

1800 MHz Auction

**Award of frequencies in the frequency bands
1720.1-1785.0 MHz and 1815.1-1880.0 MHz**

Information Memorandum

Annex J

**Coordination Agreement between Denmark
and Germany concerning the 1800 MHz
frequency band**

June 2016

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Danish Energy Agency

Denmark

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AGREEMENT

**between the National IT- and Telecom Agency,
Denmark and the Bundesnetzagentur, Germany**

**concerning the opening for IMT services in the
bands,
1710-1785 and 1805-1880 MHz
in border areas**

April 2011

1. INTRODUCTION

The frequency bands 1710 - 1785 MHz and 1805 – 1880 MHz are designated for terrestrial systems capable of providing electronic communications services according to

COMMISSION DECISION (2009/766/EC) of 16 October 2009 on the harmonisation of the 900 MHz and 1 800 MHz frequency bands for terrestrial systems capable of providing pan-European electronic communications services in the Community.

The administrations of the Denmark and Germany have agreed on the following frequency planning and frequency using procedures.

This agreement covers the co-ordination of base stations. The user equipment, or terminals, is allowed to be used on a non interference basis, in accordance with ITU RR 4.4

The field strength values in this agreement are based on a receiving antenna height of 3 meters, 10% of the time and 50% of the locations.

The latest version of ITU-R REC P.1546 shall be used.

The use of TDD is not covered by this Agreement.

This Agreement will replace the GSM1800 Agreement of 2001, supplemented by the Addendum of 2nd December 2010, by **31. March 2014**. In case of GSM on both sides are in use by that date the existing GSM1800 Agreement will remain in force.

2. PRINCIPLES OF FREQUENCY PLANNING AND FREQUENCY USAGE AT BORDER AREAS

The concept of equal access probability is a new 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.

The following principles apply to frequency utilisation by terrestrial systems capable of providing electronic communications services in geographically adjacent areas:

- Field strength values are defined inside a reference frequency block of 5 MHz.
- The field strength calculations shall take into account the sum of all signals radiated from the respective antenna sector within the reference frequency block. The respective field strength values for each signal should be applied by each antenna sector and can be deduced by reducing the limit proportionally to the frequency block portions falling into the reference bandwidth (reduction factor = $10 \times \log(\text{frequency block portion} / 5 \text{ MHz})$).

In order to assure equitable coverage and equal access probability to the spectrum in border areas even with different transmission technologies, and to enhance the efficiency of spectrum usage, the principles and field strength limits as given in chapter 4. of this agreement shall be respected by all networks concerned.

3. OPERATOR ARRANGEMENTS

To further improve the compatibility of terrestrial systems capable of providing electronic communications services in border areas, operator arrangements may be concluded concerning other frequency coordination methods such as:

- preferential frequency distribution arrangements,
- (if concerned neighbouring systems in all affected countries are using code division multiple access technologies such as IMT-2000/UMTS) preferential code division arrangements (e.g. according to ERC/REC(01)01),
- frequency carrier definitions (e.g. with LTE),
- Synchronisation of concerned networks.
- use of other propagation models.

Such arrangements are subject to consent of the administrations concerned. In particular, before giving consent to such arrangements, the administrations concerned should take care that all network operators concerned are parties in such an arrangement.

In case an operator changes from GSM to IMT the affected operator in the other country shall be informed.

4. TECHNICAL CHARACTERISTICS

IMT in both countries and IMT in one country and GSM continue in the other country in common spectrum

For the protection of both IMT and GSM systems, frequencies in the bands 1710-1785 and 1805-1880 MHz may be used by both IMT (FDD) systems and GSM systems without coordination with the neighbouring country, if the mean field strength of each carrier produced by the base station does not exceed **61 dB μ V/m/5MHz** at a height of 3 m above ground at the borderline in the frequency band 1805-1880 MHz.

IMT base stations and GSM base stations may be operated if the produced field strength does not exceed the value of **35 dB μ V/m/5MHz** at a height of 3 meters above ground at a line of 7 km beyond the border.

GSM continues in common spectrum in both countries

If an operator in one country continues to use GSM and the affected operator in the other country also continues to use GSM after 31. March 2014, the GSM base stations using preferential channels in common spectrum may be operated if the produced field strength does not exceed the value of **25 dB μ V/m/200kHz** at a height of 3 meters above ground at a line of 15 km beyond the border.

Non-preferential channels in common spectrum may be operated if the produced field strength does not exceed the value of **25 dB μ V/m/200kHz** at a height of 3 meters above ground at the border.

The division into preferential and non-preferential channels is contained in annex 1 to this Agreement.

The timing of the changover from GSM to IMT to be mutually agreed between affected operators.

5. DEFINITION OF BORDER

The borderline is the coastline, where the border is not on land.

6. REVISION OF THE AGREEMENT

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

The technical characteristics may be reviewed in the light of practical experience of its application and of the operation of terrestrial systems capable of providing electronic communications services in general.

7. WITHDRAWAL FROM THE AGREEMENT

Any administration may withdraw from this agreement subject to six months notice.

8. LANGUAGE OF THE AGREEMENT

This agreement has been concluded in English.

9. DATE OF ENTRY INTO FORCE

The date of entry into force is the date of the signatures.

10. SIGNATURE OF THE AGREEMENT

Done // . April 2011

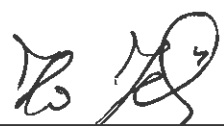
For the National Telecom Agency,
Denmark



Per V. Christensen

Done 21 . April 2011

For the Bundesnetzagentur,
Germany



Heinz Hönnekes