

**Agreement between the Finnish Communications Regulatory
Authority and the Technical Regulatory Authority of Estonia
concerning the use of the frequency bands 1900 – 1980 MHz and
2110 - 2170 MHz for Land Mobile Service Stations in the border
areas**

1 Principles and definitions

- 1.1 This Agreement is based on the concept of field strength levels as well as preferential scrambling codes for UTRA as defined in Tables 1 and 2 of Annex 1 and Preferential Physical-Layer Cell Identities (PCI) for LTE as defined in Table 3 of Annex 1.
- 1.2 This Agreement covers the co-ordination of base stations. User equipment, or terminals, are allowed to be used on non-interfering basis, in accordance with ITU RR 4.4.
- 1.3 For the purpose of this Agreement the Zones referred to in the following paragraphs are defined in Annex 2.

2 Use of frequencies without co-ordination

- 2.1 Estonia may use channels within the frequency band 1900 - 1920 MHz for TDD systems using preferential codes **without co-ordination** with Finland, if the predicted mean field strength value of each carrier produced by the base station does not exceed 36 dB μ V/m/5MHz within zone F (Annex 2).
- 2.2 Estonia may use channels within the frequency band 1900 - 1920 MHz for TDD systems using non preferential codes **without co-ordination** with Finland if the predicted mean field strength of each carrier produced by the base station does not exceed a value of 21 dB μ V/m/5MHz within zone F (Annex 2).
- 2.3 Finland may use channels within the frequency band 1900 - 1920 MHz for TDD systems using preferential codes **without co-ordination** with Estonia, if the predicted mean field strength value of each carrier produced by the base station does not exceed 36 dB μ V/m/5MHz within zone E (Annex 2).
- 2.4 Finland may use channels within the frequency band 1900 - 1920 MHz for TDD systems using non preferential codes **without co-ordination** with Estonia if the predicted mean field strength of each carrier produced by the base station does not exceed a value of 21 dB μ V/m/5MHz within zone E (Annex 2).
- 2.5 Estonia may use channels within the frequency band 2110 - 2170 MHz for FDD systems using preferential codes with centre frequencies aligned, or where centre frequencies are not aligned, **without co-ordination** with Finland, if the predicted mean field strength value of each carrier produced by the base station does not exceed 54 dB μ V/m/5MHz within zone F (Annex 2).
- 2.6 Estonia may use channels within the frequency band 2110 - 2170 MHz for FDD systems using non preferential codes with centre frequencies aligned **without co-ordination** with Finland, if the predicted mean field strength value of each carrier produced by the base station does not exceed 37 dB μ V/m/5MHz within zone F (Annex 2).
- 2.7 Finland may use channels within the frequency band 2110 - 2170 MHz for FDD systems using preferential codes with centre frequencies aligned, or where centre frequencies are not aligned, **without co-ordination** with Estonia, if the predicted mean field strength value of each carrier produced by the base station does not exceed 54 dB μ V/m/5MHz within zone E (Annex 2).
- 2.8 Finland may use channels within the frequency band 2110 - 2170 MHz for FDD systems using non preferential codes with centre frequencies aligned **without**

co-ordination with Estonia, if the predicted mean field strength value of each carrier produced by the base station does not exceed 37 dB μ V/m/5MHz within zone E (Annex 2).

3 Co-ordination procedure

- 3.1 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.
- 3.2 The exchange of the co-ordination information shall be in electronic form and sent by e-mail or by other electronic means as appropriate.
- 3.3 Preliminary co-ordination may take place between the operators concerned. The results of such preliminary co-ordination must be approved by the administrations.

4 General

- 4.1 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.
- 4.2 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.
- 4.3 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.
- 4.4 The latest version of Recommendation ITU-R P.1546 "Method for point -to area predictions for terrestrial services in the frequency range 30-3000 MHz" shall be used for field strength calculations.

5 Revision and cancellation

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

6 Entry into force

- 6.1 This Agreement shall be in force from date of signing.
- 6.2 This Agreement has been drawn up in two identical copies, one for Estonia and one for Finland.
- 6.3 This Agreement, when in force replaces the previous Agreement between the Finnish Communications Regulatory Authority and Estonian National Communications Board concerning the use of the frequency bands 1900 - 1980 MHz, 2020 - 2025 MHz and 2110 - 2170 MHz for stations of terrestrial UMTS networks in the border areas (Geneva, 2003).

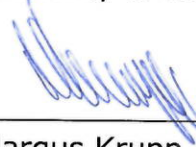
Helsinki
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For the Finnish Communications
Regulatory Authority



Tapio Penkkala
Deputy Director, Spectrum Management

For the Technical Regulatory
Authority of Estonia



Margus Krupp
Head of Electronic
Communications Division

ASSIGNMENT¹ OF PREFERENTIAL CODE GROUPS BETWEEN ESTONIA AND FINLAND

UTRA

1. FDD case²:

Set A	Set B	Set C	Set D	Set E	Set F
0..10	11..20	21..31	32..42	43..52	53..63
Finland	Finland	Estonia	Estonia	Estonia	Finland

Table 1: UTRA FDD preferential scrambling codes

2. TDD case³:

Set A	Set B	Set C	Set D	Set E	Set F
0..4	5..10	11..15	16..20	21..26	27..31
Finland	Finland	Estonia	Estonia	Estonia	Finland

Table 2: UTRA TDD preferential scrambling codes

LTE⁴:

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	Estonia	Estonia	Estonia	Finland

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

¹ The assignment is based on ERC/REC/(01)01 Annex 3 and 5.

² 3GPP TS 25.213 defines 64 « scrambling code groups » in §5.2.3, numbered {0..63}.

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

⁴ ETSI TS 136 211 defines 168 unique physical cell-identity groups numbered 0..167, hereafter called « PCI groups ». Within each PCI group there are three separate PCIs giving 504 PCIs in total

DEFINITION OF PROTECTED ZONES

In Estonia

Zone E

The Estonian coast including the following islands: Saaremaa, Hiiumaa, Vormsi, Naissaar and Prangli

In Finland

Zone F

The South Coast of Finland described by a line drawn between the following islands (coordinates WGS 84):

Jurmo (59° 48' 56" N, 21° 33' 48" E), Russarö (59° 45' 54" N, 22° 56' 51" E), Rönnskär (59° 55' 54" N, 24° 23' 32" E), Isosaari (60° 05' 43" N, 25° 02' 40" E), Pirttisaari (60° 09' 30" N, 25° 26' 29" E) and Haapasaari (60° 17' 10" N, 27° 11' 42" E)