Agreement between the Finnish Communications Regulatory Authority and the Swedish Post and Telecom Authority

concerning the use of the bands 1710-1785/1805-1880 MHz for terrestrial systems with bandwidths wider than 200 kHz

This Agreement is supplementary to the agreement from Dec 2003

Juni 2016

1. Preamble

This additional agreement is dictated by the assignment of the 1800 MHz band to other systems than GSM.

2. Principles and definitions

2.1. This Agreement is based on ECC Recommendation (08)02 "Frequency planning and frequency coordination for GSM / UMTS / LTE / WiMAX Land Mobile systems operating within the 900 and 1800 MHz bands".

2.2. This Agreement covers land mobile systems utilizing bandwidths wider than the GSM channel (200 kHz) in the frequency bands 1710-1785/1805-1880 MHz.

2.3. The agreement covering coordination of narrowband systems in the band 1710-1785/1805-1880 MHz (Dec 2003) stays in force.

2.4. This Agreement covers the coordination of base stations. User equipments, or terminals, are allowed to be used on non-interfering basis, in accordance with ITU RR 4.4.

2.5. This Agreement is based on the concept of field strength levels as well as preferential scrambling codes for neighbouring UMTS systems and PCI for neighbouring LTE systems, as applicable, according to Annex 1, Annex 2 and Annex 3.

2.6. For the purpose of this Agreement the Zones F and S referred to in the following paragraphs are defined in Annex 4.

3. Use of frequencies without coordination

3.1. Sweden may use the band 1805-1880 MHz without coordination with Finland, if the predicted mean field strength produced by a base station does not exceed the field strength thresholds at Zone F, as given in Annex 1.

3.2. Finland may use the band 1805-1880 MHz without coordination with Sweden, if the predicted mean field strength produced by a base station does not exceed the field strength thresholds at Zone S as given in Annex 1.

4. Exchange of information

4.1. If a licence holder in one country changes its use with respect to centre frequencies and/or technique (for example, from GSM to LTE), licence holders with overlapping frequency blocks in the neighbouring country might be affected. A licence holder who intends to change its use is therefore recommended and encouraged to inform licence holders with overlapping frequency blocks in the neighbouring country 3 months before the change is to take place.

4.2. Information about license holders in Finland and Sweden can be obtained from the Finnish Communications Regulatory Authority and the Swedish Post and Telecom Authority respectively.

5. Coordination procedure

5.1. If a frequency assignment has to be coordinated, the period of coordination shall not exceed 45 days from the date of the receipt of a written request and 20 days after a reminder. A request may be sent by e-mail to the administration's official e-mail address. If no reply is received after 65 days after the initial request the frequency assignment shall be considered as coordinated.

5.2. The exchange of the coordination information shall be in electronic form and sent by e-mail or by other electronic means as appropriate.

5.3. Preliminary coordination may take place between the operators concerned. The results of such preliminary coordination must be approved by the administrations.

6. General

6.1. A complaint in case of harmful interference shall be based on the median values of measurements of field strength, performed at 3 meter of receiving antenna height at least on two different occasions over a range of at least 100 m along the border.

6.2. In the presence of interference, the report of harmful interference shall be presented in accordance with Appendix 10 of the Radio Regulations. The other administration shall take all possible steps in order to eliminate the interference.

6.3. The field strength values in this Agreement (see Annex 1) are based on a receiving antenna height of 3 m, 10% of the time and 50% of the locations.

6.4. The latest version of ITU-R P.1546 "Method for point-to area predictions for terrestrial services in the frequency range 30-3000 MHz" shall be used.

7. Revision and cancellation

7.1. This Agreement may be revised upon mutual agreement of the two administrations. This Agreement may be cancelled with a notice of at least twelve months from any of the two parties.

8. Enter into force

8.1. This Agreement shall come into force on the date of mutual signing.

8.2. This Agreement has been drawn in two identical copies, one for Finland and one for Sweden.

Place

Helsinki

Date

15 June 2016

For the Finnish Communications Regulatory Authority

Jarno Ilme
Director of Spectrum Management

Place

Stockholm

Date

7 juni 2016

For the Swedish Post and Telecom Authority

Pia Högset
Director of unit of the Spectrum Department

Annex 1

FIELD STRENGTH THRESHOLDS FOR COORDINATION

System to be coordinated	Field strength	
	value	unit
GSM vs GSM and GSM vs other systems	According to existing agreement and ECC Rec (05)08	(dBμV/m / 200 kHz)[1]
Other systems vs GSM	47	At Zones[5] (dBμV/m / 5 MHz) [2]
UMTS vs UMTS (non-preferential scrambling codes[3], aligned centre frequencies)	41	At Zones[5] (dBμV/m / 5 MHz) [2]
LTE vs LTE (non-preferential PCI[4], aligned centre frequencies)	41	At Zones[5]r (dBμV/m / 5 MHz) [2]
All other cases	65	At Zones[5] (dBμV/m / 5 MHz) [2]
	41	9 km beyond the Zones[5] (dBμV/m / 5 MHz) [2]

[1] For GSM the values given are for antenna height of 3 m, 10% of the time and 50% of the locations

[2] In case of bandwidth (BW) different from 5 MHz the field strength is given by: $E = E_0 + 10 \times \log_{10}(BW/5)$, BW in MHz

[3] See Annex 2.

[4] See Annex 3.

[5] See Annex 4.

Annex 2

PREFERENTIAL SCRAMBLING CODES FOR UMTS (UTRA FDD)

3GPP TS 25.213 §5.2.3 defines 64 scrambling code groups of which preferential codes are divided between the administrations based on ECC REC (08)02:

Scrambling Code groups	Set A 0 to10	Set B 11 to 20	Set C 21 to 31	Set D 32 to 42	Set E 43 to 52	Set F 53 to 63
Country	Finland	Finland	Finland	Sweden	Sweden	Sweden

Annex 3

PREFERENTIAL PHYSICAL-LAYER CELL IDENTITIES (PCI) FOR LTE

PCI division, according to Table 3 below, may be used in border areas to improve coverage and service when channel centre frequencies are aligned.

The PCIs are divided between the administrations based on ECC Rec (08)02:

PCI	Set A 0 to 83	Set B 84 to 167	Set C 168 to 251	Set D 252 to 335	Set E 336 to 419	Set F 420 to 503
Country	Finland	Finland	Finland	Sweden	Sweden	Sweden

Annex 4

DEFINITION OF PROTECTED ZONES

The Zones F (Finland) and S (Sweden) are defined below and illustrated in Figure 1.

Finland - Zone F

The land border between Sweden and Finland.
The coastline of Finland.
At Åland:
- A line between Norrskär (60° 32' 24" N, 20° 12' 30" E), Ådskär (60° 21' 03" N, 19° 31' 17" E), Västerön (60° 14' 17" N, 19° 28' 30" E) , Askö (59° 59' 20" N, 19° 59' 19" E) and Kalskär (59° 47' 51" N, 20° 57' 50" E)

At Vasa:
- A line between Mickelsöarna (63° 28' 30" N, 21° 44' 40" E), Lappöarna (63° 22' 03" N, 21° 11' 00" E) and Bergö (62° 58' 41" N, 21° 06' 59" E)

At Uleåborg:
- Hailuoto (65° 02' 23" N, 24° 33' 04" E)

Sweden - Zone S

The land border between Finland and Sweden.
The coastline of Sweden.
At the coast of Uppland and Stockholm archipelago:
- A line between Argos grund (60° 37' 42" N, 18° 21' 47" E), Simpnäsklubb (59° 53' 34" N, 19° 04' 46" E), Söderarm (59° 45' 10" N, 19° 24' 21" E), Svenska högarna (59° 26' 38" N, 19° 30' 06" E) and Huvudskär (58° 47' 46" N, 18° 34' 13" E)

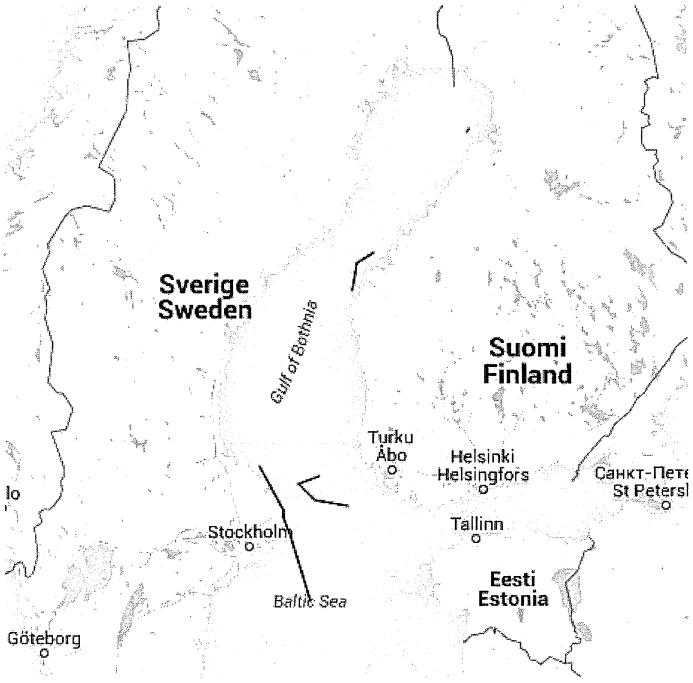

Figure 1. Illustration of Zone S and Zone F.