Recommendation ITU-R M.633-5

(11/2023)

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

Transmission characteristics of a satellite emergency position-indicating radio beacon (satellite EPIRB) operating through a satellite system in the 406.0‑406.1 MHz band

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.

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| Series of ITU-R Recommendations  (Also available online at <https://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 |

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| ***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.633-5[[1]](#footnote-1)\*

Transmission characteristics of a satellite emergency position-indicating   
radio beacon (satellite EPIRB) operating  
through a satellite system in the 406.0-406.1 MHz band

(1986-1990-2000-2004-2010-2023)

Scope

This Recommendation provides transmission characteristics of a satellite emergency position-indicating radio beacon system (satellite EPIRBs) operating in the 406.0-406.1 MHz band.

Keywords

Satellite, EPIRB, beacon

Abbreviations/Glossary

SOLAS Safety of Life at Sea

EPIRB Emergency position-indicating radio beacon

ELT Emergency locator transmitter

PLB Personal locator beacon

**Related ITU Recommendations, Reports**

Recommendation ITU-R [M.1478](https://www.itu.int/rec/R-REC-M.1478/en) – Protection criteria for Cospas-Sarsat search and rescue instruments in the band 406-406.1 MHz

Report ITU-R [M.2359](https://www.itu.int/pub/R-REP-M.2359) – Protection of the 406-406.1 MHz band

The ITU Radiocommunication Assembly,

considering

*a)* that satellite EPIRBs can be used for distress alerting in the maritime, land and aeronautical environments;

*b)* that satellite EPIRBs with similar transmission characteristics (but other design differences) may be employed in diverse operating environments (where they may be known as EPIRBs in the maritime environment, emergency locator transmitters (ELTs) in the aviation environment, and personal locator beacons (PLBs) when designed for being carried on a person);

*c)* that satellite EPIRBs are one of the prime distress-alerting means in the Global Maritime Distress and Safety System (GMDSS) of the International Maritime Organization (IMO);

*d)* that all ships to which Chapter IV of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, applies, are required to carry a satellite EPIRB operating in the 406.0-406.1 MHz band;

*e)* that all aeroplanes and helicopters for which Parts I, II and III of Annex 6 of the Convention on International Civil Aviation apply, are required to carry at least one satellite EPIRB operating in the 406.0-406.1 MHz band (referred to as ELT in the ICAO documentation),

noting

*a)* the current and planned availability of operational Cospas-Sarsat satellites in orbit;

*b)* the current and projected availability of the Cospas-Sarsat ground system,

recommends

that the transmission characteristics and data formats for a satellite EPIRB operating through a satellite system in the 406.0-406.1 MHz band should be in accordance with either the Specification for Cospas-Sarsat 406 MHz Distress Beacons, as provided in Cospas-Sarsat document C/S T.001, as amended, or the Specification for Second-Generation Cospas-Sarsat 406 MHz Distress Beacons, as provided in Cospas-Sarsat document C/S T.018, as amended.

NOTE 1 – A copy of the latest version of amended documents C/S T.001 and/or C/S T.018 can be obtained free of charge from the Cospas-Sarsat Secretariat ([mail@cospas**-**sarsat.int](mailto:mail@cospas-sarsat.int)) or the Cospas-Sarsat website (<http://www.cospas-sarsat.int>).

1. \* This Recommendation should be brought to the attention of the International Maritime Organization (IMO), the International Civil Aviation Organization (ICAO), the International Mobile Satellite Organization (IMSO) and the Cospas-Sarsat Secretariat. [↑](#footnote-ref-1)