



Electromagnetic Compatibility

- The ZC-B01 Charger complies with the Low Voltage Directive 2006/95/EC, the safety standard for medical devices IEC 60601-1 and with the EMC standard for medical devices IEC 60601-1-2. Special precautions regarding EMC can be found at www.zpowerbattery.com.
- The ZC-B01 Charger needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in the tables below.
- Portable and mobile RF communications ZC-B01 Charger can affect ZC-B01 Charger
- The use of accessories, transducers and cables other than those specified by ZPower, LLC. may result in increased EMISSIONS or decreased IMMUNITY of the ZC-B01 Charger.
- This ZC-B01 Charger should not be used adjacent to or stacked with other ZC-B01 Charger and that if adjacent or stacked use is necessary, the ZC-B01 Charger should be observed to verify normal operation in the configuration in which it will be used.

Guidance and Manufacturer's Declaration – Electromagnetic Emissions

The ZC-B01 Charger is intended for use in the electromagnetic environment specified below.

The customer or the user of the ZC-B01 Charger should assure that it is used in such an environment.

Emissions Test	Compliance	Electromagnetic Environment – Guidance
RF emissions CISPR 11	Group 1	The ZC-B01 Charger 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 ZC-B01 Charger.
RF emissions CISPR 11	Class A	The ZC-B01 Charger 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	Class A	
Voltage Fluctuations/ Flicker emissions IEC 61000-3-3	Complies	



Guidance and Manufacturer's Declaration – Electromagnetic Immunity

The ZC-B01 Charger is intended for use in the electromagnetic environment specified below.

The customer or the user of the ZC-B01 Charger should assure that it is used in such an environment.

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment Guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 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 %.
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines ± 1 kV for input/output lines	Mains power quality should be that of a typical domestic, commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV differential mode ± 2 kV common mode	± 1 kV differential mode ± 2 kV common mode	Mains power quality should be that of a typical domestic, commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	$< 5\% UT$ ($> 95\%$ dip in UT) for 0,5 cycle $40\% UT$ (60% dip in UT) for 5 cycles $70\% UT$ (30% dip in UT) for 25 cycles $< 5\% UT$ ($> 95\%$ dip in UT) for 5 sec	$< 5\% UT$ ($> 95\%$ dip in UT) for 0,5 cycle $40\% UT$ (60% dip in UT) for 5 cycles $70\% UT$ (30% dip in UT) for 25 cycles $< 5\% UT$ ($> 95\%$ dip in UT) for 5 sec	Mains power quality should be that of a typical domestic, commercial or hospital environment. If the user of the ZC-B01 Charger requires continued operation during power main interruptions, it is recommended that the ZC-B01 Charger be powered from an uninterruptible power supply or a battery.
(50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical domestic, commercial or hospital environment.
NOTE UT is the a.c. mains voltage prior to application of the test level.			



Guidance and Manufacturer's Declaration – Electromagnetic Immunity

The ZC-B01 Charger is intended for use in the electromagnetic environment specified below.

The customer or the user of the ZC-B01 Charger should assure that it is used in such an environment.

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment Guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms	<p>Portable and mobile RF communications equipment should be used no closer to any part of the ZC-B01 Charger, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> <p>$d = 1.2\sqrt{P}$</p> <p>$d = 1.2\sqrt{P}$ 80 MHz to 800 MHz $d = 2.3\sqrt{P}$ 800 MHz to 2.5 GHz</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>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 ZC-B01 Charger marked with the following symbol:</p>
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	

NOTE 1 At 80 MHz and 800 MHz, 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.

^a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the ZC-B01 Charger is used exceeds the applicable RF compliance level above, the ZC-B01 Charger should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the ZC-B01 Charger.

^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.



Recommended separation distances between portable and mobile RF communications ZC-B01 Charger and the ZC-B01 Charger

The ZC-B01 Charger is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the ZC-B01 Charger can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the ZC-B01 Charger 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		
	150 kHz to 80 MHz $d = 1.2\sqrt{P}$	80 MHz to 800 MHz $d = 1.2\sqrt{P}$	800 MHz to 2.5 GHz $d = 2.3\sqrt{P}$
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

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.

FCC Statement

The marked device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This



equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

There is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.