QUESTION ITU-R 233-1/3

Methods for the prediction of propagation path losses between an airborne platform and a satellite, ground terminal or another airborne platform

(2012)

The ITU Radiocommunication Assembly,

considering

*a)* that, in the design of airborne systems, there is a need for an accurate knowledge of the system performance due to radiowave propagation between an airborne platform and a satellite, ground terminal or another airborne platform;

*b)* that the systems may operate beyond line of sight with very low or negative elevation angles;

*c)* that the frequency bands used may be in the range from 30 MHz to 50 GHz or higher,

noting

*a)* that existing terrestrial and earth space propagation prediction methods are not adequate for predicting the performance of these links;

*b)* that the airborne platform may be located at any altitude between the surface of the Earth and the top of the stratosphere;

*c)* that at low or negative elevation angles, tropospheric effects may be extreme and may not be adequately addressed by current methods,

*d)* multipath and scattering due to interaction between the airborne antenna and the airborne platform is dependent on the specific antenna pattern and the airborne platform configuration and is not an atmospheric propagation phenomenon, however other atmospheric sources of multipath are important,

decides that the following Questions should be studied

1 What prediction methods can be used to predict the long-term average impairments (e.g. attenuation, scintillation, multipath) due to atmospheric effects and other multipath and refractive effects between an airborne platform and a satellite?

2 What prediction methods can be used to predict the long-term average impairments due to atmospheric effects and other multipath and refractive effects between an airborne platform and a terminal located on the surface of the Earth?

3 What prediction methods can be used to predict the long-term average impairments due to atmospheric effects between two airborne platforms?

4 What prediction methods can be used to predict the dynamic impairments as a function of time due to atmospheric effects and other multipath and refractive effects between an airborne platform and a satellite?

5 What prediction methods can be used to predict the dynamic impairments as a function of time due to atmospheric effects and other multipath and refractive effects between an airborne platform and terminal on the surface of the earth?

6 What prediction methods can be used to predict the dynamic impairments as a function of time due to atmospheric effects between two airborne platforms?

further decides

that the above studies should be completed by 2027.

Category: S2