

Annex 1

**Maximum permissible interference field strengths and
maximum cross-border ranges of harmful interference
for frequencies requiring co-ordination in the
Land Mobile Service**

1 Maximum permissible interference field strength values

The interference field strength shall not exceed the values given in column 2 of the table.

2 Cross-border ranges of harmful interference

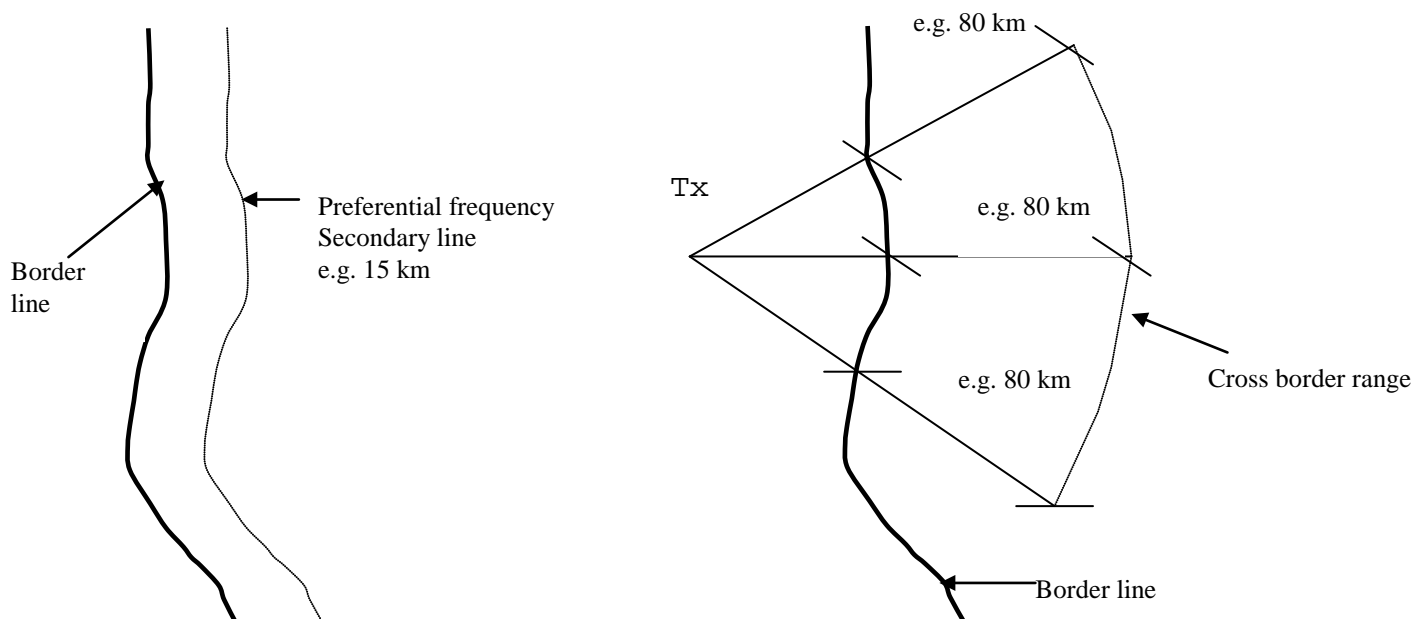
Administrations shall endeavour to reduce the cross-border range of harmful interference caused by their stations and extending into the territory of an administration affected to a minimum as indicated in Section 2.5 of the Agreement.

2.1 Limitation of harmful interference caused by transmitters

The cross-border range of harmful interference caused by transmitters which have to be coordinated is dependent on the frequency range and shall not exceed the values given in column 3 of the table. The values given in column 2 of the table shall be used as limits for the permissible interference field strength at the distances from the border specified in column 3 of the table. The values apply to a height of 10 m above ground level.

To define the points of maximum cross-border range of harmful interference, these points are located at a distance as defined in column 3 of the table, starting at the border points of the requesting administration into the direction of the affected administration, following the same direction as from the station to those border points.

In case of preferential frequencies the calculation shall be performed on a secondary line. Each point of this secondary line is at least at a distance from any border-line point as defined in the respective agreements.



2.2 Limitation of protection of receivers

Protection for receivers can only be claimed if a reference transmitter, located at the site and the height of the receiver concerned, generates a field strength which does not exceed the values specified in column 2 of the table at a height of 10 m above ground level and at a distance specified in column 3 of the table. For this calculation the 10% of time curves have to be used.

The ERP of the reference transmitter is dependent on the frequency range as given in column 4 of the table and shall be increased by the antenna gain of the receiver in the actual direction.

| (1) Frequency range (MHz) | (2) Permissible interference field strength (relative to 1 μ V/m) | (3) Maximum cross- border range of harmful interference (km) | (4) ERP of the reference transmitter (dBW) |
|---------------------------------|---|--|---|
| 29.7 - 47 | 0 dB | 100 | 3 |
| 68 - 74.8 | +6 dB | 100 | 9 |
| 75.2 - 87.5 | +6 dB | 100 | 9 |
| 146 - 149.9 | +12 dB | 80 | 12 |
| 150.05 - 174 | +12 dB | 80 | 12 |
| 380 - 385 ¹ | +18 dB | 50 | 14 |
| 390 - 395 ¹ | +18 dB | 50 | 14 |
| 406.1 - 430 | +20 dB | 50 | 16 |
| 440 - 470 | +20 dB | 50 | 16 |
| 790 - 862 | +26 dB ² | not applicable | not applicable |
| 862 - 960 ³ | +26 dB | 30 | 13 |
| 870 - 960 ⁴ | +26 dB | 30 | 13 |
| 880 - 960 ⁵ | +38 dB | not applicable | not applicable |
| 1710 - 1785 ⁴ | +35 dB | 15 | 13 |
| 1805 - 1880 ⁴ | +35 dB | 15 | 13 |
| 1900 - 1980 ⁵ | +21 dB ⁶ | not applicable | not applicable |
| 2010 - 2025 ⁵ | +21 dB ⁶ | not applicable | not applicable |
| 2110 - 2170 ⁵ | +21 dB ⁶ | not applicable | not applicable |
| 2500 - 2690 | + 39 dB ² | not applicable | not applicable |

¹ for emergency and security systems only

² Limit is applicable for the aggregate power of all carriers of the respective base station within a bandwidth of 5 MHz. Co-ordinations should be handled within the framework of additional bi- or multilateral Agreements.

³ for all systems except GSM and UMTS/IMT-2000

⁴ for GSM systems only

⁵ for UMTS/IMT-2000 terrestrial systems only

⁶ This value is taken from ERC/REC/(01)01 for frequencies using non preferential codes and with centre frequencies aligned. This value may be reconsidered in the future or may be overruled by another value agreed upon in bi- or multilateral agreements.

The values given in the table above refer to channel bandwidth ≤ 25 kHz except for GSM and UMTS/IMT2000.

For all other digital wide band land mobile applications below 470 MHz (*channel bandwidth: > 25 kHz*) the following value should be added:

$6 \times \log_{10} (\text{channel bandwidth in kHz}/25 \text{ kHz})$ dB if the interferer is a wideband system