

Spectrum Management IT System (STIR)



Made by János Buki

frequency management expert buki.janos@nmhh.hu (+36 1 468-0720)

National Media and Infocommunications Authority Spectrum Management Department H-1133 Budapest, Visegradi street 106.



From the year of 2015, the frequency management in Hungary will be regulated by a new Decree called NFFF.

NFFF – Decree of the President of the National Media and Infocommunications Authority, Hungary on the national frequency allocation and rules of using frequency bands



NATIONAL MEDIA AND INFOCOMMUNICATIONS AUTHORITY-HUNGARY Content of the NFFF

Units	Content (520 pages)
Decree	Dispositional part
Annex 1	International allocation (included a complex table, 50 pages)
Annex 2	National allocation and rules of frequency use (included a very complex table, 154 pages)
Annex 3	Conditions of using frequency bands and frequency management requirements (included more than 100 tables)
Annex 4	International frequency coordination
Annex 5	Harmonized frequency use of radio applications
Annex 6	Requirements for certain radio equipment
Annex 7	Abbreviations
Annex 8	Documents



- a tool to gather, organize, store and make accessible all frequency management information in the necessary form and structure,
- a tool to create, edit, visualize and publish easily and effectively a such large and complex legal document as the NFFF (520 pages),
- a tool making possible to complete different analyses according to different criteria through processing of the frequency management information available in the system.
- a tool which is capable to receive from or send information to other systems such as EFIS.



What has happened?

STIR program has been developed in 2013-14 at the Spectrum Management Department of the National Media and Infocommunications Authority, Hungary

What is the STIR?

Spectrum Management IT System



NFFF + other information

EFIS data DOCUMENTS

Program

EFIS – European Frequency Information System



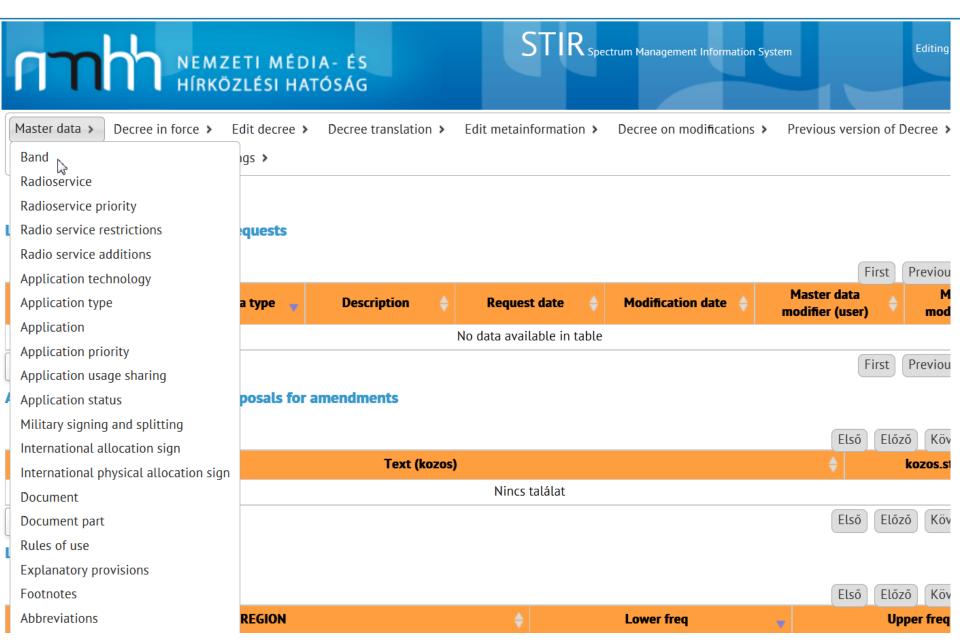
Relating to NFFF:

NFFF can be

- uploaded into the STIR in all details (as relational database and text)
- edited (by experts, workflow)
- accepted on different levels
- displayed (in form as legal document)
- converted into Word or Excel format
- published on the public site (internet)
 (NFFF Decree of the President of NMHH)
- displayed in graphical form



Upload of master data





- List of frequency bands
- List of radio services
- List of international footnotes
- List of applications
- List of documents
- List of rules to using frequency bands
- List of explanatory provisions
- List of abbreviations
- Lists of priorities, statuses, restrictions, additions, sharing, types



Dispositional part:

List of explanatory provisions

Annex 1

- NFF international freq. alloc. table
- List of international footnotes

Annex 2

NFT – conditions of using freq. bands

Annex 7

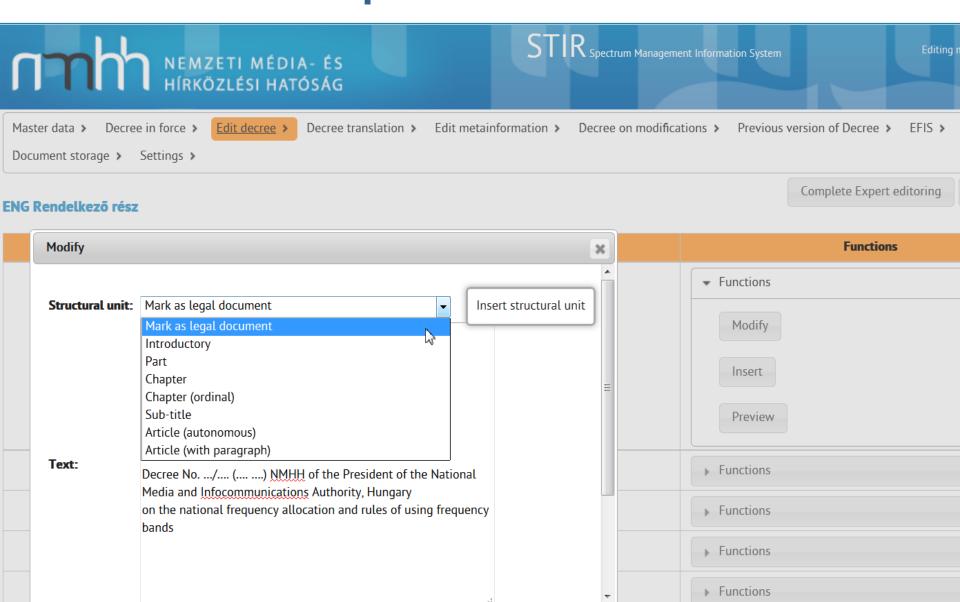
List of abbreviations

Annex 8

List of documents

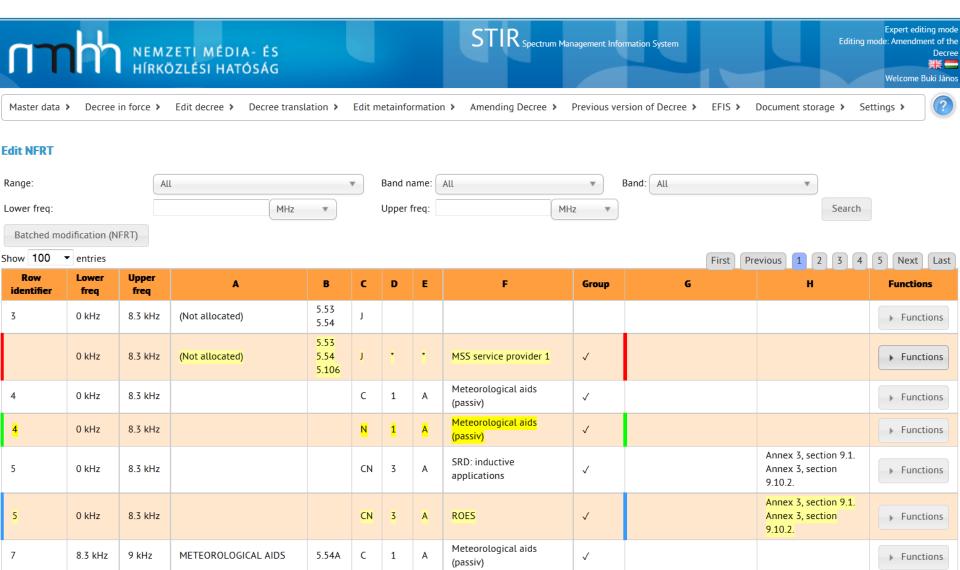


Upload of the Decree text





Workflow in the STIR



1. expert

2. expert

3. expert

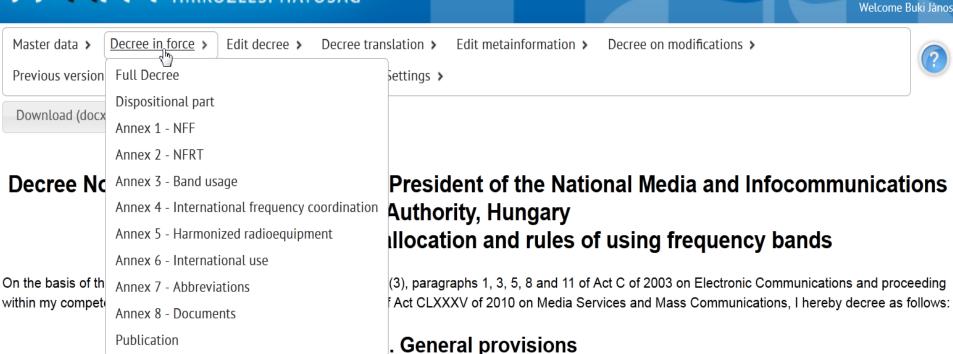


Show the Decree



STIR Spectrum Management Information System

Expert editing mode
Editing mode: Modification of
the Decree

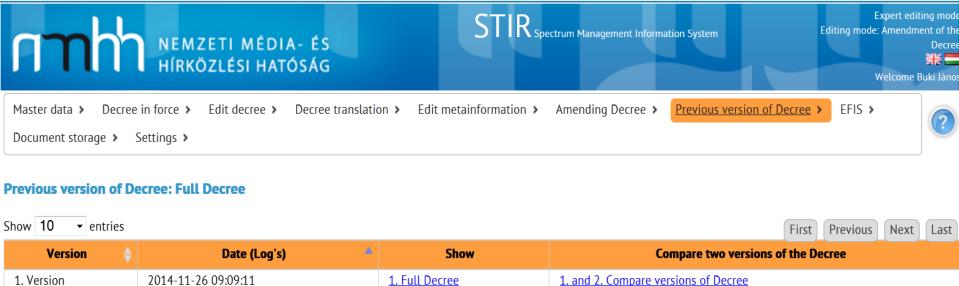


Section 1 (1) The scope of the decree extends to:

- a) the allocation of frequency bands within the radio spectrum below 3 000 GHz
- aa) to radio services, as well as the division thereof for civil, non-civil and common use,
- ab) for preparation, opening and restriction of their use by radio services and radio applications,
- ac) for determination of the rules of using these frequency bands, including frequency management requirements for radio systems, frequency management parameters of radio equipment and conditions of using bands relating to the individual licensing and frequency use,
- ad) for determination of the use of these frequency bands by high-frequency equipment,
- b) natural persons, legal persons and organisations without a legal personality requesting or using a frequency, or manufacturing, importing, marketing or distributing radio equipment or high-frequency equipment for use in Hungary



INFOCOMMUNICATIONS AUTHORITY HUNGARY Previous version of the Decree



Version ←	Date (Log's)	Show	Compare two versions of the Decree
1. Version	2014-11-26 09:09:11	1. Full Decree	1. and 2. Compare versions of Decree
1. Version	2014-11-26 09:09:11	1. Full Decree	1. and 2. Compare versions of Decree
2. Version	2014-11-26 09:09:59	2. Full Decree	2. and 3. Compare versions of Decree
3. Version	2015-02-25 13:44:04	3. Full Decree	3. and 4. Compare versions of Decree

Loading...

Previous First Next Last Excel

Copyright 2015, ENG Verzió 1.6.6, 2015.01.09.



NATIONAL MEDIA AND INFOCOMMUNICATIONS AUTHORITY HUNGARY Amending Decree



Expert editing Editing mode: Amendment

Amending Decree > Decree in force > Edit decree > Decree translation > Edit metainformation > Previous version of Decree > EFIS > Document storage >

Parts of Consolidated Decree: Dispositional part ▼	₩.	
Decree in force	Consolidated Decree	ENG Kész
Decree No/ () NMHH of the President of the National Media and Infocommunications Authority, Hungary on the national frequency allocation and rules of using frequency bands	Decree No/ () NMHH of the President of the National Media and Infocommunications Authority, Hungary on the national frequency allocation and rules of using frequency bands	Next unreviewed item
On the basis of the authorisation given by Section 182, subsection (3), paragraphs 1, 3, 5, 8 and 11 of Act C of 2003 on Electronic Communications and proceeding within my competence as set forth in Section 109, subsection (5) of Act CLXXXV of 2010 on Media Services and Mass Communications, I hereby decree as follows:	On the basis of the authorisation given by Section 182, subsection (3), paragraphs 1, 3, 5, 8 and 11 of Act C of 2003 on Electronic Communications and proceeding within my competence as set forth in Section 109, subsection (5) of Act CLXXXV of 2010 on Media Services and Mass Communications, I hereby decree as follows:	Next unreviewed item
1. General provisions	1. General provisions	Next unreviewed

Amending Decree - Dispositional part

Amending decree	Funkciók
Government Decree No. 295/2007 (XI.9.)Korm. on the amendment of Government Decree No. 346/2004 (XII.22.)Korm. on the establishment of the national allocation of frequency bands and of other certain government decrees related to communications	▶ Funkciók
On the basis of the authorisation given by Section 182, subsection (1), paragraphs a) and b) and Section 182, subsection (2), paragraph h) of Act C of 2003 on Electronic Communications and proceeding as directed in Section 35, subsection (1), paragraph b) of the Constitution, the Government decrees as follows:	▶ Funkciók
Section 1	▶ Funkciók
1.§ (1) The following new subsection (3) shall be added to Section 10 of Government Decree No. 346/2004 (XII.22.)Korm. on the establishment of the national allocation of frequency bands (hereinafter referred to as D) and the numbering of the original subsections (3) and (4) shall be changed to subsections (4) and (5):	▶ Funkciók



NFRT Query

Graphics NFRT

Display of the decree (NFT)



STIR Spectrum Management Information System

Expert editing mode Editing mode: Modification of the Decree

Welcome Buki János

Master data > Decree in force > Edit decree > Decree translation > Edit metainformation > Decree on modifications >

Previous version of Decree > EFIS > Document storage > Settings >

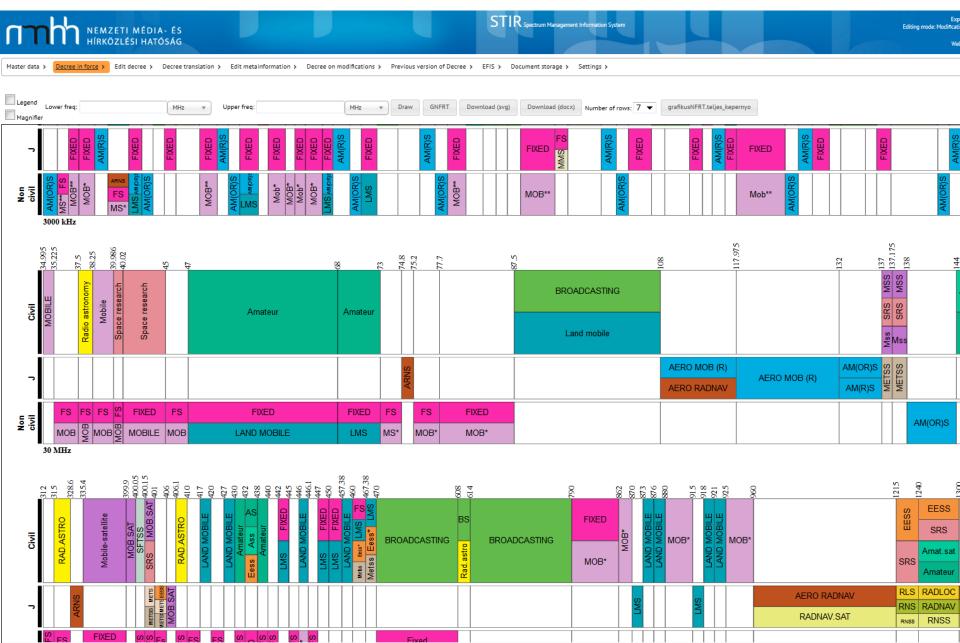
Download (docx)



	А	В	С	D	Ε	F	G	Н
1	National allocation	on				Application	Document	Special rules of use
2	0-8.3 kHz			_			_	
3	(Not allocated)	5.53 5.54	J					
4			С	1	Α	Meteorological aids (passiv)		
5			CN	3	Α	SRD: inductive applications		Annex 3, section 9.1. Annex 3, section 9.10.2.
6	8.3-9 kHz							
7	METEOROLOGICAL AIDS	<u>5.54A</u>	С	1	Α	Meteorological aids (passiv)		
8			CN	3	Α	SRD: inductive applications		Annex 3, section 9.1. Annex 3, section 9.10.2.
9	9-14 kHz		•				<u>-</u>	
10	METEOROLOGICAL AIDS (9-11,3 kHz)	<u>5.54A</u>	С	1	Α	Meteorological aids (passiv)		
11	RADIONAVIGATION		J	1	Α	En-route (ground-air) radionavigation systems		
12				1	Α	Long range en-route (ground-air) hyperbolic radionavigation system (Omega system)	ICAO Annex 10	
13			CN	3	Α	SRD: inductive applications		Annex 3, section 9.1.



Graphical NFT





Relating to database functions:

In the Table of National Frequency Allocation and National Frequency Utilization Table

- data can be searched by different criteria
- results can be converted into Excel form
- results can be displayed in graphic form
- can be made bounded data modification

Expert editing mode



Simple query in NFT



STIR Spectrum Management Information System

Editing mode: Amendmen of the Decree Welcome Buki János

Master data > Decree in force > Edit decree > Decree translation > Edit metainformation > Amending Decree >

Previous version of Decree > EFIS > Document storage > Settings >

NFRT Query



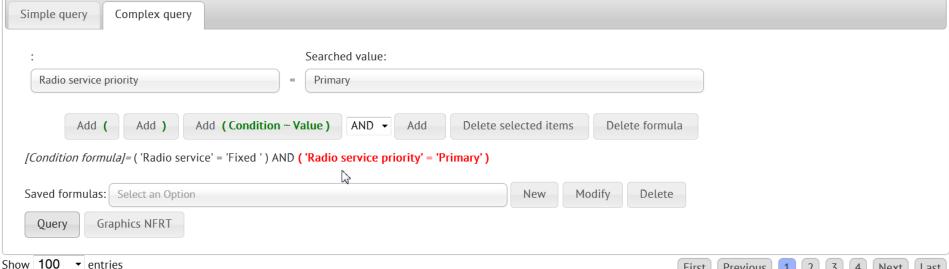
Show 100	now 100 rentries First Previous 1 Next Last								
Lower freq	Upper freq	A	В	c	D	E	F	G	н
130 kHz	148.5 kHz	Amateur (135,7–137,8 kHz)	5.67A 5.67B	С	2	Α	Amateur radio	ECC/REC/(02)01 MSZ EN 301 783-2	Annex 3, section 8.
435 kHz	479 kHz	Amateur (472–479 kHz)	5.82 5.80A 5.80B	С	2	A	Amateur radio	ECC/REC/(02)01 MSZ EN 301 783-2	Annex 3, section 8.
1810 kHz	1850 kHz	AMATEUR	5.100	С	1	Α	Amateur radio	ECC/REC/(02)01 MSZ EN 301 783-2	Annex 3, section 8.
1850	2000	Amateur	5.96	С	2	Α	Amateur radio	ECC/REC/(02)01	Annex 3, section 8.



Complex query in NFT



NFRT Query



First Previous								1 2 3 4 Next Last	
Lower freq	Upper freq	A	В	c	D	E	F	G	н
14 kHz	19.95 kHz	FIXED	5.56	J	1	A	Point-to-point and point- to-multipoint systems		Annex 3, section 2.1.
20.05 kHz	70 kHz	FIXED	5.56	J	1	A	Point-to-point and point- to-multipoint systems		Annex 3, section 2.1.
70 kHz	86 kHz	FIXED (72-84 kHz)	5.56	J	1	A	Point-to-point and point- to-multipoint systems		Annex 3, section 2.1.

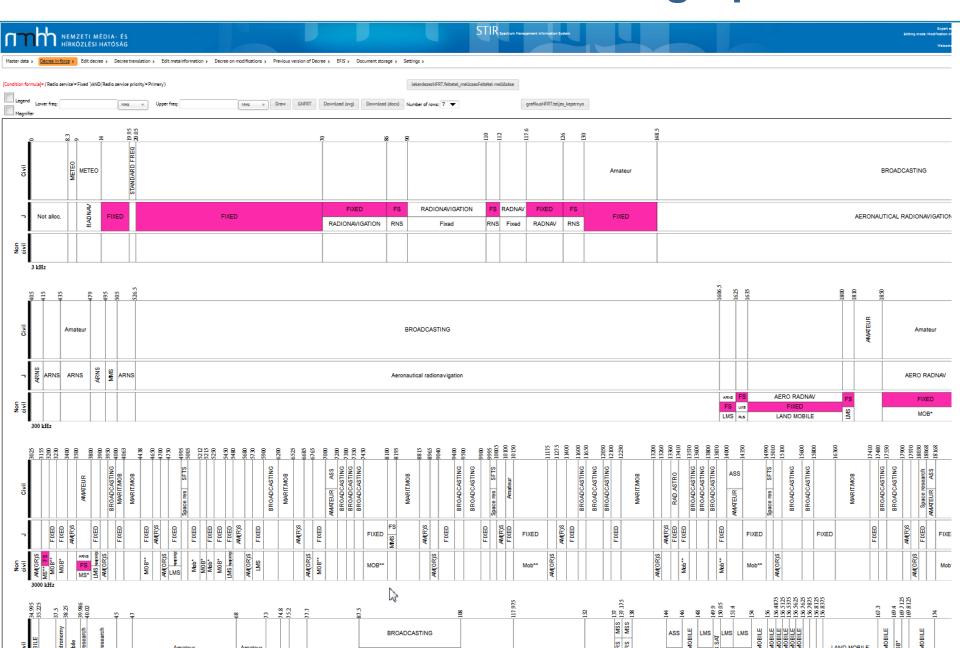


Relating to vizualization:

- NFFF is displayed in HTML format
- The National Frequency Utilization Table and its all search results can be displayed in graphical format



NATIONAL MEDIA AND INFOCOMMUNICATIONS Search results in graphical form





Relating to EFIS:

 All frequency management data to be uploaded into the EFIS system can be generated from the National Frequency Utilization Table through a conversation table, so an automatic upload from the STIR into the EFIS is available.

Search



STIR => EFIS



MHz

STIR Spectrum Management Information System

Expert editing mode Editing mode: Amendment o the Decree

Welcome Buki Jáno

Master data > Decree in force > Edit decree > Decree translation > Edit metainformation > Amending Decree > Previous version of Decree > EFIS >

NFT Application name:

Document storage > Settings >

Application

Lower freq (NFT):

Upper freq (NFT): EFIS application name: All MHz Show 5000 ▼ entries Previous Next Last First Lower Upper Lower Upper **EFIS** freg 📥 Det e EFIS application name freq freq 👆 freq 👃 **NFT Application name** Modify remarks (NFT) (NFT) (EFIS) (EFIS) Földfelszíni rádió-műsorszórás Analóg RH rádió-műsorszórás 4000 3950 4000 3950 Digitális RH rádió-műsorszórás Broadcasting (terrestrial) Modify Delete kHz kHz kHz kHz SRD: vasúti alkalmazások SRD: induktív alkalmazások Földfelszíni rádió-műsorszórás Analóg RH rádió-műsorszórás 5900 6200 5900 6200 Digitális RH rádió-műsorszórás Inductive applications Modify Delete kHz kHz kHz kHz SRD: vasúti alkalmazások SRD: induktív alkalmazások Földfelszíni rádió-műsorszórás Analóg RH rádió-műsorszórás 4000 3950 4000 3950

Digital HF sound broadcasting



Translation of the Decree



STIR Spectrum Management Information System

Expert editing mode Editing mode: Amendment of the Decree

Welcome Buki János

First Provious 1 2 3 Next Last

Master data > Decree in force > Edit decree > Decree translation > Edit metainformation > Amending Decree > Previous version of Decree > EFIS >



Document storage > Settings >

▼ entries

Show 10

Decree translation: Dispositional part

5110W 10	Charles	FIIST Previous 1 2 3 Next Last				
Order 📥	Hungarian content 🔷	English content	Structural unit type	Modify		
1	A Nemzeti Média- és Hírközlési Hatóság elnökének/ () NMHH rendelete a nemzeti frekvenciafelosztásról, valamint a frekvenciasávok felhasználási szabályairól	Decree No/ () NMHH of the President of the National Media and Infocommunications Authority, Hungary on the national frequency allocation and rules of using frequency bands	Mark as legal document	Modify		
2	Az elektronikus hírközlésről szóló 2003. évi C. törvény 182. § (3) bekezdés 1., 3., 5., 8. és 11. pontjában kapott felhatalmazás alapján, a médiaszolgáltatásokról és a tömegkommunikációról szóló 2010. évi CLXXXV. törvény 109. § (5) bekezdésében meghatározott feladatkörömben eljárva a következőket rendelem el:	On the basis of the authorisation given by Section 182, subsection (3), paragraphs 1, 3, 5, 8 and 11 of Act C of 2003 on Electronic Communications and proceeding within my competence as set forth in Section 109, subsection (5) of Act CLXXXV of 2010 on Media Services and Mass Communications, I hereby decree as follows:	Introductory	Modify		
3	1. Általános rendelkezések	1. General provisions	Chapter (ordinal)	Modify		
(4 /			



Translation of the program



Settings >

Document storage >

STIR Spectrum Management Information System

Expert editing mode Editing mode: Amendment of the Decree

3K

Welcome Buki János

M	D :-	Edia de ese a	D	Edit information to	A	D!	EEIC +
Master data 🔰	Decree in force >	Fait decree >	Decree translation >	Edit metainformation >	Amending Decree >	Previous version of Decree >	FLI2 >

Translation (STIR labels)					
Identifier: Defau	ult description:	Hungarian:	English:		Search
Show 10 ▼ entries			First Previous 1	1 2 3 4	5 Next Last
ldentifier **	Default description 🔷	Hungarian 🔷	English 🔷	Modify	Publication
alkalmazas.angol_rogzites	Kiválasztott alkalmazás angol neve	Kiválasztott alkalmazás angol neve	Application name (English)	Modify	Publication
alkalmazas.angol	Alkalmazás (angol)	Alkalmazás (angol)	Application (English)	Modify	Publication
alkalmazas.francia_rogzites	Kiválasztott alkalmazás francia neve	Kiválasztott alkalmazás francia neve	Application name (French)	Modify	Publication
alkalmazas.francia	Alkalmazás (francia)	Alkalmazás (francia)	Application (French)	Modify	Publication
alkalmazas.kategoria_nev_angol_rogzites	Alkalmazás kategória angol neve	Alkalmazás kategória angol neve	Application category name (English)	Modify	Publication
allialaranas katagoria, nov. ragaitas	Új alkalmazás kategória esetén új elem jön létre ezzel	Új alkalmazás kategória esetén új elem jön létre ezzel	For a new application category new element will be created with the same name;	Modify	Dublication
alkalmazas.kategoria_nev_rogzites	a névvel; Módosítás esetén az	a névvel; Módosítás esetén az	In case of modification it is	Modify	Publication

alkalmazás kategória neve

the name of the application

alkalmazás kategória neve



Future

- After upload of the NFFF into the STIR, it will be used in some years, also some small developments, modifications may be done
- Gathering of the experiences, after elaboration of a new specification based on experiences, new functions, requirements and ideas relating to the program
- Start of phase II. to develop the new, more sophisticated STIR



Thank you for attention!