

## Radiocommunications Regulations (General User Radio Licence for Short Range Devices) Notice 2015 No. 2

Pursuant to section 111 of the Radiocommunications Act 1989 and Regulation 9 of the Radiocommunications Regulations 2001, 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 2015 No. 2.

(2) This notice came into force on **24 December 2015**.

### 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: 251362

(4) Commencement date: **24 December 2015**.

### 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 and 25
0.0900	0.2050	0.1475	-20.0	Special Conditions 1 and 25
0.1190	0.1350	0.1270	3.0	Special Conditions 1 and 25
0.3700	0.4300	0.4015	-67.0	Special Conditions 1 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	
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	Special Condition 21
49.8200	49.9800	49.9000	-20.0	Special Condition 21
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	

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174.0000	230.0000	202.0000	-20.0	Special Condition 12
235.0000	300.0000	267.5000	-30.0	Special Condition 1
300.0000	322.0000	311.0000	-20.0	Special Condition 1
402.0000	406.0000	404.0000	-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	-10.0	Special Condition 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	-25.0	Special Condition 1
915.0000	928.0000	921.5000	0.0	Special Condition 23
920.0000	928.0000	924.0000	6.0	Special Conditions 13 and 23
2400.0000	2483.5000	2441.7500	6.0	Special Condition 13
2900.0000	3400.0000	3150.0000	-10.0	Special Condition 7
5150.0000	5250.0000	5200.0000	-7.0	Special Conditions 8 and 16
5250.0000	5350.0000	5300.0000	0.0	Special Conditions 9 and 17
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	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
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	
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	
76000.0000	77000.0000	76500.0000	14.0	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 LAN indoor systems only.
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. In the band 174 - 230 MHz transmissions are permitted under this licence from 1 September 2015 until 30 September 2019 whereafter all transmissions must cease. Use is limited to the purpose known as radio microphones (also known as wireless microphones), in-ear monitors or wireless audio transmitters.
13. Transmitters using e.i.r.p.s greater than 0 dBW (1 W) must employ frequency hopping or digital modulation techniques.
14. In the band 402 - 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. In the band 5150 - 5250 MHz, the maximum power is -7 dBW (200 mW) e.i.r.p. and the maximum permitted power spectral density is -20 dBW/MHz (10 mW/MHz) e.i.r.p. or equivalently -36 dBW/25 kHz (0.25 mW/25 kHz) e.i.r.p.
17. Indoor-Only Systems: In the band 5250 - 5350 MHz, the maximum power is -7 dBW (200 mW) e.i.r.p. and the maximum permitted power spectral density is -20 dBW/MHz (10 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;  
Indoor and Outdoor Systems: In the band 5250 - 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  $\theta$  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 $0^\circ \leq \theta < 8^\circ$
-13 - 0.716( $\theta - 8$ ) dB(W/MHz)	for $8^\circ \leq \theta < 40^\circ$
-35.9 - 1.22( $\theta - 40$ ) dB(W/MHz)	for $40^\circ \leq \theta \leq 45^\circ$
-42 dB(W/MHz)	for $45^\circ < \theta$ ;
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 in use, 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 dB $\mu$ A/m at a distance of 10 metres.
20. In the band 3.155 - 3.400 MHz, the maximum permitted field strength is 13.5 dB $\mu$ A/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 dB $\mu$ A/m and -20 dB $\mu$ A/m, respectively, both measured in a 10 kHz

bandwidth at 10 metres.

21. In the band 49.82 - 49.98 MHz, transmissions are permitted under this licence from 1 September 2015.
22. Indoor-Only Systems: In the band 57 - 66 GHz, the power spectral density must not exceed -17 dBW/MHz (20mW/MHz) e.i.r.p.
23. Transmissions from devices operating in the band 915 - 928 MHz must not exceed the following unwanted emission limits: -79 dBW (-49 dBm) from 800 - 915 MHz, then varying from -79 dBW (-49 dBm) at 915 MHz to -68 dBW (-38 dBm) at 920 MHz in accordance with the formula  $y = mx + C$ , where  $y = \text{dBm}$ ,  $x = \text{MHz}$ ,  $m = dy/dx$ ,  $C = \text{the value of } y \text{ where } x = 0 \text{ (the } y \text{ intercept)}$ . The maximum value of -63 dBW (-33 dBm) applies from 928 MHz to 1 GHz. The reference bandwidth for emissions is 100 kHz. Outside the band 800 MHz to 1 GHz, the limits prescribed in applicable standards prescribed in the Radiocommunications (Radio Standards) Notice 2015 apply. In the absence of applicable standards, the limits prescribed in Table 2 of the notice apply.
24. (*suppressed*)
25. In the band 0.009 - 0.090 MHz, the magnetic field strength from devices must not exceed 72 dB $\mu$ A/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 dB $\mu$ A/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 dB $\mu$ A/m at a distance of 10 metres. In the band 0.370 - 0.430 MHz, the magnetic field strength from devices must not exceed -5 dB $\mu$ A/m at a distance of 10 meters.
26. Use is limited to the purpose known as radio microphones (also known as wireless microphones, in-ear monitors or wireless audio transmitters). 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.

#### **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 (General User Radio Licence for Short Range Devices) Notice 2015, dated the 30th day of July 2015, and published in the [New Zealand Gazette, 30 July 2015, Issue No. 83, Notice No. 2015-go4359](#), 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 12th day of January 2016.

JEFFREY DENNIS HICKS, Manager, Radio Spectrum Management Licensing, Ministry of Business, Innovation and Employment.

#### ***Explanatory Note***

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

This notice expands provisions in the frequency range 915 - 928 MHz (previously 921 - 928 MHz) at maximum power up to 0 dBW (e.i.r.p.) and 920 - 928 MHz (previously 921.5 - 928 MHz) at maximum power up to 6 dBW (e.i.r.p.). Both provisions are also subject to specific unwanted emission limits as specified under Condition 23.

This change is in line with the conclusions of the Ministry's public consultation "806-960 MHz Band Re-planning Options", published in June 2010.

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