



Recommendation ITU-R SF.674-3
(12/2013)

**Determination of the impact on the fixed
service operating in the 11.7-12.2 GHz band
when geostationary fixed-satellite service
networks in Region 2 exceed power
flux-density thresholds for coordination**

SF Series
**Frequency sharing and coordination between
fixed-satellite and fixed service systems**



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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.

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Series of ITU-R Recommendations

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BS	Broadcasting service (sound)
BT	Broadcasting service (television)
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M	Mobile, radiodetermination, amateur and related satellite services
P	Radiowave propagation
RA	Radio astronomy
RS	Remote sensing systems
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 SF.674-3

Determination of the impact on the fixed service operating in the 11.7-12.2 GHz band when geostationary fixed-satellite service networks in Region 2 exceed power flux-density thresholds for coordination

(1990-1997-2002-2013)

Scope

This Recommendation provides a methodology that can be used to determine the interference levels that would be caused to fixed service systems by GSO fixed-satellite service systems operating at power flux-density levels above the coordination threshold specified in the Radio Regulations.

The ITU Radiocommunication Assembly,

considering

- a) that the band 11.7-12.2 GHz is allocated to the fixed service (FS) on a worldwide basis and the fixed-satellite service (FSS) (space-to-Earth) in Region 2;
- b) that the use of this band by geostationary-satellite networks in the FSS in Region 2 is subject to threshold levels for coordination specified in Table 5-1 of Appendix 5 of the Radio Regulations;
- c) that frequency sharing between the FS and FSS would be facilitated by the establishment of a methodology to evaluate the interference levels from the FSS to the FS when the pfd values exceed the threshold for coordination,

recommends

that the methodology presented in Annex 1 should be used as a means for determining the interference levels caused to FS systems by the FSS when the pfd levels exceed the threshold referred to in *considering* b) above.

Annex 1**Determining interference into FS systems****Introduction**

This Annex expands upon the methodology that is used in Recommendations ITU-R F.1107 and ITU-R F.1108 for digital FS systems. Recommendation ITU-R F.1108 uses the concept of fractional degradation in performance (FDP) for digital FS stations. The FDP is the fractional increase in the percentage of time that the controlling performance criterion will not be met because of the presence of interference. Recommendation ITU-R F.1108 suggests a value of 10% for FDP as appropriate for sharing studies. Accordingly, the methodologies described here will determine the fraction of FS receivers for which the FDP will exceed 10%. The FDP should exceed 10% for no more than an agreed small percentage of the terrestrial stations. Attachment 1 discusses the methodology used to analyse interference into digital systems. It should be noted that the methodology presented here does not make use of any orbital avoidance.