



NOTICE 2013-DRS0911

RE: LATEST PUBLICATION OF IEEE 1528-2013 AND POWER EXEMPTION LIMITS

1) Latest Publication of IEEE 1528-2013

Industry Canada's RSS-102 – *RF exposure compliance of radiocommunication apparatus (All frequency Bands)* incorporates by reference the international standard IEEE 1528. Section 3 of RSS-102 Issue 4 states:

SAR evaluations shall be made in accordance with the latest version of IEEE 1528 and/or IEC 62209.

On September 6, 2013, the IEEE 1528-2013 entitled *IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques* was published by the IEEE standard organization.

http://www.techstreet.com/ieee/products/vendor_id/4418

Industry Canada will allow a transition period for the adoption of this latest IEEE standard.

Industry Canada will accept IEEE 1528-2003, IEC 62209-1 Ed. 1 or IEEE 1528-2013 standards for the SAR compliance assessment of devices held next to the head until December 1, 2013. After December 1, 2013, only the IEEE 1528-2013 will be accepted for the SAR compliance assessment of devices held next to the head.

Note: During the transition period, the use of different standards (e.g. System Check of IEEE 1528-2003 and SAR measurement protocols of IEEE 1528-2013) when performing SAR compliance assessment of a device held next to the head will not be accepted by Industry Canada. Testing shall be done using one standard and not a combination of standards.

2) Power Exemption Limits

Power exemption limits for routine evaluation defined in Section 2.5 of RSS-102 Issue 4 are to be applied when determining if a routine evaluation is required.

However, the Department will also accept the power exemption limits based on the draft RSS-102 Issue 5. Once RSS-102 Issue 5 is published, only the power exemption limits within this issue will be accepted.



2.5.1 Exemption Limits for Routine Evaluation – SAR Evaluation

SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Table 1.

Table 1: SAR evaluation – exemption limits for routine evaluation based on frequency and separation distance¹.

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of ≤5 mm	At separation distance of 10 mm	At separation distance of 15 mm	At separation distance of 20 mm	At separation distance of 25 mm
≤300	71 mW	101 mW	132 mW	162 mW	193 mW
450	52 mW	70 mW	88 mW	106 mW	123 mW
835	17 mW	30 mW	42 mW	55 mW	67 mW
1900	7 mW	10 mW	18 mW	34 mW	60 mW
2450	4 mW	7 mW	15 mW	30 mW	52 mW
3500	2 mW	6 mW	16 mW	32 mW	55 mW
5800	1 mW	6 mW	15 mW	27 mW	41 mW

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of 30 mm	At separation distance of 35 mm	At separation distance of 40 mm	At separation distance of 45 mm	At separation distance of ≥50 mm
≤300	223 mW	254 mW	284 mW	315 mW	345 mW
450	141 mW	159 mW	177 mW	195 mW	213 mW
835	80 mW	92 mW	105 mW	117 mW	130 mW
1900	99 mW	153 mW	225 mW	316 mW	431 mW
2450	83 mW	123 mW	173 mW	235 mW	309 mW
3500	86 mW	124 mW	170 mW	225 mW	290 mW
5800	56 mW	71 mW	85 mW	97 mW	106 mW

Output power level shall be the higher of the maximum conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time-averaged output power. For controlled use devices where the 8 W/kg for 1 g of tissue applies, the exemption limits

¹ The exemption limits in Table 1 are based on measurements and simulations of half-wave dipole antennas at separation distances of 5 mm to 25 mm from a flat phantom, providing a SAR value of approximately 0.4 W/kg for 1 g of tissue. For low frequencies (300 MHz to 835 MHz), the exemption limits are derived from a linear fit. For high frequencies (1900 MHz and above), the exemption limits are derived from a third order polynomial fit.



for routine evaluation in Table 1 are multiplied by a factor of 5. For limb-worn devices where the 10 gram applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 2.5. If the operating frequency of the device is between two frequencies located in Table 1, linear interpolation shall be applied for the applicable separation distance. For test separation distance less than 5 mm, the exemption limits for a separation distance of 5 mm can be applied to determine if a routine evaluation is required.

For medical implant devices, the exemption limit for routine evaluation is set at 1 mW. The output power of a medical implant device is defined as the higher of the conducted or e.i.r.p to determine if the device is exempt from the SAR evaluation.

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