

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

**concerning the use of the bands 880-915/925-960
MHz for terrestrial systems with bandwidths wider
than 200 kHz**

This agreement is supplementary to agreements dated 2001-01-18

October 2014

1. Preamble

This additional agreement is dictated by the opening of the 900 MHz band to other technical applications 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 that of the GSM channel (200 kHz) in the frequency bands 880-915/925-960 MHz.
- 2.3. Agreement covering coordination of the band 890-915/935-960 MHz and the Agreement covering coordination of the band 880-890/925-935 MHz both dated 18 January 2001 stay in force.
- 2.4. This agreement covers the co-ordination 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 codes for UMTS system and PCIs for LTE system as defined in Annex 1.
- 2.6. For the purpose of this agreement the Zones referred to in the following paragraphs are defined in Annex 2.

3. Use of frequencies without coordination

- 3.1. Sweden may use the band 925 - 960 MHz without co-ordination with Finland, if the predicted mean field strength produced by a base station does not exceed the field strength thresholds defined in Table 1 of Annex 1 at a height of 3 m above the surface at Zone F or 9 km inside Zone F as stated in the table.
- 3.2. Finland may use the band 925 - 960 MHz without co-ordination with Sweden, if the predicted mean field strength produced by a base station does not exceed the field strength thresholds defined in Table 1 of Annex 1 at a height of 3 m above the surface at Zone S or 9 km inside Zone S as stated in the table.

4. Exchange of information

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.

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

5. Co-ordination procedure

- 5.1. If a frequency assignment has to be co-ordinated, the period of co-ordination 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 co-ordinated.
- 5.2. The exchange of the co-ordination information shall be in electronic form and sent by e-mail or by other electronic means as appropriate.
- 5.3. Preliminary co-ordination may take place between the operators concerned. The results of such preliminary co-ordination 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 zones.
- 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 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 Sweden and one for Finland.

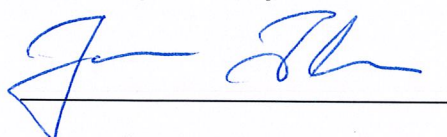
Place HELSINKI

Place STOCKHOLM

Date 18.11.2014

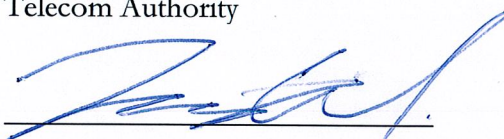
Date 27/11-14

For the Finnish Communications
Regulatory Authority



Jarno Ilme
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For the Swedish Post and
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FIELD STRENGTH THRESHOLDS

Field strength	Fully overlapping LTE ^{1,2} /UMTS ^{3,4} /WiMAX carriers	UMTS/LTE Centre frequencies aligned Non-preferential codes used	All other cases which overlap GSM usage in neighbouring country
dB μ V/m	59+10xlog(BW/5) MHz (Zone) 35+10xlog(BW/5) MHz (9 km inside Zone)	35 (at Zone)	41+10xlog(BW/5) MHz (at Zone)
¹ Overlapping LTE carriers but centre frequencies not aligned. ² Overlapping LTE carriers with centre frequencies aligned and using preferential codes. ³ Overlapping UMTS carriers but centre frequencies not aligned. ⁴ Also in case of UMTS on both sides of the border with centre frequencies aligned and using preferential codes.			

Table 1. Field strength thresholds for coordination

The preferential codes to be used for UMTS are given in Table 2 and the preferential codes to be used for LTE are given in Table 3.

PREFERENTIAL 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 according to the following table:

Code group	Set A	Set B	Set C	Set D	Set E	Set F
	0 to 10	11 to 20	21 to 31	32 to 42	43 to 52	53 to 63
Country	Finland	Finland	Finland	Sweden	Sweden	Sweden

Table 2. Preferential Codes for UMTS (UTRA FDD)

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 according to the following table:

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

Table 3. Preferential Physical-Layer Cell Identities (PCI) for LTE

Definition of protected zones

In 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 Vaasa:

- 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 Oulu:

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

In 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)

Note: WGS84 coordinates.