

electrotherapy with acupuncture and moxibustion makes perfection of impulse electrotherapy more perfect and its remarkable curative effect is deeply appreciated and appraised by Chinese traditional medicine circle both at home and abroad. In addition the instrument has beautiful appearance and simple operation.

## 2.PRODUCT FEATURES

- 1.Manufacturer: Wujin Greatwall Medical Device Co., Ltd.Changzhou
- 2.Model: KWD-808I KWD-808II
- 3.single-phase mains supply 220V, 50Hz or internal 9V battery powered hybrid equipment.
- 4.Input power is less than 20VA.
5. No signal input or output section.
6. With applied sections. (Type KWD-808I with six applied sections,Type KWD-808II with four Applied sections.)
7. Divided by of type of electric shock-proof: KWD-808 Electrotherapy belongs to Class II equipment with internal power supply.
8. Divided by degree of electric shock-proof: KWD-808 device belongs to BF-type equipment.
- 9.Divided by the degree of preventing the harmful liquid :KWD-808 Electrotherapy belongs to ordinary equipment. (Closed-equipment but not preventing the liquid).
- 10.Divided by working system: KWD-808 Electrotherapy operating mode belongs to the continuous operation mode.
11. The fuse is slow-blow 0.5A.
- 12.The frequency of impulse of the basic wave is 1.2Hz ~ 55 Hz, error  $\pm 30\%$ .

## 3.PROPERTIES PRODUCT

1.KWD-808 serial impulse electrotherapy can output five kinds of waveform: continuous wave, discontinuous wave, compressional wave, fluctuational wave and start/stop wave. The frequency of impulse of the basic wave is 1.2Hz - 55Hz and the width of it is 0.6 ms.

### 1.1 Waveform of the Basic Wave

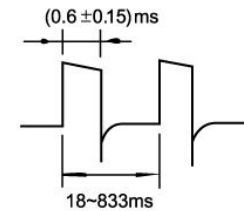
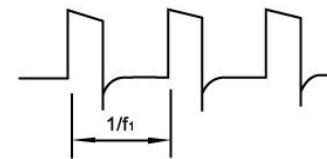


Figure 1

Characteristics: the outputted impulse of the basic wave (see Figure 1) has characteristics of low voltage and frequency.

### 1.2 Continuous Wave

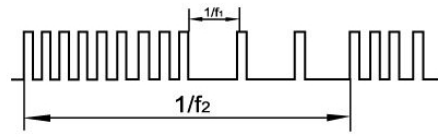
Range of frequency: 1.2Hz ~ 55Hz, the largest impulse amplitude outputted on 500 $\Omega$  load is 40 V $\pm 10$  V. The adjustment range of the output impulse amplitude is 0V-50V,error  $\pm 30\%$ .



Continous Wave  
Figure 2

### 1.3 Compressional Wave

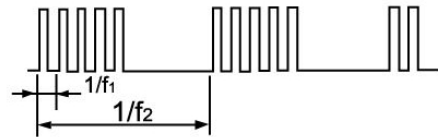
The compression wave and rarefaction wave appear alternatively and the times of changes are from  $(11\pm 3)$  times/minute to  $(50\pm 15)$  times/minute, and the largest impulse amplitude outputted on  $500\Omega$  load is 35 V. The adjustment range of the output impulse amplitude is 0V-50V, error  $\pm 30\%$ .



Compressional Wave  
Figure 3

### 1.4 Discontinuous Wave

The basic wave by which the amplitude of the square wave is modulated has the times of changes from  $(11\pm 3)$  times/minute to  $(50\pm 15)$  times/minute, and the largest impulse amplitude outputted on  $500\Omega$  load is 35 V. The adjustment range of the output impulse amplitude is 0V-50V, error  $\pm 30\%$ .

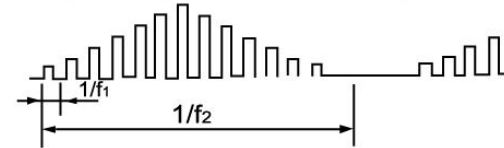


Discontinuous Wave  
Figure 4

### 1.5 Fluctuational Wave

The basic wave by which the amplitude of the triangle wave is modulated has the amplitude of impulse rising up in the first half

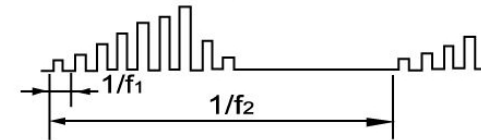
of the period and the amplitude of impulse falling down in the second half of the period, with the times of changes from  $(11\pm 3)$  times/minute to  $(50\pm 15)$  times/minute, and the range of changes of impulse amplitude outputted on  $500\Omega$  load is larger than 5V to 25 V.



Fluctuational Wave  
Figure 5

### 1.6 Start/Stop Wave

The basic wave by which the amplitude of the saw-tooth wave is modulated has the amplitude of impulse rising up in the first half of the period and no output of impulse in the second half of the period, with the times of changes from  $(11\pm 3)$  times/minute to  $(50\pm 15)$  times/minute, and the range of changes of impulse amplitude outputted on  $500\Omega$  load is larger than 5V to 15 V.



Start/Stop Wave  
Figure 6

### 1.7

808 series multi-purpose health device Transformer step-up output pulse to the load, there is no voltage or current output of the DC component. Load impedance larger or smaller has no effect on the pulse width and pulse repetition rate.

The load impedance is larger, output current effective value is smaller, there may be a slight increase in pulse amplitude, The load impedance is smaller, output current effective value is larger, there may be a slight reduce in pulse amplitude.

The Load range of 808 series multi-purpose health device is  $280\Omega\sim 500\Omega$ , Maximum output pulse amplitude changes In the scope of  $50V\pm 15V$ .

2. The frequency of impulse of the basic wave should be between  $1.2\text{Hz}\sim 55\text{Hz}$ , the error range of  $\pm 30\%$  continuous adjustable.

3. The width of impulse of the basic wave is  $(0.6\pm 0.15)$  ms.

4. On  $500\Omega$  load, when the output amplitude is maximum, the electricity of each pulse should be more than  $7\mu\text{C}$ .

5. on  $500\Omega$  load, the energy of each pulse is not greater than  $300\text{mJ}$ .

6. When the device open circuit measurements, the output voltage peak is not greater than  $250\text{V}$ .

7. Output of the Electrotherapy: KWD-808 I impulse Electrotherapy has Six channels of outputs and KWD-808 II impulse Electrotherapy has Four channels of outputs. Each channel is adjusted individually and the interactive influence of the output circuits at the full scale is no larger than  $\pm 10\%$ .

8. The adjustment of the output amplitude of the electrotherapy should be continuous and even, the minimum output is no larger than  $2\%$  of the maximum output.

9. The electrotherapy output should be able to bear the impact of open and short circuit, its performance can not be weakened.

10. When power supply is recovered after it fails, the electrotherapy should not have output.

11. Sensitivity of acupoint detecting: when the body resistance  $R = 20\text{k}\Omega\sim 500\text{k}\Omega$ ,  $\Delta R = 20\text{k}\Omega$ ;  $R = 510\text{k}\Omega\sim 1\text{M}\Omega$ ,  $\Delta R = 50\text{k}\Omega$ , the flashing frequency of the indication lamp and the sounds frequency of the buzzer should be increased remarkably.

12. Frequency Indication lamp

12.1. Under normal status the frequency indication lamp of the electrotherapy is flashing with frequency and the buzzer sounds

normally with frequency.

12.2. When detecting the points, in the point area, the flashing frequency of the indication lamp and the sounds frequency of the buzzer should be increased remarkably.

13. Music prompt function of the electrotherapy: When the power-on or the timing treatment is finished, the electrotherapy should has music to prompt automatically.

14. Timing function: The timing range is from  $0\sim 60\text{min}\pm 10\%$ . When the timing is finished, the output should be able to cut off automatically.

15. Output blocking: In the  $1000\Omega$  load resistance, the electrotherapy RMS current is less than  $10\text{mA}$  (rms), or electrotherapy RMS voltage is less than  $10\text{V}$  (rms).

16. AC/DC power conversion function: Insert the matched  $9\text{V}$  power supply on the external jack on the electrotherapy and connect to the power network. That is for AC power supply. Unplug the external power supply is for DC power supply on the battery.

17. The "BATT" button function for type II Electrotherapy: The "BATT" button on the chassis of type II Electrotherapy is only used for checking the voltage of batteries in the electrotherapy, press down the button, if the pointer indicates outside the range of "BATT", it means the voltage of batteries is insufficient and the batteries should be replaced.

18. Volume:  $220\times 170\times 75\text{mm}$ .

#### 4. STRUCTURE AND COMPONENTS OF PRODUCT

Main Structure of Product:

The main structure of KWD-808 serial impulse electrotherapy consists of upper cover, base, lining board and printed circuit board with parts and components. The upper cover, the base and the lining board are made of plastic. The lining board is fixed on the upper cover and the printed circuit board with parts and components is mounted on the lining board. The upper cover and

the base are fixed by screws.

Components of the Product:

KWD-808 serial impulse electrotherapy mainly consists of main machine, skin electrode, acupoint detecting pen, electrode, electric needle and electrode clip and power supply. Model I has six channels of output and Model II has four channels of output. See the figure of the impulse electrotherapy for details.

The electrode pad is glued by the conductive silicone rubber piece and the sticking piece. The conductive silicone rubber piece is made of silicone rubber piece (outer layer) and conductive rubber piece (inner layer). The sticking piece is made of glycerin, acrylamide, potassium chloride and hook weaving network surface.  
Model: CL-002, size:  $(10 \pm 10)$ CMX $(10 \pm 10)$ CM

The skin electrode:

The skin electrode is made of conductive rubber piece.  
Model: CL-01, size: oval-shaped :  $(2.5 \pm 0.5)$ CMX $(3.5 \pm 0.5)$ CM, the arc radius of the ellipse is  $(1.25 \pm 0.25)$ CM.

#### 5. APPLICABLE RANGE OF PRODUCT

Use for detection of human acupoints and electric impulse acupuncture treatment.

#### 6. CONTRAINDICATION

It cannot be applied together with other electronic instrument on human body (such as the pacemaker etc).

Using electrodes around the chest will increase the risk of cardiac defibrillators.

Do not connect high-frequency surgical equipment and 808 series multi-purpose health device to a patient at the same time.

If doing so, In the electrode of 808 series multi-purpose health device may cause burns and possible damage to the device.

Do not use 808 series multi-purpose health device near the short-wave or microwave, if doing so could cause instability in the device output.

Severe thrombocytopenia, Facial paralysis caused by the tumor, serious heart disease And pregnant women.

#### 7. POINTS FOR ATTENTION

1. Before applying the instrument, please read the operation manual carefully and keep it well for reading at any time.
2. Take care that the power supply should be in accordance with the mark on the instrument.
3. Take care that it should never contact the positive electrode with the negative electrode when they are used. Do not place the electrode on sore spot, wound, new scar or inflammatory skin.
4. When applying, do not place both electrodes on the left and right sides of upper half of the body at the same time. They can only be placed on the lower half of the body or on the same side of the body so as to avoid current flowing through the heart.
5. The five windows on the panel of the instrument are indications of analogue waveform rather than actual ones. They are corresponding to five "W.R.S." buttons.
6. The instrument has the safety protection device for the output. Each time when the treatment is finished, after the timer returns to "0" position, it should turn all output knobs to the minimum points. If last time the output knobs are not turned to the minimum points after the treatment is finished, the instrument shall be under the protection status without the output if switching on again, and the indication lamp doesn't light but music sound prompts. At this time it should turn all output knobs to the minimum points to switch off. Make adjustment only when the indication lamp of the output is flashing and the outputs are available.
7. The self-adhesive electrode should be kept clean. After completion of application, it should be stuck on the film and put into the clean bag. It should be applied by special person so as to avoid unnecessary cross infection.
8. When the conducting rubber piece is used, please slightly clean the skin to be treated by saline water first.
9. The "BATT" button at the upper right corner of 808-II serial impulse electrotherapy is only used for check the voltage of batteries in the instrument. Press down the button if the pointer indicates outside the range of "BATT", it means the voltage of

batteries is insufficient and batteries should be replaced.

10. For the KWD-808 series multi purpose health device, it use a disposable battery as a power source. If do not use over 10 days, certainly must take out the battery to prevent the battery liquid from permeating into the device.

11. On 1K $\Omega$  load, the current effective value is no more than 10mA, the voltage effective value is no more than 10V.

12. Maximum size of the electrode is 6X6cm<sup>2</sup>, common size of the electrode is 4X4cm<sup>2</sup>, when the load is 1K $\Omega$ , the current density of electrodes is 0.6mA/cm<sup>2</sup>.

13. 808 series multi-purpose health device have a certain capacity of anti-electromagnetic interference, but if other equipment has strong electromagnetic interference, it will also be affected. So do not use 808 series multi-purpose health device in place with strong electromagnetic interference. It could cause instability in the device output.

14. KWD-808 Series oukse electrotherapy for five years after the re-use is not recommended, if still need treatment, please replace the new electrotherapy. Because after long-term use, the carbon diaphragm in the output of the controller is wear and tear, the output current instability during the treatment which is not conducive to the treatment of patients.

15. Do not use the old equipment, self-adhesive electrode pads and other accessories according to local regulations for waste treatment.


16. See label for production date.

17. The instrument should keep away from the children.


18. The use period for the instrument is two years. Two years later, the user can check the performance by himself. If working normal, it can still be used, if in unnormal condition, it need to return to our company for maintainance.


19. Advise to replace the new self-stick electrode pads after continuous use 15 days. Because after continuous use, the self-stick electrode pad may be stickup. The self-stick electrode pad can buy from the agent or our company. Every time before use, The output resistance of the electrode clip (output wire) should be tested by the digital multimeter. The output resistance under 5 $\Omega$  can be used. If the output resistance over 5 $\Omega$ , it should be replaced by the output wire which the output resistance under 5 $\Omega$ . Because the output resistance increase, the loss of the pulse voltage on the wire will increase too. The output wire can buy from the agent or our company.


## 8. EXPLANATION OF ICONS

 : means the equipment belongs to BF-type anti-shock device


 : means the equipment belongs to category II equipment.

 : means attention! There are pulse voltage output

 : means the main power on

 : means the main power off

 : means the functional switch on

 : means the functional switch off

## 9. DESCRIPTION OF INSTALLATION AND APPLICATION

### 1. Installation and Start-Up

Install six pieces of No.2 batteries into the battery chamber on the bottom of the instrument or insert the matched 9V power supply on the external jack on the instrument and connect to the power network. Press down "POWER" button of the instrument the indicating lamp of power supply lights, it means power supply is available.


### 2. Select Working Waveform and Set Working Time

Turn all output potentiometers counterclockwise to the zero position, press down the waveform button "W.R.S" to select required waveform.


Turn the potentiometer clockwise to set required working time.

### 3. Adjustment of Frequency

#### 3.1 Continuous Wave

For the frequency of continuous wave, adjust the frequency " "potentiometer at the upper left corner on the panel of the instrument. For the first setting, adjust to scale "6" $\pm$  then adjust again according to requirement in application.

#### 3.2 Compressional Wave

First of all, turn the frequency " "potentiometer at the upper left corner on the panel of the instrument counterclockwise to the minimum, then turn the frequency potentiometer at the upper right corner on the panel of the instrument counterclockwise to the minimum. The potentiometer at the right side can be adjusted suitable according to requirement in application.

3.3 Discontinuous Wave, Fluctuational Wave and Start/Stop Wave  
First of all, turn the frequency "⊕" potentiometer at the upper left corner on the panel of the instrument counterclockwise to the maximum, then turn the frequency potentiometer at the upper right corner on the panel of the instrument clockwise to the required frequency. It can be adjusted suitable according to requirement in application.

#### 4. Check Working Status

In working status, the indication lamp of power supply lights. When making impulse treatment, the frequency indication lamp flashes.

The working waveform, time and frequency of all outputs are the same.

#### 5. Start Working

Turn the output potentiometer clockwise slowly until the part to be treated feels action of impulse and comfortable then stop the increase of amplitude of the output impulse.

#### 6. End Working

When the timing set on the timer is up, the instrument can stop all outputs automatically and the music alarm prompts.

#### 7. Pulse physical therapy

Clamp the metal clip to the conductive silicone rubber piece or insert the wire output tips into the self-stick electrode pad. Put the conductive silicone rubber piece to the treatment place, using medical tape to close the skin or paste the self-stick electrode pad on the treatment place. Insert the wire output plug to the outlet of the instrument. Adjust the output amplitude from weak to strong until the patient feel numb and shock. After treating for some time, if the patient feel the pulse current becoming weaker, can strengthen the output current appropriately. If adjust the output amplitude to the strongest, the patient still feel weak, can use the two output lines together to strengthen the treatment effect. Treat 1-3 times a day, 30 minutes for each time, 7-10 days is a course of treatment.

#### 8. Detecting Body Acupoint Additionally

8.1 When detecting acupoint, set the "TIME" of the timer at "0" position, and press down the acupoint detecting button "DET".

8.2 Insert the acupoint detecting pen into the hole "DET.OUT", grasp the electrode firmly by one hand and the detecting needle is detecting on the area of the acupoint to make the instrument have sound and light indications. Then turn the knob "APD" counterclockwise a bit to make the instrument have just no sound and light indications in the larger area. At this time, search carefully and the acupoint is the point where sound and light indications appear.

8.3 When detecting acupoint, if sound and light indications occur no matter the knob "APD" is adjusted at any position, it means the human skin is too wet and should be dried first then detected. If the knob "APD" is adjusted and sound and light indications appear only when the scale is over 7.5, it means the human skin is too dry and should be moistened suitably then normal detection can be carried out.

8.4 During the course to detect acupoint, the needle cannot be swept slightly on the surface of body. It should apply a bit pressure to detect the acupoint by point contact form. Do not contact some point for a long time in order to avoid false reaction point.

8.5 As the additional acupoint detection of the electrotherapy is realized by the principle that the body acupoint has low resistance, therefore the acupoint with stronger reaction could not be within the normal range, and could be different due to different gender, age, body status as well as time and season. It should take actual measurement as standard by referring to the acupoint drawing. The acupoint detecting should be done repeatedly and carefully. After completion of the acupoint detection, turn the knob "APD" to "0" position.

9. Patients can choose different waveform according to different therapeutic purpose.

9.1 Relieving pain by Continuous Wave, Compressional Wave

9.2 Promoting the blood circulation by Compressional Wave, Discontinuous Wave

9.3 Promoting exudates absorption by Compressional Wave, Fluctuational Wave

## 10. MAINTENANCE OF PRODUCT

The surface of the instrument should be rubbed often by clean and wet cloth so as to keep clean and sanitation of the instrument. When insert or draw out the output wire, the plug should be grasped firmly. It is strictly prohibited to draw out the output wire by hand directly to avoid breakage of the wire. The instrument should be installed at the place where no direct sunlight appears.

## 11. TRANSPORTATION AND STORAGE

1. Range of Ambient Temperature: -10°C to 40°C .
2. Range of Relative Humidity: <95%.
3. Range of Atmosphere Pressure: 500 hpa to 1060 hpa.
4. During the course of transportation, it should avoid shock, strong vibration and moisture.
5. The electronic therapeutic meter should be stored in the well-ventilated room without corrosive gas, where temperature is within -10°C~40°C and relative humidity is no higher than 95%.

## 12. NORMAL WORKING CONDITION

1. Ambient Temperature: 5°C to 40°C .
2. Relative Humidity: no larger than 80%.
3. Suitable Range of Voltage of Power Supply: AC 110~240V, 50Hz; DC 9V+5%, 9V-10%.
4. Input Power: <20VA+15%; the fuse is slow fusing 0.5A.
5. Range of Atmosphere Pressure: 500 hpa to 1060 hpa.

## 13. WARRANTY AND AFTER-SALE SERVICE

The instrument has the warranty of repair, replacement and refund on request. Within 12 months from the date of purchase if the instrument cannot work, the company shall be responsible for check of reasons. If the trouble occurs under normal application, the company shall give repair or replacement free of charge. If the trouble is caused by improper application or manmade reason, the company shall charge for replaced parts. The self-adhesive electrodes and output wires are consumables not covered by the warranty. When the warranty period expires the company shall be still responsible for maintenance. The company shall provide schematic drawings for those maintenance persons who are qualified after training for reference rather than other purposes. If necessary, the parts lists ,diagram etc can be provided.

## 14. ACCOMPANIED ACCESSORIES

1. One acupoint detecting pen;
2. Six groups of output wire for Model I and four groups for Model II.
3. Ten pieces of conducting rubber piece for Model I and six pieces for Model II.
4. Two pieces of self-adhesive rubber piece.
5. Instruction Manual and Acupoints Drawing.

## GUIDE AND MANUFACTURER'S DECLARATION — ELECTROMAGNETIC EMISSION

(Multi-purpose Health Device)Used in the electromagnetic environment of expectations in the follow regulations,the buyer or user should ensure to use the device in the follow electromagnetic environment:

Emission Test	Compliance	electromagnetic environment -guide
RF Emission GB 4824	CLASS A	(Multi-purpose Health Device) only use radio frequency energy for its internal function,therefore,the RF emission is very low,there is little possibility to interfere the electronic equipment nearby.
Conducted Emission GB 4824	GROUP 1	(Multi-purpose Health Device) in order to complete its intended function,the electromagnetic energy lanched may interfere the electronic equipment nearby.
Harmonic Emission GB 17625.1	NOT APPLIED	
Voltage fluctuation / Scintillation emission GB 17625.2	NOT APPLIED	

**GUIDE AND MANUFACTURER'S DECLARATION  
— ELECTROMAGNETIC IMMUNITY**

(Multi-purpose Health Device)Used in the electromagnetic environment of expectations in the follow regulations,the buyer or user should ensure to use the device in the follow electromagnetic environment:

Immunity Test	IEC60601 test level	Conformable level	electromagnetic environment-guide
Electrostatic Discharge GB/T17626.2	±6KVcontact discharge ±8KV air discharge	±6KVcontact discharge ±8KV air discharge	The ground should be wood, concrete or ceramic tile, if the ground covered with synthetic material, the relative humidity should be at least 30%
Electrical transient bursts GB/T17626.4	±2KV to power cord ±1KV to input/output wire	±2KV to power cord ±1KV to input/output wire	Network power supply should be used in the quality of a typical commercial or hospital environment
Surge GB/T17626.5	±1KV wire to wire ±2KV wire to ground	±1KV wire to wire ±2KV wire to ground	Network power supply should be used in the quality of a typical commercial or hospital environment
Voltage sag,short supply interruption and voltage change in the power line GB/T17626.11	< 5% Ur,continue for 0.5 cycle(On Ur, > 95% transient sag) 40% Ur,continue for 5 cycle(On Ur, 60% transient sag) 70% Ur,continue for 25 cycle(On Ur, 30% transient sag) < 5% Ur,continue for 0.5 cycle(On Ur, > 95% transient sag)	< 5% Ur,continue for 0.5 cycle(On Ur, > 95% transient sag) 40% Ur,continue for 5 cycle(On Ur, 60% transient sag) 70% Ur,continue for 25 cycle(On Ur, 30% transient sag) < 5% Ur,continue for 0.5 cycle(On Ur, > 95% transient sag)	Network power supply should be used in the quality of a typical commercial or hospital environment. If [multi-purpose health device] the user needs to run continuously during power outage, it is recommended to use uninterruptible power supply or batteries.
Power frequency magnetic field (50Hz/60Hz) GB/T17626.8	3 A/m	3A/m	Power frequency magnetic field should have in a typical commercial or hospital environment level of power frequency magnetic field characteristics of the typical place.

Note: Ur refer to the communication network voltage before applying the test voltage.

**GUIDE AND MANUFACTURER'S DECLARATION  
— ELECTROMAGNETIC IMMUNITY**

(Multi-purpose Health Device)Used in the electromagnetic environment of expectations in the follow regulations,the buyer or user should ensure to use the device in the follow electromagnetic environment:

Immunity Test	IEC60601 test level	Conformable level	electromagnetic environment-guide
The RF transmission GB/T17626.6	3V(valid value) 150KHz -80MHz	3V(valid value) 150KHz -80MHz	Portable and mobile radio frequency communication equipment should not be used near (multi-purpose health device)any part of the device if no more than the recommended separation distance, including cable, the distance should be calculated by the transmitter frequency and the corresponding formula recommended separation distance: $d=1.2/\sqrt{P}$
RF radiation GB/T17626.3	3V/m 80MHz -2.5GHz	3V/m 80MHz -2.5GHz	$d=1.2/\sqrt{P}$ 80MHz-800MHz $d=2.3/\sqrt{P}$ 800MHz-2.5MHz  In the formula: P-According to the transmitter maximum rated output power supplied by transmitter manufacturers, the unit is (W); d-recommended separation distance, the unit is(m) Fixed field strength of the RF transmitter based on electromagnetic site survey "to identify, in each frequency range" should all be lower than the conformable level.

Note 1: At 80 MHz and 800 MHz frequency point, use the high frequency formula.  
Note 2:The guidelines may not be suitable for all situations,the electromagnetic spreading effect by buildings,objects and the absorption and reflection of the body.



Performance requirements when immunity test:

1.Continuous Wave

Range of frequency:1.2Hz-55Hz,error±30%,the largest impulse amplitude output on 500Ωload is over 40V,The adjustment range of the output impulse amplitude is 0V-50V,error ±30%

2.Compressional Wave

The compression wave and rarefaction wave appear alternatively and the times of changes are from(11±3)times/minute to (50±15) times/minute,the largest impulse amplitude output on 500Ωload is over 35V,

The adjustment range of the output impulse amplitude is 0V-50V,error ±30%

The recommended separation distance between portable and mobile radio frequency communication equipment and( the multi-purpose health device)

(multi-purpose health device) Expected used in radiofrequency radiation harassment controlled electromagnetic environment. Based on the maximum rated power output of the communication equipment, the buyer or the user can through the following recommended minimum distance between portable and mobile radio frequency communication equipment and( the multi-purpose health device) to prevent electromagnetic interference

the maximum rated power output of the transmitter W	The different separation distance/m for different transmitter		
	150KHz-80MHz $d=1.2/\sqrt{P}$	80MHz-800MHz $d=1.2/\sqrt{P}$	800MHz-2.5GHz $d=2.3/\sqrt{P}$
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
100	12	12	23

For the maximum rated power output of the transmitter which not listed on the above sheet the recommended separation distance d,the unit is m, can determine by the formula in the corresponding transmitter frequency column. P--According to the transmitter maximum rated output power supplied by transmitter manufacturers, the unit is (W).

Note 1: At 80 MHZ and 800 MHZ frequency point, use the high frequency formula.

Note 2:The guidelines may not be suitable for all situations,the electromagnetic spreading effect by buildings,objects and the absorption and reflection of the body.