

ITU-R

Radiocommunication Sector of ITU

Recommendation ITU-R M.2089-0
(10/2015)

Technical characteristics and protection criteria for aeronautical mobile service systems in the frequency range 14.5-15.35 GHz

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



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.

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RECOMMENDATION ITU-R M.2089-0

Technical characteristics and protection criteria for aeronautical mobile service systems in the frequency range 14.5-15.35 GHz

(2015)

Scope

This Recommendation provides information on the technical characteristics and protection criteria for systems operating in the aeronautical mobile service (AMS), planned to or currently operating in the frequency range 14.5-15.35 GHz for use in sharing and compatibility studies as needed.

Keywords

Aeronautical Mobile Service, Technical Characteristics, Protection Criteria, Ku-band

Abbreviations/Glossary

ADL	AMS data link
ADT	Airborne data terminal
AMS	Aeronautical mobile service
GDT	Ground data terminal
RLOS	Radio line-of-sight
UAS	Unmanned aircraft system

The ITU Radiocommunication Assembly,

considering

- a) that systems and networks operating in the AMS are used for broadband, airborne data links to support remote sensing applications in the areas of, e.g. earth sciences, land management, and energy distribution. Examples of these applications include e.g. monitoring sea ice thickness and distribution, local and national law enforcement, forest fire mapping, petroleum pipeline monitoring, agricultural and urban land use and natural resource surveys;
- b) that systems and networks operating in the AMS are used for narrow-band, airborne command and control data links;
- c) that there are increasing numbers of various planned and operating systems and networks in the AMS;
- d) that administrations conducting ITU-R sharing or compatibility studies addressing new allocation proposals in any part of the frequency range 14.5-15.35 GHz should take into account operations of incumbent services in the band, including aeronautical mobile service,

recognizing

- a) that the frequency range 14.5-15.35 GHz is globally allocated on a primary basis to the mobile service;
- b) that the aeronautical mobile service is a mobile service between aeronautical stations and aircraft stations, or between aircraft stations;
- c) that the frequency range 14.5-15.35 GHz is also globally allocated on a primary basis to fixed service;

d) that the frequency range 14.5-14.8 GHz is also globally allocated on a primary basis to the fixed-satellite service (Earth-to-space) under the provisions of RR No. 5.510,

recognizing further

a) that in Regions 1 and 3, the use of the frequency range 14.5-14.8 GHz by the broadcasting satellite service for feeder links (Earth-to-space), is reserved for countries outside Europe operating under the provisions and associated plans of Appendix 30A to the Radio Regulations;

b) that the use of the frequency range 14.5-14.8 GHz by the AMS in no way restricts or limits the operation of feeder link to broadcasting satellite service referred to in *recognizing further a)* above;

c) that the use of the frequency range 14.5-15.35 GHz by the AMS must take into account the operation of the fixed service referred to in *recognizing c)* above,

recommends

1 that the technical and operational characteristics of the systems operating in the AMS described in the Annex should be considered representative of those operating in the frequency range 14.5-15.35 GHz;

2 that the technical characteristics and protection criteria for AMS receiving and transmitting stations given in the Annex should be used in performing sharing and compatibility analyses as needed.

Annex

Technical characteristics and protection criteria for aeronautical mobile service systems in the frequency range 14.5-15.35 GHz

1 Introduction

Systems and networks operating in the AMS are increasingly used by local and national governments, as well as civil sector and educational entities, for broadband, airborne data links to support remote sensing applications e.g. earth sciences, land management, and energy distribution. Examples of these applications include, e.g. monitoring Arctic sea ice thickness and distribution, local and national law enforcement, forest fire mapping, pipeline monitoring, agricultural and urban land use, and natural resource surveys). The remote sensing equipment may be on board either manned aircraft or unmanned aeronautical systems (UAS). In the case where the remote sensing equipment is on board a UAS, systems and networks operating in the AMS may be used for narrow-band, airborne command and control data links. These narrow-band data links may be used to command and control either or both the remote sensor equipment and the UAS.

2 Operational deployment

In the frequency range 14.5-15.35 GHz, the mobile service is allocated on a primary basis in all three ITU-R regions. The AMS is a mobile service between aeronautical stations and aircraft stations, or between aircraft stations platforms equipped with AMS data links (ADL) can be deployed anywhere within a country whose administration has authorized their use in accordance with the authorization.