

QUESTION ITU-R 30/6*

Transmitting and receiving antennas at VHF and UHF

(1990-1993-1994-1995-2002)

The ITU Radiocommunication Assembly,

considering

- a) that transmitting and receiving antenna characteristics are required for frequency planning;
- b) that planning the most efficient spectrum use often requires establishing the antenna radiation patterns to a high degree of accuracy;
- c) that planning the most efficient spectrum use may imply using the same antenna for several emissions;
- d) that in establishing transmitting radiation patterns, account must be taken of the influence of the supporting structure, significant nearby structures and the electrical stability of the antenna assembly;
- e) that it is essential to verify the antenna radiation pattern by measurements;
- f) that the RF power density in the vicinity of transmitting antennas is significant;
- g) that the Radiocommunication Study Groups have already made significant studies on the radiation characteristics of LF, MF, HF and satellite antennas;
- h) that comprehensive information on the characteristics of transmitting and receiving antenna systems at VHF and UHF (including those for direct satellite broadcasting use at frequencies above 1 GHz) is not readily available in the ITU-R publications,

decides that the following Question should be studied

- 1 What are the radiation patterns of VHF and UHF transmitting and receiving antenna systems (including those for direct satellite broadcasting use at frequencies above 1 GHz)?
- 2 What is the influence of supporting structures and significant nearby structures on the technical characteristics of antennas in the VHF and UHF bands?
- 3 What differences are to be expected between theoretical and practical performance due to practical aspects of VHF and UHF antennas?
- 4 What are the methods of calculation of the electric and magnetic field strengths in the vicinity of transmitting antennas?
- 5 What computer-based procedures can be recommended to give, in a standardized form, the gain and directivity patterns of transmitting and receiving antennas (including those for Direct Satellite Broadcasting use at frequencies above 1 GHz) in common use at VHF and UHF?

NOTE 1 – See Recommendation ITU-R BS.1195,

* For studies relating to satellite broadcasting refer to Working Party 6S.

further decides

- 1 that the results of the above studies should be addressed to prepare a new Recommendation on:
 - receiving antennas at VHF and UHF (including those for direct satellite broadcasting use at frequencies above 1 GHz);
 - reference receiving antenna patterns for use in planning;
 - transmitting antennas at VHF and UHF (including those for direct satellite broadcasting use at frequencies above 1 GHz);
 - 2 that the above studies should be completed by 2005;
 - 3 that administrations be invited to provide appropriate measurements of VHF and UHF antenna radiation patterns (including those for direct satellite broadcasting use at frequencies above 1 GHz).
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