Question ITU-R 30/6[[1]](#footnote-1)\*

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,

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 2027;

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).

Category: S2

1. \* For studies relating to satellite broadcasting refer to Working Party 4A. [↑](#footnote-ref-1)