



Recommendation ITU-R F.339-8
(02/2013)

**Bandwidths, signal-to-noise ratios and
fading allowances in HF fixed and land
mobile radiocommunication systems**

F Series
Fixed service



International
Telecommunication
Union
Documents
Document Sharing Hub

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

(Also available online at <http://www.itu.int/publ/R-REC/en>)

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.

Electronic Publication
Geneva, 2013

© ITU 2013

All rights reserved. No part of this publication may be reproduced, by any means whatsoever, without written permission of ITU.

RECOMMENDATION ITU-R F.339-8

**Bandwidths, signal-to-noise ratios and fading allowances in
HF fixed and land mobile radiocommunication systems**

(1951-1953-1956-1963-1966-1970-1974-1978-1982-1986-2006-2013)

Scope

This Recommendation shows selected examples of various HF (3-30 MHz) fixed and land mobile service systems that are currently in use and describes the key system parameters (bandwidths, signal-to-noise density ratios and fading allowances) for these systems. The system parameters should be used in the deployment of HF systems and could be used in sharing studies.

The ITU Radiocommunication Assembly,

considering

- a) that it is desirable to classify the technical aspects with which future studies will have to deal;
- b) that there is a need for numerical values which take into account fading and fluctuations in field intensity;
- c) that, however, the information contained in Annex 1 to Recommendation ITU-R P.313 gives some results from which provisional data on fading conditions can be derived;
- d) that there are a large variety of HF fixed and land mobile systems in operation or being developed to meet future requirements. Consequently, there is no one single “typical” system as a general purpose model,

recommends

- 1 that the values given in Tables 1 to 4 of Annex 1 should be used for the signal-to-noise density ratio (SNR) required for the class of emission concerned;
- 2 that the values given in the fading condition columns of Table 1 in Annex 1, in conjunction with the estimate of the intensity fluctuation factor given in Note 4 to Table 1, may be used as an aid to estimate monthly-median values of hourly-median field intensities necessary for the various types and grades of service;
- 3 that the Note shown below should be considered part of this Recommendation.

NOTE – Use of the recommended values only provides an estimate to be obtained, which may have to be adjusted for radio circuits of different path lengths depending on the grade of service required.