

Guide: Commonly-used Licence-exempt bands in South Africa which may be used for outdoor wireless access systems

Last updated May 2017, all documents referred to are available from www.ellipsis.co.za under Licensing/Frequency Licensing

The table herein is intended to provide an authoritative overview of the bands which are commonly used for licence-exempt spectrum access service provision in South Africa. All usage of these bands is on a “no-protection-no-interference-basis” and is secondary to the primary allocations in the band.

Note that South Africa also has a [“light-licensing” or self-registration regime applicable to PtP links in the E-Band \(71 – 76 GHz paired with 81 – 86 GHz\)](#).

Users are required to:

- Not use frequency falling outside of these bands unless they have a radio frequency spectrum licence.
- Use the frequency falling inside these bands in accordance with the technical restrictions set out in the Radio Regulations, 2015 (Annexure B).

Failing to honour this commitment is an offence under the Electronic Communications Act, 2005 and the Radio Regulations, 2015. Illegal usage creates interference with lawful users such as the SANDF and other operators, which results in enforcement action and damage to the reputation of the industry.

Sources:

- Radio Frequency Spectrum Regulations 2015
- National Radio Frequency Plan 2013

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CK2004/113957/23

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Frequency Band	Type of Device	Maximum Radiated Power or Field Strength Limits and Channel Spacing	Relevant Standard	Additional Requirements	Comments
2400 – 2483.5 MHz	Wideband wireless systems WLAN Wideband data transmission applications (WBDTS) Model control	100mW EIRP No duty cycle No channel spacing For wide band modulations other than FHSS, the maximum EIRP is limited to 10mW/MHz Adequate spectrum sharing mechanisms shall be implemented by the equipment (e.g. Listen-before-Talk, Detect-and-Avoid)	EN 300 328 EN 301 489 – 1,3 EN 60950	CEPT/ERC/REC 70-03 For wide band modulations other than FHSS, the maximum EIRP is limited to 10mW/MHz	Note the 20dBm EIRP limit Point To Point Point To Multi-Point
5150 – 5350 MHz	INDOOR USE ONLY				
5470 – 5725 MHz	Wireless access systems & radio local access networks (WAS & RLAN)	1W EIRP	EN 301 893 EN 301 489 – 1,17 EN 60950	ITU-R M.1625	Note the 30dBm EIRP limit Point To Multi-Point The previous (incorrect) restriction on outdoor use was removed effective 30 March 2015 Effective 30 March 2015, there is no longer a

					requirement to use DFS and TPC in this band
5725 – 5850 MHz	Wireless access systems and radio local access networks (WAS & RLAN)	<p>A maximum of 4W EIRP</p> <p>A maximum of 1W transmitter output power</p> <p>A maximum transmitter output spectral density of 8dBmW in any 3kHz band</p> <p>Digital modulation only</p> <p>Nominal bandwidth of transmissions must not be less than 1MHz</p>	<p>FCC 15.247</p> <p>FCC 15.249</p>	<p>Fixed Point To Multi-Point systems and Point To Point links</p> <p>In any 100kHz outside the band, the EIRP shall be at least 30dB below the 100kHz within the band that contains the highest level of desired power</p>	<i>Note 1:</i> Transmission towards the common node of a Point To Multi-Point is regarded as Point To Point node
5725 – 5850 MHz	BFWA	<p>A maximum of 200W EIRP</p> <p>A maximum of 1W transmitter output power</p> <p>A maximum transmitter output spectral density of 8dBm in a 3kHz band</p> <p>Digital modulation only</p> <p>Nominal bandwidth of transmissions must not be less than 1MHz</p>	<p>FCC 15.247</p> <p>FCC 15.249</p>	<p>Fixed Point To Point links only</p> <p>Point To Multi-Point systems, omnidirectional applications, and multiple co-located transmitters transmitting the same information are not permitted (see <i>Note 2</i>)</p> <p>In any 100kHz outside the band, the EIRP shall be at least 30dB below the 100kHz within the band that contains the highest level of desired power</p>	<i>Note 2:</i> Transmission towards the common node of a Point To Multi-Point is regarded as Point To Point node

17.1 – 17.3 GHz	HiperLAN Network	100mW EIRP	EN 301 489 – 1,3 EN 60950		
24.00 – 24.25 GHz	Non-specific Short Range Devices (SRDs)	100mW EIRP No duty cycle restriction No channel spacing	EN 300 440 EN 301 489 – 1,3 EN 60950	CEPT/ERC/REC 70-03	ICASA's view is that this band is not currently available for Point To Point links or WAS/RLANs; this flows from the definition of SRD and has practical effect in ICASA not type approving equipment intended for creating data links in this band
57.00 – 64 GHz	Point To Point links	55dBm EIRP	EN 305 550	The maximum transmitter output power is 10dBm The minimum antenna gain is 30 dBi	Please note that this allocation does not appear in the NRFP 2013 ICASA is the process of revising management of this band.
57.00 – 66 GHz	Multi-gigabit-wireless-systems (MGWS)	40dBm EIRP	EN 302 567	The use of these systems is as described in ITU-R Report ITU-R M.2227 and Recommendation ITU-R M.2003 <u>Fixed outdoor installations are not allowed.</u>	This allocation is of limited utility given the prohibition on outdoor use This allocation does not appear in the NRFP 2013 ICASA is the process of revising management of this band.