

	Electromagnetic Field (EMF) Protection
Country #1	Canada
EMF protection #2	Yes
Instrument type #3	Guideline document
Instrument coverage #4	National
Title of Instrument #5	
a.	Safety Code 6 http://www.hc-sc.gc.ca/hecs-sesc/ccrpb/electro.htm
Issued by whom? #6	Health Canada
Issued when? #7	1999
Is there a revision pending? #8	No
Are the limits based on ICNIRP? #9	No
Compliance #10	Mandatory
If mandatory - how is compliance verified? #11	Enforcement through the federal and provincial regulations/standards in which Safety Code 6 is referred to.
Group protected #12	Public and occupational
Frequency range covered #13	3 kHz -300 GHz
Quantities #14	Basic restrictions and field strength limits
Basic restriction quantities #15	Current, Specific Absorption Rate (SAR)
SAR details #16	
a. averaging time	6 min
b. averaging	1 gram

mass	
c. measurement method	Industry Canada's Radio Standards Specifications, RSS-102 (http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/vwGeneratedInterE/sf01904e.html)
Reference level quantities #17	Electric and magnetic field RMS values, power density
Measurement method for reference level quantities #18	Industry Canada's Guidelines for the Measurement of Radiofrequency Fields at Frequencies from 3 kHz to 300 GHz (http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/vwGeneratedInterE/sf01451e.html)
Multiple frequency exposure #19	Yes
Pulsed field exposure #20	Yes
Contact details #21	Product Safety Programme, Health Canada Fax. +1 613 952 7584 E-mail: Nadia_Boulanger@hc-sc.gc.ca
Request for limit data #22	See the table below
EMF handbook for general public #23	No published handbook.

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By D Simunic & S Bullock*

Basic Restrictions and Reference Levels

BASIC RESTRICTIONS FOR STATIC ELECTRIC AND MAGNETIC FIELDS		
Exposure category	E-field strength (kV/m)	B-field (mT)
Occupational	N/A	N/A
General public	N/A	N/A

BASIC RESTRICTIONS FOR TIME VARYING

ELECTRIC AND MAGNETIC FIELDS UP TO 300 GHz

Exposure category	Frequency range	Whole-body average SAR (W/kg)	Spatial peak SAR in the head & trunk (W/kg)	Spatial peak SAR in limbs (W/kg)	Power density (W/m ²)
<u>Occupational</u>	100 kHz - 10 GHz	0.4	8	20	
	10 GHz - 150 GHz				50
	150 GHz - 300 GHz				$3.33 \times 10^{-4} f$
<u>General public</u>	100 kHz - 10 GHz	0.08	1.6	4	
	10 GHz - 150 GHz				10
	150 GHz - 300 GHz				$6.67 \times 10^{-5} f$

Note: Frequency, f , is frequency in MHz

REFERENCE LEVELS FOR TIME VARYING

ELECTRIC AND MAGNETIC FIELDS UP TO 300 GHz

(unperturbed rms values)

Exposure category	Frequency range (MHz)	E-field strength (V/m)	H-field strength (A/m)	B-field (mT)	Equivalent plane wave power density (W/m ²)	Averaging time (min)
<u>Occupational</u>	0.003 - 1	600	4.9			6
	1.0 - 10.0	$600/f$	$4.9/f$			6
	10.0 - 30.0	60	$4.9/f$			6
	30 - 300	60	0.163		10^*	6
	300 - 1500	$3.54f^{0.5}$	$0.0094f^{0.5}$		$f/30$	6
	1500 - 15000	137	0.364		50	6
	15000 - 150000	137	0.364		50	$616000/f^{1.2}$
	150000 - 300000	$0.354f^{0.5}$	$9.4 \times 10^{-4} f^{0.5}$		$3.33 \times 10^{-4} f$	$616000/f^{1.2}$
<u>General public</u>	0.003 - 1	280	2.19			6
	1.0 - 10.0	$280/f$	$2.19/f$			6
	10.0 - 30.0	28	$2.19/f$			6
	30 - 300	28	0.073		2^*	6
	300 - 1500	$1.585f^{0.5}$	$0.0042f^{0.5}$		$f/150$	6
	1500 - 15000	61.4	0.163		10	6
	15000 - 150000	61.4	0.163		10	$616000/f^{1.2}$
	150000 - 300000	$0.158f^{0.5}$	$4.21 \times 10^{-4} f^{0.5}$		$6.67 \times 10^{-5} f$	$616000/f^{1.2}$

*Power density limit is applicable at frequencies greater than 100 MHz				
Notes: 1. Frequency, f , is frequency in MHz				
2. A magnetic field strength of 1 A/m corresponds to 1.257×10^{-3} mT				
REFERENCE LEVELS FOR INSTANTANEOUS CONTACT CURRENTS FROM POINT CONTACT WITH CONDUCTIVE OBJECTS				
Exposure category	Frequency range	Maximum contact current (mA rms)	Averaging time	
Occupational	0.003 - 0.1	$1000f$	1 s	
	0.1 - 110	100	6 min	
General public	0.003 - 0.1	$450f$	1 s	
	0.1 - 110	45	6 min	
Note: Frequency, f , is frequency in MHz				
REFERENCE LEVELS FOR TIME AVERAGED CURRENT INDUCED IN ANY LIMB				
Exposure category	Frequency range	Current through both feet (mA rms)	Current through each foot (mA rms)	Averaging time
Occupational	0.003 - 0.1	$2000f$	$1000f$	1 s
	0.1 - 110	200	100	6 min
General public	0.003 - 0.1	$900f$	$450f$	1 s
	0.1 - 110	90	45	6 min
Note: Frequency, f , is frequency in MHz				

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