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Australia

**response to questionnaire ON regulatory information for implementation IMT network in Asia-Pacific Region**

**Question 1:**

**Institution/Company Information and Profile**

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My institution is (please choose) : Regulator

**Question 2:**

Which IMT technology being use and will be used or technology neutral in these bands?

Please fill in the frequency bands used for IMT and specify which IMT technology (e.g. WCDMA, HSPA, LTE, LTE-A, TDD-LTE, 3GPP Release 10, …) being used, if not IMT please answer “non-IMT”.

In Australia, the ACMA adopts a technology flexible approach for the regulatory arrangements in IMT bands.

In the table below, the IMT technology indicated is a guide only to the technology that operators currently have deployed or are most likely to deploy. The operators can use any technology that meets the individual band’s technical requirements and may change the deployed technology at their discretion.

Channel Bandwidths cannot be provided given the technology flexible regulations. Again, it is completely at the discretion of the operator and may change based on the operator’s needs.

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| **Frequency band**  **(MHz)** | **Frequency Block (MHz)** | | **Operator** | **IMT Technology** | **Channel bandwidth (MHz)** |
| **Uplink** | **Downlink** |
| 703 – 748 / 758 – 803 | 703 – 713 | 758 – 768 | Optus | LTE |  |
| 713 - 733 | 768 - 788 | Telstra | LTE |  |
| 733 - 738 | 788 - 793 | Vodafone | LTE |  |
| 738 - 748 | 793 - 803 | TPG | LTE |  |
| 825 - 845/ 870 - 890 | 825-835 | 870 - 880 | Vodafone | HSPA/ LTE |  |
| 835-840 | 880 - 890 | Telstra | HSPA/ LTE |  |
| 890 – 915 / 935 – 960 | 890 – 898.4 | 935 – 943.4 | Telstra | No deployment |  |
| 898.4 – 906.8 | 943.4 – 951.8 | Optus | HSPA |  |
| 906.8 – 915 | 951.8 – 960 | Vodafone | HSPA |  |
| 1710 – 1785 / 1805 –1880 | 1710 – 1730 | 1805 – 1825 | Various operators | LTE and GSM-R |  |
| 1920 – 1980/ 2110 - 2170 | 1920 - 1935 | 2110 - 2125 | Vodafone | HSPA/LTE |  |
| 1935 - 1940 | 2125 - 2130 | Telstra | HSPA/LTE |  |
| 1940 - 1960 | 2130 - 2150 | Optus | HSPA/LTE |  |
| 1960 - 1970 | 2150 - 2160 | Telstra | HSPA/LTE |  |
| 1970 - 1980 | 2160 - 2170 | Vodafone | HSPA/LTE |  |
| 2302-2400 | 2302-2400 (Cities) |  | Optus | LTE |  |
| 2302-2400 (rural) |  | NBN | LTE |  |
| 2500 – 2570/ 2620 - 2690 | 2500 - 2510 | 2620 - 2630 | TPG | LTE |  |
| 2510 - 2550 | 2630 - 2670 | Telstra | LTE |  |
| 2550 - 2570 | 2670 - 2690 | Optus | LTE |  |
| 3400-3575 | 3400-3425 |  | NBN | LTE |  |
| 3425-3492.5  (Cities) |  | Optus | Flexible regulation (No deployment) |  |
| 3425-3492.5  (Rural) |  | NBN | LTE |  |
| 3492.5-3542.5 |  | NBN | LTE |  |
| 3542.5-3575  (Cities) |  | Optus | (No deployment) |  |
| 3542.5-3575  (Rural) |  | NBN | LTE |  |

**Question 3:**

Please provide (or refer to) characteristics, and protection criteria, for implementing the IMT systems/networks in Question 2, and similar information for non-IMT services, within the IMT band and in the neighboring bands.

In Australia, each band has individualised detailed characteristics and protection criteria associated with them. A technical framework is developed for each band. The framework consists of three interlocking elements:

* Conditions on the licence (including [**licence core conditions**](https://www.acma.gov.au/Industry/Spectrum/Radiocomms-licensing/Spectrum-licences/spectrum_24))
* a determination of unacceptable interference for the purpose of [device registration](https://www.acma.gov.au/Industry/Spectrum/Radiocomms-licensing/Spectrum-licences/spectrum_22-1)
* radiocommunications advisory guidelines

These can be found in the various documentation found at the following web location:

<https://www.acma.gov.au/Industry/Spectrum/Radiocomms-licensing/Spectrum-licences>

**Question 4:**

Which case of coexistence as illustrated below and the technical conditions must be applied to each IMT block (e.g power limit, emission mask for spectrum block, pfd limit, …) to support technology neutrality and spectrum efficiency?

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| Frequency band (MHz) | Case | Technical condition |
| All bands | A | power limit and emission mask for spectrum block. Additional restrictions for edge of block are placed on TDD spectrum |
| B | power limit and emission mask for spectrum block. Notional receivers for the IMT services are derived for each band for coordination purposes. |
| C | power limit and emission mask for spectrum block. Notional receivers for the IMT services are derived for each band for coordination purposes. |
| D | Propagation model and Level of Protection limit at boundary |
| E | Propagation model and Level of Protection limit at boundary |



Case A: coexistence between IMT block and IMT in adjacent block in same IMT band

Case B: coexistence between IMT block and non-IMT in adjacent block in same IMT band

Case C: coexistence between IMT block in IMT band and non-IMT block in adjacent band

Case D: coexistence between IMT block and non-IMT block co-channel but adjacent geographical area

Case E: coexistence between IMT block and other IMT block co-channel but adjacent geographical area