

IEC 61980-1	TEST PORT	TEST METHOD	INTERNATIONAL STANDARD	Test Value RF Level	CANADA STANDARD
Immunity Requirements					
Performance criteria are described in IEC 61000-6-1 and IEC 61000-6-2					
Table 8 – WPT equipment immunity requirement – Environment other than residential					
15.1	WPT system	Electrostatic Discharge (ESD)	IEC 61000-4-2 (2008)	8kV/4kV Air/Contact	CAN/CSA-IEC 61000-4-2:12
		Radiated RF Fields (80-1000MHz)	IEC 61000-4-3 (2002)	10 V/m	CAN/CSA-CEI/IEC 61000-4-3-07 (R2011)
		Radiated RF Fields (1.4-2GHz)	IEC 61000-4-3	3 V/m	CAN/CSA-CEI/IEC 61000-4-3-07 (R2011)
		Radiated RF Fields (2-2.7GHz)	IEC 61000-4-3	3 V/m	CAN/CSA-CEI/IEC 61000-4-3-07 (R2011)
		Magnetic Fields	IEC 61000-4-8	100 A/m	CAN/CSA-IEC 61000-4-8:12
	AC Power input port (and I/O signal/control connected directly to mains supply)	Electrical Fast Transients/Bursts	IEC 61000-4-4	2kV (5/50ns, 100kHz)	CAN/CSA-CEI/IEC 61000-4-4-06 (R2011)
		Voltage Surges	IEC 61000-4-5	2 KV line-to-line 4 KV line-to-earth	CAN/CSA-IEC 61000-4-5-08 (R2013)
		Conducted RF Fields (0.15-80MHz)	IEC 61000-4-6	10 V (rms)	CAN/CSA-C61000-4-6-09 (R2014)
		Voltage dips and interruptions	IEC 61000-4-11 (<16A) IEC61000-4-34 (>16A)	30 % reduction for 25 cycles 60 % reduction for 10 cycles >95 % reduction for 1 cycle 100% reduction for 250 cycles	CAN/CSA-CEI/IEC 61000-4-11-05 (R2014) CAN/CSA-CEI/IEC 61000-4-34-06 (R2011)
		Table 9 – WPT equipment immunity requirement – residential environment			
15.1	WPT system	Electrostatic Discharge (ESD)	IEC 61000-4-2	8kV/4kV Air/Contact	CAN/CSA-IEC 61000-4-2:12
		Radiated RF Fields (80-1000MHz)	IEC 61000-4-3	10 V/m	CAN/CSA-CEI/IEC 61000-4-3-07 (R2011)
		Radiated RF Fields (1.4-2GHz)	IEC 61000-4-3	3 V/m	CAN/CSA-CEI/IEC 61000-4-3-07 (R2011)
		Radiated RF Fields (2-2.7GHz)	IEC 61000-4-3	3 V/m	CAN/CSA-CEI/IEC 61000-4-3-07 (R2011)
		Magnetic Fields	IEC 61000-4-8	30 A/m	CAN/CSA-IEC 61000-4-8:12

	AC Power input port (and I/O signal/control connected directly to mains supply)	Electrical Fast Transients/Bursts	IEC 61000-4-4	1kV (5/50ns, 100kHz)	CAN/CSA-CEI/IEC 61000-4-4-06 (R2011)
		Voltage Surges	IEC 61000-4-5	2 KV line-to-line 1 KV line-to-earth	CAN/CSA-IEC 61000-4-5-08 (R2013)
		Conducted RF Fields (0.15-80MHz)	IEC 61000-4-6	3 V (rms)	CAN/CSA-C61000-4-6-09 (R2014)
		Voltage dips and interruptions	IEC 61000-4-11 (<16A) IEC61000-4-34 (>16A)	30 % reduction for 25 cycles 60 % reduction for 10 cycles >95 % reduction for 1 cycle 100% reduction for 250 cycles	CAN/CSA-CEI/IEC 61000-4-11-05 (R2014) CAN/CSA-CEI/IEC 61000-4-34-06 (R2011)

Disturbance Requirement

Load conditions

15.2.1.1	WPT system	Harmonic emission test	IEC61000-3-2 IEC61000-3-12	The test load shall enable the WPT system to operate between 20 % and 80 % of the rated power	CAN/CSA-C61000-3-3:14 CAN/CSA-C61000-3-11-06 (R2011)
		flicker test	IEC61000-3-3 IEC61000-3-11		

Operating conditions

15.2.1.2	WPT system	modes of operation	<ul style="list-style-type: none"> standby mode active mode for emission active mode for immunity 		
----------	------------	--------------------	--	--	--

Disturbance limits

Limits and test conditions for disturbances in the low frequency (LF) range

Table 10 – Low frequency disturbances

15.2.2.2.2	AC Power	Harmonics	IEC 61000-3-2 (rated current =< 16A/phase) IEC 61000-3-12 (rated current =< 75A/phase)		
15.2.2.2.3	AC Power	Voltage Fluctuations and Flicker	IEC 61000-3-3 (rated current =< 16A/phase) IEC 61000-3-11 (rated current =< 75A/phase)		CAN/CSA-C61000-3-3:14 CAN/CSA-C61000-3-11-06 (R2011)

Limits and test conditions for disturbances in the radio frequency (RF) range

Table 11 – Radio frequency (RF) disturbances

15.2.2.3.2	AC Power	Conducted disturbances (150kHz-30MHz)	CISPR 11	CISPR 11 Ed. 5 +am1 Table 6 (Class A) or Table 7 (Class B)	CAN/CSA-CEI/IEC CISPR 11-04 (R2013)
15.2.2.3.3	Telecommunication Lines	Conducted disturbances (150kHz-30MHz)	CISPR 32	CISPR 32 Table A.10 (Class A) or Table A.11 (Class B)	

15.2.2.3.4	WPT system and enclosure port	Radiated Disturbances (150kHz-30MHz)	CISPR 11	Table 12	CAN/CSA-CEI/IEC CISPR 11-04 (R2013)
15.2.2.3.5	WPT system port	Radiated disturbances (30MHz-1GHz)	CISPR 11	CISPR 11 Table 9 (Class A) or Table 11 (Class B)	CAN/CSA-CEI/IEC CISPR 11-04 (R2013)
WPT equipment immunity requirement					
Annex B B.2	WPT with EV	Radiated RF Field (20-2 000 MHz)	ISO 11451-2	30 V/m	
Radio frequency (RF) disturbances					
Annex B B.3 B.4	WPT system with EV	Radiated disturbances (30MHz - 1GHz)	CISPR 12	limit of clause 4	CAN/CSA-CISPR 12-10 (R2014)
Protection from electro-magnetic field					
Annex C C.1.3	WPT system with EV	EMF measurement procedure	IEC 61786-1 IEC 61786-2 IEC 62233		
<p>IEC 61786-1: Measurement of DC magnetic, AC magnetic and AC electric fields from 1 Hz to 100 kHz with regard to exposure of human beings - Part 1: Requirements for measuring instruments</p> <p>IEC 61786-2: Measurement of DC magnetic, AC magnetic and AC electric fields from 1 Hz to 100 kHz with regard to exposure of human beings - Part 2: Basic standard for measurements</p> <p>IEC 62233: Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure</p>					