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**APT REPORT ON**

**GUIDELINE FOR USAGE OF THE BANDS 457.5125–457.5875 MHZ AND 467.5125-467.5875 MHZ FOR THE MARITIME MOBILE SERVICE IN SOME APT COUNTRIES**

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1. **Introduction**

The footnote RR No. 5.287 (WRC-15) allows the use of the frequencies bands 457.5125-457.5875 MHz and 467.5125-467.5875 MHz by the maritime mobile service is limited to on-board communication stations. The characteristics of the equipment and the channeling arrangement shall be in accordance with Recommendation ITU-R M.1174-3. The use of these frequency bands in territorial waters is subject to the national regulations of the administration concerned.

A Report [APT/AWG/REP-77](https://www.apt.int/sites/default/files/Upload-files/AWG/APT-AWG-REP-77_APT_Report_Survey_Maritime_Mobile_Services.docx) on “Survey on the Usage of the Bands 457.5125 - 457.5875 MHz and 467.5125 - 467.5875 MHz by the Maritime Mobile Service in Asia Pacific Region” provides information regarding UHF on-board communication spectrum from APT Administrations collected by AWG from administrations who responded to the relevant questionnaire.

This report is intended to provide to APT Administrations and their national maritime stakeholders information available on the permitted use of the UHF frequencies by on-board communication stations in some APT countries.

It’s also recognized that in some APT countries part of these frequencies are also used by systems / applications other than UHF on-board communication. Such a situation might create the risk of harmful interference to these applications from unauthorized on-board communications from foreign ships within country’s territorial waters.

1. **The use of UHF on-board vessel frequencies in APT countries**

**2.1 Allocation**

In Asia Pacific region, the frequency bands 457.5125-457.5875 MHz and 467.5125-467.5875 MHz could be used by on-board vessel communication stations in the Maritime Mobile Service, comply with footnote RR No. 5.287 and National Regulations.

**2.2 Technical characteristic of equipment and system**

In Asia Pacific region, the characteristics of the on-board vessel communication equipment and systems shall conform to the version of [Recommendation ITU-R M.1174](https://www.itu.int/rec/R-REC-M.1174/en) incorporate by reference in Radio Regulation.

On-board communication system could be implemented in both analogue and digital modulation, on 25 kHz, 12.5 kHz or 6.25 kHz channel bandwidth. The simplex / single frequency configuration is commonly used but duplex / two frequencies configuration might be used when need.

The use of these frequency bands in territorial waters is subject to the national regulations of the administration concerned, which are provided in section 2.3 below.

**2.3 Specific National regulations (**in alphabet order**)**

In specific territorial waters, the following specific national regulations should be taken notice of.

**2.3.1 Japan**

On-Board Communication shall be used, and assignment is subject to table of Frequencies for Shipboard Communication Equipment at On-Board Communication Stations and Ship Stations.

The frequency bands 457.5125 - 457.5875 MHz and 467.5 - 467.65 MHz are allocated to only mobile service. There are conditions for these bands which are subject to below table of frequency list.

Table of Frequencies for Shipboard Communication Equipment at On-Board Communication Stations and Ship Stations:

1. Table of frequency bands when using 25 kHz channel for use in analogue communication

|  |
| --- |
| 457.525 MHz 457.55 MHz 457.575 MHz |

1. Table of frequency bands when using 6.25 kHz channel for use in digital communication

|  |
| --- |
| 457.515625 MHz 457.521875 MHz 457.528125 MHz 457.534375 MHz  457.540625 MHz 457.546875 MHz  457.553125 MHz 457.559375 MHz 457.565625 MHz 457.571875 MHz  457.578125 MHz 457.584375 MHz  467.515625 MHz 467.521875 MHz 467.528125 MHz 467.534375 MHz  467.540625 MHz 467.546875 MHz  467.553125 MHz 467.559375 MHz 467.565625 MHz 467.571875 MHz  467.578125 MHz 467.584375 MHz |

**2.3.2 Korea (Republic of)**

Technical regulation on maritime radio equipment was revised in July 2018 in order to introduce digital technology and narrow band channelling for on-board vessel communications in the frequency bands 457.5125-457.5875 MHz and 467.5125-467.5875 MHz (RRA Notice No.2018-8, 2 July 2018).

Parts of technical provisions and frequency arrangement were adopted from Recommendation ITU-R M.1174-4 (Technical characteristics of equipment used for on-board   
vessel communications in the bands between 450 and 470 MHz) as appropriate.

For example, radio equipment for on-board vessel communications in the bands between 450 and 470 MHz using digital technology should use 4FSK modulation scheme for 12.5/6.25 kHz channels and the frequency deviations should be limited to ±3 024 Hz for 12.5 kHz channels and ±1 324 Hz for 6.25 kHz channels.

Regulatory provisions for radio equipment for on-board vessel communications in the band between 450 and 470 MHz using analog technology for 25/12.5 kHz remain almost the same as before.

**2.3.3 Viet Nam**

The maritime mobile frequencies in 450 – 470 MHz band is limited to UHF on-board communication systems, and shall not cause harmful interference to, or claim protection from stations operating in the fixed or mobile services.

1. **Reference information outside APT region**

In Europe, ETSI EN 300 720 V2.1.1 (2017-01) "Ultra-High Frequency (UHF) on-board vessels communications systems and equipment; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU" is published, and this standard refers to ETSI TS 102 658: "Digital Private Mobile Radio (dPMR) using FDMA with a channel spacing of 6,25 kHz". That is, the Digital Private Mobile Radio (dPMR) air interface is used in the EU.

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