

**Agreement between the Finnish Communications Regulatory Authority
and the Technical Regulatory Authority of Estonia concerning the use of
the frequency bands 452,500 - 457,500 MHz and 462,500 - 467,500 MHz
for Land Mobile Service Stations in the border areas**

1. Principles

- 1.1. This Agreement is based on the concept of field strength levels as well as preferential PCIs for LTE system as defined in Table 2 of Annex 1.
- 1.2. The direction of traffic conforms to CEPT Recommendation T/R 25-08.
- 1.3. 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.
- 1.4. For the purpose of this Agreement the Zones referred to in the following paragraphs are defined in Annex 2.

2. Use of frequencies without coordination

- 2.1. Estonia may use the frequency band 462,500 - 467,500 MHz without coordination with Finland, if the predicted mean field strength of each cell of a base station does not exceed the field strength thresholds defined in Table 1 of Annex 1 at a height of 3 m above surface within zone F (Annex 2).
- 2.2. Finland may use the frequency band 462,500 - 467,500 MHz without coordination with Estonia, if the predicted mean field strength of each cell of a base station does not exceed the field strength thresholds defined in Table 1 of Annex 1 at a height of 3 m above surface 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 and 10 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.

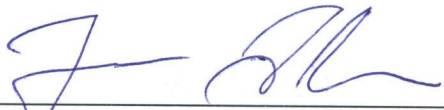
5. Revision and cancellation

- 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 453,000-457,475 / 463,000-467,475 MHz for Land Mobile Service Stations in the border areas (Tallinn, 2007).

For the Finnish Communications
Regulatory Authority



Jarno Ilme
Director, Radio Frequencies

18. 7..2016

Helsinki

For the Technical Regulatory
Authority of Estonia



Raigo Uukkivi,
Director General

01. 08..2016

Tallinn

FIELD STRENGTH THRESHOLDS

Field strength	Overlapping wide band carriers ^[1,2]	LTE carriers with centre frequencies aligned and non-preferential codes used	Narrowband carriers ($\leq 1,25$ MHz), or wide band carriers overlapping with them
dBμV/m	$55^{[3]} + 10 \times \log(BW^{[4]}/5)$	$29^{[5]} + 10 \times \log(BW^{[4]}/5)$	$37^{[6]} + 10 \times \log(BW^{[4]}/1,25)$

^[1] Wideband carriers with not aligned centre frequencies, e.g. LTE

^[2] LTE carriers with centre frequencies aligned and using preferential codes.

^[3] Value based on ECC REC(15)01, RX antenna at 3 m above ground

^[4] Bandwidth in MHz

^[5] Value based on ECC REC(08)02, RX antenna at 3 m above ground

^[6] Value based on CEPT REC T/R 25-08, rev 2016, RX antenna at 10 m above ground

Table 1. Field strength thresholds for coordination.

PREFERENTIAL PHYSICAL-LAYER CELL IDENTITIES (PCI) FOR LTE

PCI division, according to Table 2 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	Set B	Set C	Set D	Set E	Set F
	0 to 83	84 to 167	168 to 251	252 to 335	336 to 419	420 to 503
Country	Finland	Finland	Estonia	Estonia	Estonia	Finland

Table 2. Preferential Physical-Layer Cell Identities (PCI) for LTE

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)