

MICROCHIP ROTATING DEVICE

BACKGROUND OF THE INVENTION

1. Technical Field

5 **[0001]** The present invention relates to a microchip rotating device and more particularly to a microchip rotating device configured to increase the bodily micro electric waves received from and sent back to a user's body, with a view to improving blood circulation in the user's body.

2. Description of Related Art

10 **[0002]** A conventional biochip is generally provided on a patch to be applied directly and adhesively on a user's skin so that the substance to be delivered or a sensor is in direct contact with the skin, without being blocked by the user's clothes or subjected to spatial interference, the objective being to ensure effective delivery of the substance or effective sensing. Such a bio-patch can be applied to a certain portion of the human body to
15 form a local electric and/or magnetic field (e.g., around an acupoint) that relieves bodily discomfort by promoting blood circulation. Bio-patches have found wide application and are available in various forms, including, for example, those containing medicine to serve medical purposes, those containing a special substance (e.g., magnet, the metal titanium, or the metal germanium) for health maintenance, and those configured for near-field
20 communication (NFC) in order to monitor a user's physiological data wirelessly (i.e., those configured to monitor a user's body signals such as heart rate, blood sugar level, and blood pressure). In addition to its preset function, a bio-patch can utilize the weak electric current generated by the human body to encourage the infiltration of medicine or other substances into the human body.

25 **[0003]** The adhesive application method of the conventional biochips, however, may worry or concern those whose skin is prone to allergic reactions or uncomfortable

sensations. This prompted the inventor of the present invention to develop a biochip device that can be used to enhance blood circulation and physical health in a non-contact manner and is therefore suitable for all kinds of users.

5 BRIEF SUMMARY OF THE INVENTION

[0004] The primary objective of the present invention is to provide a rotating device that allows a biochip to be used in a contactless manner and can improve blood circulation in the human body.

[0005] In order to achieve the above objective, the present invention provides a
10 microchip rotating device for improving blood circulation, comprising a housing and a microchip integrated circuit (IC) rotating disk. The housing is provided with a driving unit. The microchip IC rotating disk is provided on an output member of the driving unit in order to be driven into rotation by the driving unit. The microchip IC rotating disk is provided with at least one microchip IC, and the microchip IC includes at least one receiver, at least
15 one high-frequency oscillator, and at least one transmitter. The receiver is configured to receive bodily micro electric waves from a human body. The high-frequency oscillator includes an amplification circuit for amplifying the bodily micro electric waves. The transmitter is configured to transmit amplified bodily micro electric waves to the human body to promote microcirculation in the human body.

20 **[0006]** Furthermore, the housing is provided with a handle.

[0007] Furthermore, the microchip IC rotating disk is provided with at least one first microchip IC, at least one second microchip IC, and at least one third microchip IC; the first microchip IC has a first receiver for receiving the bodily micro electric waves and forming a first induced current, a first high-frequency oscillator electrically connected to the first
25 receiver and configured to perform first-stage resonance amplification on the first induced current, and a first transmitter for outputting an amplified first induced current as a first

wave beam; the second microchip IC is provided on and extends across a side of the first microchip IC that generates the first wave beam; the second microchip IC has at least one second receiver for receiving the first wave beam and forming a second induced current, a second high-frequency oscillator electrically connected to the second receiver and
5 configured to perform second-stage resonance amplification on the second induced current, and a second transmitter for outputting an amplified second induced current as a second wave beam; and the third microchip IC is provided on a path of the second wave beam generated by the second microchip IC and has a third receiver for receiving the second wave beam and forming a third induced current, a third high-frequency oscillator electrically
10 connected to the third receiver and configured to perform third-stage resonance amplification on the third induced current, and a third transmitter for outputting an amplified third induced current as a third wave beam and transmitting the third wave beam to the human body in a concentrated manner, wherein the amplified third induced current has been subjected to the first- to the third-stage resonance amplification.

15 **[0008]** Furthermore, the microchip rotating device further comprises a substrate provided either on a side of the first microchip IC to carry the first microchip IC or on a side of the third microchip IC to carry the third microchip IC.

[0009] Furthermore, the microchip rotating device further comprises a protective layer coupled to the substrate and covering the first microchip IC, the second microchip IC,
20 and the third microchip IC.

[0010] Furthermore, the first wave beam of the first microchip IC propagates from one or both of the two opposite sides of the plane where the first microchip IC lies.

[0011] Furthermore, the second receivers of each second microchip IC are provided on two lateral sides of the second microchip IC respectively and correspond to the first wave
25 beams of the corresponding two first microchip ICs respectively in order that each second receiver is able to receive the corresponding first wave beam and generate the corresponding

second induced current.

[0012] Furthermore, the second wave beam output by the second transmitter propagates from one or both of the two opposite sides of the plane where the second microchip IC lies.

5 **[0013]** Furthermore, the third receiver of the third microchip IC is provided on the paths of the second wave beams in order to receive the second wave beams and generate the third induced current.

[0014] Furthermore, the third transmitter is directed toward the human body.

[0015] Furthermore, at least one insulating layer is provided between the first
10 microchip IC and the second microchip IC, and/or between the second microchip IC and the third microchip IC, and/or between the first microchip ICs, and/or between the second microchip ICs, and/or between the third microchip ICs.

[0016] Furthermore, the multiple first microchip ICs are stacked on the substrate and form a plurality of piles.

15 **[0017]** Furthermore, the multiple piles are arranged annularly on the substrate.

[0018] Furthermore, the number of the piles is at least 4.

[0019] Furthermore, each pile includes at least 10 first microchip ICs.

[0020] Furthermore, the phase of the first wave beam generated by each first microchip IC in a pile is rendered different from that of another first microchip IC in the
20 same pile according to a predetermined setting in order to avoid electrical interference between the first microchip ICs.

[0021] Furthermore, the second wave beams output by the second microchip ICs have different preset phases to prevent interference between the second microchip ICs.

[0022] Furthermore, the microchip IC rotating disk includes a casing for packaging
25 the at least one microchip IC as a single unit, a rotating disk on which the casing is provided and which is connected to the output member of the driving unit, and a fixed disk provided

on one side of the rotating disk and covering the casing.

[0023] Furthermore, the microchip rotating device further comprises a base on which the housing is able to be placed.

[0024] Comparing to the conventional techniques, the present invention has the following advantages:

[0025] 1. The microchip rotating device of the present invention is provided with a microchip IC rotating disk configured to increase the bodily micro electric waves received from and sent back to a user's body by the microchip ICs on the rotating disk, and to thereby promote blood circulation and ensure smooth circulation of both qi and blood.

10 **[0026]** 2. The plural microchip ICs in the present invention are disposed in a special way: each second microchip IC is provided on and extends across the sides of the corresponding first microchip ICs that generate the first beams of bodily micro electric waves, and the third microchip IC is provided on the second microchip ICs in order for the third transmitter of the third microchip IC to transmit the third beam of bodily micro electric waves (which have been subjected to resonance amplification) to the user's body in a concentrated manner to promote microcirculation in the user's body.

[0027] 3. The plural first microchip ICs are stacked on a substrate and are annularly arranged to enable better resonance amplification than in a different configuration.

20 BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0028] FIG. 1 is a perspective view of the microchip rotating device according to an embodiment of the present invention.

[0029] FIG. 2 is a partial sectional view of the microchip rotating device according to an embodiment of the present invention.

25 **[0030]** FIG. 3 is a top view of the microchip IC rotating disk according to a preferred embodiment of the present invention.

[0031] FIG. 4 is a side view of the microchip IC rotating disk according to a preferred embodiment of the present invention.

[0032] FIG. 5 is a schematic block diagram of the first microchip IC according to the present invention.

5 **[0033]** FIG. 6 is a schematic block diagram of the second microchip IC according to the present invention.

[0034] FIG. 7 is a schematic block diagram of the third microchip IC according to the present invention.

10 DETAILED DESCRIPTION OF THE INVENTION

[0035] The details and technical solution of the present invention are hereunder described with reference to accompanying drawings. For illustrative sake, the accompanying drawings are not drawn to scale. The accompanying drawings and the scale thereof are not restrictive of the present invention.

15 **[0036]** Throughout the whole document, the terms "comprises or includes" and/or "comprising or including" used in the document mean that one or more other components, steps, operations, and/or the existence or addition of elements are not excluded in addition to the described components, steps, operations and/or elements. The terms "about or close to" or "substantially" mean a value or range that is close to the allowable specified error to
20 avoid any unreasonable use by third parties, illegal or unfair use, to understand the precise or absolute value disclosed herein. The terms "a" and "an" refer to one or to more than one (i.e., to at least one) of the grammatical object of the article.

[0037] As used herein, the term "electromagnetic radiation/electromagnetic waves" refers to self-propagating waves generated by the relative spatial variations of an electric
25 field and a magnetic field that oscillate in phase with each other. These waves have energy and momentum. Generally speaking, all substances except for those at absolute zero

temperature and the dark matter emit electromagnetic waves at all times. The human body, for example, emits electromagnetic waves that are commonly known as bodily micro electric waves. The microchip rotating device of the present invention is designed to rotate and provide resonance-based conditioning at a certain distance from a user's body, or more specifically to absorb and amplify the bodily micro electric waves of, and in the space surrounding, the user's body and transmit the amplified bodily micro electric waves to the user's body. Moreover, by obtaining a user's bodily micro electric waves, the present invention can also absorb electromagnetic waves with wavelengths ranging from 8 to 14 μm from the solar-spectrum electromagnetic waves in space and, after resonance amplification, transmit the amplified electromagnetic waves to the user's body.

[0038] The following is a more detailed description of this invention. However, it should be understood that these embodiments are only used to assist in making the present invention easier to understand, and are not intended to limit the scope of the present invention.

[0039] Please refer to FIG. 1 and FIG. 2 respectively for a perspective view and a partial sectional view of the microchip rotating device according to an embodiment of the present invention.

[0040] The present invention provides a microchip rotating device 100 for improving blood circulation. The microchip rotating device 100 includes a housing 10 and a microchip IC rotating disk 20. The housing 10 is provided with a driving unit 11, and the microchip IC rotating disk 20 is provided on an output member of the driving unit 11 in order to be driven into rotation by the driving unit 11. In a preferred embodiment, the driving unit 11 includes a motor and a power supply mechanism for supplying to the motor the electricity required for its operation, in order for the motor to rotate the microchip IC rotating disk 20. The power supply mechanism may be a battery provided in the housing 10 or an external power source; the present invention has no limitation in this regard.

[0041] The housing 10 may be provided with a handle 12 so that a user can grip the handle 12 and apply the microchip rotating device 100 to whichever body portion where blood circulation needs to be enhanced or improved. The housing 10 may also be placed on a base 30 or an adjustable support (not shown) in cases where the user wishes to improve blood circulation in the back or in other body portions that are not easily accessible by holding the microchip rotating device 100. In either case, the microchip rotating device 100 works equally well in improving blood circulation in the intended body portion. The housing 10 is further provided with a front cover 13 and a rear cover 14 that cover the microchip IC rotating disk 20 from two opposite sides respectively. The front cover 13 is provided with a plurality of through holes 131 through which the microchip IC rotating disk 20 can receive bodily micro electric waves from and transmit the amplified bodily micro electric waves to a user's body to promote microcirculation in the user's body. The rear cover 14 is provided with a plurality of through holes 141 through which the heat generated by the driving unit 11 driving (i.e., rotating) the microchip IC rotating disk 20 can be dissipated to prevent overheating.

[0042] The microchip IC rotating disk 20 is provided with at least one microchip IC, wherein the microchip IC includes at least one receiver, at least one high-frequency oscillator, and at least one transmitter. The receiver is configured to receive bodily micro electric waves from a user's body. The high-frequency oscillator has an amplification circuit for amplifying the bodily micro electric waves, and the transmitter is configured to transmit the amplified bodily micro electric waves to the user's body to promote microcirculation in the user's body. In the preferred embodiment shown in FIG. 2, the microchip IC rotating disk 20 includes a casing C1 for packaging the at least one microchip IC as a single unit, a rotating disk C2 on which the casing C1 is provided and which is connected to the output member of the driving unit 11, and a fixed disk C3 provided on one side of the rotating disk C2 and covering the casing C1. The casing C1 has a positioning hole C11 aligned with and

penetrated by a fixing post C21 of the rotating disk C2. The fixing post C21 also extends through an engaging groove C31 of the fixed disk C3 and is locked by an engaging means in order to secure the casing C1 between the rotating disk C2 and the fixed disk C3. In another preferred embodiment, the rotating disk C2 is provided with a structure for engaging
5 with the casing C1 and thereby securing the casing C1 in place.

[0043] The following paragraphs detail a preferred embodiment of the microchip IC rotating disk 20. This embodiment, however, is not intended to be restrictive of the configuration of the microchip IC rotating disk 20. The microchip ICs provided on the microchip IC rotating disk 20 may be any biochips capable of receiving bodily micro
10 electric waves, amplifying the bodily micro electric waves received, and transmitting the amplified bodily micro electric waves to the human body.

[0044] Please refer to FIG. 3 and FIG. 4 respectively for a top view and a side view of the aforesaid preferred embodiment of the microchip IC rotating disk. The microchip IC rotating disk 20 includes a substrate 21, at least one first microchip IC 22, at least one second
15 microchip IC 23, and at least one third microchip IC 24. As shown in the drawings, a plurality of first microchip ICs 22 are provided on the substrate 21, and a plurality of second microchip ICs 23 and a third microchip IC 24 are sequentially stacked on the first microchip ICs 22. In another preferred embodiment, the stacking order may be reversed such that the third microchip IC 24, the second microchip ICs 23, and the first microchip ICs 22 are
20 sequentially stacked on the substrate 21, in that order. Preferably, the microchip IC rotating disk 20 includes a protective layer 25 coupled to the substrate 21 and covering the first microchip ICs 22, the second microchip ICs 23, and the third microchip IC 24. The protective layer 25 serves to protect the structure of the microchip IC rotating disk 20 and prevent electrical interference that may otherwise result from the electrodermal activity if a
25 user were able to touch the microchip IC rotating disk 20.

[0045] The structural details of the first microchip ICs 22, the second microchip ICs

23, and the third microchip IC 24 in the illustrated embodiment are described below.

[0046] First-stage resonance structure of the microchip IC rotating disk

[0047] Please refer to FIG. 5 for a schematic block diagram of the first microchip IC according to the present invention.

5 **[0048]** The first microchip IC 22 in FIG. 5 has a first receiver 221, a first high-frequency oscillator 222, and a first transmitter 223. The first high-frequency oscillator 222 is electrically connected to the first receiver 221 and the first transmitter 223. The first receiver 221 receives bodily micro electric waves and forms a first induced current. The first high-frequency oscillator 222 performs first-stage resonance amplification on the first
10 induced current, and the amplified first induced current induces a radiation power field and is output by the first transmitter 223 as a first wave beam. The first wave beam of the first microchip IC 22 may propagate from one or both of the two opposite sides of the plane where the first microchip IC 22 lies.

[0049] More specifically, the first induced current transmitted to the first high-
15 frequency oscillator 222 drives the first high-frequency oscillator 222 to perform resonance amplification on the bodily micro electric waves of the first induced current. To increase the range of the bodily micro electric wave signals the first receiver 221 can receive, the first receiver 221 is preferably structured as a loop antenna, thereby allowing the microchip IC rotating disk 20 of the present invention to receive bodily micro electric waves optimally
20 while staying compact and thin. The configuration of the first receiver 221, however, is not an essential technical feature of the invention.

[0050] The first receiver 221 and the first transmitter 223 in this embodiment are separate antennae. In another preferred embodiment, the first receiver 221 and the first transmitter 223 may be co-constructed as a single antenna instead. The present invention
25 has no limitation in this regard.

[0051] Referring back to FIG. 3 and FIG. 4, a plurality of first microchip ICs 22 are

provided to enhance resonance amplification of a user's bodily micro electric waves. Preferably, the multiple first microchip ICs 22 are stacked on the substrate 21 and form a plurality of piles each including 2 to 20 (e.g., 2, 5, 7, 10, 12, 15, 17, or 20) first microchip ICs 22. The inventor of the present invention has found through repeated experiments that
5 each pile preferably includes at least 10 first microchip ICs 22 in order for the microchip IC rotating disk 20 of the microchip rotating device 100 to provide satisfactory resonance amplification and have a thickness within a certain range.

[0052] Referring to FIG. 3, an insulating layer 26 is provided between the first microchip ICs 22 to avoid electrical interference between the first microchip ICs 22. The
10 insulating layer 26 is preferably, but not limited to, resin, ceramic, a metal oxide, a nitride, or a thermally conductive material so as to be thin, lightweight, and therefore in line with the design objective of the present invention.

[0053] As the height of the piles of first microchip ICs 22 may affect the ease of application of the microchip IC rotating disk 20, there should not be too many first
15 microchip ICs 22 in each pile. One way to enhance resonance amplification of a user's bodily micro electric waves, therefore, is to increase the number of piles and arrange the piles on the same plane. For example, there may be 2 to 12 (e.g., 2, 4, 6, 8, 10, or 12, preferably at least 4) piles. While the multiple piles can be arranged in many ways (e.g., linearly or in a rectangular, annular, or irregular pattern), the inventor has found through
20 repeated experiments that better resonance amplification can be achieved with an annular arrangement.

[0054] To further avoid electrical interference between the first microchip ICs 22, the phase of the first wave beam generated by each first microchip IC 22 in a pile can be rendered different from that of another first microchip IC 22 in the same pile according to a
25 predetermined setting; that is to say, phase correction can be incorporated into the way in which the first microchip ICs 22 are stacked in each pile so that the peaks of electromagnetic

waves will be transmitted smoothly rather than interfere with one another during propagation.

[0055] Second-stage resonance structure of the microchip IC rotating disk

[0056] Please refer to FIG. 6 in conjunction with FIG. 3, wherein FIG. 6 shows a
5 schematic block diagram of the second microchip IC according to the present invention.

[0057] The microchip IC rotating disk 20 in the illustrated embodiment has a plurality of second microchip ICs 23, each provided on and extending across the first wave beam-generating sides of a plurality of first microchip ICs 22. Each second microchip IC 23 has at least one second receiver 231, a second high-frequency oscillator 232, and a second
10 transmitter 233, wherein: the second high-frequency oscillator 232 is electrically connected to the at least one second receiver 231 and the second transmitter 233, the at least one second receiver 231 receives the corresponding first wave beam and forms a second induced current, the second high-frequency oscillator 232 performs second-stage resonance amplification on the second induced current, and the amplified second induced current induces a radiation
15 power field and is output by the second transmitter 233 as a second wave beam, which may propagate from one or both of the two opposite sides of the plane where the second microchip IC 23 lies.

[0058] The embodiment shown in FIG. 3 and FIG. 6 illustrates how the first wave beams generated by the first microchip ICs 22 can be received over a large area. The second
20 receivers 231 of each second microchip IC 23 are provided on two lateral sides of the second microchip IC 23 respectively, and correspond to the first wave beams of the corresponding two first microchip ICs 22 respectively. Each second receiver 231, therefore, can receive the corresponding first wave beam and generate the corresponding second induced current.

[0059] By designing the position and coverage area of the antenna of each second
25 receiver 231 properly, the second receivers 231 will be able to sense the first wave beams more effectively, receive more radiation energy, and generate larger induced currents

through stronger electromagnetic induction.

[0060] In each second microchip IC 23, the second high-frequency oscillator 232 is electrically connected to the second receivers 231 and the second transmitter 233 in order for the second induced currents to drive the second high-frequency oscillator 232 to perform resonance amplification on the second induced currents, and the amplified second induced currents are output by the second transmitter 233 as second wave beams toward the third microchip IC 24.

[0061] The second receivers 231 and the second transmitter 233 in this embodiment are separate antennae. In another preferred embodiment, the second receivers 231 and the second transmitter 233 may be co-constructed as a single antenna instead. The present invention has no limitation in this regard.

[0062] In this preferred embodiment, each second microchip IC 23 is formed as a strip-like rectangular unit in order to extend across the corresponding plural first microchip ICs 22. There may be 2 to 20 (e.g., 2, 4, 6, 8, 10, 12, 14, 16, 18, or 20) second microchip ICs 23, and it has been found through repeated experiments that preferably at least 8 second microchip ICs 23 are provided, the objective being for the microchip IC rotating disk 20 to provide satisfactory resonance amplification and have a weight within a certain range. In this preferred embodiment, the second microchip ICs 23 are radially arranged in order for each second microchip IC 23 to extend across the corresponding plural first microchip ICs 22, e.g., between the corresponding pair of first microchip ICs 22.

[0063] Referring back to FIG. 4, another insulating layer 26 is provided between the first microchip ICs 22 and the second microchip ICs 23 as well as between the second microchip ICs 23 to avoid electrical conduction between the microchip ICs. These insulating layers 26 are preferably, but not limited to, resin, ceramic, a metal oxide, a nitride, or a thermally conductive material.

[0064] Third-stage resonance structure of the microchip IC rotating disk

[0065] Please refer to FIG. 7 in conjunction with FIG. 3, wherein FIG. 7 shows a schematic block diagram of the third microchip IC according to the present invention.

[0066] The third microchip IC 24 of the microchip IC rotating disk 20 is provided on the paths of the second wave beams, which have been subjected to resonance amplification by the second microchip ICs 23. The third microchip IC 24 has a third receiver 241, a third high-frequency oscillator 242, and a third transmitter 243. The third high-frequency oscillator 242 is electrically connected to the third receiver 241 and the third transmitter 243. The third receiver 241 receives the second wave beams and forms a third induced current. The third high-frequency oscillator 242, which is electrically connected to the third receiver 241, performs third-stage resonance amplification on the third induced current, and the amplified third induced current induces a radiation power field and is output by the third transmitter 243 as a third wave beam. The third transmitter 243 transmits the third wave beam toward the user's body such that, after the three stages of resonance amplification, the user's bodily micro electric waves are sent back to the user's body.

[0067] In the preferred embodiment shown in FIG. 3 and FIG. 7, the third microchip IC 24 is provided at the center of the radial pattern in which the second microchip ICs 23 are arranged, and the third receiver 241 of the third microchip IC 24 is provided on the paths of the second wave beams in order to receive the second wave beams and generate the third induced current. In a preferred embodiment, the third microchip IC 24 has a square shape.

[0068] In the illustrated embodiment, the third receiver 241 and the third transmitter 243 are separate antennae. In another preferred embodiment, the third receiver 241 and the third transmitter 243 may be co-constructed as a single antenna instead. The present invention has no limitation in this regard.

[0069] Referring back to FIG. 4, yet another insulating layer 26 is provided between the second microchip ICs 23 and the third microchip IC 24 to avoid electrical interference between the second microchip ICs 23 and the third microchip IC 24. This

insulating layer 26 is preferably, but not limited to, resin, ceramic, a metal oxide, a nitride, or a thermally conductive material so as to be thin, lightweight, and therefore in line with the design objective of the present invention.

[0070] The working principle of the present invention is detailed below with reference to FIG. 3 to FIG. 7.

[0071] When the microchip IC rotating disk 20 is placed adjacent to a user's body, the first receivers 221 of the first microchip ICs 22 receive bodily micro electric waves from the user's body, wherein the annular arrangement of the first microchip ICs 22 is effective in increasing the area over which the bodily micro electric waves can be received. The bodily micro electric waves received by the first receivers 221 induce the first induced currents. The first induced currents are subjected to first-stage resonance amplification by the first high-frequency oscillators 222 and are then output respectively to the corresponding first transmitters 223, where the amplified first induced currents induce the first wave beams through the radiated electric fields. It is worth mentioning that the first wave beams output by the plural first microchip ICs 22 in each pile have different preset phases to prevent interference between the first microchip ICs 22 in the same pile. Moreover, with the first microchip ICs 22 forming a plurality of piles, each second microchip IC 23 is placed across plural piles of first microchip ICs 22 to increase the area over which the first wave beams can be received. More specifically, the bilaterally disposed second receivers 231 of each second microchip IC 23 can induce two second induced currents at the same time from the first wave beams generated respectively by the corresponding two piles of first microchip ICs 22 and thereby also increase the area over which the induced currents can be received. The second induced currents are subjected to second-stage resonance amplification by the second high-frequency oscillators 232 and are then output respectively to the corresponding second transmitters 233, where the amplified second induced currents induce the second wave beams through the radiated electric fields. In this embodiment, the second wave beams

generated by each second microchip IC 23 are inclined toward the center of the second microchip IC 23 in order to be transmitted to the third microchip IC 24, which corresponds in position to the centers of the second microchip ICs 23. The second wave beams output by the plural radially stacked second microchip ICs 23 also have different preset phases to prevent interference between the second microchip ICs 23. The third receiver 241 of the third microchip IC 24 receives the second wave beams and forms the third induced current. The third induced current is subjected to third-stage resonance amplification by the third high-frequency oscillator 242 and is then output to the third transmitter 243, where the amplified third induced current induces the third wave beam through the radiated electric field. As the third transmitter 243 is directed toward the user's body, the third wave beam, which has been subjected to the three stages of resonance amplification, is transmitted to the user's body in a concentrated manner to promote blood circulation and enable smooth circulation of qi and blood in the user's body.

[0072] The microchip rotating device 100 of the present invention has been tested by being applied to a test subject's acupoint EH6 (Inner Pass), which is located on the inner side of the forearm and adjacent to the wrist. The test was conducted at a temperature of $24\pm 1^{\circ}\text{C}$ and a relative humidity of $50\pm 2\%$, with the test subject in a seated position, wearing a long-sleeve shirt and pants. The microchip rotating device 100 was directed toward, and 5 cm away from, the target area during the adaptation period (which lasted 15 minutes, with the microchip rotating device 100 turned off) and the use period (which lasted 5 minutes, with the microchip rotating device 100 turned on). The test results are as follows:

Test item	Target area (acupoint EH6, Inner Pass)	
Blood flowrate	Adaptation period	40.5
	After use	45.8
	Rate of change (%)	13.1
Blood velocity	Adaptation period	9.6
	After use	9.7
	Rate of change (%)	1.1
Skin temperature (°C)	Adaptation period	29.2
	After use	27.1
	Rate of change (%)	-7.2

It can be known from the test results that, by rotating the microchip IC rotating disk 20, the microchip rotating device 100 is indeed capable of improving blood circulation in the human body.

[0073] According to the above, the microchip rotating device of the present invention is provided with a microchip IC rotating disk configured to increase the bodily micro electric waves received from and sent back to a user's body by the microchip ICs on the rotating disk, and to thereby promote blood circulation and ensure smooth circulation of both qi and blood.

[0074] The above is the detailed description of the present invention. However, the above is merely the preferred embodiment of the present invention and cannot be the limitation to the implement scope of the present invention, which means the variation and modification according to the present invention may still fall into the scope of the invention.

CLAIMS:

1. A microchip rotating device for improving blood circulation, comprising:

a housing provided with a driving unit; and

5 a microchip integrated circuit (IC) rotating disk provided on an output member of the driving unit in order to be driven into rotation by the driving unit, wherein the microchip IC rotating disk is provided with at least one microchip IC, and one of the at least one microchip IC includes at least one receiver, at least one high-frequency oscillator, and at least one transmitter, one of the at least one receiver being configured
10 to receive bodily micro electric waves from a human body, one of the at least one high-frequency oscillator including an amplification circuit for amplifying the bodily micro electric waves, one of the at least one transmitter being configured to transmit amplified bodily micro electric waves to the human body to promote microcirculation in the human body.

15

2. The microchip rotating device of claim 1, wherein the housing is provided with a handle.

3. The microchip rotating device of claim 1, wherein the microchip IC rotating disk is provided with at least one first microchip IC, at least one second microchip IC, and at least
20 one third microchip IC; one of the at least one first microchip IC has a first receiver for receiving the bodily micro electric waves and forming a first induced current, a first high-frequency oscillator electrically connected to the first receiver and configured to perform first-stage resonance amplification on the first induced current, and a first transmitter for outputting an amplified first induced current as a first wave beam; one of the at least one
25 second microchip IC is provided on and extends across a side of one of the at least one first

microchip IC that generates the first wave beam; one of the at least one second microchip IC has at least one second receiver for receiving the first wave beam and forming a second induced current, a second high-frequency oscillator electrically connected to the second receiver and configured to perform second-stage resonance amplification on the second induced current, and a second transmitter for outputting an amplified second induced current as a second wave beam; and one of the at least one third microchip IC is provided on a path of the second wave beam generated by one of the at least one second microchip IC and has a third receiver for receiving the second wave beam and forming a third induced current, a third high-frequency oscillator electrically connected to the third receiver and configured to perform third-stage resonance amplification on the third induced current, and a third transmitter for outputting an amplified third induced current as a third wave beam and transmitting the third wave beam to the human body in a concentrated manner, wherein the amplified third induced current has been subjected to the first- to the third-stage resonance amplification.

4. The microchip rotating device of claim 3, further comprising a substrate provided either on a side of one of the at least one first microchip IC to carry one of the at least one first microchip IC or on a side of one of the at least one third microchip IC to carry one of the at least one third microchip IC.

5. The microchip rotating device of claim 4, further comprising a protective layer coupled to the substrate and covering one of the at least one first microchip IC, one of the at least one second microchip IC, and one of the at least one third microchip IC.

6. The microchip rotating device of claim 3, wherein the first wave beam of one of the at least one first microchip IC propagates from one or both of the two opposite sides of the plane where one of the at least one first microchip IC lies.

5 7. The microchip rotating device of claim 6, wherein the second receivers of each of the at least one second microchip IC are provided on two lateral sides of one of the at least one second microchip IC respectively and correspond to the first wave beams of the corresponding two of the at least one first microchip ICs respectively in order that each second receiver is able to receive the corresponding first wave beam and generate the
10 corresponding second induced current.

8. The microchip rotating device of claim 3, wherein the second wave beam output by the second transmitter propagates from one or both of the two opposite sides of the plane where one of the at least one second microchip IC lies.

15 9. The microchip rotating device of claim 8, wherein the third receiver of one of the at least one third microchip IC is provided on the paths of the second wave beams in order to receive the second wave beams and generate the third induced current.

20 10. The microchip rotating device of claim 3, wherein the third transmitter is directed toward the human body.

11. The microchip rotating device of claim 3, wherein the at least one first microchip IC are being a plurality of first microchip ICs, the at least one second microchip IC are being a
25 plurality of second microchip ICs, and the at least one third microchip IC are being a plurality

of third microchip ICs, and at least one insulating layer is provided between one of the at least one first microchip IC and one of the at least one second microchip IC, and/or between one of the at least one second microchip IC and one of the at least one third microchip IC, and/or between the plurality of first microchip ICs, and/or between the plurality of second microchip
5 ICs, and/or between the plurality of third microchip ICs.

12. The microchip rotating device of claim 4, wherein the at least one first microchip IC are being a plurality of first microchip ICs, and the plurality of first microchip ICs are stacked on the substrate and form a plurality of piles.

10

13. The microchip rotating device of claim 12, wherein the multiple piles are arranged annularly on the substrate.

14. The microchip rotating device of claim 13, wherein the number of the piles is at least 4.

15

15. The microchip rotating device of claim 14, wherein each pile includes at least 10 first microchip ICs.

16. The microchip rotating device of any one of claims 12 to 15, wherein the phase of the first
20 wave beam generated by each of the at least one first microchip IC in a pile is rendered different from that of another one of the at least one first microchip IC in the same pile according to a predetermined setting in order to avoid electrical interference between the plurality of first microchip ICs.

25

17. The microchip rotating device of any one of claims 12 to 15, wherein the at least one second microchip IC are being a plurality of second microchip ICs, and the second wave beams output by the plurality of second microchip ICs have different preset phases to prevent interference between the plurality of second microchip ICs.

5

18. The microchip rotating device of claim 1, wherein the microchip IC rotating disk includes a casing for packaging one of the at least one microchip IC as a single unit, a rotating disk on which the casing is provided and which is connected to the output member of the driving unit, and a fixed disk provided on one side of the rotating disk and covering the casing.

10

19. The microchip rotating device of claim 1, further comprising a base on which the housing is able to be placed.