



20 October 2003

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Viite
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Asia
Ärende
Subject

GSM-R KOORDINATIONSAVTAL

Hej Mats,

Bifogar ert exemplar av GSM-R koordinationensavtalet.

MVH

Tom Wikström

**Agreement between the Finnish Communications
Regulatory Authority and the National Post and
Telecom Agency, Sweden concerning the use
of the frequency bands 876-880 MHz and
921-925 MHz, GSM-R
in the border areas.**

October 2003

Agreement between the Finnish Communications Regulatory Authority and the National Post and Telecom Agency, Sweden concerning the use of the frequency bands
876 - 880 MHz and 921 - 925 MHz

1 Frequencies

- 1.1 The centre frequencies of the duplex channels in the 876 - 880 MHz and 921 - 925 MHz frequency bands spaced by 200 kHz are listed and allocated as preferential channels between Finland and Sweden as shown in Annex 1.

2 Use of R-GSM channels at the land border

- 2.1 Sweden may use its preferential channels without coordination with Finland if the field strength of every single carrier produced by a base station does not exceed 19 dB μ V/m at a distance of 15 km inside Finland.
- 2.2 Finland may use its preferential channels without coordination with Sweden if the field strength of every single carrier produced by a base station does not exceed 19 dB μ V/m at a distance of 15 km inside Sweden.
- 2.3 Sweden can use preferential channels assigned to Finland without coordination, if the field strength of every single carrier produced by a base station does not exceed 19 dB μ V/m at the border.
- 2.4 Finland can use preferential channels assigned to Sweden without coordination, if the field strength of every single carrier produced by a base station does not exceed 19 dB μ V/m at the border.
- 2.5 The above mentioned field strength values are based on receiving antenna height of 3 m, 10 % of the time and 50 % of the locations, bandwidth of 200 kHz.

3 Use of R-GSM channels at the sea border

- 3.1 Sweden may use all channels in Annex 1 without coordination with Finland if the field strength of every single carrier produced by a base station does not exceed 19 dB μ V/m within zone F.
- 3.2 Finland may use all channels in Annex 1 without coordination with Sweden if the field strength of every single carrier produced by a base station does not exceed 19 dB μ V/m within zone S
- 3.3 The above mentioned field strength values are based on receiving antenna height of 3 m, 10 % of the time and 50 % of the locations, bandwidth of 200 kHz.

4 Direct mode operation

- 4.1 Five (5) channels within the band 876.000 - 876.100 MHz are designated for European harmonised Direct Mode Operation (DMO) of R-GSM 900 systems. The channel spacing for DMO is 12.5 kHz. Both Parties may use these channels for R-GSM 900 DMO without coordination on a non-protected basis. Table 2 in Annex 1 describes DMO parameters.

5 Other provisions

- 5.1 A field strength exceeding above-mentioned levels shall be coordinated with the other country by the frequency management authorities.
- 5.2 A complaint in case of interference shall be based on the median values of measurements of field strength at 3 m of receiving antenna height at least on two different occasions over a range of at least 100 m along the border. Measurement of field strength according to ITU-R recommendation P.1546-1, referring to Annex 2.

6 Revision and cancellation

- 6.1 This agreement may be cancelled as desired by one of the administrations with a notice of one year.
- 6.2 This agreement may be revised if mutual understanding is reached at the negotiations between the administrations.
- 6.3 In case this agreement is cancelled and new one is not concluded the coordination procedure will be based on CEPT Recommendation T/R 20-08, noting that CEPT Recommendation T/R 20-08 does not cover the R-GSM frequency band.

This Agreement shall come into effect from date of signature.

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

Helsinki 20/10 2003

Stockholm 13/10 2003

For the Finnish Administration

For the Swedish Administration



Kari Koho



Marianne Treschow

List of annexes:

- Annex 1: Assignment of preferential frequencies between Finland and Sweden.
- Annex 2: Definition of protected zones

Assignment of preferential frequencies between Finland and Sweden

Frequency band 876 – 880 MHz and 921 – 925 MHz

Channel #	Centre Frequency Mobile TX [MHz]	Centre Frequency Base TX [MHz]	Preferential frequency
955	876.200	921.200	Finland
956	876.400	921.400	Finland
957	876.600	921.600	Finland
958	876.800	921.800	Finland
959	877.000	922.000	Finland
960	877.200	922.200	Sweden
961	877.400	922.400	Sweden
962	877.600	922.600	Sweden
963	877.800	922.800	Sweden
964	878.000	923.000	Sweden
965	878.200	923.200	Sweden
966	878.400	923.400	Sweden
967	878.600	923.600	Sweden
968	878.800	923.800	Sweden
969	879.000	924.000	Sweden
970	879.200	924.200	Finland
971	879.400	924.400	Finland
972	879.600	924.600	Finland
973	879.800	924.800	Finland
974	880.000	925.000	Finland

* Channel number 974 may be considered as a guard channel to other services in adjacent bands.

Centre Frequency Mobile TX [MHz]	Centre Frequency Base TX [MHz]	Comments
876.0125	876.0125	DMO
876.0250	876.0250	DMO
876.0375	876.0375	DMO
876.0500	876.0500	DMO
876.0625	876.0625	DMO

Table 1. 876.000 - 876.100 MHz for Direct Mode Operation (DMO) using single frequency mode. The frequency spacing for DMO is 12.5 kHz.

Parameter	Mobile Station
Channel Spacing	12.5 kHz
Transmit Power	30 dBm
Receiver Bandwidth	8 kHz
Antenna Height	1.5 m
Antenna Gain	0 dBi
Active Interferer Density Range	variable
Receiver Sensitivity	- 107 dBm
Receiver Protection Ratio	21 dB
Power Control Characteristic	not used

Table 2. Parameters Assumed for 12.5 kHz FM Systems.

Definition of protected zones

In Finland

Zone F

- at Åland

a line between Norrskär, Ådskär, Västerön, Askö and Kalskär

-at Vasa

a line between Mickelsöarna, Lappöarna, Bergö and Björkby

- at Uleåborg

Hailuoto

- the land border between Finland and Sweden

In Sweden

Zone 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 Sweden and Finland