Radiocommunications Regulations (General User Radio License for Short Range Devices) Notice 2020

Pursuant to Regulation 9 of the Radiocommunications Regulations 2001 ("Regulations") made under section 116(1)(b) of the Radiocommunications Act 1989 ("Act"), and acting under delegated authority from the chief executive, I give the following notice.

Notice

1. Short title and commencement—

(1) This notice is the Radiocommunications Regulations (General User Radio Licence for Short Range Devices) Notice 2020.

(2) This notice comes into force on **6 November 2020**.

2. Licence—

(1) Licence Name: General User Radio Licence for Short Range Devices (SRDs).
(2) Licence: Any person may transmit radio waves using Short Range Devices (SRDs), also known as Restricted Radiation Devices (RRDs), Low Interference Potential Devices (LIPDs), or Spread Spectrum Devices (SSDs), in accordance with the applicable terms, conditions and restrictions of this notice.
(3) Licence number: 266324
(4) Commencement date: **6 November 2020**

3. Spectrum—

Low (MHz)	High (MHz)	Reference Frequency (MHz)	Maximum Power dBW e.i.r.p.	Remarks
0.0090	0.0900	0.0495	9.0	Special conditions 1, 8 and 25
0.0900	0.2050	0.1475	–20.0	Special conditions 1, 8 and 25
0.1190	0.1350	0.1270	3.0	Special conditions 1, 8 and 25
0.1485	30.0000	15.07425	–56.0	Special conditions 8 and 21
0.3150	0.4300	0.3725	–67.0	Special conditions 1, 8 and 25
3.1550	3.4000	3.2775	–50.0	Special conditions 2 and 20
3.6400	4.0400	3.8400	–76.0	Special conditions 2 and 20
6.7650	6.7950	6.7800	–20.0	
7.4000	8.8000	8.1000	–54.0	Special condition 19
10.4400	10.7600	10.6000	–76.0	Special conditions 2 and 20
13.5530	13.5670	13.5600	–10.0	
13.5530	13.5670	13.5600	–3.0	Special condition 12
26.9500	27.3000	27.1250	0.0	
29.7000	30.0000	29.8500	–10.0	
30.8000	31.5000	31.1500	–10.0	Special condition 3
35.5000	37.2000	36.3500	–10.0	
40.6600	40.7000	40.6800	0.0	
40.8000	41.0000	40.9000	–10.0	
49.8200	49.9000	49.8600	–10.0	
49.8200	49.9800	49.9000	–20.0	
72.0000	72.2500	72.1250	–10.0	Special condition 2
72.2500	72.5000	72.3750	–10.0	
87.5000	108.0000	98.0000	–50.0	Special condition 4
107.0000	108.0000	107.5000	–16.0	
160.1000	160.6000	160.3500	–3.0	
173.0000	174.0000	173.5000	–10.0	
235.0000	300.0000	267.5000	–30.0	Special condition 1
300.0000	322.0000	311.0000	–20.0	Special condition 1
402.0000	405.0000	403.5000	-46.0	Special condition 5
405.0000	406.0000	405.5000	–46.0	Special conditions 5 and 14
433.0500	434.7900	433.9200	–16.0	
444.0000	444.9250	444.4625	–16.0	Special condition 5
458.5400	458.6100	458.5750	–3.0	
466.8000	466.8500	466.8250	–3.0	
470.0000	470.5000	470.2500	–10.0	Special condition 5
471.0000	471.5000	471.2500	–10.0	
502.0000	510.0000	506.0000	–3.0	Special condition 24 and 26
502.0000	694.0000	598.0000	–50.0	Special condition 6
819.0000	824.0000	821.0000	–10.0	
864.0000	868.0000	866.0000	6.0	Special condition 13
868.0000	870.0000	869.0000	–27.0	Special conditions 1 and 15
869.2000	869.2500	869.2250	–20.0	Special conditions 1 and 15
915.0000	928.0000	921.5000	0.0	Special condition 23
920.0000	928.0000	924.0000	6.0	Special conditions 13 and 23
1785.0000	1805.0000	1795.0000	–17	Special condition 24 and 29
1785.0000	1805.0000	1795.0000	–13	Special condition 24 and 29
2400.0000	2483.5000	2441.7500	6.0	Special condition 13

2900.0000	3400.0000	3150.0000	–10.0	Special condition 7
5150.0000	5350.0000	5250.0000	0.0	Special conditions 9 and 17
5250.0000	7000.0000	6125.0000	–54.0	Special condition 27
5470.0000	5725.0000	5597.5000	0.0	Special conditions 9 and 18
5470.0000	5725.0000	5597.5000	–10.0	Special condition 7
5725.0000	5850.0000	5787.5000	23	Special condition 28
5725.0000	5875.0000	5800.0000	6.0	Special condition 13
5725.0000	5875.0000	5800.0000	3.0	Special condition 10
8500.0000	10000.0000	9250.0000	–10.0	Special condition 7
8500.0000	10000.0000	9250.0000	–54.0	Special condition 27
10000.0000	10600.0000	10300.0000	–16.0	Special condition 7
15700.0000	17300.0000	16500.0000	–10.0	Special condition 7
24000.0000	24250.0000	24125.0000	0.0	
24050.0000	26500.0000	25275.0000	–54.0	Special condition 27
33400.0000	36000.0000	34700.0000	–10.0	Special condition 7
46700.0000	46900.0000	46800.0000	–10.0	Special condition 11
57000.0000	66000.0000	61500.0000	13.0	Special condition 22
57000.0000	64000.0000	60500.0000	13.0	
75000.0000	85000.0000	80000.0000	–54.0	Special condition 27
76000.0000	81000.0000	78500.0000	25.0	Special condition 11
122000.0000	123000.0000	122500.0000	0.0	
244000.0000	246000.0000	245000.0000	0.0	

4. Location—

(1) Transmit Location: All New Zealand.
(2) Receive Location: All New Zealand.

5. Special conditions—

1. Use is limited to determination, telemetry or telecommand.

2. Use is limited to auditory aids.

3. Use is limited to model control.

4. Use is limited to audio senders.

5. Use is limited to biomedical telemetry.

6. Use is limited to audio/video senders.

7. Use is limited to radiolocation.

8. Use is limited to wireless power transfer systems and induction loop systems used for the detection of foreign objections.

9. Use is limited to wireless LAN.

10. Use is limited to road transport and traffic telematics.

11. Use is limited to field disturbance sensors.

12. Use is limited to RFID systems.

13. Transmitters using e.i.r.p. greater than 0 dBW (1 W) must employ frequency hopping or digital modulation techniques.

14. In the band 405 – 406 MHz, the maximum permitted duty cycle is 0.1%.

15. In the band 868 – 870 MHz, the maximum power is -27 dBW (2 mW) e.i.r.p. and the maximum permitted duty cycle is 1%, except in the band 869.20 – 869.25 MHz, where the maximum power is –20 dBW (10 mW) e.i.r.p. and the maximum permitted duty cycle is 0.1%.

16. *(Deleted.)*

17. In the band 5150 – 5350 MHz, the maximum power is 0 dBW (1 W) e.i.r.p. and the maximum permitted power spectral density is –13 dBW/MHz (50 mW/MHz) e.i.r.p., provided Dynamic Frequency Selection and Transmitter Power Control are implemented in conjunction with the following vertical radiation angle mask where θ is the angle above the local horizontal plane (of the Earth):

Maximum permitted mean power density	Elevation angle above horizontal
-13 dB(W/MHz)	for $0° \le \theta < 8°$
-13 – 0.716(θ - 8) dB(W/MHz)	for $8° \le \theta < 40°$
-35.9 – 1.22(θ - 40) dB(W/MHz)	for $40° \le \theta \le 45°$
-42 dB(W/MHz)	for $45° < \theta$;

18. In the band 5470 – 5725 MHz, the transmitter peak power must not exceed -6 dBW (250 mW). The maximum power is 0 dBW (1 W) e.i.r.p. and the maximum permitted power spectral density is -13 dBW/MHz (50 mW/MHz) e.i.r.p., provided Dynamic Frequency Selection and Transmitter Power Control are implemented. If Transmitter Power Control is not used, then the maximum power (e.i.r.p.) value must be reduced by 3 dB.

19. In the band 7.4 – 8.8 MHz, use is restricted to inductive systems where the magnetic field strength from devices must not exceed 9 dBμA/m at a distance of 10 metres.

20. In the band 3.155 – 3.400 MHz, the maximum permitted field strength is 13.5 dBµA/m measured in a 10 kHz bandwidth at a distance of 10 metres. In the bands 3.64 – 4.04 MHz and 10.44 – 10.76 MHz, the maximum permitted field strengths are -15 dBµA/m and -20 dBµA/m, respectively, both measured in a 10 kHz bandwidth at 10 metres.

21. In the band 0.1485 – 30 MHz, the magnetic field strength from devices must not exceed -15 dBµA/m measured in a 10 kHz bandwidth at a distance of 10 metres, and the magnetic field strength must also not exceed -15.5 dBµA/m while within the frequency range 0.521-1.612 MHz. Users should not to operate these devices within 3 metres of an AM radio receiver intended for the reception of AM radio broadcasts within the frequency range 0.521 – 1.612 MHz.

22. Indoor-Only Systems: In the band 57 – 66 GHz, the power spectral density must not exceed -17 dBW/MHz (20 mW/MHz) e.i.r.p.

23. Transmissions must not exceed the following unwanted emission limits: -79 dBW (-49 dBm) e.i.r.p. within 800 – 915 MHz and -63 dBW (-33 dBm) e.i.r.p. within 928 MHz – 1 GHz. The reference bandwidth for emissions is 100 kHz. Outside the band 800 MHz – 1 GHz, the limits prescribed in applicable standards prescribed in the Radiocommunications (Radio Standards) Notice 2020* apply. In the absence of applicable standards, the limits prescribed in Table 2 of the notice apply.

24. Use is limited to the purpose known as wireless microphones, in-ear monitors, or wireless audio transmitters.

25. In the band 0.009 – 0.090 MHz, the magnetic field strength from devices must not exceed 72 dBµA/m at a distance of 10 metres. In the band 0.090 – 0.205 MHz, the magnetic field strength from devices must not exceed 43 dBµA/m at a distance of 10 metres, except in the band 0.119 – 0.135 MHz, where the magnetic field strength from devices must not exceed 66 dBµA/m at a distance of 10 metres. In the band 0.315 – 0.430 MHz, the magnetic field strength from devices must not exceed -5 dBµA/m at a distance of 10 meters.

26. Analogue modulation schemes are permitted with a maximum necessary bandwidth of 300 kHz. Digital modulation schemes are permitted with a maximum necessary bandwidth of 200 kHz. Use of a power level above –20 dBW is only permitted when the user has first determined that the intended use will not affect the reception of television broadcasts in or adjacent to the proposed area of operation.

27. Use is limited to radiodetermination transmitters operated within shielded enclosures and installations must be inside the shielded enclosure. The maximum power -54 dBW e.i.r.p. applies at 3 metres as measured outside the shielded enclosure over a maximum of 50 MHz bandwidth. The emission leakage outside the shielded enclosure must not exceed the maximum permitted power spectral density -71.3 dBW/MHz (-41.3 dBm/MHz) e.i.r.p. at any time.

28. In the band 5725 – 5850 MHz, the transmitter peak power must not exceed 0 dBW (1 W) and the power spectral density must not exceed 17 dBm/MHz. The maximum power of any emission must not exceed 23 dBW (e.i.r.p.). Transmission is permitted from customer premise equipment with integrated antenna that is part of a point-to-multipoint system receiving from and transmitting to a central access point.

29. Emission of the transmitter needs to comply with below block edge mask (BEM). Maximum e.i.r.p. of -17 dBW per channel for handheld unit and -13 dBW per channel for body worn unit. The spectrum will be available from 1 April 2021.

	Frequency Range	Handheld unit (e.i.r.p.)
Out-of-block	< 1785 MHz	-17 dBm/200 kHz
Restricted frequency range	1785-1785.2 MHz	4 dBm/200 kHz
	1785.2-1803.6 MHz	13 dBm/channel
	1803.6-1804.8 MHz	10 dBm/200 kHz, with a limit of 13dBm/channel
Restricted frequency range	1804.8-1805 MHz	-14 dBm/200 kHz
Out-of-block	> 1805 MHz	-37 dBm/200 kHz

	Frequency Range	Body worn unit (e.i.r.p.)
Out-of-block	< 1785 MHz	-17 dBm/200 kHz
	1785-1804.8 MHz	17 dBm/channel
Restricted frequency range	1804.8-1805 MHz	0 dBm/200 kHz
Out-of-block	> 1805 MHz	-23 dBm/200 kHz

6. General conditions applying to all transmissions under this licence—

1. The frequency ranges, peak power of transmissions within those frequency ranges, and designated uses of frequencies are those prescribed in this licence. All transmissions in a given frequency range must comply with any special conditions relating to that frequency range.

2. Transmitters, and persons supplying or using transmitters, must comply with the requirements of Regulations 32 – 37 of the Radiocommunications Regulations 2001.

3. Frequency use is on a shared basis and the chief executive does not accept liability under any circumstances for any loss or damage of any kind occasioned by the unavailability of frequencies or interference to reception.

4. Should interference occur to services licensed pursuant to a radio licence or a spectrum licence, the chief executive reserves the right to require and ensure that any transmission or any emission pursuant to this General User Radio Licence change frequency, reduce power, or cease operation.

5. Transmissions that are broadcasting, as defined in the Broadcasting Act 1989, are not permitted.

7. Consequential revocation of licence —

(1) The Radiocommunications Regulations (General User Radio Licence for Short Range Devices) Notice 2019, dated 8 April 2019 and published in the *New Zealand Gazette*, 16 April 2019, Notice No. 2019-go1588, is revoked.

(2) Notwithstanding the revocation of the notice under subsection (1), every transmitter capable of making transmissions compliant with the requirements of that notice on the commencement date of this notice is deemed to be compliant with the requirements of this notice.

Dated at Wellington this 6th day of November 2020.

FADIA MUDAFAR, National Manager, Radio Spectrum Management, Ministry of Business, Innovation and Employment.

**New Zealand Gazette*, 29 January 2020, Notice No. 2020-go115.

Explanatory Note

This note is not part of the notice, but is intended to indicate its general effect.

This notice includes the following amendments:

a. a new provision to permit the use of the frequency range 0.1485 – 30 MHz for wireless power transfer systems and induction loop systems used for the detection of foreign objections.
b. a new provision to permit the use of frequency range 1785 – 1805 MHz for wireless microphone, in-ear monitors, or wireless audio transmitters.
c. a change on 5150 – 5350 MHz to implement WRC-19 Resolution 229. This change permits wireless LAN outdoor use and a power level up to 0 dBW.
d. a new provision to permit the use of the frequency range 13.553 – 13.567 MHz for RFID transmitters.

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