

**AGREEMENT  
BETWEEN THE ADMINISTRATIONS OF  
BELGIUM, FRANCE, GERMANY, LUXEMBOURG,  
THE NETHERLANDS AND SWITZERLAND**

**ON FREQUENCY PLANNING AND FREQUENCY  
COORDINATION AT BORDER AREAS FOR  
TERRESTRIAL SYSTEMS CAPABLE OF  
PROVIDING ELECTRONIC COMMUNICATIONS  
SERVICES**

**IN THE FREQUENCY BAND  
2500-2690 MHz**

**Brussels, 22 November 2017**

*Y  
M  
CP  
Hh.  
ka  
VJ*

## 1. Introduction

The frequency band 2500 - 2690 MHz is designated for terrestrial systems capable of providing electronic communications services according to

- for Belgium, France, Germany, Luxembourg and The Netherlands, according to the Decision of the European Commission 2008/477/EC of 13 June 2008 on the harmonisation of the 2500 - 2690 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Community.
- for Switzerland according to the national table of frequency allocations as approved by the Federal Council

The Administrations of Belgium, France, Germany, Luxembourg, The Netherlands and Switzerland have agreed on the following usage and cross-border frequency coordination procedures.

## 2. Principles of frequency usage and frequency coordination in border areas

The concept of equal access probability is a frequency planning principle enabling equitable coverage for two or more networks using the same frequency band with the same or different digital technologies in geographically adjacent areas without coordination. Operation of stations in the respective border area exceeding the specified field strength values after performing traditional frequency coordination would disturb the balance in the respective area and is therefore not desirable.

Furthermore this agreement is based on the principles of frequency usage and frequency coordination according to Recommendation ECC/REC(11)05 (see [www.erodocdb.dk](http://www.erodocdb.dk)).

The field strength values refer to the mean field strength of each cell produced by the base station and are defined inside a reference frequency block of 5 MHz.

In cases of other frequency block sizes  $10 \times \log_{10}$  (frequency block size / 5 MHz) should be added to the field strength values.

## 3. Technical provisions

The FDD (frequency division duplex) and TDD (time division duplex) mode of operations are considered.

For FDD, the duplex spacing shall be 120 MHz with base station transmission (downlink) located in the upper part of the band (2500-2570 MHz) and terminal station transmission (uplink) located in the lower part of the band (2620-2690 MHz)<sup>1</sup>.

For TDD, the base station transmission and the terminal transmission is in the band 2570-2620 MHz.

### 3.1 Case where only FDD systems are used:

3.1.1 Base stations in border areas may be operated without coordination with the neighbouring country if the produced field strength at a height of 3 m above ground does not exceed the following values:

---

<sup>1</sup> In case of carrier aggregation, the frequency band for the transmission of terminal station may be different.

- a) Usage of preferential PCI<sup>2</sup>:
    - 65 dB $\mu$ V/m/5 MHz at the border line
    - 49 dB $\mu$ V/m/5 MHz at a distance of 6 km beyond the border
  - b) Usage of non-preferential PCI:
    - 49 dB $\mu$ V/m/5 MHz at the border line
- 3.1.2 In order to improve performance between LTE systems deployed in the border areas, the administrations shall encourage operators to apply PCI coordination and arrange other radio parameters, in accordance with the relevant annexes of ECC/REC(11)05, especially in the case where centre frequencies of LTE signals in border areas are aligned.
- 3.1.3 If centre frequencies of LTE signals are not aligned, mobile operators can use the field strength values of 3.1.1.a) for all PCI.
- 3.2 Case where only TDD systems are used:
- 3.2.1 Base stations of TDD systems unsynchronised may be operated if the produced mean field strength at a height of 3 m above ground does not exceed the value of 30 dB $\mu$ V/m/5MHz at the border line.
- 3.2.2 If TDD systems are synchronised across the border or deployed as downlink only on both sides of the border, base stations may be operated without coordination with the neighbouring country if the produced field strength at a height of 3 m above ground does not exceed:
- a) Usage of preferential PCI or equivalent:
    - 65 dB $\mu$ V/m/5 MHz at the border line
    - 49 dB $\mu$ V/m/5 MHz at a distance of 6 km beyond the border
  - b) Usage of non-preferential PCI or equivalent:
    - 49 dB $\mu$ V/m/5 MHz at the border line
- 3.2.3 If TDD systems are synchronised across the border or deployed as downlink only on both sides of the border, and if centre frequencies of signals are not aligned, base stations may be operated without coordination with the neighbouring country if the produced field strength at a height of 3 m above ground does not exceed 3.2.2.a) values for all PCI.

#### 4. Protection radio astronomy systems

Under consideration of the Recommendation ITU-R RA.769-2 and of out of band emissions of the terrestrial systems capable of providing electronic communications services (see block edge mask) it must be guaranteed that an interfering radiation density of -247 dBW/(m<sup>2</sup>Hz) is not exceeded above 2690 MHz at the radio astronomy locations Effelsberg (6°E53'01", 50°N31'30") and Westerbork (6°E36'15", 52°N55'01").

#### 5. Operators arrangements

The establishment of arrangements between operators shall be allowed to the extent possible, according to the provisions laid down in the "Agreement between the

<sup>2</sup> As defined in ECC/REC(11)05.

administrations of Belgium, France, Germany, Luxembourg, the Netherlands and Switzerland concerning the approval of arrangements between operators of mobile radio communication networks" done at Brussels on 11<sup>th</sup> October 2011.

## **6. Prediction of propagation**

For the field strength calculations the tool of the latest version of the HCM Agreement shall be applied. Time probability in all calculations is 10 %.

## **7. Revision of the agreement**

This agreement may be modified at a request of any of the signatory administrations where such a modification becomes necessary in the light of administrative, regulatory or technical development.

## **8. Withdrawal from the agreement**

Any Administration may withdraw from this Agreement subject to six months notice.

## **9. Language of the agreement**

This Agreement has been concluded in English.

One original version of this Agreement is handed over to each signatory administration.

## **10. Date of entry into force**

The date of entry into force of this agreement is subject to individual signature of this agreement.

The application of this agreement is valid between the administrations which both have signed the agreement..

## **11. Abrogation of the Agreement of 11 October 2011**

The Agreement between the administrations of Belgium, France, Germany, Luxembourg, Switzerland and The Netherlands of 11 October 2011 is abrogated.

Existing stations in line with the previous agreement may continue to operate until their switch-off.

Hr.  
Y  
4/5  
M  
W  
TJ

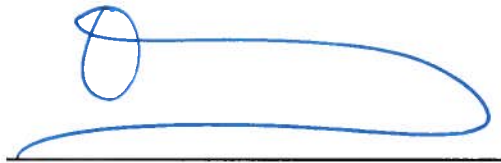
## 12. Signature of the agreement

Done at Brussels, 22 November 2017

For BELGIUM

Belgian Institute for Postal  
Services and Telecommunications

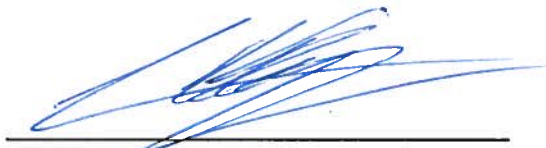
On behalf of the BIPT Council,  
Michael Vandrogenbroek



Date of signature: 22 November 2017

For FRANCE

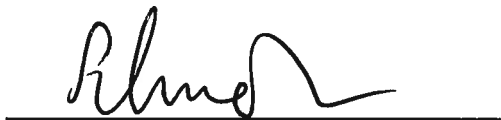
Agence nationale des fréquences  
Cédric Perros



Date of signature: 22 November 2017

For GERMANY

Federal Network Agency  
Tobias Schnetzer

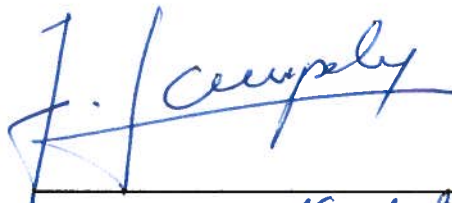


Date of signature: 22 November 2017

For LUXEMBOURG

For the Institut Luxembourgeois  
de Régulation

Jean Gompelmann



Date of signature: 16-1-2018

For THE NETHERLANDS

Agentschap Telecom  
Yvonne Veenstra-Knop



Date of signature: 22-2-2018

For SWITZERLAND

Federal Office of Communications  
Konrad Vonlanthen



Date of signature: 22 November 2017