

COMMONWEALTH OF AUSTRALIA
AUSTRALIAN COMMUNICATIONS AND MEDIA AUTHORITY



Radiocommunications Act 1992

SPECTRUM LICENCE FOR THE 26 GHz BAND

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

1. The person named at Item 1 of Part 1, Licence Schedule 1 of this licence (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, Licence Schedule 1 and remains in force until the end of the date shown at Item 7 of Part 1, Licence Schedule 1.

Definitions

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

26 GHz band means the frequency range 25.1 GHz to 27.5 GHz.

Act means the *Radiocommunications Act 1992*, as in force from time to time.

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

area-wide licence has the meaning given in Schedule 1 to the *Radiocommunications (Interpretation) Determination 2015*, as in force from time to time, or in any instrument that replaces that determination, as in force from time to time.

earth receive station has the meaning given in Schedule 1 to the *Radiocommunications (Interpretation) Determination 2015*, as in force from time to time, or in any instrument that replaces that determination, as in force from time to time.

fixed transmitter means a radiocommunications transmitter located at a fixed point on land or sea and not designed or intended for use while in motion.

frequency-adjacent spectrum licences means spectrum licences that authorise the operation of radiocommunications devices in the frequency bands adjacent to each of the frequency bands described in Table 1 of Part 2 of Licence Schedule 1 to this licence.

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

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

Hierarchical Cell Identification Scheme or **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: www.acma.gov.au

Definitions (cont)

indoor transmitter means a radiocommunications transmitter that:

- (a) is in an enclosed space; and
- (b) has, at any point that is 2 metres from the outside surface of the enclosed space, a power flux density that:
 - (i) if the transmitter transmits in the frequency range 27.0 GHz - 27.5 GHz and is located inside an inner-footprint area - is less than or equal to -9 dBW/m² per occupied bandwidth;
 - (ii) in any other case - is less than or equal to -7 dBW/m² per occupied bandwidth.

inner-footprint area means an area specified in Schedule 1 to the *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters - 26 GHz Band) 2020*, as in force from time to time, or in any instrument that replaces those guidelines, as in force from time to time.

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

Licence Schedule means a schedule to this licence.

occupied bandwidth, in relation to a radiocommunications transmitter, means the bandwidth of a frequency band, having fixed upper and lower frequency limits, that is necessary to contain not less than 99% of the true mean power of the transmitter's radio emission at any time.

outer-footprint area means an area specified in Schedule 2 to the *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters - 26 GHz Band) 2020*, as in force from time to time, or in any instrument that replaces those guidelines, as in force from time to time.

RALI MS 46 means the Radiocommunications Assignment and Licensing Instruction No. MS 46, published by the ACMA, as existing from time to time.

Note: RALI MS 46 is available on the ACMA website at www.acma.gov.au

re-allocation area means the area specified at section 5 of the *Radiocommunications (Spectrum Re-allocation-26 GHz Band) Declaration 2019*, as in force the day this licence was issued.

Definitions (cont)

space receive station has the meaning given in Schedule 1 to the *Radiocommunications (Interpretation) Determination 2015*, as in force from time to time, or in any instrument that replaces that determination, as in force from time to time.

total radiated power or **TRP** is the integral of the power transmitted in different directions over the entire radiation sphere. It is measured considering the combination of all radiating elements on an antenna panel or individual device.

uplink-downlink configuration means an uplink-downlink configuration that is consistent with the uplink-downlink configuration as referred to in Appendix A of RALI MS 46, as existing from time to time.

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 (26 GHz Band) 2020*, as in force on the day this licence was issued, or the *Radiocommunications (Unacceptable Levels of Interference - 26 GHz Band) Determination 2020*, as in force from time to time or in any instrument that replaces that determination, as in force from time to time.

Note: A number of terms used in this licence, are defined in the Act and have the meanings given to them by the Act, including:

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

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) a reference to a part of the spectrum, a frequency band or a frequency range includes all frequencies that are greater than but not including the lower frequency, up to and including the higher frequency.

Licence Schedule 1

Licence details, bands and areas

Part 1 Licence Details

<i>Item</i>	<i>Licencee Details</i>	
1	<i>Name of licensee</i>	Optus Mobile Pty Limited
2	<i>Address of licensee</i>	PO Box 888 (Attn Cy Carter) NORTH RYDE NSW 1670
3	<i>Client number</i>	1103276
	<i>Licence Details</i>	
4	<i>Band release</i>	26 GHz Band
5	<i>Date of licence effect</i>	15/07/2021
6	<i>Date of licence expiry</i>	14/07/2036
7	<i>Licence number</i>	11275967
8	<i>Date of licence issue</i>	28/06/2021

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.

The 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	26700	27500		
B	2	26700	27500		
C	3	26700	27500		
D	4	26700	27500		
E	5	26700	27500		
F	6	26700	27500		
G	7	26700	27500		
H	8	26700	27500		
I	9	26700	27500		
J	10	26700	27500		
K	11	26700	27500		
L	12	26700	27500		
M	13	26700	27500		
N	14	26700	27500		
O	15	26700	27500		
P	16	26700	27500		
Q	17	26700	27500		
R	18	26700	27500		
S	19	26700	27500		
T	20	26700	27500		
U	21	26700	27500		
V	22	26700	27500		
W	23	26700	27500		
X	24	26700	27500		
Y	25	26100	26900		
Z	26	25100	25700		
AA	27	25100	25700		

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	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, IW6K1, IW6K2, IW6K3, IW6K4, IW6K5, IW6K6, IW6L1, JW1E4, JW1E7, JW1I1, JW1I4, JW1I7, JW1M1, JW1M4
2	MW5E, MW4D6, MW4D9, MW4H3, MW4H9, MW4L3, MW5A4, MW5A5, MW5A6, MW5A7, MW5A8, MW5A9, MW5B4, MW5B7, MW5F1, MW5F4, MW5F7, MW5I1, MW5I2, MW5I3, MW5J1
3	GO7C, GO7D, GO7G, GO7H, GO7K, GO7L, GO8A, GO8E, GO8I
4	NT9, NT5G, NT5H, NT5K, NT5L, NT5O, NT5P, NT6E, NT6F, NT6G, NT6H, NT6I, NT6J, NT6K, NT6L, NT6M, NT6N, NT6O, NT6P, NT7H, NT7L, NT8C, NT8D, NT8E, NT8F, NT8G, NT8H, NT8I, NT8J, NT8K, NT8L, NT8O, NT8P, NU3A, NU3B, NU3C, NU3D, NU3F, NU3G, NU3H, NU3J, NU3K, NU3L, NU3O, NU3P, 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, NT7G2, NT7G3, NT7G5, NT7G6, NT7G8, NT7G9, NT7K2, NT7K3, NT7K5, NT7K6, NT7K8, NT7K9, NT7O2, NT7O3, NT7O5, NT7O6, NT7P1, NT7P2, NT7P3, NT7P4, NT7P5, NT7P6, NT8M1, NT8M2, NT8M3, NT8M4, NT8M5, NT8M6, NT8N1, NT8N2, NT8N3, NT8N4, NT8N5, NT8N6, NU2C1, NU2C2, NU2C3, NU2D1, NU2D2, NU2D3, NU2D5, NU2D6, NU2D8, NU2D9, NU2H2, NU2H3, NU3E1, NU3E2, NU3E3, NU3E5, NU3E6, NU3E8, NU3E9, NU3I2, NU3I3, NU3I6, NU3I9, NU3M3, NU3M6, NU3N1, NU3N2, NU3N3, NU3N4, NU3N5, NU3N6
5	KX2L, KX3I, KX3J, KX3K, KX3L, KX3N, KX3O, KX3P, KX6B, KX6C, KX6D, KX6F, KX6G, KX6H, KX6J, KX6K, KX6L, LX1I, LX1M, LX1N, LX1O, LX4A, LX4B, LX4C, LX4E, LX4I, KX2G9, KX2H7, KX2H8, KX2H9, KX2K3, KX2K6, KX2K9, KX3E7, KX3E8, KX3E9, KX3F7, KX3F8, KX3F9, KX3G7, KX3G8, KX3G9, KX3H4, KX3H5, KX3H6, KX3H7, KX3H8, KX3H9, KX3M2, KX3M3, KX3M5, 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

Licence Schedule 1

Licence details, bands and areas (cont)

Geographic areas (column 1)	HCIS identifiers (column 2)
6	NW1, MV8G, MV9I, MV9J, MV9K, MV9L, MV9M, MV9N, MV9O, MV9P, MW3C, MW3D, MW3G, MW3H, MW3K, MW3L, MW3O, MW3P, MW6C, MW6D, NV4N, NV4O, NV4P, NV5M, NV5N, NV5O, NV5P, NV7B, NV7C, NV7D, NV7E, NV7F, NV7G, NV7H, NV7I, NV7J, NV7K, NV7L, NV7M, NV7N, NV7O, NV7P, MV8F3, MV8F6, MV8F9, MV8H4, MV8H5, MV8H6, MV8H7, MV8H8, MV8H9, MV8J3, MV8K1, MV8K2, MV8K3, MV8L1, MV8L2, MV8L3, 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
7	BW3P7, BW3P8, BW3P9, BW6D1, BW6D2, BW6D3, BW6D4, BW6D5, BW6D6, CW1M7, CW4A1, CW4A4
8	LW8D, LW5P7, LW5P8, LW5P9, LW6M7, LW9A1, LW9A4, LW9A7
9	NU7G8, NU7G9, NU7K2, NU7K3
10	KW9I5, KW9I6, KW9I8, KW9I9, KW9J4, KW9J5, KW9J6, KW9J7, KW9J8, KW9J9, KW9M2, KW9M3, KW9M5, KW9M6, KW9N1, KW9N2, KW9N3, KW9N4, KW9N5, KW9N6
11	NS8N, NS8O, NT2B, NT2C, NS8M2, NS8M3, NS8M5, NS8M6, NS8M8, NS8M9, NT2A2, NT2A3, NT2D7, NT2D8, NT2D9, NT2G1, NT2G2, NT2G3, NT2G4, NT2G5, NT2G6, NT2H1, NT2H2, NT2H3, NT2H4, NT2H5, NT2H6
12	LQ1O, LQ1P, LQ1K7, LQ1K8, LQ1K9, LQ1L7, LQ1L8, LQ1L9, LQ4C1, LQ4C2, LQ4C3, LQ4C4, LQ4C5, LQ4C6, LQ4D1, LQ4D2, LQ4D3, LQ4D4, LQ4D5, LQ4D6
13	NU9A, NU9E, NU8D9, NU8H3, NU8H6, NU8H9
14	NV5B6, NV5B9, NV5C4, NV5C5, NV5C7, NV5C8, NV5F3, NV5G1, NV5G2
15	LY6E, LY5H3, LY5H6, LY5H9, LY5L3, LY5L6, LY6F1, LY6F4, LY6F7, LY6I1, LY6I2, LY6I3, LY6I4, LY6I5, LY6I6, LY6J1, LY6J4
16	MR8A, MR5M7, MR5M8, MR5M9
17	KW1A4, KW1A5, KW1A6, KW1A7, KW1A8, KW1A9, KW1E1, KW1E2, KW1E3
18	NV2H, NV2L1, NV2L2, NV2L3
19	MS6F, MS6G, MS6B7, MS6B8, MS6B9, MS6C7, MS6C8, MS6C9, MS6J1, MS6J2, MS6J3, MS6K1, MS6K2, MS6K3
20	LW7F, LW7G1, LW7G4, LW7G7, LW7J1, LW7J2, LW7J3, LW7K1
21	LR2C, LR2D, LR2G, LR2H
22	LX5A6, LX5A8, LX5A9, LX5B4, LX5B5, LX5B6, LX5B7, LX5B8, LX5B9, LX5C4, LX5C5, LX5C7, LX5C8, LX5F1, LX5F2, LX5F3, LX5G1, LX5G2
23	LW6B
24	KX4F2, KX4F3, KX4F5, KX4F6, KX4F8, KX4F9, KX4G1, KX4G2, KX4G4, KX4G5, KX4G7, KX4G8

Licence Schedule 1

Licence details, bands and areas (cont)

Geographic areas (column 1)	HCIS identifiers (column 2)
25	BV1I, BV1J, BV1K, BV1L, BV1M, BV1N, BV1O, BV1P, BV2I, BV2J, BV2M, BV2N, BV4A, BV4B, BV4C, BV4D, BV4E, BV4F, BV4G, BV4H, BV4I, BV4J, BV4K, BV4L, BV4O, BV5A, BV5B, BV5E, BV5F, BV5I, BV5J, BV7C, BV7G, BV1E7, BV1E8, BV1E9, BV1F7, BV1F8, BV1F9, BV1G7, BV1G8, BV1G9, BV1H7, BV1H8, BV1H9, BV2E7, BV2E8, BV2E9, BV2F7, BV2F8, BV2F9, BV4M1, BV4M2, BV4M3, BV4N1, BV4N2, BV4N3, BV4P1, BV4P2, BV4P3, BV4P4, BV4P5, BV4P7, BV4P8, BV5M1, BV5M2, BV5M3, BV5N1, BV5N2, BV5N3, BV7D1, BV7D2, BV7D4, BV7D5, BV7D7, BV7D8, BV7H1, BV7H2, BV7H4, BV7H5, BV7H7, BV7H8, BV7K1, BV7K2, BV7K3, BV7L1, BV7L2
26	LY9N, LY9I8, LY9I9, LY9J7, LY9J8, LY9J9, LY9K7, LY9K8, LY9M2, LY9M3, LY9M5, LY9M6, LY9M8, LY9M9, LY9O1, LY9O2, LY9O4, LY9O5, LY9O7, LY9O8, LZ3A2, LZ3A3, LZ3B1, LZ3B2, LZ3B3, LZ3C1, LZ3C2
27	AV9P6, AV9P9, AW3D3, BV7M4, BV7M5, BV7M7, BV7M8, BW1A1, BW1A2

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.

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 14 apply in relation to those frequencies that are outside each of frequency bands set out in Part 2 of Licence Schedule 1. For a frequency band set out in Part 2 of Licence Schedule 1, Core Conditions 3 to 14 apply within the geographic area specified for the frequency band.
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 and area-adjacent spectrum licences, and frequency-adjacent and area-adjacent apparatus licences in frequency range 24.7 GHz - 30.0 GHzthe 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 14.

Unwanted emission limits

5. (1) The licensee must ensure that a radiocommunications transmitter that is, or is part of, a base station and that is operated under this licence does not exceed the unwanted emission limits in Core Conditions 6, 7, 8 and 9.
- (2) The licensee must ensure that a radiocommunications transmitter that is not, and is not part of, a base station and that is operated under this licence does not exceed the unwanted emission limits described in Core Conditions 10, 11, 12 and 13.
- (3) The licensee must ensure that a radiocommunications receiver that is operated under this licence does not exceed the unwanted emission limits described in Core Condition 14.

Licence Schedule 2

Core Conditions (cont)

Radiocommunications transmitters that are base stations

6. The unwanted emission limit in Table 3, measured over the specified bandwidth, applies at frequencies:
- (a) outside the upper or lower frequency limits set out in Part 2 of Licence Schedule 1;
 - (b) offset from the upper or lower frequency limits set out in Part 2 of Licence Schedule 1; and
 - (c) outside the frequency range 23.6 GHz - 24.0 GHz;

where:

$BW_{occupied}$ is the occupied bandwidth of the radiocommunications transmitter operated under this licence; and

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 for the spectrum licence is placed at f_{offset} .

Table 3: Base station unwanted emission limits - outside the frequency range 23.6 GHz - 24.0 GHz, with frequency offset less than or equal to $0.1 \times BW_{occupied}$

Frequency offset range	Total radiated power (dBm)	Specified bandwidth
$0 \text{ MHz} \leq f_{offset} \leq 0.1 \times BW_{occupied}$	-5	1 MHz

7. The unwanted emission limit in Table 4 applies at frequencies inside the frequency range 23.6 GHz-24.0 GHz for radiocommunications transmitters first operated under this licence before 1 September 2027, measured over the specified bandwidth.

Table 4: Unwanted emission limits for radiocommunications transmitters first operated before 1 September 2027 - inside the frequency range 23.6 GHz - 24.0 GHz

Total radiated power (dBm)	Specified bandwidth
-3	200 MHz

8. The unwanted emission limit in Table 5 applies at frequencies inside the frequency range 23.6 GHz-24.0 GHz for radiocommunications transmitters first operated under this licence on or after 1 September 2027, measured over the specified bandwidth.

Table 5: Unwanted emission limits for radiocommunications transmitters first operated on or after 1 September 2027 - inside the frequency range 23.6 GHz - 24.0 GHz

Total radiated power (dBm)	Specified bandwidth
-9	200 MHz

9. The unwanted emission limits in Table 6, measured over the specified bandwidth for the relevant frequency range, apply at frequencies:

- (a) greater than $0.1 \times BW_{occupied}$ from the upper or lower frequency limits set out in Part 2 of Licence Schedule 1; and
- (b) outside the frequency range 23.6 GHz-24.0 GHz;

where:

$BW_{occupied}$ is the occupied bandwidth of the radiocommunications transmitter operated under this licence.

Table 6: Base station unwanted emission limits - outside the frequency range 23.6 GHz-24.0 GHz

Frequency range (f)	Total radiated power (dBm)	Specified bandwidth
$30 \text{ MHz} \leq f < 1 \text{ GHz}$	-13	100 kHz
$1 \text{ GHz} \leq f \leq 55 \text{ GHz}$	-13	1 MHz

Radiocommunications transmitters that are not base stations

10. The unwanted emission limit in Table 7, measured over the specified bandwidth, applies at frequencies:

- (a) outside the upper or lower frequency limits set out in Part 2 of Licence Schedule 1; and
 - (b) 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 the licence is placed at f_{offset} .

Licence Schedule 2

Core Conditions (cont)

Table 7: Unwanted emission limits for radiocommunications transmitters that are not base stations - frequencies less than or equal to an offset of 40 MHz from the upper or lower frequency limits for the licence

Frequency range offset	Total radiated power (dBm)	Specified bandwidth
$0 \text{ MHz} \leq f_{\text{offset}} \leq 40 \text{ MHz}$	-5	1 MHz

11. The unwanted emission limits in Table 8, measured over the specified bandwidth for the relevant frequency range, apply at frequencies:
- (a) greater than 40 MHz offset from the upper or lower frequency limits set out in Part 2 of Licence Schedule 1; and
 - (b) outside the frequency range 23.6 GHz-24.0 GHz.

Table 8: Unwanted emission limits for radiocommunications transmitters that are not base stations - outside the frequency range 23.6 GHz-24.0 GHz, at frequencies equal to or greater than 40 MHz offset from the upper or lower frequency limits for the licence

Frequency range (f)	Total radiated power (dBm)	Specified bandwidth
$30 \text{ MHz} \leq f < 1 \text{ GHz}$	-36	100 kHz
$1 \text{ GHz} \leq f < 12.75 \text{ GHz}$	-30	1 MHz
$12.75 \text{ GHz} \leq f \leq 55 \text{ GHz}$	-13	1 MHz

12. The unwanted emission limit in Table 9 applies at frequencies inside the frequency range 23.6 GHz-24.0 GHz for radiocommunications transmitters that are not base stations first operated under this licence before 1 September 2027, measured over the specified bandwidth.

Table 9: Unwanted emission limits for radiocommunications transmitters that are not base stations - outside the frequency range 23.6 GHz-24.0 GHz, at frequencies equal to or greater than 40 MHz offset from the upper or lower frequency limits for the licence

Total radiated power (dBm)	Specified bandwidth
1	200 MHz

Licence Schedule 2

Core Conditions (cont)

13. The unwanted emission limit in Table 10 applies at frequencies inside the frequency range 23.6 GHz-24.0 GHz for radiocommunications transmitters that are not base stations first operated under this licence on or after 1 September 2027, measured over the specified bandwidth.

Table 10: Unwanted emission limits for radiocommunications transmitters that are not base stations - outside the frequency range 23.6 GHz-24.0 GHz, at frequencies equal to or greater than 40 MHz offset from the upper or lower frequency limits for the licence

Total radiated power (dBm)	Specified bandwidth
-5	200 MHz

Radiocommunications Receivers

14. The unwanted emission limits in Table 11 apply for radiocommunications receivers when measured over the specified bandwidth for the relevant frequency range.

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

Table 11: Radiocommunications receiver unwanted emission limits

Frequency range (f)	Total radiated power (dBm)	Specified bandwidth
$30 \text{ MHz} \leq f < 1 \text{ GHz}$	-36	100 kHz
$1 \text{ GHz} \leq f < 18 \text{ GHz}$	-30	1 MHz
$18 \text{ GHz} \leq f < 21 \text{ GHz}$	-15	10 MHz
$21 \text{ GHz} \leq f < 22.75 \text{ GHz}$	-10	10 MHz
$31 \text{ GHz} \leq f < 32.5 \text{ GHz}$	-10	10 MHz
$32.5 \text{ GHz} \leq f < 41.5 \text{ GHz}$	-15	10 MHz
$41.5 \text{ GHz} \leq f \leq 55 \text{ GHz}$	-20	10 MHz

Unwanted emission limits outside the geographic areas

15. Core Conditions 16 and 17 apply in relation to those areas that are outside the geographic areas set out in Part 2 of Licence Schedule 1.
16. The licensee must ensure that the maximum permitted level of radio emission for an area outside the areas set out in Part 2 of Licence Schedule 1 caused by the operation of radiocommunications devices under this licence does not exceed a total radiated power of:
- (a) 45 dBm/200 MHz for radiocommunications transmitters:
 - (i) operating in the frequency range 25.1 GHz-27.0 GHz; or
 - (ii) operating in the frequency range 27.0 GHz-27.5 GHz, and not located inside an inner-footprint area or an outer-footprint area; or
 - (b) 42 dBm/200MHz for radiocommunications transmitters operating in the frequency range 27.0 GHz-27.5 GHz and located inside an outer-footprint area; or
 - (c) 30 dBm/200 MHz for radiocommunications transmitters operating in the frequency range 27.0 GHz-27.5 GHz and located inside an inner-footprint area.

Note 1: For radiocommunications devices which employ an antenna array, the total radiated power limit applies to the aggregate power of all antenna elements in the antenna array.

Note 2: Logarithmic scaling should be used to find the appropriate level in alternative bandwidth.

17. The licensee complies with Core Condition 16 by ensuring that the maximum permitted level of radio emissions caused by the operation of radiocommunications transmitters under this licence does not, in any place, exceed a total radiated power of:
- (a) 45 dBm/200 MHz for radiocommunications transmitters:
 - (i) operating in the frequency range 25.1 GHz-27.0 GHz; or
 - (ii) operating in the frequency range 27.0 GHz-27.5 GHz, and not located inside an inner-footprint area or an outer-footprint area; or

Licence Schedule 2

Core Conditions (cont)

- (b) 42 dBm/200MHz for radiocommunications transmitters operating in the frequency range 27.0 GHz-27.5 GHz and located inside an outer-footprint area; or
- (c) 30 dBm/200 MHz for radiocommunications transmitters operating in the frequency range 27.0 GHz-27.5 GHz and located inside an inner-footprint area.

Note 1: For radiocommunications devices which employ an antenna array, the total radiated power limit applies to the aggregate power of all antenna elements in the antenna array.

Note 2: Logarithmic scaling should be used to find the appropriate level in alternative bandwidth.

Licence Schedule 3

Statutory Conditions

Liability to pay charges

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

Radiocommunications transmitter registration requirements

3. A person 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 requirements 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 radiocommunications transmitters are exempt from the registration requirement in Statutory Condition 3:
- (a) a radiocommunications transmitter that operates with a maximum total radiated power that is less than or equal to 23 dBm per occupied bandwidth;
 - (b) an indoor transmitter; or
 - (c) a fixed transmitter which:
 - (i) is not a base station; and
 - (ii) operates with a maximum total radiated power that is:
 - (A) greater than 23 dBm per occupied bandwidth; and
 - (B) less than or equal to 35 dBm per occupied bandwidth.

Residency

5. (1) The licensee must not derive any income, profits or gains from operating radiocommunications devices under this licence, or from authorising 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*.

Licence Schedule 4 Other Conditions

Definitions

1. In this Licence Schedule 4:

26 GHz band spectrum licence means a spectrum licence that authorises the operation of radiocommunications devices anywhere in the frequency range 25.1 GHz-27.5 GHz.

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 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-sited radiocommunications devices

3. If:
- (a) interference occurs between a radiocommunications device:
 - (i) operated under this spectrum licence; and
 - (ii) operated under another licence (the *other licence*);when the measured separation between the phase centre of the antenna used with each 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.

Information for 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 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 referred to a spectrum licence.

Licence Schedule 4

Other conditions (cont)

Record keeping - radiocommunications transmitters located at communal sites and high-powered outdoor radiocommunications transmitters that are not base stations

7. (1) If the licensee operates a radiocommunications transmitter under this licence, and the transmitter is located at a communal site and is not exempt from registration under Statutory Condition 4 of Licence Schedule 3, the licensee must comply with sub-conditions 7(3) and 7(5).
- (2) If the licensee operates a radiocommunications transmitter under this licence, and the transmitter is exempt under the Statutory Condition 4(c) of licence Schedule 3, the licensee must comply with sub-conditions 7(4) and 7(5).
- (3) In relation to each transmitter to which sub-condition 7(1) applies, the licensee must keep a record which includes the following information:
- (a) the transmitter's device registration number as assigned by the ACMA in the Register;
 - (b) the licensee number of this licence;
 - (c) the transmitter's geographic location;
 - (d) the licensee's name and address;
 - (e) if the licensee does not own the transmitter, the owner's name and address;
 - (f) the transmitter's emission centre frequency;
 - (g) the transmitters emission designator;
 - (h) details of the transmitter's antenna including the manufacture, model, type, gain, polarisation, azimuth, and height above ground level;
 - (i) the transmitter's maximum true mean power; and
 - (j) the transmitter's maximum equivalent isotropically radiated power (EIRP).
- (4) In relation to each transmitter to which sub-condition 7(2) applies, the licensee must keep a record which includes the following information:
- (a) the transmitter's geographic location;
 - (b) the transmitter's centre frequency;
 - (c) the transmitters emission designator;
 - (d) details of the transmitter's antenna including the manufacture, model, type, gain, polarisation, azimuth, and height above ground level;
 - (e) the transmitter's maximum true mean power; and
 - (f) the transmitter's maximum EIRP.
- (5) If the ACMA requests a copy of a record kept under sub-condition 7(3) or 7(4), the licensee must comply with the request as soon as practicable

Harmful Interference

8. 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 under a different spectrum licence or an apparatus licence.

Coexistence with space receive stations

9. The licensee must ensure that operation of a radiocommunications transmitter under this licence complies with the protection requirements specified in Part 4 of the *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters - 26 GHz Band) 2020*, as in force from time to time.

Coexistence with earth receive stations

10. The licensee must not operate a radiocommunications transmitter in the frequency range 25.5 GHz - 27 GHz if the transmitter is located in an area described by any of the following HCIS identifiers: MW4H3, MW4H9, MW4L3, MW5I1.

Note: The areas with HCIS identifies listed in condition 10 are located in the Australian Capital Territory.

11. The licensee must ensure that the operation of a radiocommunications transmitter under this licence complies with the protection requirements specified in Part 3 of the *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters - 26 GHz Band) 2020*, as in force from time to time.

Synchronisation requirement

12. If:

- (a) interference occurs between:
 - (i) a radiocommunications device (the **first device**) operated under this licence; and
 - (ii) one or more radiocommunications devices that are not earth stations (the **other devices**) operated under another 26 GHz band spectrum licence or area-wide licence that authorises the operation of one or more radiocommunications devices in the frequency range 24.7 GHz - 29.5 GHz (the **other licence**); and
- (b) the level of interference to the first device or to one or more of the other devices exceeds the compatibility requirement set out in Schedule 2 to the *Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers - 26 GHz Band) 2020*, as in force from time to time, or any instrument that replaces those guidelines; and
- (c) either the licensee or the holder (or authorised third party) of the other licence wishes to resolve the interference; and
- (d) no agreement between the licensee and each person operating one or more other devices can be reached on how to manage the interference;

then, by the end of the day specified in condition 13, the licensee is required to manage the interference by:

- (e) either:
 - (i) operating the first device with the uplink-downlink configuration; or
 - (ii) operating the first device using a sequence and duration of radio emissions that is consistent with those configurations (disregarding any time at which the device is not making a radio emission); and
- (f) synchronising the timing of the uplink-downlink configuration or other sequence of radio emissions of the first device with the timing of the uplink-downlink configuration or other sequence of radio emissions of each of the other devices mentioned in subparagraph (a) (ii) (disregarding any device at a time at which the device is not making a radio emission).

Note: The synchronisation requirement only applies when an interference issue occurs and where there is no other measure agreed to between the licensees to resolve the interference. This means synchronisation can be done on a site/cell specific basis. During any period in which the licensee and other licensee are taking steps to resolve the interference issue or synchronise, the ACMA will generally give priority to the device registered first in time in any interference dispute, meaning that device or devices registered later-in-time will generally be required to accept any interference or cease causing interference during this time.

Licence Schedule 4

Other Conditions

13. For the purposes of condition 12, the later of the following days is specified:

- (a) the day occurring 14 days after the day the interference was first reported in writing to the licensee;
- (b) if an alternative day is agreed with the licensee of the other licence - that alternative day.

Managing interference to incumbent apparatus licences

14. The licensee not cause unacceptable interference to any radiocommunications device authorised to operate in the 26 GHz band under an apparatus licence and located in a re-allocation area, until the end of the re-allocation period.

Note: The licensee will not be afforded protection by the ACMA from any radiocommunications devices authorised to operate in the 26 GHz band under an apparatus licence and located in a re-allocation area, until the end of the re-allocation period.

Payment of instalments of spectrum access charge

15. The licensee must ensure that a bank guarantee on the terms set out in condition 16 is in force at all times during the period during which the whole or part of the winning price remains owing by the person liable to pay the charge (*instalment period*).

16. The bank guarantee must:

- (a) be in a form approved by the ACMA; and
- (b) provide security to the Commonwealth for an amount equal to 5% of the amount of the winning price still owing to the Commonwealth at any point in time.

17. In conditions 15 and 16:

bank guarantee has the meaning given by subsection 6(5) of the *Radiocommunications (Spectrum Access Charges - 26 GHz Band) Direction 2020*.

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

Determination of unacceptable levels of interference

3. The ACMA has made the *Radiocommunications (Unacceptable Levels of Interference - 26 GHz Band) Determination 2020* 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 radiocommunications receivers to be operated under the 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 - 26 GHz Band) 2020*;
 - (b) co-ordinating the operation of radiocommunications receivers operated under this licence with transmitters operated under other radiocommunications licences:
 - *Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers - 26 GHz Band) 2020*, as in force from time to time.
5. The guidelines should be read in conjunction with the *Radiocommunications (Unacceptable Levels of Interference - 26 GHz Band) Determination 2020* (see Licence Note 3). This 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 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.
 - (b) 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 licence.

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 licence that involves any change to a licence does not 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’”.

The Radiocommunications Legislation Amendment (Reform and Modernisation) Bill 2020

11. Licensees should make themselves aware of the potential effects and changes proposed by the Radiocommunications Legislation Amendment (Reform and Modernisation) Bill 2020. This Bill may affect matters set out in this licence, including matters set out in these notes.