International Telecommunication Union

ITU-R

Radiocommunication Sector of ITU

Recommendation ITU-R SM.852-0

(03/1992)

Sensitivity of radio receivers for class of emissions F3E

SM Series

Spectrum management

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 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, 2018

RECOMMENDATION ITU-R SM.852-0*

SENSITIVITY OF RADIO RECEIVERS FOR CLASS OF EMISSIONS F3E

(1992)

Scope

This Recommendation provides the method to measure the sensitivity of receivers for class of emission F3E.

Keywords

Sensitivity, receiver, emission, F3E

The ITU Radiocommunication Assembly,

considering

a) that knowledge of the performance in terms of sensitivity and selectivity of a receiver is required, both in system planning and operation;

b) that it would be important to have a single system performance measure; and

c) that the method used to obtain the reference output for sensitivity and selectivity of a receiver is:

– the "SINAD method", which uses the ratio (Signal + Noise + Distortion)/(Noise + Distortion) (*SND/ND*) as a reference magnitude of receiver performance. The value of both the numerator (*SND*) and the denominator (*ND)* is determined in the presence of modulation. The desired signal (*S*) is removed in the denominator by means of a distortion analyzer notch filter,

recommends

1. that the SINAD method given in *considering* c) should be used to measure the sensitivity of receivers for class of emission F3E for use in the land and maritime mobile services;

2. that the sensitivity of the receivers should be the input signal level that gives:

$$SND/ND \text{ (or SINAD)} = 12 \text{ dB}$$

measured in the presence of modulation with a test signal rejection filter.

* Radiocommunication Study Group 1 made editorial amendments to this Recommendation in the years 2018 and 2019 in accordance with Resolution ITU-R 1..