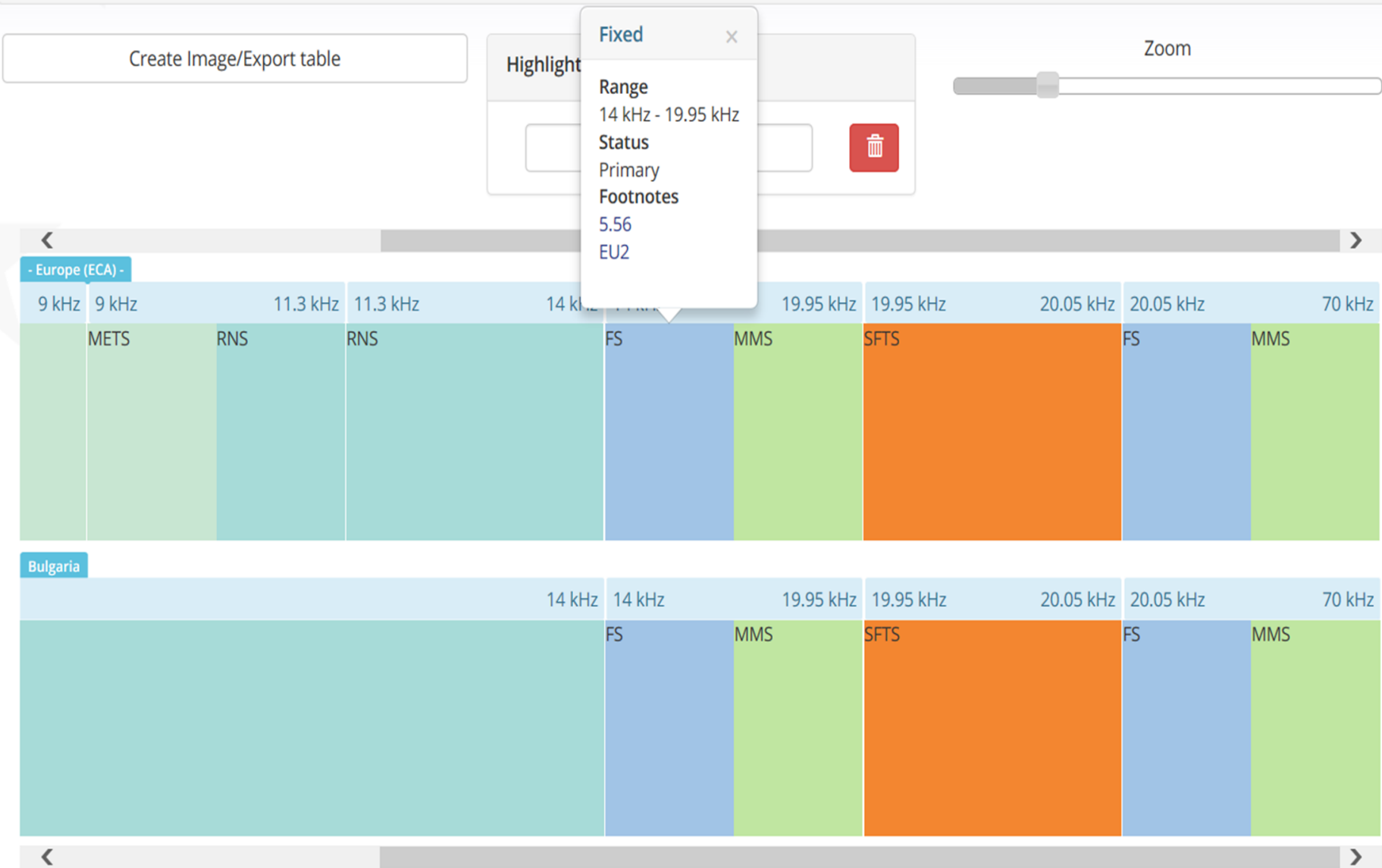


Zoom

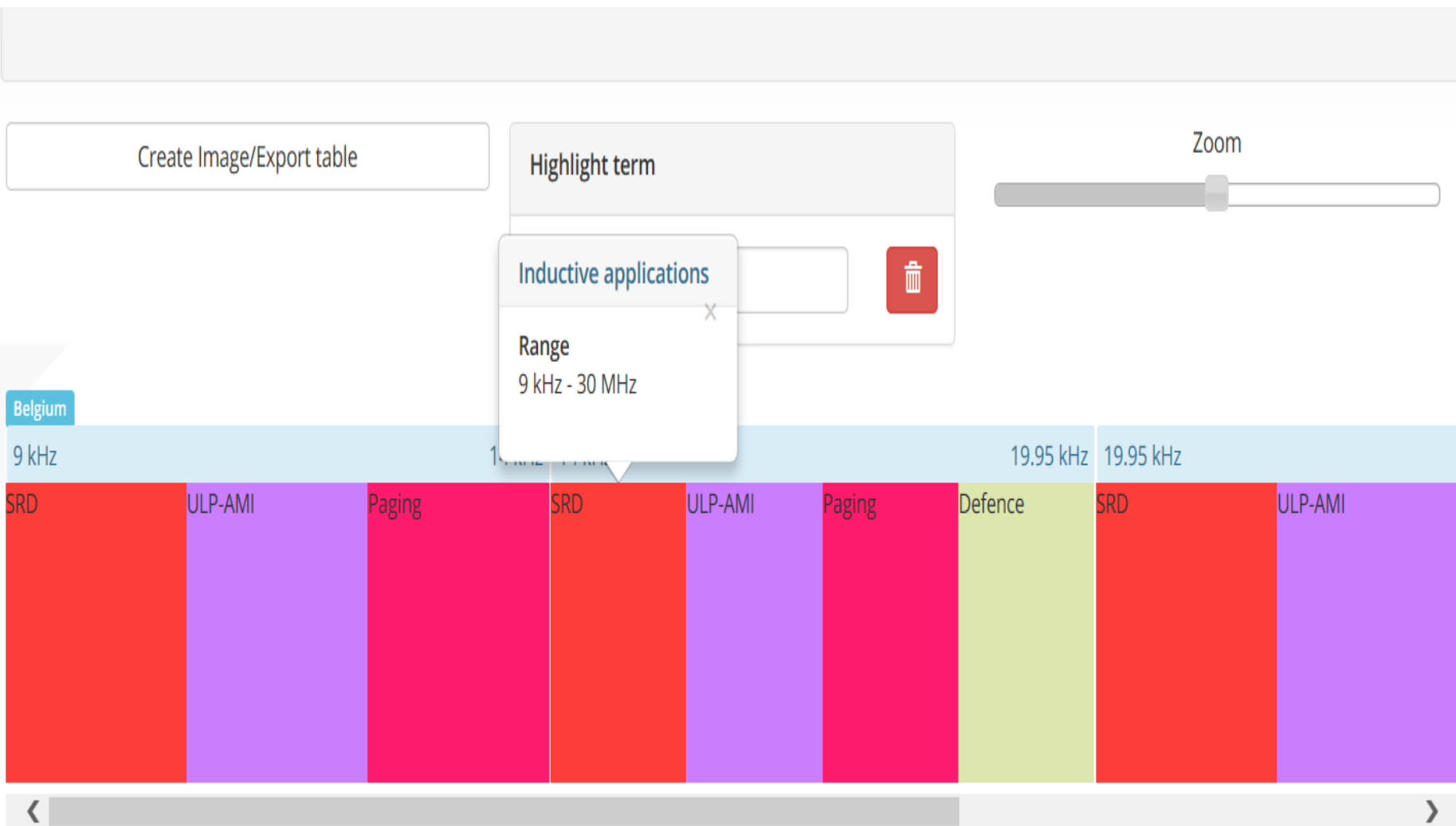


- Europe (ECA) -								
0 Hz	8300 Hz	8300 Hz	9 kHz	9 kHz		11.3 kHz	11.3 kHz	14 kHz
Not alloc.		METS		METS	RNS		RNS	

Also a graphical visualisation of allocations and applications



You can compare graphically the allocations or applications of two or more countries



Use this HTML for embedding the graph

```
<iframe src="http://www.efis.dk/include2/graphTool.jsp?lowRange"
```

You can zoom, scroll, export picture/ table information, select horizontal/vertical arrang. of entries, export a link/use the tool externally

# ECO Report 03 Information

# RoU for 45 countries in all ECS frequency ranges

Help

ECO Report 03 on them licensing of mobile bands in Europe presents the most recent information available to the European Communications Office (ECO) on the licensing of the following frequency bands in CEPT countries:

- 790-862 MHz;
- 880-915 MHz / 925-960 MHz;
- 1710-1785 MHz / 1805-1880 MHz;
- 1900-1980 MHz / 2010-2025 MHz / 2110-2170 MHz;
- 2500-2690 MHz;
- 3400-3600 MHz / 3600-3800 MHz

The information in this ECO Report is updated once a year on the basis of the information collected from CEPT administrations in response to the regular ECO circular letter.

The information in EFIS can include updated information on these rights of use as uploaded by the regulatory authorities after the date of the latest edition of ECO Report 03.

The information can also be exported. For other licence information in other frequency bands, you can search under rights-of-use in EFIS.

Frequency band

790 MHz - 862 MHz



Frequency Tables

Select one or more

- Europe (ECA) -
- ITU (Region 1) -
- Albania
- Andorra
- Austria
- Azerbaijan
- Belarus
- Belgium
- Bosnia and Herzegovina



## Right of use information in EFIS - new countries (mostly ECS bands)

Frequency table	13 March 2013	27 June 2013	1 October 2013	4 December 2013	25 June 2014
Albania	0	0	0	0	10
Andorra	0	0	0	0	6
Azerbaijan	0	0	0	0	7
Belarus	0	0	0	0	12
Georgia	0	0	0	0	22
Liechtenstein	0	0	0	0	17
Macedonia (FYROM)	0	0	0	0	7
Moldova	0	0	0	0	13
Montenegro	0	0	0	0	26
Russian Federation	0	0	0	0	15
Serbia	0	0	0	0	12
Switzerland	0	0	0	0	1826
Ukraine	0	0	0	0	11

## Merge of the processes: 1) EFIS and 2) ECO Report 03

- **RoU for ECS bands - all countries included in ECO Report 03 are now also in EFIS**
- **Some data in EFIS is more up-to-date**
- **Differences are getting very small since EFIS entries use**
  - **the new duplex feature in EFIS**
  - **the ‘technology in use’ field**
  - **Comment field**
  - **Possibility to ‘flag out’ an extraordinary RoU not to be considered in ECO Report 03**
- **Proposal from the Office is to use in 2015 the EFIS for updating the ECO Report 03 information and to create the ECO Report 03 out of the EFIS database**
- **Experience from ECA, ERC/REC 70-03 and FS projects on how to create the ECO Report 03 out of the database (mostly a ‘recurrent’ action now**
- **Meanwhile, administrations should update information in EFIS to remove the ‘final’ deviations from ECO Report 03 in EFIS (ECO Report 03 is the default way; the Office can provide support, if needed)**

# CEPT Questionnaires You can get the questionnaire summaries, also linked to applications and frequency ranges

Help

CEPT Report 46 set out that it is possible to collect on a case-by-case basis on "bands of interest" identified by either CEPT, the Commission or Radio Spectrum Policy Group (RSPG) comprehensive data for the frequency ranges and applications outside of the ECS bands through electronic CEPT questionnaires.

The format will be set each time a questionnaire is designed for a dedicated frequency band(s) and/or application(s). Information collected via electronic questionnaires may take into account that both regulatory and non-regulatory information. Non-regulatory information can be for example number of users, demand trends, or other specific non-regulatory information in relation to the actual use of the spectrum in a given frequency band or for a specific application. The electronic questionnaire concept is also proposed since it is considered difficult to transfer the Rights-of-Use (RoU) concept to some applications and frequency bands such as satellite services, governmental use, licence-exempt use or to some applications in some frequency bands that only need an authorisation, but do not require an RoU.

The use of questionnaires in CEPT as well as other organisations for spectrum inventory purposes is well proven.

This electronic questionnaire concept is well-suited to ensure that the data obtained is available for further analysis. This approach is in line with the request stipulated in the RSPG opinion on "Review of Spectrum Use" for a more developed version of EFIS that could become a key source depending on its future capability to illustrate actual availability and resources of Member States to provide such information.

Title	Date	Application	Frequency band	XML	Summary
<a href="#">WG FM questionnaire on PMSE (Version 4)</a>	27-11-2012	PMSE	29.7 MHz - 47 MHz	-	<a href="#">Summary</a>
		PMSE	53 MHz - 60 MHz		
		PMSE	174 MHz - 216 MHz		
		PMSE	470 MHz - 789 MHz		
		PMSE	823 MHz - 832 MHz		
		PMSE	863 MHz - 865 MHz		
		PMSE	1785 MHz - 1800 MHz		
		PMSE	2025 MHz - 2110 MHz		
		PMSE	2200 MHz - 2690 MHz		
		PMSE	2700 MHz - 3600 MHz		
		PMSE	4400 MHz - 4990 MHz		
		PMSE	5250 MHz - 5850 MHz		
		PMSE	10000 MHz - 10.68 GHz		

## Improved Information via Questionnaires in EFIS

- **First questionnaire summaries are uploaded in EFIS following collection of information via the electronic questionnaire tool**
- **In line with findings of CEPT Report 46 in response to the EFIS mandate**
- **Improved information in EFIS application-by-application and associated frequency bands**
- **No need to collect individual RoU information from administrations (e.g. PMR/PAMR in 400 MHz)**
- **Surveys also include information from administrations and stakeholders as appropriate (e.g. FSS in C-band, MSS, SRDs, UHF maritime communications)**

# Short Range Device Regulations

## Implementation of Short Range Devices spectrum regulations. [Show recommendation](#)

The CEPT Recommendation [ERC/REC 70-03](#) provides valuable information concerning:

1. Implementation status within the EU/EEA-EFTA countries (Appendix 1);
2. Implementation status within the CEPT countries not being EU/EEA-EFTA (Appendix 1);
3. National restrictions within the CEPT countries (Appendix 3).

The SRD categories in use in Europe are:

### **ANNEX 1**

Non-specific Short Range Devices

### **ANNEX 2**

Tracking, Tracing and Data Acquisition

### **ANNEX 3**

Wideband Data Transmission systems

### **ANNEX 4**

Railway applications

### **ANNEX 5**

Transport and Traffic Telematics (TTT)

### **ANNEX 6**

Radiodetermination applications

### **ANNEX 7**

Alarms

### **ANNEX 8**

Model control

### **ANNEX 9**

# ANNEX 1: NON-SPECIFIC SHORT RANGE DEVICES

## Scope of annex

This annex covers frequency bands and regulatory as well as informative parameters recommended primarily for Telemetry, Telecommand, Alarms and Data in general and other similar applications. Video applications should be preferably used above 2.4 GHz.

This annex also includes references to the generic UWB regulation which was primarily developed to allow communication applications using UWB technology in bands below 10.6 GHz; but enables also other types of radio applications.

Export search results to CSV

View implementation matrix

Frequency Band	Power / Magnetic Field	Spectrum access and mitigation requirements	Channel Spacing	ECC/ERC Decision	Notes
a 6765kHz - 6795kHz	42 dBµA/m at 10m	No requirement	No spacing		The frequency band is also identified in Annex 9
b 13553kHz - 13567kHz	42 dBµA/m at 10m	No requirement	No spacing		The frequency band is also identified in Annex 9
c 26957kHz - 27283kHz	42 dBµA/m at 10m; 10mW e.r.p	No requirement	No spacing		The frequency band is also identified in Annex 9
c1 26995kHz - 26995kHz	100 mW e.r.p	≤ 0.1 % duty cycle (note 1)	≤ 10 kHz		The frequency band is also identified in Annex 8
c1 27045kHz - 27045kHz	100 mW e.r.p	≤ 0.1 % duty cycle (note 1)	≤ 10 kHz		The frequency band is also identified in Annex 8
c1 27095kHz - 27095kHz	100 mW e.r.p	≤ 0.1 % duty cycle (note 1)	≤ 10 kHz		The frequency band is also identified in Annex 8

ANNEX 1: NON-SPECIFIC SHORT RANGE DEVICES

National restrictions information below the table

You can find the detailed implementation information incl. National restrictions

Export search results to CSV

Implementation status

\*: No info (default value) N: Not implemented U: Under study P: Planned L: Limited implementation Y: Implemented

Frequency Band		ALB	AND	AUT	AZE	BEL	BIH	BLR	BUL	CYP	CZE	D	DNK	E	EST	F	FIN	G	GEO	GRC	HR
a	6765kHz - 6795kHz	Y	*	Y	*	Y	Y	*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
b	13553kHz - 13567kHz	Y	*	Y	*	Y	Y	*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
c	26957kHz - 27283kHz	Y	*	Y	*	*	Y	*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
c1	26995kHz - 26995kHz	Y	*	N	*	N	N	*	N	N	N	N	N	N	N	N	Y	P	*	N	N
c1	27045kHz - 27045kHz	Y	*	N	*	N	N	*	N	N	N	N	N	N	N	N	Y	P	*	N	N
c1	27095kHz - 27095kHz	Y	*	N	*	N	N	*	N	N	N	N	N	N	N	N	Y	P	*	N	N
c1	27145kHz - 27145kHz	Y	*	N	*	N	N	*	N	N	N	N	N	N	N	N	Y	P	*	N	N
c1	27195kHz - 27195kHz	Y	*	N	*	N	N	*	N	N	N	N	N	N	N	N	Y	P	*	N	N
d	40.66MHz - 40.7MHz	Y	*	Y	*	Y	Y	*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	*	Y	Y
e	138.2MHz - 138.45MHz	Y	*	Y	*	N	Y	*	Y	Y	Y	N	Y	N	Y	N	Y	Y	*	Y	N
e1	169.4MHz - 169.475MHz	Y	*	L	*	L	Y	*	N	L	L	L	P	L	Y	L	Y	P	*	L	L
e2	169.4MHz - 169.4875MHz	Y	*	L	*	L	Y	*	N	L	L	L	P	L	Y	L	Y	P	*	L	P

# You can get via SRD in EFIS all related information, here for example the related ECC Decisions)

## ECC/ERC Decisions

ECC/DEC/(04)01	Short Range Devices for detection of Avalanche Victims
ECC/DEC/(04)03	The frequency band 77-81 GHz to be designated for the use of Automotive Short Range Radars
ECC/DEC/(04)10	The frequency bands to be designated for the temporary introduction of Automotive Short Range Radars
ECC/DEC/(05)02	The use of the frequency band 169.4-169.8125 MHz
ECC/DEC/(06)04	The harmonised conditions for devices using Ultra-wideband (UWB) technology in bands below 10.6 GHz
ECC/DEC/(06)08	The conditions for use of the radio spectrum by Ground- and Wall- probing radar (GPR/WPR) imaging systems
ECC/DEC/(07)01	Building Material Analysis (BMA) devices using UWB technology
ECC/DEC/(09)03	Harmonised conditions for Mobile/Fixed Communications Networks (MFCN) operating in the band 790-862 MHz
ECC/DEC/(11)02	Industrial Level Probing Radars (LPR) operating in frequency bands 6-8.5 GHz, 24.05-26.5 GHz, 57-64 GHz and 75-85 GHz
ECC/DEC/(12)03	The harmonised conditions for UWB applications onboard aircraft
ERC/DEC(01)08	Short Range Devices for Movement Detection and Alert in 2400-2483.5 MHz
ERC/DEC(01)11	Short Range Devices for Flying Model Control in 34.995-35.225 MHz
ERC/DEC(01)12	Short Range Devices for Model Control in 40.665, 40.675, 40.685 and 40.695 MHz

## Fixed Service Information (project/implementation in EFIS in progress)

- In principle, same concept as for ERC/REC 70-03 in EFIS (most of the work can be re-used)
- Concept agreed with WGSE / SE19 based on proposal in WGFM / EFIS/MG
- Result will show all the FS channel arrangements (20+ ECC/ERC Recommendations) and related detailed national implementation information, also with graphical visualisation of the channel arrangements
- Together with ECC Report 173 (quantitative use of FS in the FS bands; based on a questionnaire ): sufficient FS information in EFIS and hence, no need for individual RoU information (which can be 100,000+ authorisations in case of bigger CEPT countries)
- FS project will also foster the efficient use of spectrum (e.g. a clear indication of FS channel arrangement duplex gaps in some bands can give information on FSS usage possibilities)

## EFIS contacts in ECO



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