

**Agreement between the Finnish Communications  
Regulatory Authority, the Norwegian Post and  
Telecommunications Authority and the National  
Post and Telecom Agency, Sweden concerning  
the use of the frequency bands 1900–1980 MHz,  
2020-2025 MHz and 2110-2170 MHz  
for terrestrial UMTS system.**

**October 2003**

## 1 Principles

- 1.1 This agreement is based on the concept of preferential scrambling code groups<sup>1</sup>.
- 1.2 The use of TDD systems in the band 1920-1980 MHz is not covered in this agreement.

## 2 Preferential scrambling code groups

- 2.1 The assignment of preferential scrambling code groups between Finland, Sweden and Norway within frequency bands 1900 - 1920 MHz, 2020 - 2025 MHz and 2110 - 2170 MHz are defined in Annex 1.

## 3 Use of frequencies without co-ordination <sup>2</sup>

- 3.1 Each country may use channels within frequency bands 1900 - 1920 MHz and 2020 - 2025 MHz for TDD systems using preferential codes without coordination with the neighbouring country, if the field strength value of each carrier produced by the base station does not exceed 36 dB $\mu$ V/m/5 MHz at the zones<sup>3</sup> defined in Annex 2.
- 3.2 Each country may use channels within the frequency band 2110 - 2170 MHz for FDD systems using preferential codes or for systems not using CDMA IMT-2000 radio interface, without coordination with the neighbouring country, if the field strength value of each carrier produced by the base station does not exceed 45 dB $\mu$ V/m/5 MHz at the zones defined in Annex 2.
- 3.3 Each country can use channels within frequency bands 1900 - 1920 MHz, 2020 - 2025 MHz and 2110 - 2170 MHz for systems using non preferential codes without coordination with the neighbouring country, if the field strength value of each carrier produced by the base station does not exceed 21 dB $\mu$ V/m/5 MHz at the zones defined in Annex 2.

## 4 General

- 4.1 Field strength exceeding above-mentioned levels shall be co-ordinated with the other country by the frequency management authorities.
- 4.2 Preliminary co-ordination may take place between operators concerned. The results from preliminary co-ordination between operators shall be approved by the administrations.
- 4.3 A complaint in case of harmful interference shall be based on the median values of measurements of field strength, performed at 3 m of receiving antenna height at least on two different occasions over a range of at least 100 m along the zones as defined in Annex 2.
- 4.4 The field strength values in this agreement are based on a receiving antenna height of 3 m, 10 % of the time and 50 % of locations.
- 4.5 Countries shall use the ITU-R P.1546-1 "Method for point-to area predictions for terrestrial services in the frequency range 30-3000 MHz" as specified in ERC/REC.(01)01 Annex 2 for field strength calculations relating to this agreement.

---

<sup>1</sup> Annex 4, ERC/REC/(01)01

<sup>2</sup> Annex 1, ERC/REC/(01)01

<sup>3</sup> zones Is defined as line or area according to annexes in this agreement.

## 5 Revision and cancellation

- 5.1 This agreement may be revised or cancelled as desired by one of the administrations with a notice of one year.
- 5.2 In case this agreement is cancelled and new one is not concluded the co-ordination procedure will be based on CEPT ERC Recommendation (01)01 Annex 5.

---


This agreement shall come into effect from date of signature.

This agreement has been drawn up in three identical copies, of which each party has taken one each.


Helsinki <sup>20/10</sup> 2003

Stockholm <sup>13/10</sup> 2003

Oslo <sup>31/10</sup> 2003

  
\_\_\_\_\_  
Kari Koho

  
\_\_\_\_\_  
Marianne Treschow

  
\_\_\_\_\_  
Geir Jan Sunda

## Annex 1

### Assignment of preferential scrambling code groups between Finland, Sweden and Norway

In border areas, the codes are divided into six code sets containing one sixth of the available code groups. Each country is allocated two or three code sets.

Four types of countries are defined in Recommendation ERC(01)01 in a way such that no country will use the same code set as any one of its neighbours. The following lists describe the distribution of codes in this agreement.

Country 1: Finland, F  
Country 3: Sweden, S  
Country 4: Norway, N

Zone F-N-S: The area (zone) close to "Treriksrøysa" where the field strength level of a carrier produced by the base station of a specific country exceeds the value defined in sub clause 3.3.

	Preferential code
	non-preferential code

#### FDD scrambling codes<sup>4</sup>

<b>Finland</b>	Set A	Set B	Set C	Set D	Set E	Set F
Country 1	0..10	11..20	21..31	32..42	43..52	53..63
Zone F-S						
Zone F-N						
Zone F-N-S						

<b>Sweden</b>	Set A	Set B	Set C	Set D	Set E	Set F
Country 3	0..10	11..20	21..31	32..42	43..52	53..63
Zone S-F						
Zone F-N-S						
Zone S-N						

<b>Norway</b>	Set A	Set B	Set C	Set D	Set E	Set F
Country 4	0..10	11..20	21..31	32..42	43..52	53..63
Zone N-F						
Zone N-S						
Zone F-N-S						

#### TDD scrambling codes<sup>5</sup>

<b>Finland</b>	Set A	Set B	Set C	Set D	Set E	Set F
Country 1	0..4	5..10	11..15	16..20	21..26	27..31
Zone F-S						
Zone F-N						
Zone F-N-S						

<b>Sweden</b>	Set A	Set B	Set C	Set D	Set E	Set F
Country 3	0..4	5..10	11..15	16..20	21..26	27..31
Zone S-F						
Zone F-N-S						
Zone S-N						

<b>Norway</b>	Set A	Set B	Set C	Set D	Set E	Set F
Country 4	0..4	5..10	11..15	16..20	21..26	27..31
Zone N-F						
Zone N-S						
Zone F-N-S						

<sup>4</sup> 3GPP TS 25.213 defines 64 « scrambling code groups » in §5.2.3, numbered {0..63}.

<sup>5</sup> 3GPP TS 25.223 defines 32 « scrambling code groups » in §7.3, numbered {0..31}.

## Definition of protected zones

### Finland

The field strength levels to be applied in this agreement for carriers produced by Finnish base stations shall be measured as follows:

Zone between Finland and Sweden (F-S):

- At the coast of Uppland and Stockholm archipelago
- A line between the lighthouse Argos, Simpenäs klubb, Söderarm, Svenska högarna and Huvudskär
- The land border between Finland and Sweden

Zone between Finland and Norway (F-N):

- The land border between Finland and Norway

### Norway

The field strength levels to be applied in this agreement for carriers produced by Norwegian base stations shall be measured as follows:

Zone between Norway and Sweden (N-S):

- A line midway between the Norwegian coast and the Swedish coast
- The land border between Norway and Sweden

Zone between Norway and Finland (N-F):

- The land border between Norway and Finland

### Sweden

The field strength levels to be applied in this agreement for carriers produced by Swedish base stations shall be measured as follows:

Zone between Sweden and Finland (S-F):

- At Åland
- A line between Norrskär, Ådskär, Västerön, Askö and Kalskär
- At Vasa
- A line between Mickelsöarna, Lappöarna, Bergö and Björkby
- At Uleåborg
- At Hailuoto
- The land border between Sweden and Finland

Zone between Sweden and Norway (S-N):

- A line midway between the Norwegian coast and the Swedish coast
- The land border between Sweden and Norway