



IAFI

**PROPOSED FURTHER UPDATES TO THE WORKING DOCUMENT WORKING
DOCUMENT TOWARDS DRAFT REVISION OF APT REPORT ON
INFORMATION OF MOBILE OPERATORS' FREQUENCIES,
TECHNOLOGIES AND LICENSE DURATIONS IN
ASIA PACIFIC COUNTRIES**

1. Background

The AWG is developing a new APT report on APT report on information of mobile operators' frequencies, technologies and license durations in Asia pacific countries

2. Discussion

it is proposed to clarify the frequency bands covered by this report

2. Proposal

IAFI proposes some modifications to the working document, as contained in Attachment. The proposed revisions are highlighted in **turquoise**



Sub-Working Group IMT TECH

**WORKING DOCUMENT TOWARDS DRAFT REVISION OF APT
REPORT ON
INFORMATION OF MOBILE OPERATORS' FREQUENCIES,
TECHNOLOGIES AND LICENSE DURATIONS IN
ASIA PACIFIC COUNTRIES**

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APT REPORT ON

INFORMATION OF MOBILE OPERATORS' FREQUENCIES, TECHNOLOGIES AND LICENSE DURATIONS IN ASIA PACIFIC COUNTRIES

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1. Introduction

APT Wireless Forum¹ (AWF) has started to develop the APT Frequency Information System (AFIS) based on the APT Recommendation “The APT Spectrum Database- Guidelines for Constructing and Maintaining the APT Frequency Information system (AFIS)” which was approved in 2006. The sharing of information on frequency allocation and spectrum usages will be beneficial to reach harmonization on spectrum usages among APT member countries. However, especially for IMT mobile usage, information on operators’ frequencies, technologies and license duration of each country is essential to achieve global/regional roaming with the purpose of improving economies of scale and is also very useful in considering migration path of IMT technologies in view of the situation in other countries.

In this regard, at the 7th meeting of AWF, it was agreed to develop an APT Report on information of mobile operators’ frequencies, technologies and license durations in Asia Pacific countries and also to develop a Questionnaire on information in relation to all terrestrial mobile operators, which was completed during the meeting. The first edition of the APT Report was adopted in the 9th meeting of AWF in September 2010. This APT Report was further updated to reflect the latest state of additional frequency bands released for terrestrial mobile cellular networks in some APT countries.

This APT report is a compilation of responses to the Questionnaire and would provide useful information to APT members and could be used for AFIS depending on the scope.

2. Questionnaire and Responses

2.1 Questionnaire

Questionnaire sent out to each of the APT Member Administration is shown below.

Question 1: What frequency band(s) is/are used for mobile technology (e.g. GSM, CDMA, IMT, BWA) in your country/region?

Question 2: Which operator is using the frequency band(s) mentioned in Question 1 with what kind of technology mentioned in Question 1? Please provide operator name, detailed frequency band(s), used technology and license duration.

2.2 APT Member countries that submitted responses to APT during the development of this Report

The following member countries provided their responses to the Questionnaire.

- 1) Afghanistan, Islamic Republic of (as of September 2021)
- 2) Australia (as of March 2021)
- 3) Bangladesh (as of September 2018)
- 4) Bhutan (as of September 2014)
- 5) Brunei Darussalam (as of August 2014)
- 6) Cambodia (as of January 2010)
- 7) China, People’s Republic of (as of September 2018)
- 8) Hong Kong, China (as of March 2015)
- 9) India, Republic of (as of March 2021)
- 10) Indonesia, Republic of (as of May 2023)
- 11) Iran, Islamic Republic of (as of March 2021)

¹ AWF is now renamed as APT Wireless Group (AWG)

- 12) Japan (as of March 2021)
- 13) Korea, Republic of (as of May 2023)
- 14) Lao, People's Democratic Republic (as of March 2021)
- 15) Macao, China (as of January 2010)
- 16) Malaysia (as of September 2018)
- 17) Marshall Islands, Republic of (as of March 2021)
- 18) Micronesia, The Federated States of (as of March 2021)
- 19) Mongolia (as of March 2021)
- 20) Myanmar (as of March 2021)
- 21) Nepal (as of March 2021)
- 22) New Zealand (as of March 2021)
- 23) Palau (as of January 2010)
- 24) Papua New Guinea (as of March 2021)
- 25) Philippines (as of March 2015)
- 26) Singapore (as of September 2018)
- 27) Thailand (as of March 2021)
- 28) Vietnam, Socialist Republic of (as of September 2022)

2.3 Responses to Question 1

| Technology | Frequency Band (MHz) |
|--|-------------------------------|
| Afghanistan (Islamic Republic of) | |
| P-GSM | 890-914.8 / 935-959.8 |
| E-GSM | 880.2-889.8 / 925.2-934.8 |
| GSM1800 | 1710.2-1760.8 / 1805.2-1855.8 |
| BWA (WiMAX) | 3410-3430 |
| IMT 2000 | 1920-1970/2110-2120 |

| Australia | |
|------------------|-----------------------|
| LTE700 | 703-748 / 758-803 |
| LTE850 | 825-845 / 870-890 |
| UMTS (HSPA+) 850 | 825-845 / 870-890 |
| UMTS (HSPA+) 900 | 900-915 / 945-960 |
| LTE900 | 900-915 / 945-960 |
| LTE1800 | 1710-1785 / 1805-1880 |
| UMTS(HSPA+) 2100 | 1920-1980 / 2110-2170 |
| LTE2100 | 1920-1980 / 2110-2170 |
| TD-LTE | 2302-2400 |
| LTE2500/2600 | 2500-2570 / 2620-2690 |
| LTE3500/WiMAX | 3400-3700 |
| 5G n78 | 3400-3700 |

| Bangladesh | |
|--------------------------------|---------------------------|
| CDMA800 | 825 – 845 / 870 – 890 |
| E-GSM | 880 – 890 / 925 – 935 |
| GSM900 | 890 – 915 / 935 – 960 |
| GSM1800 | 1710 – 1785 / 1805 – 1880 |
| WCDMA2100 | 1920 – 1980 / 2110 – 2170 |
| BWA systems (Mobile WiMAX/LTE) | 2300 – 2400 (TDD) |
| BWA systems (Mobile WiMAX/LTE) | 2500 – 2690 (TDD) |

| Bhutan | |
|-------------------|---------------------------|
| GSM 900 | 880-915 / 925 – 960 |
| WCDMA 850 | 824 – 835 / 869 – 880 |
| GSM 1800/LTE 1800 | 1710 – 1785 / 1805 – 1880 |
| WCDMA 2100 | 1920 – 1980 / 2110 – 2170 |
| WiMAX | 3400 - 3500 / 3500 – 3600 |

| Brunei Darussalam | |
|-------------------|---------------------------|
| GSM900 | 900 - 915 / 945 – 960 |
| LTE1800 | 1710-1785 / 1805 – 1880 |
| UMTS (WCDMA) 2100 | 1920 – 1980 / 2110 – 2170 |

| Cambodia | |
|-----------------|---------------------------|
| CDMA450 | 453 – 457.5 / 463 – 467.5 |
| CDMA800 | 824 – 829.4 / 869 – 874.4 |
| EGSM900 | 880 – 915 / 925 – 960 |
| GSM1800 | 1710 – 1785 / 1805 – 1880 |
| UMTS(WCDMA)2100 | 1920 – 1980/2110 – 2170 |

| China (People's Republic of) | |
|------------------------------|---------------------------|
| CDMA/LTE | 825 – 835 / 870 – 880 |
| GSM900/LTE | 889 – 915 / 934 – 960 |
| GSM1800/LTE | 1710 – 1785 / 1805 – 1880 |
| LTE | 1920 – 1940/2110 – 2130 |
| UMTS(WCDMA)/LTE | 1940 – 1965/2130 – 2155 |
| IMT | 1965 – 1980 / 2155-2170 |
| TD-LTE | 1880 – 1915 TDD |
| IMT | 1915 – 1920 TDD |
| TD-SCDMA | 2010 – 2025 TDD |
| TD-LTE | 2300 – 2400 TDD |
| TD-LTE | 2500 – 2690 TDD |

| Hong Kong, China | |
|------------------|-----------------------------------|
| CDMA2000 | 825 – 832.5 / 870 – 877.5 |
| UMTS850 | 832.5 – 837.5 / 877.5 – 882.5 |
| GSM900 / UMTS | 885 – 915 / 930 – 960 |
| GSM1800 / LTE | 1710.5 – 1784.9 / 1805.5 – 1879.9 |
| UMTS | 1920.3 – 1979.7 / 2110.3 – 2169.7 |
| LTE | 2500 – 2570 / 2620 – 2690 |
| UMTS TDD | 1904.9 – 1919.9 (TDD) |
| UMTS TDD | 2019.7 – 2024.7 (TDD) |
| TD-LTE | 2300 – 2390 (TDD) |

| India (Republic of) | |
|------------------------------------|---|
| LTE (3GPP Band 5) | 824 – 844 / 869 – 889 |
| GSM 900/UMTS 900/LTE (3GPP Band 8) | 890 – 915 / 935 – 960 |
| GSM1800/LTE (3GPP Band 3) | 1710 – 1785 / 1805 – 1880 |
| UMTS 2100/LTE (3GPP Band 1) | 1920 -1980 / 2110 -2170 |
| LTE (3GPP Band 40) | 2300 – 2400 (TDD) |
| LTE (3GPP Band 41) | 2535 - 2555 (TDD) and 2635 – 2655 (TDD) |

| Indonesia (Republic of) | |
|--|---------------------------------------|
| LTE (3GPP Band 5) | 824 – 835 / 869 – 880 |
| GSM 900 / LTE (3GPP Band 8) | 880 – 915 / 925 – 960 |
| GSM 1800 / LTE (3GPP Band 3) / 5G NR(3GPP n3) | 1710 – 1785 / 1805 – 1880 |
| LTE (3GPP Band 1) / 5G NR (3GPP n1) | 1920 – 1980 / 2110 – 2170 |
| LTE (3GPP Band 40) / 5G NR (3GPP n40) | 2300 – 2390 (TDD) |
| LTE LAA (3GPP Band 46: Sub-band 46a, 46b, and 46d) | 5150 – 5250; 5250 – 5350; 5725 – 5825 |

Note: Indonesia has adopted Technology Neutrality policy based on IMT standard in the above-mentioned bands. To deploy LTE LAA in 3GPP Band 46 (5150 – 5250 MHz; 5250 – 5350 MHz; 5725 – 5825 MHz), Indonesia implemented class licensing regime.

| Iran (Islamic Republic of) | |
|----------------------------|--|
| UMTS 900 MHz | 880 – 890 / 925 – 935 |
| GSM/UMTS/ LTE 900 MHz | 890-915 / 935-960 |
| GSM/UMTS/ LTE 1800 MHz | 1710-1785 / 1805-1880 |
| DECT 1800 MHz | 1880-1900 |
| UMTS 2100 MHz | 1935-1975 / 2125-2170 |
| LTE 2500 MHz | 2550-2570 / 2670-2690 FDD 2570-2620 TDD |
| TD-LTE | 3400-3600 TDD |

| Japan | |
|--|--|
| LTE / 5G | 718 – 748 / 773 – 803 |
| UMTS (WCDMA)800 / CDMA 2000 / LTE / 5G | 815 – 845 / 860 – 890 |
| UMTS (WCDMA)900 / LTE / 5G | 900 – 915 / 945 – 960 |
| LTE / 5G | 1427.9 – 1462.9 / 1475.9 – 1510.9 |
| LTE / 5G | 1710 – 1785 / 1805 – 1880 |
| PHS | 1884.5 – 1915.7 (TDD) |
| UMTS (WCDMA)2100 / LTE / 5G | 1920 – 1980 / 2110 – 2170 |
| BWA systems (WiMAX, AXGP, WiMAX2+, 5G) | 2545 – 2575 (TDD) 2575 – 2595 (TDD) for local/private BWA 2595 – 2645 (TDD) |
| LTE / 5G | 3400 – 3600 (TDD) |
| 5G | 3600 – 4100 (TDD) 4500 – 4600 (TDD) 4600 – 4900 (TDD) for Local 5G 27000 – 28200 (TDD) 28200 – 29100 (TDD) for Local 5G 29100 – 29500 (TDD) |

| Korea (Republic of) | |
|---------------------|--|
| CDMA1800 | 1770 – 1780 / 1860 – 1870 |
| UMTS(WCDMA)2100 | 1955– 1960 / 2145 – 2150 1975– 1980 / 2165 – 2170 |
| LTE | 829 – 849 / 874 – 894 904.3 – 914.3 / 949.3 – 959.3 |

| | |
|-------------------------|--|
| | 1715 – 1725 / 1810 – 1820 1730 – 1740 / 1820 – 1840 1745 – 1765 / 1840 – 1860 1920 – 1955 / 2110 – 2145 1960 – 1975 / 2150 – 2165 2500 – 2550 / 2620 – 2670 |
| 5G NR(3GPP Release 15~) | 3400 – 3700 |
| 5G NR(3GPP Release 15~) | 26500 – 28900 |

| Lao PDR | |
|-------------|---|
| LTE 850 | 824 – 834 / 869 - 879 |
| UMTS 900 | 880 – 885 / 925 – 930 907.6 – 912.6 / 952.6 – 957.6 |
| GSM 900 | 890.2 – 896.2 / 935.2 – 941.2 896.4 – 902.4 / 941.4 – 947.4 912.6 – 915 / 957.6 - 960 |
| LTE 900 | 902.6 – 907.6 / 947.6 – 952.6 |
| GSM 1800 | 1710 – 1715 / 1805 - 1810 |
| LTE 1800 | 1715 – 1785 / 1810 - 1880 |
| LTE 2100 | 1920 – 1930 / 2110 – 2120 |
| UMTS 2100 | 1930 – 1980 / 2120 - 2170 |
| TD-LTE 2300 | 2300 – 2390 |
| LTE 2600 | 2500 – 2570 / 2620 - 2690 |

| Macao (China) | |
|-----------------|---------------------------|
| CDMA800 | 825 – 845/870 – 890 |
| GSM900 | 890 – 915 / 935 – 960 |
| GSM1800 | 1710 – 1785 / 1805 – 1880 |
| UMTS(WCDMA)2100 | 1920 – 1980 / 2110 – 2170 |

| Malaysia | |
|-----------------------------|--|
| CDMA450 | 452.0 – 456.475 / 462.0 – 466.475 |
| LTE | 824-829 / 869-874 |
| GSM900/UMTS(WCDMA)900 / LTE | 880 – 915 / 925 – 960 |
| GSM1800/ LTE | 1710 – 1785/ 1805 – 1880 |
| UMTS(WCDMA)2100 | 1920 – 1980/ 2110 – 2170 1915 – 1920 (TDD) 2010 – 2025 (TDD) |
| WiMAX / LTE | 2300 – 2400 (TDD) |
| LTE | 2500 – 2570 / 2620 – 2690 2575 – 2615 (TDD) |

| Marshall Islands (Republic of) | |
|--------------------------------|------------------------------|
| 2G GSM | 900 MHz / 1800 MHz/ 1900 MHz |
| 3G GSM, HSPA+ | 900 MHz / 1800 MHz/ 2100 MHz |
| 4G GSM LTE | 700 MHz / 1800 MHz/ 2100 MHz |

| Micronesia (The Federated States of) | |
|--------------------------------------|-----------------------|
| 900 Extended GSM (2G/3G) | 880 - 892 / 925 - 937 |
| 1800 DCS (LTE) | 1710-1733/1804-1833 |

| | |
|---------------|-----------------|
| 700 APT (LTE) | 703-718/758-773 |
|---------------|-----------------|

| Mongolia | |
|--------------------------------|---------------------------|
| CDMA450 | 450 – 460 / 460 – 470 |
| LTE700 | 703 – 748 / 758 – 803 |
| CDMA800 | 806 – 821 / 847 – 862 |
| GSM900 | 890 – 915 / 935 – 960 |
| GSM1800 | 1710 – 1785 / 1805 – 1880 |
| LTE1800 | 1710 – 1785 / 1805 – 1880 |
| 3G/WCDMA | 1920 – 1980 / 2110 – 2170 |
| LTE2500/2600 | 2500 – 2570 / 2620 – 2690 |
| TD-LTE | 2300 – 2400 TDD |
| TD-LTE | 2570 – 2620 TDD |
| BWA systems (Mobile WiMAX/LTE) | 3400 – 3600 TDD |

| Myanmar (The Republic of the Union of) | |
|--|---|
| CDMA450 | 453.35-457.10/463.35-467.10 |
| CDMA800 | 825-827.5/870-872.5 828.75-832.50/873.75-877.5 |
| EGSM 900 | 882.8-890/ 927.8-935 |
| GSM900 | 890 – 915/ 935 – 960 |
| LTE | 1710-1785/ 1805-1880 |
| WCDMA | 1920 – 1980/2110 – 2170 |
| BWA(TDD) | 2575-2615 |

| Nepal (Federal Democratic Republic of) | |
|---|--|
| CDMA800 | 824 – 834 / 869 – 879 (FDD) |
| GSM 900 / UMTS 900 | 880 – 915 / 925 – 960 (FDD) |
| GSM 1800 / LTE 1800 | 1710 – 1785 / 1805 – 1880 (FDD) |
| IMT-2000 (3G/WCDMA) | 1920 – 1980 / 2110 – 2170 (FDD) |
| IMT-Advanced /WiMAX | 2300 – 2400 (TDD) |
| IMT-Advanced | 2500 – 2570 / 2620 – 2690 (FDD) 2570 – 2620 (TDD) |
| IMT- Advanced/BWA | 3300 – 3400 (TDD) |
| IMT-Advanced/LTE | 703 – 748 / 758 – 803 (FDD) |
| IMT Advanced/LTE | 3400 – 3600 (TDD) |
| IMT Advanced/LTE | 3600 – 3800 (TDD) |

| New Zealand | |
|---------------|--|
| LTE | 703 – 748 / 758 – 803 |
| UMTS850 / LTE | 825 – 840 / 870 – 885 |
| UMTS900 / LTE | 890 – 915 / 935 – 960 |
| LTE | 1710 – 1785 / 1805 – 1880 |
| UMTS / LTE | 1920 – 1980 / 2110 – 2170 |
| LTE | 2300 – 2395 |
| LTE | 2500 – 2570 / 2620 – 2690 |
| BWA / LTE | 2575 – 2620 |
| BWA / NR | 3410 - 3424 / 3510 – 3524 & 3466 - 3487 / 3566 - 3587 |
| NR | 3424 -3466 & 3487 – 3497 & 3630 – 3690 |

| | |
|--|--|
| | |
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| Palau | |
|---------|---------------------------|
| GSM900 | 890 – 915 / 935 – 960 |
| GSM1800 | 1710 – 1715 / 1805 – 1810 |

| Papua New Guinea | |
|------------------|-----------------------------|
| EGSM | 880 – 889.80 / 925 – 934.80 |
| PGSM | 890 – 914.80 / 935 – 959.80 |
| GSM1800 | 1700 – 1720 / 1805 – 1820 |
| UMTS 800 | 824 – 835 / 869 – 880 |
| LTE700 | 698-806 |
| IMT 2100 | 1920 – 1980 / 2110 – 2170 |
| BWA (WiMAX) | 2330 – 2360 |
| BWA (WiMAX) | 3400 – 3500 |

| Philippines | |
|-------------------|--|
| CDMA 450 | 450 – 470 |
| UMTS (WCDMA) 800 | 825 – 845 / 870 - 890 |
| EGSM | 880 – 890 / 925 – 935 |
| GSM 900 | 890 – 915 / 935 – 960 |
| GSM 1800 | 1710 – 1785 / 1805 – 1880 |
| UMTS (WCDMA) 2100 | 1920 – 1980 / 2110 – 2170 |
| CDMA | 1900 – 1910 / 1980 – 1990 |
| WIMAX | 2300 – 2400 (TDD) 2500 – 2690 (TDD) 3400 – 3600 (FDD) 10150 – 10650 (FDD) |

| Singapore | |
|----------------------|--|
| HSPA | 882 – 887 / 927 – 932 |
| WCDMA / LTE / NB-IoT | 890 – 915 / 935 – 960 |
| LTE | 1710 – 1785 / 1805 – 1880 2300 – 2340 2500 – 2560 / 2620 – 2680 2570 – 2615 |
| Non-IMT | 1904.9 – 1920 |
| HSPA / WCDMA / LTE | 1920 – 1979.7 / 2110.3 – 2169.7 |

| Thailand | |
|------------------------|---------------------------|
| LTE700/NR700 | 703 – 748 / 758 – 803 |
| HSPA850 | 824 – 844 / 869 – 889 |
| HSPA900/LTE900 | 890 – 895 / 935 – 940 |
| GSM900/WCDMA900/LTE900 | 895 – 915 / 940 – 960 |
| GSM1800/LTE1800 | 1710 – 1750 / 1805 – 1845 |
| HSPA2100/LTE2100 | 1920 – 1980 / 2110 – 2170 |
| TD-LTE2300 | 2310 – 2370 |
| TD-LTE2600/NR2600 | 2500 – 2690 |
| NR26000 | 24300 – 27000 |

| Viet Nam (Socialist Republic of) | |
|---------------------------------------|---------------------------|
| eGSM900/ W-CDMA/ LTE/ LTE-Advanced | 880 – 890 / 925 – 935 |
| GSM900/ W-CDMA/ LTE/ LTE-Advanced | 890 – 915 / 935 – 960 |
| GSM1800/ LTE/ LTE-Advanced | 1710 – 1785 / 1805 – 1880 |
| W-CDMA/ LTE/ LTE-Advanced | 1920– 1980 / 2110 – 2170 |

2.4 Responses to Question 2

1) Afghanistan, Islamic Republic of

| Operator | Frequency Band (MHz) | | Technology | License duration |
|----------------|----------------------|---------------|------------|-----------------------------|
| | Uplink | Downlink | | |
| Afghan Telecom | 880.2-886.8 | 925.2-931.8 | E-GSM 900 | 15 years From 19/4/2006 |
| | 1751-1760.8 | 1846-1855.8 | GSM 1800 | |
| | 1960-1970 | 2150-2160 | IMT-2000 | |
| | 3605-3615 | | BWA | |
| MTN | 887.2-889.8 | 932.2-934.8 | E-GSM 900 | 15 years From 20/6/2012 |
| | 890-893.8 | 935-938.8 | P-GSM 900 | |
| | 1710.2-1720 | 1805.2-1815 | GSM1800 | |
| | 1950-1960 | 2140-2150 | IMT 2000 | |
| AWCC | 894.2-900.8 | 939.2-945.8 | P-GSM 900 | 15 years From 19/3/2014 |
| | 1730.6-1740.4 | 1825.6-1835.4 | GSM 1800 | |
| | 1920-1930 | 2110-2120 | IMT 2000 | |
| Roshan | 901.2-907.8 | 946.2-952.8 | P-GSM 900 | 15 years From 22/9/2012 |
| | 1740.8-1750.6 | 1835.8-1845.6 | GSM 1800 | |
| | 1930-1940 | 2120-2130 | IMT-2000 | |
| Etisalat | 908.2-914.8 | 953.2-959.8 | P-GSM 900 | 15 years From 18/3/2012 |
| | 1720.4-1730.2 | 1815.4-1825.2 | GSM 1800 | |
| | 1940-1950 | 2130-2140 | IMT-2000 | |
| Aryana Network | 3410-3430 | | BWA | 15 years From 18/11/2012 |
| IO Global | 3430-3440 | | BWA | 15 years From 18/11/2012 |

2) Australia

| Operator | Frequency Band(MHz) | | Technology (Note) | License duration | Comments |
|-----------------------------|---------------------|-------------|------------------------|--|--------------------|
| | Uplink | Downlink | | | |
| Telstra Corporation Limited | 713-733 | 768-788 | LTE700 | Period:15 years Expiration: 31 Dec 2029 | Australia-wi de |
| | 830/835-845 | 875/880-890 | UMTS (HSPA+) 850 | Period:15 years Expiration: 17 June 2028 | Australia-wi de |
| | 890-898.4 | 935-943.4 | LTE900 | Issued on an annual basis | Australia-wi de |

| | | | | | |
|--------------------------------------|----------------------|-------------|------------------|---|---------------------------|
| | | | | until completion of 803-960 MHz re-allocation (previously 5 years) | |
| | 1710-1750 | 1805-1845 | LTE1800 | Period:15 years Expiration: 17 June 2028 | Major cities and regional |
| | 1935-1940 | 2125-2130 | LTE2100 | Period: 15 years Expiration: 11 Oct 2032 | Major cities |
| | 1960-1970 | 2150-2160 | | | |
| | 1970-1975 | 2160-2165 | LTE2100 | Combination 15 year spectrum licence Expiration: 11 Oct 2032 and 5 year apparatus licence | Regional |
| | 2302-2337, 2365-2400 | | TD-LTE | Expiration: 24 July 2030 | Remote Areas |
| | 2510-2550 | 2630-2670 | LTE2500/ 2600 | Period: 15 years Expiration: 30 Sep 2029 | Australia-wide |
| | 3.5425-3635 | | 5G n78 | Expiration: 13 Dec 2030 | Major cities and regional |
| Vodafone Hutchison Australia Pty Ltd | 733-738 | 788-793 | LTE700 | Expiration: 31 Dec 2029 | Australia-wide |
| | 825/830-835 | 870/875-880 | LTE850 | Period: 15 years Expiration: 17 June 2028 | Australia-wide |
| | 906.7-915.1 | 951.7-960.1 | UMTS (HSPA+) 900 | Issued on an annual basis until completion of 803-960 MHz re-allocation (previously 5 years) | Australia-wide |
| | 1710-1715 | 1805-1810 | LTE1800 | Period:15 years Expiration: 17 June 2028 | Darwin, Hobart |
| | 1720-1755 | 1815-1850 | LTE1800 | Period:15 years Expiration: 17 June 2028 | Major cities and Regional |
| | 1770-1785 | 1865-1880 | LTE1800 | Period:15 years Expiration: 17 June 2028 | Regional |
| | 1920-1935 | 2110-2125 | LTE2100 | Period:15 years Expiration: 11 Oct 2032 | Major cities |

| | | | | | |
|--------------------------|--------------------------------------|-------------|-------------------------------------|---|--|
| | 1970-1980 | 2160-2170 | LTE2100 | Period:15 years Expiration: 11 Oct 2032 | Major cities and regional |
| Singtel Optus Pty Ltd | 703-713 | 758-768 | LTE700 | Period:15 years Expiration: 31 Dec 2029 | Australia-wi de |
| | 898.4-906.8 | 943.4-951.8 | UMTS (HSPA+) 900 | Issued on an annual basis until completion of 803-960 MHz re-allocation (previously 5 years) | Australia-wi de |
| | 1750-1785 | 1845-1880 | LTE 1800 | Period:15 years Expiration: 17 June 2028 | Major cities and Regional |
| | 1940-1960 | 2130-2150 | UMTS (HSPA+) 2100/ LTE2100 | Period:15 years Expiration: 11 Oct 2032 | Major cities |
| | 1960-1965 | 2150-2155 | UMTS (HSPA+) 2100/ LTE2100 | Combination 15 year spectrum licence expiring: 11 Oct 2032 and 5 year apparatus licence | Regional areas |
| | 2302-2330, 2386-2400 | | TD-LTE | Period:15 years Expiration: 24 July 2030 | Major cities, some regional locations |
| | 2550-2570 | 2670-2690 | LTE2500/ 2600 | Period:15 years Expiration: 30 Sep 2029 | Australia-wi de |
| | 3439-3442.5, 3490-3546, 3665-3700 | | 5G n78 | Period:15 years Expiration: 13 Dec 2030 | Major cities, Regional |
| TPG Internet Pty Ltd | 738-748 | 793-803 | LTE700 | Expiration Dec 2029 | Australia-wi de |
| | 2500-2510 | 2620-2630 | LTE2500/ 2600 | Period:15 years Expiration: 30 Sep 2029 | Australia-wi de |
| Mobile JV (VHA-TPG) | 3605-3700 | | 5G n78 | Expiration: 13 Dec 2030 | Major cities and Regional |
| Dense Air | 3605-3640 3665-3700 | | 5G n78 | Expiration: 13 Dec 2030 | Major cities |
| Rail Corporation | 1770-1785 | 1865-1880 | GSM-R 1800 | Period:15 years Expiration: 17 June 2028 | Sydney |

| | | | | | |
|--|-----------|-----------|---------------|---|---|
| New South Wales | | | | | |
| Public Transport Authority of Western Australia | 1770-1785 | 1865-1880 | LTE1800 | Period:15 years Expiration: 17 June 2028 | Perth |
| Department for Planning Transport and Infrastructure | 1775-1785 | 1870-1880 | – | Period:15 years Expiration: 17 June 2028 | Adelaide |
| QR Network Pty Ltd | 1770-1785 | 1865-1880 | GSM-R 1800 | Period:15 years Expiration: 17 June 2028 | Brisbane |
| Victorian Rail Track | 1770-1785 | 1865-1880 | GSM-R 1800 | Period:15 years Expiration: 17 June 2028 | Melbourne |
| NBN Co | 2302-2400 | | TD-LTE | Period:15 years Expiration: 24 July 2030 | Regional and remote areas |
| | 3400-3575 | | TD-LTE | Combination 15 year spectrum licence expiring: 13 Dec 2030 and 5 year apparatus licence | Various amounts of spectrum in different metro, regional and remote areas |

Note: All bands in the table are available on a technology flexible basis in Australia. The technology column in this case indicates the most likely/major technology deployed at the present time (however, the type of service deployed and the technology used is at the discretion of the licensee).

3) Bangladesh

| Operator | Frequency Band (MHz) | | Technology | License duration |
|--------------------------------|----------------------|------------------|--------------------|------------------|
| | Uplink | Downlink | | |
| Pacific Bangladesh Telecom Ltd | 825.00 – 835.00 | 870.00-880.00 | CDMA2000 1X | 2011-2026 |
| ROBI AXIATA BD Ltd | 888.40 – 890.00 | 933.40 – 935.00 | Technology Neutral | 2005-2020 |
| | 1720.00-1730.00 | 1815.00 –1825.00 | Technology Neutral | |
| ROBI AXIATA BD Ltd | 900.20-907.60 | 945.20 – 952.60 | Technology Neutral | 2011 - 2026 |
| | 1730.0 -1737.40 | 1825.0 – 1832.40 | Technology Neutral | |
| | 1945 – 1955 | 2135 – 2145 | Technology Neutral | 2013 - 2028 |
| Banglalink Digital | 895.20 - 900.20 | 940.20 – 945.20 | Technology Neutral | 2011 - 2026 |

| | | | | |
|-----------------------------|------------------|------------------|-----------------------|-------------|
| Communication s Ltd | 1752.00-1762.00 | 1847.00 –1857.00 | Technology Neutral | |
| | 1762.00 -1767.60 | 1857.00 –1862.60 | Technology Neutral | 2018 - 2033 |
| | 1955.00-1960.00 | 2145.00–2150.00 | Technology Neutral | 2013 - 2028 |
| | 1930.00-1935.00 | 2120.00-2125.00 | Technology Neutral | 2018 - 2033 |
| Grameen Phone Ltd | 907.60 – 915.00 | 952.60 – 960.00 | Technology Neutral | 2011 – 2026 |
| | 1737.40 -1752.00 | 1832.40 –1847.00 | Technology Neutral | |
| | 1767.60-1772.60 | 1862.60-1867.60 | Technology Neutral | 2018- 2033 |
| | 1935 – 1945 | 2125 – 2135 | Technology Neutral | 2013 - 2028 |
| Tele Talk Bangladesh Ltd | 890.00 – 895.20 | 935.00 – 940.20 | GSM, EDGE | 2004 - 2019 |
| | 1710.00 -1720.00 | 1805.00 –1815.00 | GSM, EDGE | |
| | 1960.00-1970.00 | 2150.00-2160.00 | 3G | 2012 - 2026 |

4) Bhutan

| Operator | Frequency Band(MHz) | | Technology | License duration |
|----------------|---------------------|-------------|------------|------------------|
| | Uplink | Downlink | | |
| Bhutan Telecom | 824 - 829 | 869 - 874 | WCDMA850 | 15 years |
| | 890 - 900 | 935 - 945 | GSM900 | |
| | 1920 - 1940 | 2110 - 2130 | WCDMA2100 | |
| | 1730 - 1740 | 1825 - 1835 | LTE1800 | |
| | 1720 - 1730 | 1815 - 1825 | GSM1800 | |
| Tashi InfoComm | 900 - 910 | 945 - 955 | GSM900 | 15 years |
| | 824 - 834 | 860 - 879 | WCDMA850 | |

5) Brunei Darussalam

| Operator | Frequency Band(MHz) | | Technology | License duration |
|-------------------------------------|---------------------|-------------|-----------------|------------------------------|
| | Uplink | Downlink | | |
| DataStream Technology Sdn Bhd | 900 - 915 | 945 – 960 | GSM 900 | Valid until 30 April 2028 |
| | 1765 - 1785 | 1860 – 1880 | LTE1800 | Valid until 30 April 2028 |
| | 1940 - 1960 | 2130 – 2150 | UMTS(WCDMA)2100 | Valid until 30 April 2028 |
| Progresif Cellular Sdn Bhd | 1920 - 1940 | 2110 – 2130 | UMTS(WCDMA)2100 | Valid until 31 Dec 2029 |

6) Cambodia

| Operator | Frequency Band(MHz) | | Technology | License duration |
|----------|---------------------|---------------|------------|------------------|
| | Uplink | Downlink | | |
| M FONE | 453.0 – 457.5 | 463.0 – 467.5 | CDMA 450 | Note |
| | 888.0 – 890.0 | 933.0 – 935.0 | EGSM 900 | Note |

| | | | | |
|----------|---------------|---------------|-------------|-----------------|
| | 1750 – 1770 | 1845 – 1865 | GSM 1800 | Expiration:2032 |
| | 1975 – 1980 | 2165 – 2170 | UMTS(WCDMA) | Expiration:2036 |
| GT-Tell | 824.0 – 829.4 | 869.0 - 874.4 | CDMA 800 | Expiration:2037 |
| SOTELCO | 880.0 – 888.0 | 925.0 – 933.0 | EGSM 900 | Expiration:2042 |
| | 1745 – 1750 | 1840 – 1845 | GSM 1800 | Expiration:2042 |
| CamGSM | 890.0 – 899.3 | 935.0 – 944.3 | GSM 900 | Expiration:2021 |
| | 1770 – 1785 | 1865 – 1880 | GSM 1800 | Note |
| | 1960 – 1975 | 2150 – 2165 | UMTS(WCDMA) | Note |
| VIETTEL | 899.3 – 905.7 | 944.3 – 950.7 | GSM 900 | Note |
| | 1710 – 1720 | 1805 – 1815 | GSM 1800 | Expiration:2036 |
| | 1940 – 1950 | 2130 – 2140 | UMTS(WCDMA) | Expiration:2039 |
| TMIC | 905.7 – 915.0 | 950.7 – 960.0 | GSM 900 | Expiration:2027 |
| | 1740 – 1745 | 1835 – 1840 | GSM 1800 | Note |
| | 1920 – 1930 | 2110 – 2120 | UMTS(WCDMA) | Expiration:2038 |
| LATELZ | 1720 – 1730 | 1815 – 1825 | GSM 1800 | Note |
| APPIFONE | 1730 – 1740 | 1825 – 1835 | GSM 1800 | Note |
| | 1930 – 1940 | 2120 – 2130 | UMTS(WCDMA) | Expiration:2038 |
| CADCOMMS | 1950 – 1960 | 2140 – 2150 | UMTS(WCDMA) | Expiration:2036 |

Note: Expiration date is around 2020 to 2040.

7) China, People's Republic of

| Operator | Frequency Band(MHz) | | Technology | License duration |
|---------------|---------------------|-----------|------------------------|---------------------------|
| | Uplink | Downlink | | |
| China Telecom | 825~835 | 870~880 | CDMA/LTE | Expiration: 2018.12.31 |
| | 1765~1780 | 1860~1875 | LTE | Expiration: 2023.12.31 |
| | 1920~1940 | 2110~2130 | LTE | Expiration: 2018.12.31 |
| | 2635-2655 (TDD) | | TD-LTE | Expiration: 2023.12.31 |
| China Mobile | 889 – 909 | 934 – 954 | GSM900 | Expiration 2019.12.31 |
| | 1710~1735 | 1805~1830 | GSM1800 | Expiration 2019.12.31 |
| | 1880 – 1915(TDD) | | TD-LTE | Expiration: 2023.12.31 |
| | 2010~2025(TDD) | | TD-SCDMA | Expiration: 2018.12.31 |
| | 2320 – 2370 (TDD) | | TD-LTE | Expiration: 2023.12.31 |
| | 2575-2635 (TDD) | | TD-LTE | Expiration: 2023.12.31 |
| China Unicom | 909~915 | 954~960 | GSM900 WCDMA LTE | Expiration 2019.12.31 |
| | 1735~1750 | 1830~1845 | GSM1800 LTE | Expiration 2019.12.31 |
| | 1750~1765 | 1845~1860 | LTE | Expiration: 2023.12.31 |

| | | | | |
|--|-----------------|-----------|--------------|---------------------------|
| | 1940~1955 | 2130~2145 | WCDMA LTE | Expiration: 2018.12.31 |
| | 1955~1965 | 2145~2155 | L2100 | Expiration: 2018.12.31 |
| | 2300-2320 (TDD) | | TD-LTE | Expiration: 2023.12.31 |
| | 2555-2575 (TDD) | | TD-LTE | Expiration: 2023.12.31 |

8) Hong Kong, China

| Operator | Frequency Band (MHz) | | Technology | Licence duration |
|-------------------|----------------------|-----------------|---------------|-------------------|
| | Uplink | Downlink | | |
| Hong Kong Telecom | 825 – 832.5 | 870 – 877.5 | CDMA2000 | Expiration : 2023 |
| | 890 – 897.5 | 935 – 942.5 | GSM900 / UMTS | Expiration : 2021 |
| | 904.1 – 904.9 | 949.1 – 949.9 | GSM900 | Expiration : 2021 |
| | 1713.7 – 1716.9 | 1808.7 – 1811.9 | GSM1800 | Expiration : 2021 |
| | 1718.5 – 1740.1 | 1813.5 – 1835.1 | GSM1800 / LTE | Expiration : 2021 |
| | 1770.1 – 1781.7 | 1865.1 – 1876.7 | GSM1800 / LTE | Expiration : 2021 |
| | 1920.3 – 1949.9 | 2110.3 – 2139.9 | UMTS | Expiration : 2016 |
| | 2535 – 2540 | 2655 – 2660 | LTE | Expiration : 2028 |
| | 2540 – 2555 | 2660 – 2675 | LTE | Expiration : 2024 |
| | | 1904.9 – 1909.9 | | UMTS TDD |
| | 1914.9 – 1919.9 | | UMTS TDD | Expiration : 2016 |
| Hutchison | 885 – 890 | 930 – 935 | UMTS | Expiration : 2026 |
| | 897.5 – 902.3 | 942.5 – 947.3 | UMTS | Expiration : 2020 |
| | 903.1 - 904 | 948.1 – 949 | GSM900 | Expiration : 2020 |
| | 904.9 – 907.5 | 949.9 – 952.5 | GSM900 | Expiration : 2020 |
| | 1710.5 – 1712.1 | 1805.5 – 1807.1 | GSM1800 | Expiration : 2021 |
| | 1760.1 – 1770.1 | 1855.1 – 1865.1 | GSM1800 / LTE | Expiration : 2021 |
| | 1964.9 – 1979.7 | 2154.9 – 2169.7 | UMTS | Expiration : 2016 |
| | 2019.7 – 2024.7 | | UMTS TDD | Expiration : 2016 |
| | 2360 – 2390 | | TD-LTE | Expiration : 2027 |
| China Mobile | 1750.1 – 1760.1 | 1845.1 – 1855.1 | GSM1800 / LTE | Expiration : 2021 |
| | 1781.7 – 1784.9 | 1876.7 – 1879.9 | GSM1800 | Expiration : 2021 |
| | 2530 – 2535 | 2650 – 2655 | LTE | Expiration : 2028 |
| | 2555 – 2570 | 2675 – 2690 | LTE | Expiration : 2024 |
| | | 2330 – 2360 | | TD-LTE |
| SmarTone | 832.5 – 837.5 | 877.5 – 882.5 | UMTS850 | Expiration : 2026 |
| | 902.3 – 903.1 | 947.3 – 948.1 | GSM900 | Expiration : 2021 |
| | 907.5 – 915 | 952.5 – 960 | GSM900 | Expiration : 2021 |
| | 1712.1 – 1713.7 | 1807.1 – 1808.7 | GSM1800 | Expiration : 2021 |
| | 1716.9 – 1718.5 | 1811.9 – 1813.5 | GSM1800 | Expiration : 2021 |
| | 1740.1 – 1750.1 | 1835.1 – 1845.1 | LTE | Expiration : 2021 |
| | 1950.1 – 1964.9 | 2140.1 – 2154.9 | UMTS | Expiration : 2016 |
| | 2520 – 2530 | 2640 – 2650 | LTE | Expiration : 2028 |
| | 1909.9 – 1914.9 | | UMTS TDD | Expiration : 2016 |
| Genius Brand | 2500 – 2515 | 2620 – 2635 | LTE | Expiration : 2024 |
| | 2515 – 2520 | 2635 – 2640 | LTE | Expiration : 2028 |

Note: All licences have a period of validity of 15 years.

9) India, Republic of

| Operator | Frequency Band (MHz) | | | | | | License Duration |
|---------------|----------------------|------------------|--------------|---------------|----------|----------|-----------------------------------|
| | LTE 800 | GSM/UMTS/LTE 900 | GSM/LTE 1800 | UMTS/LTE 2100 | LTE 2300 | LTE 2500 | |
| Aircel Ltd | | Y | Y | Y | | | 20 years from the date of license |
| Bharti | Y | Y | Y | Y | Y | | |
| BSNL/MTNL | | Y | Y | Y | Y | Y | |
| Reliance JIO | Y | Y | Y | Y | Y | | |
| Sistema Shyam | Y | | | | | | |
| VodaIdea | | Y | Y | Y | Y | Y | |

Note: In India, licenses are awarded to mobile operators on service area basis. Please contact Telecom Regulatory Authority of India (TRAI)/Department of Telecommunication (DOT) for detailed information on mobile operator name, assigned frequency band and used technology in a specific service area.

10) Indonesia, Republic of

| Operator | Frequency Band (MHz) | | Technology ³⁾ | License Duration |
|---------------------------|----------------------|---------------------------|---------------------------|---------------------------|
| | Uplink | Downlink | | |
| PT Smart Telecom | 824 – 835 | 869 – 880 | LTE | 2020 – 2030 ²⁾ |
| PT Indosat Tbk | 895 – 907.5 | 940 – 952.5 | GSM 900 / LTE | 2020 – 2030 ²⁾ |
| | 1732.5 – 1742.5 | 1827.5 – 1837.5 | GSM 1800 / LTE | |
| | 1742.5 – 1762.5 | 1837.5 – 1857.5 | / 5G NR | |
| | 1920 – 1925 | 2110 – 2115 | LTE / 5G NR | 2016 – 2026 ²⁾ |
| | 1925 – 1930 | 2115 – 2120 | | 2021 – 2031 ²⁾ |
| | 1930 – 1935 | 2120 – 2125 | | 2018 – 2028 ¹⁾ |
| | 1935 – 1940 | 2125 – 2130 | | 2018 – 2028 ¹⁾ |
| 1940 – 1945 | 2130 – 2135 | 2019 – 2029 ²⁾ | | |
| PT Telekomunikasi Selular | 880 – 895 | 925 – 940 | GSM 900 / LTE | 2020 – 2030 ²⁾ |
| | 1762.5 – 1785 | 1857.5 – 1880 | GSM 1800 / LTE | |
| | 1960 – 1965 | 2150 – 2155 | LTE / 5G NR | 2023 – 2033 ¹⁾ |
| | 1965 – 1970 | 2155 – 2160 | | 2019 – 2029 ²⁾ |
| | 1970 – 1975 | 2160 – 2165 | | 2016 – 2026 ²⁾ |
| | 1975 – 1980 | 2165 – 2170 | | 2023 – 2033 ²⁾ |
| | 2300 – 2350 | | | LTE / 5G NR |
| | | | 2021 – 2031 ¹⁾ | |
| | | | 2022 – 2029 ⁴⁾ | |
| PT XL Axiata Tbk | 907.5 – 915 | 952.5 – 960 | GSM 900 / LTE | 2020 – 2030 ²⁾ |
| | 1710 – 1732.5 | 1805 – 1827.5 | GSM 1800 / LTE | |
| | 1945 – 1950 | 2135 – 2140 | LTE / 5G NR | 2016 – 2026 ²⁾ |
| | 1950 – 1955 | 2140 – 2145 | | 2020 – 2030 ²⁾ |
| | 1955 – 1960 | 2145 – 2150 | | 2021 – 2031 ²⁾ |

| Operator | Frequency Band (MHz) | | Technology ³⁾ | License Duration |
|------------------|----------------------|----------|--------------------------|---------------------------|
| | Uplink | Downlink | | |
| PT Smart Telecom | 2350 – 2390 | | LTE | 2014 – 2024 ¹⁾ |
| | | | | 2021 – 2031 ¹⁾ |
| | | | | 2023 – 2029 ⁴⁾ |

Note 1) : License is granted by bandwidth-based licensed and can be extended for the next period up to 10 years.

Note 2) : License is granted by bandwidth-based licensed and already been extended for the second term of 10 years license. After the license period ended, the band will be evaluated.

Note 3) : Due to Technology Neutrality policy, the technology that mentioned in this Table is a dynamic information which may be changed overtime.

Note 4) : License is granted by bandwidth-based licensed as the result of spectrum transfer. Spectrum transfer doesn't change the end of the license period. After the license period ended, the band will be evaluated.

11) Iran (Islamic Republic of)

| Operator | Frequency Band(MHz) | | Technology | License duration |
|---------------------------------|---------------------|---------------|---------------|-----------------------------------|
| | Uplink | Downlink | | |
| Ritel | 880-890 | 925-935 | UMTS | 15 years |
| | 1748-1760 | 1843-1855 | UMTS, LTE | |
| | 1950-1965 | 2140-2155 | UMTS | |
| | 2525-2540 | 2645-2660 | LTE | |
| MTN | 890 -896.25 | 935-941.25 | GSM/UMTS/ LTE | 15 years |
| | 890-898 | 935-943 | GSM/UMTS/ LTE | |
| | 1760-1785 | 1855-1880 | GSM/LTE | |
| | 1930-1945 | 2110-2135 | UMTS | |
| | 2500-2525 | 2620-2645 | LTE | It is in renewal license process. |
| 3540-3600 | | TD-LTE | | |
| TCI | 896.3-912.5 | 941.3-957.5 | GSM/UMTS | 15 years |
| | 898.1-902.7 | 943.1-947.7 | GSM/UMTS | |
| | 906.7-912.5 | 951.7-957.5 | GSM/UMTS | |
| | 902.7-906.7 | 947.7-951.7 | GSM | |
| | 1712.5.1-1748 | 1817.5-1843 | GSM/ LTE | |
| | 1960-1975 | 2150-2165 | UMTS | |
| | 2540- 2560 | 2660-2680 | LTE | |
| 1880-1900 (TDD) | | WLL DECT | | |
| Kish Telecom | 902.7-906.7 | 947.7-951.7 | GSM | 10 years |
| Farzaneghan pars | 1710.1-1713.1 | 1805.2-1806.8 | PSTN | 5 years |
| Koh noor | 1710.1-1713.1 | 1805.1-1808.1 | GSM as USO | 10 years |
| Zitel(farabord dadehaey Iranin) | 3485-3540 | | TD-LTE | It is in renewal license process. |
| Hiweb | 3500- 3540 | | TD-LTE | It is in renewal license process. |
| | 1920-1930 | 2110-2120 | LTE | 15 years |

| Operator | Frequency Band(MHz) | | Technology | License duration |
|-----------|---------------------|----------|------------|---------------------------|
| | Uplink | Downlink | | |
| Mobin Net | 3400-3460 | | TD-LTE | It is in renewal license. |

12) Japan

| Operator | Frequency Band(MHz) | | Technology | License duration |
|--|------------------------------------|---------------|---|-----------------------|
| | Uplink | Downlink | | |
| NTT DOCOMO, INC. | 728-738 | 783-793 | LTE | Period:5 years (Note) |
| | 830-845 | 875-890 | WCDMA / LTE | |
| | 1447.9-1462.9 | 1495.9-1510.9 | LTE | |
| | 1765-1785 | 1860-1880 | LTE | |
| | 1940-1960 | 2130-2150 | WCDMA / LTE | |
| | 3440-3480(TDD) | | LTE | |
| | 3480-3520(TDD) | | LTE | |
| | 3600-3700(TDD) | | 5G | |
| | 4500-4600(TDD) | | 5G | |
| | 27400-27800(TDD) | | 5G | |
| KDDI CORPORATION/O KINAWA CELLULAR TELEPHONE COMPANY | 718-728 | 773-783 | LTE | Period:5 years (Note) |
| | 815-830 | 860-875 | CDMA2000 / LTE | |
| | 1437.9-1447.9 | 1485.9-1495.9 | LTE | |
| | 1710-1730 | 1805-1825 | LTE | |
| | 1920-1940 | 2110-2130 | CDMA2000 / LTE | |
| | 3520-3560(TDD) | | LTE/ 5G | |
| | 3700-3800(TDD) | | 5G | |
| | 4000-4100(TDD) | | 5G | |
| SoftBank Corp. | 738-748 | 793-803 | LTE / 5G | Period:5 years (Note) |
| | 900-915 | 945-960 | WCDMA / LTE | |
| | 1427.9-1437.9 | 1475.9-1485.9 | LTE | |
| | 1750-1765 | 1845-1860 | LTE/ 5G | |
| | 1884.5-1915.7(TDD) | | PHS | |
| | 1960-1980 | 2150-2170 | WCDMA / LTE | |
| | 3400-3440(TDD) | | LTE/ 5G | |
| | 3560-3600(TDD) | | LTE | |
| | 3900-4000(TDD) | | 5G | |
| | 29100-29500(TDD) | | 5G | |
| RAKUTEN MOBILE | 1730-1750 | 1825-1845 | LTE | Period:5 years (Note) |
| | 3800-3900(TDD) | | 5G | |
| | 27000-27400(TDD) | | 5G | |
| Wireless City Planning Inc. | 2545-2575(TDD) | | AXGP(Advanced eXtended Global Platform) | Period:5 years (Note) |
| UQ Communications Inc. | 2595-2645(TDD) | | WiMAX2+ | |
| Local 5G operators | 4600-4900(TDD) 28200-29100(TDD) | | 5G | |

Note: License is granted to Base Station each and renewed every 5 years. Expiration date of license for each station is different.

13) Korea, Republic of

| Operator | Frequency Band(MHz) | | Technology | License duration |
|------------|---------------------|-------------|---------------------|------------------------|
| | Uplink | Downlink | | |
| SK Telecom | 829-839 | 874-884 | LTE | 2021.7.1 - 2026.6.30 |
| | 1715-1725 | 1810-1820 | LTE | 2021.12.6 - 2026.12.5 |
| | 1730-1735 | 1820-1830 | LTE | 2021.12.6 - 2026.12.5 |
| | 1940-1955 | 2130-2145 | LTE | 2021.12.6 - 2026.12.5 |
| | 1955-1960 | 2145-2150 | UMTS(WCDMA) 2100 | 2021.12.6 - 2026.12.5 |
| | 2500-2520 | 2620-2640 | LTE | 2016.8.4 - 2026.12.31 |
| | 2540-2550 | 2660-2670 | LTE | 2016.8.4 - 2026.12.31 |
| | 3600-3700(TDD) | | 5G NR | 2018.12.1 - 2028.11.30 |
| | 28100-28900(TDD) | | 5G NR | 2018.12.1 - 2023.11.30 |
| KT | 904.3-914.3 | 949.3-959.3 | LTE | 2021.7.1 - 2026.6.30 |
| | 1735-1740 | 1830-1840 | LTE | 2021.7.1 - 2026.6.30 |
| | 1745-1755 | 1840-1850 | LTE | 2021.7.1 - 2026.6.30 |
| | 1755-1765 | 1850-1860 | LTE | 2016.8.4 - 2026.12.31 |
| | 1960-1975 | 2150-2165 | LTE | 2021.12.6 - 2026.12.5 |
| | 1975-1980 | 2165-2170 | UMTS(WCDMA) 2100 | 2016.12.4 - 2021.12.5 |
| | 3500-3600(TDD) | | 5G NR | 2018.12.1 - 2028.11.30 |
| | 26500-27300(TDD) | | 5G NR | 2018.12.1 - 2023.11.30 |
| LG Uplus | 839-849 | 884-894 | LTE | 2021.7.1 - 2026.6.30 |
| | 1920-1940 | 2110-2130 | LTE | 2021.12.6 - 2026.12.5 |
| | 2520-2540 | 2640-2660 | LTE | 2013.12.4 - 2026.12.3 |
| | 3400-3500(TDD) | | 5G NR | 2018.12.1 - 2028.11.30 |
| | 27300-28100(TDD) | | 5G NR | 2018.12.1 - 2023.11.30 |

14) Lao, PDR

| Operator | Frequency Band (MHz) | | Technology | License Duration |
|--|----------------------|---------------|-------------|------------------|
| | Uplink | Downlink | | |
| Lao Telecommunication Public Company (LTC) | 880 - 885 | 925 - 930 | UMTS 900 | Renew annually |
| | 902.6 - 907.6 | 947.6 - 952.6 | LTE 900 | Renew annually |
| | 907.6 - 912.6 | 952.6 - 957.6 | UMTS 900 | Renew annually |
| | 912.6 - 915 | 957.6 - 960 | GSM 900 | Renew annually |
| | 1755 - 1785 | 1850 - 1880 | LTE 1800 | Renew annually |
| | 1920 - 1930 | 2110 - 2120 | LTE 2100 | Renew annually |
| | 1930 - 1945 | 2120 - 2135 | UMTS 2100 | Renew annually |
| | 2300 - 2330 | | TD-LTE 2300 | Renew annually |
| | 2500 - 2525 | 2620 - 2645 | LTE 2600 | Renew annually |
| ETL Company Limited (ETL) | 890.2 - 896.2 | 935.2 - 941.2 | P-GSM 900 | Renew annually |
| | 1740 - 1755 | 1835 - 1850 | LTE 1800 | Renew annually |
| | 1970 - 1980 | 2160 - 2170 | UMTS 2100 | Renew annually |
| | 2550 - 2570 | 2670 - 2690 | LTE 2600 | Renew annually |
| | 890.2 - 896.2 | 935.2 - 941.2 | P-GSM 900 | Renew annually |

| Operator | Frequency Band (MHz) | | Technology | License Duration |
|-----------------------------|----------------------|---------------|-------------|------------------|
| | Uplink | Downlink | | |
| Star Telecom CO., LTD (STL) | 824 - 827.69 | 869 - 872.69 | LTE 850 | Renew annually |
| | 827.69 - 834 | 872.69 - 879 | LTE 850 | Renew annually |
| | 896.4 - 902.4 | 941.4 - 947.4 | P-GSM 900 | Renew annually |
| | 1710-1715 | 1805-1810 | GSM 1800 | Renew annually |
| | 1715-1725 | 1810-1820 | LTE 1800 | Renew annually |
| | 1725-1740 | 1820-1835 | LTE 1800 | Renew annually |
| | 1945-1960 | 2135-2150 | UMTS 2100 | Renew annually |
| | 1960-1970 | 2150-2160 | UMTS 2100 | Renew annually |
| | 2360-2390 | | TD-LTE 2300 | Renew annually |
| | 2525 - 2550 | 2645 - 2670 | LTE 2600 | Renew annually |

15) Macao, China

| Operator | Frequency Band (MHz) | | Technology | License Duration (Note 1) |
|---|----------------------|-----------------|-------------------|--|
| | Uplink | Downlink | | |
| China Telecom (Macau) Company Limited | 825.485-826.735 | 870.485-871.735 | CDMA800 | Period:8 years June 2007-June 2015 |
| | 832.865-834.115 | 877.865-879.115 | | |
| Smartone - Mobile Communications (Macau), Limited | 891.5-899.1 | 936.5-944.1 | GSM900 | Period:8+2 years (Note 2) July 2002-July 2012 |
| | 1723.9-1734.1 | 1818.9-1829.1 | GSM1800 | |
| Macao Telecommunications Company Limited | 899.3-906.9 | 944.3-951.9 | GSM900 | Period:8+2 years (Note 2) July 2002-July 2012 |
| | 1734.9-1750.1 | 1829.9-1845.1 | GSM1800 | |
| | 1970.1-1975.1 | 2160.1-2165.1 | UMTS (WCDMA) 2100 | Period:8 years June 2007-June 2015 |
| Hutchison Telephone (Macau) Company Limited | 907.3-914.9 | 952.3-959.9 | GSM900 | Period:8+2 years (Note 2) July 2002-July 2012 |
| | 1769.7-1784.9 | 1864.7-1879.9 | GSM1800 | |
| | 1950.1-1955.1 | 2140.1-2145.1 | UMTS (WCDMA) 2100 | Period:8 years June 2007-June 2015 |

Note 1:Licensing arrangement may be made at an appropriate time before the expiration of the license.

Note 2:According to the 3G licensing conditions, if the 3G licensee possesses a 2G license, the 2G license will be renewed for a period of no more than two years. Therefore, the 2G licenses of Macau Telecommunications Company Limited (CTM), Hutchison and Smartone have been renewed and the license durations have been extended to year 2012.

16) Malaysia

| Operator | Frequency Band(MHz) | | Technology | License duration |
|----------|---------------------|----------|------------|------------------|
| | Uplink | Downlink | | |

| | | | | |
|--|---------------------------------|---------------|--------------------------------|--------------------|
| Telekom Malaysia Berhad | 452.0-456.475 | 462.0-466.475 | CDMA450 | Annual basis* |
| | 824-829 | 869-874 | LTE | Annual basis* |
| Maxis Broadband Sdn Bhd | 905-915 | 950-960 | GSM900 / UMTS(WCDMA)900 / LTE | Until 30 June 2032 |
| | 1710-1730 | 1805-1825 | GSM1800 / LTE | Until 30 June 2032 |
| | 1935-1950 | 2125-2140 | UMTS(WCDMA)2100 | Until 1 April 2034 |
| | 2015-2020 (TDD) | | | |
| | 2510-2520 | 2630-2640 | LTE | Annual basis* |
| Celcom Mobile Sdn Bhd | 1745-1765 | 1840-1860 | GSM1800 / LTE | Until 30 June 2032 |
| Celcom Axiata Berhad | 890-900 | 935-945 | GSM900 / UMTS(WCDMA)900) / LTE | Until 30 June 2032 |
| | 1950-1965 | 2140-2155 | UMTS(WCDMA)2100 | Until 1 April 2034 |
| | 2020-2025 (TDD) | | | |
| | 2530-2540 | 2650-2660 | LTE | Annual basis* |
| Digi Telecommunications Sdn Bhd | 885-890 | 930-935 | GSM900 / LTE | Until 30 June 2032 |
| | 1765-1785 | 1860-1880 | GSM1800 / LTE | Until 30 June 2032 |
| | 1965-1980 | 2155-2170 | UMTS(WCDMA)2100 | Until 1 April 2034 |
| | 2010-2015 (TDD) | | | |
| | 2560-2570 | 2680-2690 | LTE | Annual basis* |
| U Mobile Sdn Bhd | 900-905 | 945-950 | UMTS(WCDMA)900 | Until 30 June 2032 |
| | 1730-1745 | 1825-1840 | LTE | Until 30 June 2032 |
| | 1920-1935 | 2110-2125 | UMTS(WCDMA)2100 | Until 1 March 2027 |
| | 1915-1920(TDD) | | | |
| | 2520-2530 | 2640-2650 | LTE | Annual basis* |
| Asiaspace Broadband Sdn Bhd | 2300-2330 (TDD) (West Malaysia) | | WiMAX / LTE | Annual basis* |
| SEA Telco Engineering Services Sdn Bhd | 2300-2330 (TDD) (East Malaysia) | | WiMAX / LTE | Annual basis* |
| Redtone Engineering & Network Services Sdn Bhd | 2500-2510 | 2620-2630 | LTE | Annual basis* |
| YTL Communications Sdn Bhd | 2330-2360 (TDD) | | WiMAX / LTE | Annual basis* |
| | 2595-2615 (TDD) | | LTE | Annual basis* |
| Webe Digital Sdn Bhd | 2360-2390 (TDD) | | WiMAX / LTE | Annual basis* |
| | 2575-2595 (TDD) | | LTE | Annual basis* |
| Altel Communications Sdn Bhd | 2540-2560 | 2660-2680 | LTE | Annual basis* |

Note *: Approval is given on annual basis based on Apparatus Assignment.

17) Marshall Islands, Republic of

| Operator | Frequency Band(MHz) | | Technology | License duration |
|--|---------------------|-----------------|------------------------------|------------------|
| | Uplink | Downlink | | |
| Marshall Islands National Telecommunications Authority (MINTA) | 890.10-898.28 | 935.10-943.28 | 2G GSM | Indefinite |
| | 1710.30-1735.01 | 1805.30-1830.01 | 900 MHz / 1800 MHz/ 1900 MHz | |
| | 1850.30-1870.01 | 1930.30-1950.01 | | |
| | 890.10-898.28 | 935.10-943.28 | 3G GSM, HSPA+ | Indefinite |
| | 1710.30-1735.01 | 1805.30-1830.01 | 900 MHz / 1800 MHz/ 2100 MHz | |
| | 2110.10-2114.11 | 2142.60-2146.61 | | |
| | 703-748 | 758-803 | 4G GSM LTE | Indefinite |
| | 1710.30-1735.01 | 1805.30-1830.01 | 700 MHz / 1800 MHz/ 2100 MHz | |
| 2110.10-2114.11 | 2142.60-2146.61 | | | |

18) Micronesia, The Federated States of

| Operator | Frequency Band(MHz) | | Technology | License duration |
|-------------------------|---------------------|-----------|--------------------------|--|
| | Uplink | Downlink | | |
| FSM Telecom Corporation | 880 - 892 | 925 - 937 | 900 Extended GSM (2G/3G) | Individual license (with own network):20 years |
| | 1710-1733 | 1804-1833 | 1800 DCS (LTE) | |
| | 703-718 | 758-773 | 700 APT (LTE) | |

19) Mongolia

| Operator | Frequency Band(MHz) | | Technology | License duration |
|----------|---------------------|-------------|--------------|------------------|
| | Uplink | Downlink | | |
| Mobicom | 733-748 | 788-803 | LTE700 | Expiration: 2031 |
| | 890.0-902.5 | 935.0-947.5 | GSM 900 | Expiration:2030 |
| | 890-895 | 935-940 | 3G/WCDMA | Expiration:2029 |
| | 1920-1930 | 2110-2120 | 3G/WCDMA | Expiration:2030 |
| | 1970-1980 | 2160-2170 | 3G/WCDMA | Expiration:2032 |
| | 1735-1755 | 1830-1850 | LTE | Expiration:2031 |
| | 1920-1925 | 2110-2115 | 3G/WCDMA | Expiration:2033 |
| | 1925-1930 | 2115-2120 | LTE | Expiration:2033 |
| Skytel | 2500-2520 | 2620-2640 | LTE2500/2600 | Expiration:2026 |
| | 811-821 | 852-862 | LTE | Expiration:2027 |
| | 824-831 | 869-876 | CDMA 800 | Expiration:2034 |
| | 831-841 | 876-886 | 3G/WCDMA | Expiration:2028 |
| | 1945-1955 | 2135-2145 | 3G/WCDMA | Expiration:2033 |
| | 1755-1770 | 1850-1865 | LTE | Expiration:2027 |
| | 1955-1960 | 2145-2150 | LTE | Expiration:2029 |
| Unitel | 2520-2540 | 2640-2660 | LTE2500/2600 | Expiration:2028 |
| | 723-733 | 778-788 | LTE700 | Expiration:2031 |
| | 902.6-909.8 | 947.6-954.8 | GSM 900 | Expiration:2025 |
| | 1710-1725 | 1805-1820 | GSM 1800 | Expiration:2025 |
| | 909.8-914.8 | 954.8-959.8 | 3G/WCDMA | Expiration:2027 |
| | 1930-1935 | 2120-2125 | 3G/WCDMA | Expiration:2033 |

| | | | | |
|--------------------|-----------------|-----------|--------------------------------|-----------------|
| | 1935-1945 | 2125-2135 | 3G/WCDMA | Expiration:2033 |
| | 1725-1735 | 1820-1830 | LTE | Expiration:2031 |
| | 1780-1785 | 1875-1880 | LTE | Expiration:2031 |
| | 2340-2390 | | TD-LTE | Expiration:2027 |
| | 2555-2570 | 2675-2690 | LTE2500/2600 | Expiration:2029 |
| G-Mobile | 453-457.5 | 463-467.5 | CDMA 450 | Expiration:2021 |
| | 713-723 | 768-778 | LTE700 | Expiration:2031 |
| | 1885-1890 | 1960-1970 | 3G/WCDMA | Expiration:2033 |
| | 2150-2160 (TDD) | | 3G/WCDMA | |
| | 1770-1780 | 1865-1875 | LTE | Expiration:2031 |
| En Bi Ci | 3400-3480 (TDD) | | BWA systems (Mobile WiMAX/LTE) | Expiration:2031 |
| IN Mobile networks | 2300-2340 (TDD) | | TD-LTE | Expiration:2031 |
| MTC | 2540-2555 | 2660-2675 | LTE2500/2600 | Expiration:2029 |

20) Myanmar, The Republic of the Union of

| Operator | Frequency Band(MHz) | | Technology | License duration |
|---------------------------------------|---------------------|---------------|--------------------------|------------------|
| | Uplink | Downlink | | |
| Myanma Posts and Telecommunications | 453.35-457.10 | 463.35-467.10 | Technology Neutral | 15 Years |
| | 825-827.5 | 870-872.5 | Technology Neutral | 15 Years |
| | 828.75-832.50 | 873.75-877.5 | | |
| | 905-915 | 950-960 | Technology Neutral | 15 Years |
| | 1730-1750 | 1825-1845 | Technology Neutral | 12 Years |
| | 1935-1950 | 2125-2140 | Technology Neutral | 15 Years |
| Telenor Myanmar Limited | 887.8-890 | 932.8-935 | Technology Neutral | 5 Years |
| | 895-900 | 940-945 | Technology Neutral | 15 Years |
| | 1710-1730 | 1805-1825 | Technology Neutral | 12 Years |
| | 1965-1980 | 2155-2170 | Technology Neutral | 15 Years |
| Ooredoo Myanmar Limited | 885.6-887.8 | 930.6-932.8 | Technology Neutral | 5 Years |
| | 890-895 | 935-940 | Technology Neutral | 15 Years |
| | 1765-1785 | 1860-1880 | Technology Neutral | 12 Years |
| Telecom International Myanmar Co.,Ltd | 1950-1965 | 2140-2155 | Technology Neutral | 15 Years |
| | 882.8-885.6 | 927.8-930.6 | Technology Neutral | 5 Years |
| | 900-905 | 945-950 | Technology Neutral | 15 Years |
| | 1750-1765 | 1845-1860 | Technology Neutral | 12 Years |
| Amara Communications Co.,Ltd | 1920-1935 | 2110-2125 | Technology Neutral | 15 Years |
| | 2575-2595 | 2595-2615 | BWA(TDD) (Regionwide) | 13 Years |
| Fortune Telecom Co.,Ltd | 2575-2595 | | BWA(TDD) (Regionwide) | 13 Years |
| Global Technology Co.,Ltd | 2595-2615 | | BWA(TDD) (Regionwide) | 13 Years |

21) Nepal, Federal Democratic Republic of

| Operator | Frequency Band(MHz) | | Technology | License duration |
|---|---------------------|---------------|---------------------|-------------------|
| | Uplink | Downlink | | |
| Nepal Doorsanchar Company Limited (Nepal Telecom) | 827 – 833 | 872 – 878 | CDMA 2000-1x EV-DO | Refer Note below. |
| | 890 – 899.6 | 935 – 944.6 | GSM 900 | |
| | 1710 – 1725 | 1805 – 1820 | GSM 1800/ LTE 1800 | |
| | 1970 – 1980 | 2160 – 2170 | WCDMA(3G) | |
| | 2300 – 2330 | | WiMAX / LTE | |
| United Telecom Limited | 824 – 827 | 869 – 872 | CDMA 2000-1x EV-DO | |
| | 880 – 885 | 925 - 930 | GSM 900 | |
| | 1773 –1785 | 1868 – 1880 | GSM 1800 | |
| Ncell Private Limited | 902.6 – 910.6 | 947.6 – 955.6 | GSM 900 / UMTS 900 | |
| | 1732 – 1743 | 1827 – 1838 | GSM 1800 / LTE 1800 | |
| | 1960 – 1970 | 2150 – 2160 | 3G/WCDMA | |
| Nepal Satellite Telecom Pvt. Ltd. | 910.6 – 915 | 955.6 – 960 | GSM 900 | |
| | 1744 – 1753 | 1839 – 1848 | GSM 1800 | |
| Smart Telecom Pvt. Ltd. | 885 – 887 | 930 – 932 | GSM 900 | |
| | 899.6 – 902.6 | 944.6 – 947.6 | GSM 900 | |
| | 1753 – 1765 | 1848 - 1860 | GSM 1800/LTE 1800 | |

Note 1: No separate frequency license is awarded to the operators. The frequencies were assigned to the operators as a part of the Service License to provide the telecommunication services (Mobile, Basic Telephony Service, Limited Mobility, Basic Telecommunication Service).

Note 2: The bandwidths were assigned to the operators based on the number of subscribers and other additional criteria in the past whereas the New Frequency Policy, 2012 has adopted the principle of auction for frequency assignment. However, yet frequency remains to be assigned based on auction process.

Note 3: Operators have to pay frequency fee to the Government as per the frequency policy and decision of the Radio Frequency Policy Determination Committee (RFPDC).

Note 4: The bandwidth assigned to the operators can be revoked if frequency fee is not paid within the stipulated time.

Note 5: As per the spectrum policy 2017, spectrum will be assigned through auction and the spectrum will be technology neutral. The existing spectrum assignment will be made technology neutral upon approval from Nepal Telecommunications Authority.

22) New Zealand

| Operator | Frequency Band(MHz) | | Technology | License duration |
|--------------------------|---------------------|-----------|--------------------|--|
| | Uplink | Downlink | | |
| Vodafone New Zealand Ltd | 723-738 | 778-793 | LTE | Period: 18 years Expiration: 2031 (Note 1) |
| | 899.8-915 | 944.8-960 | GSM 900 / UMTS 900 | Period: 20 years Expiration: 2031 |
| | 1760-1785 | 1855-1880 | LTE | Period: 20 years Expiration: 2041 |

| | | | | |
|--|---------------------------------|------------------|--------------------|--|
| | 1920-1940 | 2110-2130 | UMTS 2100 / LTE | Period: 20 years Expiration: 2041 |
| | 2555-2570 | 2675-2690 | LTE | Period: 20 years Expiration: 2028 |
| | 3424-3466 & 3487 -3497 (TDD) | | NR | Period: 2 years Expiration: 2022 |
| Spark NZ | 703-723 | 758-778 | LTE | Period: 18 years Expiration: 2031 (Note 1) |
| | 825-840 | 870-885 | UMTS 850/LTE | Period: 20 years Expiration: 2031 |
| | 1740-1760 | 1835-1855 | LTE | Period: 20 years Expiration: 2041 |
| | 1940 -1955 | 2130-2145 | UMTS 2100/LTE | Period: 20 years Expiration: 2041 |
| | 2305-2370 (TDD) | | LTE | Period: 20 years Expiration: 2030 |
| | <u>2535-2555</u> | <u>2655-2675</u> | LTE | Period: 20 years Expiration: 2028 |
| | 3630 – 3690 (TDD) | | NR | Period: 2 years Expiration: 2022 |
| Two Degrees Mobile Ltd | 738-748 | 793-803 | LTE | Period: 18 years Expiration: 2031 (Note 1) |
| | 890-899.8 | 935-944.8 | UMTS 900 / LTE | Period: variable Expiration:2031 (Note 1) |
| | 1710-1730 | 1805-1825 | LTE | Period: 20 years Expiration: 2041 |
| | 1955-1970 | 2145-2160 | UMTS 2100/LTE | Period: 20 years Expiration: 2041 |
| Reserved (Note 2) | 1730 – 1740 | 1825 – 1835 | LTE | Period: 20 years Expiration: 2041 |
| Reserved (Note 3) | 1970 – 1980 | 2160 - 2170 | LTE | See Note 3 |
| Reserved (Note 4) | 2370-2395 (TDD) | | Planned for BWA | Period: 20 years Expiration: 2030 |
| Managed Spectrum Park (Note 5) | 2575-2620 (TDD) | | BWA | Period: 20 years Expiration: 2028 |
| Cayman | 2500-2535 | 2620-2655 | LTE or BWA | Period: 20 years Expiration: 2028 |
| Regional Broadband Wireless Access (Note 6) | 3410-3424 | 3510-3524 | BWA | Period: 20 years Expiration: 2022 |
| New Zealand Government (Note 7) | 3424-3434 | 3524-3534 | BWA | Period: 20 years Expiration: 2022 |
| Kordia | 3466-3487 | 3566-3587 | BWA | Period: 20 years Expiration: 2022 |

Note 1: The choice of any licence duration different to the conventional 20-year period is due to the alignment of a common licence expiry date for all IMT frequency bands below 1 GHz.

Note 2: The spectrum in 1 730 – 1 740 MHz and 1 825 – 1 835 MHz is reserved currently, waiting New Zealand government decisions.

Note 3: The spectrum in 1 970 – 1 980 MHz and 2 160 – 2 170 MHz is currently waiting New Zealand government decisions.

~~Note 4: The spectrum in 2 370-2 395 MHz is currently reserved by the New Zealand government for possible future reallocation and it is planned for BWA.~~

Note 5: The Managed Spectrum Park is facilitated by a nationwide spectrum access open to local and regional BWA services subject to self-managed coordination or sharing.

Note 6: This band is configured for FDD WiMAX services, for local and regional BWA services.

Note 7: After a short term reallocation process in 2020, Connecta’s rights are managed by the New Zealand government, with Connecta having exclusively in this 10 MHz paired of spectrum until the expiry of rights in the band in 2022.

23) Palau

| Operator | Frequency Band(MHz) | | Technology | License duration |
|---|---------------------|-----------|------------|------------------------|
| | Uplink | Downlink | | |
| Palau National Communications Corporation | 890-915 | 935-960 | GSM 900 | Not subject to license |
| Palau Mobile Corporation | 1710-1715 | 1805-1810 | GSM 1800 | 5 years |

24) Papua New Guinea

| Operator | Frequency Band(MHz) | | Technology | License duration |
|---|---------------------|-------------|-------------|---|
| | Uplink | Downlink | | |
| Digicel | 718 - 733 | 773 - 788 | 4G LTE | Period:10 years Expiration:2024 |
| | 880 – 894 | 925 – 939 | GSM 900 | Period:10 years Expiration:2027 |
| | 894 - 899 | 939 - 944 | 3G (UMTS) | Period:10 years Expiration: 2027 |
| | 1710 – 1720 | 1805 – 1816 | GSM1800 | Period:10 years Expiration: 2027 |
| | 1721 - 1740 | 1816 - 1835 | 4G LTE | Period:10 years Expiration: 2027 |
| Kumul Telikom Holdings Limited (KTHL) Bemobile | 903 – 908 | 948 – 953 | 3G (WCDMA) | Period:10 years Expiration: 2027 |
| | 908 - 915 | 953 - 960 | GSM 900 | Period:10 years Expiration: 2027 |
| | 1940 – 1950 | 2130 – 2140 | UMTS | Period: 10 years Expiration: 2027 |
| Kumul Telikom Holdings Limited (KTHL) Telikom PNG | 733 - 748 | 788 - 803 | 4G LTE | Period:10 years Expiration:2024 |
| | 824 – 835 | 869 – 880 | 3G | Period:10 years Expiration: 2027 |
| | 1760 - 1785 | 1855 - 1880 | 4G LTE | Period:10 years Expiration:2024 |
| | 2330 – 2360 | | BWA (Wimax) | Period:10 years Expiration: 2019 (pending review) |

| | | | | |
|--------------------------------------|-------------|-------------|--------------|---|
| | 3400 – 3500 | | BWA (Wimax) | Period:10 years Expiration: 2019 (pending review) |
| PNG Government (Note) | | | | |
| Digitec Communications Limited | 703 -718 | 758 - 773 | 4G LTE | Period:10 years Expiration: 2028 |
| | 1960 -1980 | 2150 - 2170 | IMT Advanced | Period:10 years Expiration: 2028 |

25) Philippines

| Operator | Frequency Band(MHz) | | Technology | License duration |
|---|--|--|-------------------------|---|
| | Uplink | Downlink | | |
| TEXTRON CORP . GLOBE | 450-460 | 460-470 | CDMA 450 | Renewable for a maximum period of three years. |
| SMART | 825-835 | 870-880 | UMTS (WCDMA) 800 | |
| EXTELCOM | 835-845 | 880-890 | UMTS (WCDMA) 800 | |
| EXTELCOM | 880-890 | 925-935 | EGSM | |
| GLOBE | 890-897.5 905-915 | 935-942.5 950-960 | GSM 900 | |
| SMART | 897.5-905 | 942.5-950 | GSM 900 | |
| BELLTEL | 1710-1720 | 1805-1815 | GSM 1800 | |
| EXTELCOM | 1720-1725 | 1815-1820 | GSM 1800 | |
| SMART | 1725-1732.5 1735-1740 1745-1750 1780-1782.5 | 1820-1827.5 1830-1835 1840-1845 1875-1877.5 | GSM 1800 | |
| DIGITEL | 1760-1775 1782.5-1785 | 1855-1870 1877.5-1880 | GSM 1800 | |
| GLOBE | 1732.5-1735 1740-1745 1775-1780 | 1827.5-1830 1835-1840 1870-1875 | GSM 1800 | |
| BAYANTEL | 1750-1760 | 1845-1855 | GSM 1800 | |
| SMART | 1920-1935 | 2110-2125 | UMTS (WCDMA) 2100 | |
| DIGITEL | 1935-1945 | 2125-2135 | UMTS (WCDMA) 2100 | |
| GLOBE | 1945-1955 | 2135-2145 | UMTS (WCDMA) 2100 | |
| BAYANTEL | 1900.625-19 03.125 | 1980.625-19 83.125 | CDMA 2000 | |
| MULTIMEDIA TELEPHONY INC./BROADBAND PHILS. | 1903.125-19 04.375 1905.625-19 06.875 | 1983.125-19 04.375 1985.625-19 86.875 | CDMA 2000 | |

| | | | | |
|------------------|-------------------|-------------------|-----------|--|
| DIGITEL | 1906.875-1909.375 | 1986.875-1989.375 | CDMA 2000 | |
| eTELCO | 2300-2330 | TDD | WIMAX | |
| PRIMEWORLD/SMART | 2332.5-2362.5 | TDD | WIMAX | |
| EXTELCOM | 2365-2395 | TDD | WIMAX | |
| INNOVE/GLOBE | 2500-2515 | TDD | WIMAX | |
| BAYANTEL | 2515-2520 | TDD | WIMAX | |
| DIGITEL | 2520-2535 | TDD | WIMAX | |
| eTELCO | 2535-2550 | TDD | WIMAX | |
| WI-TRIBE (LBNI) | 2555-2595 | TDD | WIMAX | |
| BELLTEL | 2629-2669 | TDD | WIMAX | |
| SMART BROADBAND | 2670-2690 | TDD | WIMAX | |
| TNRI TELECOMS | 10154-10182 | 10504-10532 | WIMAX | |

26) Singapore

| Operator | Frequency Band(MHz) | | Technology | License Duration | Coverage |
|-----------------|---------------------|-----------------|----------------|-------------------------|-------------|
| | Uplink | Downlink | | | |
| M1 | 890 – 895 | 935 – 940 | WCDMA / NB-IoT | valid till 30 Jun 2033 | Nation Wide |
| | 1765 – 1785 | 1860 – 1880 | LTE | valid till 30 Jun 2030 | |
| | 2520 – 2540 | 2640 – 2660 | | | |
| | 1950.1 – 1969.9 | 2140.1 – 2159.9 | WCDMA | valid till 31 Dec 2021 | |
| 1904.9 – 1909.9 | | Non-IMT | | | |
| StarHub Mobile | 882 – 887 | 927 – 932 | HSPA | valid till 30 June 2033 | Nation Wide |
| | 2580 – 2600 | | LTE | | |
| | 1740 – 1765 | 1835 – 1860 | LTE | valid till 30 June 2030 | |
| | 2500 – 2520 | 2620 – 2640 | LTE | | |
| | 1920 – 1935.1 | 2110.3 – 2125.1 | HSPA | valid till 31 Dec 2021 | |
| | 1974.9 – 1979.7 | 2164.9 – 2169.7 | HSPA/LTE | | |
| 1914.9 – 1920 | | Non-IMT | | | |
| Singtel Mobile | 905 – 915 | 950 – 960 | WCDMA / LTE | valid till 30 June 2033 | Nation Wide |
| | 2600 – 2615 | | LTE | | |
| | 1710 – 1740 | 1805 – 1835 | LTE | valid till 30 June 2030 | |
| | 2540 – 2560 | 2660 – 2680 | | | |
| | 1935.1 – 1950.1 | 2125.1 – 2140.1 | WCDMA | valid till 31 Dec 2021 | |
| | 1969.9 – 1974.9 | 2159.9 – 2164.9 | | | |
| 1909.9 – 1914.9 | | Non-IMT | | | |
| TPG | 895 – 905 | 940 – 950 | LTE | valid till 30 June 2033 | Nation Wide |
| | 2300 – 2340 | | | | |
| | 2570 – 2580 | | | | |

27) Thailand

| Operator | Frequency Band (MHz) | | Technology | License Duration |
|----------|----------------------|----------|------------|------------------|
| | Uplink | Downlink | | |
| NT | 738-748 | 793-803 | TBD | TBD |
| | 824-839 | 869-884 | HSPA850 | August 2025 |

| Operator | Frequency Band (MHz) | | Technology | License |
|----------|----------------------|-----------|-------------------------|---------------------|
| | | | | Duration |
| | 1965-1980 | 2155-2170 | HSPA2100 | August 2025 |
| | 2310-2370 | | TD-LTE2300 | August 2025 |
| | 26400-26800 | | NR26000 | November 2035 |
| DTN | 713-723 | 768-778 | LTE700/NR700 | December 2035 |
| | 839-844 | 884-889 | HSPA850 | Up to December 2021 |
| | 890-895 | 935-940 | HSPA900/LTE900 | December 2033 |
| | 1745-1750 | 1840-1845 | GSM1800/LTE1800 | September 2033 |
| | 1920-1935 | 2110-2125 | HSPA2100/LTE2100 | December 2027 |
| | 26800-27000 | | NR26000 | February 2035 |
| AWN | 723-733 | 778-788 | LTE700/NR700 | January 2036 |
| | 733-738 | 788-793 | TBD | TBD |
| | 895-905 | 940-950 | GSM900/WCDMA900 /LTE900 | June 2031 |
| | 1725-1740 | 1820-1835 | LTE1800 | September 2033 |
| | 1740-1745 | 1835-1840 | GSM1800/LTE1800 | September 2033 |
| | 1950-1965 | 2140-2155 | HSPA2100/LTE2100 | December 2027 |
| | 2500-2600 | | TD-LTE2600/NR2600 | February 2035 |
| | 25200-26400 | | NR26000 | TBD |
| TUC | 703-713 | 758-768 | LTE700/NR700 | December 2035 |
| | 905-915 | 950-960 | GSM900/LTE900 | June 2031 |
| | 1710-1725 | 1805-1820 | GSM1800/LTE1800 | September 2033 |
| | 1935-1950 | 2125-2140 | HSPA2100/LTE2100 | December 2027 |
| | 2600-2690 | | TD-LTE2600/NR2600 | March 2035 |
| | 24300-25100 | | NR26000 | TBD |

Note: TOT and CAT Telecom have merged into the National Telecom Public Company Limited (NT) since 7 January 2021.

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| Operator | Frequency Band(MHz) | | Technology | License duration |
|------------|---------------------|---------------|--|------------------------------------|
| | Uplink | Downlink | | |
| HTC | 880 - 890 | 925 – 935 | eGSM900/ W-CDMA/ LTE/ LTE-Advance | Period:15 years Expiration:2023 |
| GPC – VNPT | 890.1 – 898.5 | 935.1 – 943.5 | GSM900/ W-CDMA | Period:15 years Expiration:2024 |
| | 1710 – 1730 | 1805 – 1825 | GSM1800/ LTE/ LTE-Advance d | Period:15 years Expiration:2024 |
| | 1965 – 1980 | 2155 – 2170 | W-CDMA | Period:15 years Expiration:2024 |
| Viettel | 898.5 – 906.7 | 943.5 – 951.7 | GSM900/ W-CDMA/ LTE/ LTE-Advance | Period:15 years Expiration:2024 |
| | 1750 – 1770 | 1845 – 1865 | GSM1800/ LTE/ LTE-Advance | Period:15 years Expiration:2024 |

| Operator | Frequency Band(MHz) | | Technology | License duration |
|------------------------------|---------------------|---------------|----------------------------------|------------------------------------|
| | Uplink | Downlink | | |
| | 1935 – 1950 | 2125 – 2140 | CDMA/ LTE/ LTE-Advanced | Period:15 years Expiration:2024 |
| VMS | 906.7 – 914.9 | 951.7 – 959.9 | GSM900/ W-CDMA | Period:15 years Expiration:2024 |
| | 1730 – 1750 | 1825 – 1845 | GSM1800/ LTE/ LTE-Advanced | Period:15 years Expiration:2024 |
| | 1920 – 1935 | 2110 – 2125 | W-CDMA | Period:15 years Expiration:2024 |
| GTel Mobile | 1770 – 1785 | 1865 – 1880 | GSM1800 | Period:15 years Expiration:2023 |
| Viettel ⁽¹⁾ & HTC | 1950 – 1965 | 2140 – 2155 | W-CDMA/ LTE/ LTE-Advanced | Period:15 years Expiration:2024 |

Note 1: EVN Telecom was merged with Viettel from 1/1/2012