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**APT REPORT ON**

**THE USAGE OF THE FREQUENCY BAND 13.75-14 GHZ IN THE ASIA-PACIFIC REGION**

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**APT report ON**

**THE USAGE OF THE FREQUENCY BAND 13.75-14 GHZ IN**

**THE ASIA-PACIFIC REGION**

# Introduction

In the AWG-16 meeting, there was an input AWG-16/INP 86 proposing to conduct a survey on the usage of the frequency band 13.75-14 GHz in the Asia-Pacific region following the collection of the results APT/AWG/REP-58 was published in 2015. AWG-32 meeting invited members to further update with the latest national information from those APT Members.

The frequency band 13.75-14 GHz has been allocated to FSS on a primary basis in all International Telecommunication Union (ITU) regions since 1996.

The frequency band 13.75-14 GHz is also allocated to the radiolocation service on a co-primary basis. Furthermore, radionavigation, fixed and/or mobile services were also additionally allocated on a primary basis in some countries, as indicated in the footnotes Nos. **5.499**, **5.500** and **5.501** of Radio Regulations.

In order to protect the operation of the radiolocation service in this band, the footnote No. 5.502 (WRC-03) of Radio Regulations indicates that the minimum antenna diameter of the earth station in a geostationary FSS network is 1.2 m and the minimum antenna diameter of the earth station of non-GSO FSS system is 4.5m, respectively. The power-flux density (pfd) level produced by these FSS earth stations, with antenna diameter smaller than 4.5 m, shall not exceed -115 dB (W/m2·10 MHz) for more than 1% of the time at 3 m above the ground at the border of those countries where the administrations provide or are planning to provide radiolocation service, unless prior agreement has been obtained, and/or at 36 m above sea level at its low-water mark, as officially recognized by the coastal State. In addition, for the protection of the application of space research service, the footnote No. **5.503** (WRC-03) places e.i.r.p. density levels not to be exceeded from the emissions of Earth station in the fixed-satellite service in the 13.77-13.78 GHz frequency band.

Because of the above-mentioned operational condition of FSS and the requirement to protect the radiolocation service, implementation of FSS by administrations in the frequency band 13.75-14 GHz may be limited.

In order to protect the operation of the radiolocation service and/or other co-primary services in accordance with the Radio Regulations, as well as to harmonize the arrangement of the applications for those APT members who are using and/or planning to operate FSS in the frequency band 13.75-14 GHz, it would be helpful to consult the information on the application status of services in this frequency band.

The information in this report is based on the contributions of AWG meeting from APT Members at the time of publication. Information on some APT member national frequency allocation tables and usage may be found in the [APT Frequency Information System](https://www.aptafis.org/) (AFIS).

# Scope

This APT Report presents the usage information of the frequency bands 13.75-14 GHz in the Asia Pacific region. This Report also provides some APT members national frequency allocation tables, the current and planned services and applications in the frequency band 13.75-14 GHz, as well as the protection requirement of co-primary services. It is expected that, this Report could also assist administrations to better understand the frequency usage in different APT Member countries.

# Vocabulary of terms

AFIS : APT Frequency Information System

FSS : Fixed-satellite service

ITU : International Telecommunication Union

PFD : Power-flux density

RR : Radio Regulations

VSAT : Very small aperture terminal

WRC : World Radiocommunications Conference

# ITU Radio Regulations Allocations

Frequency allocation and relevant provisions of the frequency band 13.75-14 GHz can be found in the 2024 ITU Radio Regulations[[1]](#footnote-1) (RR) as follows.

**Table 1. ITU Radio Regulations allocations in the 13.75-14 GHz Frequency Band**

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| **13.75-14**  FIXED-SATELLITE (Earth-to-space) 5.484A  RADIOLOCATION  Earth exploration-satellite  Standard frequency and time signal-satellite (Earth-to-space)  Space research  5.499 5.500 5.501 5.502 5.503 | | |

**5.484A** The use of the frequency bands 10.95-11.2 GHz (space-to-Earth), 11.45-11.7 GHz (space-to-Earth), 11.7-12.2 GHz (space-to-Earth) in Region 2, 12.2-12.75 GHz (space-to-Earth) in Region 3, 12.5-12.75 GHz (space-to-Earth) in Region 1, 13.75-14.5 GHz (Earth-to-space), 17.3-17.7 GHz (space-to-Earth) in Region 2, 17.8-18.6 GHz (space-to-Earth), 19.7-20.2 GHz (space-to-Earth), 27.5-28.6 GHz (Earth-to-space), 29.5-30 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. **5.43A** does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. In Region 2, No. **22.2** shall continue to apply in the frequency band 17.3-17.7 GHz. (WRC-23)

**5.499** *Additional allocation:* in Bangladesh and India, the band 13.25-14 GHz is also allocated to the fixed service on a primary basis. In Pakistan, the band 13.25-13.75 GHz is allocated to the fixed service on a primary basis. (WRC-12)

**5.500** *Additional allocation*: in Algeria, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, Djibouti, Egypt, the United Arab Emirates, Gabon, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Madagascar, Malaysia, Mali, Morocco, Mauritania, Niger, Nigeria, Oman, Qatar, the Syrian Arab Republic, Singapore, Somalia, Sudan, South Sudan, Chad and Tunisia, the frequency band 13.4-14 GHz is also allocated to the fixed and mobile services on a primary basis. In Pakistan, the frequency band 13.4-13.75 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-23)

**5.501** *Additional allocation*: in Hungary, Japan, Kyrgyzstan, Romania and Turkmenistan, the frequency band 13.4-14 GHz is also allocated to the radionavigation service on a primary basis. (WRC-23)

**5.502** In the band 13.75-14 GHz, an earth station of a geostationary fixed-satellite service network shall have a minimum antenna diameter of 1.2 m and an earth station of a non-geostationary fixed-satellite service system shall have a minimum antenna diameter of 4.5 m. In addition, the e.i.r.p., averaged over one second, radiated by a station in the radiolocation or radionavigation services shall not exceed 59 dBW for elevation angles above 2° and 65 dBW at lower angles. Before an administration brings into use an earth station in a geostationary-satellite network in the fixed-satellite service in this band with an antenna diameter smaller than 4.5 m, it shall ensure that the power flux-density produced by this earth station does not exceed:

– –115 dB(W/(m2 · 10 MHz)) for more than 1% of the time produced at 36 m above sea level at the low water mark, as officially recognized by the coastal State;

– –115 dB(W/(m2 · 10 MHz)) for more than 1% of the time produced 3 m above ground at the border of the territory of an administration deploying or planning to deploy land mobile radars in this band, unless prior agreement has been obtained.

For earth stations within the fixed-satellite service having an antenna diameter greater than or equal to 4.5 m, the e.i.r.p. of any emission should be at least 68 dBW and should not exceed 85 dBW. (WRC-03)

**5.503** In the band 13.75-14 GHz, geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 shall operate on an equal basis with stations in the fixed-satellite service; after that date, new geostationary space stations in the space research service will operate on a secondary basis. Until those geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 cease to operate in this band:

– in the band 13.77-13.78 GHz, the e.i.r.p. density of emissions from any earth station in the fixed-satellite service operating with a space station in geostationary-satellite orbit shall not exceed:

i) 4.7*D +* 28 dB(W/40 kHz), where *D* is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 1.2 m and less than 4.5 m;

ii) 49.2 + 20 log(*D*/4.5) dB(W/40 kHz), where *D* is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 4.5 m and less than 31.9 m;

iii) 66.2 dB(W/40 kHz) for any fixed-satellite service earth station for antenna diameters (m) equal to or greater than 31.9 m;

iv) 56.2 dB(W/4 kHz) for narrow-band (less than 40 kHz of necessary bandwidth) fixed-satellite service earth station emissions from any fixed-satellite service earth station having an antenna diameter of 4.5 m or greater;

*–* the e.i.r.p. density of emissions from any earth station in the fixed-satellite service operating with a space station in non-geostationary-satellite orbit shall not exceed 51 dBW in the 6 MHz band from 13.772 to 13.778 GHz.

Automatic power control may be used to increase the e.i.r.p. density in these frequency ranges to compensate for rain attenuation, to the extent that the power flux-density at the fixed-satellite service space station does not exceed the value resulting from use by an earth station of an e.i.r.p. meeting the above limits in clear-sky conditions. (WRC-03)

# Questionnaire used for the survey report

The questionnaire contained two questions to collect information on the national frequency allocations within the frequency band of 13.75-14 GHz, including current/planned spectrum usage, as well as protection requirements for the existing/planned services.

***Question 1:***

*What are the national frequency allocations within the 13.75-14 GHz band in your country? What is the regulation especially the specific on the service operations in your country (e.g., internal country footnote, specific regulation, guideline for application)?*

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| 1 |  |  |  |
| 2 |  |  |  |

***Question 2:***

*What are current applications, including the applications plans based on the frequency allocation (e.g. fixed-satellite, radiolocation, space research, radionavigation, fixed and mobile services) as well as contact point (contact information of administrations and/or operator) if possible, in the 13.75-14 GHz band in your country?*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |

# The current national frequency allocations of APT Members in the frequency band 13.75-14 GHz

* 1. Australia

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| 1 | FIXED-SATELLITE (Earth-to-space) | 13.75-14.8 GHz | Not for ubiquitous use |
| 2 | RADIOLOCATION | 13.75-14 GHz | Government use only |

*Note: There are also Australian secondary allocations to the Earth exploration-satellite service, standard frequency and time signal-satellite service (Earth-to-space) and the space research service.*

* 1. Bhutan

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| 1 | Primary (Fixed Satellite and Radio location) | 13.75-14 GHz | N/A |
| 2 | Secondary (Earth exploration satellite, Standard frequency and time signal satellite and Space research |

* 1. Cambodia (Kingdom of)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| 1 | FIXED-SATELLITE (Earth-to-space) | 13.75-14 GHz | No specific regulations RR footnote Nos. 5.484A, 5.502 and 5.503) |
| 2 | RADIOLOCATION |
| 3 | Earth exploration-satellite |
| 4 | Standard frequency and time signal-satellite (Earth-to-space) |
| 5 | Space research |

* 1. China (People’s Republic of)

|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| --- | --- | --- | --- |
| 1 | FIXED-SATELLITE (Earth-to-space) | 13.75-14 GHz | RR 5.502 5.503 |
| 2 | RADIOLOCATION | 13.75-14 GHz |  |
| 3 | Earth exploration-satellite | 13.75-14 GHz |  |
| 4 | Standard frequency and time signal-satellite (Earth-to-space) | 13.75-14 GHz |  |
| 5 | Space research | 13.75-14 GHz |  |

* 1. Indonesia (Republic of)

|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| --- | --- | --- | --- |
| 1 | FIXED  MOBILE  FIXED SATELLITE (Earth-to-space) 5.484A  RADIOLOCATION  Earth exploration-satellite  Standard frequency and time signal-satellite (Earth-to-space)  Space research | 13.75-14 GHz | Ministerial Regulation No 12 Year 2022 regarding Indonesia National Table of Frequency Allocation. This Ministerial Regulation adopted the RR footnotes 5.484A, 5.499, 5.500, 5.501, 5.502 and 5.503.  A specific country footnote related to the use of FSS in this band is INS34: The frequency bands of …, 13,75–14,5 GHz (uplink) are prioritized for the FSS Ku band. |

* 1. Iran (Islamic Republic of)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| 1 | FIXED-SATELLITE (Earth-to-space) | 13.75-14 GHz | As provided by RR No.5.484A and No.5.502 |
| 2 | RADIOLOCATION | 13.75-14 GHz | Short range low power radiodetermination applications under technical standard EN 300 440 |
| 3 | FIXED | 13.75-14 GHz | As provided by RR No.5.500 |
| 4 | MOBILE | 13.75-14 GHz | As provided by RR No.5.500 |
| 5 | Earth exploration-satellite | 13.75-14 GHz | - |
| 6 | Standard frequency and time signal-satellite (Uplink) | 13.75-14 GHz | - |
| 7 | Space research | 13.75-14 GHz | - |

* 1. Japan

|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| --- | --- | --- | --- |
| 1 | FIXED-SATELLITE (Earth-to-space) | 13.75-14 GHz | No specific Regulations  (in conformity with RR FN Nos. **5.502** and **5.503**) |
| 2 | RADIOLOCATION | 13.75-14 GHz |
| 3 | RADIONAVIGATION | 13.75-14 GHz  (According to RR No. **5.501**) |
| 4 | Earth Exploration -Satellite | 13.75-14 GHz |
| 5 | Standard Frequency and Time Signal-Satellite (Earth-to-space) | 13.75-14 GHz |
| 6 | Space Research | 13.75-14 GHz |

*\*Note: Japan’s Frequency allocations can be found in* [APT Frequency Information System](https://www.aptafis.org/) *(AFIS)*

* 1. Korea (Republic of)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| 1 | FIXED SATELLITE (Earth-to-space) | 13.75 – 14 GHz | K151B  RR Nos. 5.502 and 5.503 |
| 2 | RADIOLOCATION | 13.75 – 14 GHz |  |
| 3 | Standard frequency and time signal satellite (Earth-to-space) | 13.75 – 14 GHz |  |
| 4 | Space research | 13.75 – 14 GHz |  |

**K151B** The bands 11.7-12.0 GHz, 12.2-12.75 GHz, 13.75-14.5 GHz, 14.5-14.8 GHz, 19.8-21.2 GHz, and 29.6-31.0 GHz are used for satellite services.

*Note: The Republic of Korea’s Frequency allocations can be found in* [*APT Frequency Information System*](https://www.aptafis.org/) *(AFIS)*

* 1. Malaysia

|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| --- | --- | --- | --- |
| 1 | FIXED | 13.75-14 GHz | 5.500 |
| 2 | FIXED SATELLITE (Earth-to-space) | 13.75-14 GHz | 5.484A, 5.502, 5.503, MLA3, MLA58A |
| 3 | MOBILE | 13.75-14 GHz | 5.500 |
| 4 | RADIO LOCATION | 13.75-14 GHz | 5.502 |
| 5 | Earth exploration-satellite | 13.75-14 GHz | 5.502, 5.503 |
| 6 | Standard frequency and time signal satellite (Earth-to-space) | 13.75-14 GHz | 5.502, 5.503 |
| 7 | Space research | 13.75-14 GHz | 5.503 |

**MLA3** The use of this frequency band shall be subject to the requirements stipulated in the Class Assignment.

**MLA58A** Priority to satellite network filed under the administration of Malaysia at 91.5° East orbital slot in the Fixed Satellite Service. Fixed Service stations may operate on a non-interference basis.

* 1. Myanmar (Republic of the Union of)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| 1 | FIXED-SATELLITE (Earth-to-space) 5.484A  RADIOLOCATION  Standard frequency and time signal-satellite (Earth-to-space)  Space research  BRM4 5.502 5.503 | 13.75-14 GHz | BRM4: This band is considered for the future needs all of or some of the services in this band. Clearly, the right of any modification of available services within this band is reserved for the Posts and Telecommunications Department (PTD) under the Ministry of Transport and Communications. |

* 1. New Zealand

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| 1 | RADIOLOCATION | 13.75-14 GHz | N/A |

*Note:**New Zealand’s Frequency allocations can be found in*[*APT Frequency Information System*](https://www.aptafis.org/) *(AFIS) or* [*Table of Radio Spectrum Usage in New Zealand (PIB 21)*](https://www.rsm.govt.nz/about/publications/pibs/pib-21)

* 1. Philippines (Republic of the)

|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| --- | --- | --- | --- |
| 1 | FIXED-SATELLITE (Earth-to-space) | 13.75-14 GHz |  |
| 2 | RADIOLOCATION | National Telecommunications Commission Memorandum Circular No.03-05-2007 |
| 3 | Earth exploration-satellite  Standard frequency and time signal- Satellite (Earth-to-space) |  |

* 1. Singapore

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| 1 | Fixed-Satellite Service\* | 13.75 – 14.0 GHz |  |

*\* In Singapore, the 13.75-14 GHz band is primarily allocated to fixed, mobile and fixed-satellite (Earth-to-space) services. There are currently only fixed-satellite (Earth-to-space) assignments in this band.*

Applicants seeking to use this band for satellite communication purposes will need to obtain the relevant radio-communication licences from IMDA such as the Satellite Communication Station Licence for the operation of the satellite station or the Services-Based Operator (SBO) (Individual) Licence for the provision of satellite services.

* 1. Socialist Republic of Viet Nam

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| 1 | FIXED-SATELLITE (Earth-to-space) | 13.75-14 GHz | 5.484A VTN16 5.502 5.503 |
| 2 | RADIOLOCATION  Earth exploration-satellite  Standard frequency and time signal-satellite (Earth-to-space)  Space research | 13.75-14 GHz | VTN16 5.502 5.503 |

VTN16 The below frequency bands are preferential to use for systems operating in FSS:

13750- 14000 MHz (Earth -to- space)

The systems operating in FSS in the above downlink frequency bands (space-to-Earth) shall have receiving filters complying with the standards of the out of band signal. Systems operating in other services in these frequency bands shall not cause harmful interference to, nor claim protection from the systems operating in FSS.

* 1. Thailand (Kingdom of)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| 1 | FIXED SATELLITE (Earth- to - space) | 13.75-14 GHz | No specific regulation  RR No. 5.484A, 5.502, 5.503 |
| 2 | RADIO LOCATION | 13.75-14 GHz | RR No. 5.502 |
| 3 | Earth exploration satellite | 13.75-14 GHz | RR No. 5.502, 5.503 |
| 4 | Standard frequency and time signal satellite (Earth- to - space) | 13.75-14 GHz | RR No. 5.502, 5.503 |
| 5 | Space research | 13.75-14 GHz | RR No. 5.503 |

* 1. Papua New Guinea

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Allocations** | **Frequency range** | **Specific Regulation** |
| 1 | FIXED-SATELLITE (Earth-to-space) ITU RR 5.484A | 13.75-14.8 GHz | Shipboard and airborne military radars for tracking targets and commanding and controlling in the band 13.25 – 14 GHz. In this band GSO and non-GSO FSS earth stations and radiolocation or radionavigation shall comply with technical requirements given in ITU RR No.5.502. |
| 2 | RADIOLOCATION | 13.75-14 GHz |
| 3 | Earth exploration-satellite | 13.75-14 GHz |
| 4 | Standard frequency and time signal-satellite (Earth-to-space) | 13.75-14 GHz |
| 5 | Space research  ITU RR 5.502  ITU RR 5.503 | 13.75-14 GHz |

# The current/planned applications and responsible contact points (optional) of APT Members in the frequency band 13.75-14 GHz

* 1. Australia

|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| --- | --- | --- | --- | --- | --- |
| 1 | FIXED-SATELLITE (Earth-to-space) | 13.75-14.8 GHz | Fixed Satellite Service | Licence application for earth station transmitters in 13.75-14 GHz are assessed in accordance with ACMA [Procedure for earth and earth receive licensing, and registering earth stations](https://www.acma.gov.au/procedure-earth-and-earth-receive-licensing-and-registering-earth-stations), which includes consideration of ITU satellite coordination process and impact of Australian satellite operators. |  |
| 2 | RADIOLOCATION | 13.75-14 GHz | Government use only |  |  |

* 1. Bhutan

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| 1 | N/A | N/A | N/A | N/A | N/A |

* 1. Cambodia (Kingdom of)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| 1 | FIXED-SATELLITE (Earth-to-space) | 13.75-14 GHz | Plan use |  | Mr. Ray Bunthouen Director of Department of Radio Frequency Infrastructure Management.  bunthoeun@mptc.gov.kh |

* 1. China (People’s Republic of)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| 1 | Fixed-satellite | 13.75-14 GHz | Fixed-satellite service |  |  |
| 2 | Radiolocation | 13.75-14 GHz | Radiolocation | ITU-R M.1644 |  |

* 1. Indonesia

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| 1 | FIXED SATELLITE | 13.75–14 GHz | Fixed-satellite service | - | - |

* 1. Iran (Islamic Republic of)

|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| --- | --- | --- | --- | --- | --- |
| 1 | FIXED-SATELLITE | 13.75-14 GHz | VSAT (Terminals and hubs) | - | - |
| 2 | FIXED | 13.75-14 GHz | Low density point to point links | - | - |
| 3 | SRD (Short Range Device) | 13.4-14 GHz | Radiodetermination: radar, detection, movement and alert applications | Max. Power: 25mW e.i.r.p | - |

* 1. Japan

|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| --- | --- | --- | --- | --- | --- |
| 1 | FIXED-SATELLITE (Earth-to-space) | 13.75-14 GHz | Satellite uplink | Protected on primary basis |  |
| 2 | RADIOLOCATION | 13.75-14 GHz | Radar | Protected on primary basis |  |
| 3 | RADIONAVIGATION | 13.75-14 GHz | Vessel Traffic Service (VTS) radar | Protected on primary basis |  |
| 4 | Earth Exploration -satellite | 13.75-14 GHz | N/A | Protected on secondary basis |  |
| 5 | Standard frequency and time signal-satellite (Earth-to-space) | 13.75-14 GHz | N/A | Protected on secondary basis |  |
| 6 | Space research | 13.75-14 GHz | Radio system in experiment | Protected on secondary basis |  |

*\*Note: Japan’s Frequency allocations can be found in* [APT Frequency Information System](https://www.aptafis.org/) *(AFIS)*

* 1. Korea (Republic of)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| 1 | FSS | 13.75-14 GHz | Satellite communication | - |  |
| 2\* | RADIOLOCATION | 13.75-14 GHz | Radiolocation | - |  |

***\*Note:*** *The Republic of Korea’s Frequency allocations can be found in*[*APT Frequency Information System*](https://www.aptafis.org/) *(AFIS)*

* 1. Malaysia

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| 1 | FIXED SATELLITE (Earth-to-space) | 13.75-14 GHz | Fixed Satellite Service | MLA58A | [spectrumplanning@mcmc.gov.my](mailto:spectrumplanning@mcmc.gov.my) |

* 1. Myanmar (Republic of the Union of)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| 1 | FIXED-SATELLITE (Earth-to-space) | 13.75-14 GHz | Satellite Earth Station and Satellite Remote Station for satellite communication | N/A | [spectrumresource.ptd@gmail.com](mailto:spectrumresource.ptd@gmail.com) |

* 1. New Zealand

|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| --- | --- | --- | --- | --- | --- |
| 1 | RADIOLOCATION | 13.75-14 GHz | Current application - Radiolocation radars | Protection criteria in accordance with Recommendations [ITU-R M.1644](http://www.itu.int/rec/R-REC-M.1644/en) and [ITU-R M.1461](http://www.itu.int/rec/R-REC-M.1461/en) |  |

***\*Note:*** *New Zealand’s Frequency allocations can be found in*[*APT Frequency Information System*](https://www.aptafis.org/) *(AFIS) or* [*Table of Radio Spectrum Usage in New Zealand (PIB 21)*](https://www.rsm.govt.nz/about/publications/pibs/pib-21)

* 1. Philippines (Republic of the)

|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| --- | --- | --- | --- | --- | --- |
| 1 | FIXED-SATELLITE (Earth-to-space) | 13.75-14 GHz | VSAT  DTH | License required for application for earth station transmitter | N/A |
|  | RADIOLOCATION | 13.75-14 GHz | Equipment for Detecting Movement and Alert (RADAR) | Max. Power” 25mW eirp | N/A |

* 1. Singapore

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| 1 | Fixed-Satellite | 13.75 – 14.0 GHz | Satellite Uplink |  |  |

*As shared in question 1, the main current applications are for satellite transmission. The band will primary be used for this application and we do not foresee allowing other applications unless co-existence is possible.*

*For contact point, please write to IMDA Spectrum Admin at* [*spectrum\_admin@imda.gov.sg*](mailto:spectrum_admin@imda.gov.sg)*.*

* 1. Socialist Republic of Viet Nam

|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| --- | --- | --- | --- | --- | --- |
| 1 | FIXED-SATELLITE (Earth-to-space) | 13.75-14 GHz | VSAT, DTH | 5.484A VTN16 5.502 5.503 | VNPT International Head Office:  No. 97 Str. Nguyen Chi Thanh - Ha Noi – Vietnam  Tel: +84 4 38410034 Fax: +84 4 38357393 |
| 2 | RADIOLOCATION  Earth exploration-satellite  Standard frequency and time signal-satellite (Earth-to-space)  Space research |  |  |  |  |

*There are currently only fixed-satellite service (Earth-to-space) assignments in this band.*

* 1. Thailand (Kingdom of)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| 1 | FIXED SATELLITE (Earth- to - space) | 13.75-14 GHz | Satellite uplink station for satellite communication | No specific regulation  RR No. 5.484A, 5.502, 5.503 | Itthipat Akkarasinyakon  itthipat.a@nbtc.go.th |

* 1. Papua New Guinea

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Service** | **Frequency range** | **Current applications or plans** | **Protection requirement** | **Contact point (optional)** |
| 1 | - | - | - | - | - |

***NOTE:*** *Currently limited FSS ES deployment in 13.75-14 GHz due to the constraining technical limitations presented in ITU RR. No. 5.502*

# Summary

The survey of APT members' current and planned applications within the 13.75-14 GHz frequency band reveals a diverse range of uses across the region, reflecting the unique telecommunications needs and regulatory frameworks of each country.

This survey report includes information on the allocations and current/planned application situation of APT Members in the frequency band 13.75-14 GHz. Such information could help APT Members to better understand the actual usage and avoid the potential harmful interference between different co-primary services and thus improve the efficient usage of the frequency band 13.75-14 GHz.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. See <https://www.itu.int/pub/R-REG-RR-2024>. [↑](#footnote-ref-1)