

COMMONWEALTH OF AUSTRALIA
AUSTRALIAN COMMUNICATIONS AND MEDIA AUTHORITY



Radiocommunications Act 1992

SPECTRUM LICENCE FOR THE 2 GHz BAND

This licence is issued under Part 3.2 of the Act to the person named at Item 1 of Part 1 of Licence Schedule 1 of this licence.

1. The person named at Item 1 of Part 1 of Licence Schedule 1 ('the licensee'), or a person authorised under subsection 68 (1) of the Act, is authorised, under this licence, to operate radiocommunications devices in accordance with:
 - (a) the Act;
 - (b) the core conditions set out in Licence Schedule 2;
 - (c) the statutory conditions set out in Licence Schedule 3; and
 - (d) the other conditions set out in Licence Schedule 4.
2. This licence comes into force on the date shown at Item 5 of Part 1 of Licence Schedule 1 and remains in force until the end of the date shown at Item 6 of Part 1 of Licence Schedule 1.

Definitions

3. In this licence, unless the contrary intention appears:

2 GHz band has the meaning given by the *Radiocommunications Spectrum Marketing Plan (2 GHz unallocated lots band) 2017*.

Act means the *Radiocommunications Act 1992*.

area-adjacent spectrum licences mean the spectrum licences that authorise the operation of radiocommunications devices in the geographic areas adjacent to the geographic areas described in Table 1 and 2 of Part 2 of Licence Schedule 1.

Canberra Deep Space Communications Complex (CDSCC) refers to the complex housing numerous Earth stations located at Tidbinbilla in HCIS identifier MW4H6.

frequency-adjacent spectrum licences mean the spectrum licences that authorise the operation of radiocommunications devices in the frequency bands adjacent to the frequency bands described in Table 1 and 2 of Part 2 of Licence Schedule 1.

HAPS means a high altitude platform station, which is a station located on an object at an altitude of 20 to 50 km and at a specified, nominal, fixed point relative to the earth.

harmful interference has the same meaning as in the spectrum plan made under subsection 30 (1) of the Act.

HCIS identifier means an identifier used to describe a geographic area in the HCIS.

Hierarchical Cell Identification Scheme (HCIS) means the cell grouping hierarchy scheme used to describe geographic areas in the *Australian Spectrum Map Grid 2012* published by the ACMA, as existing from time to time.

Note: The *Australian Spectrum Map Grid 2012* is available on the ACMA website at: www.acma.gov.au.

ITU Radio Regulations means the Radio Regulations published by the International Telecommunication Union, as in force from time to time.

Note: The Radio Regulations are available on the ITU website at: www.itu.int.

occupied bandwidth, in relation to a radiocommunications transmitter, means the width of a frequency band having upper and lower limits that are necessary to contain 99% of the true mean power of the transmitter's radio emission at any time.

Definitions (cont)

section 145 Determination means the *Radiocommunications (Unacceptable Levels of Interference - 2 GHz Band) Determination 2016* (as in force from time to time).

spectrum space means a 3 dimensional space consisting of a frequency band and a geographic area.

unwanted emissions means any emissions (both out-of-band and spurious emissions) outside the lower and upper frequency limits of this licence as set out in Part 2 of Licence Schedule 1.

Note: A number of terms, used in this licence are defined in the Act and unless the contrary intention appears, have the meanings given to them by the Act. These terms include:

- ACMA
- core condition
- frequency band
- radiocommunications device
- radiocommunications receiver
- radiocommunications transmitter
- radio emission
- Register
- spectrum licence
- spectrum licence tax
- spectrum plan.

4. Unless the contrary intention appears, terms and expressions used in this licence have the meaning given to them by the *Radiocommunications Spectrum Marketing Plan (2 GHz unallocated lots band) 2017* (as in force from time to time) or the section 145 Determination.
5. Unless the contrary intention appears, in this licence:
 - (a) the value of a parameter in Licence Schedules 2 and 3 must be estimated with a level of confidence not less than 95% that the true value of the parameter will always remain below the requirement specified; and
 - (b) the range of numbers that identify a frequency band includes the higher, but not the lower, number.

Licence Schedule 1 Licence details, bands and areas

Part 1 Licence Details

<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>
<i>Item</i>	<i>Licensee Details</i>	
1	<i>Name of licensee</i>	Telstra 3G Spectrum Holdings Pty Ltd
2	<i>Address of licensee</i>	Locked Bag 3501 (C/- R Preston) BRISBANE QLD 4001
3	<i>Client number</i>	1104504
	<i>Licence Details</i>	
4	<i>Band release</i>	2 GHz Band
5	<i>Date of licence effect</i>	12/10/2017
6	<i>Date of licence expiry</i>	11/10/2032
7	<i>Licence number</i>	10143466
8	<i>Date of licence issue</i>	29/06/2021

Part 2 Frequency bands and geographic areas

For core condition 1, this licence authorises the operation of radiocommunications devices in the frequency bands specified in column 3 and within the corresponding geographic areas specified in column 2 of Table 1.

Frequency bands consist of the bandwidth between the lower and upper frequencies, where the lower frequency limit is exclusive and upper frequency limit is inclusive. The geographic areas in column 2 of Table 1 are described by the sequence of HCIS identifiers in Table 2.

Licence Schedule 1 Licence details, bands and areas (Cont)

Table 1: Frequency bands and geographic areas of this licence

Identifier (column 1)	Geographic areas (column 2)	Frequency bands (column 3)			
		Lower band (MHz)		Upper band (MHz)	
		Lower limit	Upper limit	Lower limit	Upper limit
A	1	1935	1940	2125	2130
B		1960	1970	2150	2160
C	2	1920	1930	2110	2120
D		1935	1940	2125	2130
E	3	1920	1930	2110	2120
F		1935	1940	2125	2130
G	4	1920	1930	2110	2120
H		1935	1940	2125	2130
I	5	1920	1930	2110	2120
J		1935	1940	2125	2130
K	6	1920	1930	2110	2120
L		1935	1940	2125	2130
M	7	1935	1940	2125	2130
N		1960	1970	2150	2160
O	8	1935	1940	2125	2130
P		1960	1970	2150	2160
Q	9	1965	1975	2155	2165
R	10	1965	1975	2155	2165

Licence Schedule 1 Licence details, bands and areas (Cont)

Table 2: Description of the geographic areas of this licence

Geographic areas (column 1)	HCIS identifiers (column 2)
1	KX3J, KX3K, KX3L, KX3N, KX3O, KX3P, KX6B, KX6C, KX6D, KX6F, KX6G, KX6H, KX6J, KX6K, KX6L, LX1I, LX1M, LX1N, LX1O, LX4A, LX4B, LX4C, LX4E, LX4I, KX3F7, KX3F8, KX3F9, KX3G7, KX3G8, KX3G9, KX3H4, KX3H5, KX3H6, KX3H7, KX3H8, KX3H9, KX3M6, KX3M8, KX3M9, KX6A2, KX6A3, KX6A5, KX6A6, KX6A8, KX6A9, KX6E2, KX6E3, KX6E5, KX6E6, KX6E8, KX6E9, KX6I2, KX6I3, KX6I5, KX6I6, KX6I8, KX6I9, LX1E4, LX1E7, LX1E8, LX1E9, LX1J1, LX1J4, LX1J5, LX1J6, LX1J7, LX1J8, LX1J9, LX1K4, LX1K7, LX4F1, LX4F2, LX4F4, LX4F5, LX4F7, LX4F8, LX4J1, LX4J2, LX4J4, LX4J5, LX4J7, LX4J8
2	NT9, NT5G, NT5H, NT5K, NT5L, NT5O, NT5P, NT6E, NT6F, NT6G, NT6H, NT6I, NT6J, NT6K, NT6L, NT6M, NT6N, NT6O, NT6P, NT8C, NT8D, NT8G, NT8H, NT8K, NT8L, NT8O, NT8P, NU3A, NU3B, NU3C, NU3D, NU3F, NU3G, NU3H, NT5C4, NT5C5, NT5C6, NT5C7, NT5C8, NT5C9, NT5D4, NT5D5, NT5D6, NT5D7, NT5D8, NT5D9, NT6A4, NT6A5, NT6A6, NT6A7, NT6A8, NT6A9, NT6B4, NT6B5, NT6B6, NT6B7, NT6B8, NT6B9, NT6C4, NT6C5, NT6C6, NT6C7, NT6C8, NT6C9, NT6D4, NT6D5, NT6D6, NT6D7, NT6D8, NT6D9, NU2C1, NU2C2, NU2C3, NU2D1, NU2D2, NU2D3, NU2D5, NU2D6, NU2D8, NU2D9, NU2H2, NU2H3, NU3E1, NU3E2, NU3E3, NU3E5, NU3E6, NU3E8, NU3E9, NU3I2, NU3I3, NU3J1, NU3J2, NU3J3, NU3K1, NU3K2, NU3K3, NU3L1, NU3L2, NU3L3
3	IW3J, IW3K, IW3L, IW3N, IW3O, IW3P, IW6B, IW6C, IW6D, IW6F, IW6G, IW6H, IW3E5, IW3E6, IW3E8, IW3E9, IW3F4, IW3F5, IW3F6, IW3F7, IW3F8, IW3F9, IW3G4, IW3G5, IW3G6, IW3G7, IW3G8, IW3G9, IW3H4, IW3H5, IW3H6, IW3H7, IW3H8, IW3H9, IW3I2, IW3I3, IW3I5, IW3I6, IW3I8, IW3I9, IW3M2, IW3M3, IW3M5, IW3M6, IW3M8, IW3M9, IW6A2, IW6A3, IW6A5, IW6A6, IW6A8, IW6A9, IW6E2, IW6E3, IW6E5, IW6E6, IW6E8, IW6E9, JW1E4, JW1E7, JW1I1, JW1I4, JW1I7, JW1M1, JW1M4
4	BV1I, BV1J, BV1K, BV1L, BV1M, BV1N, BV1O, BV1P, BV2I, BV2J, BV2M, BV2N, BV4A, BV4B, BV4C, BV4D, BV4E, BV4F, BV4G, BV4H, BV4I, BV4J, BV4K, BV4L, BV5A, BV5B, BV5E, BV5F, BV5I, BV5J, BV1E7, BV1E8, BV1E9, BV1F7, BV1F8, BV1F9, BV1G7, BV1G8, BV1G9, BV1H7, BV1H8, BV1H9, BV2E7, BV2E8, BV2E9, BV2F7, BV2F8, BV2F9, BV4M1, BV4M2, BV4M3, BV4N1, BV4N2, BV4N3, BV4O1, BV4O2, BV4O3, BV4P1, BV4P2, BV4P3, BV5M1, BV5M2, BV5M3, BV5N1, BV5N2, BV5N3
5	LY8L, LY8P, LY9I, LY9J, LY9K, LY9L, LY9M, LY9N, LY9O, LY9P, LZ2D, LZ2H, LZ3A, LZ3B, LZ3C, LZ3D, LZ3E, LZ3F, LZ3G, LZ3H, LY8H4, LY8H5, LY8H6, LY8H7, LY8H8, LY8H9, LY9E4, LY9E5, LY9E6, LY9E7, LY9E8, LY9E9, LY9F4, LY9F5, LY9F6, LY9F7, LY9F8, LY9F9, LY9G4, LY9G5, LY9G6, LY9G7, LY9G8, LY9G9, LY9H4, LY9H5, LY9H6, LY9H7, LY9H8, LY9H9, LZ2L1, LZ2L2, LZ2L3, LZ3I1, LZ3I2, LZ3I3, LZ3J1, LZ3J2, LZ3J3, LZ3K1, LZ3K2, LZ3K3, LZ3L1, LZ3L2, LZ3L3
6	GO7C, GO7D, GO7G, GO7H, GO7K, GO7L, GO8A, GO8E, GO8I
7	MW4D, MW4H, MW4L, MW5A, MW5B, MW5E, MW5F, MW5I, MW5J, MW1P4, MW1P5, MW1P6, MW1P7, MW1P8, MW1P9, MW2M4, MW2M5, MW2M6, MW2M7, MW2M8, MW2M9, MW2N4, MW2N5, MW2N6, MW2N7, MW2N8, MW2N9, MW4P1, MW4P2, MW4P3, MW5M1, MW5M2, MW5M3, MW5N1, MW5N2, MW5N3

Licence Schedule 1 Licence details, bands and areas (Cont)

Geographic areas (column 1)	HCIS identifiers (column 2)
8	NW1, MV9I, MV9J, MV9K, MV9L, MV9M, MV9N, MV9O, MV9P, MW3C, MW3D, MW3G, MW3H, MW3K, MW3L, MW3O, MW3P, NV4N, NV4O, NV4P, NV5M, NV5N, NV5O, NV5P, NV7B, NV7C, NV7D, NV7E, NV7F, NV7G, NV7H, NV7I, NV7J, NV7K, NV7L, NV7M, NV7N, NV7O, NV7P, MV9D6, MV9D9, MV9E4, MV9E5, MV9E6, MV9E7, MV9E8, MV9E9, MV9F4, MV9F5, MV9F6, MV9F7, MV9F8, MV9F9, MV9G4, MV9G5, MV9G6, MV9G7, MV9G8, MV9G9, MV9H3, MV9H4, MV9H5, MV9H6, MV9H7, MV9H8, MV9H9, MW3B2, MW3B3, MW3B5, MW3B6, MW3B8, MW3B9, MW3F2, MW3F3, MW3F5, MW3F6, MW3F8, MW3F9, MW3J2, MW3J3, NV4I5, NV4I6, NV4I8, NV4I9, NV4J4, NV4J5, NV4J6, NV4J7, NV4J8, NV4J9, NV4K4, NV4K5, NV4K6, NV4K7, NV4K8, NV4K9, NV4L4, NV4L5, NV4L6, NV4L7, NV4L8, NV4L9, NV4M2, NV4M3, NV4M5, NV4M6, NV4M8, NV4M9, NV5I4, NV5I5, NV5I6, NV5I7, NV5I8, NV5I9, NV5J4, NV5J5, NV5J6, NV5J7, NV5J8, NV5J9, NV5K4, NV5K5, NV5K6, NV5K7, NV5K8, NV5K9, NV5L4, NV5L5, NV5L6, NV5L7, NV5L8, NV5L9, NV7A2, NV7A3, NV7A4, NV7A5, NV7A6, NV7A7, NV7A8, NV7A9

Licence Schedule 1 Licence details, bands and areas (Cont)

Geographic areas (column 1)	HCIS identifiers (column 2)
9	KW, LW, GV1, GV2, GV3, GV6, HV1, HV2, HV4, HV5, HV6, HV8, HV9, HW3, IV4, IV5, IV6, IV7, IV8, IV9, IW1, IW2, IW4, IW5, IW7, IW8, IW9, JV4, JV5, JV7, JV8, JV9, JW2, JW3, JW4, JW5, JW6, JW7, JW8, JW9, JX1, JX2, JX3, JX5, JX6, KV7, KX1, KX2, KX4, KX5, KX8, KX9, KY2, KY3, KY6, LQ1, LQ2, LQ4, LQ5, LQ7, LQ8, LR2, LR3, LR5, LR6, LV9, LX2, LX3, LX5, LX6, LX7, LX8, LX9, LY1, LY2, LY3, LY4, LY5, LY6, LY7, LZ1, MR1, MR4, MR5, MR7, MR8, MR9, MS1, MS2, MS3, MS4, MS5, MS6, MS8, MS9, MT3, MT6, MT9, MU3, MU5, MU6, MU8, MU9, MV1, MV2, MV3, MV4, MV5, MV6, MV7, MV8, MW6, MW7, MW8, MW9, MX1, MX2, MX3, MX4, MX7, MY1, MY4, MY7, MZ1, NS4, NS7, NS8, NS9, NT1, NT2, NT3, NT4, NT7, NU1, NU4, NU5, NU6, NU7, NU8, NU9, NV1, NV2, NV3, IW3A, IW3B, IW3C, IW3D, IW6I, IW6J, IW6K, IW6L, IW6M, IW6N, IW6O, IW6P, JW1A, JW1B, JW1C, JW1D, JW1F, JW1G, JW1H, JW1I, JW1K, JW1L, JW1N, JW1O, JW1P, KX3A, KX3B, KX3C, KX3D, KX3E, KX3I, KX6M, KX6N, KX6O, KX6P, LX1A, LX1B, LX1C, LX1D, LX1F, LX1G, LX1H, LX1L, LX1P, LX4D, LX4G, LX4H, LX4K, LX4L, LX4M, LX4N, LX4O, LX4P, LY8A, LY8B, LY8C, LY8D, LY8E, LY8F, LY8G, LY8I, LY8J, LY8K, LY8M, LY8N, LY8O, LY9A, LY9B, LY9C, LY9D, LZ2A, LZ2B, LZ2C, LZ2E, LZ2F, LZ2G, LZ2I, LZ2J, LZ2K, LZ2M, LZ2N, LZ2O, LZ2P, LZ3M, LZ3N, LZ3O, LZ3P, MV9A, MV9B, MV9C, MW1A, MW1B, MW1C, MW1D, MW1E, MW1F, MW1G, MW1H, MW1I, MW1J, MW1K, MW1L, MW1M, MW1N, MW1O, MW2A, MW2B, MW2C, MW2D, MW2E, MW2F, MW2G, MW2H, MW2I, MW2J, MW2K, MW2L, MW2O, MW2P, MW3A, MW3E, MW3I, MW3M, MW3N, MW4A, MW4B, MW4C, MW4E, MW4F, MW4G, MW4I, MW4J, MW4K, MW4M, MW4N, MW4O, MW5C, MW5D, MW5G, MW5H, MW5K, MW5L, MW5O, MW5P, NT5A, NT5B, NT5E, NT5F, NT5I, NT5J, NT5M, NT5N, NT8A, NT8B, NT8E, NT8F, NT8I, NT8J, NT8M, NT8N, NU2A, NU2B, NU2E, NU2F, NU2G, NU2I, NU2J, NU2K, NU2L, NU2M, NU2N, NU2O, NU2P, NU3M, NU3N, NU3O, NU3P, NV4A, NV4B, NV4C, NV4D, NV4E, NV4F, NV4G, NV4H, NV5A, NV5B, NV5C, NV5D, NV5E, NV5F, NV5G, NV5H, IW3E1, IW3E2, IW3E3, IW3E4, IW3E7, IW3F1, IW3F2, IW3F3, IW3G1, IW3G2, IW3G3, IW3H1, IW3H2, IW3H3, IW3I1, IW3I4, IW3I7, IW3M1, IW3M4, IW3M7, IW6A1, IW6A4, IW6A7, IW6E1, IW6E4, IW6E7, JW1E1, JW1E2, JW1E3, JW1E5, JW1E6, JW1E8, JW1E9, JW1I2, JW1I3, JW1I5, JW1I6, JW1I8, JW1I9, JW1M2, JW1M3, JW1M5, JW1M6, JW1M7, JW1M8, JW1M9, KX3F1, KX3F2, KX3F3, KX3F4, KX3F5, KX3F6, KX3G1, KX3G2, KX3G3, KX3G4, KX3G5, KX3G6, KX3H1, KX3H2, KX3H3, KX3M1, KX3M2, KX3M3, KX3M4, KX3M5, KX3M7, KX6A1, KX6A4, KX6A7, KX6E1, KX6E4, KX6E7, KX6I1, KX6I4, KX6I7, LX1E1, LX1E2, LX1E3, LX1E5, LX1E6, LX1J2, LX1J3, LX1K1, LX1K2, LX1K3, LX1K5, LX1K6, LX1K8, LX1K9, LX4F3, LX4F6, LX4F9, LX4J3, LX4J6, LX4J9, LY8H1, LY8H2, LY8H3, LY9E1, LY9E2, LY9E3, LY9F1, LY9F2, LY9F3, LY9G1, LY9G2, LY9G3, LY9H1, LY9H2, LY9H3, LZ2L4, LZ2L5, LZ2L6, LZ2L7, LZ2L8, LZ2L9, LZ3I4, LZ3I5, LZ3I6, LZ3I7, LZ3I8, LZ3I9, LZ3J4, LZ3J5, LZ3J6, LZ3J7, LZ3J8, LZ3J9, LZ3K4, LZ3K5, LZ3K6, LZ3K7, LZ3K8, LZ3K9, LZ3L4, LZ3L5, LZ3L6, LZ3L7, LZ3L8, LZ3L9, MV9D1, MV9D2, MV9D3, MV9D4, MV9D5, MV9D7, MV9D8, MV9E1, MV9E2, MV9E3, MV9F1, MV9F2, MV9F3, MV9G1, MV9G2, MV9G3, MV9H1, MV9H2, MW1P1, MW1P2, MW1P3, MW2M1, MW2M2, MW2M3, MW2N1, MW2N2, MW2N3, MW3B1, MW3B4, MW3B7, MW3F1, MW3F4, MW3F7, MW3J1, MW3J4, MW3J5, MW3J6, MW3J7, MW3J8, MW3J9, MW4P4, MW4P5, MW4P6, MW4P7, MW4P8, MW4P9, MW5M4, MW5M5, MW5M6, MW5M7, MW5M8, MW5M9, MW5N4, MW5N5, MW5N6, MW5N7, MW5N8, MW5N9, NT5C1, NT5C2,

Licence Schedule 1 Licence details, bands and areas (Cont)

Geographic areas (column 1)	HCIS identifiers (column 2)
	NT5C3, NT5D1, NT5D2, NT5D3, NT6A1, NT6A2, NT6A3, NT6B1, NT6B2, NT6B3, NT6C1, NT6C2, NT6C3, NT6D1, NT6D2, NT6D3, NU2C4, NU2C5, NU2C6, NU2C7, NU2C8, NU2C9, NU2D4, NU2D7, NU2H1, NU2H4, NU2H5, NU2H6, NU2H7, NU2H8, NU2H9, NU3E4, NU3E7, NU3I1, NU3I4, NU3I5, NU3I6, NU3I7, NU3I8, NU3I9, NU3J4, NU3J5, NU3J6, NU3J7, NU3J8, NU3J9, NU3K4, NU3K5, NU3K6, NU3K7, NU3K8, NU3K9, NU3L4, NU3L5, NU3L6, NU3L7, NU3L8, NU3L9, NV4I1, NV4I2, NV4I3, NV4I4, NV4I7, NV4J1, NV4J2, NV4J3, NV4K1, NV4K2, NV4K3, NV4L1, NV4L2, NV4L3, NV4M1, NV4M4, NV4M7, NV5I1, NV5I2, NV5I3, NV5J1, NV5J2, NV5J3, NV5K1, NV5K2, NV5K3, NV5L1, NV5L2, NV5L3, NV7A1
10	AU2, AU3, AU6, AU9, AV9, AW3, BU1, BU2, BU4, BU5, BU7, BU8, BU9, BV3, BV6, BV7, BV8, BV9, BW1, BW2, BW3, BW5, BW6, CV4, CV7, CW1, CW4, BV1A, BV1B, BV1C, BV1D, BV2A, BV2B, BV2C, BV2D, BV2G, BV2H, BV2K, BV2L, BV2O, BV2P, BV5C, BV5D, BV5G, BV5H, BV5K, BV5L, BV5O, BV5P, BV1E1, BV1E2, BV1E3, BV1E4, BV1E5, BV1E6, BV1F1, BV1F2, BV1F3, BV1F4, BV1F5, BV1F6, BV1G1, BV1G2, BV1G3, BV1G4, BV1G5, BV1G6, BV1H1, BV1H2, BV1H3, BV1H4, BV1H5, BV1H6, BV2E1, BV2E2, BV2E3, BV2E4, BV2E5, BV2E6, BV2F1, BV2F2, BV2F3, BV2F4, BV2F5, BV2F6, BV4M4, BV4M5, BV4M6, BV4M7, BV4M8, BV4M9, BV4N4, BV4N5, BV4N6, BV4N7, BV4N8, BV4N9, BV4O4, BV4O5, BV4O6, BV4O7, BV4O8, BV4O9, BV4P4, BV4P5, BV4P6, BV4P7, BV4P8, BV4P9, BV5M4, BV5M5, BV5M6, BV5M7, BV5M8, BV5M9, BV5N4, BV5N5, BV5N6, BV5N7, BV5N8, BV5N9

Note: The HCIS is described in the *Australian Spectrum Map Grid 2012*. The *Australian Spectrum Map Grid 2012* is available on the ACMA website at: www.acma.gov.au. Copies are also available from the ACMA.

Licence Schedule 2 Core Conditions

Frequency band and geographic areas

1. This licence authorises the operation of radiocommunications devices in the frequency bands and within the geographic areas set out in Part 2 of Licence Schedule 1.

Emission limits outside the frequency band

2. Core conditions 3 to 10 apply in relation to those frequencies that are outside the frequency bands set out in Part 2 of Licence Schedule 1.
3. Where a written agreement specifying the maximum permitted level of radio emission for frequencies described in core condition 2 exists between:
 - (a) the licensee; and
 - (b) all the affected licensees of frequency-adjacent spectrum licences and area-adjacent spectrum licences;

the licensee must comply with that specified maximum permitted level of radio emission.

4. Where there is no written agreement for the purposes of core condition 3 in force, the licensee must comply with core conditions 5 to 10.

Unwanted emission limits

5. (1) Subject to sub-condition (2), the licensee must ensure that radiocommunications transmitters operated under this licence do not exceed the unwanted emission limits in core conditions 6, 7 and 10.

(2) For any frequency where an emission limit described in core conditions 8 or 9 is less than an emission limit described in core condition 6, the emission limit in core conditions 8 or 9 applies.

Licence Schedule 2

Core Conditions (cont)

6. The unwanted emission limits in Table 3 apply:

- (a) to a radiocommunications transmitter operating in the frequency band 2110-2170 MHz;
- (b) at frequencies outside the upper or lower frequency limits set out in Part 2 of Licence Schedule 1; and
- (c) offset from the upper or lower frequency limits set out in Part 2 of Licence Schedule 1;

where:

f_{offset} : is the frequency offset from the upper or lower frequency limits set out in Part 2 of Licence Schedule 1. The closest -3dB point of the specified bandwidth to the upper or lower frequency limits of this licence is placed at f_{offset} .

Table 3: Radiated maximum true mean power unwanted emission limits

Frequency offset range (f_{offset})	Radiated maximum true mean power (dBm EIRP)	Specified bandwidth
$0 \text{ kHz} \leq f_{\text{offset}} < 5 \text{ MHz}$	$11 - (7/5) \times f_{\text{offset}} \text{ (MHz)}$	100 KHz
$5 \text{ MHz} \leq f_{\text{offset}} < 10 \text{ MHz}$	4	100 KHz
$f_{\text{offset}} \geq 10 \text{ MHz}$	3	1 MHz

7. The unwanted emission limits in Table 4 apply:

- (a) to a radiocommunications transmitters operating in the frequency band 1920-1980 MHz;
- (b) at frequencies outside the upper or lower frequency limits set out in Part 2 of Licence Schedule 1; and
- (c) offset from the upper or lower frequency limits set out in Part 2 of Licence Schedule 1; and
- (d) within the frequency band 1875-2025 MHz;

where:

f_{offset} : is the frequency offset from the upper or lower frequency limits set out in Part 2 of Licence Schedule 1. The closest -3dB point of the specified bandwidth to the upper or lower frequency limits of this licence is placed at f_{offset} .

Table 4: Radiated maximum true mean power unwanted emission limits

Frequency offset range (f_{offset})	Radiated maximum true mean power (dBm EIRP)	Specified bandwidth
$0 \text{ kHz} \leq f_{\text{offset}} < 1 \text{ MHz}$	-15	30 KHz
$1 \text{ MHz} \leq f_{\text{offset}} < 5 \text{ MHz}$	-10	1 MHz
$5 \text{ MHz} \leq f_{\text{offset}} < 39.8 \text{ MHz}$	-13	1 MHz
$f_{\text{offset}} \geq 39.8 \text{ MHz}$	-25	1 MHz

Licence Schedule 2

Core Conditions (cont)

8. The unwanted emission limits in Table 5 apply:

- (a) to a radiocommunications transmitter operating in the band 2110-2170 MHz;
- (b) at frequencies below 2110 MHz; and
- (c) offset from 2110 MHz;

where:

f_{offset} : is the frequency offset from 2110 MHz. The closest -3dB point of the specified bandwidth to the lower frequency limit of this licence is placed at f_{offset} .

Table 5: Radiated maximum true mean power unwanted emission limits

Frequency offset range (f_{offset})	Radiated maximum true mean power (dBm EIRP)	Specified bandwidth
$0 \text{ kHz} \leq f_{\text{offset}} < 4 \text{ MHz}$	$11 - (7/5) \times f_{\text{offset}} \text{ (MHz)}$	100 kHz
$4 \text{ MHz} \leq f_{\text{offset}} < 5 \text{ MHz}$	-4	100 kHz
$5 \text{ MHz} \leq f_{\text{offset}} < 10 \text{ MHz}$	-1	1 MHz
$f_{\text{offset}} \geq 10 \text{ MHz}$	-11	1 MHz

9. The unwanted emission limits in Table 6 apply:

- (a) to a radiocommunications transmitter operating in the band 2110-2170 MHz;
- (b) at frequencies above 2170 MHz; and
- (c) offset from 2170 MHz;

where:

f_{offset} : is the frequency offset from 2170 MHz. The closest -3dB point of the specified bandwidth to the upper frequency limit of this licence is placed at f_{offset} .

Table 6: Radiated maximum true mean power unwanted emission limits

Frequency offset range (f_{offset})	Radiated maximum true mean power (dBm EIRP)	Specified bandwidth
$f_{\text{offset}} \geq 10 \text{ MHz}$	-11	1 MHz

Licence Schedule 2

Core Conditions (cont)

10. The additional unwanted emission limits in Table 7 apply to radiocommunications transmitters operating in the band 1920-1980 MHz. These limits apply outside the 1875-2025 MHz band, measure over the specified bandwidth for the relevant frequency range.

Table 7: Radiated maximum true mean power unwanted emission limits

Frequency range (f)	Radiated maximum true mean power (dBm EIRP)	Specified bandwidth
$9 \text{ kHz} \leq f < 150 \text{ kHz}$	-36	1 kHz
$150 \text{ kHz} \leq f < 30 \text{ MHz}$	-36	10 kHz
$30 \text{ MHz} \leq f < 1 \text{ GHz}$	-36	100 kHz
$1 \text{ GHz} \leq f < 1.875 \text{ GHz}$	-30	1 MHz
$2.025 \text{ GHz} \leq f$	-30	1 MHz

Emission limits outside the geographic area

11. Core conditions 12 to 14 apply in relation to those areas that are outside the geographic areas set out in Part 2 of Licence Schedule 1.
12. Where a written agreement specifying the maximum permitted level of radio emission for areas described in core condition 11 exists between:
- (a) the licensee; and
 - (b) all the affected licensees of frequency-adjacent spectrum licences and area-adjacent spectrum licences;
- the licensee must comply with that specified maximum permitted level of radio emission.
13. Where there is no written agreement for the purposes of core condition 12 in force, the licensee must comply with core condition 14.
14. The licensee must ensure that the maximum permitted level of radio emission for an area described in core condition 11 caused by the operation of radiocommunications transmitters under this licence does not exceed a radiated maximum true mean power of 77.2 dBm EIRP per 5 MHz.

Licence Schedule 3

Statutory Conditions

Liability to pay charges

1. The licensee must comply with all its obligations to pay:
 - (a) charges fixed by determinations made under section 60 of the *Australian Communications and Media Authority Act 2005*;
 - (b) the spectrum access charges fixed by determinations made under section 294 of the Act; and
 - (c) amounts of spectrum licence tax.

Third party use

2. (1) The licensee must notify any person whom the licensee authorises, under section 68 of the Act to operate radiocommunications devices under this licence of that person's obligations under the Act, in particular:
 - (a) the registration requirements under Part 3.5 of the Act for operation of radiocommunications devices under this licence (if applicable); and
 - (b) any rules made by the ACMA under subsection 68 (3) of the Act.
- (2) Any person other than the licensee who operates a radiocommunications device under this licence must comply with rules made by the ACMA under subsection 68 (3) of the Act.

Transmitter registration requirements

3. The licensee must not operate a radiocommunications transmitter under this licence unless:
 - (a) the transmitter has been exempted from the registration requirements under statutory condition 4 below; or
 - (b) both:
 - (i) the registration requirements under Part 3.5 of the Act for operation of the transmitter have been met; and
 - (ii) the transmitter complies with the details about it as specified in the Register.

Licence Schedule 3 Statutory Conditions (cont)

Exemption from registration requirements

4. The following kinds of radiocommunications transmitters are exempt from the registration requirements in statutory condition 3:
- (a) a transmitter that operates in the 2 GHz band with a maximum EIRP of less than or equal to 25 dBm per occupied bandwidth;
 - (b) a HAPS transmitter that does not exceed a power flux density of -121.5 dB (W/(m².MHz)) at Earth's surface outside the spectrum space as defined for this licence in Table 1 of Licence Schedule 1.

Residency

5. (1) The licensee must not derive any income, profits or gains from operating radiocommunications devices under this licence, or from authorising an authorised person to do so, unless:
- (a) the licensee is an Australian resident; or
 - (b) the income, profits or gains are attributable to a permanent establishment in Australia through which the licensee carries on business.
- (2) An authorised person must not derive income, profits or gains from operating radiocommunications devices under this licence, or from allowing third parties to operate radiocommunications devices under this licence, unless:
- (a) the authorised person is an Australian resident; or
 - (b) the income, profits or gains are attributable to a permanent establishment in Australia through which the authorised person carries on business.
- (3) 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 Act by the licensee to operate radiocommunications devices under this licence.

permanent establishment has the same meaning as in:

- (a) 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
- (b) in any other case-the *Income Tax Assessment Act 1997*.

Definitions

1. In this Licence Schedule 4:

communal site has the same meaning as in the *Radiocommunications (Interpretation) Determination 2015* as in force from time to time.

managing interference includes but is not limited to:

- (a) investigating the possible causes of the interference;
- (b) taking all steps reasonably necessary to resolve disputes about interference;
- (c) taking steps (or requiring persons authorised to operate radiocommunications 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 interference between:

- (a) radiocommunications devices operated under this licence; and
- (b) radiocommunications devices operated under this licence and under each other spectrum licence held by the licensee.

Co-site devices

3. If:

- (a) interference occurs between a radiocommunications device:
 - (i) operated under this licence; and
 - (ii) operated under another licence (the *other licence*);

when the measured separation between the phase centre of the antenna used with each radiocommunications device is less than 200 metres; 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 authorised third party) of the other licence wishes to resolve the interference;

the licensee must manage interference 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.

Licence Schedule 4 Other Conditions (cont)

Information for the Register

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

Note: Licensees should assist the ACMA in keeping the Register accurate and up to date by informing the ACMA of changes to radiocommunications device registration details as soon as possible.

International coordination

5. The licensee must ensure that operation of a radiocommunications transmitter under this licence does not cause harmful interference to a radiocommunications receiver that operates in accordance with the ITU Radio Regulations and is located in a country other than Australia.

Electromagnetic Energy (EME) Requirements

6. The licensee must comply with Parts 2, 3 and 4 of the *Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015* as in force from time to time. For the purpose of compliance with this condition, the definition of licence in subsection 4 (1) of the *Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015* is to be read as if it means a spectrum licence.

Record Keeping - transmitters located at communal sites

7. (1) If the licensee operates a radiocommunications transmitter under this licence, and the transmitter:
 - (a) is located at a communal site; and
 - (b) is not exempt under statutory condition 4 of Licence Schedule 3,the licensee must comply with sub-conditions 7 (2) and 7 (3).

Licence Schedule 4

Other conditions (cont)

7. (2) In relation to each radiocommunications transmitter, the licensee must keep a record which includes the following information:
 - (a) the radiocommunications transmitter's device registration number as specified in the Register;
 - (b) the licence number of this licence;
 - (c) the radiocommunications transmitter's geographic location;
 - (d) if the licensee owns the radiocommunications transmitter, the licensee's name and address;
 - (e) if the licensee does not own the radiocommunications transmitter, the owner's name and address;
 - (f) the radiocommunications transmitter's centre frequency;
 - (g) the radiocommunications transmitter's emission designator;
 - (h) details of the radiocommunications transmitter's antenna including the manufacturer, model, type, gain, polarisation, azimuth and average ground height;
 - (i) the radiocommunications transmitter's maximum true mean power; and
 - (j) the radiocommunications transmitter's maximum EIRP.
- (3) If the ACMA requests a copy of a record kept under sub-condition 7 (2), the licensee must comply with the request as soon as practicable.

Coordination with the Mid-West Radio Quiet Zone

8. Before seeking to register a radiocommunications transmitter for use in or around the RQZ, as defined by the *Radiocommunications (Mid-West Radio Quiet Zone) Frequency Band Plan 2011* (as in force from time to time), the licensee must follow the procedures set out in Radiocommunications Assignment and Licensing Instruction (RALI) MS 32 as existing from time to time, as if the radiocommunications transmitter were an apparatus licensed transmitter.

Note: RALI MS 32 *Coordination of Apparatus Licensed Services Within The Australian Radio Quiet Zone Western Australia* is available on the ACMA website at www.acma.gov.au.

Harmful Interference

9. The licensee must ensure that operation of a radiocommunications transmitter that is exempt from registration under statutory condition 4 of Licence Schedule 3 does not cause harmful interference to other radiocommunications devices operated in the 2 GHz band under a different spectrum or apparatus licence.

Licence Schedule 4

Other conditions (cont)

Spurious Emission Limits

10. The licensee must ensure that radiocommunications devices operated under this licence do not exceed the spurious emission limits in conditions 11 and 14. The spurious emission limits in conditions 11 to 14 apply to emissions of electromagnetic energy other than radio emissions.
11. For radiocommunications transmitters operating in the 2110-2170 MHz frequency band, the spurious emission limits in Table 8 apply at frequencies outside the 2100-2180 MHz frequency band, measured over the measurement bandwidth for the relevant frequency range.
12. For radiocommunications transmitters operating in the 1920-1980 MHz frequency band, the spurious emission limits in Table 8 apply at frequencies outside the 1875-2025 MHz frequency band, measure over the measurement bandwidth for the relevant frequency range.

Table 8: Radiocommunications transmitter spurious emission limits

Frequency range (f)	Mean power (dBm) at the antenna connector	Measurement bandwidth
$9 \text{ kHz} \leq f < 150 \text{ kHz}$	-36	1 kHz
$150 \text{ kHz} \leq f < 30 \text{ MHz}$	-36	10 kHz
$30 \text{ MHz} \leq f < 1 \text{ GHz}$	-36	100 kHz
$1 \text{ GHz} \leq f < 12.75 \text{ GHz}$	-30	1 MHz

13. For radiocommunications receivers operating in the 1920-1980 frequency band, the spurious emission limits in Table 9 apply at frequencies outside the 2100-2180 MHz frequency band, measured over the measurement bandwidth for the relevant frequency range.
14. For radiocommunications receivers operating in the 2110-2170 MHz frequency band, the spurious emission limits in Table 9 apply, measured over the measurement bandwidth for the relevant frequency range.

Table 9: Radiocommunications receiver spurious emission limits

Frequency range (f)	Mean power (dBm) at the antenna connector	Measurement bandwidth
$30 \text{ MHz} \leq f < 1 \text{ GHz}$	-57	100 kHz
$1 \text{ GHz} \leq f < 12.75 \text{ GHz}$	-47	1 MHz

Licence Schedule 4 Other conditions (cont)

Radiocommunications transmitters operating at the CDSCC

15. Radiocommunications receivers operating in the 2110-2125 MHz frequency range cannot claim protection from harmful interference caused by radiocommunications transmitters of the space research service operated at the CDSCC.

Note: It is intended that radiocommunications devices operating in the 2110-2125 MHz frequency range do not constrain current or future space research service operations at the CDSCC in the 2110-2120 MHz frequency range.

Variation to licence conditions

1. The ACMA may, with the written agreement of the licensee, vary this licence by including one or more further conditions, or revoking or varying any conditions of this licence, provided that the conditions, as varied, still comply with the requirements of Division 2 of Part 3.2 of the Act.
2. The ACMA may, by written notice given to the licensee, vary this licence by including one or more further conditions (other than core conditions), or by revoking or varying any conditions (other than core conditions) of this licence, provided that the conditions as varied still comply with the requirements of Division 2 of Part 3.2 of the Act.

Determination of Unacceptable Interference

3. The ACMA has made the section 145 Determination that sets out the unacceptable levels of interference for the purpose of registering radiocommunications transmitters to be operated under this licence, and which is to be used for the issuing of certificates by accredited persons under subsection 145 (3) of the Act.

Note: Although not mandatory, the registration of receivers to be operated under this licence is advised because one of the matters the ACMA will take into account in settling interference disputes is the time of registration of the receiver involved in the interference.

Guidelines

4. The ACMA has issued written radiocommunications advisory guidelines (the guidelines) under section 262 of the Act about:
 - (a) co-ordinating the operation of radiocommunications transmitters under this licence with radiocommunications receivers operated under other licences:
 - *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters - 2 GHz Band) 2016;*
 - (b) co-ordinating the operation of radiocommunications receivers operated under this licence with radiocommunications transmitters operated under other licences:
 - *Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers - 2 GHz Band) 2016.*

Licence Schedule 5

Licence Notes (cont)

5. The guidelines should be read in conjunction with the *Radiocommunications (Unacceptable Levels of Interference - 2 GHz Band) Determination 2016* (see Licence Note 3). That determination sets out the unacceptable levels of interference for the purpose of registration of transmitters to be operated under this licence. The guidelines should be followed by licensees (and accredited persons) in the planning of services and the resolution of interference cases. The ACMA will consider these guidelines during the settlement of interference disputes. Each case will be assessed on its merits. Copies of the guidelines are available from www.legislation.gov.au and the ACMA.

Suspension and cancellation of spectrum licences

6. The ACMA may by written notice given to a licensee, suspend or cancel a spectrum licence in accordance with Division 3 of Part 3.2 of the Act.

Re-issue

7. A spectrum licence will not be re-issued to the same licensee without a price based allocation procedure unless:
 - (a) the ACMA is satisfied under paragraph 82 (1)(b) of the Act that special circumstances exist as a result of which it would be in the public interest for that licensee to continue to hold that spectrum licence; or
 - (b) the spectrum licence was used to provide a service of a kind determined by the Minister under subsection 82 (3) of the Act for which re-issuing licences to the same licensees would be in the public interest.

Trading

8. (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 ACMA under section 88 of the Act.
 - (2) An assignment under section 85 of the Act of the whole or any part of a spectrum licence that involves any change to the spectrum licence cannot take effect until the Register has been amended under Part 3.5 of the Act, to take it into account.

Appeals

9. An application may be made to the ACMA for reconsideration of a decision of a kind listed in section 285 of the Act. A person affected by and dissatisfied with an ACMA decision may seek a reconsideration of the decision by the ACMA under subsection 288 (1) of the Act. This decision can be subject to further review by the Administrative Appeals Tribunal, subject to the provisions of the *Administrative Appeals Tribunal Act 1975*.

Labelling of transmitters

10. Licensees should affix identification labels containing the name and address of the licensee on all fixed transmitters operated under this licence.

Note: An example of an identification label would be one containing the following statement:
“This device is the property of ‘name’”.