



Recommendation ITU-R M.1474-1
(01/2010)

**Methodology to evaluate the impact of
interference from time division multiple
access/frequency division multiple access
(TDMA/FDMA) mobile-satellite service (MSS)
systems on baseband performance in digital
line-of-sight fixed service receivers based on
statistics of radio-frequency interference
in the frequency range 1-3 GHz**

M Series
**Mobile, radiodetermination, amateur
and related satellite services**



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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.

Series of ITU-R Recommendations

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Series	Title
BO	Satellite delivery
BR	Recording for production, archival and play-out; film for television
BS	Broadcasting service (sound)
BT	Broadcasting service (television)
F	Fixed service
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 M.1474-1*

Methodology to evaluate the impact of interference from time division multiple access/frequency division multiple access (TDMA/FDMA) mobile-satellite service (MSS) systems on baseband performance in digital line-of-sight fixed service receivers based on statistics of radio-frequency interference in the frequency range 1-3 GHz

(Questions ITU-R 201/4 and ITU-R 118/5)

(2000-2010)

Scope

This Recommendation provides a methodology to assess the impact of interference from TDMA/FDMA mobile-satellite service (MSS) space-to-Earth and Earth-to-space transmissions on the performance of digital line-of-sight (LoS) fixed service (FS) receivers in the frequency range 1-3 GHz. This methodology may also be used in detailed MSS/FS coordination.

The ITU Radiocommunication Assembly,

considering

- a) that the frequency band 1 518-1 525 MHz is allocated to the MSS (space-to-Earth) and the fixed service (FS) on a co-primary basis in all Regions;
- b) that the frequency bands 1 525-1 559 MHz and 1 626.5-1 660.5 MHz are also allocated to the MSS (space-to-Earth and Earth-to-space, respectively) on a primary basis in all Regions;
- c) that the frequency band 1 525-1 530 MHz is also allocated to the fixed service on a primary basis in Regions 1 and 3, and the frequency bands 1 550-1 559 MHz, 1 626.5-1 645.5 MHz and 1 646.5-1 660 MHz are also allocated to the fixed service on a primary basis in some countries;
- d) that the frequency band 1 668.4-1 675 MHz is allocated to MSS (Earth-to-space) and fixed service on a co-primary basis in all Regions;
- e) that the frequency bands 1 980-2 010 MHz and 2 170-2 200 MHz in all Regions, 2 010-2 025 MHz and 2 160-2 170 MHz in Region 2 are allocated to the MSS (Earth-to-space and space-to-Earth) and the fixed service on a co-primary basis;
- f) that transmissions from mobile satellites could cause interference to line-of-sight (LoS) fixed service receivers operating in these bands;
- g) that transmissions from mobile satellites and associated mobile earth stations (MESs) could cause interference to LoS fixed service receivers operating in these bands;
- h) that such interference involves time-varying phenomena such as interference geometry, propagation conditions and MSS traffic;
- j) that simulation usually is the only way to accurately evaluate such interference;
- k) that the output of such simulations is typically in the form of C/I , C/N and $C/(N+I)$ statistics;

* This is a joint Radiocommunication Study Groups 4 and 5 Recommendation, and any revision shall be undertaken jointly.