


Guidance and manufacturer's declaration– electromagnetic emissions		
The Pulse Oximeter is intended for use in the electromagnetic environment specified below. The customer or the user of the Pulse Oximeter should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The device uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The device is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	N/A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	N/A	

Guidance and manufacturer's declaration – electromagnetic immunity			
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Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact ± 15 kV air	± 8 kV contact ± 15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%. If ESD interfere with the operation of equipment, counter measurements such as wrist strap, grounding shall be considered.
Electrical fast transient/ burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/	± 2 kV for power supply lines ± 1 kV for input/	The quality of the power supply should meet the requirements of a typical commercial (initial power supply) or medical environment.

	output lines	output lines	
Surge IEC 61000-4-5	± 1 kV line to line ±2 kV line to earth	± 1 kV line to line ±2 kV line to earth	The quality of the power supply should meet the requirements of a typical commercial or medical environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0% U _T (100% dip in U _T) for 0.5 cycle 0% U _T (100% dip in U _T) for 1 cycle 70% U _T (30% dip in U _T) for 25/30 cycles 0% U _T (100% dip in U _T) for 250/300 cycles	0% UT (100% dip in UT) for 0.5 cycle 0% UT (100% dip in UT) for 1 cycle 70% UT (30% dip in UT) for 25/30 cycles 0% UT (100% dip in UT) for 250/300 cycles	The quality of the power supply should meet the requirements of a typical commercial or medical environment.If the user of this product needs to continue poerating during power interruption,it is recommended to use uninterruptible power supply or battery power.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE : U _T is the AC mains voltage prior to application of the test level.			

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<p>Conducted RF IEC61000-4-6</p>	<p>$3V_{rms}$ 150kHz to 80MHz (6V in ISM and amateur radio bands between 0.15MHz and 80MHz)</p>	<p>N/A</p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of the device, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>\sqrt{P} Recommended separation distance:</p> <p>$d = 1.2$ \sqrt{P} $d = 1.2$ 80MHz to 800MHz</p> <p>\sqrt{P} $d = 2.3$ 800MHz to 2.5GHz</p> <p>where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m).</p>
<p>Radiated RF IEC61000-4-3</p>	<p>$3V/m$ 80MHz to 2.7GHz</p>	<p>$10V/m$</p>	<p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,^a should be less than the compliance level in each frequency range.^b</p> <p> Interference may occur in the vicinity of equipment marked with the following symbol:</p>

Recommended separation distances between portable and mobile RF communications equipment and the Pulse Oximeter

The Pulse Oximeter is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled.

The customer or the user of the Pulse Oximeter can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Pulse Oximeter as

recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter (W)	Separation distance according to frequency of transmitter (m)		
	\sqrt{P} 150kHz to 80MHz d = 1.16	\sqrt{P} 80MHz to 800MHz d = 1.16	\sqrt{P} 800MHz to 2.5GHz d = 2.33
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where p is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.