

RECOMMENDATION ITU-R S.1783

**Technical and operational features characterizing high-density applications
in the fixed-satellite service**

(Question ITU-R 266/4)

(2007)

Scope

Sets of parameters of existing and planned networks incorporating user earth stations in high-density applications within the fixed-satellite service are provided in the form of an EXCEL database for systems employing geostationary satellites. A further database for systems employing non-geostationary satellites is planned to be developed in due course.

The ITU Radiocommunication Assembly,

considering

- a) that WRC-03 identified, in footnote No. 5.516B, sub-bands within the 20/30 and 40/50 GHz FSS allocations for use by high-density applications in the fixed-satellite service (HDFSS);
- b) that Resolution 143 (WRC-03) provides guidelines for the implementation of HDFSS in frequency bands identified for these applications;
- c) that Recommendation ITU-R S.1594 gives maximum emission levels and associated requirements of HDFSS earth stations transmitting towards geostationary FSS space stations in the 30 GHz range;
- d) that notwithstanding *considering* b) and c) there is a need for a common understanding within ITU-R of the types of system that are embraced by the acronym HDFSS, and that this need was identified by WRC-03,

recognizing

- a) that the following features relating to HDFSS are identified in Resolution 143 (WRC-03):
 - flexible, rapid and ubiquitous deployment of earth stations;
 - large numbers of earth stations deployed with high-geographical density;
 - urban, suburban and rural earth station sites;
 - wide range of telecommunications applications;
 - different systems may employ GSO or non-GSO satellites;
- b) that additionally Recommendation ITU-R S.1594 indicates that HDFSS may include the following features:
 - system characteristics are likely to differ from network to network;
 - some networks may be deployed without individual user terminal coordination;
 - user antennas are likely to be smaller than 1.8 m in diameter;
 - user terminals are likely to operate under centralized network control;

c) that, for the user terminals of HDFSS systems, maximum in-band off-axis e.i.r.p. density levels, maximum unwanted emission levels, and antenna pointing accuracy requirements are proposed in Recommendation ITU-R S.1594,

noting

a) that Recommendation ITU-R S.1782 describes examples of satellite systems that would provide Internet access at high data rates,

recommends

1 that, in the planning and development of new FSS networks, and in studies pertaining to frequency sharing with and between HDFSS, the technical characteristics of the existing and planned HDFSS networks in Annex 1 should be taken into consideration;

2 that administrations planning future GSO HDFSS networks are encouraged to submit their technical characteristics to the ITU-R for inclusion in Annex 1 to update this data source, as EXCEL spreadsheets and in the format employed therein.



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NOTE 1 – To assist those providing parameters of HDFSS networks in the format of Annex 1 an example set has been included in Annex 1, based on the hypothetical 20/30 GHz system described in Annex 1 of Recommendation ITU-R S.1782 on global broadband Internet access via satellite.
