



Recommendation ITU-R F.1495-2
(03/2012)

**Interference criteria to protect the fixed
service from time varying aggregate
interference from other radiocommunication
services sharing the 17.7-19.3 GHz band
on a co-primary basis**

F Series
Fixed service



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Foreword

The role of the Radiocommunication Sector is to ensure the rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including satellite services, and carry out studies without limit of frequency range on the basis of which Recommendations are adopted.

The regulatory and policy functions of the Radiocommunication Sector are performed by World and Regional Radiocommunication Conferences and Radiocommunication Assemblies supported by Study Groups.

Policy on Intellectual Property Right (IPR)

ITU-R policy on IPR is described in the Common Patent Policy for ITU-T/ITU-R/ISO/IEC referenced in Annex 1 of Resolution ITU-R 1. Forms to be used for the submission of patent statements and licensing declarations by patent holders are available from <http://www.itu.int/ITU-R/go/patents/en> where the Guidelines for Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC and the ITU-R patent information database can also be found.

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RA	Radio astronomy
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S	Fixed-satellite service
SA	Space applications and meteorology
SF	Frequency sharing and coordination between fixed-satellite and fixed service systems
SM	Spectrum management
SNG	Satellite news gathering
TF	Time signals and frequency standards emissions
V	Vocabulary and related subjects

Note: This ITU-R Recommendation was approved in English under the procedure detailed in Resolution ITU-R 1.

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RECOMMENDATION ITU-R F.1495-2

Interference criteria to protect the fixed service from time varying aggregate interference from other radiocommunication services sharing the 17.7-19.3 GHz band on a co-primary basis

(2000-2007-2012)

Scope

This Recommendation defines the interference criteria necessary to protect the fixed service from time varying aggregate interference from other radiocommunication services sharing the 17.7-19.3 GHz band on a co-primary basis.

The ITU Radiocommunication Assembly,

considering

- a) that it is desirable to determine the protection criteria of FS systems operating in the 18 GHz (17.7-19.3 GHz) band with respect to aggregate interference from systems operating co-primary, especially short-term interference;
- b) that in interference situations involving non-GSO space stations, FS systems are potentially exposed to high levels of interference for short periods of time which could affect the error performance objectives (EPO) or availability performance objectives (APO) of these systems;
- c) that the FS link design in the 18 GHz band is controlled by rain attenuation, which can be modelled using Recommendation ITU-R P.530;
- d) that in the 18 GHz band, some administrations employ automatic transmit power control (ATPC) on some FS links and that the use of ATPC will increase the susceptibility of FS systems especially with regard to short-term interference;
- e) that some FS systems employing small net fade margins may not be fully protected from interference from non-GSO satellite systems without unduly constraining those services;
- f) that typical FS links using ATPC will require tighter protection criteria than those needed for FS links with large fade margin that do not use ATPC;
- g) that the generic long-term criterion assumed for not exceeding the maximum APO apportionment (10%) due to other services sharing the same frequency band on a co-primary basis, is defined as I/N at the input of the FS receiver not exceeding -10 dB for more than 20% of the year (see Recommendation ITU-R F.758); however, when time varying levels of interference are concerned, additional care should be taken for evaluating shorter duration interference contributions;
- h) that it is desirable to derive the aggregate FS protection criteria based on the calculation of the allowable apportionment of EPO due to interference, considering typical FS links using ATPC features;
- j) that the determination of the maximum apportionment of EPO (10%) allowable to interference from other services sharing the same frequency band on a co-primary basis is given in Recommendation ITU-R F.1094;