QUESTION ITU-R 236/1[1]

Impact on radiocommunication systems from wireless and wired data transmission technologies used for the support of power grid management systems[2]

(2011)

The ITU Radiocommunication Assembly,

considering

a) that there is increasing demand for and use of power grid and power usage management and sensing for efficiency, reliability and economic purposes;

b) that data transmission capability is an essential element of power grid management systems;

c) that the physical design, data rate, bandwidth and frequency requirements for such data transmission capability may vary according to the physical design and operational requirements of the power grid;

d) that such data transmission capability may be satisfied by telecommunication systems, including Power Line Telecommunication (PLT) systems;

e) that radiation from such wireless or wired communication systems may cause interference to radiocommunication services;

f) that power grid management systems may deploy remote sensors on a widespread basis,

decides that the following Questions should be studied

1 What are the technical and operating features and the characteristics of wireless technologies and devices in support of power grid management systems?

2 What are the data rates, bandwidths, frequency bands and spectrum requirements needed in support of power grid management systems?

IEEE Std 802.3 Ethernet local area network operation is specified for selected speeds of operation from 1 Mb/s to 100 Gb/s over a variety of optical and dedicated separate-use copper media over a variety of distances.

3 What are the interference considerations to radiocommunications associated with the implementation of wireless and wired technologies and devices used in support of power grid management systems?

Ethernet links are generally mandated to comply with applicable local and national codes for the limitation of electromagnetic interference for non-transmitting systems.

4 How will spectrum availability be affected by interference associated with widespread deployment of such technologies and devices?

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1 This Question should be brought to the attention of ITU-R Study Groups 4, 5, 6 and 7 and ITUT Study Group 15.

2 The “power grid” in this case is the electricity distribution network that delivers electricity to individual customers in local areas. Power grid management systems are high-capacity, two-way communications networks with embedded sensing that are installed on existing electric distribution networks to transform them into interactive, automated, self-healing smart grids. These grids are managed by monitoring and controlling network elements.

As such, there should be no additional interference considerations to radiocommunications associated with the use of Ethernet in the implementation of wireless and wired technologies and devices used in support of power grid management systems

further decides

1 that the results of the above studies should be included in Recommendations(s) and/or Report(s);

2 that the above studies should be completed by 2016.

Category: S3