



SYSTEM INTEGRATION

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# [SPECTRAexchange]

XML-Description 2.61.0

12-2022



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<b>TCSC_NAT_U</b>	<b>: NATURE OF FREQUENCY USAGE</b>	<b>4-2</b>
<b>TCSC_S_CAT</b>	<b>: CLASS OF STATION</b>	<b>4-3</b>
<b>TCC_NETWORK_TYPE</b>	<b>: NETWORK TYPE</b>	<b>4-6</b>
<b>SID_LOC</b>	<b>: SITE LOCATION</b>	<b>4-6</b>
<b>EQP_EQUIP_TYPE</b>	<b>: EQUIPMENT TYPE</b>	<b>4-7</b>
<b>EQ_CHAN_O</b>	<b>: CHANNEL OCCUPATION</b>	<b>4-7</b>
<b>ETX_POW_TYPE</b>	<b>: POWER TYPE</b>	<b>4-7</b>
<b>EAC_AN_POL</b>	<b>: ANTENNA POLARIZATION</b>	<b>4-8</b>
<b>EAP_TYPE</b>	<b>: ANTENNA PATTERN TYPE</b>	<b>4-8</b>
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<b>EFL_USE_TYPE</b>	<b>: USAGE TYPE</b>	<b>4-9</b>
<b>COF_STATUS</b>	<b>: COORDINATION STATUS</b>	<b>4-9</b>
<b>AP_ACTION_TYPE</b>	<b>: APPLICATION ACTION TYPE</b>	<b>4-10</b>
<b>TCS_SAT_STATION_TYPE</b>	<b>: SATELLITE STATION TYPE</b>	<b>4-10</b>
<b>EQ_ANALOG_OR_DIGITAL</b>	<b>: ANALOG/DIGITAL</b>	<b>4-10</b>
<b>FIDE_SPECTRUM_MASK</b>	<b>: SPECTRUM MASK</b>	<b>4-10</b>
<b>EQ_CSEQ_CATEGORY</b>	<b>: EQUIPMENT COST CATEGORY</b>	<b>4-10</b>
<b>LI_CSLI_CATEGORY</b>	<b>: LICENSE COST CATEGORY</b>	<b>4-11</b>
<b>SV_SV_ID</b>	<b>: SERVICE ID</b>	<b>4-11</b>
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<b>LI_CUSTOMER_CAT3</b>	<b>: ABDICATION ABOUT THE APPEAL RIGHT</b>	<b>4-13</b>
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<b>EAN_POL</b>	<b>: ANTENNA POLARIZATION</b>	<b>4-13</b>

<b>TCC_NW_SERVICE_TYPE : SERVICE TYPE</b>	<b>4-14</b>
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# 1 WELCOME

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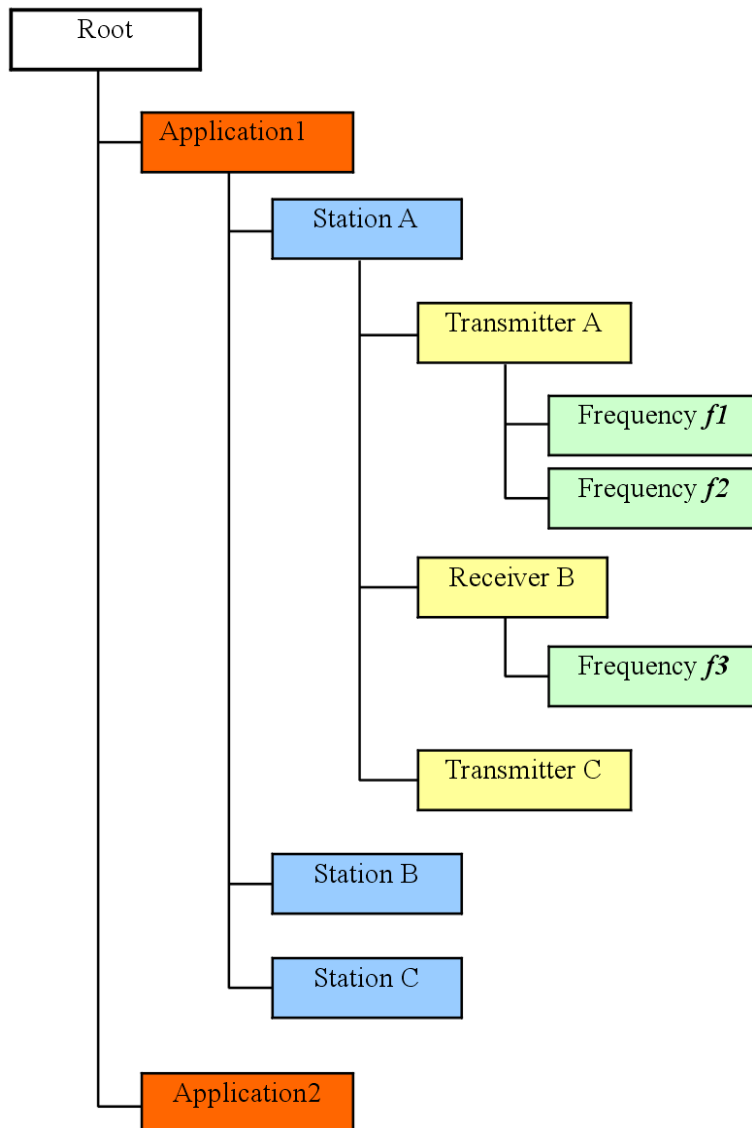
This document provides a detailed description of the SPECTRAexchange XML file format.

The SPECTRAexchange XML format is used for electronic exchange of administrative and technical license data by different components of the LS Spectrum Management System.

Another important purpose of the SPECTRAexchange XML format is the exchange of data of the LS Spectrum Management System with various third party software systems.

The XML format in general is getting more and more a standard file format for exchange of any type of hierarchical organized data. The format can be used independent of the computer platform and supports character coding for most languages worldwide. The number of major standard computer applications supporting this format increases from year to year.

The hierarchical schema of the SPECTRAexchange XML format is shown in the following picture:



## 1.1 ABOUT SPECTRUM MANAGEMENT SYSTEM

LS Spectrum Management System provides a comprehensive integrated solution for the licensing procedures of all radio services.

The main features of the Spectrum Management System can be summarized as follows:

- Highly modular client-server-architecture
- Adaptation of the system to customers needs
- Extension of capabilities by including new modules for specific tasks

- Central Spectrum Management database
  - Administrative data
  - Technical data
  - Frequency allocations
  - Monitoring data
- Frequency assignment procedures based on calculations (propagation models) and technical data specific for the particular radio service
- Co-ordination procedures based on ITU recommendations or other international/national agreements for the particular radio service
- Specific workflows for the licensing procedures of different radio services
- Deadline management/set up of user roles with specific permissions on workflow actions
- Administration of national frequency plans
- Analysis of monitoring data from radio emissions to be in compliance with licenses

The following figure illustrates a general and a detailed overview of the LS Spectrum Management System with tools for the data administration, visualization, cross-checking measurements with licensed data, inter-service calculations, and technical planning tools for specific services.

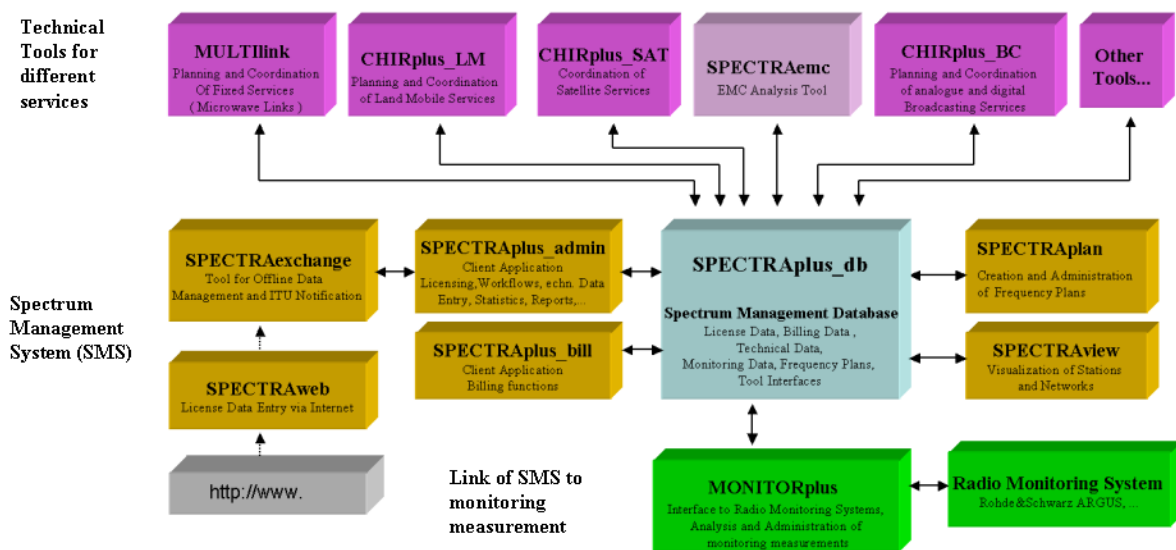


Figure 1-1: LS telcom Spectrum Management System / General Overview

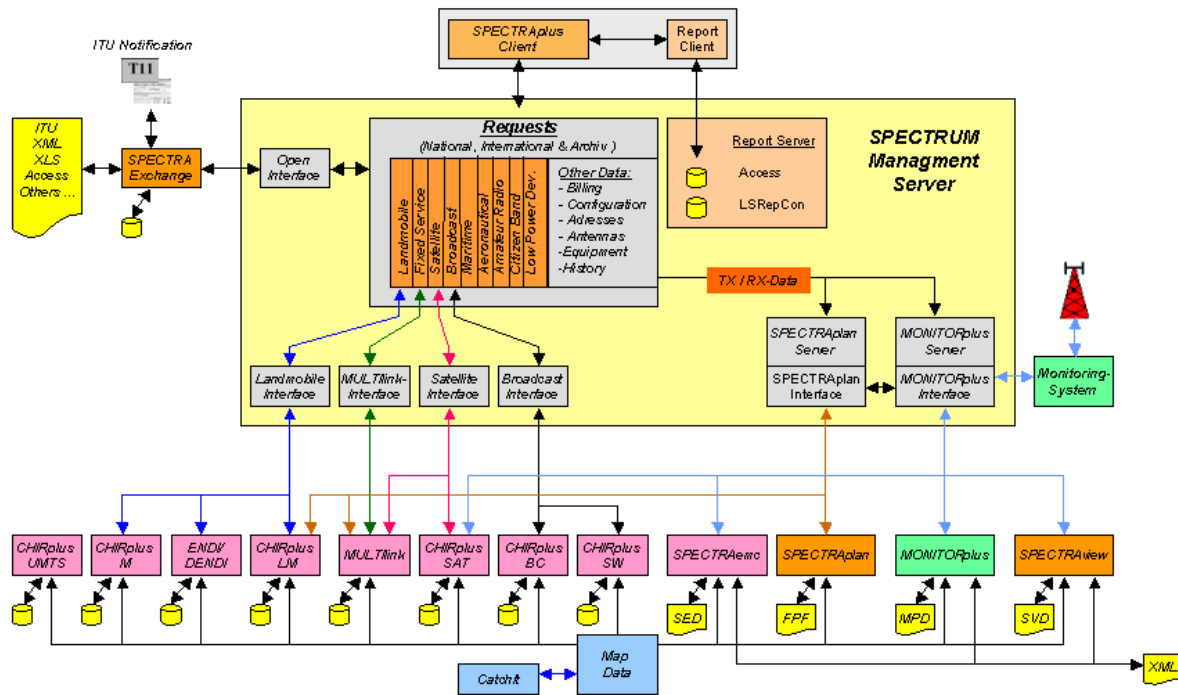


Figure 1-2: LS telcom Spectrum Management System / detailed overview

## 1.2 ABOUT THIS DOCUMENTATION

The document on hand will assist the user in working with the SPECTRAexchange software.

**Error! Not a valid filename.** Before working with SPECTRAexchange the user shall be familiar with the operating system (Windows), hard- and software. We strongly recommend reading the appropriate manuals. In particular, the user shall be familiar with the user interface (e.g. menus, mouse operation) as well as with the file system.

## 1.3 TECHNICAL SUPPORT

## 1.4 WHAT'S NEW

### 1.4.1 WHAT'S NEW IN VERSION 2.61.0

- Added restrictions for LI\_CSLI\_CATEGORY

## **1.4.2 WHAT'S NEW IN VERSION 2.60.0**

- Added restrictions for EAC\_LOCATION

## **1.4.3 WHAT'S NEW IN VERSION 2.59.0**

- New attributes in <ADDRESS>: AD\_CUSTOMER\_CHAR1, AD\_CUSTOMER\_CHAR2
- New attribute in <BILLING\_CUSTOMER\_DATA>: BIC\_TAX\_ADMIN\_NUM\_GRP

## **1.4.4 WHAT'S NEW IN VERSION 2.57.0**

- New attribute in <TRANSMITTER>, <RECEIVER>: EAN\_ANT\_IDENT\_TEMP

## **1.4.5 WHAT'S NEW IN VERSION 2.54.0**

- Added DVB-T2/DVB-T2 (PrelConst) to restrictions list for SS\_SS\_ID

## **1.4.6 WHAT'S NEW IN VERSION 2.53.0**

- Modified restriction for EQ\_COMMENT, maxLength increased from 255 to 1000

## **1.4.7 WHAT'S NEW IN VERSION 2.47.0**

- Modified restrictions for AP\_ACTION\_TYPE, TCC\_NW\_SERVICE\_TYPE

## **1.4.8 WHAT'S NEW IN VERSION 2.46.0**

- Modified restrictions for AP\_CATEGORY, SV\_SV\_ID, TCC\_NW\_SERVICE\_TYPE
- Added documentation

## **1.4.9 WHAT'S NEW IN VERSION 2.45.0**

- Added restrictions for AP\_ACTION\_TYPE, EAN\_POL, EFL\_GSM\_SYS, TCSC\_S\_CAT, TCC\_NW\_SERVICE\_TYPE, LI\_PERIOD\_UNIT
- Modified restrictions for AP\_CATEGORY, SV\_SV\_ID, SS\_SS\_ID
- Added documentation

### **1.4.10 WHAT'S NEW IN VERSION 2.44.0**

- Added restrictions for AP\_CATEGORY, EAC\_AN\_POL, EFL\_USE\_TYPE, EQ\_ANALOG\_OR\_DIGITAL, EQ\_CSEQ\_CATEGORY, EQP\_EQUIP\_TYPE, FIDE\_SPECTRUM\_MASK, LI\_CSLI\_CATEGORY, SS\_SS\_ID, SV\_SV\_ID
- Added documentation

### **1.4.11 WHAT'S NEW IN VERSION 2.43.0**

- Modified restriction and documentation for LI\_CUSTOMER\_CAT3

### **1.4.12 WHAT'S NEW IN VERSION 2.42.0**

- Modified data type dateTime->date for LI\_LIC\_DATE, LI\_CANCEL\_DATE
- Modified restriction and documentation for LI\_CUSTOMER\_CAT3

### **1.4.13 WHAT'S NEW IN VERSION 2.41.0**

- New element in <APPLICATION>. TCC\_ORIG\_NET\_ID
- New attribute in <FILTERS>. FIDE\_SPECTRUM\_MASK

### **1.4.14 WHAT'S NEW IN VERSION 2.40.0**

- New element in <FREQUENCY>. EFL\_PRG\_OPT, EFL\_RDS\_PI, EFL\_RDS\_PI\_OPT

### **1.4.15 WHAT'S NEW IN VERSION 2.39.0**

- New element in <TRANSMITTER>, <RECEIVER>: EAN\_LENGTH

### **1.4.16 WHAT'S NEW IN VERSION 2.38.0**

- New element in <TRANSMITTER>, <RECEIVER>: EQP\_EQP\_ID\_APROV

### **1.4.17 WHAT'S NEW IN VERSION 2.37.0**

- New elements in <STATION>: TCS\_AREA\_CODE, TCS\_ZONE\_CODE

### **1.4.18 WHAT'S NEW IN VERSION 2.36.0**

- New attribute in <STATION>: SA\_ID\_SRC\_SPECTRA
- New element in <RECEIVER>: ERX\_C\_N

### **1.4.19 WHAT'S NEW IN VERSION 2.35.0**

- New element in <ANTENNACONFIGgroup>: EAC\_REFL\_AZI, EAC\_REFL\_ELEV, EAC\_REFL\_GAIN

### **1.4.20 WHAT'S NEW IN VERSION 2.34.0**

- New element in <FREQUENCY>: EFL\_FREQ\_IDENT

### **1.4.21 WHAT'S NEW IN VERSION 2.33.0**

- Change in <EQUIPMENTgroup>: modified data type of ETX\_ATPC from long to double

### **1.4.22 WHAT'S NEW IN VERSION 2.32.0**

- Modified element in <ANTENNA\_PATTERN>: EAP\_TYPE string 3 -> 15
- New element in <ANTENNA>: EAN\_PAT\_CUT\_GEOM
- New element in <FREQUENCY>: EFL\_SYSTEM

### **1.4.23 WHAT'S NEW IN VERSION 2.31.0**

- New element in <APPLICATION>: LI\_TRADE\_DATE
- New element in <STATION>: TCS\_END\_DATE

### **1.4.24 WHAT'S NEW IN VERSION 2.30.0**

- New element in <ADDRESS>: AD\_BLOCK\_NO

- New element in <ATTACHMENT>: LE\_YOUR\_SIGN, LE\_YOUR\_DATE

### 1.4.25 WHAT'S NEW IN VERSION 2.29.0

- New structure in <APPLICATION>: <APPLICATION\_TEXT\_BLOCK>
- New complex type: <APPLICATION\_TEXT\_BLOCKType>: APTB\_TABLE\_PREFIX, APTB\_TABLE\_ID, APTB\_DESCRIPTION, APTB\_CATEGORY, APTB\_TEXT.
- New attribute in <APPLICATION>: LI\_APTB\_ID
- New attribute in <STATION>: TCS\_APTB\_ID
- New attribute in <TRANSMITTER>, <TRANSMITTER\_DL>, <RECEIVER>, <RECEIVER\_DL>: EQ\_APTB\_ID

### 1.4.26 WHAT'S NEW IN VERSION 2.28.0

- New element in <SITEtype>: SID\_SITE\_IDENT
- New element in <ANTENNAgroup>: EAN\_ANT\_IDENT
- New elements in <FREQUENCY>: EFL\_ITU\_IFRB\_DATE, EFL\_ITU\_IFRB\_NO

### 1.4.27 WHAT'S NEW IN VERSION 2.27.0

- New element in <EQUIPMENTgroup>: EQP\_EQUIP\_OWNER, EQP\_TYPE\_BOAT

### 1.4.28 WHAT'S NEW IN VERSION 2.26.0

- New element in <EQUIPMENTgroup>: EQP\_TYPE\_BASE, EQP\_TYPE\_PORTABLE, EQP\_TYPE\_MOBILE
- New elements in <VEHICLE>: VH\_CHASSIS\_NUMBER, VH\_COLOUR
- New elements in <SHIP>: SH\_PROF\_MARITIME, SH\_PROF\_INLAND, SH\_PLEASURE\_MARITIME, SH\_PLEASURE\_INLAND

### 1.4.29 WHAT'S NEW IN VERSION 2.25.0

- New element in <EQUIPMENTgroup>: EQ\_DUPLEX\_SPACE, EQ\_DUPLEX\_SPACE\_DUNIT

### 1.4.30 WHAT'S NEW IN VERSION 2.24.0

- New elements in <ADDRESS>: AD\_FLAT\_NO, AD\_WEB



- New elements in <APPLICATION\_FLAGS>: AF\_WEB\_S01\_COMMENT, AF\_WEB\_S02COMMENT, AF\_WEB\_S03\_COMMENT, AF\_WEB\_S04COMMENT, AF\_WEB\_S05\_COMMENT, AF\_WEB\_S06COMMENT, AF\_WEB\_S07\_COMMENT, AF\_WEB\_S08COMMENT, AF\_WEB\_S09\_COMMENT, AF\_WEB\_S10\_COMMENT, AF\_WEB\_D01, AF\_WEB\_D01\_COMMENT, AF\_WEB\_D02, AF\_WEB\_D02\_COMMENT, AF\_WEB\_D03, AF\_WEB\_D03\_COMMENT, AF\_WEB\_D04, AF\_WEB\_D04\_COMMENT, AF\_WEB\_D05, AF\_WEB\_D05\_COMMENT, AF\_WEB\_D06, AF\_WEB\_D06\_COMMENT, AF\_WEB\_D07, AF\_WEB\_D07\_COMMENT, AF\_WEB\_D08, AF\_WEB\_D08\_COMMENT, AF\_WEB\_D09, AF\_WEB\_D09\_COMMENT, AF\_WEB\_D10, AF\_WEB\_D10\_COMMENT

### **1.4.31 WHAT'S NEW IN VERSION 2.23.0**

- Change in <EQUIPMENTgroup>: increase length of EQP\_CSEQP\_CATEGORY1, EQP\_CSEQP\_CATEGORY2 from String(12) to String(31)

### **1.4.32 WHAT'S NEW IN VERSION 2.22.0**

- New element in <FREQUENCY>: EFL\_CARRIER\_NUM

### **1.4.33 WHAT'S NEW IN VERSION 2.21.0**

- New element in <EQUIPMENTgroup>: EQP\_CSEQP\_CATEGORY2, EQ\_CH\_TRANS\_AUDIO
- New element in <STATION>: TCS\_AREA\_TYP

### **1.4.34 WHAT'S NEW IN VERSION 2.20.0**

- New attribute group: SITEAttribute
- Add SITEAttribute to <STATION>
- New elements in <SHIP>: SH\_EPFS, SH\_HEIGHT, SH\_WIDTH
- New elements in <EQUIPMENTgroup>: EQP\_CSEQP\_CATEGORY1

### **1.4.35 WHAT'S NEW IN VERSION 2.19.0**

- New element in <APPLICATION>: LI\_PARAM\_ONLINE, LI\_PAY\_CATEGORY
- New elements in <FREQUENCY>: LEQ\_PATHLOSS\_ADD, LEQD\_XPIC\_GRD\_ID
- New element in <RECEIVER>, <RECEIVER\_DL>: ERX\_XIF

### 1.4.36 WHAT'S NEW IN VERSION 2.18.0

- New elements in <ANTENNACONFIGgroup>: EAC\_SWITCH\_LOSS, EAC\_CONNECTOR\_LOSS

### 1.4.37 WHAT'S NEW IN VERSION 2.17.0

- New elements in <APPLICATION>: LI\_CUSTOMER\_DATE1, LI\_CUSTOMER\_DATE2, LI\_CUSTOMER\_DATE3, LI\_CUSTOMER\_DATE4, LI\_CUSTOMER\_DATE5, LI\_CUSTOMER\_CAT1, LI\_CUSTOMER\_CAT2, LI\_CUSTOMER\_CAT3, LI\_CUSTOMER\_CAT4, LI\_CUSTOMER\_CAT5, LI\_CUSTOMER\_NUM1, LI\_CUSTOMER\_NUM2, LI\_CUSTOMER\_NUM3, LI\_CUSTOMER\_NUM4, LI\_CUSTOMER\_NUM5, LI\_CUSTOMER\_CHAR1, LI\_CUSTOMER\_CHAR2, LI\_CUSTOMER\_CHAR3, LI\_CUSTOMER\_CHAR4, LI\_CUSTOMER\_CHAR5

### 1.4.38 WHAT'S NEW IN VERSION 2.16.0

- New structure in <STATION>: <EMFS>
- New complex types: <EMFS>, <EMF>

### 1.4.39 WHAT'S NEW IN VERSION 2.15.0

- New structure in <APPLICATION>: <RD\_EQUIP\_REGISTRATIONS>
- New complex types: <RD\_EQUIP\_REGISTRATIONSType>, <RD\_EQUIP\_REGISTRATIONType>

### 1.4.40 WHAT'S NEW IN VERSION 2.14.0

- Changes in <APPLICATION>: LI\_LIC\_DATE, LI\_CANCEL\_DATE changed from xs:date to xs:dateTime.
- New element in <FREQUENCY>: EFL\_LIC\_START\_DATE, EFL\_LIC\_END\_DATE

### 1.4.41 WHAT'S NEW IN VERSION 2.13.0

- New structure in <EQUIPMENTgroup>: ADDRESS

### 1.4.42 WHAT'S NEW IN VERSION 2.12.0

- New element in <STATION>: TCS\_ITU\_IFRB\_NO, TCS\_ITU\_SERVICE\_CODE

- New element in <EQUIPMENTgroup>: EQ\_FREQ\_RANGE\_MIN, EQ\_FREQ\_RANGE\_MIN\_DUNIT, EQ\_FREQ\_RANGE\_MAX, EQ\_FREQ\_RANGE\_MAX\_DUNIT
- New element in <ANTENNACONFIGgroup>: EAC\_AN\_POL\_ANG
- New element in <FREQUENCY>: EFL\_TIME\_DELAY

#### **1.4.43 WHAT'S NEW IN VERSION 2.11.0**

- New element in <AIRCRAFT>: AI\_SERIAL\_NO
- New elements in <TRANSMITTER> and <TRANSMITTER\_DL>: ETX\_PULS\_WIDTH\_MAX, ETX\_PULS\_REP\_FREQ\_MAX
- New element in <EQUIPMENTgroup>: EQ\_EQUIP\_OTHER
- New element in <FREQUENCY>: EFL\_FREQ\_TO
- New element in <ANTENNACONFIGgroup>: EAC\_SAT\_MERIT\_G\_T
- New element in <SATELLITE>: SA\_SAT\_MERIT\_G\_T

#### **1.4.44 WHAT'S NEW IN VERSION 2.10.0**

- New structure in <APPLICATION>: COMPLAINT
- New complex type <COMPLAINTType>

#### **1.4.45 WHAT'S NEW IN VERSION 2.9.1**

- New elements in <FREQUENCY>: EFL\_ITU\_NOTICE\_NO, EFL\_ITU\_PLAN\_ENTRY, EFL\_ITU\_ASSGN\_CODE, EFL\_ITU\_REF\_PLAN\_CFG, EFL\_ITU\_RX\_MODE, EFL\_ITU\_ADM\_ALLOT\_ID, EFL\_ITU\_ALLOT\_SFN\_ID, EFL\_ITU\_IS\_PUB\_REQ, EFL\_ITU\_ADDR\_CODE, EFL\_ITU\_REM\_COND\_MET

#### **1.4.46 WHAT'S NEW IN VERSION 2.9.0**

- New attribute in <ANTENNA>, <RECEIVER>, <RECEIVER\_DL>, <TRANSMITTER>, <TRANSMITTER\_DL>: EAN\_NO\_NORMALIZE  
→ Enable/disable data import normalisation: 1=disabled 0/empty=enabled
- New attribute in <ADDRESS>: AD\_NO\_NORMALIZE  
→ Enable/disable data import normalisation: 1=disabled 0/empty=enabled
- New attribute in <SATELLITE>: SA\_NO\_NORMALIZE  
→ Enable/disable data import normalisation: 1=disabled 0/empty=enabled
- New attribute in <SITE>: SID\_NO\_NORMALIZE  
→ Enable/disable data import normalisation: 1=disabled 0/empty=enabled

#### **1.4.47 WHAT'S NEW IN VERSION 2.8.2**

- New elements in <FREQUENCY>: EFL\_TIMESLOT\_LEN, EFL\_TIMESLOT\_LEN\_DUNIT

#### **1.4.48 WHAT'S NEW IN VERSION 2.8.1**

- New elements in <EQUIPMENTgroup>: EQP\_MAX\_AGGREG\_POW, EQP\_MAX\_AGGREG\_POW\_DUNIT

#### **1.4.49 WHAT'S NEW IN VERSION 2.8.0**

- New element in <ADDRESS>: AD\_CSAD\_CATEGORY
- New element in <APPLICATION>: LI\_PARAM\_TRADING
- Change in <APPLICATION>: LI\_CSLI\_CATEGORY changed from int to double
- Change in <STATION>: TCS\_CSST\_CATEGORY changed from int to double
- Change in <EQUIPMENTgroup>: EQ\_CSEQ\_CATEGORY changed from int to double

#### **1.4.50 WHAT'S NEW IN VERSION 2.7.1**

- New element in <STATION>: TCS\_SIGNATURE

#### **1.4.51 WHAT'S NEW IN VERSION 2.7.0**

- New structure in <ANTENNA>: ANTENNA\_SERVICES

#### **1.4.52 WHAT'S NEW IN VERSION 2.6.2**

- New elements in <TRANSMITTER> and <RECEIVER>:  
EAC\_OP\_AZI\_ANG\_FROM, EAC\_OP\_AZI\_ANG\_TO,  
EAC\_OP\_ELEV\_ANG\_FROM, EAC\_OP\_ELEV\_ANG\_TO,  
EAC\_SAT\_B\_PTACC, EAC\_H\_MOTION\_SPEED, EAC\_V\_MOTION\_SPEED

#### **1.4.53 WHAT'S NEW IN VERSION 2.6.1**

- EFL\_SIG\_CODE: size increased from 255 to 2000

#### **1.4.54 WHAT'S NEW IN VERSION 2.6.0**

- New structure in <APPLICATION>: WORKFLOW\_HISTORY
- New element in <STATION>: TCS\_TCS\_ID\_SRC
- New elements in <TRANSMITTER>: EQP\_UPDATE\_STATUS, EQ\_EQ\_ID\_SRC, ETX\_UPDATE\_STATUS
- New elements in <RECEIVER>: EQP\_UPDATE\_STATUS, EQ\_EQ\_ID\_SRC, ERX\_UPDATE\_STATUS
- New elements in <FREQUENCY>: EFL\_UPDATE\_STATUS, EFL\_COLOR\_CODE
- New element in <VEHICLE>: VH\_NUMBER\_PLATE

#### **1.4.55 WHAT'S NEW IN VERSION 2.5.0**

- New structure in <STATION>: VECTORS
- New element in <SHIP>: SH\_SERIAL\_NO
- New element in <FREQUENCY> and in <LINK>: LEQD\_SYSTEM

#### **1.4.56 WHAT'S NEW IN VERSION 2.4.29**

- New element in <APPLICATION>: LI\_REASONING
- New elements in <FREQUENCY>: LEQD\_UPDATE\_STATUS, EFL\_FPLAN\_EL\_NAME
- New element in <LINK>: LEQD\_UPDATE\_STATUS

#### **1.4.57 WHAT'S NEW IN VERSION 2.4.28**

- New structure in <APPLICATION>: MMSIS, CALL\_SIGNS

#### **1.4.58 WHAT'S NEW IN VERSION 2.4.27**

- New structure in <APPLICATION>: MMSI

#### **1.4.59 WHAT'S NEW IN VERSION 2.4.26**

- New structure in <APPLICATION>: CALL\_SIGNS
- New elements in <STATION>: TCS\_SAT\_STATION\_TYPE, TCS\_MMSI, TCS\_MMSI\_GROUP
- New elements in <TRANSMITTER> and <RECEIVER>: EAN\_VARIANT, EAN\_SN

### **1.4.60 WHAT'S NEW IN VERSION 2.4.25**

- New element in <ADDRESS>: AD\_MAP\_POS
- New element in <APPLICATION>: TCC\_NW\_NAME
- New structure in <APPLICATION>: APPLICATION\_LINK
- New structure in <APPLICATION>: APPLICATION\_OFFICIAL
- New attribute in <FREQUENCY>: EFL\_EFL\_ID\_SRC
- New element in <FREQUENCY>: LEQ\_PATHLOSS
- New element in <COORDINATED\_FREQUENCY>: COF\_COMMENT
- New element in <STATION>: TCS\_UPDATE\_STATUS
- New structure in <TRANSMITTER> and <RECEIVER>: EQUIP\_EMISSION

### **1.4.61 WHAT'S NEW IN VERSION 2.4.24**

- New elements in <APPLICATION>: LI\_RESTRICT, LI\_EXAM\_DATE

### **1.4.62 WHAT'S NEW IN VERSION 2.4.23**

- New element in <APPLICATION>: AP\_COMMENT\_LARGE
- New elements in <ADDRESS>: AD\_E\_MAIL2, AD\_COMPANY\_SHORT, AD\_COMMENT\_INTERN
- New element in <SITE>: SID\_DESC
- New elements in <TRANSMITTER> and <RECEIVER>: EAN\_DIAG, EAN\_WIDTH

### **1.4.63 WHAT'S NEW IN VERSION 2.4.22**

- New structure in <APPLICATION>: APPLICATION\_FLAGS

### **1.4.64 WHAT'S NEW IN VERSION 2.4.21**

- New element in <APPLICATION>: AF\_WEB\_S01
- New structure in <TRANSMITTER> and <RECEIVER>: INSTALLED\_EQUIPMENTS

### **1.4.65 WHAT'S NEW IN VERSION 2.4.20**

- New element in <APPLICATION>: LI\_RENEWAL\_DATE

### **1.4.66 WHAT'S NEW IN VERSION 2.4.19**

- New attributes in <SITE>: SID\_ID\_SRC\_SPECTRA, SID\_ID\_SRC\_EXTERN
- New attributes in <SATELLITE>: SA\_ID\_SRC\_SPECTRA, SA\_ID\_SRC\_EXTERN

### **1.4.67 WHAT'S NEW IN VERSION 2.4.18**

- New element in <FREQUENCY>: EFL\_UPPER\_LOWER

### **1.4.68 WHAT'S NEW IN VERSION 2.4.17**

- New element in <ADDRESS>: AD\_SECOND\_NAME
- New elements in <APPLICATION>: AP\_VERSION, AP\_NAME\_REFERENCE
- Field AP\_PLAN\_NO size increased from 20 to 511

### **1.4.69 WHAT'S NEW IN VERSION 2.4.16**

- New element in <TRANSMITTER> and <TRANSMITTER\_DL>: ETX\_ACTIVITY

### **1.4.70 WHAT'S NEW IN VERSION 2.4.15**

- New elements in <ADDRESS>: AD\_UPDATE\_STATUS, AD\_CAT\_COM, AD\_CAT2, AD\_DELIVERY\_TYPE
- New elements in <TRANSMITTER> and <RECEIVER>:  
EAN\_FREQ\_RANGE\_MIN\_DUNIT, EAN\_FREQ\_RANGE\_MAX\_DUNIT,  
EQ\_KF\_BANDWIDTH\_DUNIT, EQ\_CHANNEL\_SPACE\_DUNIT,  
EQ\_F\_STAB\_DUNIT, ERX\_MIN\_LEVEL\_DUNIT, ERX\_BAND\_WIDTH\_DUNIT,  
ERX\_MPL\_DUNIT, ERX\_MIN\_SENSE\_DUNIT, ETX\_POW\_DUNIT,  
ETX\_POW\_MAX\_DUNIT, ETX\_POW\_MIN\_DUNIT, ETX\_POW\_H\_DUNIT,  
ETX\_POW\_V\_DUNIT, ETX\_MAX\_POW\_EQUIP\_DUNIT,  
ETX\_MAX\_SENS\_DUNIT, ETX\_POW\_AVERAGE\_DUNIT,  
ETX\_FREQ\_SWEEP\_MAX\_DUNIT
- New elements in <FREQUENCY>: EFL\_CHANNEL\_SPACE\_DUNIT,  
EFL\_REF\_FREQ\_DUNIT, EFL\_TV\_SOUND\_CARRIER\_DUNIT,  
EFL\_TV\_SOUND\_CARRIER2\_DUNIT

### **1.4.71 WHAT'S NEW IN VERSION 2.4.14**

- New element in <STATION>: TCS\_TOW\_STRUCT\_DESC
- New element in <TRANSMITTER> and <RECEIVER>: EAC\_LOCATION

### **1.4.72 WHAT'S NEW IN VERSION 2.4.13**

- New elements in <TRANSMITTER> and <RECEIVER>: ETX\_COMMENT, ERX\_COMMENT
- New elements in <FREQUENCY>: EFL\_COMMENT, EFL\_MODE\_OP, EFL\_TIMESLOT, EFL\_SIG\_CODE

### **1.4.73 WHAT'S NEW IN VERSION 2.4.12**

- New element in <FREQUENCY>: LEQD\_NAME

### **1.4.74 WHAT'S NEW IN VERSION 2.4.11**

- New element in <TRANSMITTER> and <RECEIVER>: EAC\_BRANCH\_LOSS

### **1.4.75 WHAT'S NEW IN VERSION 2.4.10**

- New element in <STATION>: TCS\_TOW\_TOWER\_HEIGHT\_DELTA
- New element in <TRANSMITTER> and <RECEIVER>: EQ\_FREQ\_LO, EQ\_FREQ\_UP, EQ\_SPEC EFFIC\_CLASS, EAN\_CLASS
- New element in <FREQUENCY>: LEQ\_RELIAB, LEQD\_FPLAN\_EL\_NAME, LEQD\_CIRC\_LEN
- New attribute in <FREQUENCY>: LEQD\_ID\_SRC\_EXTERN

### **1.4.76 WHAT'S NEW IN VERSION 2.4.9**

- New element in <APPLICATION>: AP\_CATEGORY
- New element in <TRANSMITTER> and <RECEIVER>: EAN\_ETSI
- New element in <TRANSMITTER>: ETX\_POW\_CTRL, ETX\_ATPC
- New element in <FREQUENCY>: EFL\_RF\_BWIDTH\_DUNIT

### **1.4.77 WHAT'S NEW IN VERSION 2.4.8**

- New element in <STATION>: TCS\_REF\_FLAG
- New element in <FREQUENCY>: EFL\_MAP\_POS

### **1.4.78 WHAT'S NEW IN VERSION 2.4.7**

- New element in <EQUIPMENT>: EQ\_RF\_BWIDTH\_DUNIT
- New element in <TRANSMITTER>: ETX\_EQ\_OUTPUT\_DUNIT



### **1.4.79 WHAT'S NEW IN VERSION 2.4.6**

- New element in <APPLICATION>: LI\_CAT

### **1.4.80 WHAT'S NEW IN VERSION 2.4.5**

- New elements in <APPLICATION>: LI\_AR\_CLASS, TCC\_SPECIFIC\_SERV
- New elements in <ADDRESS>: AD\_PASS\_ISSUE\_DATE, AD\_MOTHER\_NAME
- New element in <STATION>: TCS\_MAP\_POS
- New elements in <RECEIVER>: ERX\_MPIL, ERX\_MPIL\_DUNIT
- New element in <FREQUENCY>: EFL\_FREQ\_DUNIT
- New elements in <SHIP>: SH\_CORRESP\_CAT, SH\_INDIV\_CLASS, SH\_BEACON\_NO, SH\_BEACON\_A, SH\_BEACON\_B, SH\_BEACON\_C, SH\_BEACON\_D, SH\_BEACON\_E, SH\_BEACON\_F, SH\_BEACON\_G

### **1.4.81 WHAT'S NEW IN VERSION 2.4.4**

- New element in <SHIP>: SH\_SSFC
- New element in <TRANSMITTER> and <RECEIVER>: EQP\_EQUIP\_MAP\_POS
- New element in <EQUIP\_DETAIL>: ED\_EQUIP\_MAP\_POS

### **1.4.82 WHAT'S NEW IN VERSION 2.4.3**

- New element in <SATELLITE>: SA\_SAT\_GEO\_POS
- New element in <TRANSMITTER>: ETX\_POW\_ANT\_DUNIT

### **1.4.83 WHAT'S NEW IN VERSION 2.4.2**

- New element in <SHIP>: <SH\_CALL>.
- Attribute <AD\_TYPE> from <ADDRESS>: size is increased from 15 to 255.

### **1.4.84 WHAT'S NEW IN VERSION 2.4.1**

- New elements in <STATION>: <TCS\_COMMENT\_INTERN>, <TCS\_TOW\_STRUCT\_CODE>.
- New elements in <TRANSMITTER> and <RECEIVER>: <EQ\_FREQ\_DIVERSITY>, <EQ\_ANGLE\_DIVERSITY>, <EQ\_POL\_DIVERSITY>.

## 1.4.85 WHAT'S NEW IN VERSION 2.4.0

- New complex type in <APPLICATION>: <CAN> (see xsd).
- New complex types in <STATION>: <MSC>, <CAS> (see xsd).
- New complex type in <FREQUENCY>: <ADDRESS> (see xsd).
- New element in <APPLICATION>: <AP\_COMMENT\_INTERN>.
- New elements in <STATION>: <TCS\_REF\_NUMBER>, <TCS\_COMMENT>, <TCS\_SI\_H\_EFF\_MAX>, <TCS\_SI\_H\_EFF\_MAX\_ANG>.
- New elements in <TRANSMITTER> and <RECEIVER>:  
<EQP\_SOFTWARE\_VERSION>, <EQP\_HARDWARE\_VERSION>,  
<EQP\_CAT\_COMMENT>, <EQ\_TV\_PREC\_OFFSET>, <EQ\_TV\_OFF>,  
<EQ\_TV\_OFF\_FREQ>, <EQ\_TV\_OFF\_FREQ\_DUNIT>, <EQ\_F\_STAB>,  
<EQ\_ANALOG\_OR\_DIGITAL>, <EQE\_EMI\_CARRIER1>,  
<EQE\_EMI\_CARRIER2>, <EQ\_TV\_POWER\_RATIO>,  
<EQ\_TV\_POWER\_RATIO2>, <EQ\_TV\_COLOR\_SYS>, <EQ\_TV\_SYS>,  
<EQ\_TV\_SEC\_SOUND\_SYS>, <EAC\_COMMENT\_INTERN>,  
<EAC\_FEEDER\_LEN>, <EAC\_FEEDER\_LINE\_TYPE>,  
<EAN\_FREQ\_RANGE\_MIN>, <EAN\_FREQ\_RANGE\_MAX>,  
<EAN\_OP\_AZI\_ANG\_FROM\_MAX>, <EAN\_OP\_AZI\_ANG\_TO\_MAX>,  
<EAN\_POL>, <EAN\_SLEW\_ANGLE>, <EAN\_RED\_ELEM\_TYPE>,  
<EAN\_FREQ\_GAIN>, <EAN\_ELEMENT\_NO\_VER>.
- New elements in <TRANSMITTER>: <ETX\_POW\_AVERAGE>,  
<ETX\_FREQ\_SWEEP\_MAX>.
- New elements in <FREQUENCY>: <EFL\_REF\_FREQ>,  
<EFL\_TV\_SOUND\_CARRIER>, <EFL\_TV\_SOUND\_CARRIER2>,  
<EFL\_CHANNEL>, <EFL\_SOUND\_MO\_ST>, <EFL\_PRG>,  
<EFL\_DECISION\_NO>, <EFL\_PRG\_PROV\_CONTRACT\_NO>,  
<EFL\_DECISION\_DATE>, <EFL\_PRG\_PROV\_CONTRACT\_DATE>,  
<EFL\_PROG\_PROV\_CANCEL\_DATE>, <EFL\_PRG\_RANGE>,  
<EFL\_PRG\_CHARACTER>, <EFL\_PRG\_INFO>, <EFL\_PRG\_LANG>.

## 1.4.86 WHAT'S NEW IN VERSION 2.3.4

- New element in <APPLICATION>: <LI\_STATUS>:

Licence status. Used to update licence status of SPECTRAweb applications (according to corresponding SPECTRAplus applications). Field set only by SPECTRAplus-OPENinterface-Export functions.

## 1.4.87 WHAT'S NEW IN VERSION 2.3.3

- New element in <ADDRESS>: <AD\_PASS\_CAT>
- <ADDRESS>: size of text fields increased to 255.

## 1.4.88 WHAT'S NEW IN VERSION 2.3.2

- New elements in <APPLICATION>: <LI\_PERIOD>, <LI\_PERIOD\_UNIT>.
- New element in <FREQUENCY>: <LEQ\_TRANSFER\_RATE>.

## 1.4.89 WHAT'S NEW IN VERSION 2.3.1

- New structures in SPECTRAexchange: <FILTER\_DL>, <SATELLITE\_DL>, <SITE\_DL>. See SPECTRAexchange.xsd.

## 1.4.90 WHAT'S NEW IN VERSION 2.3.0

- New elements in <ADDRESS>: <AD\_DISTRICT> and <AD\_COUNTY>.
- New elements in <APPLICATION>: <AP\_ACTION\_TYPE>, <LI\_VALIDITY>, <LI\_VALIDITY\_UNIT>, <TCC\_AAIC>.  
Ap\_Action\_Type permits to identify the process status of an application coming in SPECTRAplus. See corresponding text lookups.
- New elements in <STATION>: <TCS\_TOW\_TOWER\_HEIGHT>, <TCS\_TOW\_AN\_H\_MAX>, <SA\_AZI\_ANG\_FROM>, <SA\_AZI\_ANG\_TO>, <SA\_MIN\_ELEV>, <SA\_SAT\_INCEXC>, <SID\_RAIN\_CLIM\_ZONE>.
- New element in <HORIZONTAL\_ELEVATION>: <HE\_DIST>.
- New elements in <TRANSMITTER> and <RECEIVER>: <EQP\_EQUIP\_NUM>, <EQP\_TYPE\_APROV\_NO>, <EQ\_FS\_TRANSFER\_RATE>, <EAN\_F2BRATIO>, <EAC\_BEAM\_DES>, <EAC\_SAT\_MAX\_POW\_DENSITY>, <EAN\_PAT\_DESC\_COEFF\_A>, <EAN\_PAT\_DESC\_COEFF\_B>, <EAN\_PAT\_DESC\_COEFF\_C>, <EAN\_PAT\_DESC\_COEFF\_D>.
- New elements in <TRANSMITTER>: <ETX\_POW\_MIN> and <ETX\_POW\_ANT>.
- New element in <RECEIVER>: <ERX\_BER>.
- New structures in <APPLICATION>: <AIRCRAFT>, <SHIP>, <ATTACHMENT>.
- New structure in <STATION>: <VEHICLE>.
- New structure in <TRANSMITTER> and <RECEIVER>: <EQUIP\_DETAIL>.
- New structures in <FREQUENCY>: <ITU\_NOTIFICATION\_TERRA>, <ITU\_NOTIFICATION\_SPACE>

## 1.4.91 WHAT'S NEW IN VERSION 2.2.2

- New element in <STATION>: <SID\_LONG\_E\_W> and <SID\_LAT\_N\_S>  
In former SPECTRAexchange xml definition a latitude on the south hemisphere has a negative value. Now latitude degree <SID\_LAT\_DEG> and longitude degree <SID\_LONG\_DEG> must be a positive integer.  
Old styled longitude/latitude definition is compatible with this version.

- New xxx\_ID\_SRC\_SPECTRA & xxx\_ID\_SRC\_EXTERN attributes in structural elements. Those optional attributes stores referential IDs to source system:
  - A reference ID to SPECTRA system (e.g. primary key of corresponding row within SPECTRA system) can be stored in xxx\_ID\_SRC\_SPECTRA.
  - References to a foreign or legacy system (e.g. primary key of corresponding row within foreign system) should be stored in xxx\_ID\_SRC\_EXTERN.
- Following reference IDs are introduced in:
  - <ADDRESS>: AD\_ID\_SRC\_SPECTRA  
AD\_ID\_SRC\_EXTERN
  - <APPLICATION>: AP\_ID\_SRC\_SPECTRA  
AP\_ID\_SRC\_EXTERN
  - <FILTERS>: FIDE\_ID\_SRC\_SPECTRA  
FIDE\_ID\_SRC\_EXTERN
  - < FREQUENCY>: EFL\_ID\_SRC\_SPECTRA  
EFL\_ID\_SRC\_EXTERN
  - <COORDINATED\_FREQUENCY>: COF\_ID\_SRC\_SPECTRA  
COF\_ID\_SRC\_EXTERN
  - <BILLING\_CUSTOMER\_DATA>: BIC\_ID\_SRC\_SPECTRA  
BIC\_ID\_SRC\_EXTERN
  - <STATION>: TCS\_ID\_SRC\_SPECTRA  
TCS\_ID\_SRC\_EXTERN
  - <RECEIVER>: EQP\_ID\_SRC\_SPECTRA  
EQP\_ID\_SRC\_EXTERN  
EQ\_ID\_SRC\_SPECTRA  
EQ\_ID\_SRC\_EXTERN  
EAN\_ID\_SRC\_SPECTRA  
EAN\_ID\_SRC\_EXTERN  
EAC\_ID\_SRC\_SPECTRA  
EAC\_ID\_SRC\_EXTERN
  - <TRANSMITTER>: EQP\_ID\_SRC\_SPECTRA  
EQP\_ID\_SRC\_EXTERN  
EQ\_ID\_SRC\_SPECTRA  
EQ\_ID\_SRC\_EXTERN  
EAN\_ID\_SRC\_SPECTRA  
EAN\_ID\_SRC\_EXTERN  
EAC\_ID\_SRC\_SPECTRA  
EAC\_ID\_SRC\_EXTERN

## 1.4.92 WHAT'S NEW IN VERSION 2.2.1

- Possibility to link one contact address to a given address type via the [<AD\\_SPPLUS\\_TYPE>](#) (in previous versions only one contact address per application was allowed, now it is possible to use one contact address for each address type within one application).

- Correction of wrong unit comments at attenuation tags `<ETX_TOT_ATT>` and `<ERX_TOT_ATT_H44>`

### **1.4.93 WHAT'S NEW IN VERSION 2.1**

- Because of the introduction of the more expressive W3C xml schema the sequence (order) of the elements and sub structures should be in accordance with this documentation.  
For instance the `<AD_NAME>` element must not appear after the `<AD_FIRST_NAME>` element within a `<ADDRESS>` structure.
- New element `<AD_SPPLUS_TYPE>` in structure `<ADDRESS>`
- New Element `<SA_SAT_LONG_NOM>` in structure `<STATION>`
- New Element `<ERX_C_I_SHORT>` in structure `<RECEIVER>`
- New Element `<EFL_FREQ_ID>` in structure `<FREQUENCY>`



# 2 STRUCTURE

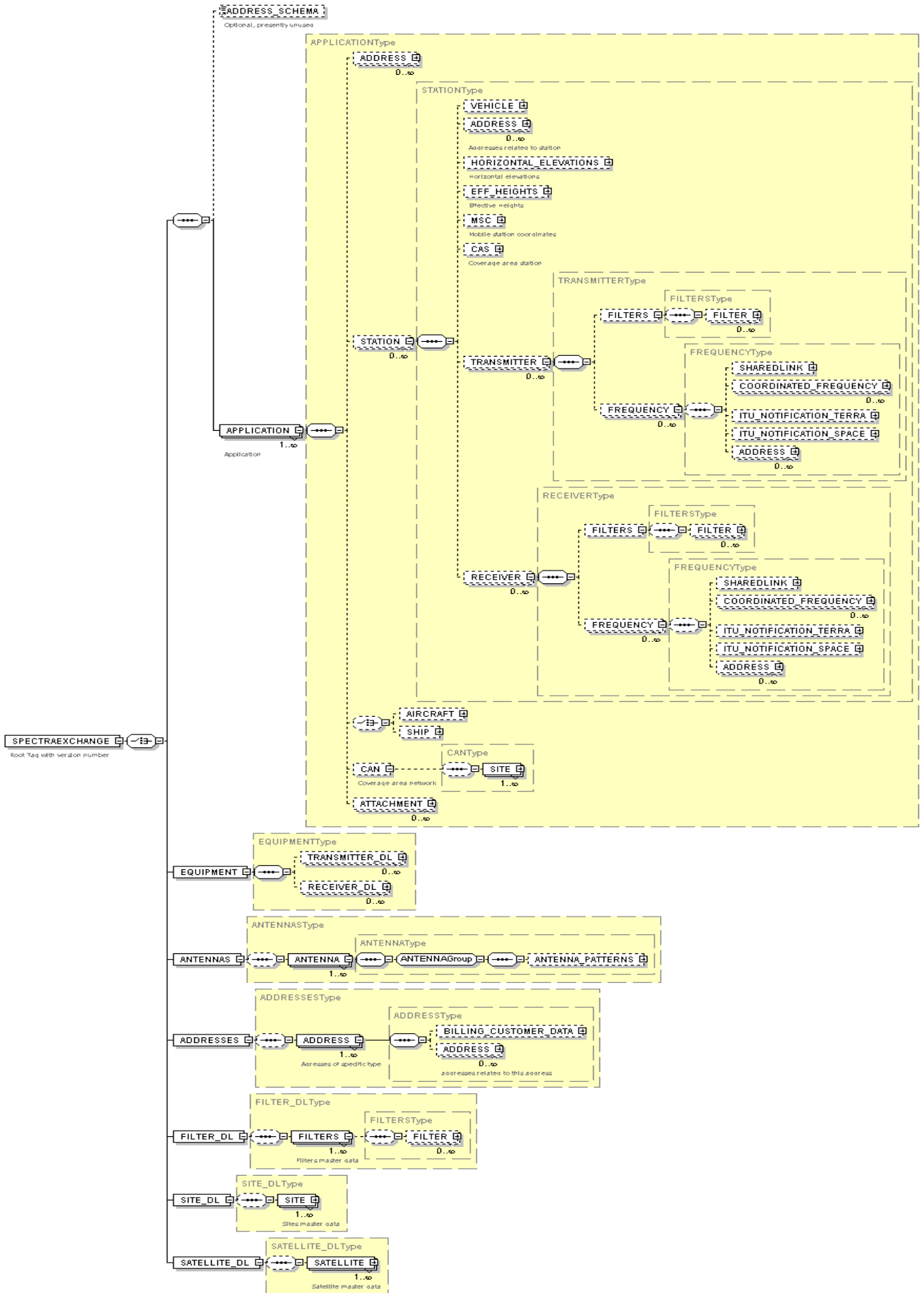
---

## 2.1 DESCRIPTION OF XML-STRUCTURE

### 2.1.1 DIAGRAM

Following diagram is a graphical and hierarchical representation of the SPECTRAexchange schema.

In the next paragraphs each complex type will be described in detail.





## 2.1.2 ANTENNA PATTERN

Starting with version 2.32.0 SPECTRAexchange also supports NSMA antenna pattern. Use of the old pattern types in ANTENNA\_PATTERNType.EAP\_TYPE is still possible (as described in text lookups). Consider the new NSMA pattern types:

NSMA pattern type	NSMA description	Symmetrical (EAN_PAT_CUT_GEOM In ANTENNAType is set to S)	Azi/Elev Cut (EAN_PAT_CUT_GEOM In ANTENNAType is set to C)
AZHH	<b>Horizontal</b> polarized port response to a horizontally polarized signal in the <b>horizontal direction</b>	Y	Y
AZHV	<b>Horizontal</b> polarized port response to a vertically polarized signal in the <b>horizontal direction</b>	Y	Y
ELHH	<b>Horizontal</b> polarized port response to a horizontally polarized signal in the <b>vertical direction</b>	Not needed	Y
ELHV	<b>Horizontal</b> polarized port response to a vertically polarized signal in the <b>vertical direction</b>	Not needed	Y
AZVV	<b>Vertical</b> polarized port response to a vertically polarized signal in the horizontal direction	Y	Y
AZVH	<b>Vertical</b> polarized port response to a horizontally polarized signal in the <b>horizontal direction</b>	Y	Y
ELVV	<b>Vertical</b> polarized port response to a vertically polarized signal in the	Not needed	Y

	<b>vertical direction</b>		
ELVH	<b>Vertical</b> polarized port response to a horizontally polarized signal in the <b>vertical direction</b>	Not needed	Y

If using the old non-NSMA pattern type EAN\_PAT\_CUT\_GEOM must not be set. Polarization is still on EAN\_POL.

If using NSMA pattern type EAN\_PAT\_CUT\_GEOM must not be NULL. Polarization on EAN\_POL is **not** used.

### 2.1.3 SPECTRAEXCHANGE

<SPECTRAEXCHANGE>		Root Tag with version number
<Attribute: "version">	string	version number
<ADDRESS_SCHEMA>	string (15)	Optional, presently unused
<APPLICATION> {1 ... n}	APPLICATIONType	see APPLICATIONType description
or		
<EQUIPMENT>	EQUIPMENTType	see EQUIPMENTType description
or		
<ANTENNAS>	ANTENNASType	see ANTENNASType description
or		
<ADDRESSES>	ADDRESSESType	see ADDRESSESType description
or		
<FILTER_DL>	FILTER_DLType	see FILTER_DLType description
or		
<SATELLITE_DL>	SATELLITE_DLType	see SATELLITE_DLType description
</SPECTRAEXCHANGE>		

### 2.1.4 ADDRESSES TYPE

<ADDRESSES>		Master data ADDRESS
<ADDRESS> {1 ... n}	ADDRESSType	see ADDRESSType description
</ADDRESSES>		

### 2.1.5 ADDRESS TYPE

<ADDRESS>		
<Attribute: AD_TYPE>	string (255)	address type (see text lookups)
<Attribute: AD_ID_SRC_SPECTRA>	string (63)	
<Attribute: "AD_ID_SRC_EXTERN">	string (63)	

<Attribute: "AD_NO_NORMALIZE"> (1=disabled; 0/empty=enabled)	Long	enable/disable data import normalisation
<AD_SPPLUS_TYPE>	string (15)	type of Address. Same value as AD_TYPE.
<AD_NAME>	string (255)	Name
<AD_SECOND_NAME>	string (255)	Second Name
<AD_FIRST_NAME>	string (255)	First Name
<AD_SALUTATION>	string (255)	e.g.: Mr. or Mrs.
<AD_TITLE>	string (255)	Title
<AD_COMPANY>	string (255)	Company
<AD_DEPARTMENT>	string (255)	Department
<AD_PERSON_CODE>	string (255)	Person Code
<AD_HOUSE>	string (255)	House
<AD_STREET>	string (255)	Street
<AD_BUILDING_NO>	string (255)	Building Number
<AD_SUBURB>	string (255)	Suburb
<AD_ZIP>	string (255)	ZIP
<AD_COUNTRY>	string (3)	Country
<AD_PO_BOX>	string (255)	P.O. Box
<AD_ZIP_PO_BOX>	string (255)	P.O. Box Zip Code
<AD_CITY_PO_BOX>	string (255)	P.O. Box City
<AD_CITY>	string (255)	City
<AD_PHONE>	string (255)	Phone
<AD_PHONE2>	string (255)	Phone 2
<AD_FAX>	string (255)	Fax
<AD_MOBILE>	string (255)	Mobile
<AD_E_MAIL>	string (255)	E-mail
<AD_COMMENT>	string (1000)	Comment
<AD_COMMENT_LARGE>	string (1000)	Comment (large)
<AD_MAN_NUMBER>	string (255)	Address Number
<AD_PASS>	string (255)	Passport Number
<AD_NATIONALITY>	string (255)	Nationality
<AD_BIRTH_DATE>	Date	Birth Date
<AD_BIRTH_PLACE>	string (255)	Birth Place
<AD_COMPCODE>	string (255)	Company Code
<AD_TAX_ADMIN_NUM>	string (255)	Tax Number
<WEB_ADDRESS>	string (255)	WEB Address
<AD_POSITION>	string (255)	Position
<AD_DATE_OF_DEATH>	Date	Date of death
<AD_CAT1>	string (5)	Company State
<AD_DISTRICT>	string (255)	District
<AD_COUNTY>	string (255)	County
<AD_PASS_CAT>	string (3)	Passport Number category
<AD_PASS_ISSUE_DATE>	Date	Passport issue date
<AD_MOTHER_NAME>	string (255)	Mother name
<AD_UPDATE_STATUS>	string (3)	Update status
<AD_CAT_COM>	string (255)	com. category

<AD_CAT2>	string (3)	category (2)
<AD_DELIVERY_TYPE>	long	Delivery Type
<AD_E_MAIL2>	string (255)	email address
<AD_COMPANY_SHORT>	string (255)	company's short name
<AD_COMMENT_INTERN>	string (511)	comment (internal)
<AD_MAP_POS>	string (64)	Field for mapping support only
<AD_CSAD_CATEGORY>	double	cost category
<AD_FLAT_NO>	string (255)	flat number
<AD_WEB2>	string (255)	second website address
<AD_BLOCK_NO>	string (255)	block no
<AD_CUSTOMER_CHAR1>	string (4000)	Address Customer Char1
<AD_CUSTOMER_CHAR2>	string (4000)	Address Customer Char2
<BILLING_CUSTOMER_DATA> BILLING_CUSTOMER_DATAType	BILLING_CUSTOMER_DATAType	see
<ADDRESS> {0 ... n}	ADDRESSType	see ADDRESSType description
</ADDRESS>		

## 2.1.6 AIRCRAFT TYPE

<AIRCRAFT>		
<Attribute: "AI_ID_SRC_SPECTRA">		
<Attribute: "AI_ID_SRC_EXTERN">		
<AI_CALL>	string (15)	Call sign or other identification
<AI_NAME>	string (63)	<i>Aircraft Name</i>
<AI_OWNER>	string (31)	Owner of ship
<AI_NAT>	string (50)	Nationality and registration mark of aircraft
<AI_MODEL>	string (63)	<i>Model of aircraft</i>
<AI_TYPE>	string (63)	<i>Type of aircraft</i>
<AI_USE>	string (63)	<i>Aircraft use</i>
<AI_HOME_AIRPORT>	string (63)	<i>Home airport</i>
<AI_COMMENT>	string (511)	<i>Comment</i>
<AI_SERIAL_NO>	string (31)	aircraft serial number
<ADDRESS> {0 ... n}	ADDRESSType	see ADDRESSType description
</AIRCRAFT>		

## 2.1.7 ANTENNACONFIG GROUP

<ANTENNACONFIGgroup>		
<EAC_AN_H>	double	<i>Antenna Height (m)</i>
<EAC_AN_H_EFF>	double	Antenna Effective Height (m)
<EAC_AN_H_EFF_MAX>	double	Antenna Max Effective Height (m)
<EAC_AN_POL>	enumeration	Antenna Polarization (cf Text Lookups)
<EAC_AN_AZI>	double	<i>Antenna Azimuth (°)</i>
<EAC_AN_ELEV>	double	<i>Antenna Elevation (°)</i>

<EAC_FEEDING_LOSS>	double	Antenna Feeding Loss (dB)
<EAC_SAT_NOISE>	double	Antenna Satellite Noise Temp.
<EAC_COMMENT>	string (255)	<i>Antenna Comment</i>
<EAC_FI_BAND_LOSS>	double	Band filter transmission attenuation (dB)
<EAC_FI_DUP_LOSS>	double	Duplex filter transmission attenuation (dB)
<EAC_SAT_MAX_POW_DENSITY>	double	maximum of power density (dBW/Hz)
<EAC_BEAM_DES>	string (15)	Name of antenna beam for satellite service
<EAC_COMMENT_INTERN>	string (511)	Antenna comment
<EAC_FEEDER_LEN>	double	Feeder line length [m]
<EAC_FEEDER_LINE_TYPE>	string (63)	Type of TX/RX cable
<EAC_BRANCH_LOSS>	double	Branch loss [dB]
<EAC_LOCATION>	string (63)	Antenna location (A,O,I,U, cf Text Lookups)
<EAC_OP_AZI_ANG_FROM>	double	antenna pointing azimuth from [deg]
<EAC_OP_AZI_ANG_TO>	double	antenna pointing azimuth to [deg]
<EAC_OP_ELEV_ANG_FROM>	double	antenna pointing elevation from [deg]
<EAC_OP_ELEV_ANG_TO>	double	antenna pointing elevation to [deg]
<EAC_SAT_B_PTACC>	double	stabilising pointing accuracy [deg]
<EAC_H_MOTION_SPEED>	double	pointing update time [deg/sec]
<EAC_V_MOTION_SPEED>	double	pointing update time [deg/sec]
<EAC_SAT_MERIT_G_T>	double	G/T [dBK]
<EAC_AN_POL_ANG>	long	polarization angle [°]
<EAC_SWITCH_LOSS>	double	switch loss (dB)
<EAC_CONNECTOR_LOSS>	double	connector loss (dB)
<EAC_REFL_AZI>	double	Azimuth angle of the reflector surface (towards north in degrees), true passive bearing (normal to passive face)
<EAC_REFL_ELEV>	double	Elevation Angle of the reflector surface (towards the horizon in degrees), true passive bearing (normal to passive face)
<EAC_REFL_GAIN>	double	Gain of the reflector surface [dBi]

</ANTENNACONFIGgroup>

## 2.1.8 ANTENNA\_PATTERNS TYPE

<ANTENNA_PATTERNS>		
<ANTENNA_PATTERN> {0 ... n}	ANTENNA_PATTERNType	see ANTENNA_PATTERNType
description		
</ANTENNA_PATTERNS>		

## 2.1.9 ANTENNA\_PATTERN TYPE

<ANTENNA_PATTERN>		
<EAP_TYPE>	string (15)	Pattern Type (cf Text Lookups)
<EAP_ANGLE>	double	<i>Pattern Angle</i> (°)
<EAP_ATTENUATION>	double	<i>Pattern Attenuation</i> (dB)
</ANTENNA_PATTERN>		

## 2.1.10 ANTENNA\_SERVICES TYPE

<ANTENNA_SERVICES>		
<SV_SV_ID>	long	SPECTRAplus service id
</ANTENNA_SERVICES>		

## 2.1.11 ANTENNAS TYPE

<ANTENNAS>		
<ANTENNA> {1... n}	ANTENNAType	see ANTENNAType description
</ANTENNAS>		

## 2.1.12 ANTENNA GROUP

<ANTENNAgroup>		
<EAN_NAME>	string (80)	<i>Antenna Name</i>
<EAN_TYPE>	string (80)	<i>Antenna Type</i>
<EAN_CODE_HOR>	string (15)	<i>Antenna Code Hor.</i>
<EAN_CODE_VER>	string (15)	<i>Antenna Code Ver.</i>
<EAN_GAIN>	double	Antenna Gain
<EAN_REF_ANT>	string (1)	Unit of Gain (I = dBi, E = dBd)
<EAN_AN_DIR>	string (1)	Direction of the antenna
<EAN_V_BEAMWIDTH>	double	Vertical beam width (°)
<EAN_H_BEAMWIDTH>	double	Horizontal beam width (°)
<EAN_BACK_RAD_ATT>	double	Backward radiation attenuation (dB)
<EAN_MANUFACTURE>	string (255)	<i>Antenna Manufacture</i>
<EAN_PAT_DESC_PHI>	double	Antenna Desc. Phi0 only for Sat.
<EAN_COMMENT>	string (255)	<i>Antenna Comment</i>
<EAN_DIAM>	double	<i>Antenna Diameter</i>
<EAN_F2BRATIO>	double	<i>Front to back ratio</i>
<EAN_PAT_DESC_COEFF_A>	double	<i>Coefficient for alternative radiation pattern</i>
<EAN_PAT_DESC_COEFF_B>	double	<i>Coefficient for alternative radiation pattern</i>
<EAN_PAT_DESC_COEFF_C>	double	<i>Coefficient for alternative radiation pattern</i>
<EAN_PAT_DESC_COEFF_D>	double	<i>Coefficient for alternative radiation pattern</i>
<EAN_FREQ_RANGE_MIN>	double	Frequency range minimum [Hz]
<EAN_FREQ_RANGE_MIN_DUNIT>	string (3)	Frequency range min. display unit (internal)
<EAN_FREQ_RANGE_MAX>	double	Frequency range maximum [Hz]
<EAN_FREQ_RANGE_MAX_DUNIT>	string (3)	Frequency range max. display unit (internal)
<EAN_OP_AZI_ANG_FROM_MAX>	double	Tracking from azimuth
<EAN_OP_AZI_ANG_TO_MAX>	double	Tracking to azimuth
<EAN_POL>	enumeration	Polarization of antenna (cf Text Lookups)
<EAN_SLEW_ANGLE>	double	Antenna Slew Angle
<EAN_RAD_ELEM_TYPE>	string (12)	Radiating system type

<EAN_FREQ_GAIN>	double	Gain frequency [Hz]
<EAN_ELEMENT_NO_VER>	double	
<EAN_ETSI>	string (12)	ETSI recommendation number
<EAN_CLASS>	string (31)	ETSI antenna class
<EAN_DIAG>	string (80)	antenna diagram
<EAN_WIDTH>	double	antenna width
<EAN_VARIANT>	string (80)	antenna variant
<EAN_SN>	string (80)	antenna serial number
<EAN_ANT_IDENT>	string (31)	antenna identification code
<EAN_PAT_CUT_GEOM>	string (3)	Pattern Cut Geometry
<EAN_LENGTH>	double	antenna length [m]
<ANTENNA_PATTERNS> description	ANTENNA_PATTERNSType	see ANTENNA_PATTERNSType
<ANTENNA_SERVICES> description	ANTENNA_SERVICESType	see ANTENNA_SERVICESType
</ANTENNAgroup>		

## 2.1.13 ANTENNA TYPE

<ANTENNA>		
<Attribute: "EAN_ID_SRC_SPECTRA">		
<Attribute: "EAN_ID_SRC_EXTERN">		
<Attribute: "EAN_NO_NORMALIZE"> (1=disabled; 0/empty=enabled)	Long	enable/disable data import normalisation
<ANTENNAgroup>	ANTENNAgroup	see ANTENNAgroup description
</ANTENNA>		

## 2.1.14 APPLICATION TYPE

<APPLICATION>		
<Attribute: "AP_ID_SRC_SPECTRA">	string (63)	
<Attribute: "AP_ID_SRC_EXTERN">	string (63)	
<Attribute: "LI_APTB_ID">	long	
<SV_SV_ID>	enumeration	Service ID (cf Text Lookups)
<SS_SS_ID>	enumeration	Sub service ID (cf Text Lookups)
<AP_NAME> SPECTRAplus)	string (63)	Application Name (not used for import to
<AP_NAME_REFERENCE>	string (63)	Former application name
<AP_VERSION>	string (63)	Application version number (internal)
<AP_PRJ_IDENT>	string (511)	<i>Project Id</i>
<AP_CONCESSION_IDENT>	string (31)	<i>Concession Id</i>
<AP_REGISTER_PERSON>	string (7)	<i>Register Person Code</i>
<AP_REF_NUMBER>	string (63)	<i>Application Reference Number</i>
<AP_COMMENT>	string (511)	<i>Application Comment</i>
<AP_PLAN_NO>	string (20)	<i>Plan Number</i>

<AP_ACTION_TYPE>	enumeration	Application type (new,renew, cf Text Lookups)
<AP_COMMENT_INTERN>	string (511)	Application comment (internal)
<AP_CATEGORY>	enumeration	Category of request (cf Text Lookups)
<AP_COMMENT_LARGE>	string (1000)	comment (internal)
<TCC_SAT_NETID>	string (31)	Network Id
<TCC_NW_AREA_SIZE>	double	Network Area Size
<TCC_NETWORK_TYPE>	long	Type of network
<TCC_NW_SERVICE_TYPE>	enumeration	Service Type (cf Text Lookups)
<TCC_NW_NAME>	stringb(63)	network name
<TCC_AAIC>	string (15)	AAIC
<TCC_SPECIFIC_SERV>	string (31)	specific service
<TCC_ORIG_NET_ID>	string (511)	Original Network ID (ONID)
<LI_REQ_DATE>	Date	Request Date
<LI_LIC_DATE>	Date	License Date
<LI_CANCEL_DATE>	Date	Cancellation Date
<LI_PER_OP_TIME_BEGIN>	Date	Beginning of operational time
<LI_PER_OP_TIME_END>	Date	End of operational time
<LI_FACTOR_PERC_ONCE>	double	Invoice factor once
<LI_FACTOR_PERC_REGULAR>	double	Invoice factor regular
<LI_COMMENT>	string (511)	License Comment
<LI_CSLI_CATEGORY>	enumeration	Cost category (cf Text Lookups)
<LI_CUSTOMER_REF_NO>	string (63)	Customer Reference Number
<LI_PERIOD>	double	Period of validity of licence
<LI_PERIOD_UNIT>	enumeration	Unit for validity period (cf Text Lookups)
<LI_STATUS>	string (128)	Status of licence.
<LI_AR_CLASS>	string (15)	Class of radio-amateur licence
<LI_CAT>	string (3)	Licence category
<LI_RENEWAL_DATE>	Date	Licence renewal date
<LI_RESTRICT>	string (63)	licence restrictions
<LI_EXAM_DATE>	date	examination date
<LI_REASONING>	string (1023)	reasoning
<LI_PARAM_TRADING>	long	is tradable ? (1=yes, 0=no)
<LI_CUSTOMER_DATE1>	Date	Date 1
<LI_CUSTOMER_CAT1>	string (63)	Category 1
<LI_CUSTOMER_NUM1>	double	Number 1
<LI_CUSTOMER_CHAR1>	string 511	String 1
<LI_CUSTOMER_DATE2>	Date	Date 2
<LI_CUSTOMER_CAT2>	string (63)	Category 2
<LI_CUSTOMER_NUM2>	double	Number 2
<LI_CUSTOMER_CHAR2>	string 511	String 2
<LI_CUSTOMER_DATE3>	Date	Date 3
<LI_CUSTOMER_CAT3>	string (1)	Abdication about the appeal right
<LI_CUSTOMER_NUM3>	double	Number 3
<LI_CUSTOMER_CHAR3>	string 511	String 3
<LI_CUSTOMER_DATE4>	Date	Date 4
<LI_CUSTOMER_CAT4>	string (63)	Category 4



<LI_CUSTOMER_NUM4>	double	Number 4
<LI_CUSTOMER_CHAR4>	string 511	String 4
<LI_CUSTOMER_DATE5>	Date	Date 5
<LI_CUSTOMER_CAT5>	string (63)	Category 5
<LI_CUSTOMER_NUM5>	double	Number 5
<LI_CUSTOMER_CHAR5>	string 511	String 5
<LI_PARAM_ONLINE>	long	online processing
<LI_PAY_CATEGORY>	string (3)	payment category
<LI_TRADE_DATE>	Date	requested trade date
<AD_NAME>		not used anymore
<AD_FIRST_NAME>		<i>not used anymore</i>
<AD_SALUTATION>		<i>not used anymore</i>
<AD_TITLE>		not used anymore
<AD_COMPANY>		not used anymore
<AD_DEPARTMENT>		<i>not used anymore</i>
<AD_PERSON_CODE>		<i>not used anymore</i>
<AD_BUILDING_NO>		<i>not used anymore</i>
<AD_HOUSE>		not used anymore
<AD_STREET>		not used anymore
<AD_ZIP>		not used anymore
<AD_COUNTRY>		not used anymore
<AD_PO_BOX>		not used anymore
<AD_ZIP_PO_BOX>		<i>not used anymore</i>
<AD_CITY_PO_BOX>		<i>not used anymore</i>
<AD_CITY>		not used anymore
<AD_PHONE>		not used anymore
<AD_FAX>		not used anymore
<AD_MOBILE>		not used anymore
<AD_E_MAIL>		not used anymore
<AD_COMMENT>		not used anymore
<AD_MAN_NUMBER>		<i>not used anymore</i>
<AD_PASS>		not used anymore
<AD_NATIONALITY>		<i>not used anymore</i>
<AD_BIRTH_DATE>		<i>not used anymore</i>
<AD_BIRTH_PLACE>		<i>not used anymore</i>
<AD_COMMENT_LARGE>		<i>not used anymore</i>
<AD_COMPCODE>		not used anymore
<AD_TAX_ADMIN_NUM>		<i>not used anymore</i>
<AD_PHONE2>		not used anymore
<AD_SUBURB>		not used anymore
<ADO_NAME>		not used anymore
<ADO_FIRST_NAME>		<i>not used anymore</i>
<ADO_SALUTATION>		<i>not used anymore</i>
<ADO_TITLE>		not used anymore
<ADO_COMPANY>		not used anymore
<ADO_DEPARTMENT>		<i>not used anymore</i>

<ADO_PERSON_CODE>		<i>not used anymore</i>
<ADO_HOUSE>		not used anymore
<ADO_STREET>		not used anymore
<ADO_ZIP>		not used anymore
<ADO_COUNTRY>		not used anymore
<ADO_PO_BOX>		not used anymore
<ADO_ZIP_PO_BOX>		<i>not used anymore</i>
<ADO_CITY_PO_BOX>		<i>not used anymore</i>
<ADO_CITY>		not used anymore
<ADO_PHONE>		not used anymore
<ADO_FAX>		not used anymore
<ADO_MOBILE>		not used anymore
<ADO_E_MAIL>		not used anymore
<ADO_COMMENT>		not used anymore
<ADO_MAN_NUMBER>		<i>not used anymore</i>
<ADDRESS> {0 ... n}	ADDRESSType	see ADDRESSType description
<STATION> {0 ... n}	STATIONType	see STATIONType description
<AIRCRAFT>	AIRCRAFTType	see AIRCRAFTType description
or		
<SHIP>	SHIPType	see SHIPType description
<CAN>	CANType	see CANType description
<CALL_SIGNS>	CALL_SIGNSType	see CALL_SIGNSType description
<MMSIS>	MMSISType	see MMSISType description
<ATTACHMENT> {0 ... n}	ATTACHMENTType	see ATTACHMENTType description
<APPLICATION_FLAGS> {0 - 1} description	APPLICATION_FLAGSType	see APPLICATION_FLAGSType
<APPLICATION_LINK> {0 - 1} description	APPLICATION_LINKType	see APPLICATION_LINKType
<APPLICATION_OFFICIAL> {0 - 1} description	APPLICATION_OFFICIALType	see APPLICATION_OFFICIALType
<WORKFLOW_HISTORY> {0 - n} description	WORKFLOW_HISTORYType	see WORKFLOW_HISTORYType
<COMPLAINT> {0 - n}	COMPLAINTType	see COMPLAINTType description
<RD_EQUIP_REGISTRATIONS> RD_EQUIP_REGISTRATIONType description	RD_EQUIP_REGISTRATIONSType	see
</APPLICATION>		

## 2.1.15 APPLICATION\_FLAGS TYPE

<APPLICATION_FLAGS>		
<AF_WEB_S01>	string (63)	status flag
<AF_WEB_S01_COMMENT>	string (511)	status flag comment
<AF_WEB_S02>	string (63)	status flag
<AF_WEB_S02_COMMENT>	string (511)	status flag comment
<AF_WEB_S03>	string (63)	status flag
<AF_WEB_S03_COMMENT>	string (511)	status flag comment

<AF_WEB_S04>	string (63)	status flag
<AF_WEB_S04_COMMENT>	string (511)	status flag comment
<AF_WEB_S05>	string (63)	status flag
<AF_WEB_S05_COMMENT>	string (511)	status flag comment
<AF_WEB_S06>	string (63)	status flag
<AF_WEB_S06_COMMENT>	string (511)	status flag comment
<AF_WEB_S07>	string (63)	status flag
<AF_WEB_S07_COMMENT>	string (511)	status flag comment
<AF_WEB_S08>	string (63)	status flag
<AF_WEB_S08_COMMENT>	string (511)	status flag comment
<AF_WEB_S09>	string (63)	status flag
<AF_WEB_S09_COMMENT>	string (511)	status flag comment
<AF_WEB_S10>	string (63)	status flag
<AF_WEB_S10_COMMENT>	string (511)	status flag comment
<AF_WEB_D01>	Date	status flag date
<AF_WEB_D01_COMMENT>	string (511)	comment to status flag date
<AF_WEB_D02>	Date	status flag date
<AF_WEB_D02_COMMENT>	string (511)	comment to status flag date
<AF_WEB_D03>	Date	status flag date
<AF_WEB_D03_COMMENT>	string (511)	comment to status flag date
<AF_WEB_D04>	Date	status flag date
<AF_WEB_D04_COMMENT>	string (511)	comment to status flag date
<AF_WEB_D05>	Date	status flag date
<AF_WEB_D05_COMMENT>	string (511)	comment to status flag date
<AF_WEB_D06>	Date	status flag date
<AF_WEB_D06_COMMENT>	string (511)	comment to status flag date
<AF_WEB_D07>	Date	status flag date
<AF_WEB_D07_COMMENT>	string (511)	comment to status flag date
<AF_WEB_D08>	Date	status flag date
<AF_WEB_D08_COMMENT>	string (511)	comment to status flag date
<AF_WEB_D09>	Date	status flag date
<AF_WEB_D09_COMMENT>	string (511)	comment to status flag date
<AF_WEB_D10>	Date	status flag date
<AF_WEB_D10_COMMENT>	string (511)	comment to status flag date
</APPLICATION_FLAGS>		

## 2.1.16 APPLICATION\_LINK TYPE

<APPLICATION_LINK>		
<AP_AP_ID_FROM>	string (63)	id of former application
<AL_TYPE>	long	application link type: 1(=default)
</APPLICATION_LINK>		

## 2.1.17 APPLICATION\_OFFICIAL TYPE

<APPLICATION\_LINK>

<ADDRESS> {0 ... n}	ADDRESSType	see ADDRESSType description
---------------------	-------------	-----------------------------

</APPLICATION\_LINK>

## 2.1.18 APPLICATION\_TEXT\_BLOCK TYPE

< APPLICATION_TEXT_BLOCK >		
<APTB_TABLE_PREFIX>	string (30)	table prefix
<APTB_TABLE_ID>	long	primary key id of a table
<APTB_DESCRIPTION>	string (255)	text block description
<APTB_CATEGORY>	string (255)	text block category
<APTB_TEXT>	string (1999)	text block
</ APPLICATION_TEXT_BLOCK >		

## 2.1.19 ATTACHMENT TYPE

<ATTACHEMENT>		
<DESCRIPTION>	string (255)	Attachement description
<FILE_NAME>	string (255)	name of attachment. In case of
IS_REFERENCE==1 this is the location of the external file (content is not within xml/FILE_BLOB)		
<FILE_BLOB>	Base64Binary	Base64 encoded attachment content
or		
<IS_REFERENCE>	long	set this to 1 if attachment content is referenced
by FILE_NAME (content is not within xml/FILE_BLOB)		
<LE_YOUR_SIGN>	string (63)	letter reference
<LE_YOUR_DATE>	Date	letter date
</ATTACHEMENT>		

## 2.1.20 BILLING\_CUSTOMER\_DATA TYPE

<BILLING_CUSTOMER_DATA>		
<Attribute: "BIC_ID_SRC_SPECTRA">	string (63)	
<Attribute: "BIC_ID_SRC_SPECTRA">	string (63)	
<BIC_BOOK_ACCOUNT>	string (15)	Book Account
<BIC_BANK_ACCOUNT>	string (31)	Bank Account
<BIC_BANK_NAME>	string (63)	Bank Name
<BIC_BANK_IDENT>	string (63)	Bank Identification
<BIC_PAYM_TYPE>	Long	Payment Type
<BIC_KSH_NUM>	string (31)	KSH number
<BIC_TAX_ADMIN_NUM>	string (31)	Tax Admin Number
<BIC_TAX_ADMIN_NUM_EU>	string (31)	European Union tax num
<BIC_FIN_REG_NUM>	string (31)	Financial register number
<BIC_HIRE_PURCHASE_FLAG>	Long	Hire-purchase agreement flag (0/1)
<BIC_COMMENT>	string (511)	Comment
<BIC_COMMENT_LARGE>	string (1000)	Comment Large

<BIC_COMMENT_INTERN>	string (511)	Comment Internal
<BIC_TAX_ADMIN_NUM_GRP>	string (31)	Tax Admin Number Group
</BILLING_CUSTOMER_DATA>		

## 2.1.21 CAN TYPE

<CAN>		Coverage area network
<SITE> {1 ... n}	SITEType	see SITEType description
</CAN>		

## 2.1.22 CALL\_SIGN TYPE

<CALL_SIGN>		
<TCCS_CALL>	string (255)	call sign
</CALL_SIGN>		

## 2.1.23 CALL\_SIGNS TYPE

<CALL_SIGNS>		
<CALL_SIGN> {0 ... n}	CALL_SIGNTYPE	see CALL_SIGNTYPE description
</CALL_SIGNS>		

## 2.1.24 CAS TYPE

<CAS>		Coverage area station
<SITE> {1 ... n}	SITEType	see SITEType description
</CAS>		

## 2.1.25 COMPLAINT TYPE

<COMPLAINT>		
<Attribute: "TCCO_ID_SRC_SPECTRA ">	string (63)	
<Attribute: "AP_AP_ID_AF ">	string (63)	
<Attribute: "TCS_TCS_ID ">	string (63)	
<TCCO_COMPLAINT>	string (1000)	report of irregularity or infringement
<TCCO_MEASURE>	string (1000)	measures to be taken
<TCCO_OUTCOME>	string (1000)	outcome of investigation
<TCCO_COMMENT>	string (1000)	complaint comments
</COMPLAINT>		

## 2.1.26 COORDINATED\_FREQUENCY TYPE

<COORDINATED_FREQUENCY>		
<Attribute: "COF_ID_SRC_SPECTRA">	string (63)	
<Attribute: "COF_ID_SRC_EXTERN">	string (63)	
<COF_DAT>	Date	Coordination Date
<COF_USE_DATE>	Date	Date of Bringing in Use
<COF_FIN>	Date	Coordination Final Date
<COF_COUNTRY>	string (3)	Country Code for Active Coordination
<COF_STATUS>	string (1)	Coordination Status (cf T. Lookups)
<COF_COMMENT>	string (511)	coordination comment
</COORDINATED_FREQUENCY>		Coordinated Frequency End Tag

## 2.1.27 EFF\_HEIGHTS TYPE

<EFF_HEIGHTS>		
<EFF_HEIGHT> {0 ... n}	EFF_HEIGHTType	see EFF_HEIGHTType description
</EFF_HEIGHTS >		

## 2.1.28 EFF\_HEIGHT TYPE

<EFF_HEIGHT>		
<EH_ANGLE>	double	Angle (°)
<EH_HEIGHT>	double	Height (m)
</EFF_HEIGHT>		

## 2.1.29 EMFSTYPE

<EMFS>		
<EMF> {0 ... n}	EMFType	see EMFType description
</EMFS>		

## 2.1.30 EMFTYPE

<EMF>		
<EMF_EXPQ_LFR> Range (Existing sources)	double	Exposure Quotient Low Frequency
<EMF_EXPQ_HFR_TH> Range Thermal (Existing sources)	double	Exposure Quotient HighFrequency
<EMF_EXPQ_HFR_NONTH> Range Nonthermal (Existing sources)	double	Exposure Quotient HighFrequency

<EMF_EXPQ_LFR_NEW> Range (Existing sources and new station)	double	Exposure Quotient Low Frequency
<EMF_EXPQ_HFR_TH_NEW> Range Thermal (Existing sources and new station)	double	Exposure Quotient HighFrequency
<EMF_EXPQ_HFR_NONTH_NEW> Range Nonthermal (Existing sources and new station)	double	Exposure Quotient HighFrequency
<EMF_COMMENT>	string (511)	comment
<EMF_COMMENT_INTERN>	string (511)	internal comment

</EMF>

### 2.1.31 EQP\_OP\_COUNTRIES TYPE

<EQP_OP_COUNTRIES>		
<COUNTRY_CODE>	string (3)	<i>ITU country code</i>
<OPERATION_PLANNED>	string (1)	<i>1: yes, 0: no</i>
<NOTIFICATION>	string (3)	<i>I: individual license G: general license</i>
</EQP_OP_COUNTRIES>		

### 2.1.32 EQUIP\_DETAIL TYPE

<EQUIP_DETAIL>		
<ED_EQUIP_SN>	string (80)	<i>Serial number of equipment</i>
<ED_EQUIP_SN_PREFIX>	string (15)	<i>Prefix for serial number of equipment</i>
<ED_EQUIP_MAP_POS>	string (20)	<i>Field for mapping support only</i>
</EQUIP_DETAIL>		

### 2.1.33 EQUIP\_EMISSION TYPE

<EQUIP_EMISSION>		
<EQE_EMI>	string (63)	Emission Class
<EQE_EMI_CARRIER1>	string (63)	Designation of emission (Sound carrier 1)
<EQE_EMI_CARRIER2>	string (63)	Designation of emission (Sound carrier 2)
</EQUIP_EMISSION>		

### 2.1.34 EQUIPMENT GROUP

<EQUIPMENTgroup>		
<EQP_EQUIP_NAME>	string (511)	Equipment Name
<EQP_EQUIP_TYPE>	enumeration	Equipment Type (cf Text Lookups)
<EQP_TYPE_IS_APPROVED>	long	Type Approved (1=yes)
<EQP_EQUIP_IDENT>	string (255)	Identification Number

<EQP_EQUIP_MODEL>	string (511)	Model of Physical Equipment
<EQP_EQUIP_PROD>	string (127)	Manufacture
<EQP_EQUIP_NUM>	long	Number of equipments
<EQP_EQ_PURPOSE>	string (511)	Purpose
<EQP_CAT>	string (63)	Category
<EQP_CAT_COMMENT>	string (511)	Comment
<EQP_COMMENT>	string (255)	Comment
<EQP_MODE_OP>	string (31)	Mode of Operation (Simplex, Duplex, ..)
<EQP_STANDARDS> specifications	string (255)	Harmonized Standards or technical
<EQP_ASSESS_PROC> assessment procedure the EQ has to pass during EQ approval/notification	string (63)	Name/Description of kind of conformity
<EQP_ASSESS_ORG> involved in the conformity assessment procedure	string (63)	Name/Number or numbers of the notified bodies
<EQP_SOFTWARE_VERSION>	string (31)	Version number of the Software/Firmware
<EQP_HARDWARE_VERSION>	string (31)	Version number of the Hardware
<EQP_EQUIP_MAP_POS>	string (20)	Field for mapping support only
<EQP_UPDATE_STATUS>	string (3)	update status
<EQP_MAX_AGGREG_POW> group [W]	double	maximum aggregated power of transponder
< EQP_MAX_AGGREG_POW_DUNIT> transponder group (internal)	string (3)	display unit for maximum aggregated power of
<EQP_CSEQP_CATEGORY1>	string (31)	cost category 1
<EQP_CSEQP_CATEGORY2>	string (31)	cost category 2
<EQP_TYPE_BASE>	integer	type base (1=yes / 0=no)
< EQP_TYPE_PORTABLE>	integer	type portable (1=yes / 0=no)
< EQP_TYPE_MOBILE>	integer	type mobile (1=yes / 0=no)
< EQP_TYPE_BOAT>	integer	type boat (1=yes / 0=no)
< EQP_EQUIP_OWNER>	string (255)	equipment owner
<EQP_OP_COUNTRIES> description	EQP_OP_COUNTRIESType	see EQP_OP_COUNTRIESType
<EQUIP_DETAIL>	EQUIP_DETAILType	see EQUIP_DETAILType description
<EQ_EQUIP_NAME>	string (31)	Name of Equipment
<EQ_RF_BWIDTH>	double	Radio Frequency Bandwidth (Hz)
<EQ_RF_BWIDTH_DUNIT>	string (3)	Radio frequency bandwidth display unit (internal)
<EQ_KF_BANDWIDTH>	double	KF Bandwidth (Hz)
<EQ_KF_BANDWIDTH_DUNIT>	string (3)	Display unit (internal)
<EQ_CHAN_O>	long	Channel occupation
<EQ_NOISE_FACTOR>	double	Noise Factor
<EQ_CSEQ_CATEGORY>	enumeration	Cost category (cf text lookups)
<EQ_COMMENT>	string (1000)	Comment
<EQ_FREQ_BAND>	string (512)	Frequency Band
<EQ_FREQ_OPERA>	string (255)	Operating frequencies
<EQ_MODULATION>	string (31)	Type of modulation
<EQ_CH_TRANS_SERVICE>	long	Number of service channels
<EQ_CHANNEL_SPACE>	double	Channel spacing (in Hz)
<EQ_CHANNEL_SPACE_UNIT>	string (3)	internal
<EQ_CHANNEL_SPACE_DUNIT>	string (3)	Display unit (internal)
<EQ_OP_TIME_DESC>	string (63)	Duty cycle/Operating time



<EQ_MULTIPLEX>	string (15)	Multiplexing method
<EQ_AN_TYPE>	string (63)	Type of antenna
<EQ_SPACE_DIVERSITY>	long	Space diversity (0 = No, 1 = Yes)
<EQ_FREQ_DIVERSITY>	long	Frequency diversity (0 = No, 1 = Yes)
<EQ_ANGLE_DIVERSITY>	long	Angle diversity (0 = No, 1 = Yes)
<EQ_POL_DIVERSITY>	long	Polarization diversity (0 = No, 1 = Yes)
<EQ_FS_TRANSFER_CAPACITY>	string (21)	Max. data transfer rate
<EQ_FS_TRANSFER_RATE>	double	Max. data transfer rate [bit/s]
<EQ_INTERNAL_IDENT>	long	Equipment internal identification
<EQ_TV_PREC_OFFSET>	string (3)	Offset type
<EQ_TV_OFF>	string (3)	Frequency offset (TV)
<EQ_TV_OFF_FREQ>	double	Frequency offset (absolute)
<EQ_TV_OFF_FREQ_DUNIT>	string (3)	display unit (internal)
<EQ_F_STAB>	double	Frequency stability
<EQ_F_STAB_DUNIT>	string (3)	display unit (internal)
<EQ_ANALOG_OR_DIGITAL>	enumeration	Analog or digital signal (cf Text lookups)
<EQ_TV_POWER_RATIO>	double	Vision to sound ratio
<EQ_TV_POWER_RATIO2>	double	Vision to sound ratio (2)
<EQ_TV_COLOR_SYS>	string (3)	Color system (PAL, SECAM, etc.)
<EQ_TV_SYS>	string (15)	System
<EQ_TV_SEC_SOUND_SYS>	string (20)	Second sound system
<EQ_FREQ_LO>	double	lower frequency band [Hz]
<EQ_FREQ_LO_DUNIT>	string (3)	display unit (internal)
<EQ_FREQ_UP>	double	upper frequency band [Hz]
<EQ_FREQ_UP_DUNIT>	string (3)	display unit (internal)
<EQ_EQUIP_OTHER>	string (499)	other equipment
<EQ_SPEC EFFIC CLASS>	string (31)	spectrum efficiency class
<EQ_FREQ_RANGE_MIN>	double	frequency range minimum [Hz]
<EQ_FREQ_RANGE_MIN_DUNIT>	string (3)	display unit (internal)
<EQ_FREQ_RANGE_MAX>	double	frequency range maximum [Hz]
<EQ_FREQ_RANGE_MAX_DUNIT>	string (3)	display unit (internal)
<EQ_CH_TRANS_AUDIO>	double	number of audio channels
<EQ_DUPLEX_SPACE>	double	spacing - Lower/Upper Band
<EQ_DUPLEX_SPACE_DUNIT>	string (3)	display unit (internal)
<EQE_EMI>	string (63)	Emission Class
<EQE_EMI_CARRIER1>	string (63)	Designation of emission (Sound carrier 1)
<EQE_EMI_CARRIER2>	string (63)	Designation of emission (Sound carrier 2)
<EQUIP_EMISSION> {0 ... n}	EQUIP_EMISSIONType	see EQUIP_EMISSIONType
<ADDRESS> {0 ... n}	ADDRESSType	see ADDRESSType description

</EQUIPMENTgroup>

## 2.1.35 EQUIPMENT TYPE

<EQUIPMENT>		
<TRANSMITTER_DL> {0 ... n}	TRANSMITTER_DLType	see TRANSMITTER_DLType description
<RECEIVER_DL> {0 ... n}	RECEIVER_DLType	see RECEIVER_DLType description

</EQUIPMENT>

## 2.1.36 FILTER\_DL TYPE

<FILTER\_DL>  
    <FILTERS> {1 ... n}                      FILTERSType              see FILTERSType description  
</FILTER\_DL >

## 2.1.37 FILTERS TYPE

<FILTERS>  
    <Attribute: "FIDE\_ID\_SRC\_SPECTRA">              string (63)  
    <Attribute: "FIDE\_ID\_SRC\_EXTERN">              string (63)  
    <Attribute: "FIDE\_SPECTRUM\_MASK">              enumeration  
    <FILTER> {0 ... n}                      FILTERType              see FILTERType description  
</FILTERS >

## 2.1.38 FILTER TYPE

<FILTER>  
    <FI\_FREQ>                                      double                      *Frequency (Hz)*  
    <FI\_ATTENUATION>                              double                      *Attenuation (dB)*  
</FILTER>

## 2.1.39 FREQUENCY TYPE

<FREQUENCY>  
    <Attribute: "EFL\_ID\_SRC\_SPECTRA">              string (63)  
    <Attribute: "EFL\_ID\_SRC\_EXTERN">              string (63)  
    <Attribute: "LEQ\_ID\_SRC\_EXTERN">              string (63)  
    <Attribute: "EFL\_EFL\_ID\_SRC">                  int  
    <Link>    string (31)  
    <SHAREDLINK>                                  SHAREDLINKType              see SHAREDLINKType description  
    <Related>                                      string                          Related Frequency  
    <EFL\_FREQ\_ID>                                  string (63)                      internal frequency identification  
    <EFL\_FREQ>                                      double                          *Frequency (Hz)*  
    <EFL\_FREQ\_DUNIT>                              string (3)                          Frequency display unit (internal)  
    <EFL\_OP\_HOUR>                                  string (11)                          Hours of Operation (hhmm-hhmm,  
    where hh is one or two digits which correspond to the hours and mm are always two digits which correspond to the minutes, examples 730-1500, 1345-2400, ...)

<EFL_GSM_SYS>	enumeration	Gsm System (cf Text Lookups)
<EFL_CHANNEL_SPACE>	double	Channel Space (Hz)
<EFL_CHANNEL_SPACE_DUNIT>	string (3)	Channel space display unit (internal)
<EFL_RF_BWIDTH>	double	<i>Bandwidth (Hz)</i>
<EFL_RF_BWIDTH_DUNIT>	string (3)	Bandwidth display unit (internal)
<EFL_USE_TYPE>	enumeration	Usage Type (cf Text Lookups)
<EFL_REF_FREQ>	double	Reference frequency [Hz]
<EFL_REF_FREQ_DUNIT>	string (3)	Reference frequency display unit (internal)
<EFL_TV_SOUND_CARRIER>		
<EFL_TV_SOUND_CARRIER_DUNIT>	string (3)	display unit (internal)
<EFL_TV_SOUND_CARRIER2>		
<EFL_TV_SOUND_CARRIER2_DUNIT>	string (3)	display unit (internal)
<EFL_CHANNEL>	string (31)	Channel name
<EFL_SOUND_MO_ST>	string (1)	Mono/Stereo transmission
<EFL_PRG>	string (63)	Program
<EFL_DECISION_NO>	string (15)	ORTT decision number
<EFL_PRG_PROV_CONTRACT_NO>	string (15)	Program providing contract number
<EFL_DECISION_DATE>	Date	ORTT decision date
<EFL_PRG_PROV_CONTRACT_DATE>	Date	Program Providing contract date
<EFL_PRG_PROV_CANCEL_DATE>	Date	Program Providing cancel date
<EFL_PRG_RANGE>	string (5)	Program(s) range (national, district, regional)
<EFL_PRG_CHARACTER> non-profit [N]	string (5)	Program(s) character (public [P], commercial[C], non-profit [N])
<EFL_PRG_INFO> with program	string (31)	Other information broadcasted simultaneously with program
<EFL_PRG_LANG>	string (31)	Language of the transmitted program
<LEQ_TRANSFER_RATE>	double	transfer rate of link (Bit/s)
<LEQ_RELIAB>	double	link reliability (%)
<LEQ_PATHLOSS>	double	path loss [dB]
<LEQ_PATHLOSS_ADD>	double	additional path loss [dB]
<LEQD_NAME>	string (63)	link name
<LEQD_FPLAN_EL_NAME>	string (63)	name of frequency plan element
<LEQD_CIRC_LEN>	double	Length of circuit [km]
<LEQD_UPDATE_STATUS>	string (3)	update status
<LEQD_SYSTEM>	string (63)	system ID
<LEQD_XPIC_GRP_ID>	string (63)	XPIC Group ID
<EFL_MAP_POS>	string (20)	Field for mapping support only
<EFL_COMMENT>	string (511)	comment
<EFL_MODE_OP>	string (255)	Operation mode
<EFL_TIMESLOT>	string (255)	Time slots
<EFL_SIG_CODE>	string (2000)	Signalling codes
<EFL_UPPER_LOWER>	string (1)	upper/lower band (U=upper/L=lower)
<EFL_FPLAN_EL_NAME>	string (63)	frequency plan element name
<EFL_UPDATE_STATUS>	string (3)	update status
<EFL_COLOR_CODE>	string (31)	color code
<EFL_TIMESLOT_LEN>	double	to capture timeslot length [msec]
<EFL_TIMESLOT_LEN_DUNIT>	string (3)	display unit for timeslot capture length (internal)
<EFL_ITU_NOTICE_NO>	string (31)	notice number (unique id of admin.)
<EFL_ITU_PLAN_ENTRY>	string (3)	plan entry

<EFL_ITU_ASSGN_CODE>	string (3)	assignement code
<EFL_ITU_REF_PLAN_CFG>	string (5)	reference plan config
<EFL_ITU_RX_MODE>	string (5)	rx mode
<EFL_ITU_ADM_ALLOT_ID>	string (31)	corresponding allotment id
<EFL_ITU_ALLOT_SFN_ID>	string (31)	corresponding allotment SFN id
<EFL_ITU_IS_PUB_REQ>	string (3)	is pub. req.
<EFL_ITU_ADDR_CODE>	string (3)	address code
<EFL_ITU_REM_COND_MET>	string (3)	remark cond. Met
<EFL_FREQ_TO>	double	<i>Frequency (Hz)</i>
<EFL_FREQ_TO_DUNIT>	string (3)	Frequency display unit (internal)
<EFL_TIME_DELAY>	double	time delay [s]
<EFL_LIC_START_DATE>	DateTime	License start date
<EFL_LIC_END_DATE>	DateTime	License end date
<EFL_CARRIER_NUM>	string (15)	number of carriers
<EFL_ITU_IFRB_DATE>	DateTime	date of IFRB notification
<EFL_ITU_IFRB_NO>	string (15)	No. of IFRB notification
<EFL_SYSTEM>	string (63)	System ID
<EFL_FREQ_IDENT>	string (31)	Frequency Ident Code
<EFL_PRG_OPT>	string (63)	Optional Program
<EFL_RDS_PI> 2 digits of which cannot be zero ("00")	string (4)	RDS - PI Code, 4-digit hexadecimal number, last
<EFL_RDS_PI_OPT> number, last 2 digits of which cannot be zero ("00")	string (4)	RDS - Opt out PI Code, 4-digit hexadecimal
<COORDINATED_FREQUENCY> {0 ... n} COORDINATED_FREQUENCYType description	COORDINATED_FREQUENCYType	see
<ITU_NOTIFICATION_TERRA> ITU_NOTIFICATION_TERRAType description	ITU_NOTIFICATION_TERRAType	see
<ITU_NOTIFICATION_SPACE> ITU_NOTIFICATION_SPACEType description	ITU_NOTIFICATION_SPACEType	see
<ADDRESS> {0 ... n}	ADDRESSType	see ADDRESSType description

</FREQUENCY>

## 2.1.40 HORIZONTAL\_ELEVATIONS TYPE

<HORIZONTAL_ELEVATIONS>		
<HORIZONTAL_ELEVATION> {0 ... n} HORIZONTAL_ELEVATIONType description	HORIZONTAL_ELEVATIONType	see

</HORIZONTAL\_ELEVATIONS>

### 2.1.41 HORIZONTAL\_ELEVATION TYPE

<HORIZONTAL_ELEVATION>		
<HE_AZIMUT>	double	Azimuth (°)
<HE_ELEVATION>	double	Elevation (°)
<HE_DIST>	double	



</ITU\_NOTIFICATION\_TERRA>

## 2.1.46 LINKS TYPE

<LINKS>  
    <LINK> {1 ... n}                      LINKType                      see LINKType description  
</LINKS>

## 2.1.47 LINK TYPE

<LINK>  
    <Attribute: "LINK\_TYPE">                      long                      type of link  
    <Attribute: "SHARED">                      long                      shared link? 0:no, 1:yes  
    <ID>                      string (31)                      Link ID  
    <LEQD\_NAME>                      string (63)                      Link name  
    <LEQD\_CIRC\_LEN>                      double                      Length of circuit [km]  
    <LEQD\_COMMENT>                      string (511)                      Comment  
    <LEQD\_UPDATE\_STATUS>                      string (3)                      update status  
    <LEQD\_SYSTEM>                      string (63)                      system ID  
</LINK>

## 2.1.48 MMSI TYPE

<MMSI>  
    <TCM\_MMSI>                      string (255)                      MMSI  
</MMSI>

## 2.1.49 MMSIS TYPE

<MMSIS>  
    <MMSI> {0 ... n}                      MMSIType                      see MMSIType description  
</MMSIS>

## 2.1.50 MSC TYPE

<MSC>  
    <SITE> {0 ... n}                      SITEType                      see SITEType description  
</MSC>

## 2.1.51 RD\_EQUIP\_REGISTRATION TYPE

<RD_EQUIP_REGISTRATION>		
<RDER_SUBCATEGORY>	string (15)	registration subcategory
<RDER_REGISTERED> registered	long	is equipment registered ? 0 = not registered; 1 =
<RDER_COMMENT>	string (511)	comment
</ RD_EQUIP_REGISTRATION >		

## 2.1.52 RD\_EQUIP\_REGISTRATIONS TYPE

<RD_EQUIP_REGISTRATIONS>		
<RD_EQUIP_REGISTRATION> {0 ... n}	RD_EQUIP_REGISTRATION	see
RD_EQUIP_REGISTRATION	Type	description
</RD_EQUIP_REGISTRATIONS>		

## 2.1.53 RECEIVER\_DL TYPE

<RECEIVER_DL>		
<Attribute: "EQP_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EQP_ID_SRC_EXTERN">	string (63)	
<Attribute: "EQ_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EQ_ID_SRC_EXTERN">	string (63)	
<Attribute: "EAN_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EAN_ID_SRC_EXTERN">	string (63)	
<Attribute: "EAN_NO_NORMALIZE"> (1=disabled; 0/empty=enabled)	Long	enable/disable data import normalisation
<Attribute: "EAC_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EAC_ID_SRC_EXTERN">	string (63)	
<Attribute: "EQ_APTB_ID">	long	
<EQUIPMENTgroup>	EQUIPMENTgroup	see EQUIPMENTgroup description
<ERX_MIN_LEVEL>	double	Minimum Receive Level (dBm)
<ERX_MIN_LEVEL_DUNIT>	string (3)	display unit (internal)
<ERX_BAND_WIDTH>	double	<i>Bandwidth (Hz)</i>
<ERX_BAND_WIDTH_DUNIT>	string (3)	display unit (internal)
<ERX_C_I>	double	Carrier Interference (dB)
<ERX_C_I_SHORT>	double	Carrier Interference Short(dB)
<ERX_MPL>	double	Minimum Power Level (dBm)
<ERX_MPL_DUNIT>	string (3)	display unit (internal)
<ERX_NOISE_TEMP>	double	Noise Temperature (Kelvin)
<ERX_MIN_SENSE>	double	Receiver Sensitivity (Volts)
<ERX_MIN_SENSE_DUNIT>	string (3)	display unit (internal)
<ERX_TOT_ATT_H44> dB)	double	Receiver side equipment total attenuation (+/-
<ERX_BER>	double	Bit error rate
<ERX_MPIL>	double	Maximum permissible interference level [dBm]
<ERX_MPIL_DUNIT>	string (3)	display unit (internal)

<ERX_COMMENT>	string (511)	Comment
<ERX_UPDATE_STATUS>	string (3)	update status
< ERX_XIF>	double	XIF [dB]
</RECEIVER_DL>		

## 2.1.54 RECEIVER TYPE

<RECEIVER>		
<Attribute: "EQP_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EQP_ID_SRC_EXTERN">	string (63)	
<Attribute: "EQP_EQP_ID_SRC">	int	
<Attribute: "EQP_EQP_ID_APROV">	int	
<Attribute: "EQ_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EQ_ID_SRC_EXTERN">	string (63)	
<Attribute: "EQ_EQ_ID_SRC">	int	
<Attribute: "EAN_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EAN_ID_SRC_EXTERN">	string (63)	
<Attribute: "EAN_NO_NORMALIZE"> (1=disabled; 0/empty=enabled)	Long	enable/disable data import normalisation
<Attribute: "EAC_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EAC_ID_SRC_EXTERN">	string (63)	
<Attribute: "EQ_APTB_ID">	long	
<Attribute: "EAN_ANT_IDENT_TEMP">	string (63)	Temporary antenna identifier. Temporary means that this identifier is not stored in SPECTRA (in contrast to EAN_ANT_IDENT). Identifier can be used to reference an antenna with patterns within XML file. This way antenna data doesn't need to be repeated within XML file. Identifier needs to be unique within XML file. If using EAN_ANT_IDENT_TEMP feature, no other EAN fields should be populated.
<EQUIPMENTgroup>	EQUIPMENTgroup	see EQUIPMENTgroup description
<ERX_MIN_LEVEL>	double	Minimum Receive Level (dBm)
<ERX_MIN_LEVEL_DUNIT>	string (3)	display unit (internal)
<ERX_BAND_WIDTH>	double	<i>Bandwidth (Hz)</i>
<ERX_BAND_WIDTH_DUNIT>	string (3)	display unit (internal)
<ERX_C_I>	double	Carrier Interference (dB)
<ERX_C_I_SHORT>	double	Carrier Interference Short(dB)
<ERX_MPL>	double	Minimum Power Level (dBm)
<ERX_MPL_DUNIT>	string (3)	display unit (internal)
<ERX_NOISE_TEMP>	double	Noise Temperature (Kelvin)
<ERX_MIN_SENSE>	double	Receiver Sensitivity (Volts)
<ERX_MIN_SENSE_DUNIT>	string (3)	display unit (internal)
<ERX_TOT_ATT_H44> (dB)	double	Receiver side equipment total attenuation (+/- dB)
<ERX_BER>	double	Bit error rate
<ERX_MPIL>	double	Maximum permissible interference level [dBm]
<ERX_MPIL_DUNIT>	string (3)	display unit (internal)
<ERX_COMMENT>	string (511)	Comment
<ERX_UPDATE_STATUS>	string (3)	update status
< ERX_XIF>	double	XIF [dB]



<ERX_C_N>	double	C/N
<ANTENNACONFIGgroup>	ANTENNACONFIGgroup	see ANTENNACONFIGgroup description
<ANTENNAgroup>	ANTENNAgroup	see ANTENNAgroup description
<FILTERS>	FILTERSType	see FILTERSType description
<FREQUENCY> {0 ... n}	FREQUENCYType	see FREQUENCYType description
<INSTALLED_EQUIPMENTS> INSTALLED_EQUIPMENTSType description	INSTALLED_EQUIPMENTSType	see
</RECEIVER>		

## 2.1.55 SATELLITE\_DL TYPE

<SATELLITE_DL>		
<SATELLITE> {1 ... n}	SATELLITEType	see SATELLITEType description
</SATELLITE_DL>		

## 2.1.56 SATELLITE GROUP

<SATELLITEgroup>		
<SA_SAT_NAME>	string (31)	Satellite Name only for sat. service
<SA_SAT_LONG_NOM> West, + for East)	double	nominal longitude of geostationary satellite (- for
<SA_SAT_INCEXC>	double	Inclination angle of satellite [°]
<SA_AZI_ANG_FROM>	double	Azimuth (From) angle for NGSO [°]
< SA_AZI_ANG_TO>	double	Azimuth (To) angle for NGSO [°]
<SA_MIN_ELEV>	double	Minimum elevation angle for NGSO [°]
< SA_SAT_GEO_POS >	string (1)	is satellite geostationery? 1=yes,0=no
<SA_SAT_MERIT_G_T>	double	G/T [dBK]
</SATELLITEgroup>		

## 2.1.57 SATELLITE TYPE

<SATELLITE>		
<Attribute: SA_ID_SRC_SPECTRA>	string (63)	
<Attribute: "SA_ID_SRC_EXTERN">	string (63)	
<Attribute: "SA_NO_NORMALIZE"> (1=disabled; 0/empty=enabled)	Long	enable/disable data import normalisation
<SATELLITEgroup>	SATELLITEgroup	see SATELLITEgroup description
</SATELLITE>		

## 2.1.58 SHAREDLINK TYPE

<SHAREDLINK>		
<ID>	string (31)	Shared link ID
<FORMERREFNUMBER>	string (63)	<i>Application Reference Number</i>
<LICENSEECODE>	string (31)	<i>License Code</i>
<NETWORKCODE>	string (31)	<i>Network Identification</i>
<STATIONCODE>	string (31)	<i>Station Identification</i>
</SHAREDLINK>		

## 2.1.59 SHIP TYPE

<SHIP>		
<Attribute: "SH_ID_SRC_SPECTRA">		
<Attribute: "SH_ID_SRC_EXTERN">		
<SH_NAME>	string (31)	<i>Name of ship</i>
<SH_CALL>	string (15)	Call sign of ship
<SH_SHIP_TYPE>	string (31)	<i>Ship type</i>
<SH_SHIP_CLASS>	string (31)	<i>Ship class</i>
<SH_HOME_PORT>	string (63)	<i>Home port</i>
<SH_GROSS_TONNAGE>	double	<i>Gross tonnage</i>
<SH_PASSENGERS>	double	<i>Number of passengers</i>
<SH_LENGTH>	double	<i>Ship length</i>
<SH_LIFEBOATS_NUM>	double	<i>Number of lifeboats</i>
<SH_AREA_CODE>	string (31)	<i>Area Code</i>
<SH_MMSI_DSC>	string (31)	<i>Selective call No_M</i>
<SH_SSFC>	string (31)	<i>Selective call No_S</i>
<SH_GMDSS>	string (3)	<i>GMDSS compliant</i>
<SH_COMMENT>	string (511)	<i>Comment</i>
<SH_COMMENT_INTERN>	string (511)	<i>Comment</i>
<SH_CORRESP_CAT>	string (3)	Public correspondence category
<SH_INDIV_CLASS>	string (31)	Individual ship classification
<SH_BEACON_NO>	double	Number of the EPIRB's on board of the ship
<SH_BEACON_A>	double	Number of the EPIRB's type A on board of the
ship		
<SH_BEACON_B>	double	Number of the EPIRB's type B on board of the
ship		
<SH_BEACON_C>	double	Number of the EPIRB's type C on board of the
ship		
<SH_BEACON_D>	double	Number of the EPIRB's type D on board of the
ship		
<SH_BEACON_E>	double	Number of the EPIRB's type E on board of the
ship		

<SH_BEACON_F> ship	double	Number of the EPIRB's type F on board of the
<SH_BEACON_G> ship	double	Number of the EPIRB's type G on board of the
<SH_SERIAL_NO>	string (31)	ship serial number
<SHI_TYPE>	string (2)	<i>Inmarsat type</i>
<SHI_IS_ID>	string (31)	<i>Inmarsat ID</i>
<SH_EPFS>	string (31)	<i>EPFS (Electronic Position Fixing System)</i>
<SH_HEIGHT>	double	ship height [m]
<SH_WIDTH>	double	ship width [m]
<SH_PROF_MARITIME>	nteger	professional maritime (1=yes / 0=no)
<SH_PROF_INLAND>	integer	professional inland (1=yes / 0=no)
<SH_PLEASURE_MARITIME>	integer	pleasure maritime (1=yes / 0=no)
<SH_PLEASURE_INLAND>	integer	pleasure inland (1=yes / 0=no)
<ADDRESS> {0 ... n}	ADDRESSType	see ADDRESSType description
</SHIP>		

## 2.1.60 SITEATTRIBUTE

<SITEAttribute>		
<Attribute: SID_ID_SRC_SPECTRA>	string (63)	
<Attribute: "SID_ID_SRC_EXTERN">	string (63)	
<Attribute: "SID_NO_NORMALIZE"> (1=disabled; 0/empty=enabled)	Long	enable/disable data import normalisation
</SITEAttribute>		

## 2.1.61 SITE\_DL TYPE

<SITE_DL>		
<SITE> {1 ... n}	SITEType	see SITEType description
</SITE_DL>		

## 2.1.62 SITE GROUP

<SITEgroup>		
<SID_LONG_DEG>	long	<i>Longitude Degree</i>
<SID_LONG_E_W>	string (1)	<i>Longitude direction (E/W)</i>
<SID_LONG_MIN>	long	<i>Longitude Min.</i>
<SID_LONG_SEC>	double	<i>Longitude Sec.</i>
<SID_LAT_DEG>	long	<i>Latitude Degree</i>
<SID_LAT_N_S>	string (1)	<i>Latitude direction (N/S)</i>
<SID_LAT_MIN>	long	<i>Latitude Min.</i>
<SID_LAT_SEC>	double	<i>Latitude Sec.</i>

<SID_GEO_DATE>	string (15)	<i>Type of Geo Date</i>
<SID_LOC>	string (31)	<i>Site Location (cf Text Lookups)</i>
<SID_H_NN>	long	<i>Site Height amsl (m)</i>
<SID_COMMENT>	string (63)	<i>Site Comment</i>
<SID_RAIN_CLIM_ZONE>	string (15)	<i>Code of ITU rain climatic zone</i>
<SID_DESC>	string (255)	site description
<SID_SITE_IDENT>	string (31)	site identification code
</SITEgroup>		

## 2.1.63 SITE TYPE

<SITE>		
<Attribute group: SITEAttribute>	SITEAttribute	
<SITEgroup>	SITEgroup	see SITEgroup description
</SITE>		

## 2.1.64 STATION TYPE

<STATION>		
<Attribute: "TCS_ID_SRC_SPECTRA">	string (63)	
<Attribute: "TCS_ID_SRC_EXTERN">	string (63)	
<Attribute: "TCS_TCS_ID_SRC">	int	
<Attribute: "TCS_APTB_ID">	long	
<Attribute group: SITEAttribute>	SITEAttribute	
<Attribute: "SA_ID_SRC_SPECTRA">	string (63)	
<TCS_NAME>	string (63)	<i>Station Name</i>
<TCS_REF_NUMBER>	string (63)	<i>Station ref. number</i>
<TCS_CALL>	string (255)	<i>Call Sign</i>
<TCS_AREA_RADIUS>	double	<i>Area Radius (m)</i>
<TCS_AREA_DESC>	string (255)	<i>Description Service Area</i>
<TCS_STATION_IDENT>	string (31)	<i>Station Identification</i>
<TCS_SET_NUM>	long	<i>Number of stations</i>
<TCS_CSST_CATEGORY>	double	<i>Cost Category</i>
<TCS_NUM>	long	<i>1= Base Station 2 = Mobile Station</i>
<TCS_PER_OP_TIME_BEGIN>	Date	<i>Begin of operating time</i>
<TCS_PER_OP_TIME_END>	Date	<i>End of operating time</i>
<TCSC_NAT_S>	string (3)	<i>Nature of Service (cf Text Lookups)</i>
<TCSC_NAT_U>	string (5)	<i>Nature of Frequency Usage (cf T.L.)</i>
<TCSC_S_CAT>	enumeration	<i>Class of Station (cf Text Lookups)</i>
<TCS_USE_DATE>	Date	<i>Date of Bringing into Use</i>
<TCS_INTERNAL_IDENT>	long	<i>Station internal identification</i>
<TCS_TOW_TOWER_HEIGHT>	double	<i>Height of the tower</i>
<TCS_TOW_AN_H_MAX>	double	<i>Max. Antenna height</i>
<TCS_TOW_STRUCT_CODE>	string (15)	<i>code of the structure of the tower</i>
<TCS_TOW_STRUCT_DESC>	string (255)	<i>description of the structure of the tower</i>

<TCS_COMMENT>	string (511)	station comment
<TCS_COMMENT_INTERN>	string (511)	station comment
<TCS_SI_H_EFF_MAX>	double	Max. effective heighth
<TCS_SI_H_EFF_MAX_ANG>	double	Azimuth angle of max. effective heighth
<TCS_MAP_POS>	string (20)	Field for mapping support only
<TCS_REF_FLAG> 1=yes;	long	Reference station? default: null(=no); 0=no;
<TCS_TOW_TOWER_HEIGHT_DELTA>	double	increase of the tower height [m]
<TCS_UPDATE_STATUS>	string (3)	update status
<TCS_MMSI>	string (31)	MMSI
<TCS_MMSI_GROUP>	string (31)	MMSI group
<TCS_SAT_STATION_TYPE>	string (1)	cf text lookup
<TCS_SIGNATURE>	string (255)	station signature
<TCS_ITU_IFRB_NO>	string (15)	ITU iFRB No
<TCS_ITU_SERVICE_CODE>	string (31)	ITU service code
<TCS_AREA_TYP>	long	area type: 1=Primary; 2=Secondary
<TCS_END_DATE>	Date	end of use
<TCS_AREA_CODE>	string(255)	Area Code
<TCS_ZONE_CODE>	string(255)	Zone Code
<SATELLITEgroup>	SATELLITEgroup	see SATELLITEgroup description
<SITEgroup>	SITEgroup	see SITEgroup description
<AD_SUBURB>		not used anymore
<AD_NAME>		not used anymore
<AD_FIRST_NAME>		<i>not used anymore</i>
<AD_SALUTATION>		<i>not used anymore</i>
<AD_TITLE>		not used anymore
<AD_COMPANY>		not used anymore
<AD_DEPARTMENT>		<i>not used anymore</i>
<AD_PERSON_CODE>		<i>not used anymore</i>
<AD_BUILDING_NO>		<i>not used anymore</i>
<AD_HOUSE>		not used anymore
<AD_STREET>		not used anymore
<AD_ZIP>		not used anymore
<AD_COUNTRY>		not used anymore
<AD_PO_BOX>		not used anymore
<AD_ZIP_PO_BOX>		<i>not used anymore</i>
<AD_CITY_PO_BOX>		<i>not used anymore</i>
<AD_CITY>		not used anymore
<AD_PHONE>		not used anymore
<AD_FAX>		not used anymore
<AD_MOBILE>		not used anymore
<AD_E_MAIL>		not used anymore
<AD_COMMENT>		not used anymore
<AD_MAN_NUMBER>		not used anymore
<VEHICLE>	VEHICLEType	see VEHICLEType description
<ADDRESS> {0 ... n}	ADDRESSType	see ADDRESSType description

<HORIZONTAL_ELEVATIONS> HORIZONTAL_ELEVATIONSType description	HORIZONTAL_ELEVATIONSType see
<EFF_HEIGHTS>	EFF_HEIGHTSType see EFF_HEIGHTSType description
<MSC>	MSCType see MSCType description
<CAS>	CASType see CASType description
<VECTORS>	VECTORSType see VECTORSType description
<EMFS>	EMFSType see EMFSType description
<TRANSMITTER> {0 ... n}	TRANSMITTERType see TRANSMITTERType description
<RECEIVER> {0 ... n}	RECEIVERType see RECEIVERType description
</STATION>	

## 2.1.65 TRANSMITTER\_DL TYPE

<TRANSMITTER_DL>		
<Attribute: "EQP_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EQP_ID_SRC_EXTERN">	string (63)	
<Attribute: "EQ_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EQ_ID_SRC_EXTERN">	string (63)	
<Attribute: "EAN_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EAN_ID_SRC_EXTERN">	string (63)	
<Attribute: "EAN_NO_NORMALIZE"> (1=disabled; 0/empty=enabled)	Long	enable/disable data import normalisation
<Attribute: "EAC_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EAC_ID_SRC_EXTERN">	string (63)	
<Attribute: "EQ_APTB_ID">	long	
<EQUIPMENTgroup>	EQUIPMENTgroup	see EQUIPMENTgroup description
<ETX_POW>	double	Transmitter Power (W)
<ETX_POW_DUNIT>	string (3)	display unit (internal)
<ETX_POW_MAX>	double	Transmitter Max Power (W)
<ETX_POW_MAX_DUNIT>	string (3)	display unit (internal)
<ETX_POW_MIN>	double	Transmitter Min Power (W)
<ETX_POW_MIN_DUNIT>	string (3)	display unit (internal)
<ETX_POW_UNIT>	string (3)	Transmitter Power Unit (internal)
<ETX_POW_TYPE>	string (5)	Transmitter Power Type (cf Text Lookups)
<ETX_POW_H>	double	Transmitter Power Hor. (W)
<ETX_POW_H_DUNIT>	string (3)	display unit (internal)
<ETX_POW_V>	double	Transmitter Power Ver. (W)
<ETX_POW_V_DUNIT>	string (3)	display unit (internal)
<ETX_EQ_OUTPUT>	double	Transmitter Power Output. (W)
<ETX_EQ_OUTPUT_DUNIT>	string (3)	display unit (internal)
<ETX_POW_DESIGN>	string (14)	Transmitter Power Density (dBW/m <sup>2</sup> ) for Sat.
<ETX_MAX_POW_EQUIP>	double	Max. Power on transmitter output
<ETX_MAX_POW_EQUIP_UNIT>	string (3)	(internal)
<ETX_MAX_POW_EQUIP_DUNIT>	string (3)	display unit (internal)
<ETX_TOT_ATT> dB)	double	Transmitter side equipment total attenuation (+/- dB)

<ETX_MAX_SENS>	double	Maximum sensitivity
<ETX_MAX_SENS_DUNIT>	string (3)	display unit (internal)
<ETX_POW_ANT>	double	Power to Antenna
<ETX_POW_ANT_DUNIT>	string (3)	display unit (internal)
<ETX_POW_AVERAGE>	double	Average radiated power (in all directions)
<ETX_POW_AVERAGE_DUNIT>	string (3)	display unit (internal)
<ETX_FREQ_SWEEP_MAX>	double	Maximum freq. sweep (Hz)
<ETX_FREQ_SWEEP_MAX_DUNIT>	string (3)	display unit (internal)
<ETX_POW_CTRL> power? 1=yes;0=no;	long	is transmitter capable of increasing transmitting
<ETX_ATPC>	double	Automatic Transmitter Power Control[db]
<ETX_COMMENT>	string (511)	comment
<ETX_ACTIVITY>	double	activity factor
<ETX_UPDATE_STATUS>	string (3)	update status
<ETX_PULS_WIDTH_MAX>	double	max pulse width [s]
<ETX_PULS_REP_FREQ_MAX>	double	pulse repetition frequency [Hz]

</TRANSMITTER\_DL>

## 2.1.66 TRANSMITTER TYPE

<TRANSMITTER>		
<Attribute: "EQP_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EQP_ID_SRC_EXTERN">	string (63)	
<Attribute: "EQP_EQP_ID_SRC">	int	
<Attribute: "EQP_EQP_ID_APROV">	int	
<Attribute: "EQ_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EQ_ID_SRC_EXTERN">	string (63)	
<Attribute: "EQ_EQ_ID_SRC">	int	
<Attribute: "EAN_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EAN_ID_SRC_EXTERN">	string (63)	
<Attribute: "EAN_NO_NORMALIZE"> (1=disabled; 0/empty=enabled)	Long	enable/disable data import normalisation
<Attribute: "EAC_ID_SRC_SPECTRA">	string (63)	
<Attribute: "EAC_ID_SRC_EXTERN">	string (63)	
<Attribute: "EQ_APTB_ID">	long	
<Attribute: "EAN_ANT_IDENT_TEMP">	string (63)	Temporary antenna identifier. Temporary means that this identifier is not stored in SPECTRA (in contrast to EAN_ANT_IDENT). Identifier can be used to reference an antenna with patterns within XML file. This way antenna data doesn't need to be repeated within XML file. Identifier needs to be unique within XML file. If using EAN_ANT_IDENT_TEMP feature, no other EAN fields should be populated.
<EQUIPMENTgroup>	EQUIPMENTgroup	see EQUIPMENTgroup description
<ETX_POW>	double	Transmitter Power (W)
<ETX_POW_DUNIT>	string (3)	display unit (internal)
<ETX_POW_MAX>	double	Transmitter Max Power (W)
<ETX_POW_MAX_DUNIT>	string (3)	display unit (internal)
<ETX_POW_MIN>	double	Transmitter Min Power (W)
<ETX_POW_MIN_DUNIT>	string (3)	display unit (internal)

<ETX_POW_UNIT>	string (3)	Transmitter Power Unit (internal)
<ETX_POW_TYPE>	string (5)	Transmitter Power Type (cf Text Lookups)
<ETX_POW_H>	double	Transmitter Power Hor. (W)
<ETX_POW_H_DUNIT>	string (3)	display unit (internal)
<ETX_POW_V>	double	Transmitter Power Ver. (W)
<ETX_POW_V_DUNIT>	string (3)	display unit (internal)
<ETX_EQ_OUTPUT>	double	Transmitter Power Output. (W)
<ETX_EQ_OUTPUT_DUNIT>	string (3)	display unit (internal)
<ETX_POW_DESIGN>	string (14)	Transmitter Power Density (dBW/m <sup>2</sup> ) for Sat.
<ETX_MAX_POW_EQUIP>	double	Max. Power on transmitter output
<ETX_MAX_POW_EQUIP_UNIT>	string (3)	(internal)
<ETX_MAX_POW_EQUIP_DUNIT>	string (3)	display unit (internal)
<ETX_TOT_ATT> dB)	double	Transmitter side equipment total attenuation (+/-
<ETX_MAX_SENS>	double	Maximum sensitivity
<ETX_MAX_SENS_DUNIT>	string (3)	display unit (internal)
<ETX_POW_ANT>	double	Power to Antenna
<ETX_POW_ANT_DUNIT>	string (3)	display unit (internal)
<ETX_POW_AVERAGE>	double	Average radiated power (in all directions)
<ETX_POW_AVERAGE_DUNIT>	string (3)	display unit (internal)
<ETX_FREQ_SWEEP_MAX>	double	Maximum freq. sweep (Hz)
<ETX_FREQ_SWEEP_MAX_DUNIT>	string (3)	display unit (internal)
<ETX_POW_CTRL> power? 1=yes;0=no;	long	is transmitter capable of increasing transmitting
<ETX_ATPC>	double	Automatic Transmitter Power Control [db]
<ETX_COMMENT>	string (511)	comment
<ETX_ACTIVITY>	double	activity factor
<ETX_UPDATE_STATUS>	string (3)	update status
<ETX_PULS_WIDTH_MAX>	double	max pulse width [s]
<ETX_PULS_REP_FREQ_MAX>	double	pulse repetition frequency [Hz]
<ANTENNACONFIGgroup>	ANTENNACONFIGgroup	see ANTENNACONFIGgroup description
<ANTENNAgroup>	ANTENNAgroup	see ANTENNAgroup description
<FILTERS>	FILTERSType	see FILTERSType description
<FREQUENCY> {0 ... n}	FREQUENCYType	see FREQUENCYType description
<INSTALLED_EQUIPMENTS> INSTALLED_EQUIPMENTSType description	INSTALLED_EQUIPMENTSType	see

</TRANSMITTER>

## 2.1.67 VECTOR TYPE

<VECTOR>

<VEC_GEO_CODE>	string (255)	vector code
<VEC_GEO_NAME>	string (255)	vector name
<VEC_COMMENT>	string (511)	vector comment
<VEC_APPL_TYPE>	int	type of vector

</VECTOR>



## 2.1.68 VECTORS TYPE

<VECTORS>  
    <VECTOR> {0...n}                      VECTORType              see VECTORType description  
</VECTORS>

## 2.1.69 VEHICLE TYPE

<VEHICLE>  
    <VH\_TYPE>                              string (63)              Vehicule type  
    <VH\_MODEL>                             string (63)              Vehicule model  
    <VH\_REGIS\_NUMBER>                     string (63)              Registration number  
    <VH\_COMMENT>                          string (511)             Comment  
    <VH\_NUMBER\_PLATE>                     string (31)              plate number  
    < VH\_CHASSIS\_NUMBER>                  string (63)              chassis number  
    < VH\_COLOUR>                           string (31)              color of vehicle  
</VEHICLE>

### **Legend**

<FieldName>	DataType	Description
DataType declaration:		
double	real, 8 bytes	
long	integer, 4 bytes	
string (number of characters)	String with number of characters	
Date	yyyy-mm-dd	

## 2.2 XML SCHEMA

There is a W3C XML Schema file (SPECTRAexchange.xsd), which describes the structure of the xml format in detail:



SPECTRAexchange.x  
sd

For more information about XML Schema see: <http://www.w3c.org/XML/Schema>

# 3 KINDS OF LINKS

---

Each frequency of a transmitter station from one application can be linked to a receiver station from the same or another application.

Therefore there are three kinds of links:

- Classic Link
- Shared Link Complete
- Shared Link Without Station B

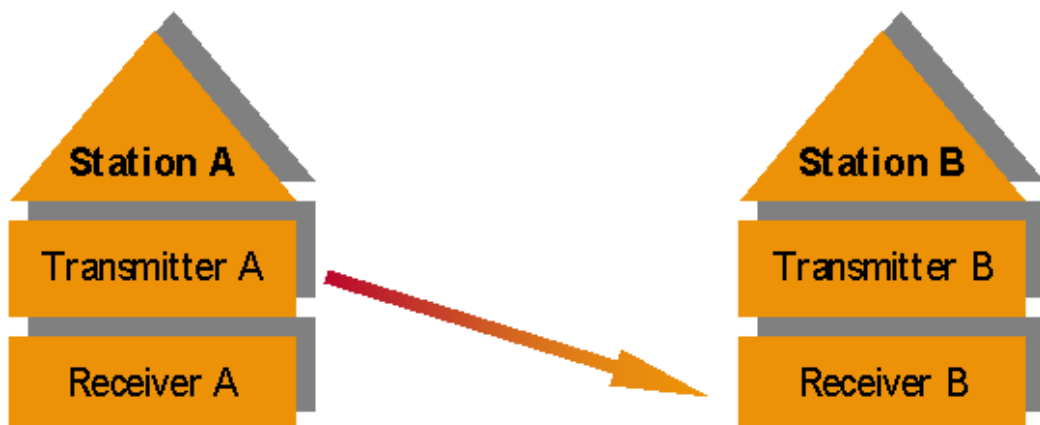
Each kind of link can be uni-directional or bi-directional.

## 3.1 CLASSIC LINK

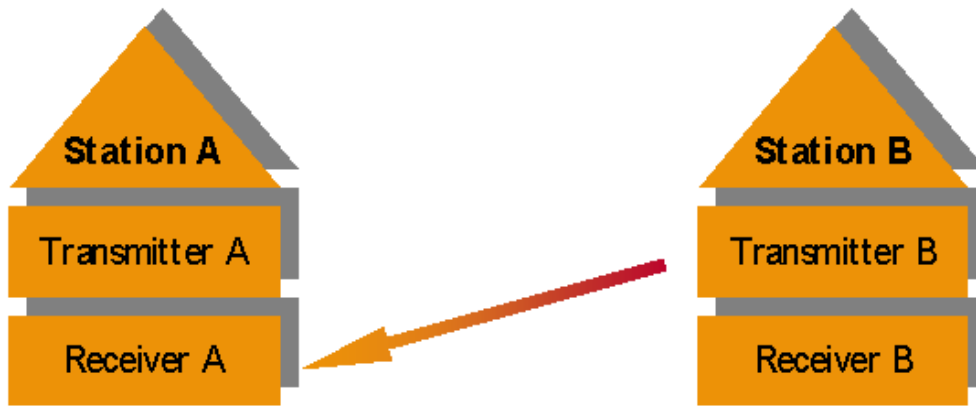
In this case the stations are stored behind the same application.

Uni-directional:

The link between transmitter A and receiver B is a uni-directional link. It is possible to assign the frequency of transmitter A.

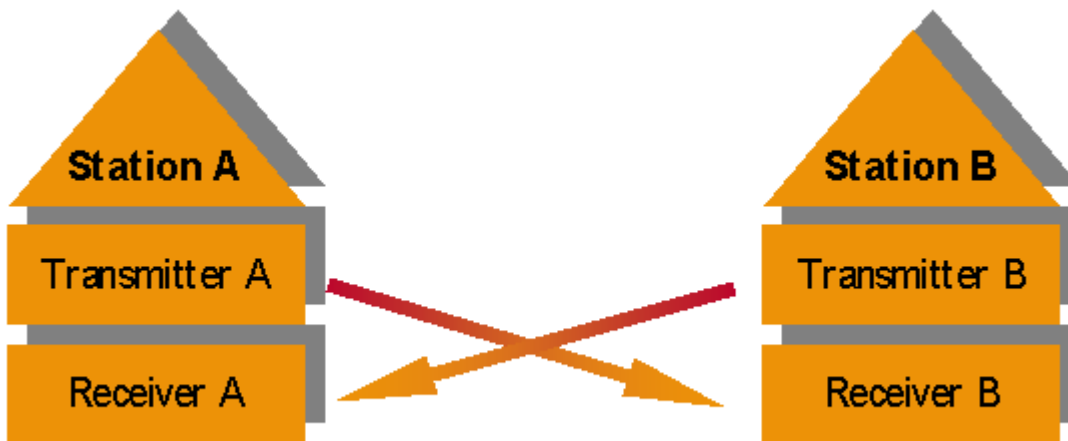


The link between transmitter B and receiver A is a uni-directional link. It is possible to assign the frequency of transmitter B.



Bi-directional:

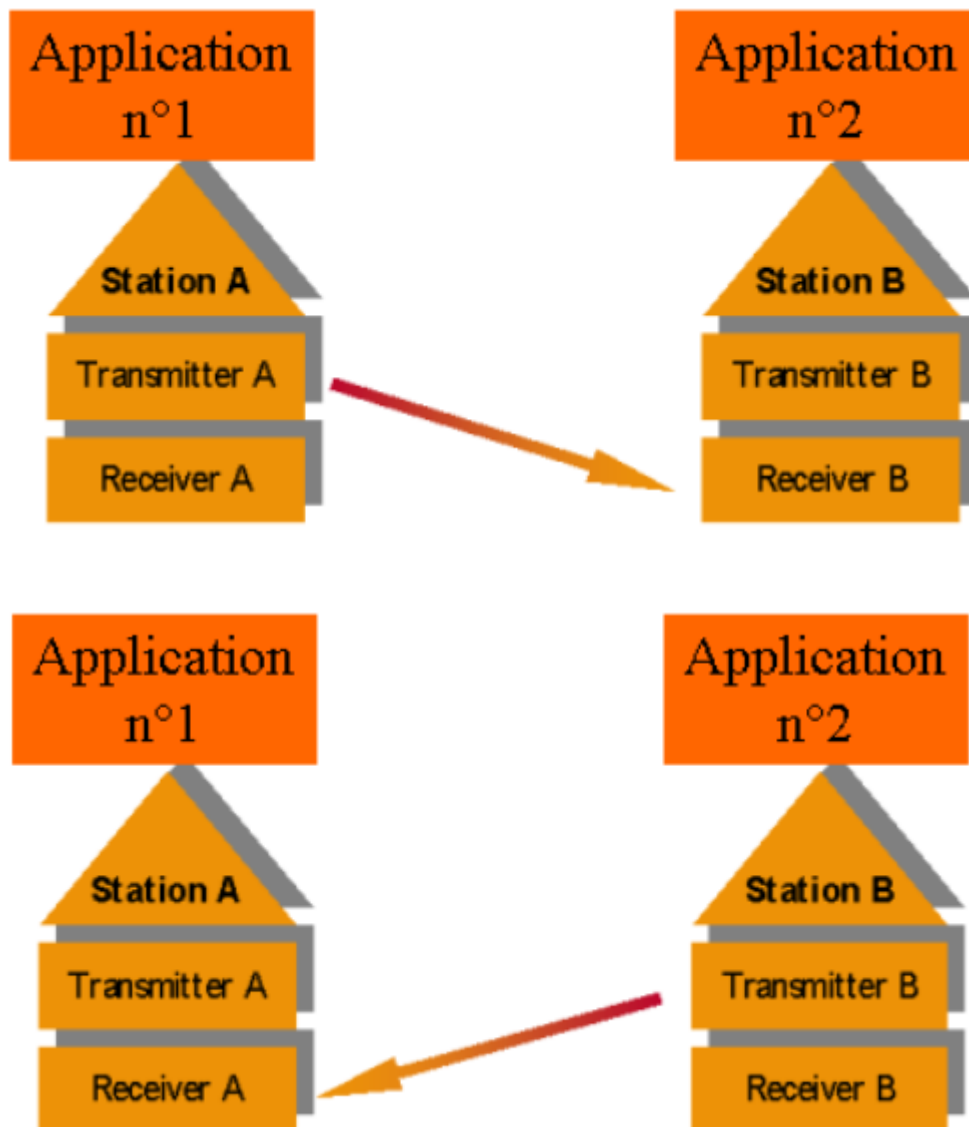
The combination showed below results in a bi-directional link, the frequencies of transmitter A and transmitter B can be assigned to this link.



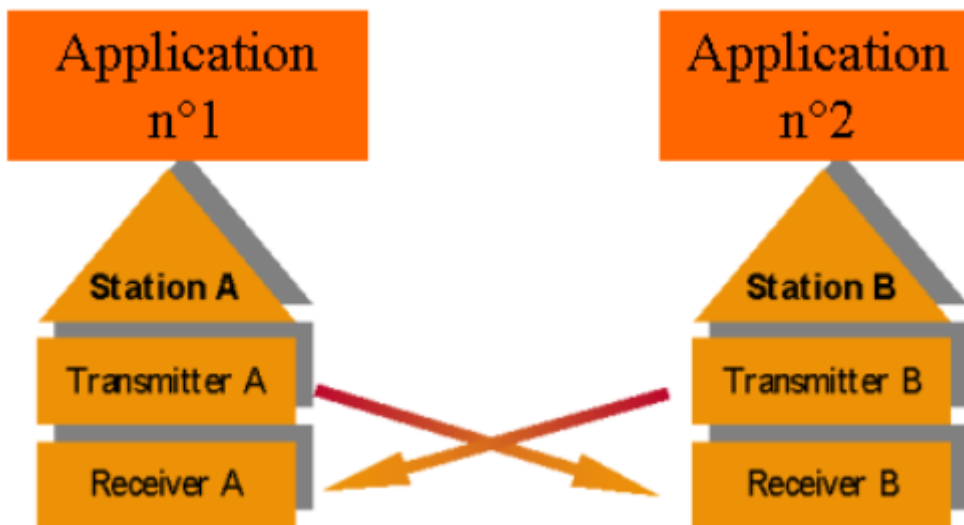
## 3.2 SHARED LINK COMPLETE

In this case the stations are both in two different applications.

Uni-directional:



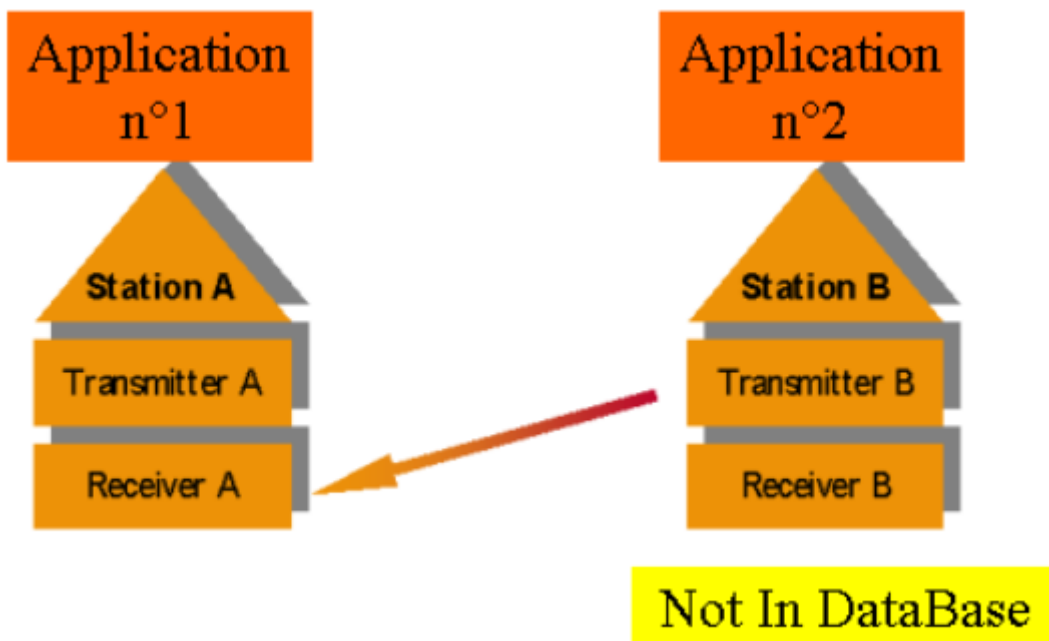
Bi-directional:

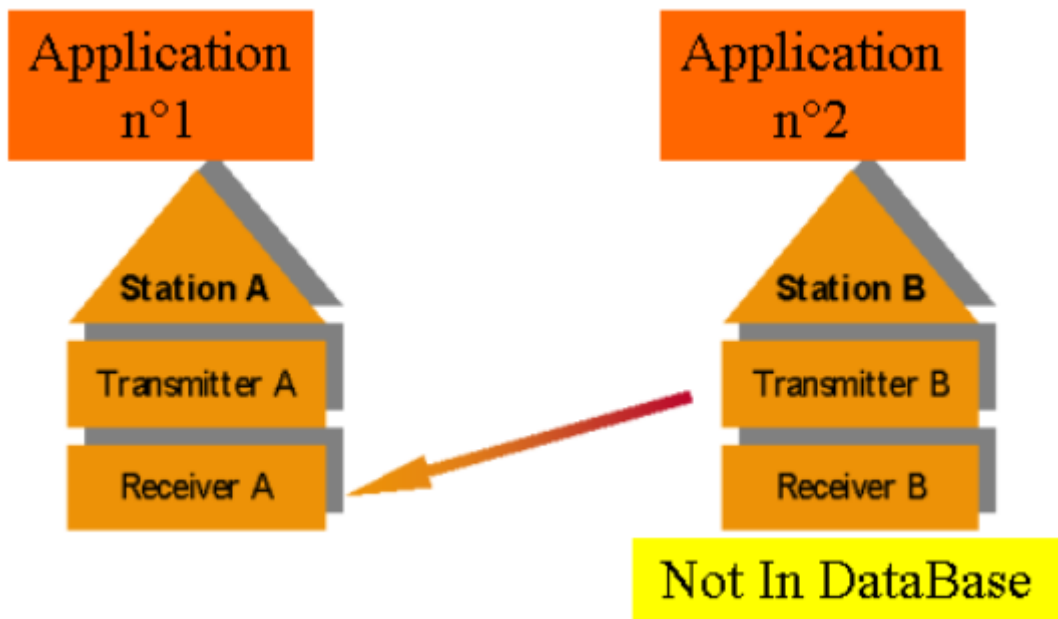


### 3.3 SHARED LINK WITHOUT STATION B

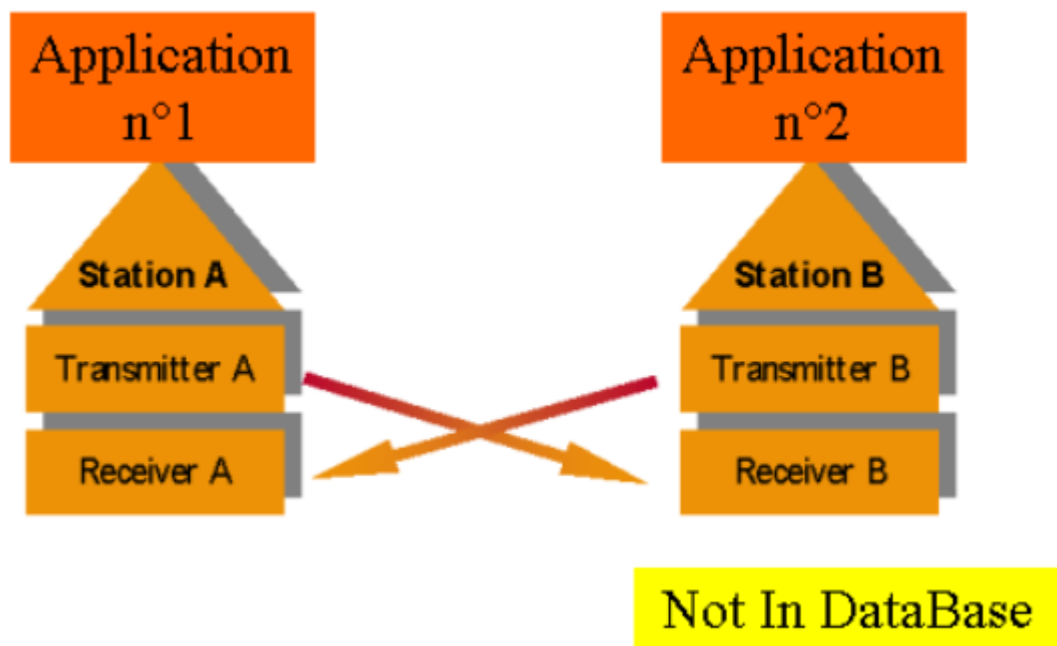
As for the shared link complete, the stations are both in two different applications, but the application 2 is not in the same database.

Uni-directional:





Bi-directional:



## 3.4 SAMPLE

### 3.4.1 CLASSIC LINK + RELATED FREQUENCIES

```
<APPLICATION>
<STATION>
<TCS_NAME>station A</TCS_NAME>
-----
<TRANSMITTER>
<FREQUENCY>
  <Link>2</Link>
  <EFL_FREQ>6100000</EFL_FREQ>
-----
</TRANSMITTER>
</STATION>

<STATION>
<TCS_NAME>station B</TCS_NAME>
-----
</RECEIVER>
<FREQUENCY>
  <Link>2</Link>
  <EFL_FREQ>6100000</EFL_FREQ>
-----
</RECEIVER>
</STATION>
</APPLICATION>
```

This means that the station A is linked with station B, the link resulting would be a unidirectional link. Be careful that the frequency is the same for the transmitter and the receiver.

For a bi-directional link the same identification should be assigned to the transmitter and receiver from station A and station B.

→ Related frequencies is based on the same principle, the difference is the name of the tag who should be <Related> instead of <Link>.



## 3.4.2 SHARED LINK

```
<APPLICATION>
<AP_REF_NUMBER>Application1</AP_REF_NUMBER>
<TCC_SAT_NETID>56</TCC_SAT_NETID>
<AD_MAN_NUMBER>1234</AD_MAN_NUMBER>
  <STATION>
    <TCS_NAME>station A</TCS_NAME>
    <TCS_STATION_IDENT>78</TCS_STATION_IDENT>
    -----
  <TRANSMITTER>
    <FREQUENCY>
      <SHAREDLINK>
        <ID>6</ID>
        <FORMERREFNUMBER>Application2</FORMERREFNUMBER>
        <LICENSEECODE>4106</LICENSEECODE>
        <NETWORKCODE>71</NETWORKCODE>
        <STATIONCODE>002</STATIONCODE>
      </SHAREDLINK>
      <EFL_FREQ>6100000</EFL_FREQ>
    </FREQUENCY>
    -----
  </TRANSMITTER>
</STATION>
</APPLICATION>

<APPLICATION>
<AP_REF_NUMBER>Application2</AP_REF_NUMBER>
<TCC_SAT_NETID>71</TCC_SAT_NETID>
<AD_MAN_NUMBER>4106</AD_MAN_NUMBER>
  <STATION>
    <TCS_NAME>station B</TCS_NAME>
    <TCS_STATION_IDENT>002</TCS_STATION_IDENT>
    -----
  <RECEIVER>
    <FREQUENCY>
      <SHAREDLINK>
        <ID>6</ID>
        <FORMERREFNUMBER>Application1</FORMERREFNUMBER>
        <LICENSEECODE>1234</LICENSEECODE>
        <NETWORKCODE>56</NETWORKCODE>
        <STATIONCODE>78</STATIONCODE>
      </SHAREDLINK>
      <EFL_FREQ>6100000</EFL_FREQ>
    -----
  </RECEIVER>
</STATION>
</APPLICATION>
```

This sample represents a complete shared link (uni-directional), where the transmitter from application1 is linked with the receiver of application2.

The values written in bold letters represent the most significant fields representing a shared link. A special section is dedicated to the construction of a shared link - either complete or without station B (differences between both links are explained above).

In case of a **complete shared link**, the values of five fields are required (ID, FORMERREFNUMBER, LICENSEECODE, NETWORKCODE, STATIONCODE).

The value of the ID field has to be the same for all frequencies included in the link. The other fields are necessary to find the linked station.

In case of a **shared link without station B**, the values of four fields are required (FORMERREFNUMBER, LICENSEE CODE, NETWORKCODE, STATIONCODE). The four fields are used to find the linked station.

# 4 TEXT LOOKUPS

---

All the following fields should have only the associated values:

AD\_TYPE : ADDRESS TYPE

A - Administrative Organizations  
BM - Band Manager  
C - Contact  
CA - External Clearance Approval  
CC - Compliance Contact  
CS - Station Caretaker Address  
E - Inspectorate  
EC - Emergency Contact  
ES - Establishment to be served  
F - Prefecture  
I - Importer  
IN - Equipment Installer  
L - Licensees  
LA - Licence Agent  
LT - Licence Trade Contact  
M - Manufacturer  
N - Planner  
O - Operators  
OC - Online Access Contact  
P - Payments Office  
PC - Public Contact  
R - Promotor  
S - Sites  
SC - Site Contact

SM - Site Manager Licence Contact  
SO - Studio  
SU - Equipment Supplier  
T - Approval Applicant  
TC - Technical Licence Contact  
U - Submitter  
V - Program Provider  
W - Owners  
WC - Windfarm Coordination Contact  
Y - Municipality

TCSC NAT S :NATURE OF SERVICE

AS - Station using adaptive system  
AX - Fixed station used for transmission of aeronautical information (from 1 January 1999)  
CO - Station open to official correspondence exclusively  
CP - Station open to public correspondence  
CR - Station open to limited public correspondence  
CV - Station open exclusively to correspondence of a private agency  
FS - Land station established solely for the safety of life  
HP - Fixed station using high altitude platform  
MX - Fixed station used for transmission of meteorological information  
OT - Station open exclusively to operational traffic of the service concerned  
PX - Fixed station used for press transmission  
RC - Non-directional radiobeacon  
RD - Directional radiobeacon  
RG - Radio direction-finding station  
RT - Revolving radiobeacon  
ST - Fixed station using tropospheric scatter

TCSC NAT U : NATURE OF FREQUENCY USAGE

A - Airport services  
B - Railways (excluding mountain railways)  
C - Diplomatic corps  
D - Mountain railways

E - Production, transport and distribut. of energy (el.,gas,water)  
F - Fire services  
G - Military (mainly for internal use)  
H - Radio relay networks  
HH - Local call  
I - Demonstration  
K - Public transport  
L - Subscriber installations, public mobile services, stand-by links  
M - Navigation (in ports, on the Rhine, etc.)  
N - Tests and research  
O - Not allocated  
P - Public security services (Police, customs, etc.)  
Q - Entries not falling with in other categories on the list  
R - Ancillary broadcasting services (studio, news reporting)  
S - Rescue services (ambul.,doctors,water and mountain rescue)  
T - Other serv. provided by telecommunications administrations  
U - Industrial operators  
V - Road traffic service  
W - Taxi and car hire firms  
X - Other private services  
Y - Reserved specific applications, not allocated  
Z - Other private multiple-use networks

#### TCSC S CAT : CLASS OF STATION

AL - Aeronautical radionavigation land station (transmitting station in the aeronautical radionavigation service)  
AM - Aeronautical radionavigation mobile station (receiving station in the aeronautical radionavigation service)  
AT - Amateur station  
BC - Broadcasting station, sound  
BT - Broadcasting station, television  
FA - Aeronautical station (transmitting station in the aeronautical mobile service)  
FB - Base station (transmitting station in the land mobile service)  
FC - Coast station (transmitting station in the maritime mobile service)  
FD - Aeronautical station in the aeronautical mobile (R) service

FG - Aeronautical station in the aeronautical mobile (OR) service

FL - Land station (transmitting station in the mobile service)

FP - Port station (transmitting station in the maritime mobile service, for port operation)

FX - Fixed station (transmitting station in the fixed service)

LR - Radiolocation land station (transmitting station in the radiolocation service)

MA - Aircraft station (receiving station in the aeronautical mobile, aeronautical mobile (R) or aeronautical mobile (OR) service)

ML - Land mobile station (receiving station in the land mobile service)

MO - Mobile station (receiving station in the mobile service)

MR - Radiolocation mobile station (receiving station in the radiolocation service)

MS - Ship station (receiving station in the maritime mobile service)

NL - Maritime radionavigation land station (transmitting station in the maritime radionavigation service)

NR - Radionavigation mobile station (receiving station in the radionavigation service)

OD - Oceanographic data station (receiving station in the maritime mobile service for oceanographic purposes)

OE - Oceanographic data interrogation station (transmitting station in the maritime mobile service for oceanographic purposes)

PL - Combination of two or more classes of station (limited to collective entries made under the terms of RR20.5)

RM - Maritime radionavigation mobile station (receiving station in the maritime radionavigation service)

RN - Radionavigation land station (transmitting station in the radionavigation service)

SA - Meteorological aids mobile station (receiving station in the meteorological aids service)

SM - Meteorological aids base station (transmitting station in the meteorological aids service)

SS - Standard frequency and time signal station (transmitting station in the standard frequency and time signal service)

FS - Land station established solely for safety of life

FW - Mobile station (service area 0 km; eff.ant hgt. HCM Annex 5 2.5)

E1 - Space research (active sensor) space station

E2 - Space research (passive sensor) space station

E3 - Space station in the Earth exploration-satellite service (active sensor)

E4 - Space station in the Earth exploration-satellite (passive sensor)

EA - Space station in the amateur-satellite service

EB - Space station in the broadcasting-satellite service (sound broadcasting)

EC - Space station in the fixed-satellite service  
ED - Space telecommand space station  
EE - Space station in the standard frequency-satellite service  
EF - Space station in the radiodetermination-satellite service  
EG - Space station in the maritime mobile-satellite service  
EH - Space research space station  
EI - Space station in the mobile-satellite service  
EJ - Space station in the aeronautical mobile-satellite service  
EK - Space tracking space station  
EM - Space station in the meteorological-satellite service  
EN - Space station in the radionavigation-satellite service  
EO - Space station in the aeronautical radionavigation-satellite service  
EQ - Space station in the maritime radionavigation-satellite service  
ER - Space telemetering space station  
ES - Station in the inter-satellite service  
ET - Space station in the space operation service  
EU - Space station in the land mobile-satellite service  
EV - Space station in the broadcasting-satellite service (television)  
EW - Space station in the earth exploration-satellite service  
EY - Space station in the time signal-satellite service  
RA - Radio astronomy station  
TA - Earth station in the amateur-satellite service  
TB - Aeronautical earth station  
TC - Earth station in the fixed-satellite service  
TD - Space telecommand earth station  
TE - Satellite EPIRB in the mobile-satellite service  
TF - Fixed earth station in the radiodetermination-satellite service  
TG - Ship earth station  
TH - Earth station in the space research service  
TI - Coast earth station  
TJ - Aircraft earth station  
TK - Space tracking earth station  
TL - Mobile earth station in the radiodetermination-satellite service  
TM - Earth station in the meteorological-satellite service  
TN - Fixed earth station in the radionavigation-satellite service

TO - Mobile earth station in the aeronautical radionavigation-satellite service  
TQ - Mobile earth station in the maritime radionavigation-satellite service  
TR - Space telemetering earth station  
TT - Earth station in the space operation service  
TU - Land mobile earth station  
TW - Earth station in the earth exploration-satellite service  
TX - Fixed earth station in the maritime radionavigation-satellite service  
TY - Base earth station  
TZ - Fixed earth station in the aeronautical radionavigation-satellite service  
UA - Mobile earth station  
UB - Earth station in the broadcasting-satellite service (sound broadcasting)  
UC - Earth station while in motion in the fixed-satellite service in the bands listed under provision No. 5.526.  
UD - Space telecommand mobile earth station  
UE - Earth station in the standard frequency-satellite service  
UH - Mobile earth station in the space research service  
UK - Space tracking mobile earth station  
UM - Mobile earth station in the meteorological-satellite service  
UN - Mobile earth station in the radionavigation-satellite service  
UR - Space telemetering mobile earth station  
UT - Mobile earth station in the space operation service  
UV - Earth station in the broadcasting-satellite service (television)  
UW - Mobile earth station in the earth exploration-satellite service  
UY - Earth station in the time signal-satellite service  
VA - Land earth station

TCC NETWORK TYPE : NETWORK TYPE

0 - Public  
1 - Synchronized  
2 - Single Frequency Network  
3 - Multiple Frequency Network

SID LOC : SITE LOCATION

A - Airport  
Ag - Agricultural



C - Community  
Co - Commercial  
Fo - Forestry  
H - Hill  
Mo - Mountainous  
P - Port  
R - River or canal  
Re - Residential  
S - Space station  
Se - Sea

EQP EQUIP TYPE : EQUIPMENT TYPE

A - A  
AMP - Amplifier  
B - Back to Back  
BASE - Base  
C - C  
MOBILE - Mobile  
O - Other  
P - Passiv  
PORTABLE - Portable  
RF - Reflector  
RP - Repeater  
S - S  
SYSTEM - System  
TR - Transceiver  
VM - Mounted  
WT – Handheld

EQ\_CHAN\_O : CHANNEL OCCUPATION

0 - Non Continuous Wave  
1 - Continuous Wave

ETX POW TYPE : POWER TYPE

E - ERP

## I - EIRP

### EAC\_AN\_POL : ANTENNA POLARIZATION

CL - Left-hand circular or indirect. The electric field intensity vector, observed in any fixed plane, normal to the direction of propagation, whilst looking in the direction of propagation, rotates with time in a left-hand or anti-clockwise direction.

CR - Right-hand circular or direct. The electric field intensity vector, observed in any fixed plane, normal to the direction of propagation, whilst looking in the direction of propagation, rotates with time in a right-hand or clockwise direction.

D - Dual. When substantially equal-amplitude vertically - and horizontally - polarized components are radiated without particular control of the phase relation between them. Typically, the vertically - and horizontally - polarized sources may be displaced one from the other so that the resultant polarization varies between circular and slant, according to azimuth angle.

H - Horizontal linear. The electric field intensity vector is in the horizontal plane.

L - Linear. The electric field intensity vector, observed in any fixed plane, normal to the direction of propagation, whilst looking in the direction of propagation, remains in the direction specified by the angle measured anti-clockwise from a line parallel to the equatorial plane.

M - Mixed. The collective term applied when both vertical and horizontal components are radiated, embracing slant, circular and dual polarization.

SL - Left-hand slant. The electric field intensity vector is in the plane rotated 45 degrees anti-clockwise from the vertical position, as seen from the transmitting point.

SR - Right-hand slant. The electric field intensity vector is in the plane rotated 45 degrees clockwise from the vertical position, as seen from the transmitting point.

V - Vertical linear. The magnetic field intensity vector is in the vertical plane.

### EAP\_TYPE : ANTENNA PATTERN TYPE

HH - Azimuth; Co-Pol.

HV - Azimuth; Cross-Pol.

HX - Azimuth; optional

VH - Elevation; Cross-Pol.

VV - Elevation; Co-Pol.

VX - Elevation; optional

Starting with version 2.32.0:

AZHH - Azimuth Cut; Co-Pol (H)

AZHV - Azimuth Cut; Cross-Pol(H)

AZVH - Azimuth Cut; Cross-Pol(V)

AZVV - Azimuth Cut; Co-Pol (V)

ELHH - Elevation Cut; Co-Pol (H)  
ELHV - Elevation Cut; Cross-Pol(H)  
ELVH - Elevation Cut; Cross-Pol(V)  
ELVV - Elevation Cut; Co-Pol (V)

EFL GSM SYS : GSM SYSTEM

DCS1800 - DCS1800

GSM – GSM

GSM-R - GSM-R

GSM1800 - GSM1800

GSM1900 - GSM1900

GSM900 - GSM900

GSM900EXT - GSM900EXT

LTE – LTE

UMTS - UMTS

EFL USE TYPE : USAGE TYPE

1 - Shared

2 - Joint

3 - Exclusive

4 - Exclus. BP

5 - Shared BP

6 - Joint BP

S - Spot

T - Transponder

COF STATUS : COORDINATION STATUS

A - not submitted to a coord procedure and any protect. requirement

B - Request for agreement

C - Agreed without reservation

D - Agreed subject to operat. tests, show that coexistence is possible

E - Agreement on a non-interference basis (NIB)

F - Agreed, subject to reqmt. identc. or analog. to the reqmt of RR342

G - Agreed, without any reservation as to interference

H - E + G

M - Request for agrm. foll. a modified coord. after answer E,G,H,Y,Z  
N - N  
P - Preferential frequency (4.3 Vienna Agreement, 1993)  
R - Deletion of coordination  
W - Withdrawal of the coordination request  
Y - Request for agreement refused (alternative suggestion is in 13Z)  
Z - Request for agreement refused

AP ACTION TYPE : APPLICATION ACTION TYPE

N - New application  
C - Application to be cancelled  
M - Modify application  
R - Application to be renewed or prolonged  
NR - Start new Radio License workflow

TCS SAT STATION TYPE : SATELLITE STATION TYPE

S - Specific  
T - Typical

EQ ANALOG OR DIGITAL : ANALOG/DIGITAL

A - Analog  
D - Digital

FIDE SPECTRUM MASK : SPECTRUM MASK

1 - Non critical (T-DAB)  
2 - Sensitive (T-DAB)  
3 - Special case block 12D (T-DAB)  
N - Non critical (DVB-T)  
S - Sensitive (DVB-T)

EQ CSEQ CATEGORY : EQUIPMENT COST CATEGORY

2 - Stand by  
3 - Mobile station  
4 - Central station  
5 - Variable prem. station

- 6 - Fixed station
- 7 - Central or receiver station
- 10 - Exclusive
- 11 - Joint
- 12 - Operating
- 13 - Free of Charge

LI CSLI CATEGORY : LICENSE COST CATEGORY

- 1 - Area
- 3 - Area in Budapest
- 4 - Site
- 6 - Site PM
- 7 - Site PP
- 10 - Less than a month
- 11 - Large aperture
- 12 - Normal
- 13 - Area, only MO. Excl. fr.
- 14 - Area, only MO. Joint fr.
- 15 - Industrial equipment
- 16 - Ship stations
- 17 - Block frequency
- 18 - Free of charge
- 19 - Manual Fee

SV SV ID : SERVICE ID

- 1 - Broadcast
- 2 - Fixed Service
- 3 - Land Mobile
- 5 - Maritime
- 6 - Amateur Radio
- 8 - Aeronautical
- 9 - Satellite

SS SS ID : SUBSERVICE ID

- 150 - Standard

520 - Fixed Private (PrelConst)  
521 - Fixed Private (FreqAlloc)  
522 - Fixed Private Standard  
524 - Fixed Public (FreqAlloc)  
525 - Fixed Public Standard  
526 - <30 MHz Standard  
527 - Cordless Fixed (RadLic)  
528 - >960 MHz (PrelConst)  
529 - >960 MHz (FreqAlloc)  
530 - Private (PrelConst)  
531 - Private (FreqAlloc)  
532 - Private Standard  
534 - Public (FreqAlloc)  
535 - Public Standard  
566 - AR Standard  
571 - Maritime Standard  
601 - Aeronautical Standard  
610 - Earth fixed (PrelConst)  
612 - Earth fixed Standard  
613 - Earth mobile (PrelConst)  
615 - Earth mobile Standard  
720 - >960 MHz Standard  
721 - Radar Standard  
726 - 72 GHz Wide Band  
750 - Submission  
751 - Expiration  
802 - DAB (PrelConst)  
803 - DAB-Freq. Allocation  
804 - DAB-Standard  
812 - DVB (PrelConst)  
813 - DVB-Freq. Allocation  
814 - DVB-Standard  
820 - FM (PrelConst)  
823 - FM-Freq. Allocation  
824 - FM-Standard

844 - HF-Standard  
852 - LFMF (PrelConst)  
853 - LFMF-Freq. Allocation  
854 - LFMF-Standard  
862 - TV (PrelConst)  
863 - TV-Freq. Allocation  
864 - TV-Standard  
870 - DVB-H (PrelConst)  
871 - DVB-H-Freq. Allocation  
872 - DVB-H-Standard  
882 - DVB-T2 (PrelConst)  
884 - DVB-T2

LI CUSTOMER CAT3 : ABDICATION ABOUT THE APPEAL RIGHT

N – No

Y - Yes

AP CATEGORY : APPLICATION CATEGORY

F - Freq Alloc

R - Radio Lic

EAN\_POL : ANTENNA POLARIZATION

CL - Left-hand circular or indirect. The electric field intensity vector, observed in any fixed plane, normal to the direction of propagation, whilst looking in the direction of propagation, rotates with time in a left-hand or anti-clockwise direction.

CR - Right-hand circular or direct. The electric field intensity vector, observed in any fixed plane, normal to the direction of propagation, whilst looking in the direction of propagation, rotates with time in a right-hand or clockwise direction.

D - Dual. When substantially equal-amplitude vertically - and horizontally - polarized components are radiated without particular control of the phase relation between them. Typically, the vertically - and horizontally - polarized sources may be displaced one from the other so that the resultant polarization varies between circular and slant, according to azimuth angle.

H - Horizontal linear. The electric field intensity vector is in the horizontal plane.

L - Linear. The electric field intensity vector, observed in any fixed plane, normal to the direction of propagation, whilst looking in the direction of propagation, remains in the direction specified by the angle measured anti-clockwise from a line parallel to the equatorial plane.

M - Mixed. The collective term applied when both vertical and horizontal components are radiated, embracing slant, circular and dual polarization.

SL - Left-hand slant. The electric field intensity vector is in the plane rotated 45 degrees anti-clockwise from the vertical position, as seen from the transmitting point.

SR - Right-hand slant. The electric field intensity vector is in the plane rotated 45 degrees clockwise from the vertical position, as seen from the transmitting point.

V - Vertical linear. The magnetic field intensity vector is in the vertical plane.

#### TCC NW SERVICE TYPE : SERVICE TYPE

11 - dispatcher network operating on one channel - üzemi 1 csatornás diszpécser hálózat

12 - taxi dispatcher network - taxi diszpécser hálózat

13 - inland shipping - belvízi hajózás

14 - dispatch network operating underground - földalatti üzemi diszpécser hálózat

15 - Not to be used in applications - nem használandó

16 - remote control link - távvezérlő összeköttetés

17 - remote control link via telephone connection - távvezérlő összeköttetés távbeszélő csatlakozás biztosításával

18 - emergency network - segélykérő hálózat

19 - special purpose paging respondent - különcélú személyhívó válaszadó

20 - security service - biztonsági szolgálat

21 - vigilante network - polgárőri hálózat

22 - news gathering network - riporter, vagy műsor beadó hálózat

23 - wireless microphone - vezeték nélküli mikrofon

24 - experimental network - kísérleti hálózat

25 - other private analog dispatcher network - egyéb különcélú analóg diszpécser hálózat

26 - used for education - oktatás célú frekvenciahasználat

31 - trunked dispatch network - trónkölt diszpécser hálózat

37 - experimental trunked network - kísérleti trónkölt hálózat

41 - drinking water reservoirs level control - ivóvíz tározók szintszabályozása

42 - transmission network for wastewater collection - szennyvízgyűjtő távjelző hálózat

43 - beacon network - markeradó hálózat

44 - elevator emergency network - lift vészjelző hálózat

45 - object guarding network - objektum őrző-védő hálózat

46 - transmission and signaling networks within buildings - épületen belüli adatátvitel vagy jelzésátviteli hálózat



47 - vehicle guarding network - gépjármű őrzés-védelmi hálózat  
48 - Not to be used in applications - nem használandó  
49 - Not to be used in applications - nem használandó  
50 - Not to be used in applications - nem használandó  
51 - fixed transmission network - állandóhelyű adatátviteli hálózat  
52 - signaling - jelzés átvitel  
53 - data transmission network - adatátviteli hálózat  
54 - Not to be used in applications - nem használandó  
55 - pole switching networks - oszlopkapcsoló hálózat  
56 - Not to be used in applications - nem használandó  
57 - Not to be used in applications - nem használandó  
58 - experimental data network - kísérleti adatátviteli hálózat  
59 - other private data network - egyéb különcélú adatátviteli hálózat  
60 - Not to be used in applications - nem használandó  
61 - Not to be used in applications - nem használandó  
62 - Not to be used in applications - nem használandó  
63 - Not to be used in applications - nem használandó  
64 - Not to be used in applications - nem használandó  
65 - Not to be used in applications - nem használandó  
110 - railway station voice transmission system - vasúti állomási beszédátviteli rendszer  
111 - rail accident network - vasúti baleseti hálózat  
112 - railway work control network - vasúti munkairányító hálózat  
113 - railway station network - vasúti pályaudvari hálózat  
114 - railway law enforcement network - vasúti rendészeti hálózat  
115 - railway telephone extension network - vasúti telefonhosszabbító hálózat  
116 - railway line network - vasúti vonali hálózat  
117 - railway reversing network - tolatói hálózat  
400 - maritime navigation and communication systems - tengeri navigáció és kommunikációs rendszer  
401 - inland water navigation and communication system - folyami navigáció és kommunikációs rendszer  
500 - air navigation and communication system - légi navigáció és kommunikációs rendszer  
600 - radar - Radar

- 1101 - Private multichannel telephone point to point - saját célú sokcsatornás távbeszélő pont - pont
- 1102 - Private point to point data transmission - saját célú adatátviteli pont - pont összeköttetés
- 1103 - Private voice for multichannel point to multipoint - sajátcélú sokcsatornás beszédátviteli pont - multipont
- 1104 - Private data point to multipoint network - sajátcélú adatátviteli pont - multipont hálózat
- 1105 - public multi channel telephone point to point - közcélú sokcsatornás távbeszélő pont - pont
- 1106 - public multi channel telephone point to multipoint - közcélú sokcsatornás távbeszélő pont - multipont
- 1107 - private multichannel telephone point to point - nem közcélú sokcsatornás távbeszélő pont - pont
- 1108 - private multichannel telephone point to multipoint - nem közcélú sokcsatornás távbeszélő pont - multipont
- 1109 - public data transmission point to point - közcélú adatátviteli pont - pont
- 1110 - public data transmission point to multipoint - közcélú adatátviteli pont - multipont
- 1111 - private data transmission point to point - nem közcélú adatátviteli pont - pont
- 1112 - private data transmission point to multipoint - nem közcélú adatátviteli pont - multipont
- 1113 - public broadcasting link - közcélú műsor beadó
- 1114 - private broadcasting link - nem közcélú műsorbeadó
- 1115 - public analogue TV picture and sound - közcélú analóg TV kép és hang
- 1116 - public digital TV picture and sound - közcélú digitális TV kép és hang
- 1118 - private digital TV picture and sound - nem közcélú digitális TV kép és hang
- 1119 - experimental Network - kísérleti hálózat
- 1200 - other network - egyéb hálózat
- 3201 - coordinated VSAT station - koordinált VSAT állomás
- 3202 - SNG station - SNG állomás
- 3203 - space communications ground station - űrtávközlési földi állomás
- 3204 - broadcast uplink station - műsor feladó állomás
- 3205 - not coordinated VSAT station - nem koordinált VSAT állomás
- 3206 - other - egyéb

LI PERIOD UNIT : UNIT OF PERIOD OF VALIDITY

1 - Day(s)

2 - Week(s)

3 - Month(s)

6 - Year(s)

7 - Hour(s)

EAC\_LOCATION : ANTENNA LOCATION

A - Airborn

O - Outdoor

I - Indoor

U - Underground

# 5 XML EXAMPLES

---

## 5.1 OVERVIEW

The structure of the XML has been modified in order to provide possibility to submit new types of applications.

### 5.1.1 AP\_ACTION\_TYPE

Beginning with Spectraexchange version 4.6 NOT only **New requests**, but also **Modification**, **Prolongation**, **Cancellation** and **Change Owner** requests can be submitted via XML.

In order to specify the type of the request, a new tag **AP\_ACTION\_TYPE** has been introduced.

**AP\_ACTION\_TYPE** is a mandatory tag that tells SPECTRAplus what kind of import type is included in the imported XML file.

**NOTE: The old XMLs must be changed manually to add this tag and the value has to be set to "N". A traditional import was always done to create a new request, so for the same result in the new version of the licensing system AP\_ACTION\_TYPE must be set to "N".**

### 5.1.2 PARTNER STRUCTURE

In 2009 a new address structure called **Partner Structure** was introduced. In this structure one partner has three address records linked to each other.

The main address record is the one with AD\_TYPE = "L". This record contains the HQ address parameters. This record stores the main parameters of the partner, such as the licensee code (AD\_MAN\_NUMBER), the tax admin number (BIC\_TAX\_ADMIN\_NUM), the bank account number (BIC\_BANK\_ACCOUNT), etc.

In addition it contains the city, street, house address and also the P.O. Box address.

The partner structure has two additional address records linked to the main address records with AD\_TYPE = "P" (invoicing address) and AD\_TYPE = "U" (mailing address). **These records do not store any data other than the city, street, house address and the P.O Box address of their kind.**

One partner can play several roles in SPECTRAplus, hence the **AD\_SPPLUS\_TYPE** tag has been introduced in the XML to tell the import engine what role the partner plays in the imported application in the licensing system.

### 5.1.2.1 An example for license owner address

Below an excerpt of an XML file depicting a partner in a licensee address role can be seen:

```

...
<ADDRESS AD_TYPE="L" AD>
  <AD_SPPLUS_TYPE = "L">
    <AD_COMPANY>Szatmári Transport Kft .</AD_COMPANY>
    <AD_HOUSE>121/d.</AD_HOUSE>
    <AD_STREET>Kossuth Lajos út</AD_STREET>
    <AD_ZIP>2347</AD_ZIP>
    <AD_COUNTRY>HNG</AD_COUNTRY>
    <AD_CITY>Bugyi</AD_CITY>
    <AD_MAN_NUMBER>403541</AD_MAN_NUMBER>
    <AD_TAX_ADMIN_NUM>123456-1-12</AD_TAX_ADMIN_NUM>
    <AD_CUSTOMER_CHAR1>example@example.com</AD_CUSTOMER_CHAR1>
    <AD_CUSTOMER_CHAR2>123456</AD_CUSTOMER_CHAR2>
    <BILLING_CUSTOMER_DATA>
      <BIC_BOOK_ACCOUNT>ABCDE0001</BIC_BOOK_ACCOUNT>
      <BIC_BANK_ACCOUNT>123456-123456-123456</BIC_BANK_ACCOUNT>
      <BIC_TAX_ADMIN_NUM>123456-1-12</BIC_TAX_ADMIN_NUM>
      <BIC_TAX_ADMIN_NUM_EU>EU123456</BIC_TAX_ADMIN_NUM_EU>
      <BIC_HIRE_PURCHASE_FLAG>0</BIC_HIRE_PURCHASE_FLAG>
      <BIC_TAX_ADMIN_NUM_GRP>BIC_TAX_GRP_12345</BIC_TAX_ADMIN_NUM_GRP>
    </BILLING_CUSTOMER_DATA>
    <ADDRESS AD_TYPE="P">
      <AD_HOUSE>62.</AD_HOUSE>
      <AD_STREET>Új utca</AD_STREET>
      <AD_ZIP>2347</AD_ZIP>
      <AD_COUNTRY>HNG</AD_COUNTRY>
      <AD_CITY>Bugyi</AD_CITY>
    </ADDRESS>
    <ADDRESS AD_TYPE="U">
      <AD_HOUSE>62.</AD_HOUSE>
      <AD_STREET>Új utca</AD_STREET>
      <AD_ZIP>2347</AD_ZIP>
      <AD_COUNTRY>HNG</AD_COUNTRY>
      <AD_CITY>Bugyi</AD_CITY>
    </ADDRESS>
  </ADDRESS>
...

```

**Note: A partner having NO AD\_SPPLUS\_TYPE tag is treated as license owner address (AD\_SPPLUS\_TYPE = "L")**

### 5.1.2.2 An example for submitter address

A part of an **exported** XML depicting the submitter and the submitter contact can be seen below.

```

...
<ADDRESS AD_TYPE="L">
  <AD_SPPLUS_TYPE>U</AD_SPPLUS_TYPE>
  <AD_COMPANY>DND Telecom Center Kft.</AD_COMPANY>
  <AD_HOUSE>1.</AD_HOUSE>
  <AD_STREET>Elnök utca</AD_STREET>
  <AD_ZIP>1089</AD_ZIP>
  <AD_COUNTRY>HNG</AD_COUNTRY>
  <AD_CITY>Budapest</AD_CITY>
  <AD_PHONE>+36 1 4598050</AD_PHONE>
  <AD_FAX>+36 1 2101757</AD_FAX>
  <AD_E_MAIL>dnd@dnd.hu</AD_E_MAIL>
  <AD_MAN_NUMBER>400096</AD_MAN_NUMBER>
  <WEB_ADDRESS>www.dnd.hu</WEB_ADDRESS>

```

```

<BILLING_CUSTOMER_DATA>
  <BIC_BANK_ACCOUNT>10300002-20392594-00003285</BIC_BANK_ACCOUNT>
  <BIC_TAX_ADMIN_NUM>12275085-2-42</BIC_TAX_ADMIN_NUM>
  <BIC_TAX_ADMIN_NUM_EU>HU12275085</BIC_TAX_ADMIN_NUM_EU>
  <BIC_HIRE_PURCHASE_FLAG>0</BIC_HIRE_PURCHASE_FLAG>
</BILLING_CUSTOMER_DATA>
<ADDRESS AD_TYPE="U">
  <AD_HOUSE>1.</AD_HOUSE>
  <AD_STREET>Elnök utca</AD_STREET>
  <AD_ZIP>1089</AD_ZIP>
  <AD_COUNTRY>HNG</AD_COUNTRY>
  <AD_CITY>Budapest</AD_CITY>
</ADDRESS>
<ADDRESS AD_TYPE="P">
  <AD_HOUSE>1.</AD_HOUSE>
  <AD_STREET>Elnök utca</AD_STREET>
  <AD_ZIP>1089</AD_ZIP>
  <AD_COUNTRY>HNG</AD_COUNTRY>
  <AD_CITY>Budapest</AD_CITY>
</ADDRESS>
</ADDRESS>
<ADDRESS AD_TYPE="C">                               'Submitter contact
<AD_SPPLUS_TYPE>U</AD_SPPLUS_TYPE>
<AD_NAME>Vass Renáta</AD_NAME>
</ADDRESS>
...

```

Since it is not allowed to directly create or change partner data via XML import only a limited part of the XML is taken into account during import.

The XML fragment below shows the tags taken into account during import of the submitter/submitter contact:

```

...
<ADDRESS AD_TYPE="L">                               'Submitter identified by AD:MAN_NUMBER
<AD_SPPLUS_TYPE>U</AD_SPPLUS_TYPE>
<AD_MAN_NUMBER>400096</AD_MAN_NUMBER>
  <ADDRESS AD_TYPE="U"></ADDRESS>               'completes partner structure
  <ADDRESS AD_TYPE="P"></ADDRESS>               'completes partner structure
</ADDRESS>
<ADDRESS AD_TYPE="C">                               'Submitter contact
<AD_SPPLUS_TYPE>U</AD_SPPLUS_TYPE>
<AD_NAME>Vass Renáta</AD_NAME>
</ADDRESS>
...

```

There is a shorter way to specify submitter address:

```

...
<ADDRESS AD_TYPE="L">                               'Submitter identified by AD:MAN_NUMBER
<AD_SPPLUS_TYPE>U</AD_SPPLUS_TYPE>
<AD_MAN_NUMBER>400096</AD_MAN_NUMBER>
  <ADDRESS AD_TYPE="U"></ADDRESS>               'completes partner structure
  <ADDRESS AD_TYPE="P"></ADDRESS>               'completes partner structure
  <ADDRESS AD_TYPE="C">                               'Submitter contact
  <AD_NAME>Vass Renáta</AD_NAME>
</ADDRESS>
</ADDRESS>
...

```

## 5.2 LICENSE CANCELLATION

A license cancellation XML consists of as many sections delimited by <APPLICATION> ... </APPLICATION> tags, as many licenses have to be cancelled. No technical data is present in the XML.

The license owner of all applications must be the same, otherwise the import will fail.

In **each section** the following data content must be included:

SV_SV_ID	Service code
SS_SS_ID	Subservice code
AP_NAME	The internal application ID (FMS azonosító) found on the printed license
AP_REF_NUMBER	The document number of the application to be deleted
AP_ACTION_TYPE	"C" indicates that the license has to be deleted
LI_CUSTOMER_REF_NO	The customer reference number of the cancellation request
LI_CUSTOMER_CAT3	The data content of this tag indicates if the customer would like to abdicate from appeal right

The XML can optionally contain also the submitter/submitter contact address; **this has to be specified only once**, because only one submitter can be assigned for the whole XML. The submitter/submitter contact is specified with this part of the XML:

```
....
<ADDRESS AD_TYPE="L">
  <AD_SPPLUS_TYPE>U</AD_SPPLUS_TYPE>
  <AD_MAN_NUMBER>400080</AD_MAN_NUMBER>
  <ADDRESS AD_TYPE="P"></ADDRESS>
  <ADDRESS AD_TYPE="U"></ADDRESS>
  <ADDRESS AD_TYPE="C">
    <AD_NAME>Kapcsolat</AD_NAME>
    <AD_FIRST_NAME>Tartó</AD_FIRST_NAME>
  </ADDRESS>
</ADDRESS>
...
```

The submitter/submitter contact can only be an already existing partner/contact in SPECTRAplus, hence it is enough to include the AD\_MAN\_NUMBER as the address detail that identifies the submitter.

The partner structure has to be complete even if it does not contain value, meaning these two lines below must be included in the XML:

```
...
  <ADDRESS AD_TYPE="P"></ADDRESS>
  <ADDRESS AD_TYPE="U"></ADDRESS>
...
```

The submitter contact is described with this part:

```
...
  <ADDRESS AD_TYPE="C">
    <AD_NAME>Kapcsolat</AD_NAME>
    <AD_FIRST_NAME>Tartó</AD_FIRST_NAME>
  </ADDRESS>
...
```

Below is an example for cancellation of two licenses - E26081-3/2011 and E26081-6/2011.

```
<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<SPECTRAEXCHANGE
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns="http://www.lstelcom.com/Schema/SPECTRAexchange"
  version="2.40.0"
```

```

<APPLICATION>
  <SV_SV_ID>2</SV_SV_ID>
  <SS_SS_ID>720</SS_SS_ID>
  <AP_NAME>0095569</AP_NAME>
  <AP_REF_NUMBER>E26081-3/2011</AP_REF_NUMBER>
  <AP_ACTION_TYPE>C</AP_ACTION_TYPE>
  <LI_CUSTOMER_REF_NO>New_Cust_Ref_No</LI_CUSTOMER_REF_NO>
  <LI_CUSTOMER_CAT3>Y</LI_CUSTOMER_CAT3>
  <ADDRESS AD_TYPE="L">
    <AD_SPPLUS_TYPE>U</AD_SPPLUS_TYPE>
    <AD_MAN_NUMBER>400080</AD_MAN_NUMBER>
    <ADDRESS AD_TYPE="P"></ADDRESS>
    <ADDRESS AD_TYPE="U"></ADDRESS>
    <ADDRESS AD_TYPE="C">
      <AD_NAME>Kapcsolat</AD_NAME>
      <AD_FIRST_NAME>Tartó</AD_FIRST_NAME>
    </ADDRESS>
  </ADDRESS>
</APPLICATION>
<APPLICATION>
  <SV_SV_ID>2</SV_SV_ID>
  <SS_SS_ID>720</SS_SS_ID>
  <AP_NAME>0095572</AP_NAME>
  <AP_REF_NUMBER>E26081-6/2011</AP_REF_NUMBER>
  <AP_ACTION_TYPE>C</AP_ACTION_TYPE>
  <LI_CUSTOMER_REF_NO>New_Cust_Ref_No</LI_CUSTOMER_REF_NO>
  <LI_CUSTOMER_CAT3>Y</LI_CUSTOMER_CAT3>
</APPLICATION>
</SPECTRAEXCHANGE>

```

## 5.3 LICENSE MODIFICATION

In case of license modification the XML file shall contain all data (modified parts as well as those that have not been changed) of the license request, not only the modifications.

Each application shall contain the <AP\_ACTION\_TYPE>M</AP\_ACTION\_TYPE> tag indicating that the application is a modification request.

Below is an example for modification of the license - 12625-2/2015.

```

<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<SPECTRAEXCHANGE
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns="http://www.lstelcom.com/Schema/SPECTRAexchange"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  version="2.40.0">
  <APPLICATION>
    <SV_SV_ID>3</SV_SV_ID>
    <SS_SS_ID>532</SS_SS_ID>
    <AP_NAME>0127566</AP_NAME>
    <AP_REF_NUMBER>12625-2/2015</AP_REF_NUMBER>
    <AP_ACTION_TYPE>M</AP_ACTION_TYPE>
    <TCC_SAT_NETID>458</TCC_SAT_NETID>
    <TCC_NW_AREA_SIZE>92000</TCC_NW_AREA_SIZE>
    <TCC_NW_SERVICE_TYPE>11</TCC_NW_SERVICE_TYPE>
    <TCC_NW_NAME>Biztonsági</TCC_NW_NAME>
    <LI_REQ_DATE>2015-05-22</LI_REQ_DATE>
    <LI_LIC_DATE>2015-06-15</LI_LIC_DATE>
    <LI_CANCEL_DATE>2020-05-31</LI_CANCEL_DATE>
    <LI_FACTOR_PERC_ONCE>100</LI_FACTOR_PERC_ONCE>
    <LI_FACTOR_PERC_REGULAR>100</LI_FACTOR_PERC_REGULAR>
    <LI_CSLI_CATEGORY>14</LI_CSLI_CATEGORY>
    <LI_PERIOD_UNIT>6</LI_PERIOD_UNIT>
    <ADDRESS AD_TYPE="L">
      <AD_COMPANY>Szatmári Transport Kft.</AD_COMPANY>
      <AD_HOUSE>121/d.</AD_HOUSE>
    </ADDRESS>
  </APPLICATION>
</SPECTRAEXCHANGE>

```



```

<AD_STREET>Kossuth Lajos út</AD_STREET>
<AD_ZIP>2347</AD_ZIP>
<AD_COUNTRY>HNG</AD_COUNTRY>
<AD_CITY>Bugyi</AD_CITY>
<AD_MAN_NUMBER>403541</AD_MAN_NUMBER>
<AD_TAX_ADMIN_NUM>11805672-2-13</AD_TAX_ADMIN_NUM>
<ADDRESS AD_TYPE="P" AD_ID_SRC_SPECTRA="30818280">
  <AD_HOUSE>62.</AD_HOUSE>
  <AD_STREET>Új utca</AD_STREET>
  <AD_ZIP>2347</AD_ZIP>
  <AD_COUNTRY>HNG</AD_COUNTRY>
  <AD_CITY>Bugyi</AD_CITY>
</ADDRESS>
<ADDRESS AD_TYPE="U">
  <AD_HOUSE>62.</AD_HOUSE>
  <AD_STREET>Új utca</AD_STREET>
  <AD_ZIP>2347</AD_ZIP>
  <AD_COUNTRY>HNG</AD_COUNTRY>
  <AD_CITY>Bugyi</AD_CITY>
</ADDRESS>
</ADDRESS>
<STATION>
  <TCS_NAME>MO_Orszagos_001</TCS_NAME>
  <TCS_CALL>szatmári</TCS_CALL>
  <TCS_AREA_RADIUS>0</TCS_AREA_RADIUS>
  <TCS_STATION_IDENT>001</TCS_STATION_IDENT>
  <TCS_SET_NUM>4</TCS_SET_NUM>
  <TCS_CSST_CATEGORY>13</TCS_CSST_CATEGORY>
  <TCS_NUM>2</TCS_NUM>
  <TCSC_NAT_S>OT</TCSC_NAT_S>
  <TCSC_NAT_U>P</TCSC_NAT_U>
  <TCSC_S_CAT>MO</TCSC_S_CAT>
  <ADDRESS AD_TYPE="S">
    <AD_STREET>HORDOZHATÓ</AD_STREET>
    <AD_COUNTRY>HNG</AD_COUNTRY>
    <AD_CITY>Országos</AD_CITY>
  </ADDRESS>
  <TRANSMITTER>
    <EQP_EQUIP_NAME>GM 360</EQP_EQUIP_NAME>
    <EQP_EQUIP_TYPE>A</EQP_EQUIP_TYPE>
    <EQP_EQUIP_IDENT>&lt;Dummy&gt;</EQP_EQUIP_IDENT>
    <EQP_EQ_PURPOSE>0</EQP_EQ_PURPOSE>
    <EQP_MAX_AGGREG_POW_DUNIT>W</EQP_MAX_AGGREG_POW_DUNIT>
    <EQP_TYPE_BASE>0</EQP_TYPE_BASE>
    <EQP_TYPE_PORTABLE>0</EQP_TYPE_PORTABLE>
    <EQP_TYPE_MOBILE>0</EQP_TYPE_MOBILE>
    <EQ_EQUIP_NAME>&lt;Dummy&gt;</EQ_EQUIP_NAME>
    <EQ_RF_BWIDTH>12500</EQ_RF_BWIDTH>
    <EQ_RF_BWIDTH_DUNIT>kHz</EQ_RF_BWIDTH_DUNIT>
    <EQ_CHAN_O>0</EQ_CHAN_O>
    <EQ_CSEQ_CATEGORY>3</EQ_CSEQ_CATEGORY>
    <EQE_EMI>8K50F3EJN</EQE_EMI>
    <EQUIP_EMISSION>
      <EQE_EMI>8K50F3EJN</EQE_EMI>
    </EQUIP_EMISSION>
    <ETX_POW>1.9952623149688795</ETX_POW>
    <ETX_POW_DUNIT>dBW</ETX_POW_DUNIT>
    <ETX_POW_MAX>1.9952623149688795</ETX_POW_MAX>
    <ETX_POW_MAX_DUNIT>dBW</ETX_POW_MAX_DUNIT>
    <ETX_POW_TYPE>E</ETX_POW_TYPE>
    <ETX_EQ_OUTPUT>1.9952623149688795</ETX_EQ_OUTPUT>
    <ETX_EQ_OUTPUT_DUNIT>dBW</ETX_EQ_OUTPUT_DUNIT>
    <ETX_TOT_ATT>0</ETX_TOT_ATT>
    <ETX_POW_AVERAGE>1.99526231</ETX_POW_AVERAGE>
    <ETX_POW_AVERAGE_DUNIT>W</ETX_POW_AVERAGE_DUNIT>
    <EAC_AN_H>1.5</EAC_AN_H>
    <EAC_AN_H_EFF>2</EAC_AN_H_EFF>
    <EAC_AN_POL>V</EAC_AN_POL>
    <EAC_AN_AZI>0</EAC_AN_AZI>
    <EAC_AN_ELEV>0</EAC_AN_ELEV>
    <EAC_FEEDING_LOSS>0</EAC_FEEDING_LOSS>
    <EAC_FI_BAND_LOSS>0</EAC_FI_BAND_LOSS>
    <EAC_FI_DUP_LOSS>0</EAC_FI_DUP_LOSS>
    <EAN_NAME>KÖRSUGÁRZÓ MOZGÓ</EAN_NAME>
    <EAN_TYPE>HIFREF_V</EAN_TYPE>
    <EAN_CODE_HOR>000ND00</EAN_CODE_HOR>

```

```

<EAN_CODE_VER>000ND00</EAN_CODE_VER>
<EAN_GAIN>0</EAN_GAIN>
<EAN_REF_ANT>E</EAN_REF_ANT>
<EAN_AN_DIR>N</EAN_AN_DIR>
<EAN_FREQ_RANGE_MIN>30000000</EAN_FREQ_RANGE_MIN>
<EAN_FREQ_RANGE_MIN_DUNIT>MHz</EAN_FREQ_RANGE_MIN_DUNIT>
<EAN_FREQ_RANGE_MAX>900000000</EAN_FREQ_RANGE_MAX>
<EAN_FREQ_RANGE_MAX_DUNIT>MHz</EAN_FREQ_RANGE_MAX_DUNIT>
<EAN_POL>V</EAN_POL>
<ANTENNA_PATTERNS>
  Antenna patterns excluded for readability
</ANTENNA_PATTERNS>
<ANTENNA_SERVICES>
  <SV_SV_ID>3</SV_SV_ID>
  <SV_SV_ID>3</SV_SV_ID>
</ANTENNA_SERVICES>
<FREQUENCY>
  <Related>1069914</Related>
  <EFL_FREQ_ID>3124834</EFL_FREQ_ID>
  <EFL_FREQ>442006250</EFL_FREQ>
  <EFL_FREQ_DUNIT>MHz</EFL_FREQ_DUNIT>
  <EFL_CHANNEL_SPACE>12500</EFL_CHANNEL_SPACE>
  <EFL_CHANNEL_SPACE_DUNIT>kHz</EFL_CHANNEL_SPACE_DUNIT>
  <EFL_USE_TYPE>2</EFL_USE_TYPE>
  <EFL_FREQ_IDENT>0000150267</EFL_FREQ_IDENT>
</FREQUENCY>
<FREQUENCY>
  <Related>1069917</Related>
  <EFL_FREQ_ID>3124837</EFL_FREQ_ID>
  <EFL_FREQ>458531250</EFL_FREQ>
  <EFL_FREQ_DUNIT>MHz</EFL_FREQ_DUNIT>
  <EFL_CHANNEL_SPACE>12500</EFL_CHANNEL_SPACE>
  <EFL_CHANNEL_SPACE_DUNIT>kHz</EFL_CHANNEL_SPACE_DUNIT>
  <EFL_USE_TYPE>2</EFL_USE_TYPE>
  <EFL_FREQ_IDENT>0000150268</EFL_FREQ_IDENT>
</FREQUENCY>
</TRANSMITTER>
<RECEIVER>
  <EQP_EQUIP_NAME>GM 360</EQP_EQUIP_NAME>
  <EQP_EQUIP_TYPE>A</EQP_EQUIP_TYPE>
  <EQP_EQUIP_IDENT>&lt;Dummy&gt;</EQP_EQUIP_IDENT>
  <EQP_EQ_PURPOSE>0</EQP_EQ_PURPOSE>
  <EQP_MAX_AGGREG_POW_DUNIT>W</EQP_MAX_AGGREG_POW_DUNIT>
  <EQP_TYPE_BASE>0</EQP_TYPE_BASE>
  <EQP_TYPE_PORTABLE>0</EQP_TYPE_PORTABLE>
  <EQP_TYPE_MOBILE>0</EQP_TYPE_MOBILE>
  <EQ_EQUIP_NAME>&lt;Dummy&gt;</EQ_EQUIP_NAME>
  <EQ_RF_BWIDTH>12500</EQ_RF_BWIDTH>
  <EQ_RF_BWIDTH_DUNIT>kHz</EQ_RF_BWIDTH_DUNIT>
  <EQ_CHAN_O>0</EQ_CHAN_O>
  <EQ_CSEQ_CATEGORY>3</EQ_CSEQ_CATEGORY>
  <EQE_EMI>8K50F3EJN</EQE_EMI>
  <EQUIP_EMISSION>
    <EQE_EMI>8K50F3EJN</EQE_EMI>
  </EQUIP_EMISSION>
  <ERX_TOT_ATT_H44>0</ERX_TOT_ATT_H44>
  <EAC_AN_H>1.5</EAC_AN_H>
  <EAC_AN_H_EFF>2</EAC_AN_H_EFF>
  <EAC_AN_POL>V</EAC_AN_POL>
  <EAC_AN_AZI>0</EAC_AN_AZI>
  <EAC_AN_ELEV>0</EAC_AN_ELEV>
  <EAC_FEEDING_LOSS>0</EAC_FEEDING_LOSS>
  <EAC_FI_BAND_LOSS>0</EAC_FI_BAND_LOSS>
  <EAC_FI_DUP_LOSS>0</EAC_FI_DUP_LOSS>
  <EAN_NAME>KÖRSUGÁRZÓ MOZGÓ</EAN_NAME>
  <EAN_TYPE>HIFREF_V</EAN_TYPE>
  <EAN_CODE_HOR>000ND00</EAN_CODE_HOR>
  <EAN_CODE_VER>000ND00</EAN_CODE_VER>
  <EAN_GAIN>0</EAN_GAIN>
  <EAN_REF_ANT>E</EAN_REF_ANT>
  <EAN_AN_DIR>N</EAN_AN_DIR>
  <EAN_FREQ_RANGE_MIN>30000000</EAN_FREQ_RANGE_MIN>
  <EAN_FREQ_RANGE_MIN_DUNIT>MHz</EAN_FREQ_RANGE_MIN_DUNIT>
  <EAN_FREQ_RANGE_MAX>900000000</EAN_FREQ_RANGE_MAX>
  <EAN_FREQ_RANGE_MAX_DUNIT>MHz</EAN_FREQ_RANGE_MAX_DUNIT>
  <EAN_POL>V</EAN_POL>

```

```

<ANTENNA_PATTERNS>
  Antenna patterns excluded for readability
</ANTENNA_PATTERNS>
<ANTENNA_SERVICES>
  <SV_SV_ID>3</SV_SV_ID>
  <SV_SV_ID>3</SV_SV_ID>
</ANTENNA_SERVICES>
<FREQUENCY>
  <Related>1069914</Related>
  <EFL_FREQ_ID>3124838</EFL_FREQ_ID>
  <EFL_FREQ>442006250</EFL_FREQ>
  <EFL_FREQ_DUNIT>MHz</EFL_FREQ_DUNIT>
  <EFL_CHANNEL_SPACE>12500</EFL_CHANNEL_SPACE>
  <EFL_CHANNEL_SPACE_DUNIT>kHz</EFL_CHANNEL_SPACE_DUNIT>
  <EFL_USE_TYPE>2</EFL_USE_TYPE>
  <EFL_FREQ_IDENT>0000150269</EFL_FREQ_IDENT>
</FREQUENCY>
<FREQUENCY EFL_ID_SRC_SPECTRA="3124841">
  <Related>1069917</Related>
  <EFL_FREQ_ID>3124841</EFL_FREQ_ID>
  <EFL_FREQ>458531250</EFL_FREQ>
  <EFL_FREQ_DUNIT>MHz</EFL_FREQ_DUNIT>
  <EFL_CHANNEL_SPACE>12500</EFL_CHANNEL_SPACE>
  <EFL_CHANNEL_SPACE_DUNIT>kHz</EFL_CHANNEL_SPACE_DUNIT>
  <EFL_USE_TYPE>2</EFL_USE_TYPE>
  <EFL_FREQ_IDENT>0000150270</EFL_FREQ_IDENT>
</FREQUENCY>
</RECEIVER>
</STATION>
<ATTACHMENT>
  <IS_REFERENCE>1</IS_REFERENCE>
</ATTACHMENT>
<ATTACHMENT>
  <IS_REFERENCE>1</IS_REFERENCE>
</ATTACHMENT>
<ATTACHMENT>
  <IS_REFERENCE>1</IS_REFERENCE>
</ATTACHMENT>
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  <IS_REFERENCE>1</IS_REFERENCE>
</ATTACHMENT>
<ATTACHMENT>
  <IS_REFERENCE>1</IS_REFERENCE>
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<ATTACHMENT>
  <IS_REFERENCE>1</IS_REFERENCE>
</ATTACHMENT>
<ATTACHMENT>
  <IS_REFERENCE>1</IS_REFERENCE>
</ATTACHMENT>
<ATTACHMENT>
  <IS_REFERENCE>1</IS_REFERENCE>
</ATTACHMENT>
<ATTACHMENT>
  <IS_REFERENCE>1</IS_REFERENCE>
</ATTACHMENT>
<APPLICATION_OFFICIAL>
  <ADDRESS AD_TYPE="A">
    <AD_NAME>Nemzeti Média- és Hírközlési Hatóság Hivatala</AD_NAME>
    <AD_COMPANY>Hq2</AD_COMPANY>
    <AD_HOUSE>106.</AD_HOUSE>
    <AD_STREET>Visegrádi utca</AD_STREET>
    <AD_ZIP>1133</AD_ZIP>
    <AD_COUNTRY>HNG</AD_COUNTRY>
    <AD_PO_BOX>997</AD_PO_BOX>
    <AD_ZIP_PO_BOX>1376</AD_ZIP_PO_BOX>
    <AD_CITY_PO_BOX>Budapest</AD_CITY_PO_BOX>
    <AD_CITY>Budapest</AD_CITY>
    <AD_PHONE>4680500</AD_PHONE>
    <AD_PHONE2>+361 4680500</AD_PHONE2>
    <AD_FAX>4680508</AD_FAX>
    <AD_E_MAIL>feo@nmhh.hu</AD_E_MAIL>
    <AD_COMMENT>Hq2</AD_COMMENT>
  </ADDRESS AD_TYPE="C" AD_ID_SRC_SPECTRA="30779194">
    <AD_NAME>Vona Dániel</AD_NAME>
    <AD_DEPARTMENT>Frekvenciaengedélyezési osztály</AD_DEPARTMENT>
    <AD_COUNTRY>HNG</AD_COUNTRY>
    <AD_PHONE>4680731</AD_PHONE>
    <AD_FAX>4680508</AD_FAX>
    <AD_POSITION>2</AD_POSITION>
  </ADDRESS>
</ADDRESS>

```

```
</APPLICATION_OFFICIAL>
</APPLICATION>
</SPECTRAEXCHANGE>
```

## 5.4 LICENSE PROLONGATION

A license prolongation XML consists of as many sections delimited by <APPLICATION> ... </APPLICATION> tags, as many licenses have to be prolonged. No technical data is present in the XML.

The license owner of all applications must be the same, otherwise the import will fail.

In **each section** the following content must be included:

SV_SV_ID	Service code
SS_SS_ID	Subservice code
AP_NAME	The application name of the application to be prolonged
AP_REF_NUMBER	The document number of the application to be prolonged
AP_ACTION_TYPE	"R" indicates that this application has to be prolonged
LI_CUSTOMER_REF_NO	The customer reference number of the prolongation request
LI_CUSTOMER_CAT3	This tag indicates if the customer has abdicated from appeal right

The XML can optionally contain also the submitter/submitter contact address; **this has to be specified only once**, because only one submitter can be assigned for the whole XML. The submitter/submitter contact is specified with this part of the XML:

```
....
<ADDRESS AD_TYPE="L">
  <AD_SPPLUS_TYPE>U</AD_SPPLUS_TYPE>
  <AD_MAN_NUMBER>400080</AD_MAN_NUMBER>
  <ADDRESS AD_TYPE="P"></ADDRESS>
  <ADDRESS AD_TYPE="U"></ADDRESS>
  <ADDRESS AD_TYPE="C">
    <AD_NAME>Kapcsolat</AD_NAME>
    <AD_FIRST_NAME>Tartó</AD_FIRST_NAME>
  </ADDRESS>
</ADDRESS>
...
```

Below is an example of prolongation for three licenses - 592-124/2016, 592-125/2016 and 592-126/2016.

```
<?xml version="1.0" encoding="iso-8859-2" standalone="yes"?>
<SPECTRAEXCHANGE xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema" version="2.4.11"
  xmlns="http://www.lstelcom.com/Schema/SPECTRAexchange">
  <APPLICATION>
    <SV_SV_ID>2</SV_SV_ID>
    <SS_SS_ID>720</SS_SS_ID>
    <AP_NAME>0140980</AP_NAME>
    <AP_REF_NUMBER>592-124/2016</AP_REF_NUMBER>
    <AP_ACTION_TYPE>R</AP_ACTION_TYPE>
    <LI_CUSTOMER_REF_NO>New_Cust_Ref_No_007</LI_CUSTOMER_REF_NO>
    <LI_CUSTOMER_CAT3>Y</LI_CUSTOMER_CAT3>
```

```

<ADDRESS AD_TYPE="L">
  <AD_SPPLUS_TYPE>U</AD_SPPLUS_TYPE>
  <AD_MAN_NUMBER>400080</AD_MAN_NUMBER>
  <ADDRESS AD_TYPE="P"></ADDRESS>
  <ADDRESS AD_TYPE="U"></ADDRESS>
  <ADDRESS AD_TYPE="C">
    <AD_NAME>Kapcsolat</AD_NAME>
    <AD_FIRST_NAME>Tartó</AD_FIRST_NAME>
  </ADDRESS>
</ADDRESS>
</APPLICATION>
<APPLICATION>
  <SV_SV_ID>2</SV_SV_ID>
  <SS_SS_ID>720</SS_SS_ID>
  <AP_NAME>0140981</AP_NAME>
  <AP_REF_NUMBER>592-125/2016</AP_REF_NUMBER>
  <AP_ACTION_TYPE>R</AP_ACTION_TYPE>
  <LI_CUSTOMER_REF_NO>New_Cust_Ref_No_007</LI_CUSTOMER_REF_NO>
  <LI_CUSTOMER_CAT3>Y</LI_CUSTOMER_CAT3>
</APPLICATION>
<APPLICATION>
  <SV_SV_ID>2</SV_SV_ID>
  <SS_SS_ID>720</SS_SS_ID>
  <AP_NAME>0140982</AP_NAME>
  <AP_REF_NUMBER>592-126/2016</AP_REF_NUMBER>
  <AP_ACTION_TYPE>R</AP_ACTION_TYPE>
  <LI_CUSTOMER_REF_NO>New_Cust_Ref_No_007</LI_CUSTOMER_REF_NO>
  <LI_CUSTOMER_CAT3>Y</LI_CUSTOMER_CAT3>
</APPLICATION>
</SPECTRAEXCHANGE>

```

## 5.5 USING EAN\_ANT\_IDENT\_TEMP

EAN\_ANT\_IDENT\_TEMP can be used to reference an antenna with patterns within XML file. This way antenna data doesn't need to be repeated within XML file. Identifier needs to be unique within XML file. If using EAN\_ANT\_IDENT\_TEMP feature, no other EAN fields should be populated (which also means that EAN\_ID\_SRC\_SPECTRA should not be populated). On first appearance of the identifier, the antenna data needs to be specified in the XML. So it can be referenced in later appearances, as shown in the example below.

```

<APPLICATION>
  <AP_NAME>0123456</AP_NAME>
  ...
<STATION>
  <TCS_NAME>Station</TCS_NAME>
  ...
<TRANSMITTER EAN_ANT_IDENT_TEMP="123456">
  <EQP_EQUIP_NAME>Equipment</EQP_EQUIP_NAME>
  ...
  <!-- Antenna configuration -->
  <EAC_AN_H>12</EAC_AN_H>
  <EAC_AN_H_EFF>8.75</EAC_AN_H_EFF>
  <EAC_AN_POL>V</EAC_AN_POL>
  <EAC_AN_AZI>215</EAC_AN_AZI>
  <EAC_AN_ELEV>0</EAC_AN_ELEV>
  <EAC_FEEDING_LOSS>3</EAC_FEEDING_LOSS>
  <EAC_FI_BAND_LOSS>0</EAC_FI_BAND_LOSS>
  <EAC_FI_DUP_LOSS>0</EAC_FI_DUP_LOSS>
  <!-- Antenna data with patterns -->
  <EAN_NAME>9S00-075</EAN_NAME>
  <EAN_TYPE>HIFREF_V</EAN_TYPE>
  <EAN_CODE_HOR>024LA12</EAN_CODE_HOR>
  <EAN_CODE_VER>020LA05</EAN_CODE_VER>
  <EAN_GAIN>12</EAN_GAIN>
  <EAN_REF_ANT>E</EAN_REF_ANT>
  <EAN_AN_DIR>D</EAN_AN_DIR>

```

```

<EAN_H_BEAMWIDTH>25</EAN_H_BEAMWIDTH>
<EAN_BACK_RAD_ATT>28</EAN_BACK_RAD_ATT>
<EAN_MANUFACTURE>BRG</EAN_MANUFACTURE>
<EAN_FREQ_RANGE_MIN_DUNIT>MHz</EAN_FREQ_RANGE_MIN_DUNIT>
<EAN_FREQ_RANGE_MAX_DUNIT>MHz</EAN_FREQ_RANGE_MAX_DUNIT>
<EAN_POL>V</EAN_POL>
<EAN_FREQ_GAIN>450000000</EAN_FREQ_GAIN>
<ANTENNA_PATTERNS>
  <ANTENNA_PATTERN>
    <EAP_TYPE>HH</EAP_TYPE>
    <EAP_ANGLE>0</EAP_ANGLE>
    <EAP_ATTENUATION>0</EAP_ATTENUATION>
  </ANTENNA_PATTERN>
  <ANTENNA_PATTERN>
    <EAP_TYPE>HH</EAP_TYPE>
    <EAP_ANGLE>10</EAP_ANGLE>
    <EAP_ATTENUATION>1</EAP_ATTENUATION>
  </ANTENNA_PATTERN>
  <ANTENNA_PATTERN>
    <EAP_TYPE>HH</EAP_TYPE>
    <EAP_ANGLE>20</EAP_ANGLE>
    <EAP_ATTENUATION>2.5</EAP_ATTENUATION>
  </ANTENNA_PATTERN>
  ...
</ANTENNA_PATTERNS>
</TRANSMITTER>
<RECEIVER EAN_ANT_IDENT_TEMP="123456">
  <EQP_EQUIP_NAME>Equipment</EQP_EQUIP_NAME>
  ...
  <!-- Antenna configuration -->
  <EAC_AN_H>12</EAC_AN_H>
  <EAC_AN_H_EFF>8.75</EAC_AN_H_EFF>
  <EAC_AN_POL>V</EAC_AN_POL>
  <EAC_AN_AZI>215</EAC_AN_AZI>
  <EAC_AN_ELEV>0</EAC_AN_ELEV>
  <EAC_FEEDING_LOSS>3</EAC_FEEDING_LOSS>
  <EAC_FI_BAND_LOSS>0</EAC_FI_BAND_LOSS>
  <EAC_FI_DUP_LOSS>0</EAC_FI_DUP_LOSS>
  <!-- No antenna data, antenna with EAN_ANT_IDENT_TEMP=123456 to be used -->
</RECEIVER>
</STATION>
</APPLICATION>

```