**Commonwealth of Australia**

**Australian Communications Authority**

*Radiocommunications Act 1992*

# Radiocommunications Spectrum Marketing Plan (800 MHz Band) 2000

THE AUSTRALIAN COMMUNICATIONS AUTHORITY makes this Marketing Plan under section 39A of the *Radiocommunications Act 1992*.

Dated 12 December 2000

A J Shaw
Chair

R Horton
Deputy Chair

Australian Communications Authority

**CONTENTS**

**Summary of marketing plan**

The Minister for Communications, Information Technology and the Arts has made a spectrum re-allocation declaration under section 153B of Part 3.6 of the Act with respect to the 800 MHz band in specified geographic areas. The effect of this declaration is that the areas and parts of the spectrum referred to in the declaration are subject to re-allocation by issuing spectrum licences. The declaration sets a "re-allocation period" during which time it is intended that the spectrum licences will be allocated. Apparatus licences in a part of the spectrum covered by a declaration will be cancelled automatically at the end of the re-allocation period (section 153H of the Act). The Act also requires that the declaration must set a "re-allocation deadline". The significance of the re-allocation deadline is that where a re-allocation declaration states that a part of the spectrum should be re-allocated by issuing spectrum licences, at least one licence must be issued by the re-allocation deadline. If no spectrum licences are issued by the re-allocation deadline, the declaration is taken to have been revoked immediately after the deadline (section 153K of the Act).

A summary of the overall process is as follows:

- Parts of the 800 MHz band have been divided into lots for sale. The lots consist of a geographic area and a particular bandwidth. It is intended that these lots will be allocated and become the subject of spectrum licences.
- Allocation will be by way of an open outcry auction (details are in the *Radiocommunications (Spectrum Licence Allocation Open Outcry Auction-800 MHz Band) Determination 2000*).
- The ACA will advertise details of the auction as soon as practicable after this Plan is published. This will be at least one month before the date of the auction. Interested parties must register to take part in the auction before the closing date.
- The successful applicant for a lot will be entitled to have a spectrum licence issued that includes the lot as soon as practicable after the ACA has received payment of the final bid price for the lot and payment of the spectrum access charge (section 62 (2) of the Act).
- A spectrum licence will contain core conditions and conditions relating to other aspects of spectrum use (sections 66-71 of the Act). An example of a spectrum licence is attached.
- The licence will come into force on the day specified in the licence, and will be in force for the period set out in the licence (section 65 of the Act). This period cannot be longer than 15 years. The ACA intends that all licences under this Marketing Plan will end on 17 June 2013, which is the expiry date of spectrum licences previously issued in the 800 MHz band.
- The ACA will publish information regarding licences that are due to expire during the two years before the expiry date (section 78 of the Act). Current licensees will also receive periodic reminders that their licence is due to expire.
- Re-allocation of licences will be by way of price based allocation (sections 80, 81). Only if it is in the public interest to do so will the ACA reissue spectrum licences to existing licensees without conducting a re-allocation (section 82).

## PART 1-PRELIMINARY

### Title

**1.1** This Plan is called the *Radiocommunications Spectrum Marketing Plan (800 MHz Band) 2000*.

### Commencement

**1.2.** This Plan commences on 12 December 2000.

### Purpose

**1.3. (1)** This Plan sets out procedures and a timetable for issuing spectrum licences that authorise the operation of radiocommunications devices in those parts of the 800 MHz band that are subject to a re-allocation declaration.

**(2)** This Plan also sets out matters a licensee must to take into account in operating devices under a licence.

### Interpretation

**1.4.** In this Plan:

***Act*** means the *Radiocommunications Act 1992*.

***adjacent channel selectivity*** means a measure of the ability of the receiver to receive a wanted signal without the output quality exceeding a specified degradation due to the presence of an unwanted adjacent channel signal.

***Advisory Guidelines*** means the following documents made by the ACA under section 262 of the Act, as in force from time to time:

(a) *Radiocommunications Advisory Guidelines (Protection of Apparatus-licensed Receivers-800 MHz Band) 1998*;

(b) *Radiocommunications Advisory Guidelines (Managing Interference from Apparatus-licensed Transmitters-800 MHz Band) 1998*;

(c) *Radiocommunications Advisory Guidelines (Protection of Molongolo Observatory Synthesis Telescope) 1998*;

(d) *Radiocommunications Advisory Guidelines (Registration of Devices under Spectrum Licences without an Interference Impact Certificate) 1998*

***Allocation Determination*** means the *Radiocommunications (Spectrum Licence Allocation Open Outcry Auction-800 MHz Band) Determination 2000*.

***blocking*** means a measure of the ability of the receiver to receive a wanted signal without the output quality exceeding a specified degradation caused by the presence of a high level off-tune signal increasing the non-linearity of the receiver's front-end.

***cell*** means a square with a side measured in degrees, and where appropriate, minutes and seconds, by reference to the Australian National Spheroid.

***geographic area,*** for a licence, means the area within which operation of a radiocommunications device is authorised under the licence.

***harmful interference*** means interference which endangers the functioning of a radio-navigation service or of other safety services or seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service.

***horizontally radiated power,*** for a radiocommunications device, means the product of:

(a) the maximum true mean power, within the frequency band of the licence authorising the operation of the device, measured in units of dBm EIRP per 30 kHz at the antenna connector; and
(b) the antenna gain relative to an isotropic antenna in a specified direction referenced from, and in the horizontal plane containing, the phase centre of the antenna used with the device.

***in-band***, means:

(a) for a transmitter operated under a spectrum licence, the frequencies within the frequency band to which the licence relates; and
(b) for a receiver operating within the space of a spectrum licence, the frequencies within the frequency band to which the licence relates; and
(c) for a transmitter or receiver operating under an apparatus licence, the frequencies within the lower frequency limit and the upper frequency limit of its spectrum access.

***intermodulation immunity*** means a measure of the ability of a receiver to receive a wanted signal without the output quality exceeding a specified degradation caused by the presence of two or more unwanted signals with a specific amplitude and frequency relationship to the wanted signal frequency.

***lot*** means a part of the spectrum described in section 2.2.

***lot rating,*** for a lot means the value for the lot set by the ACA under section 2.5.

***maximum true mean power*** means the true mean power measured in a 30 kHz rectangular bandwidth that is located within a specified frequency band such that the true mean power is the maximum of true mean powers produced.
[Note: The power within a 30 kHz rectangular bandwidth is normally established by taking measurements using either an adjacent channel power meter or a spectrum analyser. The accuracy of measuring equipment, measurement procedure and any corrections to measurements necessary to take account of practical filter shape factors would normally be in accordance with good engineering practice.]

***mean power*** means the average power measured during an interval of time that is at least 10 times the period of the lowest modulation frequency.

***peak power*** means the average power measured within a specified bandwidth during one radio frequency cycle at the crest of the signal envelope.

***population***, means the notional population of a lot, fixed by the ACA and set out in column 4 of an item in Schedule 1.

***re-allocation*** means the re-allocation of spectrum by the issue of spectrum licences in accordance with a re-allocation declaration.

***re-allocation declaration*** means a declaration made by the Minister under section 153B of the Act for a part of the spectrum in the 800 MHz band.

***spectrum map grid*** means the map grid developed by the ACA for Australia, showing cells the sides of which measure 3 degrees of arc, 1 degree of arc or 5 minutes of arc, published by the ACA.

***spurious emissions*** means emissions that are not:

(a) modulation products; or
(b) wide band noise; or
(c) emissions caused by switching transients.

***spurious response immunity*** means a measure of the ability of the receiver to discriminate between the wanted signal at its nominal frequency and an unwanted signal at any frequency at which the receiver responds.

***standard trading unit (STU)*** means a parcel of spectrum space that consists of:
a geographic area equal to a cell of the spectrum map grid; and

(a) a geographic area equal to a cell of the spectrum map grid; and
(b) a frequency band having lower and upper frequency limits of each segment defined by:
(i) 830 + [n x 0.250] MHz and 830 + [(n+1) x 0.250] MHz respectively, where n is an integer from 0 to 19 (inclusive); or
(ii) 875 + [n x 0.250] MHz and 875 + [(n+1) x 0.250] MHz respectively, where n is an integer from 0 to 19 (inclusive);

***true mean power*** means:

(a) if an unmodulated carrier is present - the mean power measured while the unmodulated carrier is present; and
(b) if an unmodulated carrier is not present - the mean power measured while transmitted information is present.

***800 MHz band*** means the following frequency bands:

(a) 825 to 845 MHz; and
(b) 870 to 890 MHz.

[Note: A number of expressions used in this Plan are defined in the Act, including:

| | |
|---|---|
| ACA | licensee |
| apparatus licence | public or community service |
| core condition | Spectrum licence.] |
| frequency band | |

**Revocation of previous Marketing Plan**

**1.5** The *Radiocommunications Spectrum Marketing Plan (800MHz and 1.8 GHz Bands) 1998* is revoked so far as it applies to the 800MHz band.

[Note: The effect of this section is that the *Radiocommunications Spectrum Marketing Plan (800MHz and 1.8 GHz Bands) 1998* continues in force for the 1.8GHz band].

## PART 2-ALLOCATION OF SPECTRUM LICENCES

### Issue of spectrum licences

**2.1. (1)** The ACA will issue spectrum licences for the parts of the spectrum in the 800 MHz band that are subject to the re-allocation declaration.

**(2)** The ACA will issue the licences to the persons to whom the licences are allocated under a price-based allocation system determined under section 60 of the Act.

**(3)** No part of the spectrum in the 800 MHz band subject to this Marketing Plan will be reserved for public or community services.

### Identification of lots

**2.2. (1)** The ACA has divided the parts of the spectrum that have been declared for re-allocation by the Minister into lots.

**(2)** Each lot represents a part of the spectrum that is defined in terms of its geographic area and frequency band.

**(3)** The geographic area of a lot is the area described in Schedule 2 for the area number mentioned in column 4 of Schedule 4 for the lot.

**(4)** The frequency band of a lot described in Schedule 4 comprises the frequencies in the frequency range greater than the frequency set out in columns 6 and 8 of an item in Schedule 4 up to and including the frequency set out in columns 7 and 9 of the item.

### Allocation of lots

**2.3. (1)** Lots will be allocated and will then become the subject of spectrum licences.

**(2)** Under Subdivision B of Division 1 of Part 3.2 of the Act, the ACA will issue spectrum licences to cover the lots that have been allocated in accordance with this Marketing Plan.

### How licences will be allocated

**2.4. (1)** The first allocation will be by open outcry auction, in accordance with the procedures set out in the Allocation Determination.

[Note: The determination sets out the procedures for allocating spectrum licences by an open outcry auction.]

**(2)** Both of the lots listed in Schedule 4 will be available for auction at the same time.

**(3)** The ACA may hold further allocations by a means to be determined by the ACA under section 60 of the Act.

**(4)** However, the ACA will not hold an auction if:

- the total amount of bandwidth nominated for each area by all applicants for the area, is equal to or less than the bandwidth available for the area; and
- the ACA offers each applicant a licence for a bandwidth, in the area nominated by the applicant, at the reserve price; and
- each applicant accepts the licence offered.

**Advertising auction**

**2.5. (1)** The ACA will advertise details of the auction as soon as practicable after this Plan is published.

**(2)** Details of the advertisement are set out in section 2.2 of the Allocation Determination.

**(3)** The ACA will not conduct an auction until at least 30 days after the publication of the advertisement.

**Registration**

**2.6. (1)** The advertisement will invite people to apply to register for the auction.

**(2)** The ACA will make available to interested people an Applicant Information Package that contains more detail about registration requirements and the auction process. Details of what is in the Package are in section 2.3 of the Allocation Determination.

**(3)** Anyone wishing to take part in the auction must apply to register by the closing date in the advertisement. Details of how to apply are in Part 3 of the Allocation Determination.

**Entitlement to licence**

**2.7.** A successful applicant for a lot is entitled to be issued a licence that includes the lot as soon as practicable after the balance of bid price is received by the ACA.

[Note: Details of payment requirements for the balance of bid price are in Part 5 of the Allocation Determination.]

**Sample licence**

**2.8.** Schedule 5 sets out:

(a) a sample spectrum licence; and

(b) the conditions that may be included in a spectrum licence that is issued in a part of the spectrum referred to in a re-allocation declaration.

**Core licence conditions**

**2.9. (1)** Section 66 of the Act requires a licence to contain core conditions that define the parts of the spectrum that can be used under the licence, in terms of:

(a) frequency band; and
(b) geographic area; and
(c) emission limits outside the area; and
(d) emission limits outside the band.

**(2)** These conditions will be included in the licence.

**Other licence conditions**

**2.10.** The licence will also include conditions about:

(a) payment of charges (section 67 of the Act); and
(b) use by third parties (section 68); and
(c) registration of transmitters (section 69); and
(d) other matters that the ACA may include in the licence (section 71).

**Determination of core licence conditions**

**2.11. (1)** The core conditions for the geographic area of a licence will apply to the area or the aggregation of areas described in Schedule 2 that cover the lots allocated to the licensee in the allocation under section 60 of the Act.

**(2)** The core conditions for frequency bands will apply to the bands or aggregation of bands described in Schedule 3 that cover the lots allocated to the licensee.

**Emission limits**

**2.12. (1)** The emission limits outside the area for all licences are worked out in accordance with Schedule 6.

**(2)** The emission limits outside the band for all licences are worked out in accordance with Schedule 7.

[Note: These core conditions may be varied by the ACA with the licensee's agreement - see section 72 of the Act.]

**Agreements about emission limits**

**2.13.** A licensee may enter into an agreement for the purpose of:

(a) core condition 7 of the licence (about emission limits outside the geographic area of the licence); or
(b) core condition 15 of the licence (about emission limits outside the frequency band of the licence); or
(c) both of those core conditions.

The agreement must be in the form set out in Schedule 5 to the licence.

**Duration of licences**

**2.14.** Each licence issued under this Plan will be for the period starting on the date of issue and ending at the end of 17 June 2013.

[Note: Section 65 of the Act provides that the maximum duration of a spectrum licence is 15 years.]

**Registration of licences**

**2.15. (1)** The ACA will register licences, as required by section 144 of the Act.

[Note: Details about registration are in the *Radiocommunications (Contents of Register) Determination No.1 of 1997*.]

**(2)** Each spectrum licence will include a condition that prohibits operation of a transmitter unless any requirements under Part 3.5 of the Act to have the transmitter registered have been met.

[Note: see section 69 of the Act.]

**(3)** Transmitters that are part of a group of transmitters may be registered individually or as a group.

**(4)** The ACA does not propose to register a mobile transmitter that operates:

(a) in the 800 MHz band with a maximum radiated true mean power of 38 dBm EIRP or less ; or

(b) in the 800 MHz band that operates exclusively:

(i) outside the limits of a town that is on the towns mobile list; or

(ii) on a road that is not on the roads mobile list; or

(c) in the 800 MHz band that operates exclusively at sea to communicate with a mobile receiver at sea.

**Trading in licences**

**2.16.** As permitted by Division 5 of Part 3.2 of the Act, a licensee may assign or otherwise deal with the whole or any part of a licence. The ACA has made rules under section 88 of the Act to regulate trading in licences. The rules restrict trading by reference to whole standard trading units and minimum contiguous bandwidth.

**Spectrum licences that are about to expire**

**2.17. (1)** As required by section 78 of the Act, the ACA will publish notices periodically in the *Gazette*:

(a) stating where information can be obtained about spectrum licences that are due to expire within the next 2 years; and

(b) inviting expressions of interest from people who want to have these licences issued to them.

**(2)** The information will also be available from any of the ACA's Area Offices.

**(3)** The ACA will also send licensees regular reminders during the last two years of the term of their licences that the licences are due to expire.

**Re-issue of licences**

**2.18. (1)** The ACA will re-issue licences, in accordance with Division 4 of Part 3.2 of the Act.

**(2)** As a general rule, licences will only be re-issued after the lots they cover are offered for re-allocation by auction, tender, or predetermined or negotiated price. In re-allocating the licences, the ACA will follow the procedures set out in the determinations made under section 60 of the Act that are in force at the time.

**(3)** However, as set out in section 82 of the Act, the ACA may re-issue a licence to the previous licensee without re-allocating the licence if it is in the public interest to do so.

**(4)** Spectrum licences that are re-issued are unlikely to take the same form as originally issued as the spectrum lots may be divided and distributed differently. Licensees should not assume that they will be re-issued with their existing licence.

## PART 3—SPECTRUM USAGE AND COMPATIBILITY

**Compatibility Requirements**

**3.1. (1)** The compatibility requirements for the receivers of various apparatus licensed services in the 800 MHz band and in adjacent frequency bands are set out in the Advisory Guidelines. The substance of these requirements and recommended methods of coordinating radiocommunications services to be operated in spectrum licensed space are also set out in the Advisory Guidelines. The Advisory Guidelines provide a means of coordinating services operating under spectrum licences with other services operating under spectrum licences and with those operating under apparatus licences. Each licensee must ensure that the operation of their service does not cause an unacceptable level of interference to other services that they are obliged to protect.

**(2)** These requirements apply to a receiver that:

(a) operates or will operate under an apparatus licence or a class licence; and

(b) is outside:

(i) the frequency bands of spectrum licences; or

(ii) the geographic limits of spectrum licences; and

(c) operates inside the frequency bands or geographic areas to be subject to spectrum licenses.

# SCHEDULE 1

Section 1.4

## DESCRIPTION OF GEOGRAPHIC AREAS CONTAINING LOTS FOR RE-ALLOCATION

| Column 1 | Column 2 | Column 3 | Column 4 |
|---|---|---|---|
| **Item No.** | **Area Number** | **Name** | **Population** |
| 1 | 1 | Regional Australia | 5590638 |

# SCHEDULE 2

Section 1.4, Subsections 2.2 (3), 2.2 (4)

## COORDINATES OF GEOGRAPHIC AREAS

**Description:** The geographic area of a lot is the area of land described in a table below, bounded by a line starting at the intersection of the first coordinates listed in the table for the area and then bounded by a line passing sequentially through the intersections of each set of coordinates shown in the table to the point of commencement.

**TABLE 1 - AREA 1 - REGIONAL AUSTRALIA**

| ° ′ ″ East | ° ′ ″ South |
|---|---|
| 132 00 0 | 10 00 0 |
| 143 00 0 | 10 00 0 |
| 143 00 0 | 11 00 0 |
| 144 00 0 | 11 00 0 |
| 144 00 0 | 14 00 0 |
| 146 00 0 | 14 00 0 |
| 146 00 0 | 16 00 0 |
| 147 00 0 | 16 00 0 |
| 147 00 0 | 19 00 0 |
| 149 00 0 | 19 00 0 |
| 149 00 0 | 20 00 0 |
| 150 00 0 | 20 00 0 |
| 150 00 0 | 21 00 0 |
| 151 00 0 | 21 00 0 |
| 151 00 0 | 23 00 0 |
| 152 00 0 | 23 00 0 |
| 152 00 0 | 24 00 0 |
| 154 00 0 | 24 00 0 |
| 154 00 0 | 26 50 0 |
| 152 30 0 | 26 50 0 |
| 152 30 0 | 28 05 0 |
| 152 50 0 | 28 05 0 |
| 152 50 0 | 28 20 0 |
| 153 05 0 | 28 20 0 |
| 153 05 0 | 28 35 0 |
| 154 00 0 | 28 35 0 |
| 154 00 0 | 32 00 0 |

| ° ′ ″ East | ° ′ ″ South |
|---|---|
| 153 00 0 | 32 00 0 |
| 153 00 0 | 32 35 0 |
| 151 05 0 | 32 35 0 |
| 151 05 0 | 33 05 0 |
| 150 55 0 | 33 05 0 |
| 150 55 0 | 33 20 0 |
| 150 00 0 | 33 20 0 |
| 150 00 0 | 34 00 0 |
| 150 20 0 | 34 00 0 |
| 150 20 0 | 34 35 0 |
| 150 30 0 | 34 35 0 |
| 150 30 0 | 34 50 0 |
| 152 00 0 | 34 50 0 |
| 152 00 0 | 35 00 0 |
| 151 00 0 | 35 00 0 |
| 151 00 0 | 38 00 0 |
| 149 00 0 | 38 00 0 |
| 149 00 0 | 44 00 0 |
| 145 00 0 | 44 00 0 |
| 145 00 0 | 42 00 0 |
| 144 00 0 | 42 00 0 |
| 144 00 0 | 41 00 0 |
| 143 00 0 | 41 00 0 |
| 143 00 0 | 39 00 0 |
| 140 00 0 | 39 00 0 |
| 140 00 0 | 38 00 0 |
| 139 00 0 | 38 00 0 |

| ° ′ ″ East | ° ′ ″ South |
|---|---|
| 139 00 0 | 37 00 0 |
| 136 00 0 | 37 00 0 |
| 136 00 0 | 36 00 0 |
| 135 00 0 | 36 00 0 |
| 135 00 0 | 34 00 0 |
| 134 00 0 | 34 00 0 |
| 134 00 0 | 33 00 0 |
| 132 00 0 | 33 00 0 |
| 132 00 0 | 32 00 0 |
| 129 00 0 | 32 00 0 |
| 129 00 0 | 33 00 0 |
| 125 00 0 | 33 00 0 |
| 125 00 0 | 34 00 0 |
| 124 00 0 | 34 00 0 |
| 124 00 0 | 35 00 0 |
| 119 00 0 | 35 00 0 |
| 119 00 0 | 36 00 0 |
| 116 00 0 | 36 00 0 |
| 116 00 0 | 35 00 0 |
| 114 00 0 | 35 00 0 |
| 114 00 0 | 33 00 0 |
| 115 00 0 | 33 00 0 |
| 115 00 0 | 32 50 0 |
| 116 30 0 | 32 50 0 |
| 116 30 0 | 31 25 0 |
| 115 00 0 | 31 25 0 |
| 115 00 0 | 31 00 0 |

**TABLE 1 - AREA 1 - REGIONAL AUSTRALIA** continued

| ° ′ ″ East | ° ′ ″ South |
|---|---|
| 114 00 0 | 31 00 0 |
| 114 00 0 | 29 00 0 |
| 113 00 0 | 29 00 0 |
| 113 00 0 | 26 00 0 |
| 112 00 0 | 26 00 0 |
| 112 00 0 | 25 00 0 |

| ° ′ ″ East | ° ′ ″ South |
|---|---|
| 113 00 0 | 25 00 0 |
| 113 00 0 | 21 00 0 |
| 115 00 0 | 21 00 0 |
| 115 00 0 | 19 00 0 |
| 121 00 0 | 19 00 0 |
| 121 00 0 | 16 00 0 |

| ° ′ ″ East | ° ′ ″ South |
|---|---|
| 124 00 0 | 16 00 0 |
| 124 00 0 | 13 00 0 |
| 130 00 0 | 13 00 0 |
| 130 00 0 | 11 00 0 |
| 132 00 0 | 11 00 0 |
| 132 00 0 | 10 00 0 |

**TABLE 1 - AREA 1 - REGIONAL AUSTRALIA - EXCLUDED AREAS**

**ADELAIDE**

| ° ′ ″ East | ° ′ ″ South |
|---|---|
| 138 05 0 | 34 20 0 |
| 139 05 0 | 34 20 0 |
| 139 05 0 | 34 55 0 |

| ° ′ ″ East | ° ′ ″ South |
|---|---|
| 139 00 0 | 34 55 0 |
| 139 00 0 | 35 30 0 |

| ° ′ ″ East | ° ′ ″ South |
|---|---|
| 138 05 0 | 35 30 0 |
| 138 05 0 | 34 20 0 |

**MELBOURNE**

| ° ′ ″ East | ° ′ ″ South |
|---|---|
| 144 45 0 | 37 20 0 |
| 145 05 0 | 37 20 0 |
| 145 05 0 | 37 25 0 |
| 145 15 0 | 37 25 0 |
| 145 15 0 | 37 30 0 |
| 145 20 0 | 37 30 0 |
| 145 20 0 | 37 35 0 |

| ° ′ ″ East | ° ′ ″ South |
|---|---|
| 145 35 0 | 37 35 0 |
| 145 35 0 | 37 45 0 |
| 145 45 0 | 37 45 0 |
| 145 45 0 | 38 15 0 |
| 145 25 0 | 38 15 0 |
| 145 25 0 | 38 45 0 |
| 144 05 0 | 38 45 0 |

| ° ′ ″ East | ° ′ ″ South |
|---|---|
| 144 05 0 | 37 55 0 |
| 144 10 0 | 37 55 0 |
| 144 10 0 | 37 50 0 |
| 144 15 0 | 37 50 0 |
| 144 15 0 | 37 25 0 |
| 144 45 0 | 37 25 0 |
| 144 45 0 | 37 20 0 |

# SCHEDULE 3

Section 1.4, Subsection 2.11 (2)

**BAND SEGMENTS**

**PART 1**

1. A frequency band in this Schedule comprises:

(a) the frequencies in the frequency range greater than the frequency set out in column 3 of the item up to and including the frequency set out in column 4 of the item; and

(b) the frequencies in the frequency range greater than the frequency set out in column 5 of the item up to and including the frequency set out in column 6 of the item.

PART 2

| **Column 1** | **Column 2** | **Column 3** | **Column 4** | **Column 5** | **Column 6** | **Column 7** |
|---|---|---|---|---|---|---|
| **Item No.** | **Band Number** | **Lower** | **Upper** | **Lower** | **Upper** | **Bandwidth MHz** |
| 1 | 1 | 830 | 835 | 875 | 880 | 2×5 |

# SCHEDULE 4

Sections 1.4, 2.2, 2.4

## DESCRIPTION OF LOTS

| Column 1 Item No. | Column 2 Lot No. | Column 3 Band No. | Column 4 Area No. | Column 5 Lot Name | Column 6 Lower | Column 7 Upper | Column 8 Lower | Column 9 Upper | Column 10 Bandwidth |
|---|---|---|---|---|---|---|---|---|---|
| **1** | 1 | 1 | 1 | Regional Australia-1 | 830 | 832.5 | 875 | 877.5 | 2x2.5 MHz |
| **2** | 2 | 2 | 1 | Regional Australia-2 | 832.5 | 835 | 877.5 | 880 | 2x2.5 MHz |

[Note: An area number in column 4 of this Schedule refers to the geographic area with that number in Schedule 2]

# SCHEDULE 5

Section 2.8

## SAMPLE LICENCE

This Schedule sets out a sample spectrum licence, and the conditions that may be included in a spectrum licence, issued in the parts of the spectrum that are subject to a re-allocation declaration:

## COMMONWEALTH OF AUSTRALIA

## AUSTRALIAN COMMUNICATIONS AUTHORITY

## *Radiocommunications Act 1992*

## Sample Spectrum Licence

This licence is issued under Part 3.2 of the *Radiocommunications Act 1992* ('the Act') by the person named at Item 8 of Schedule 1 of this licence.

1. The person named at Item 1 of Schedule 1 of this licence ('the licensee'), or a person authorised under subsection 68(1) of the Act, is authorised to operate radiocommunications devices in accordance with:
   (a) the Act; and
   (b) the core conditions set out in Schedule 2; and
   (c) the statutory conditions set out in Schedule 3; and
   (d) the core conditions specifying periods of operation, and the other conditions, if any, included in this licence by the ACA and set out in Schedule 2.

2. This licence comes into force on the date shown at Item 4 of Schedule 1 and remains in force until the end of the day shown at Item 5 of Schedule 1.

3. Unless the contrary intention appears, terms and expressions used in this Licence have the meaning given to them by the *Radiocommunications Spectrum Marketing Plan (800 MHz Band) 2000*.

| | |
|---|---|
| *Licensee:* | **J. Bloggs** |
| *Client Number:* | **1234567** |
| *Band Release:* | **800 MHz Lower Band** |
| *Licence Number:* | **6789100** |

## SCHEDULE 5 - SAMPLE LICENCE (cont)

### *LICENCE SCHEDULE 1*

### *LICENCE AND TECHNICAL DETAILS*

#### *Part 1 - Licence Details*

| Item | Licensee Details | |
|---|---|---|
| *1* | *Name of Licensee*<br>*Address of Licensee* | J.Bloggs<br>10 Lambchops Street<br>LAMBVILLE NSW 2678 |
| *2* | *Client Number* | 1234567 |
| *3* | *Band Release* | 800 MHz Lower Band |
| | **Licence Details** | |
| *4* | *Date of Licence Effect* | 18/12/2000 |
| *5* | *Date of Licence Expiry* | 17/6/2013 |
| *6* | *Licence Number* | 6789100 |
| *7* | *Date of Licence Issue* | 06/01/2001 |
| *8* | *Issuing Officer* | 0 |

#### *Part 2 - Technical Details*

| | **Core Condition – Frequency Band of Licence** | |
|---|---|---|
| *9* | *Lower Limit of frequency band for core condition 1* | 830 MHz |
| *10* | *Upper Limit of frequency band for core condition 1* | 835 MHz |
| | **Core Condition – Emission Limits Outside the Area** | |
| *11* | *Offsets for core condition 4(a)* | 0 MHz |
| *12* | *Offsets for core condition 4(b)* | 0 MHz |
| *13* | *Power conversion function* k1(d) *for core condition 4* | K1(d) = 11; for d>=0 |
| *14* | *Power conversion function* k2(d) *for core condition 4* | K2(d) = 11; for d>=0 |

**SCHEDULE 5 - SAMPLE LICENCE (cont)**

***LICENCE SCHEDULE 1 (cont)***

***Part 2 - Technical Details (cont)***

| Item | Core Condition – Emission Limits Outside the Band | |
|---|---|---|
| | ***Transmitter Non-spurious Emission for the Lower Frequency Limit of this Licence*** | |
| *15* | *Range of offsets for core condition 10.1(a)* | 0.0 to 0.03 MHz |
| *16* | *Maximum true mean power for core condition 10.1(a)* | 24 dBm EIRP/30 kHz |
| *17* | *Range of offsets for core condition 10.1(b)* | 0.03 to 0.06 MHz |
| *18* | *Maximum true mean power for core condition 10.1(b)* | 5 dBm EIRP/30 kHz |
| *19* | *Range of offsets for core condition 10.1(c)* | 0.06 to 0.09 MHz |
| *20* | *Maximum true mean power for core condition 10.1(c)* | -10dBm EIRP/30 kHz |
| *21* | *Range of offsets for core condition 10.1(d)* | 0.09 to 6 MHz |
| *22* | *Maximum true mean power for core condition 10.1(d)* | -14 dBm EIRP/30 kHz |
| *23* | *Range of offsets for core condition 10.1(e)* | 6 to 10 MHz |
| *24* | *Maximum true mean power for core condition 10.1(e)* | -15 dBm EIRP/30 kHz |
| *25* | *Range of offsets for core condition 10.1(f)* | Greater than 10 MHz |
| *26* | *Maximum true mean power for core condition 10.1(f)* | -30 dBm EIRP/30 kHz |
| *27* | *Range of offsets for core condition 10.1(g)* | 0.12 to 0.15 MHz |
| *28* | *Peak Power for core condition 10.1(g)* | -4 dBm EIRP measured within a 30 kHz rectangular bandwidth |

**SCHEDULE 5 - SAMPLE LICENCE (cont)**

***LICENCE SCHEDULE 1 (cont)***

***Part 2 - Technical Details (cont)***

| Item | Core Condition – Emission Limits Outside the Band (cont) | |
|---|---|---|
| | ***Transmitter Non-spurious Emission for the Upper Frequency Limit of this Licence*** | |
| *29* | *Range of offsets for core condition 10.2(a)* | 0.0 to 0.03 MHz |
| *30* | *Maximum true mean power for core condition 10.2(a)* | 24 dBm EIRP/30kHz |
| *31* | *Range of offsets for core condition 10.2(b)* | 0.03 to 0.06 MHz |
| *32* | *Maximum true mean power for core condition 10.2(b)* | 5 dBm EIRP/30 kHz |
| *33* | *Range of offsets for core condition 10.2(c)* | 0.06 to 0.09 MHz |
| *34* | *Maximum true mean power for core condition 10.2(c)* | -10 dBm EIRP/30 kHz |
| *35* | *Range of offsets for core condition 10.2(d)* | 0.09 to 10 MHz |
| *36* | *Maximum true mean power for core condition 10.2(d)* | -14 dBm EIRP/30 kHz |
| *37* | *Range of offsets for core condition 10.2(e)* | Greater than 10 MHz |
| *38* | *Maximum true mean power for core condition 10.2(e)* | -30 dBm EIRP/30 kHz |
| *39* | *Range of offsets for core condition 10.2(f)* | N/A |
| *40* | *Maximum true mean power for core condition 10.2(f)* | N/A |
| *41* | *Range of offsets for core condition 10.2(g)* | 0.12 to 0.15 MHz |
| *42* | *Peak power for core condition 10.2(g)* | -4 dBm EIRP measured within a 30 kHz rectangular bandwidth |

**SCHEDULE 5 - SAMPLE LICENCE (cont)**

***LICENCE SCHEDULE 1 (cont)***

***Part 2 - Technical Details (cont)***

| Item | Core Condition – Emission Limits Outside the Band (cont) | |
|---|---|---|
| | ***Transmitter Spurious Emission Limits*** | |
| *43* | *Band for core condition 11(a)* | 9 kHz to 550 MHz |
| *44* | *Mean power for core condition 11(a)* | -36 dBm EIRP |
| *45* | *Band for core condition 11(b)* | 550 MHz to 1 GHz |
| *46* | *Mean power for core condition 11(b)* | -21 dBm EIRP |
| *47* | *Band for core condition 11(c)* | 1 GHz to 1.65 GHz |
| *48* | *Mean power for core condition 11(c)* | -15 dBm EIRP |
| *49* | *Band for core condition 11(d)* | 1.65 to 12.75 GHz |
| *50* | *Mean power for core condition 11(d)* | -30dBm EIRP |
| | ***Receiver Spurious Emission Limits*** | |
| *51* | *Band for core condition 12(a)* | 9 kHz to 550 MHz |
| *52* | *Mean power for core condition 12(a)* | -57 dBm EIRP |
| *53* | *Band for core condition 12(b)* | 550 MHz to 1 GHz |
| *54* | *Mean power for core condition 12(b)* | -44 dBm EIRP |
| *55* | *Band for core condition 12(c)* | 1 GHz to 1.65 GHz |
| *56* | *Mean power for core condition 12(c)* | -34 dBm EIRP |
| *57* | *Band for core condition 12(d)* | 1.65 to 12.75 GHz |
| *58* | *Mean power for core condition 12(d)* | -47 dBm EIRP |
| | **Device Registration** | |
| *59* | *Section 145 Determination for registration of transmitters* | Radiocommunications (Unacceptable Levels of Interference – 800 MHz Band) Determination 2000 |

**SCHEDULE 5 - SAMPLE LICENCE (cont)**

***LICENCE SCHEDULE 1 (cont)***

***Part 3 - Geographic Area***

**Core Condition - Geographic Area of Licence**

For core condition 2, the area or aggregate of areas within which operation of radiocommunications devices is authorised by this licence is that area of land described by the aggregation of rectangular areas with a North to South (Latitude) and East to West (Longitude) orientation, each having a South West corner that is represented by a geographic coordinate set out in column 1 in the table below, and having a North East corner that is represented by a geographic coordinate set out in column 2 opposite to the coordinate set out in column 1.

| Column 1 | | Column 2 | |
|---|---|---|---|
| ° ′ ″ South | ° ′ ″ West | ° ′ ″ North | ° ′ ″ East |
| 28:35:00 | 153:05:00 | 26:50:00 | 154:00:00 |
| 28:20:00 | 152:50:00 | 26:50:00 | 153:05:00 |
| 28:05:00 | 152:30:00 | 26:50:00 | 152:50:00 |

## SCHEDULE 5 - SAMPLE LICENCE (cont)

### LICENCE SCHEDULE 2

### *CORE CONDITIONS*

**Frequency Band**

1. This licence authorises the operation of radiocommunications devices in the frequency bands that consists of the contiguous range of frequencies between the upper and lower frequency limits set out in Items 9 and 10 of Part 2 of Schedule 1, respectively.

**Geographic Area**

2. This licence authorises the operation of radiocommunications devices in the geographic area set out at Part 3 of Schedule 1.

**Emission Limits Outside the Area**

3. Core conditions 4 and 5 apply in those geographic areas:
   (a) that are outside the geographic areas set out at Part 3 of Schedule 1; and
   (b) for which there is no agreement for the purposes of core condition 7 in force; and
   (c) for which the licensee does not hold another spectrum licence in the 800 MHz band.

4. The emission limits outside the geographic area are:
   (a) for frequency bands only containing frequencies outside the upper and lower frequency limits of the licence by the offsets set out in item 11 of Part 2 of Schedule 1 - a horizontally radiated power of P1 dBm EIRP per 30 kHz; and
   (b) for frequency bands only containing frequencies that outside the upper and lower frequency limits of the licence by the offsets set out in item 12 of Part 2 of Schedule 1 - a horizontally radiated power of P2 dBm EIRP per 30 kHz;

   where:
   P1 = 70 - k1(d); and
   P2 = 70 - k2(d); and

   where:
   d is the distance in kilometres of the device from the boundary of the geographic area; and

   k1(d) and k2(d) are the power conversion functions set out at Items 13 and 14 of Part 2 of Schedule 1, respectively.

**SCHEDULE 5 - SAMPLE LICENCE (cont)**

**LICENCE SCHEDULE 2 (cont)**

***CORE CONDITIONS (cont)***

**Emission Limits Outside the Area (cont)**

5. The level of emission in a geographic area to which this condition applies is to be estimated with a level of confidence not less than 95 percent that the true level of emission remains below the relevant emission limit plus 2 dB.

6. Core condition 7 applies in those geographic areas that are outside the geographic areas set out at Part 3 of Schedule 1 and for which:
   (a) there is an agreement in force for the purposes of that core condition; or
   (b) the licensee holds another spectrum licence in the 800 MHz band.

7. The emission limits outside the area are the level that does not cause the core emission limits to be exceeded in any geographic area for which:
   (a) there is no agreement for the purposes of this core condition in force; and
   (b) the licensee does not hold another spectrum licence in the 800 MHz band.

Notes:

1. This core condition is designed to assist technological neutrality and limits the power spectral density of a transmitter located anywhere within the geographic area of the licence to 59 dBm EIRP in a rectangular bandwidth of 30 kHz and at all times. The limit has an important function in the management of receiver intermodulation. There may be additional constraints on radiated power caused by the device boundary criterion of the relevant section 145 Determination or the compatibility requirements of related Advisory Guidelines. Except where the occupied bandwidth of a transmitter is less than 30 kHz, the core condition does not place a limit on the total radiated power for a transmitter. However, total radiated power is limited indirectly by:
   (a) the cost of high power amplifiers;
   (b) the general requirement to use low powers in cellular systems; and
   (c) the emission limits outside the band becoming increasingly difficult to satisfy as total transmitter power increases.

2. The two step limit related to k1(*d*) and k2(*d*) is designed to accommodate higher limits according to the width of guard bands supplied internal to the licence, if that is a requirement of a licensee.

**Emission Limits Outside the Band**

8. Core conditions 9 to 13 (inclusive) apply in those parts of the spectrum:
   (a) for which there is no agreement for the purposes of core condition 15 in force; and
   (b) for which the licensee does not hold another spectrum licence in the 800 MHz band.

**SCHEDULE 5 - SAMPLE LICENCE (cont)**

**LICENCE SCHEDULE 2 (cont)**

***CORE CONDITIONS (cont)***

**Emission Limits Outside the Band (cont)**

9. The following maximum permitted levels of emission outside the frequency band of the licence apply except where:
   (a) a written agreement exists, between the licensee and all the affected licensees of frequency-adjacent spectrum licences, setting out increased maximum permitted levels; and
   (b) if non-spectrum licensed space is affected, the licensee provides written agreement to increase maximum permitted levels to the ACA and the ACA has varied the relevant licence conditions.

***Non spurious emission limits outside the licence lower limit***

10.1 For radio emission that is not spurious emission, caused by transmitters, at frequencies outside the lower limit of the frequency band of the licence, the emission limits outside the band are:

(a) for frequency bands only containing frequencies that are removed from the lower frequency limit of the frequency band of the licence by offsets within the range set out at item 15 of Part 2 of Schedule 1 – the radiated maximum true mean power set out at item 16; and

(b) for frequency bands only containing frequencies that are removed from the lower frequency limit of the frequency band of the licence by offsets within the range set out at item 17 of Part 2 of Schedule 1 – the radiated maximum true mean power set out at item 18; and

(c) for frequency bands only containing frequencies that are removed from the lower frequency limit of the frequency band of the licence by offsets within the range set out at item 19 of Part 2 of Schedule 1 – the radiated maximum true mean power set out at item 20; and

(d) for frequency bands only containing frequencies that are removed from the lower frequency limit of the frequency band of the licence by offsets within the range set out at item 21 of Part 2 of Schedule 1 – the radiated maximum true mean power set out at item 22; and

(e) for frequency bands only containing frequencies that are removed from the lower frequency limit of the frequency band of the licence by offsets within the range set out at item 23 of Part 2 of Schedule 1 – the radiated maximum true mean power set out at item 24; and

**SCHEDULE 5 - SAMPLE LICENCE (cont)**

**LICENCE SCHEDULE 2 (cont)**

***CORE CONDITIONS (cont)***

***Non spurious emission limits outside the licence lower limit (cont)***

(f) for frequency bands only containing frequencies that are removed from the lower frequency limit of the frequency band of the licence by offsets within the range set out at item 25 of Part 2 of Schedule 1 – the radiated maximum true mean power set out at item 26; and

(g) for frequency bands only containing frequencies that are removed from the lower frequency limits of the frequency band of this licence by offsets within the range set out at item 27 of Part 2 of Schedule 1 - the radiated peak power is set out at item 28.

***Non spurious emission limits outside the licence upper limit***

10.2 For radio emission that is not spurious emission, caused by transmitters, at frequencies outside the upper limit of the frequency band of the licence, the emission limits outside the band are:

(a) for frequency bands only containing frequencies that are removed from the upper frequency limits of the frequency band of this licence by offsets within the range set out at item 29 of Part 2 of Schedule 1 - the radiated maximum true mean power is set out at item 30; and

(b) for frequency bands only containing frequencies that are removed from the upper frequency limit of the frequency band of the licence by offsets within the range set out at item 31 of Part 2 of Schedule 1 – the radiated maximum true mean power set out at item 32; and

(c) for frequency bands only containing frequencies that are removed from the upper frequency limit of the frequency band of the licence by offsets within the range set out at item 33 of Part 2 of Schedule 1 – the radiated maximum true mean power set out at item 34; and

(d) for frequency bands only containing frequencies that are removed from the upper frequency limit of the frequency band of the licence by offsets within the range set out at item 35 of Part 2 of Schedule 1 – the radiated maximum true mean power set out at item 36; and

(e) for frequency bands only containing frequencies that are removed from the upper frequency limit of the frequency band of the licence by offsets within the range set out at item 37 of Part 2 of Schedule 1 – the radiated maximum true mean power set out at item 38; and

**SCHEDULE 5 - SAMPLE LICENCE (cont)**

**LICENCE SCHEDULE 2 (cont)**

***CORE CONDITIONS (cont)***

***Non spurious emission limits outside the licence upper limit (cont)***

(f) for frequency bands only containing frequencies that are removed from the upper frequency limit of the frequency band of the licence by offsets within the range set out at item 39 of Part 2 of Schedule 1 – the radiated maximum true mean power set out at item 40; and

(g) for frequency bands only containing frequencies that are removed from the upper frequency limits of the frequency band of this licence by offsets within the range set out at item 41 of Part 2 of Schedule 1 - the radiated peak power is set out at item 42.

***Transmitter spurious emission limits***

11. For radio emission that is spurious emission at frequencies outside the frequency band of the licence that is caused by transmitters, the emission limits outside the band are:

(a) a level measured within a 100 kHz rectangular bandwidth located within the band set out at item 43 of Part 2 of Schedule 1 and is less than or equal to a radiated mean power set out at item 44; and

(b) a level measured within a 100 kHz rectangular bandwidth located within the band set out at item 45 of Part 2 of Schedule 1 and is less than or equal to a radiated mean power set out at item 46; and

(c) a level measured within a 100 kHz rectangular bandwidth located within the band set out at item 47 of Part 2 of Schedule 1 and is less than or equal to a radiated mean power set out at item 48; and.

(d) a level measured within a 100 kHz rectangular bandwidth located within the band set out at item 49 of Part 2 of Schedule 1 and is less than or equal to a radiated mean power set out at item 50; and

***Receiver spurious emission limits***

12. For radio emission that is caused by receivers the emission limits outside the band are:

(a) a level measured within a 100 kHz rectangular bandwidth located within the band set out at item 51 of Part 2 of Schedule 1and is less than or equal to a radiated mean power set out at item 52; and

**SCHEDULE 5 - SAMPLE LICENCE (cont)**

**LICENCE SCHEDULE 2 (cont)**

***CORE CONDITIONS (cont)***

***Receiver spurious emission limits (cont)***

(b) a level measured within a 100 kHz rectangular bandwidth located within the band set out at item 53 of part 2 of Schedule 1 and is less than or equal to a radiated mean power set out at item 54; and

(c) a level measured within a 100 kHz rectangular bandwidth located within the band set out at item 55 of Part 2 of Schedule 1 and is less than or equal to a radiated mean power set out at item 56.

(d) a level measured within a 100 kHz rectangular bandwidth located within the band set out at item 57 of Part 2 of Schedule 1 and is less than or equal to a radiated mean power set out at item 58; and

13. The level of emission outside the band of the licence is to be estimated with a level of confidence not less than 95 percent that the true level of emission remains below the relevant emission limit plus 2 dB.

14. Core condition 15 applies in that part of the spectrum:
    (a) for which there is an agreement in force for the purposes of that core condition; or
    (b) for which the licensee holds another spectrum licence in the 800 MHz band.

15. The emission limits outside the band are the level that does not cause the base emission limits to be exceeded in any part of the spectrum:
    (a) for which there is no agreement for the purposes of this core condition in force; and
    (b) for which the licensee does not hold another spectrum licence in the 800 MHz band.

**SCHEDULE 5 - SAMPLE LICENCE (cont)**

**LICENCE SCHEDULE 3**

***STATUTORY CONDITIONS***

**Liability to pay charges**

1. The licensee must meet all obligations to pay charges fixed by determinations made under section 294 of the Act and subsection 53 (1) of the *Australian Communications Authority Act 1997*.

**Third party use**

2. (1) The licensee must notify any person authorised to operate radiocommunications devices under the licence of that person's obligations under the Act, in particular of any registration requirements under Part 3.5 of the Act for operation of radiocommunications devices under the licence, and any rules made under section 68(3) of the Act.

(2) Each operation of a radiocommunications device under the licence by a person other than the licensee must comply with rules made by the ACA under section 68(3) of the Act.

**Transmitter registration requirements**

3. The licensee must not operate a transmitter under this licence unless:
   (a) the transmitter has been exempted from the registration requirements under section 4, or:
   (b) both:
      (i) the requirements of the ACA under Part 3.5 of the Act relating to registration of the transmitter have been met; and
      (ii) the transmitter complies with the details about it that have been entered in the register.

**Exemption from registration requirements**

4. The following kinds of transmitters do not have to be registered:
   (a) a mobile transmitter or an indoor fixed transmitter that operates in the 800 MHz Lower band with a horizontally radiated power of less than or equal to 38 dBm EIRP per 30 kHz.
   (c) a mobile transmitter that operates in the 800 MHz Lower band and only operates:
      (i) outside the limits of a town that is on the towns mobile list; or
      (ii) on a road that is not on the roads mobile list;
   (d) a mobile transmitter that operates in the 800 MHz Lower band and only transmits at sea and only communicates with a mobile receiver at sea.

**SCHEDULE 5 - SAMPLE LICENCE (cont)**

**LICENCE SCHEDULE 3 (cont)**

***STATUTORY CONDITIONS (cont)***

### Exemption from registration requirements (cont)

Notes: 1. The Determination that sets out the unacceptable levels of interference for the purpose of registering transmitters to be operated under this licence, and which is to be used for the issue of certificates by accredited people under section 145(3) of the Act is set out at Item 43 of Part 2 of Schedule 1 of this licence.

2. Although not mandatory, the registration of receivers is advised because one of the matters the ACA will take into account in settling interference is the time of registration of the receiver involved in the interference.

### Residency etc

5. (a) At all times when the licensee derives income, profits or gains from operating radiocommunications devices under this licence or from authorising others to do so:
   - the licensee must be an Australian resident; or
   - the income, profits or gains must be attributable to a permanent establishment in Australia through which the licensee carries on business.

   (b) At all times when an authorised person derives income, profits or gains from allowing third parties to operate radiocommunications devices under the licence, either:
   - the authorised person must be an Australian resident; or
   - the income, profits or gains must be attributable to a permanent establishment in Australia through which the authorised person carries on business.

   (c) In this condition:

   ***Australian resident*** has the same meaning as in the *Income Tax Assessment Act 1997*.

   ***authorised person*** means a person authorised under section 68 of the *Radiocommunications Act 1992* by the licensee to operate radiocommunications devices under this licence.

   ***permanent establishment*** has the same meaning as in:
   - if the licensee or authorised person (as appropriate) is a resident of a country or other jurisdiction with which Australia has an agreement, within the meaning of the *International Tax Agreements Act 1953*—that agreement; or
   - in any other case—the *Income Tax Assessment Act 1997*.

## SCHEDULE 5 - SAMPLE LICENCE (cont)

## LICENCE SCHEDULE 4

## *CONDITIONS INCLUDED BY THE ACA*

**Interference management**

1. In this licence:

"manage interference" includes:

(a) investigating the possible causes of the interference; and

(b) taking all steps reasonably necessary to resolve disputes about interference where more than 1 person is involved; and

(c) taking steps (or requiring persons authorised to operate devices under this licence to take steps) reasonably likely to reduce interference to acceptable levels; and

(d) negotiating with other persons to reduce interference to acceptable levels.

**Responsibility to manage interference**

2. The licensee must manage:

(a) interference between radiocommunications devices operated under this licence; and

(b) interference between radiocommunications devices operated under this licence and under each other spectrum licence held by the licensee.

**Co-sited devices**

3. If:

(a) interference occurs between a radiocommunications device operated under this licence and a radiocommunications device operated (whether operated under another spectrum licence or any other licence) that is located within 200 metres of the first device and measured with respect to the location of the phase centre of the antenna used with each device; and

(b) that interference is not the result of operation of a radiocommunications device in a manner that does not comply with the conditions of the relevant licence; and

(c) either the licensee or the holder (or third party authorisee) of the other licence wishes to resolve the interference;

the licensee must take reasonable steps to negotiate arrangements reasonably likely to reduce the interference to acceptable levels with:

(d) the holder of the other licence; or

(e) if a site manager is responsible for managing interference at that location, that site manager.

**SCHEDULE 5 - SAMPLE LICENCE (cont)**

**LICENCE SCHEDULE 4 (cont)**

***CONDITIONS INCLUDED BY THE ACA (cont)***

**Information for register**

4. The licensee must give the ACA all information as required by the ACA from time to time for inclusion in the Register.

**International coordination**

5. If operation of a transmitter under this licence causes harmful interference to a receiver that operates in accordance with International Telecommunication Union Radio Regulations and is located in a country other than Australia, the transmission must cease.

**Agreements for purpose of core conditions**

6. A licensee may enter into an agreement for the purpose of:

   (a) core condition 7 (about emission limits outside the geographic area of this licence); or

   (b) core condition 15 (about emission limits outside the frequency band of this licence); or

   (c) both of those core conditions.

   The agreement must be in accordance with the form set out in Schedule 5 to this Licence.

## SCHEDULE 5 - SAMPLE LICENCE (cont)

### *FORM OF AGREEMENT FOR CORE CONDITIONS*

AGREEMENT made [*insert date*]

BETWEEN A [*insert name of party*] and B [*insert name of party*].

1. BACKGROUND

A holds spectrum licence [*details of A's licence*].

B holds spectrum licence [*details of B's licence*].

2. B agrees with A for [core condition 7 *or* core condition 15 *or* core conditions 7 and 15] of A's licence in relation to B's licence.

3. B may terminate this licence at will by notice in writing given to A.

SIGNED on behalf of A:

SIGNED on behalf of B:

## SCHEDULE 5 - SAMPLE LICENCE (cont)

### *LICENCE NOTES*

**Variation to licence conditions**

1. The ACA may, with the written agreement of the licensee, vary a licence by including one or more further conditions, or revoking or varying any conditions of the licence, provided that the conditions, as varied, still comply with the requirements of Subdivision C of Division 1 of Part 3.2 of the Act.

2. The ACA may, by written notice given to the licensee, vary a licence by including one or more further conditions or revoking or varying any non core conditions of the licence provided, that the licence as varied complies with the requirements of Subdivision C of Division 1 of Part 3.2 of the Act.

**Guidelines**

3. The ACA has issued written Advisory Guidelines under section 262 of the Act about:
   (a) co-ordinating the operation of transmitters under this licence with apparatus licensed receivers:
      - *Radiocommunications Advisory Guidelines (Protection of Apparatus-licensed Receivers—800 MHz Band) 1998*;
      - *Radiocommunications Advisory Guidelines (Protection of Molongolo Observatory Synthesis Telescope) 1998*;
   (b) co-ordinating the operation of apparatus licensed transmitters with receivers operated in the space of spectrum licences:
      - *Radiocommunications Advisory Guidelines (Managing Interference from Apparatus-licensed Transmitters - 800 MHz Band) 1998*;

4. The guidelines should be read in conjunction with the *Radiocommunications (Unacceptable Levels of Interference – 800 MHz Band) Determination 2000* made under section 145(4) of the Act. This determination sets out the unacceptable levels of interference for the purpose of the registration of transmitters to be operated under this licence. The guidelines should be followed by licensees (and accredited persons) before operating transmitters. The ACA intends to afford protection to receivers in accordance with the guidelines in the settlement of interference disputes. Copies of the guidelines are available from the ACA

**The suspension and cancellation of spectrum licences**

5. The ACA may by written notice given to a licensee, suspend or cancel a spectrum licence where the ACA is satisfied that the licensee, or a person authorised by the licensee to operate a radiocommunications device under the licence, has:

## SCHEDULE 5 - SAMPLE LICENCE (cont)

### *LICENCE NOTES (cont)*

**The suspension and cancellation of spectrum licences (cont)**

(a) contravened a condition of the licence; or

(b) in any other way contravened the Act; or

(c) operated a radiocommunications device under the licence, or purportedly under the licence, in contravention of any other law (whether written or unwritten) of the Commonwealth, a State or a Territory or in the course of contravening such a law.

**Reissue**

6. A spectrum licence may not be reissued to the same licensee without a price based allocation procedure unless:

(a) the ACA is satisfied under section 82(1) of the Act that special circumstances exist as a result of which it would in the public interest for that licensee to continue to hold that licence; or

(b) the licensee provides a service of a kind determined by the Minister under section 82(3) of the Act for which reissuing licences to the same licensees would be in the public interest.

**Trading**

7.(1) A licensee may assign or otherwise deal with the whole or any part of a spectrum licence provided that this is done in accordance with any rules determined by the ACA under section 88 of the Act.

(2) An assignment under section 85 of the Act of the whole or any part of a licence that involves any change to a licence does not take effect until;

(a) the ACA has been advised of the changes; and

(b) the Register of Radiocommunications Licences in respect of spectrum licences has been altered accordingly.

**Appeals**

8. An application may be made to the ACA for re-consideration of decisions listed under section 285 of the Act. A person affected by and dissatisfied with the decision may seek a re-consideration of the decision by the ACA under section 288(1) of the Act. This decision can be subject to further re-consideration by the Administrative Appeals Tribunal, subject to the provisions of the *Administrative Appeals Tribunal Act 1975*.

**Labelling of transmitters**

9. Transmitters operated under this licence are to be labelled in accordance with the *Radiocommunications (Labelling) Determination 1997*.

---

# SCHEDULE 6

Subsection 2.12 (1)

## EMISSION LIMITS OUTSIDE THE AREA

PART 1—BASE EMISSION LIMITS

1. This Part applies in those parts of the spectrum for which:
   (a) there is no agreement for the purposes of core condition 7 in force; and
   (b) the licensee does not hold another spectrum licence in the 800 MHz band.

2. The emission limits outside the area, for frequency bands only containing in-band frequencies, are a horizontally radiated power of:

   P dBm EIRP per 30 kHz;

   where:
   P = 70 - k (*d*);

   where:
   (a) *d* is the distance, measured in kilometres, of the device from the boundary of the geographic area of the licence under which the device operates; and
   (b) k (*d*) is the power conversion function.

   For a spectrum licence issued for the 800 MHz band, k (*d*) = 11 for d ≥ 0.

3. For this Schedule, the level of emission outside the area is to be estimated with a level of confidence not less than 95 percent that the true level of emission remains below the relevant emission limit.

4. For the purposes of paragraph 2, the level of emission is to be estimated after taking into account:
   (a) the kind of antenna; and
   (b) the kind of equipment used with the antenna; and
   (c) the location and immediate physical environment in which the antenna operates.

**SCHEDULE 6** (continued)

**EMISSION LIMITS OUTSIDE THE AREA** *(continued)*

PART 2—OTHER EMISSION LIMITS

1. This Part applies in that part of the spectrum for which:
   (a) there is an agreement in force for the purposes of core condition 7; or
   (b) the licensee holds another spectrum licence in the 800 MHz band.

2. The emission limits outside the area are the level that does not cause the base emission limits to be exceeded in any part of the spectrum for which:
   (a) there is no agreement for the purposes of core condition 7 in force; and
   (b) the licensee does not hold another spectrum licence in the 800 MHz band.

# SCHEDULE 7

Subsection 2.12 (2)

## EMISSION LIMITS OUTSIDE THE BAND

[Note: Emission limits outside the band manage levels of:

(a) modulation and intermodulation products outside the frequency band of the licence associated with:
  (i) the transmitted information; and
  (ii) switching transient emissions (carrier rise times); and
  (iii) where applicable, multicarrier transmitters; and

(b) transmitter wide band noise; and

(c) transmitter spurious signals from frequency combining processes, including multicoupling of transmitters into an antenna; and

(d) receiver emissions.]

### PART 1—BASE EMISSION LIMITS

**1.** This Part applies in those parts of the spectrum:

(a) for which there is no agreement for the purposes of core condition 15 in force; and

(b) for which the licensee does not hold another spectrum licence in the 800 MHz band.

**Non-spurious emission outside the designated bands - 800 MHz transmitters**

**2.1** For radio emission that is:

(a) not spurious emission; and

(b) caused by a transmitter operating under a spectrum licence issued for the 800 MHz band; and

(c) at frequencies outside the frequency bands 825 MHz to 845 MHz and 870 MHz to 890 MHz; and

(d) offset from 825 MHz, 845 MHz and 870 MHz;

the emission limits outside the band are for frequency bands containing frequencies that have offsets:

(e) within the range 0 kHz to 30 kHz - a radiated maximum true mean power of 3 dBm EIRP per 30 kHz; and

(f) within the range 30 kHz to 1 MHz - a radiated maximum true mean power of -7 dBm EIRP per 30 kHz; and

(g) within the range 1 MHz to 10 MHz - a radiated maximum true mean power of -15 dBm EIRP per 30 kHz; and

(h) greater than 10 MHz - a radiated maximum true mean power of -30 dBm EIRP per 30 kHz; and

(j) within the range 120 kHz to 150 kHz - a radiated peak power of -4 dBm EIRP measured within a 30 kHz rectangular bandwidth.

**2.2** For radio emission that is:

(a) not spurious emission; and

(b) caused by a transmitter operating under a spectrum licence issued for the 800 MHz band; and

(c) at frequencies outside the frequency band 870 MHz to 890 MHz; and

(d) offset from 890 MHz;

the emission limits outside the band are for frequency bands containing frequencies that have offsets:

(e) within the range 0 kHz to 200 kHz - a radiated maximum true mean power of 2.5 dBm EIRP per 30 kHz; and

(f) within the range 200 kHz to 10 MHz - a radiated maximum true mean power of -21.5 dBm EIRP per 30 kHz; and

(g) greater than 10 MHz - a radiated maximum true mean power of -30 dBm EIRP per 30 kHz; and

(h) within the range 120 kHz to 150 kHz - a radiated peak power of -4 dBm EIRP measured within a 30 kHz rectangular bandwidth.

**2.3** However, when the emission limits outside the band at any frequency and specified in Section 3 are more constraining, the limits set out in Section 3 apply.

**Non-spurious emission - 800 MHz transmitters**

**3.** For radio emission that is:

(a) not spurious emission; and

(b) caused by a transmitter operating under a spectrum licence issued for the 800 MHz band and

(c) at frequencies outside the frequency band of the licence; and

(d) offset from the upper and lower limits of the frequency band;

the emission limits outside the band are for frequency bands containing frequencies that have offsets:

(e) within the range 0 kHz to 30 kHz - a radiated maximum true mean power of 24 dBm EIRP per 30 kHz; and

(f) within the range 30 kHz to 60 kHz - a radiated maximum true mean power of 5 dBm EIRP per 30 kHz; and

(g) within the range 60 kHz to 90 kHz - a radiated maximum true mean power of -10 dBm EIRP per 30 kHz.

(h) within the range 90 kHz to 10 MHz - a radiated maximum true mean power of -14 dBm EIRP per 30 kHz; and

(j) greater than 10 MHz - a radiated maximum true mean power of -30 dBm EIRP per 30 kHz; and

(k) within the range 120 kHz to 150 kHz - a radiated peak power of -4 dBm EIRP measured within a 30 kHz rectangular bandwidth.

**Spurious emission - 800 MHz transmitters**

**4.** For radio emission that is:

(a) spurious emission; and

(b) caused by a transmitter operating under a spectrum licence issued for the 800 MHz band; and

(c) at frequencies outside the frequency band of the licence;

the emission limit outside the band is a radiated mean power of:

(d) -36 dBm EIRP measured within a 100 kHz rectangular bandwidth that is within the band 9 kHz to 550 MHz; and

(e) -21 dBm EIRP measured within a 100 kHz rectangular bandwidth that is within the band 550 MHz to 1 GHz; and

(f) -15 dBm EIRP measured within a 100 kHz rectangular bandwidth that is within the band 1 GHz to 1.65 GHz.

(g) -30 dBm EIRP measured within a 100 kHz rectangular bandwidth that is within the band 1.65 GHz to 12.75 GHz.

**800 MHz receivers**

**5.** For radio emission that is;

(a) caused by receivers operating under spectrum licences issued for the 800 MHz band; and

(b) at frequencies outside the frequency band of the licence;

the emission limit outside the band is a radiated mean power of:

(c) -57 dBm EIRP measured within a 100 kHz rectangular bandwidth that is within the band 9 kHz to 550 Hz; and

(d) -44 dBm EIRP measured within a 100 kHz rectangular bandwidth that is within the band 550 MHz to 1 GHz; and

(e) -34 dBm EIRP measured within a 100 kHz rectangular bandwidth that is within the band 1 GHz to 1.65 GHz; and

(f) -47 dBm EIRP measured within a 100 kHz rectangular bandwidth that is within the band 1.65 GHz to 12.75 GHz.

PART 2—OTHER EMISSION LIMITS

**1.** This Part applies in that part of the spectrum for which:

(a) there is an agreement in force for the purposes of core condition 15; or

(b) the licensee holds another spectrum licence in the 800 MHz band.

**2.** The emission limits outside the band are the level that does not cause the base emission limits to be exceeded in any part of the spectrum for which:

(a) there is no agreement for the purposes of core condition 15 in force; and

(b) the licensee does not hold another spectrum licence in the 800 MHz band.