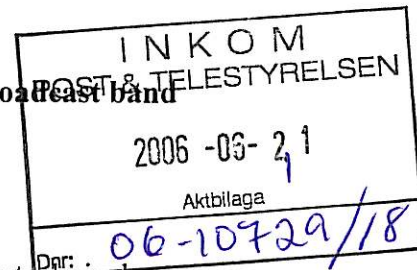


**Agreement between Germany and Sweden concerning the use of the broadcast band planned at the RRC 2006 conference.**



The Swedish administration accepts the interference level on its DVB-T allotments/assignments caused by DVB-T assignments of Germany with the technical characteristics indicated in the input requirements used for the third planning iteration at the RRC-06 (Reference: CD-ROM issued by the ITU-R BR), with the exception of the following assignments where the ERP should be limited in a sector towards Sweden:

<i>Assignment</i>	<i>Maximum ERP towards Sweden</i>
* Helpterberg channel 8 (D-MV----09-0022-HEL),	41 dBW
* Zuessow channel 8 (D-MV----09-0137-ZUE),	37 dBW
* Roebel Woldzegarten channel 8 (D-MV----09-0036-ROE),	37 dBW
* Stralsund Garz channel 8 (D-MV----09-0044-STR),	40 dBW
* Marlow channel 8 (D-MV----09-0110-MAR),	40 dBW
* Schwerin channel 8 (D-MV----09-0042-SCH),	43 dBW

The German administration accepts the interference level on its DVB-T allotments/assignments caused by the Swedish DVB-T assignments with the technical characteristics indicated in the input requirements used for the third planning iteration at the RRC-06 (Reference: CD-ROM issued by the ITU-R BR), with the exception of the following assignments where the ERP should be limited in a sector towards Germany:

<i>Assignment</i>	<i>Maximum ERP towards Germany</i>
* Karlshamn channel 26 (S-DT1-20154),	47 dBW
* Hoerby channel 33 (S-DT1-20123),	47 dBW
* Hoerby channel 43 (S-DT1-20122),	47 dBW
* Hoerby channel 61 (S-DT1-20125),	47 dBW
* Hoerby channel 64 (S-DT1-20126),	47 dBW
* Malmoe Jaegersro channel 64 (S-DT1-20206),	39 dBW

Furthermore, Sweden will correct the effective antenna height for Hoerby channel 22 (S-DT1-20108) and Hoerby channel 25 (S-DT1-20127) to the heights used for Hoerby channel 61 (S-DT1-20125).

The parties agreed to that when implementing networks in regions with critical re-use distances, the possibility of using e.g. directive antennas should be considered.

Regarding allotments with technical characteristics indicated in the input requirements used for the third planning iteration at the RRC-06 (Reference: CD-ROM issued by the ITU-R BR), the parties agree that any future implementation of these allotments shall be coordinated with the other party if the cumulative interfering field strength from that implementation exceeds the values listed in Annex 1 on the boundary of any existing co-channel/co-block allotment in the Plan. When calculating the cumulative interfering field strength, all assignments implementing the allotment should be considered.

Assignments that are situated within an allotment area with the same channel but not linked to that allotment will be treated in the implementation as if they were linked. Only the allotment area is protected.

For VHF the Swedish administration has not submitted any assignments while the German administration has. In cases where the assignments (DVB-T) contained in the Final Acts of the Geneva RRC-06 Agreement causes an interfering field strength that, according to Annex 2, would require coordination, the German administration accepts the same interference level from an implementation of the Swedish allotments in question.

For field strength calculation, the propagation model according to the Geneva RRC-06 Agreement should be used. The parties noted that there are differences in the implementation of land-sea geographical data which could result in discrepancies in the calculated results.

However, if the assignments/allotments are modified in the iterations following the third one, the compatibility situation may need to be reviewed.

It was further noted that a common view between the parties is that the analogue service should not hamper the development of the digital service.

The planned use of channel 63 in Sweden and the protection of German other services in this channel was discussed. The parties agreed to seek to find a solution that is acceptable to both parties. It was further noted that the matter is of urgency.

Geneva, 8 June 2006

For the Administration of Germany,



Elmar Zilles

For the Administration of Sweden,



Anders Frederich

# Annex 1 to agreement between Germany and Sweden

## Interfering field strength requiring coordination

If the cumulative interfering field strength exceeds the values listed in Table 1-4 below on the boundary of any co-channel/co-block allotment in the Plan, coordination with the other party is needed.

For affected DVB-T the  $E_{\max \text{ int}}$  for RPC2 and for affected T-DAB the  $E_{\max \text{ int}}$  for RPC5 should be used.

### DVB-T interfered by DVB-T for 200 MHz and 650 MHz respectively

Reference planning configuration	RPC2
Reference location probability	95%
Reference C/N [dB]	19
Reference ( $E_{\text{med}}$ ) <sub>ref</sub> [dB $\mu$ V/m] at 200 MHz	67
Reference ( $E_{\text{med}}$ ) <sub>ref</sub> [dB $\mu$ V/m] at 650 MHz	78
CF at 200 MHz	12.8
CF at 650 MHz	12.8
IM	2.8
$E_{\max \text{ int}}$ [dB $\mu$ V/m] at 200 MHz	38
$E_{\max \text{ int}}$ [dB $\mu$ V/m] at 650 MHz	49

Table 1  $E_{\max \text{ int}}$  for DVB-T interfered by DVB-T

In UHF the value should be adjusted with respect to frequency with  $30 \cdot \log(f/f_{650})$ ,  $f$  in MHz.

### T-DAB interfered with by T-DAB for 200 MHz

Reference planning configuration	RPC5
Location probability	95%
Reference C/N [dB]	15
Reference ( $E_{\text{med}}$ ) <sub>ref</sub> [dB $\mu$ V/m]	66
CF	14.6
IM	2.6
$E_{\max \text{ int}}$ [dB $\mu$ V/m]	39

Table 2  $E_{\max \text{ int}}$  for T-DAB interfered by T-DAB

### DVB-T interfered by T-DAB for 200 MHz

Reference planning configuration	RPC2
Reference location probability	95%
Protection ratio [dB]	23.6
Reference ( $E_{med}$ ) <sub>ref</sub> [dB $\mu$ V/m] at 200 MHz	67
CF at 200 MHz	12.8
IM	2.4
$E_{max\ int}$ [dB $\mu$ V/m]	33

Table 3  $E_{max\ int}$  for DVB-T interfered by T-DAB

### T-DAB interfered with by 7 MHz DVB-T for 200 MHz

Reference planning configuration	RPC5
Location probability	95%
Protection ratio [dB]	9
Reference ( $E_{med}$ ) <sub>ref</sub> [dB $\mu$ V/m]	66
CF	14.6
IM	2.6
$E_{max\ int}$ [dB $\mu$ V/m]	45

Table 4  $E_{max\ int}$  for T-DAB interfered with by 7 MHz DVB-T

### Derivation maximum allowable interfering field strength

The maximum allowable interfering field strength,  $E_{max\ int}$ , at any test point given by the input requirement is calculated as follows:

$$E_{max\ int} = E_{med} + f_{corr} - CF - PR + IM$$

where

$E_{med}$  is the minimum median equivalent field strength (in dB $\mu$ V/m) for 200 MHz and 650 MHz, respectively;

$f_{corr}$  is the frequency correction (in dB) for UHF, given by  $30 \cdot \log(f/f_{650})$ ,  $f$  in MHz;

CF is the combined location correction factor:  $CF = q \sqrt{\sigma_w^2 + \sigma_i^2}$ ;

$q$  is the distribution factor;

$\sigma_w$  is the standard deviation of the lognormal distribution of the wanted signal (in dB);

$\sigma_i$  is the standard deviation of the lognormal distribution of the interfering signal (in dB);

PR is the appropriate protection ratio;

When the interfering system is of the same type as the wanted one, PR is equal to C/N for the wanted system's RPC. PR and C/N are taken from Addendum 12 to Document 7-E, input from CEPT to RRC-06.

IM is the implementation margin (in dB).