QUESTION ITU-R 232/3

The effect of nanostructure materials on propagation

(2012)

The ITU Radiocommunication Assembly,

considering

*a)* that the propagation of radiowaves is strongly influenced by interaction with buildings and other structures;

*b)* that it is necessary to understand how the electrical properties of building materials affects propagation, particularly for urban, in-building and building-penetrating system;

*c)* that materials with nanostructure properties are being developed for use in various applications, including buildings;

*d)* that materials with nanostructure properties can have an exceptional effects when there is interaction with radiowaves;

*e)* that these effects can show different scattering, absorption, reflection and diffraction behaviour compared to other materials;

*f)* that nanostructure materials can be made to have specific special properties with respect to radiowave interaction,

decides that the following Questions should be studied

1 Which parameters of nanostructure materials best characterise their interaction with radiowaves?

2 What methods are most suitable to measure the electromagnetic properties of nanostructure materials?

3 Which mathematical models best describe the effects of nanostructure materials on propagation with respect to reflection, scattering, penetration and absorption?

4 Which methods are most suitable to measure the influence of nanostructure materials?

further decides

1 that the results of the above studies should be included in one or more Recommendations and/or Reports;

2 that the above studies should be completed by 2015.

Category: S2