

Simplified microwave frequency coordination procedure

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Vienna Agreement

VA was extended for fixed service
above 1 GHz in 1997 and
TWG-HCM works since then

The procedure

- coordination is obligatory within the coordination zone
- detailed database
- sophisticated calculation method
- threshold degradation: max. 0,2 dB
- at least three-year long transitional period

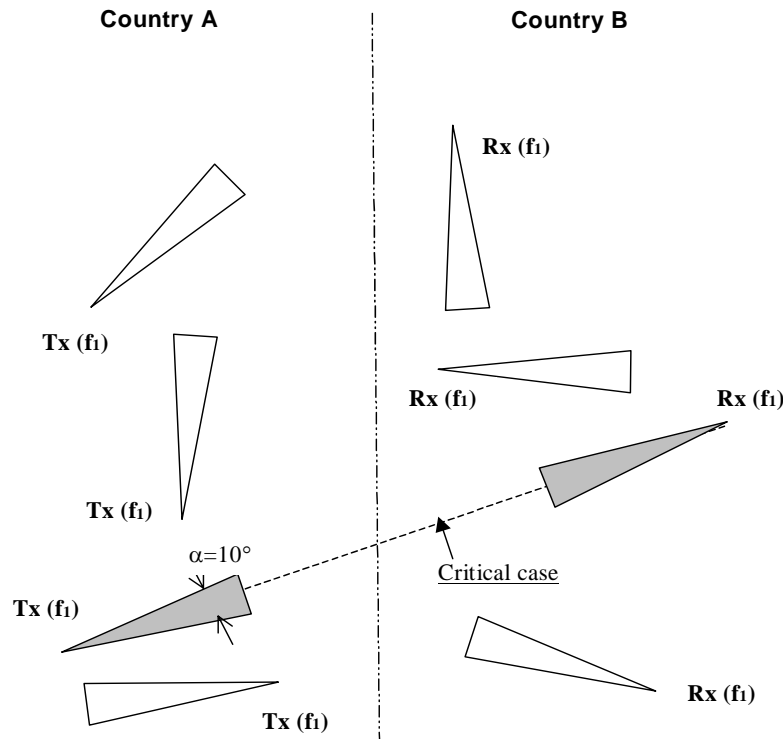
VA2001- problems

- A lot of different parameters are not available in different countries
 - calculation is not possible
- too many links should be coordinated due to the long coordination distances
 - unnecessary administrative workload
- the licences cannot be issued in a short time
 - operators' pressure

What are the realities?

- during the recent years tens of thousands of links were put into operation
- practically no interference cases
- why?

Possible geometrical configuration



- the directional antenna has approx. 10° beamwidth
- the energy is concentrated to the main lobe

Probability of interference

Co-channel case

$$T_x (D) \rightarrow R_x (ND) \quad P_1 = 10^\circ / 360^\circ$$

$$T_x (ND) \rightarrow R_x (D) \quad P_2 = 10^\circ / 360^\circ$$

$$T_x (D) \rightarrow R_x (D) \quad P_g = P_1 * P_2 = 0,00077$$

Randomly selected frequencies provide less probability of interference.

In case of a selection of 40 channel set:

$$P_r = P_g / 40 \cong \underline{2 * 10^{-5}}$$

Solution: simplified coordination procedure

If the databases of our neighbours are available:

- direct frequency collision can be avoided
- only not used channels can be searched
- links can be put into operation immediately
- only inform our coordination partner
- partner has 45 days to give comment
- after 45 days = coordinated/notified status

Advantages of simplified coordination

- avoid the unnecessary calculations
- required no unified database structure
- reduce the administrative workload
- give licences in short time

The introduction of simplified method

- since no interference exists operating links should be accepted as coordinated ones
- exchange of existing databases (at longest 100 km in dept.) regardless of frequency bands
- exchange of information regarding the governmental/military usage (frequency bands)
- comments are expected within 3 months (lack of answer = acceptance)

Procedure of simplified method

- Choosing collision-free frequencies for new stations (based on the exchanged databases)
- New stations can be put into operation on temporary basis and
- Normal coordination request is sent
- Deadline is 45 days for comments
- If no objection: the station is registered with “coordinated” status
- Sincronisation of the databases at least once a year.

Exceptions:

- Important (backbone or critical) hops
- stations too close to the border
- shared bands (sat)
- some military bands
- old equipment is used

ITU notification is according to the administrations

Acceptance of simplified procedure

- **AUT-HNG proposal at the VA SWG-FS meeting in Vilnius**
 - VA should be extended with the simplified method
 - detailed and simplified method can also be used
 - administrations should decide on the alternatives
- **Similar agreements exist**
 - HNG-ROU-SVK-(UKR) (Budapest, 1999)
 - HRV-SVN-HNG (Nagykanizsa, 2000)
 - (YUG)-HNG (Szeged, 2000)
 - AUT-HNG-CZE-SVK (Vienna, 2002 and 2003)

**Thank You
for Your attention!**

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