Radiocommunications Licence Conditions (Fixed Licence) Determination No. 1 of 1997

TABLE OF PROVISIONS

Commonwealth of Australia

Radiocommunications Act 1992

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I, ROGER SMITH, Acting Spectrum Manager, acting on behalf of the Spectrum Management Agency, make the following determination under paragraph 107 (1) (f) of the *Radiocommunications Act 1992*.

Dated 2 May 1997.

ROGER SMITH
Acting Spectrum Manager

PART 1—PRELIMINARY

Citation

1. This Determination may be cited as Radiocommunications Licence Conditions (Fixed Licence) Determination No. 1 of 1997.

[NOTE: This Determination commences on gazettal: see *Acts Interpretation Act 1901*, ss. 46A and 48.]

Scope

2. This Determination sets out the conditions to which a fixed licence is subject in the following manner:

(a) every fixed licence (point to point station) is subject to the conditions in Part 2;

(b) every fixed licence (point to multipoint station) is subject to the conditions in Part 3.

Interpretation

3. (1) In this Determination, unless the contrary intention appears:

"base station" means the point to multipoint station to which a licence relates that is established at a fixed location mentioned in the licence;

"bit error ratio" means the ratio of the number of bit errors to the total number of bits transmitted in a given time interval;

"conducted spurious power" means the power of conducted spurious radio frequency signals generated from components and wiring in a transmitter or receiver and conducted to the input terminals of the transmitter or receiver;

"duty cycle" means the ratio of the period of time a transmitter is transmitting in a given period of time to the given period of time;

"fixed licence (point to multipoint station)" means a fixed licence authorising the holder to operate a point to multipoint station;

"fixed licence (point to point station)" means a fixed licence authorising the holder to operate a point to point station;

"in line attenuation" means the amount of attenuation placed in a line;

"intermodulation" means the modulation of the components of a complex wave by each other, as a result of which waves are produced having frequencies equal to the sums and differences of integral multiples of those of the components of the original complex wave;

"licence" means:

(a) a fixed licence (point to point station); or

(b) a fixed licence (point to multipoint station);

"licensee" means the holder of a licence, and includes any person authorised by the licensee to operate a fixed station under the licence;

"maximum beamwidth in the E-plane" means the angle between the half power points of an antenna measured in the plane of the electric field;

"mid band gain" means the antenna gain in the centre of the frequency band of operation;

"minimum front-back ratio" means the minimum ratio of the maximum directivity of an antenna in the forward direction to its directivity in a specified backward direction;

"remote control station" means a fixed station established at a fixed location to achieve remote control of a base station and a supplementary base station (if any);

"remote station" means a fixed station that communicates with a base station or a supplementary base station (if any);

"SINAD" means the ratio of the audio power recovered from a modulated frequency carrier to the residual audio power present after the audio signal is removed;

[NOTE: "SINAD" is also known as a "Signal Plus Noise Plus Distortion to Noise Plus Distortion Ratio".]

"supplementary base station" means a point to multipoint station used with a base station to communicate with at least 1 remote station.

[NOTE: For the definitions of other expressions used in this Determination, see the *Radiocommunications Act 1992*, the Radiocommunications (Definitions) Determination No. 2 of 1993 and the Radiocommunications Regulations.]

(2) For this Determination, a frequency band described using 2 frequencies starts immediately above the lower frequency and ends at the higher frequency.

PART 2—CONDITIONS FOR FIXED LICENCE (POINT TO POINT STATION)

Conditions

4. For paragraph 107 (1) (f) of the Act, every fixed licence (point to point station) is subject to the conditions in this Part.

Technical performance of antenna

5. (1) If the licensee operates a point to point station to transmit on a frequency mentioned in column 2 of an item in Schedule 1, the licensee must operate the station using:

(a) the antenna specified on the licence; or

(b) if no antenna is specified on the licence—an antenna that complies with the requirements mentioned in columns 3, 4 and 5 of the item.

[NOTE: The requirements in columns 3, 4 and 5 of the items in Schedule 1 are minimum requirements only. Every licensee is encouraged to use an antenna exceeding those requirements if possible.]

(2) If the licensee operates a point to point station to transmit on a frequency that is not mentioned in column 2 of an item in Schedule 1, the licensee must operate the station using:

(a) the antenna specified on the licence; or

(b) if no antenna is specified on the licence—an antenna that can be used in operating the station without causing harmful interference to a service provided by another station.

PART 3—CONDITIONS FOR FIXED LICENCE (POINT TO MULTIPOINT STATION)

Conditions

6. For paragraph 107 (1) (f) of the Act, every fixed licence (point to multipoint station) is subject to the conditions in this Part.

Restrictions on communications

7. The licensee of a fixed licence (point to multipoint station) must operate a fixed station only to communicate with other stations to which the licence relates.

Supplementary base stations

8. If the licensee operates a supplementary base station, the licensee:

(a) must not operate the station if its operation causes harmful interference to a service provided by another station; and

(b) must operate the station to transmit only using the receive or transmit frequencies specified on the licence for the base station; and

(c) must operate the station only to overcome deficiencies within the coverage area of the base station; and

(d) must not operate the station to extend the coverage area of the base station.

Remote stations

9. (1) For a remote station, the licensee:

(a) must not operate the station if its operation causes harmful interference to a service provided by another station; and

(b) must operate the station to transmit to the base station or supplementary base station (if any) using the receive or transmit frequencies specified on the licence for the base station.

(2) The licensee must not operate a remote station for data transmission, telecommand or telemetry if:

(a) the duty cycle of the station is more than 1 in 30; or

(b) the duration of a transmission from the station is more than 2 seconds; or

(c) the minimum repetition interval of the station is less than 10 seconds.

(3) If the licensee operates a remote station for data transmission, telecommand or telemetry in accordance with column 2 of an item in Schedule 2, the licensee must operate the station using the transmitter output power mentioned in column 3 of the item.

(4) The licensee may operate a remote station for purposes other than data transmission, telecommand or telemetry if it is operated:

(a) using the maximum transmitter output power specified on the licence; or

(b) if no power is specified on the licence—using a maximum transmitter output power of 1 watt at the antenna input.

(5) If a remote station is located in a central business district of a city or town, the licensee:

(a) must not locate the antenna of the station more than 30 metres above the average surrounding ground level; and

(b) must fit a device between the transmitter and the antenna that provides intermodulation performance equivalent to, or better than, the intermodulation performance achieved by an in line attenuation of 20 dB.

Remote control stations

10. (1) If the licensee operates a remote control station, the licensee:

(a) must not operate the station if its operation causes harmful interference to a service provided by another station; and

(b) must operate the station to transmit to the base station or supplementary base station (if any) using the receive or transmit frequencies specified on the licence for the base station; and

(c) must not operate the station unless it is operated using a maximum transmitter output power not exceeding 1 watt at the antenna input.

(2) If the licensee operates a remote control station for data transmission, telecommand or telemetry, the licensee must operate the station using a transmitter output power that does not exceed the power necessary to achieve a wanted receive signal level of 10 dB above the input required to achieve a bit error ratio of 1 in 1000 at the base station.

(3) If a remote control station is located in a central business district of a city or town, the licensee:

(a) must not locate the antenna of the station more than 30 metres above the average surrounding ground level; and

(b) must fit a device between the transmitter and the antenna that provides intermodulation performance equivalent to, or better than, the intermodulation performance achieved by an in line attenuation of 20 dB.

Short range communications

11. (1) This section applies if a licensee of a fixed licence (point to multipoint station) operates a fixed station to communicate with another station not more than 100 metres from it.

(2) The licensee must operate the fixed station:

(a) in a manner that ensures that any transmitter or receiver conducted spurious power is less than minus 45 dBm; and

(b) using an external antenna located not more than 10 metres above ground level; and

(c) in a manner that ensures that the transmitter noise power does not exceed minus 60 dBm in a 10 kHz bandwidth at an offset that is at least 300 kHz from the frequency specified on the licence.

(3) If the licensee operates the fixed station in a temperature range of 0-40 degrees centigrade (inclusive), the licensee must operate the station using adjacent channel power not exceeding minus 30 dBm in a 10 kHz bandwidth that is centred in the upper or lower 12.5 kHz channel adjoining the bandwidth specified on the licence.

SCHEDULE 1

Subsection 5 (1)

REQUIREMENTS FOR THE ANTENNA OF A POINT TO POINT STATION

Column 1 Item no.	Column 2 Frequency of point to point station (MHz)	Column 3 Maximum beam width of antenna in E-plane (degrees)	Column 4 Minimum front/back ratio of antenna (dB)	Column 5 Mid band gain of antenna (dBi)	Column 6 Example of suitable antenna
1	148-174	44	20	12	6 element Yagi antenna
2	403-520	36	17	13	9 element Yagi antenna
3	820-960	30	20	16	15 element Yagi antenna

[NOTE: The maximum beam width of an antenna is measured between the 3 dB points.]

SCHEDULE 2

Subsection 9 (3)

TRANSMITTER POWER LEVELS FOR A REMOTE STATION

Column 1 Item no.	Column 2 Operation of station	Column 3 Power levels
1	The station is operated to transmit on the frequency band 451.5-452.5 MHz or 853.5-854.0 MHz	Transmitter output power must not exceed 5 watts at the antenna input
2	The station is operated to transmit on the frequency band 451.5-452.5 MHz or 853.5-854.0 MHz and in accordance with the following specifications: (a) the duty cycle is not more than 1 in 1000; (b) the duration of the transmission from the station will not exceed 0.5 seconds; (c) the minimum repetition interval of the station is more than 10 seconds; (d) the transmitting antenna is located inside a building	Transmitter output power must not exceed the lesser of: (a) 25 watts at the antenna input; and (b) the level that is necessary to achieve a received signal 15 dB above 12 dB SINAD
3	The station is operated to transmit on any other frequency band	Transmitter output power must not exceed 1 watt at the antenna input