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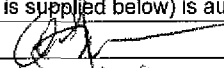
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FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. provisional patent application 61/532,785 filed September 9, 2011.

BACKGROUND

Field:

[0002] This disclosure relates to wireless energy transfer and methods for detecting foreign object debris (FOD) on wireless power transmission systems.

Description of the Related Art:

[0003] Energy or power may be transferred wirelessly using a variety of known radiative, or far-field, and non-radiative, or near-field, techniques as detailed, for example, in commonly owned U.S. patent application 12/613,686 published on May 6, 2010 as US 2010/010909445 and entitled “Wireless Energy Transfer Systems,” U.S. patent application 12/860,375 published on December 9, 2010 as 2010/0308939 and entitled “Integrated Resonator-Shield Structures,” U.S. patent application 13/222,915 published on March 15, 2012 as 2012/0062345 and entitled “Low Resistance Electrical Conductor,” U.S. patent application 13/283,811 published on _____ as _____ and entitled “Multi-Resonator Wireless Energy Transfer for Lighting,” the contents of which are incorporated by reference.

[0004] Wireless charging systems that rely on an oscillating magnetic field between two coupled resonators can be efficient, non-radiative, and safe. Non-magnetic and/or non-metallic objects that are inserted between the resonators may not substantially interact with the magnetic field used for wireless energy transfer. In some embodiments, users of wireless power transfer systems may wish to detect the presence of these “foreign objects” and may wish to control, turn down, turn off, alarm, and the like, the wireless power transfer system. Metallic objects and/or other objects inserted between the resonators may interact with the magnetic field of the wireless power transfer system in a way that causes the metallic and/or other objects to perturb the wireless energy transfer and/or to heat up substantially. In some embodiments, users of wireless power transfer systems may wish to detect the presence of these “foreign objects” and may wish to control, turn down, turn off, alarm, and the like, the wireless power transfer system.

[0005] Foreign Object Debris (FOD) positioned in the vicinity of wireless power transmission systems can be benign and/or may interact with the fields used for energy transfer in a benign way. Examples of benign FOD may include dirt, sand, leaves, twigs, snow, grease, oil, water, and other substances that may not interact significantly with a low-frequency magnetic field. In embodiments, FOD may include objects that may interact with the fields used for wireless energy transfer in a benign way, but that may be restricted from the region very close to the resonators of the wireless transfer systems because of perceived danger, or out of a preponderance of caution. A common example of this type of FOD is a cat that may wish to sleep between the coils of a wireless EV charging system for example. In embodiments, some FOD may interact with the magnetic field in a way that may perturb the characteristics of the resonators used for energy transfer, may block or reduce the magnetic fields used for energy transfer, or may create a fire and or burning hazard. In some applications special precautions may be necessary to avoid combustible metallic objects becoming hot enough to ignite during high-power charging. Some metallic objects can heat up and have enough heat capacity to cause a burn or discomfort to a person who might pick them up while they are still hot. Examples include tools, coils, metal pieces, soda cans, steel wool, food (chewing gum, burgers, etc.) wrappers, cigarette packs with metal foil, and the like.

[0006] Thus what are needed are methods and designs for detecting or mitigating the effects of FOD in the vicinity of the wireless energy transfer system.

SUMMARY

[0007] In accordance with exemplary and non-limiting embodiments, a foreign object debris detection system may measure perturbations in the magnetic field around the resonators of a wireless energy transfer system using magnetic field sensors and/or gradiometers. The sensors and/or gradiometers may be positioned in the magnetic field of a wireless energy transfer system. The sensors and/or gradiometers may comprise loops of wire and/or printed conductor traces forming loops, figure-8 loops, and/or structures comprising one loop or multiple loops that generate an electrical signal proportional to the amount of magnetic flux crossing its surface. The loop and/or loops may be connected to high-input-impedance readout circuitry. The readout circuitry may measure the voltage and/or the current and/or the relative phase of the voltages and/or currents in the loops. In embodiments the system may include multiple layers of loops to increase the detection probability of FOD. In embodiments, the loops may be designed to

operate without significantly affecting characteristics of the wireless power transfer system such as the perturbed quality factors of the resonators, the efficiency of the energy transfer, the amount of power transferred, the amount of heat generated by the system, and the like.

[0008] In accordance with exemplary and non-limiting embodiments, there is provided a wireless energy transfer system may comprise foreign object debris detection system. The system may include at least one wireless energy transfer source configured to generate an oscillating magnetic field. The foreign object debris may be detected by a field gradiometer positioned in the oscillating magnetic field. The voltages and/or currents of the field gradiometers may be measured using readout circuitry and a feedback loop based on the readings from the gradiometers may be used to control the parameters of the wireless energy source.

BRIEF DESCRIPTION OF FIGURES

[0009] Figure 1 shows a side view of a resonator with a resonator cover providing passive FOD mitigation.

[0010] Figure 2 two loops of wire that may be used as individual field sensors and that may be fashioned into a gradiometer that senses the difference in the magnetic flux capture by the two individual field sensors.

[0011] Figure 3A shows a two-lobe configuration of two small conductor loops arranged to have opposed magnetic dipoles, (such a structure may be referred to as a magnetic quadrupole); 3B shows a 4-lobe configuration of aligned magnetic quadrupoles; 3C shows a 4-lobe configuration of opposed quadrupoles, sometimes referred to as an octupole; and 3D shows a 4-lobe configuration extending in a linear dimension. The “+” and “-“ signs indicate the direction of the magnetic dipole of each loop, in a relative reference frame

[0012] Figure 4A shows a FOD detector array comprising loops with a square shape to achieve high area-fill factor; and 4B shows an embodiment with two offset arrays, an arrangement that may be used to eliminate blind spots.

[0013] Figure 5 shows a FOD detector connected to a readout circuit.

[0014] Figure 6 shows an array of FOD detectors connected to readout circuitry.

[0015] Figure 7 shows an array of FOD detectors connected to readout circuitry and a synchronization loop.

[0016] Figure 8 shows an example embodiment of FOD detector loops.

[0017] Figure 9A-9C shows example voltage measurement curves from a figure-8 gradiometer sensor.

[0018] Figure 10 shows a block diagram of an exemplary EV charger system.

DETAILED DESCRIPTION

[0019] Methods for mitigating FOD risks can be categorized as passive mitigation techniques and active mitigation techniques. Passive mitigation techniques may be used to prevent FOD from entering or remaining in the regions of high magnetic field. Passive mitigation techniques may lower the likelihood of FOD interacting hazardously with magnetic fields. Active mitigation techniques may be used detect and react to the presence of FOD.

Passive Mitigation Techniques

[0020] Passive mitigation techniques may be used to keep FOD from entering the regions between resonators or specific regions of high magnetic field, thereby preventing the interaction of the FOD with the magnetic fields.

[0021] By way of additional exemplary embodiments, the design of a resonator cover in a wireless power transfer system may provide a passive FOD mitigation technique. In embodiments the enclosure of a source and/or device and/or repeater resonator may be shaped to prevent FOD from coming close to the areas of the resonators and/or the resonator coils where the magnetic field may be large. A resonator enclosure may be designed to be curved, angled, or shaped to force any FOD on the cover to roll off the cover and away from the resonator and/or high magnetic fields. The resonator enclosure may be shaped or positioned to allow gravity to pull objects away from the resonators. In other embodiments the enclosures and position of the resonators may be designed to use other natural or omnipresent forces to move FOD away. For example, the force of water currents, wind, vibration, and the like may be used to prevent FOD from accumulating or staying in unwanted regions around resonators. In embodiments, the resonators may be arranged to be substantially perpendicular to the ground so that objects may not naturally rest and accumulate on the resonators. In embodiments, the resonator enclosure may include a keep-out zone providing for a minimum distance between FOD and the resonator components. The keep-out zone may be sufficiently large to ensure that the fields at the outside of the keep-out zone are sufficiently small to not cause safety or performance concerns.

[0022] An example resonator cover providing a degree of passive FOD protection is shown in Fig. 1. A magnetic resonator **104** of a wireless power transfer system may be

surrounded with or enclosed by or placed under a shaped cover **102**. The cover **102** may be shaped to force FOD **106** to roll down the cover **102** due to the force of gravity. The shape of the cover **102** may prevent FOD **106** from accumulating on top of the cover **102** and/or in the vicinity of the resonator **104** by forcing any FOD to the sides of the resonator and/or away from the regions surrounding the resonator where the magnitude of the magnetic fields is high enough to cause a hazardous condition due to heating of the FOD. In embodiments, the FOD may be forced far enough away from the high field regions to no longer pose a risk of being heated and/or ignited by the fields.

[0023] In other exemplary and non-limiting embodiments, a passive FOD technique may include sizing the resonators and/or resonator components to reduce the maximum magnetic field density anywhere in the region of wireless power exchange below a desired limit. In embodiments, relatively large resonator coils may be used to mitigate a subset of FOD risks. For a fixed level of power transfer the use of larger resonator coils may be used to reduce the magnetic field strength per unit area required to transfer a certain amount of power wirelessly. For example, the maximum magnetic field strength generated by a source may be reduced below a threshold where heating or other hazards may be known to occur. Passive mitigation techniques may not always be possible or practical or sufficient. For example, reducing a FOD hazard by increasing a resonator size may not be practical owing to the system cost restraints or to the desire to integrate a resonator into a system of a specified volume. However, even in applications where a completely passive technique may not be possible, practical and/or sufficient, passive mitigation techniques may be used to at least partially reduce the FOD risk and may be complementary to active mitigation techniques.

Active Mitigation Techniques

[0024] In accordance with exemplary and non-limiting embodiments, an active mitigation technique for FOD may include a detector system that may detect metallic objects, hot objects, perturbations in resonator parameters, and/or perturbations in magnetic field distributions.

[0025] In accordance with exemplary and non-limiting embodiments, FOD objects, such as metallic objects, may be of sufficient size, extent, and/or material composition to perturb the efficiency or power transfer capabilities of a wireless energy transfer system. In such cases, the presence of said FOD objects may be determined by examining the change in one or more of the

voltage, current, and/or power associated with the source resonator and/or device resonator and/or repeater resonator of a wireless power system. Some FOD objects may perturb the parameters of the resonators used for energy transfer and/or may perturb the characteristics of the energy transfer. A FOD object may change the impedance of a resonator for example. In accordance with exemplary and non-limiting embodiments, these perturbations may be detected by measuring the voltage, current, power, phase, frequency, and the like of the resonators and the wireless energy transfer. Changes or deviations from expected or predicted values may be used to detect the presence of FOD. In an exemplary embodiment, dedicated FOD sensors may not be needed to detect and react to FOD in a wireless power system.

[0026] In accordance with exemplary and non-limiting embodiments, FOD objects may only weakly perturb the wireless energy transfer and may not be substantially detectable by monitoring electrical parameters of the resonators and/or the characteristics of the wireless energy transfer. Such objects can still create a hazard, however. For example, a FOD object that only weakly interacts with the magnetic field may still heat up substantially. An example of a FOD object that may only weakly interact with the magnetic field but that may experience significant heating is a metal-foil-and-paper wrapper such as is often found in chewing gum and cigarette packages and as is often used to wrap food from fast food establishments such as Burger King and Kentucky Fried Chicken. When placed between the resonators of a 3.3-kW wireless energy vehicle charging system, a chewing gum wrapper may not be detectable by examining the electrical parameters associated with the resonators and/or the energy transfer system. However, said wrapper may still absorb enough power to rapidly heat and for the paper to eventually burn.

[0027] In accordance with exemplary and non-limiting embodiments, an active mitigation system for FOD may comprise temperature sensors to detect hot spots, hot areas, and/or hot objects near by the wireless energy transfer system. A system may comprise any number of temperature sensors, infrared detectors, cameras, and the like to detect a heat source, heat gradient and the like around the energy transfer system. In embodiments, hot object sensing may be used alone or in addition to other active and passive mitigation techniques and can be used to further improve the detectability of heated FOD and/or reduce the false-alarm rate of other active FOD systems.

[0028] In accordance with exemplary and non-limiting embodiments, an active mitigation system for FOD objects that only weakly perturb the magnetic field between two resonators may comprise sensors for measuring small changes in the magnetic field in the proximity of the FOD objects. For example, a metal-foil-and-paper chewing gum wrapper may not substantially alter the magnetic flux between two resonators, but it might substantially alter the magnetic flux through a much smaller sensor coil or loop if it covered and/or blocked any portion of the coil or loop area. In embodiments, local disturbances in the magnetic field caused by the presence of FOD may be detected by measuring magnetic field changes, variations, gradients, and the like, in the vicinity of the FOD.

[0029] In accordance with exemplary and non-limiting embodiments, a FOD sensor may be realized using two small wire loops **202, 204** as shown in Fig. 2. Such a sensor may be placed on or near the resonators used for wireless energy transfer. During operation the wireless energy transfer system generates a magnetic field that passes through the two loops. Each individual loop develops a voltage proportional to the amount of magnetic flux threading the inside of each loop **206, 208**. The difference between the voltages developed by the two loops is, to first order, proportional to the gradient of the magnetic field in proximity to the loops. If the two loops are placed in a region of uniform field and the loops are substantially similar, then the difference between the voltages developed by the two loops may be very small. If, for example, a chewing gum wrapper is placed so that it partially covers one of the loops but not the other, then the difference in voltage developed by the two loops will be larger than when the wrapper was not present because the metallic foil of the gum wrapper may deflect or/or absorb some of the magnetic flux that would have normally passed through that loop. In embodiments, the output from the two loops may be subtracted from each other so that the combination of loops produces a small signal when the sensed field is substantially uniform, and a measurably larger signal when there is a gradient in the field between the two loops. When the loops and/or coils are configured to generate a signal in the presence of a field gradient, they may be referred to as being arranged as a gradiometer. Note the signals from the loops may be subtracted using analog circuitry, digital circuitry and/or by connected the loops together in a specific configuration. The sensitivity of the sensor and/or gradiometer may be related to the magnitude and/or phase of the voltage difference between the two loops.

[0030] In accordance with exemplary and non-limiting embodiments, the sensitivity of the sensor and/or gradiometer may be adjusted to preferentially detect objects of a given size, or above a given size. The sensitivity may be adjusted to reduce false detection rates, to lower the noise of the detection system, and/or to operate over a range of frequencies. In embodiments the size and shape of the loops may be adjusted to adjust the sensitivity of the sensor. The loops may be adjusted to comprise more turns and or to comprise additional loops, such as four loops, or eight loops for example. In embodiments, the loops may be positioned to have rotational symmetry or they may be arranged in a linear arrangement or they may be shaped to fill a region of any size and shape.

[0031] In embodiments where the field density may be non-uniform in the locations where gradiometers may be placed and/or where other gradiometer and/or loop designs may be implemented, the presence of metallic objects may result in amplitude and/or phase changes in the waveform corresponding to the difference between the two loop voltages. In embodiments, the loops may have a plurality of turns. In accordance with exemplary and non-limiting embodiments, the loop areas **206, 208** may be sized according to the magnetic field strength of the wireless energy transfer system, the desired sensitivity of the detection method, the complexity of the system and the like. If the metallic FOD is substantially smaller than the loop area, only a weak signal may arise when the FOD is present. This weak signal may risk being overwhelmed by noise or interfering signals. If the loop is sized to be on the order of (e.g. within a factor of 3) of the minimum FOD size to be detected, then the signal may be sufficiently large for detection with low false-alarm rate. In embodiments, a FOD sensor and/or gradiometer may comprise one or more loops of different sizes, shapes and/or arrangements. In embodiments, a FOD sensor may comprise regions with one sensor, more than one sensor or no sensor.

[0032] In accordance with exemplary and non-limiting embodiments, another way to measure a field gradient in the vicinity of a metallic object may be to create a coil (also referred to as a loop) in a fashion that directly outputs a voltage that is proportional to the local gradient in the magnetic field. Such a coil serves the purpose of the two coils depicted in Fig. 2, but requires only one voltage measurement. If, for example, one were to double the area of one of the loops depicted in Fig. 2 and then twist it into a figure-8 shape where each lobe of the figure-8 had approximately equal area, but the current induced in each loop by the local magnetic field traveled in the opposing directions, then the voltage developed across its two terminals would be

proportional to the difference in magnetic flux between the two lobes. Fig. 3A-3D depicts some exemplary configurations of twisted loops that may be capable of directly outputting a voltage that is proportional to the local gradient in the magnetic field.

[0033] The two loops shown in Fig. 2 may be referred to as magnetic dipoles and the loops in Fig. 3A may be referred to as gradiometers and/or magnetic quadrupoles and the loops in Fig. 3B as gradiometers and/or octupoles, respectively. The quadrupole configuration may develop a voltage proportional to the magnetic field gradient in the left-to-right orientation. The 4-lobe configurations can be configured to measure field gradients (Fig. 3B), and gradients of field gradients (Fig. 3C). Fig. 3D is representative of embodiments where multiple lobes may extend along a linear dimension. In embodiments, higher-order multipoles with an even number of lobes can also be configured to measure spatial perturbations to the magnetic field. In embodiments, the lobes depicted in Fig. 3A-3D may use multiple turns of conductor.

[0034] Each of these configurations can accomplish the goal of measuring magnetic field perturbations due to the presence of metallic FOD. The configurations with multiple lobes may have an advantage in covering more area without substantially reducing the likelihood of detecting FOD of similar characteristic size to the lobes.

[0035] The loop configurations depicted in Fig. 2 and Fig. 3A-3D are depicted as circular to illustrate the direction of the induced current in the presence of an oscillating magnetic field. The *plus* and *minus* signs indicate whether the induced current flows mostly counter-clock-wise or clock-wise. Shapes other than circles may be better suited for arrays with high-area fill factor. Examples include squares, rectangles, hexagons, and other shapes that tile with little interstitial space in between them. Fig. 4A shows an example of square-shaped coils where the array is assumed to extend further than shown and to have an equal number of *plus* and *minus* loops. The wires of the coils may be connected so that the induced currents flow in the directions indicated by the *plus* and *minus* signs.

[0036] For the configuration shown in Fig. 4A a symmetrical piece of FOD can be placed in a position between adjacent loops so that the field perturbation may not generate a detectable magnetic field gradient. Such a “blind spot” is depicted in Fig. 4A. In accordance with exemplary and non-limiting embodiments, a second layer of arrayed loops may be placed above a first layer and may be offset laterally as shown in Fig. 4B. The offset may be chosen so that the “blind spots” of the first layer of sensors correspond to locations of maximum detectability for

the second layer. In embodiments, the offset may be any offset than improves the likelihood of detection of the FOD relative to the single array detection probability. In this way, the likelihood may be reduced of having substantial blind spots where a piece of FOD may not be detectable. Similar schemes of one or more offset arrays can achieve roughly the same advantage in reducing blind spots. The orientations of the loops in multiple arrays may also be changed to handle non-uniform magnetic fields.

[0037] In embodiments the individual loops or lobes of the dipoles, quadrupoles, octupoles, and the like may be of multiple sizes or of nonuniform sizes. In embodiments where the gradiometer may cover areas of nonuniform magnetic field the loops may be sized to ensure a minimal voltage at the output of the gradiometer loops when no FOD is present. The loops may be sized such that a larger loop is positioned in an area of weaker magnetic field and the smaller loops are positioned in the areas of higher magnetic field. In embodiments the loops may be sized such that a larger loop is positioned in an area of more uniform magnetic field and a smaller loop is positioned in an area of less uniform magnetic field.

[0038] In accordance with exemplary and non-limiting embodiments, an array of FOD sensors may comprise multiple types of sensors. In embodiments, a FOD sensor may comprise single loop sensors and/or dipole gradiometers and/or quadrupole gradiometers and/or octupole gradiometers and so on. Some areas of the FOD sensor may comprise no gradiometers. A FOD sensor may comprise temperature sensors, organic material sensors, electric field sensors, magnetic field sensors, capacitive sensors, magnetic sensors, motion sensors, weight sensors, pressure sensors, water sensors, vibration sensors, optical sensors, and any combination of sensors.

Active FOD Detection Processing

[0040] The coil configurations described above (Fig. 2 to Fig. 4) may develop an oscillating voltage in the presence of an oscillating magnetic field that is non-uniform because of, for example, the presence of FOD. In accordance with exemplary and non-limiting embodiments, a read-out amplifier connected to a given coil may have a high input impedance. This arrangement may prevent a substantial circulating current from developing in the sensor coil which could, in turn, spoil the Q-factor of the resonators used for wireless energy transfer. In embodiments, the loops, coils, gradiometers and the like may be connected to amplifiers and/or filters and/or analog-to-digital converters and/or operational amplifiers, and or any

electronic component that may be arranged to have high input impedance. In embodiments, a FOD sensor may comprise a conducting loop and a high input impedance electronic component.

[0041] In accordance with exemplary and non-limiting embodiments, each conductor pair from each coil (loop, sensor, gradiometer) in an array may be connected to a readout amplifier and/or an analog-to-digital converter as shown in Fig. 5. Each loop conductor **502** may be connected to an amplifier **506** and/or an analog-to-digital converter **508** and may produce an output **504** that may be used by other elements of a wireless energy transfer system or as an input to a processing element (not shown) such as a microprocessor to store and analyze the output of the coil, loop, sensor and/or gradiometer.

[0042] In other embodiments, the voltage on each coil in an array may be measured in sequence or may be multiplexed in a way that allows fewer read-out amplifiers or analog-to-digital converters to sample the array as shown in Fig. 6. An array of loops of gradiometers **602**, **604**, **606** may be connected to a multiplexed amplifier **608** and connected to one or more digital-to-analog converters **610**. The output of the digital-to-analog converter **612** may be used by other elements of the wireless energy transfer system or as an input to a processing element (not shown) such as a microprocessor to store and analyze the output of the gradiometer.

[0043] In embodiments, each conductor pair of a sensor and/or gradiometer loop may be connected to active or passive filter circuitry to provide a high terminating impedance at very high or very low frequencies.

[0044] The voltage on a given coil may be sampled at increments that allow a processor to determine the amplitude and phase of the induced waveform relative to a reference waveform. In embodiments, the voltage on a given coil may be sampled at least twice per period of oscillation (i.e. at or above the Nyquist rate). In embodiments, the voltage on a given coil may be sampled less frequently (i.e. in higher-order Nyquist bands). The voltage waveform may be analog filtered or conditioned before sampling to improve the signal-to-noise ratio or to reduce harmonic content of the signals to be sampled. The voltage waveform may be digitally filtered or conditioned after sampling.

[0045] The time-sampled electrical signal from the FOD detector coils may be processed to determine the amplitude and phase with respect to a reference signal. The reference signal may be derived from the same clock used to excite the resonators used for wireless energy transfer.

[0046] In some embodiments the FOD detection system may include a separate frequency, field magnitude, and/or phase sampling loop **704** and electronics **702** to synchronize the sensor and/or gradiometer readings to the oscillating magnetic fields of the wireless energy transfer system as shown in Fig. 7.

[0047] In embodiments, the reference signal may be from a different oscillator at a different frequency.

[0048] An example of processing a figure-8 quadrupole configuration (Fig. 3A) for FOD detection may be as follows:

1. With no FOD present, collect a time-sampled voltage waveform from one of the figure-8 loops
2. Compute the amplitude and phase of the fundamental frequency component (or of its harmonics)
3. Store the amplitude and phase as a baseline reference
4. With FOD present, collect a voltage waveform from the same figure-8 loop
5. Compute the amplitude and phase of the fundamental (or its harmonics)
6. Compare the amplitude and phase to the reference
7. On a polar plot (or in amplitude-and-phase space), if the distance between the signal and the reference exceeds a predetermined threshold, declare a detection of FOD.

[0049] In embodiments, the processing of the signal may be performed using analog electronic circuits, digital electronics or both. In embodiments, the signals from multiple sensors may be compared and processed. In embodiments, FOD sensors may reside on only one, or all, or some of the resonators in a wireless power transfer system. In embodiments, the signals from FOD sensors on different resonators may be processed to determine the presence of FOD and/or to give control information to the wireless power system. In embodiments, FOD detection may be controllably turned on and off. In embodiments, FOD detection and processing may be used to control the frequency of the wireless power transfer system, the power level transferred by the wireless power system, and/or the time period when wireless power transfer is enabled and/or disabled. In embodiments, the FOD detectors may be part of a reporting system that may report to a system user that FOD is present and/or that may report to higher level systems that FOD is present or is not present. In embodiments, a FOD detection system may comprise a “learning capability” that may be used to identify certain types of FOD and that may

comprise system and/or system feedback to categorize types of FOD as harmless, in danger of heating, not allowed for other reasons, and the like.

[0050] In accordance with exemplary and non-limiting embodiments processing may be embedded into the FOD detection subsystem or data may be sent back to a central processor. The processing may compare collected voltage waveforms to reference waveforms and look for statistically significant changes. Those skilled in the art will understand that the waveforms can be compared in amplitude and phase, I or Q components, sine or cosine components, in the complex plane, and the like.

Exemplary Active FOD Detection Embodiments

[0049] Two specific and non-limiting embodiments of FOD detection systems that were fabricated are described below. Data have been collected from both embodiments that show them working as FOD detectors.

[0050] In the first embodiment a stranded wire was formed into a figure-8 loop forming a quadrupole as shown in Fig. 8 with a longer wire between the two loops (gradiometer 1). The second embodiment was designed as shown as gradiometer 2 in Fig. 8. The figure-8 loops were approximately 5 cm long. Fig. 9A-9C show the voltage waveforms collected from the two sensors placed on top of a wireless energy source between the resonators for a 3.3-kW wireless energy transfer system, when the system was delivering 3.3 kW to a load. Fig. 9A shows the small residual voltage ($\sim 30 \text{ mV}_{\text{rms}}$) on the two gradiometers pictured Fig. 8. The residual voltage is due to a combination of non-uniform magnetic field, slight variations in lobe area, and electrical interference. Results from gradiometers #1 and #2 are plotted in as curve 904 and curve 902, respectively. When a metallic chewing gum foil is placed on the right lobe of gradiometer #2, some flux is blocked and a substantial amplitude increase and slight phase shift is observable in Fig. 9B, curve 902. Conversely, when the foil is moved to the left lobe of gradiometer #2, the amplitude stays the same but the phase changes by 180° as shown in Fig. 9C. These changes in phase and amplitude readings may be used to detect the presence of FOD on the sensors.

[0051] An embodiment of the figure-8 sensors was also fabricated using printed-circuit board (PCB) techniques to realize the sensor coils or loops. This embodiment may have advantages including low cost, higher fill factor (since the loops can be made into any shape and easily tiled using standard PCB processing techniques), higher uniformity, higher reproducibility, small size and the like. A higher-fill factor was obtained using tiled rectangular

loops for a 16-channel array of single figure-8 sensors. The printed loops were highly uniform resulting in smaller (and flatter) baseline readings from the sensors when no FOD was present.

Other Embodiments

[0052] In embodiments the sensors and gradiometer sensors described above can be combined with other types of FOD sensors to improve detection likelihood and lower false alarms (system detects FOD when no FOD is present). For example, an array of temperature sensors can be integrated into the resonator assembly. If a piece of FOD begins to heat up it would disturb the normally expected spatial temperature distribution. That deviation can be used to send an alarm to the system controller. In embodiments, the temperature sensor may be used alone or in combination with a metal object sensor and/or it may be used as a backup or confirming sensor to the metallic object sensor.

[0053] Living beings such as pets can be difficult to detect. In general, they may not interact in a substantial manner with the magnetic field. In addition, living beings may not heat up appreciably when exposed to magnetic fields. Nonetheless, a wireless power system may need to shut down if living beings intrude into magnetic fields of certain field strengths. The field strength limits may be frequency dependent and may be based on regulatory limits, safety limits, standards limits, public perception limits, and the like. In embodiments, a dielectric sensor that measures changes in the fringe capacitance from a conductor such as a long wire can detect the proximity of living beings. In embodiments, this type of sensor may be used during diagnostic testing, prior to wireless energy transfer, and during wireless energy transfer.

Applications to Vehicle Charging

[0053] Detection of FOD may be an important safety precaution in many types of wireless energy transfer systems. For the example of a 3.3-kW car charging system, an example of an embodiment follows.

[0054] A block diagram of an exemplary EV Charger System is shown in Fig. 10. The system may be partitioned into a Source Module and a Device Module. The Source Module may be part of a charging station and the Device module may be mounted onto an electric vehicle. Power is wirelessly transferred from the Source to the Device via the resonators. Closed loop control of the transmitted power may be performed through an in-band and/or out-of-band RF communications link between the Source and Device Modules.

[0055] A FOD detector system (not shown) can be integrated into the system in a variety of places. In embodiments, FOD systems may be integrated into the Source Module, into the source resonator, into the housings or enclosures of the source resonator and the like. In other embodiments, the FOD systems may be integrated on the device side of the system. In other embodiments, FOD systems may be implemented on both the source and device sides of the wireless power transmission system. In embodiments, the FOD detection system may include multiple sensors and a processor with a discrimination algorithm. The processor can be connected to an interface that functions as an interlock in the Source control electronics. Other FOD detector systems may be connected to the charger systems through an additional interface or through an external interface. Local I/O at each module may provide interface for system level management and control functions in a wireless power system utilizing FOD detection.

[0056] The source resonator in a high power (3.3+ kW) vehicle charging system may have its highest magnetic field density near the boundaries of the windings and, optionally, any magnetic material. In this area, an array comprising multiple channels of double-figure 8 coils with rectangular-shaped lobes can protect against inadvertent heating of metallic FOD. The array may be fabricated on a PCB and may have integrated filtering and signal conditioning included on the board. A second PCB of equivalent design may be positioned slightly above the first PCB and translated laterally in the manner described in Fig. 4B. An algorithm like that described above may run in an on-board processor whose output may be transmitted to a system controller. The system controller can compare the output of the metallic FOD detector to the outputs of additional FOD detectors, such as those measuring temperature profiles or dielectric changes. The system can then decide whether to turn down or shut down the system if FOD is detected.

[0057] Some possible operation modes of a FOD detection system are as follows:

- Low-power diagnostic tests can be performed without the vehicle present to check health and status of the charging station (infrequent) and to check for FOD prior to a vehicle driving over the source (more frequent).
- After the vehicle arrives and is positioned over the source module, but prior to high-power charging, the FOD detector may verify that the source is still free of FOD.
- During high-power charging the FOD detector can verify that no additional FOD has moved onto the coil.

[0058] While the invention has been described in connection with certain preferred embodiments, other embodiments will be understood by one of ordinary skill in the art and are intended to fall within the scope of this disclosure, which is to be interpreted in the broadest sense allowable by law. For example, designs, methods, configurations of components, etc. related to transmitting wireless power have been described above along with various specific applications and examples thereof. Those skilled in the art will appreciate where the designs, components, configurations or components described herein can be used in combination, or interchangeably, and that the above description does not limit such interchangeability or combination of components to only that which is described herein.

[0059] Note too, that the techniques described here may be applied to any wireless power system that transmits power using electromagnetic fields. In cases where we have described source and device resonators of highly resonant wireless power systems, one of skill in the art will understand that the same sensors, detectors, algorithms, subsystems and the like could be described for inductive systems using primary and secondary coils.

[0060] All documents referenced herein are hereby incorporated by reference.

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	25236-0036002
		Application Number	
Title of Invention	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2:

☐	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
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Inventor Information:

Inventor	1	Remove		
Legal Name				
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Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service				
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	25236-0036002
		Application Number	
Title of Invention	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

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Inventor	4				Remove

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All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button.

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ An Address is being provided for the correspondence information of this application.

Customer Number	26207		
Email Address	apsi@fr.com	Add Email	Remove Email

Application Information:

Title of the Invention	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		
Attorney Docket Number	25236-0036002	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	10	Suggested Figure for Publication (if any)	

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	25236-0036002
		Application Number	
Title of Invention	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	26207		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending	Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	13608956	2012-09-10

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	25236-0036002
		Application Number	
Title of Invention	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		
Prior Application Status	Expired	Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
13608956	Claims benefit of provisional	61532785	2011-09-09
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)ⁱ the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

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Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ⁱ (if applicable)
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Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.

NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	25236-0036002
		Application Number	
Title of Invention	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

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1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

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The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	25236-0036002
		Application Number	
Title of Invention	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.			
Applicant	1		Remove
If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.			
		Clear	
● Assignee	Legal Representative under 35 U.S.C. 117		Joint Inventor
Person to whom the inventor is obligated to assign.		Person who shows sufficient proprietary interest	
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:			
Name of the Deceased or Legally Incapacitated Inventor:			
If the Applicant is an Organization check here. ☒			
Organization Name	WiTricity Corporation		
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	25236-0036002
		Application Number	
Title of Invention	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

Assignee	1			
Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.				
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If the Assignee or Non-Applicant Assignee is an Organization check here.				☐
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Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). However, if this Application Data Sheet is submitted with the **INITIAL** filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Peter R. Poulin Reg. No. 74,643/		Date (YYYY-MM-DD)	2016-06-01
First Name	Peter	Last Name	Poulin	Registration Number
				74643
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	25236-0036002
		Application Number	
Title of Invention	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
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FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS

Abstract of the Disclosure

[0061] A wireless energy transfer system includes a foreign object debris detection system. The system includes at least one wireless energy transfer source configured to generate an oscillating magnetic field. The foreign object debris may be detected by at least one field gradiometer positioned in the oscillating magnetic field. The voltage of the at least one field gradiometer may be measured using readout circuitry and a feedback loop based on the readings from the gradiometers may be used to control the parameters of the wireless energy source.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor :	Simon Verghese	Art Unit :	Unknown
Serial No. :	Unknown	Examiner :	Unknown
Filed :	Herewith		
Title :	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Please consider the references listed on the enclosed PTO-1449 Form.

Under 35 USC §120, this application relies on the earlier filing date of application serial number 13/608,956, filed on September 10, 2012. All of the references listed on the enclosed PTO-1449 Form were submitted to and/or cited by the Office in the prior application and, therefore, are not provided in this application.

This statement is being filed with the application, and therefore no fees are believed to be due. Please apply any necessary charges or credits to deposit account 06-1050, referencing the above Attorney Docket Number 25236-0036002.

Please contact the undersigned if there are any questions regarding this Statement.

Respectfully submitted,

Date: June 1, 2016

/Peter R. Poulin Reg. No. 74,643/

Peter R. Poulin
Reg. No. 74,643

Customer Number 26207
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Telephone: 6175425070
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23528800.doc

What is claimed is:

1. A foreign object debris detection system for a wireless energy transfer system comprising:
at least one magnetic field sensor, and
at least one readout circuit to measuring electrical parameters of the at least one magnetic field sensor,
wherein the at least one magnetic field sensor is positioned within the magnetic field of the wireless energy transfer system.
2. The system of claim 1, wherein the at least one magnetic field sensor comprises a magnetic field gradiometer.
3. The system of claim 2, wherein the at least one magnetic field gradiometer comprises a figure-8 quadrupole conductor loop.
4. The system of claim 2, wherein the at least one magnetic field gradiometer comprises an octupole conductor loop.
5. The system of claim 2, wherein the readout circuit has an input impedance sufficient to substantially prevent circulating currents in the gradiometer loop.
6. The system of claim 3, wherein the figure-8 quadrupole conductor loop is printed on a circuit board.
7. The system of claim 6, wherein the figure-8 quadrupole conductor loop is rectangular
8. The system of claim 3, wherein the system comprises an array of gradiometer loops positioned in the magnetic field of the wireless energy transfer.

9. The system of claim 8, wherein the system comprises multiple layers of offset and overlapped gradiometer loops.

10. The system of claim 5, wherein the readout circuitry is multiplexed among a plurality of gradiometer loops.

11. The system of claim , further comprising a feedback loop to adjust the parameters of the wireless energy transfer based on readings from the foreign object debris detection system.

12. The system of claim 2, wherein the gradiometer is at least twice the size of a smallest foreign object debris (FOD) to be detected.

13. A wireless energy transfer system with foreign object debris detection, the system comprising:

at least one wireless energy transfer source configured to generate an oscillating magnetic field;

at least one magnetic field gradiometer positioned in the oscillating magnetic field;

a readout circuit to measure electrical parameters of the field gradiometer; and

a feedback loop to control the parameters of the wireless energy transfer source in response to the measured electrical parameters of the field gradiometer.

14. The system of claim 13, further comprising at least one temperature sensor wherein the temperature sensor is positioned to measure the temperature near the wireless energy transfer source.

15. The system of claim 13, wherein a reading from the gradiometer is used to shut down the energy transfer of the at least one wireless energy transfer source.

16. The system of claim 13, wherein the system further comprises an array of field gradiometers connected to high-input-impedance readout circuitry.

17. The system of claim 16, wherein the high impedance readout circuitry monitors the voltage of the gradiometer loops.

18. The system of claim 17, wherein the high impedance readout circuitry monitors the phase of the voltage signal of the gradiometer loops.

19. The system of claim 18, further comprising a field sensing loop for synchronizing the readout circuitry with a frequency of the oscillating magnetic fields of the at least one wireless energy transfer source.

Electronic Patent Application Fee Transmittal

Application Number:				
Filing Date:				
Title of Invention:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS			
First Named Inventor/Applicant Name:	Simon Verghese			
Filer:	Peter Poulin/Cheryl Forrest			
Attorney Docket Number:	25236-0036002			
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility application filing	1011	1	280	280
Utility Search Fee	1111	1	600	600
Utility Examination Fee	1311	1	720	720
Pages:				
Claims:				
Miscellaneous-Filing:				
Late Filing Fee for Oath or Declaration	1051	1	140	140
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1740

First Named Inventor : Simon Verghese
Serial No. : Unknown
Filed : Herewith
Page : 4 of 4

Attorney's Docket No.: 25236-0036002 / WTCY-
0064-P04

REMARKS

Applicant asks that the application be examined in view of the amendments presented herein.

No fees are believed to be due at this time. Please apply any necessary charges or credits to Deposit Account 06-1050, referencing the above Attorney Docket Number 25236-0036002.

Respectfully submitted,

Date: June 1, 2016

/Peter R. Poulin Reg. No. 74,643/
Peter R. Poulin
Reg. No. 74,643

Customer Number 26207
Fish & Richardson P.C.
Telephone: (617) 542-5070
Facsimile: (877) 769-7945

23499444.doc

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A foreign object debris detection system for a wireless energy transfer system comprising:
at least one magnetic field sensor, and
at least one readout circuit to measuring electrical parameters of the at least one magnetic field sensor,
wherein the at least one magnetic field sensor is positioned within the magnetic field of the wireless energy transfer system.

2-19. (Canceled)

First Named Inventor : Simon Verghese
Serial No. : Unknown
Filed : Herewith
Page : 2 of 4

Attorney's Docket No.: 25236-0036002 / WTCY-
0064-P04

Amendments to the Specification:

Please replace the paragraph beginning at page 1, paragraph [0001] with the following amended paragraph:

This application is a continuation of, and claims priority to, U.S. patent application 13/608,956 filed September 10, 2012, which claims the benefit of U.S. provisional patent application 61/532,785 filed September 9, 2011. The contents of each of the above-identified applications are incorporated by reference in their entirety.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor :	Simon Verghese	Art Unit :	Unknown
Serial No. :	Unknown	Examiner :	Unknown
Filed :	Herewith		
Title :	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Prior to examination, please amend the application as indicated on the following pages.

Electronic Acknowledgement Receipt

EFS ID:	25938285
Application Number:	15170397
International Application Number:	
Confirmation Number:	1258
Title of Invention:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS
First Named Inventor/Applicant Name:	Simon Verghese
Customer Number:	26207
Filer:	Peter Poulin/Susan Williams
Filer Authorized By:	Peter Poulin
Attorney Docket Number:	25236-0036002
Receipt Date:	01-JUN-2016
Filing Date:	
Time Stamp:	16:16:10
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 1740
RAM confirmation Number	3193
Deposit Account	061050
Authorized User	FISH & RICHARDSON P C

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	ADS.pdf	1822938	no	9
			392790a3ff3013d457c156e263ff3296fbd01aa5		
Warnings:					
Information:					
2		Application.pdf	1005519	yes	20
			0c6139198423bca6aaef1cbb9503067897a69ec		
	Multipart Description/PDF files in .zip description				
	Document Description	Start	End		
	Specification	1	16		
	Claims	17	19		
	Abstract	20	20		
Warnings:					
Information:					
3		IDS.pdf	451662	yes	40
			898ebe631051d5344e7aa60ae276fc90277e7ed2		
	Multipart Description/PDF files in .zip description				
	Document Description	Start	End		
	Transmittal Letter	1	1		
	Information Disclosure Statement (IDS) Form (SB08)	2	40		
Warnings:					
Information:					
4	Transmittal of New Application	PAP.pdf	98516	no	2
			659a49f57c20bcc201d7e72affeabd3e34bd8fc5		
Warnings:					
Information:					

5	Drawings-only black and white line drawings	FormalDrawings.pdf	1096786	no	10
			7b0d51a97936157620852e805ca129adc7664a8b		
Warnings:					
Information:					
6	Power of Attorney	POA.pdf	127983	no	2
			c00dd5d2f03a37053bd84ca3ec492cf71ba3bfd		
Warnings:					
Information:					
7		PrelimAmend.pdf	52577	yes	4
			27664e001104d79c68f9facadb8000767498860a		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Preliminary Amendment		1	1	
	Specification		2	2	
	Claims		3	3	
	Applicant Arguments/Remarks Made in an Amendment		4	4	
Warnings:					
Information:					
8	Fee Worksheet (SB06)	fee-info.pdf	36980	no	2
			0b07b8defcb185f1db61c24ea1f193f07b6bfc30		
Warnings:					
Information:					
Total Files Size (in bytes):			4692961		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



FISH & RICHARDSON

June 1, 2016

Attorney Docket No.: 25236-0036002/WTCY-0064-P04

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Presented for filing is a new continuation patent application of:

Inventor(s): SIMON VERGHESE, MORRIS P. KESLER, KATHERINE L. HALL AND
HERBERT T. LOU

Title: FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER
SYSTEMS

Enclosed are the following papers, including those required to receive a filing date under 37
C.F.R. § 1.53(b):

	<u>Pages</u>
Specification	16
Claims	3
Abstract	1
Drawing(s)	10

Enclosures:

- Application Data Sheet, 9 pages.
- Preliminary amendment, 4 pages.
- New disclosure information, including:
Information disclosure statement, 1 page.
PTO-1449, 39 pages.
References, 972 items (0 submitted).
- Power of Attorney, 2 pages.

Basic Filing Fee	\$280
Search Fee	\$600
Examination Fee	\$720

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Minneapolis, MN 55440-1022

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877 769 7945 fax

Commissioner for Patents
June 1, 2016

Total Claims 1	over 20	0 x \$80	\$0
Independent Claims 1	over 3	0 x \$420	\$0
Fee for Multiple Dependent claims			\$0
Application size fee for each 50 pages over 100			
Total Sheets: 30x .75 - 100/50 = 0x			\$0
Surcharge - Late filing fee, search fee, examination fee or oath or declaration			\$140
Total Filing fee			\$1740

The filing fee is being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply all charges or credits to Deposit Account No. 06-1050, referencing Attorney Docket No. 25236-0036002.

Recognizing that Internet communications are not secure, I hereby authorize the USPTO to communicate with the undersigned and practitioners in accordance with 37 CFR 1.33 and 37 CFR 1.34 concerning any subject matter of this application via video conferencing, instant messaging, or electronic mail. I understand that a copy of these communications will be made of record in the application file. (MPEP 502.03).

If this application is found to be incomplete, or if a telephone conference would otherwise be helpful, please call the undersigned at 6175425070.

Please direct all correspondence to the following:

26207
PTO Customer Number

Respectfully submitted,

/Peter R. Poulin Reg. No. 74,643/

Peter R. Poulin

Reg. No. 74,643
Enclosures
PRP/czc
23528826.doc

Fig. 1

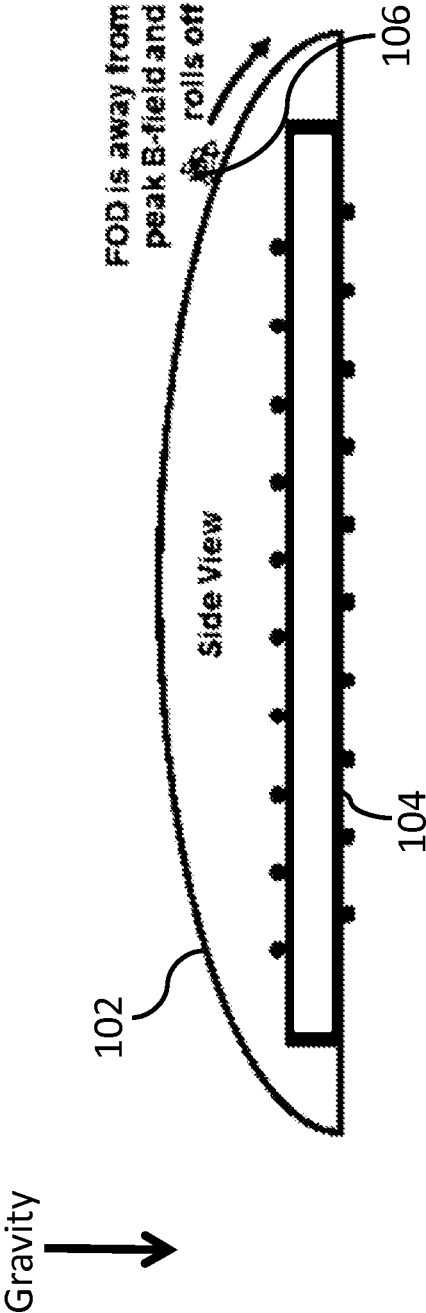
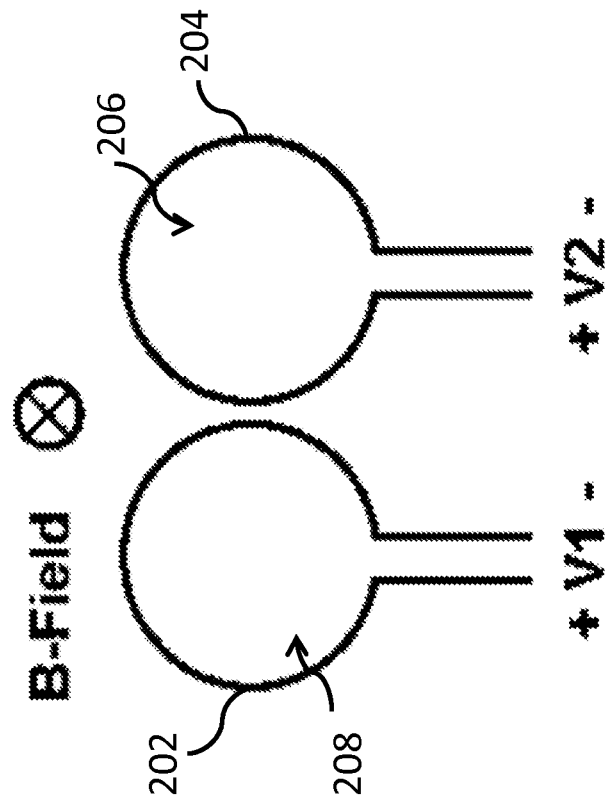


Fig. 2



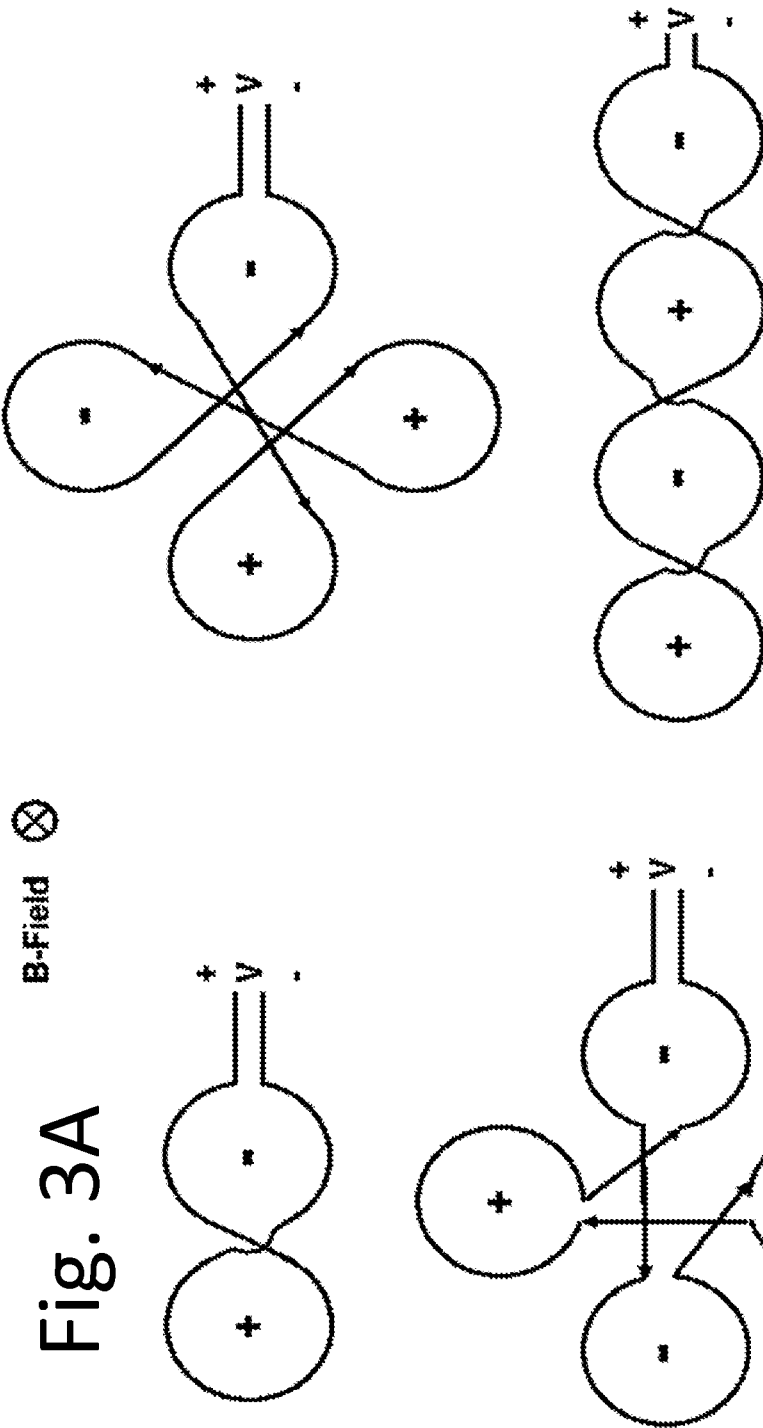


Fig. 3B

Fig. 3D

Fig. 3A

Fig. 3C

Fig. 4A

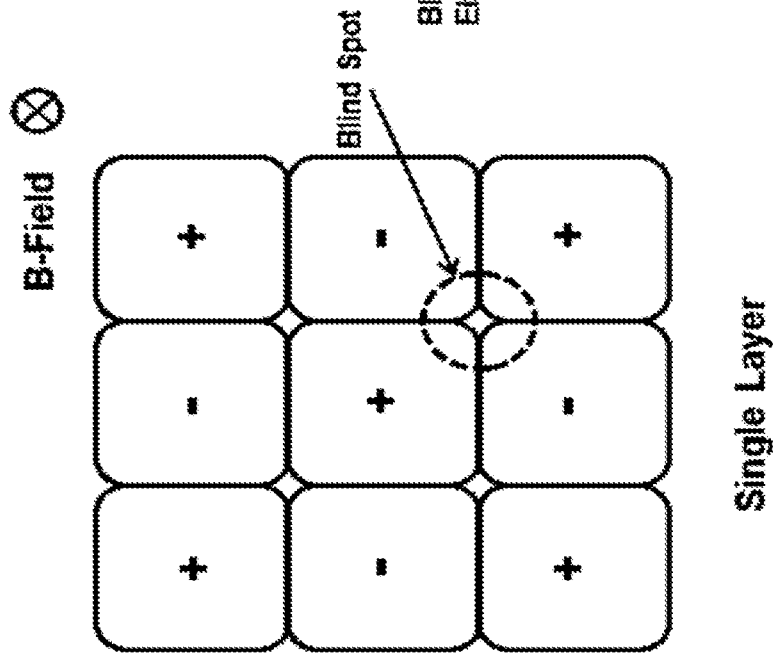


Fig. 4B

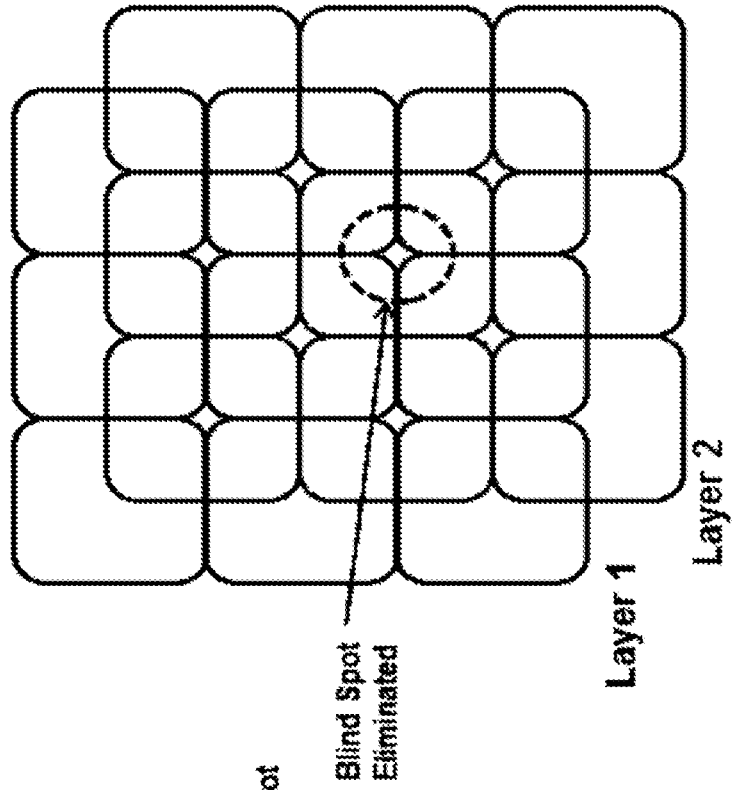


Fig. 5

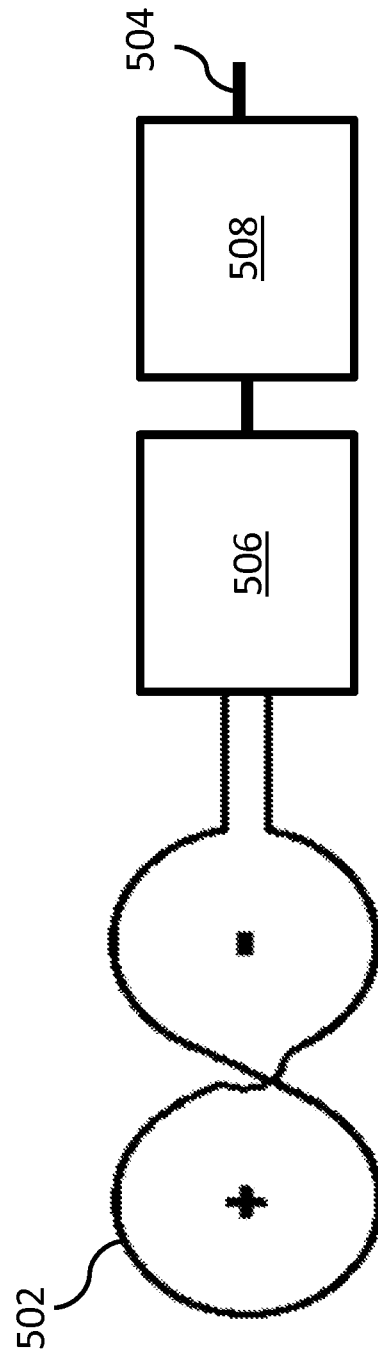
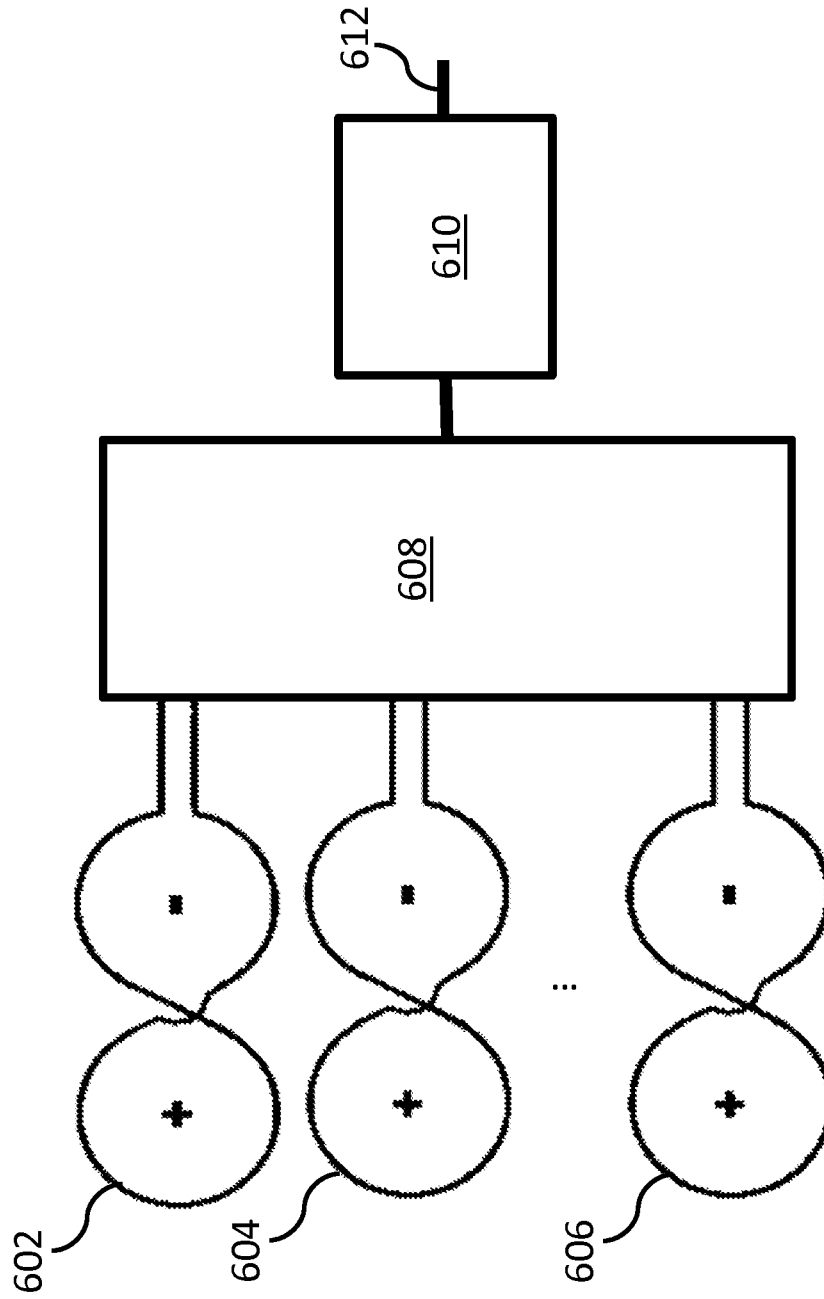


Fig. 6



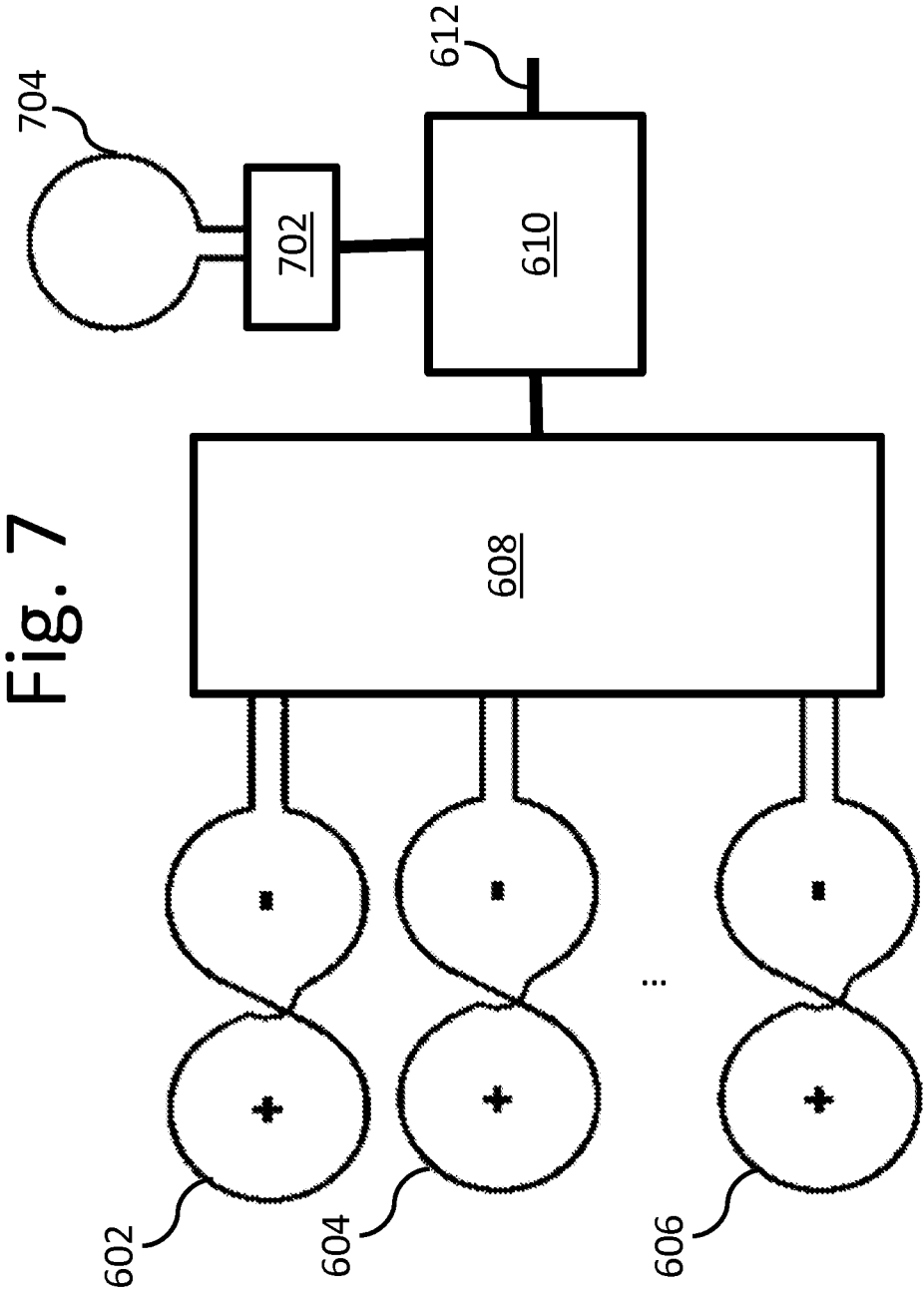
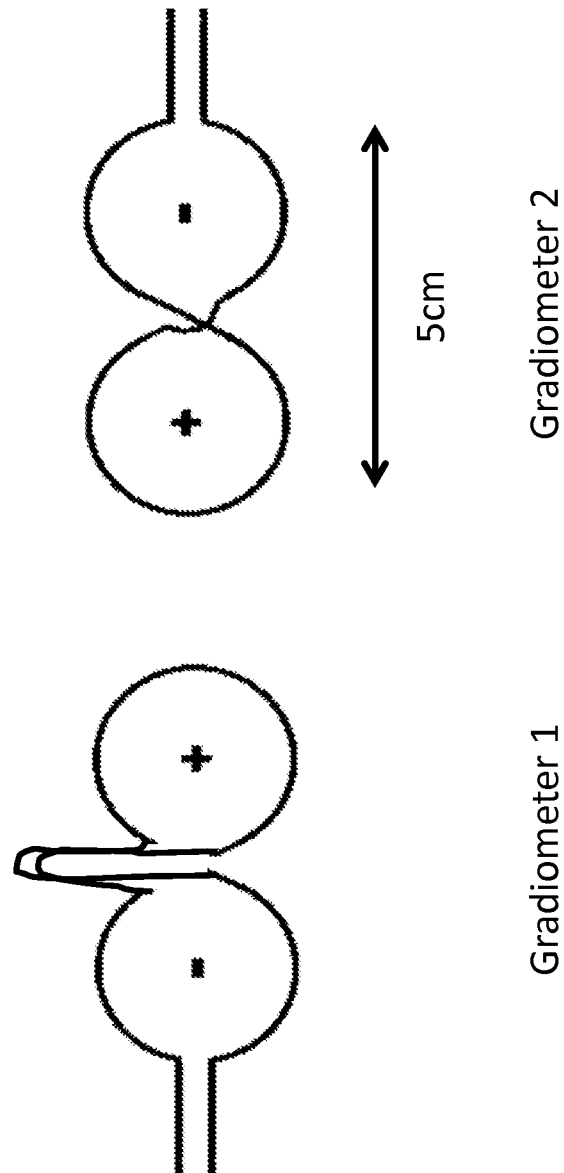


Fig. 8



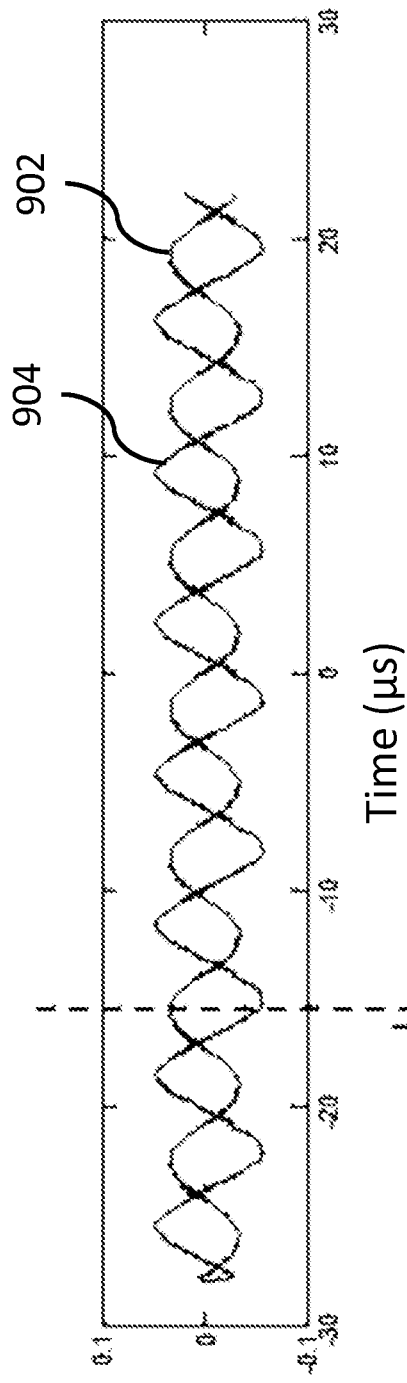


Fig. 9A

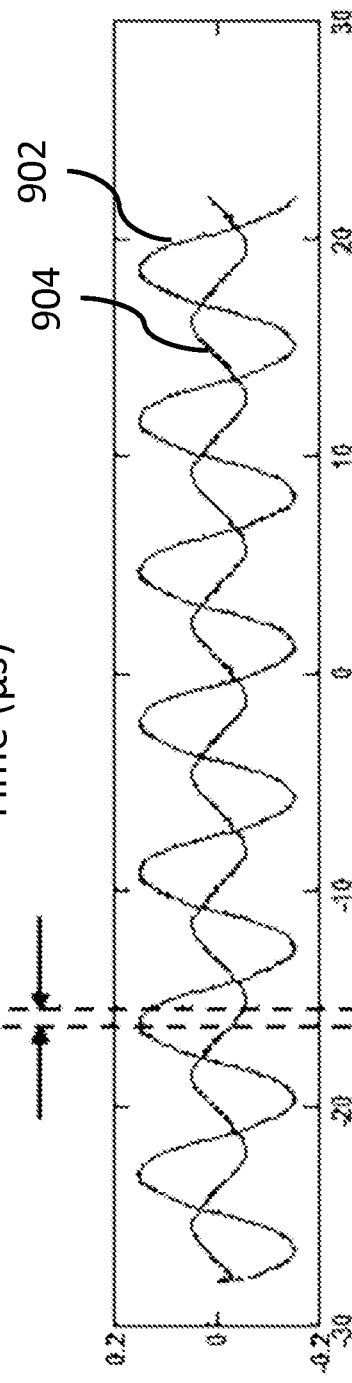


Fig. 9B

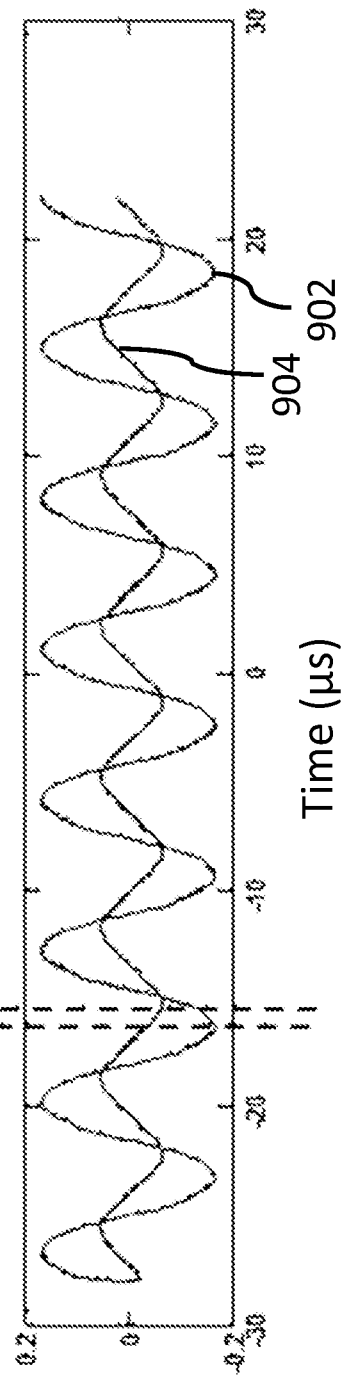
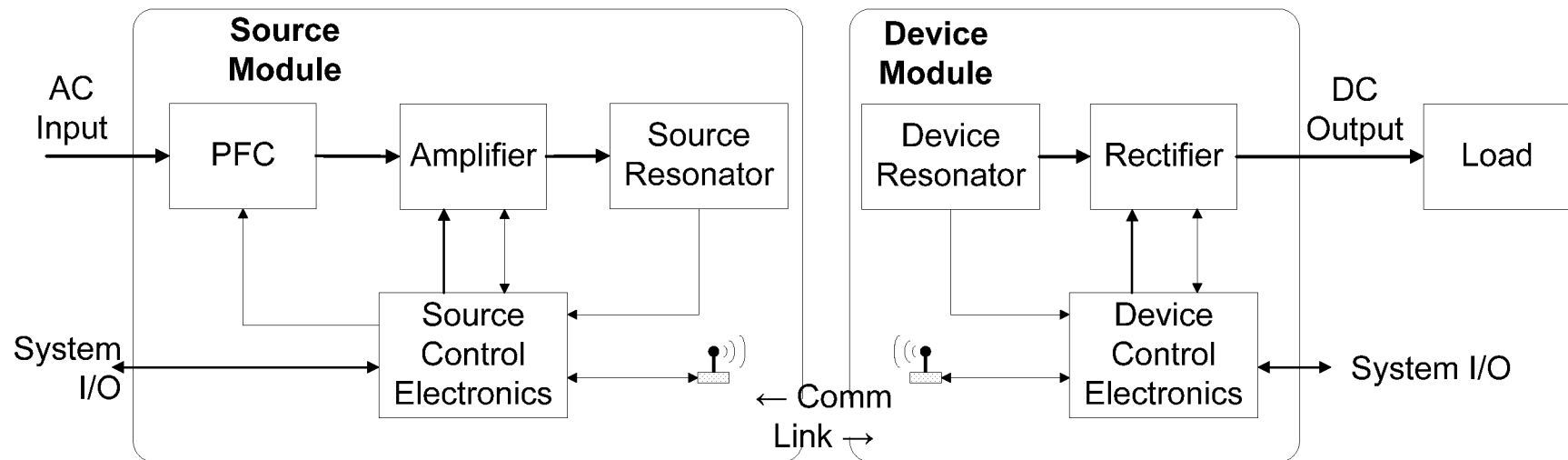


Fig. 9C

Fig. 10



Substitute Disclosure Form Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 25236-0036002	Application No. Unknown
	Applicant WiTricity Corporation		
	Filing Date Herewith	Group Art Unit	

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A1	645,576	3/20/1900	Tesla			
	A2	649,621	5/15/1900	Tesla			
	A3	787,412	4/18/1905	Tesla			
	A4	1,119,732	12/1/1914	Tesla			
	A5	2,133,494	10/18/1938	Waters			
	A6	3,517,350	6/23/1970	Beaver			
	A7	3,535,543	10/20/1970	Dailey			
	A8	3,780,425	12/25/1973	Penn et al.			
	A9	3,871,176	3/18/1975	Schukei			
	A10	4,088,999	5/9/1978	Fletcher et al.			
	A11	4,095,998	6/20/1978	Hanson			
	A12	4,180,795	12/25/1979	Matsuda et al.			
	A13	4,280,129	7/21/1981	Wells			
	A14	4,450,431	5/22/1984	Hochstein			
	A15	4,588,978	5/13/1986	Allen			
	A16	4,843,259	6/27/1989	Weisshaupt			
	A17	5,027,709	7/2/1991	Slagle			
	A18	5,033,295	7/23/1991	Schmid et al.			
	A19	5,034,658	7/23/1991	Hiering et al.			
	A20	5,053,774	10/1/1991	Schuermann et al.			
	A21	5,070,293	12/3/1991	Ishii et al.			
	A22	5,118,997	6/2/1992	El-Hamamsy			
	A23	5,216,402	6/1/1993	Carosa			
	A24	5,229,652	7/20/1993	Hough			
	A25	5,287,112	2/15/1994	Schuermann			
	A26	5,341,083	8/23/1994	Klontz et al.			
	A27	5,367,242	11/22/1994	Hulman			

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

Substitute Disclosure Form U.S. Department of Commerce Patent and Trademark Office Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	Attorney Docket No. 25236-0036002	Application No. Unknown
	Applicant WiTricity Corporation	
	Filing Date Herewith	Group Art Unit

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A28	5,374,930	12/20/1994	Schuermann			
	A29	5,408,209	4/18/1995	Tanzer et al.			
	A30	5,437,057	7/25/1995	Richley et al.			
	A31	5,455,467	10/3/1995	Young et al.			
	A32	5,493,691	2/20/1996	Barrett			
	A33	5,522,856	6/4/1996	Reineman			
	A34	5,528,113	6/18/1996	Boys et al.			
	A35	5,541,604	7/30/1996	Meier			
	A36	5,550,452	8/27/1996	Shirai et al.			
	A37	5,565,763	10/15/1996	Arrendale et al.			
	A38	5,630,835	5/20/1997	Brownlee			
	A39	5,697,956	12/16/1997	Bornzin			
	A40	5,703,461	12/30/1997	Minoshima et al.			
	A41	5,703,573	12/30/1997	Fujimoto et al.			
	A42	5,710,413	1/20/1998	King et al.			
	A43	5,742,471	4/21/1998	Barbee Jr. et al.			
	A44	5,821,728	10/13/1998	Sshwind			
	A45	5,821,731	10/13/1998	Kuki et al.			
	A46	5,864,323	1/26/1999	Berthon			
	A47	5,898,579	4/27/1999	Boys et al.			
	A48	5,903,134	5/11/1999	Takeuchi			
	A49	5,923,544	7/13/1999	Urano			
	A50	5,940,509	8/17/1999	Jovanovich et al.			
	A51	5,957,956	9/28/1999	Kroll et al.			
	A52	5,959,245	9/28/1999	Moe et al.			
	A53	5,986,895	11/16/1999	Stewart et al.			
	A54	5,993,996	11/30/1999	Firsich			

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

Substitute Disclosure Form U.S. Department of Commerce Patent and Trademark Office Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	Attorney Docket No. 25236-0036002	Application No. Unknown
	Applicant WiTricity Corporation	
	Filing Date Herewith	Group Art Unit

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A55	5,999,308	12/7/1999	Nelson et al.			
	A56	6,012,659	1/11/2000	Nakazawa, Yuji et al.			
	A57	6,047,214	4/4/2000	Mueller et al.			
	A58	6,066,163	5/23/2000	John			
	A59	6,067,473	5/23/2000	Greeninger et al.			
	A60	6,108,579	8/22/2000	Snell et al.			
	A61	6,127,799	10/3/2000	Krishnan			
	A62	6,176,433	1/23/2001	Uesaka et al.			
	A63	6,184,651	2/6/2001	Fernandez et al.			
	A64	6,207,887	3/27/2001	Bass et al.			
	A65	6,232,841	5/15/2001	Bartlett, et al.			
	A66	6,238,387	5/29/2001	Miller, III			
	A67	6,252,762	6/26/2001	Amatucci			
	A68	6,436,299	8/20/2002	Baarman et al.			
	A69	6,450,946	9/17/2002	Forsell			
	A70	6,452,465	9/17/2002	Brown et al.			
	A71	6,459,218	10/1/2002	Boys et al.			
	A72	6,473,028	10/29/2002	Luc			
	A73	6,483,202	11/19/2002	Boys			
	A74	6,515,878	2/4/2003	Meins et al.			
	A75	6,535,133	3/18/2003	Gohara			
	A76	6,561,975	5/13/2003	Pool et al.			
	A77	6,563,425	5/13/2003	Nicholson et al.			
	A78	6,597,076	7/22/2003	Scheible et al.			
	A79	6,609,023	8/19/2003	Fischell et al.			
	A80	6,631,072	10/7/2003	Paul et al.			
	A81	6,650,227	11/18/2003	Bradin			

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

Substitute Disclosure Form U.S. Department of Commerce Patent and Trademark Office Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	Attorney Docket No. 25236-0036002	Application No. Unknown
	Applicant WiTricity Corporation	
	Filing Date Herewith	Group Art Unit

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A82	6,664,770	12/16/2003	Bartels			
	A83	6,673,250	1/6/2004	Kuennen et al.			
	A84	6,683,256	1/27/2004	Kao			
	A85	6,696,647	2/24/2004	Ono et al.			
	A86	6,703,921	3/9/2004	Wuidart et al.			
	A87	6,731,071	5/4/2004	Baarman			
	A88	6,749,119	6/15/2004	Scheible et al.			
	A89	6,772,011	8/3/2004	Dolgin			
	A90	6,798,716	9/28/2004	Charych			
	A91	6,803,744	10/12/2004	Sabo			
	A92	6,806,649	10/19/2004	Mollema et al.			
	A93	6,812,645	11/2/2004	Baarman			
	A94	6,825,620	11/30/2004	Kuennen et al.			
	A95	6,831,417	12/14/2004	Baarman			
	A96	6,839,035	1/4/2005	Addonisio et al.			
	A97	6,844,702	1/18/2005	Giannopoulos et al.			
	A98	6,856,291	2/15/2005	Mickle et al.			
	A99	6,858,970	2/22/2005	Malkin et al.			
	A100	6,906,495	6/14/2005	Cheng et al.			
	A101	6,917,163	7/12/2005	Baarman			
	A102	6,917,431	7/12/2005	Soljacic et al.			
	A103	6,937,130	8/30/2005	Scheible et al.			
	A104	6,960,968	11/1/2005	Odendaal et al.			
	A105	6,961,619	11/1/2005	Casey			
	A106	6,967,462	11/22/2005	Landis			
	A107	6,975,198	12/13/2005	Baarman			
	A108	6,988,026	1/17/2006	Breed et al.			

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

Substitute Disclosure Form Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 25236-0036002	Application No. Unknown
	Applicant WiTricity Corporation		
	Filing Date Herewith	Group Art Unit	

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A109	7,027,311	4/11/2006	Vanderelli et al.			
	A110	7,035,076	4/25/2006	Stevenson			
	A111	7,042,196	5/9/2006	Ka-Lai et al.			
	A112	7,069,064	6/27/2006	Govorgian et al.			
	A113	7,084,605	8/1/2006	Mickle et al.			
	A114	7,116,200	10/3/2006	Baarma et al.			
	A115	7,118,240	10/10/2006	Baarma et al.			
	A116	7,126,450	10/24/2006	Baarma et al.			
	A117	7,127,293	10/24/2006	MacDonald			
	A118	7,132,918	11/7/2006	Baarma et al.			
	A119	7,147,604	12/12/2006	Allen et al.			
	A120	7,180,248	2/20/2007	Kuennen et al.			
	A121	7,191,007	3/13/2007	Desai et al.			
	A122	7,193,418	3/20/2007	Freytag			
	A123	7,212,414	5/1/2007	Baarma			
	A124	7,233,137	6/19/2007	Nakamura et al.			
	A125	7,239,110	7/3/2007	Cheng et al.			
	A126	7,248,017	7/24/2007	Cheng et al.			
	A127	7,251,527	7/31/2007	Lyden			
	A128	7,288,918	10/30/2007	DiStefano			
	A129	7,340,304	3/4/2008	MacDonald			
	A130	7,375,492	5/20/2008	Calhoon et al.			
	A131	7,375,493	5/20/2008	Calhoon et al.			
	A132	7,378,817	5/27/2008	Calhoon et al.			
	A133	7,382,636	6/3/2008	Baarma et al.			
	A134	7,385,357	6/10/2008	Kuennen et al.			
	A135	7,443,135	10/28/2008	Cho			

Examiner Signature	Date Considered
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Substitute Disclosure Form

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	Applicant WiTricity Corporation	
	Filing Date Herewith	Group Art Unit

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A136	7,462,951	12/9/2008	Baarman			
	A137	7,466,213	12/16/2008	Lobl et al.			
	A138	7,471,062	12/30/2008	Bruning			
	A139	7,474,058	1/6/2009	Baarman			
	A140	7,492,247	2/17/2009	Schmidt et al.			
	A141	7,514,818	4/7/2009	Abe et al.			
	A142	7,518,267	4/14/2009	Baarman			
	A143	7,521,890	4/21/2009	Lee et al.			
	A144	7,525,283	4/28/2009	Cheng et al.			
	A145	7,545,337	6/9/2009	Guenther			
	A146	7,554,316	6/30/2009	Stevens et al.			
	A147	7,599,743	10/6/2009	Hassler, Jr. et al.			
	A148	7,615,936	11/10/2009	Baarman et al.			
	A149	7,639,514	12/29/2009	Baarman			
	A150	7,741,734	6/22/2010	Joannopoulos et al.			
	A151	7,795,708	9/14/2010	Katti			
	A152	7,825,543	11/2/2010	Karalis et al.			
	A153	7,825,544	11/2/2010	Jansen et al.			
	A154	7,835,417	11/16/2010	Heideman et al.			
	A155	7,843,288	11/30/2010	Lee et al.			
	A156	7,844,306	11/30/2010	Shearer et al.			
	A157	7,863,859	1/4/2011	Soar			
	A158	7,868,588	1/11/2011	Altekruse et al.			
	A159	7,879,483	2/1/2011	Sakakibara			
	A160	7,880,337	2/1/2011	Farkas			
	A161	7,884,697	2/8/2011	Wei et al.			
	A162	7,885,050	2/8/2011	Lee			

Examiner Signature	Date Considered
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	Filing Date Herewith	Group Art Unit	

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A163	7,893,564	2/22/2011	Bennett			
	A164	7,919,886	4/5/2011	Tanaka			
	A165	7,923,870	4/12/2011	Jin			
	A166	7,932,798	4/26/2011	Tolle et al.			
	A167	7,936,147	5/3/2011	Kook			
	A168	7,948,209	5/24/2011	Jung			
	A169	7,952,322	5/31/2011	Partovi et al.			
	A170	7,963,941	6/21/2011	Wilk			
	A171	7,969,045	6/28/2011	Schmidt et al.			
	A172	7,994,880	8/9/2011	Chen et al.			
	A173	7,999,506	8/16/2011	Hollar et al.			
	A174	8,022,576	9/20/2011	Joannopoulos et al.			
	A175	8,030,887	10/4/2011	Jung			
	A176	8,035,255	10/11/2011	Kurs et al.			
	A177	8,076,800	12/13/2011	Joannopoulos et al.			
	A178	8,076,801	12/13/2011	Karalis et al.			
	A179	8,084,889	12/27/2011	Joannopoulos et al.			
	A180	8,097,983	1/17/2012	Karalis et al.			
	A181	8,106,539	1/31/2012	Schatz et al.			
	A182	8,115,448	2/14/2012	John			
	A183	8,131,378	3/6/2012	Greenberg et al.			
	A184	8,178,995	5/15/2012	Amano et al.			
	A185	8,188,826	5/29/2012	Okada et al.			
	A186	8,193,769	6/5/2012	Azancot et al.			
	A187	8,212,414	7/3/2012	Howard et al.			
	A188	8,241,097	8/14/2012	Zhu et al.			
	A189	8,260,200	9/4/2012	Shimizu et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A190	8,269,375	9/18/2012	Sogabe et al.			
	A191	8,304,935	11/6/2012	Karalis et al.			
	A192	8,310,107	11/13/2012	Jin			
	A193	8,314,513	11/20/2012	Aoyama et al.			
	A194	8,324,759	12/4/2012	Karalis et al.			
	A195	8,334,620	12/18/2012	Park et al.			
	A196	8,344,688	1/1/2013	Yoda et al.			
	A197	8,362,651	1/29/2013	Hamam et al.			
	A198	8,369,905	2/5/2013	Sogabe et al.			
	A199	8,395,282	3/12/2013	Joannopoulos et al.			
	A200	8,395,283	3/12/2013	Joannopoulos et al.			
	A201	8,400,017	3/19/2013	Kurs et al.			
	A202	8,400,018	3/19/2013	Joannopoulos et al.			
	A203	8,400,019	3/19/2013	Joannopoulos et al.			
	A204	8,400,020	3/19/2013	Joannopoulos et al.			
	A205	8,400,021	3/19/2013	Joannopoulos et al.			
	A206	8,400,022	3/19/2013	Joannopoulos et al.			
	A207	8,400,023	3/19/2013	Joannopoulos et al.			
	A208	8,400,024	3/19/2013	Joannopoulos et al.			
	A209	8,406,823	3/26/2013	Kondo et al.			
	A210	8,410,636	4/2/2013	Kurs et al.			
	A211	8,441,154	5/14/2013	Karalis et al.			
	A212	8,446,046	5/21/2013	Fells et al.			
	A213	8,457,547	6/4/2013	Meskens			
	A214	8,461,719	6/11/2013	Kesler et al.			
	A215	8,461,720	6/11/2013	Kurs et al.			
	A216	8,461,721	6/11/2013	Karalis et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A217	8,461,722	6/11/2013	Kurs et al.			
	A218	8,461,817	6/11/2013	Martin et al.			
	A219	8,466,583	6/18/2013	Karalis et al.			
	A220	8,471,410	6/25/2013	Karalis et al.			
	A221	8,476,788	7/2/2013	Karalis et al.			
	A222	8,482,157	7/9/2013	Cook et al.			
	A223	8,482,158	7/9/2013	Kurs et al.			
	A224	8,487,480	7/16/2013	Kesler et al.			
	A225	8,497,601	7/30/2013	Hall et al.			
	A226	8,552,592	10/8/2013	Schatz et al.			
	A227	8,569,914	10/29/2013	Karalis et al.			
	A228	8,587,153	11/19/2013	Schatz et al.			
	A229	8,587,155	11/19/2013	Giler et al.			
	A230	8,598,743	12/3/2013	Hall et al.			
	A231	8,618,696	12/31/2013	Karalis et al.			
	A232	8,629,578	1/14/2014	Kurs et al.			
	A233	8,643,326	2/4/2014	Campanella et al.			
	A234	2002/0032471	3/14/2002	Loftin et al.			
	A235	2002/0056233	5/16/2002	Gohara			
	A236	2002/0105343	8/8/2002	Scheible et al.			
	A237	2002/0118004	8/29/2002	Scheible et al.			
	A238	2002/0130642	9/19/2002	Ettes et al.			
	A239	2002/0167294	11/14/2002	Odaohhara			
	A240	2003/0038641	2/27/2003	Scheible			
	A241	2003/0062794	4/3/2003	Scheible et al.			
	A242	2003/0062980	4/3/2003	Scheible et al.			
	A243	2003/0071034	4/17/2003	Thompson et al.			

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U.S. Patent Documents							
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	A244	2003/0124050	7/3/2003	Yadav et al.			
	A245	2003/0126948	7/10/2003	Yadav et al.			
	A246	2003/0160590	8/28/2003	Schaefer et al.			
	A247	2003/0199778	10/23/2003	Mickle et al.			
	A248	2003/0214255	11/20/2003	Baarman et al.			
	A249	2004/0000974	1/1/2004	Odenaal et al.			
	A250	2004/0026998	2/12/2004	Henriott et al.			
	A251	2004/0100338	5/27/2004	Clark			
	A252	2004/0113847	6/17/2004	Qi et al.			
	A253	2004/0130425	7/8/2004	Dayan et al.			
	A254	2004/0130915	7/8/2004	Baarman			
	A255	2004/0130916	7/8/2004	Baarman			
	A256	2004/0142733	7/22/2004	Parise			
	A257	2004/0150934	8/5/2004	Baarman			
	A258	2004/0189246	9/30/2004	Bulai et al.			
	A259	2004/0201361	10/14/2004	Koh et al.			
	A260	2004/0222751	11/11/2004	Mollema et al.			
	A261	2004/0227057	11/18/2004	Tuominen et al.			
	A262	2004/0232845	11/25/2004	Baarman			
	A263	2004/0233043	11/25/2004	Yazawa et al.			
	A264	2004/0267501	12/30/2004	Freed et al.			
	A265	2005/0007067	1/13/2005	Baarman et al.			
	A266	2005/0021134	1/27/2005	Opie			
	A267	2005/0027192	2/3/2005	Govari et al.			
	A268	2005/0033382	2/10/2005	Single			
	A269	2005/0085873	4/21/2005	Gord et al.			
	A270	2005/0093475	5/5/2005	Kuennen et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A271	2005/0104064	5/19/2005	Hegarty et al.			
	A272	2005/0104453	5/19/2005	Vanderelli et al.			
	A273	2005/0116650	6/2/2005	Baarman			
	A274	2005/0116683	6/2/2005	Cheng et al.			
	A275	2005/0122058	6/9/2005	Baarman et al.			
	A276	2005/0122059	6/9/2005	Baarman et al.			
	A277	2005/0125093	6/9/2005	Kikuchi et al.			
	A278	2005/0127849	6/16/2005	Baarman et al.			
	A279	2005/0127850	6/16/2005	Baarman et al.			
	A280	2005/0127866	6/16/2005	Hamilton et al.			
	A281	2005/0135122	6/23/2005	Cheng et al.			
	A282	2005/0140482	6/30/2005	Cheng et al.			
	A283	2005/0151511	7/14/2005	Chary			
	A284	2005/0156560	7/21/2005	Shimaoka et al.			
	A285	2005/0189945	9/1/2005	Reiderman			
	A286	2005/0194926	9/8/2005	DiStefano			
	A287	2005/0253152	11/17/2005	Klimov et al.			
	A288	2005/0288739	12/29/2005	Hassler, Jr. et al.			
	A289	2005/0288740	12/29/2005	Hassler, Jr. et al.			
	A290	2005/0288741	12/29/2005	Hassler, Jr. et al.			
	A291	2005/0288742	12/29/2005	Giordano et al.			
	A292	2006/0001509	1/5/2006	Gibbs			
	A293	2006/0010902	1/19/2006	Trinh et al.			
	A294	2006/0022636	2/2/2006	Xian et al.			
	A295	2006/0053296	3/9/2006	Busboom et al.			
	A296	2006/0061323	3/23/2006	Cheng et al.			
	A297	2006/0066443	3/30/2006	Hall			

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U.S. Patent Documents							
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	A298	2006/0090956	5/4/2006	Peshkovskiy et al.			
	A299	2006/0132045	6/22/2006	Baarman			
	A300	2006/0164866	7/27/2006	Vanderelli et al.			
	A301	2006/0181242	8/17/2006	Freed et al.			
	A302	2006/0184209	8/17/2006	John et al.			
	A303	2006/0184210	8/17/2006	Singhal et al.			
	A304	2006/0185809	8/24/2006	Elfrink et al.			
	A305	2006/0199620	9/7/2006	Greene et al.			
	A306	2006/0202665	9/14/2006	Hsu			
	A307	2006/0205381	9/14/2006	Beart et al.			
	A308	2006/0214626	9/28/2006	Nilson et al.			
	A309	2006/0219448	10/5/2006	Grieve et al.			
	A310	2006/0238365	10/26/2006	Vecchione et al.			
	A311	2006/0270440	11/30/2006	Shearer et al.			
	A312	2006/0281435	12/14/2006	Shearer et al.			
	A313	2007/0010295	1/11/2007	Greene et al.			
	A314	2007/0013483	1/18/2007	Stewart			
	A315	2007/0016089	1/18/2007	Fischell et al.			
	A316	2007/0021140	1/25/2007	Keyes, IV et al.			
	A317	2007/0024246	2/1/2007	Flaughner			
	A318	2007/0064406	3/22/2007	Beart			
	A319	2007/0069687	3/29/2007	Suzuki			
	A320	2007/0096875	5/3/2007	Waterhouse et al.			
	A321	2007/0105429	5/10/2007	Kohl et al.			
	A322	2007/0117596	5/24/2007	Greene et al.			
	A323	2007/0126650	6/7/2007	Guenther			
	A324	2007/0145830	6/28/2007	Lee et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A325	2007/0164839	7/19/2007	Naito			
	A326	2007/0171681	7/26/2007	Baarman			
	A327	2007/0176840	8/2/2007	Pristas et al.			
	A328	2007/0178945	8/2/2007	Cook et al.			
	A329	2007/0182367	8/9/2007	Partovi			
	A330	2007/0208263	9/6/2007	John et al.			
	A331	2007/0222542	9/27/2007	Joannopoulos et al.			
	A332	2007/0228833	10/4/2007	Stevens et al.			
	A333	2007/0257636	11/8/2007	Phillips et al.			
	A334	2007/0267918	11/22/2007	Gyland			
	A335	2007/0276538	11/29/2007	Kjellsson et al.			
	A336	2008/0012569	1/17/2008	Hall et al.			
	A337	2008/0014897	1/7/2008	Cook et al.			
	A338	2008/0030415	2/7/2008	Homan et al.			
	A339	2008/0036588	2/14/2008	Iverson et al.			
	A340	2008/0047727	2/28/2008	Sexton et al.			
	A341	2008/0051854	2/28/2008	Bulkes et al.			
	A342	2008/0067874	3/20/2008	Tseng			
	A343	2008/0132909	6/5/2008	Jacob et al.			
	A344	2008/0154331	6/26/2008	John et al.			
	A345	2008/0176521	7/24/2008	Singh et al.			
	A346	2008/0191638	8/14/2008	Kuennen et al.			
	A347	2008/0197710	8/21/2008	Kreitz et al.			
	A348	2008/0197802	8/21/2008	Onishi et al.			
	A349	2008/0211320	9/4/2008	Cook et al.			
	A350	2008/0238364	10/2/2008	Weber et al.			
	A351	2008/0255901	10/16/2008	Carroll et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A352	2008/0265684	10/30/2008	Farkas			
	A353	2008/0266748	10/30/2008	Lee			
	A354	2008/0272860	11/6/2008	Pance			
	A355	2008/0273242	11/6/2008	Woodgate et al.			
	A356	2008/0278264	11/13/2008	Karalis et al.			
	A357	2008/0290736	11/27/2008	Onishi et al.			
	A358	2008/0291277	11/27/2008	Jacobsen et al.			
	A359	2008/0300657	12/4/2008	Stultz			
	A360	2008/0300660	12/4/2008	John			
	A361	2009/0010028	1/8/2009	Baarmen et al.			
	A362	2009/0015075	1/15/2009	Cook et al.			
	A363	2009/0033280	2/5/2009	Choi et al.			
	A364	2009/0033564	2/5/2009	Cook et al.			
	A365	2009/0038623	2/12/2009	Farbarik et al.			
	A366	2009/0045772	2/19/2009	Cook et al.			
	A367	2009/0051224	2/26/2009	Cook et al.			
	A368	2009/0058189	3/5/2009	Cook et al.			
	A369	2009/0058361	3/5/2009	John			
	A370	2009/0067198	3/12/2009	Graham et al.			
	A371	2009/0072627	3/19/2009	Cook et al.			
	A372	2009/0072628	3/19/2009	Cook et al.			
	A373	2009/0072629	3/19/2009	Cook et al.			
	A374	2009/0072782	3/19/2009	Randall			
	A375	2009/0079268	3/26/2009	Cook et al.			
	A376	2009/0079387	3/26/2009	Jin et al.			
	A377	2009/0085408	4/2/2009	Bruhn			
	A378	2009/0085706	4/2/2009	Baarman et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A379	2009/0095449	4/16/2009	Bandai et al.			
	A380	2009/0096413	4/16/2009	Patovi et al.			
	A381	2009/0102292	4/23/2009	Cook et al.			
	A382	2009/0102296	4/23/2009	Green et al.			
	A383	2009/0108679	4/30/2009	Porwal			
	A384	2009/0108997	4/30/2009	Patterson et al.			
	A385	2009/0115628	5/7/2009	Dicks et al.			
	A386	2009/0127937	5/21/2009	Widmer et al.			
	A387	2009/0134712	5/28/2009	Cook et al.			
	A388	2009/0146892	6/11/2009	Shimizu et al.			
	A389	2009/0153273	6/18/2009	Chen			
	A390	2009/0160261	6/25/2009	Elo			
	A391	2009/0161078	6/25/2009	Wu et al.			
	A392	2009/0167253	7/2/2009	Muraoka et al.			
	A393	2009/0167449	7/2/2009	Cook et al.			
	A394	2009/0174263	7/9/2009	Baarman et al.			
	A395	2009/0179502	7/16/2009	Cook et al.			
	A396	2009/0188396	7/30/2009	Hofmann et al.			
	A397	2009/0189458	7/30/2009	Kawasaki			
	A398	2009/0195332	8/6/2009	Joannopoulos et al.			
	A399	2009/0195333	8/6/2009	Joannopoulos et al.			
	A400	2009/0212636	8/27/2009	Cook et al.			
	A401	2009/0213028	8/27/2009	Cook et al.			
	A402	2009/0218884	9/3/2009	Soar			
	A403	2009/0224608	9/10/2009	Cook et al.			
	A404	2009/0224609	9/10/2009	Cook et al.			
	A405	2009/0224723	9/10/2009	Tanabe			

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	Applicant WiTricity Corporation		
	Filing Date Herewith	Group Art Unit	

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A406	2009/0224856	9/10/2009	Karalis et al.			
	A407	2009/0230777	9/17/2009	Baarma et al.			
	A408	2009/0237194	9/24/2009	Waffenschmidt et al.			
	A409	2009/0243394	10/1/2009	Levine			
	A410	2009/0243397	10/1/2009	Cook et al.			
	A411	2009/0251008	10/8/2009	Sugaya			
	A412	2009/0261778	10/22/2009	Kook			
	A413	2009/0267558	10/29/2009	Jung			
	A414	2009/0267709	10/29/2009	Joannopoulos et al.			
	A415	2009/0267710	10/29/2009	Joannopoulos et al.			
	A416	2009/0271047	10/29/2009	Wakamatsu			
	A417	2009/0271048	10/29/2009	Wakamatsu			
	A418	2009/0273242	11/5/2009	Cook			
	A419	2009/0273318	11/5/2009	Rondoni et al.			
	A420	2009/0278523	11/12/2009	Yoda et al.			
	A421	2009/0281678	11/12/2009	Wakamatsu			
	A422	2009/0284082	11/19/2009	Mohammadian			
	A423	2009/0284083	11/19/2009	Karalis et al.			
	A424	2009/0284218	11/19/2009	Mohammadian et al.			
	A425	2009/0284220	11/19/2009	Toncich et al.			
	A426	2009/0284227	11/19/2009	Mohammadian et al.			
	A427	2009/0284245	11/19/2009	Kirby et al.			
	A428	2009/0284341	11/19/2009	Okada et al.			
	A429	2009/0284369	11/19/2009	Toncich et al.			
	A430	2009/0286470	11/19/2009	Mohammadian et al.			
	A431	2009/0286475	11/19/2009	Toncich et al.			
	A432	2009/0286476	11/19/2009	Toncich et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A433	2009/0289595	11/26/2009	Chen et al.			
	A434	2009/0299918	12/3/2009	Cook et al.			
	A435	2009/0308933	12/17/2009	Osada			
	A436	2009/0322158	12/31/2009	Stevens et al.			
	A437	2009/0322280	12/31/2009	Kamijo et al.			
	A438	2010/0015918	1/21/2010	Liu et al.			
	A439	2010/0017249	1/21/2010	Fincham et al.			
	A440	2010/0033021	2/11/2010	Bennett			
	A441	2010/0034238	2/11/2010	Bennett			
	A442	2010/0036773	2/11/2010	Bennett			
	A443	2010/0038970	2/18/2010	Cook et al.			
	A444	2010/0045114	2/25/2010	Sample et al.			
	A445	2010/0052431	3/4/2010	Mita			
	A446	2010/0052811	3/4/2010	Smith et al.			
	A447	2010/0060077	3/11/2010	Paulus et al.			
	A448	2010/0065352	3/18/2010	Ichikawa			
	A449	2010/0066349	3/18/2010	Lin et al.			
	A450	2010/0076524	3/25/2010	Forsberg et al.			
	A451	2010/0081379	4/1/2010	Cooper et al.			
	A452	2010/0094381	4/15/2010	Kim et al.			
	A453	2010/0096934	4/22/2010	Joannopoulos et al.			
	A454	2010/0102639	4/29/2010	Joannopoulos et al.			
	A455	2010/0102640	4/29/2010	Joannopoulos et al.			
	A456	2010/0102641	4/29/2010	Joannopoulos et al.			
	A457	2010/0104031	4/29/2010	Lacour			
	A458	2010/0109443	5/6/2010	Cook et al.			
	A459	2010/0109445	5/6/2010	Kurs et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A460	2010/0109604	5/6/2010	Boys et al.			
	A461	2010/0115474	5/6/2010	Takada et al.			
	A462	2010/0117454	5/13/2010	Cook et al.			
	A463	2010/0117455	5/13/2010	Joannopoulos et al.			
	A464	2010/0117456	5/13/2010	Karalis et al.			
	A465	2010/0117596	5/13/2010	Cook et al.			
	A466	2010/0123353	5/20/2010	Joannopoulos et al.			
	A467	2010/0123354	5/20/2010	Joannopoulos et al.			
	A468	2010/0123355	5/20/2010	Joannopoulos et al.			
	A469	2010/0123452	5/20/2010	Amano et al.			
	A470	2010/0123530	5/20/2010	Park et al.			
	A471	2010/0127573	5/27/2010	Joannopoulos et al.			
	A472	2010/0127574	5/27/2010	Joannopoulos et al.			
	A473	2010/0127575	5/27/2010	Joannopoulos et al.			
	A474	2010/0127660	5/27/2010	Cook et al.			
	A475	2010/0133918	6/3/2010	Joannopoulos et al.			
	A476	2010/0133919	6/3/2010	Joannopoulos et al.			
	A477	2010/0133920	6/3/2010	Joannopoulos et al.			
	A478	2010/0141042	6/10/2010	Kesler et al.			
	A479	2010/0148589	6/17/2010	Hamam et al.			
	A480	2010/0148723	6/17/2010	Cook et al.			
	A481	2010/0151808	6/17/2010	Toncich et al.			
	A482	2010/0156346	6/24/2010	Takada et al.			
	A483	2010/0156355	6/24/2010	Bauerle et al.			
	A484	2010/0156570	6/24/2010	Hong et al.			
	A485	2010/0164295	7/1/2010	Ichikawa et al.			
	A486	2010/0164296	7/1/2010	Kurs			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A487	2010/0164297	7/1/2010	Kurs et al.			
	A488	2010/0164298	7/1/2010	Karalis et al.			
	A489	2010/0171368	7/8/2010	Schatz et al.			
	A490	2010/0171370	7/8/2010	Karalis et al.			
	A491	2010/0179384	7/15/2010	Hoeg et al.			
	A492	2010/0181843	7/22/2010	Schatz et al.			
	A493	2010/0181844	7/22/2010	Karalis et al.			
	A494	2010/0181845	7/22/2010	Fiorello et al.			
	A495	2010/0181961	7/22/2010	Novak et al.			
	A496	2010/0181964	7/22/2010	Huggins et al.			
	A497	2010/0184371	7/22/2010	Cook et al.			
	A498	2010/0187911	7/29/2010	Joannopoulos et al.			
	A499	2010/0187913	7/29/2010	Sample			
	A500	2010/0188183	7/29/2010	Shpiro			
	A501	2010/0190435	7/29/2010	Cook et al.			
	A502	2010/0190436	7/29/2010	Cook et al.			
	A503	2010/0194206	8/5/2010	Burdo et al.			
	A504	2010/0194207	8/5/2010	Graham			
	A505	2010/0194334	8/5/2010	Kirby et al.			
	A506	2010/0194335	8/5/2010	Kirby et al.			
	A507	2010/0201189	8/12/2010	Kirby et al.			
	A508	2010/0201201	8/12/2010	Mobarhan et al.			
	A509	2010/0201202	8/12/2010	Kirby et al.			
	A510	2010/0201203	8/12/2010	Schatz et al.			
	A511	2010/0201204	8/12/2010	Sakoda et al.			
	A512	2010/0201205	8/12/2010	Karalis et al.			
	A513	2010/0201310	8/12/2010	Vorenkamp et al.			

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U.S. Patent Documents							
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	A514	2010/0201312	8/12/2010	Kirby et al.			
	A515	2010/0201313	8/12/2010	Vorenkamp et al.			
	A516	2010/0201316	8/12/2010	Takada et al.			
	A517	2010/0201513	8/12/2010	Vorenkamp et al.			
	A518	2010/0207458	8/19/2010	Joannopoulos et al.			
	A519	2010/0210233	8/19/2010	Cook et al.			
	A520	2010/0213770	8/26/2010	Kikuchi			
	A521	2010/0213895	8/26/2010	Keating et al.			
	A522	2010/0217553	8/26/2010	Von Novak et al.			
	A523	2010/0219694	9/2/2010	Kurs et al.			
	A524	2010/0219695	9/2/2010	Komiyama et al.			
	A525	2010/0219696	9/2/2010	Kojima			
	A526	2010/0222010	9/2/2010	Ozaki et al.			
	A527	2010/0225175	9/9/2010	Karalis et al.			
	A528	2010/0225270	9/9/2010	Jacobs et al.			
	A529	2010/0225271	9/9/2010	Oyobe et al.			
	A530	2010/0225272	9/9/2010	Kirby et al.			
	A531	2010/0231053	9/16/2010	Karalis et al.			
	A532	2010/0231163	9/19/2010	Mashinsky			
	A533	2010/0231340	9/16/2010	Fiorello et al.			
	A534	2010/0234922	9/16/2010	Forsell			
	A535	2010/0235006	9/16/2010	Brown			
	A536	2010/0237706	9/23/2010	Karalis et al.			
	A537	2010/0237707	9/23/2010	Karalis et al.			
	A538	2010/0237708	9/23/2010	Karalis et al.			
	A539	2010/0237709	9/23/2010	Hall et al.			
	A540	2010/0244576	9/30/2010	Hillan et al.			

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	A541	2010/0244577	9/30/2010	Shimokawa			
	A542	2010/0244578	9/30/2010	Yoshikawa			
	A543	2010/0244579	9/30/2010	Sogabe et al.			
	A544	2010/0244580	9/30/2010	Uchida et al.			
	A545	2010/0244581	9/30/2010	Uchida			
	A546	2010/0244582	9/30/2010	Yoshikawa			
	A547	2010/0244583	9/30/2010	Shimokawa			
	A548	2010/0244767	9/30/2010	Turner et al.			
	A549	2010/0244839	9/30/2010	Yoshikawa			
	A550	2010/0248622	9/30/2010	Kirby et al.			
	A551	2010/0253152	10/7/2010	Karalis et al.			
	A552	2010/0253281	10/7/2010	Li			
	A553	2010/0256481	10/7/2010	Mareci et al.			
	A554	2010/0256831	10/7/2010	Abramo et al.			
	A555	2010/0259108	10/14/2010	Giler et al.			
	A556	2010/0259109	10/14/2010	Sato			
	A557	2010/0259110	10/14/2010	Kurs et al.			
	A558	2010/0264745	10/21/2010	Karalis et al.			
	A559	2010/0264746	10/21/2010	Kazama et al.			
	A560	2010/0264747	10/21/2010	Hall et al.			
	A561	2010/0276995	11/4/2010	Marzetta et al.			
	A562	2010/0277003	11/4/2010	Von Novak et al.			
	A563	2010/0277004	11/4/2010	Suzuki et al.			
	A564	2010/0277005	11/4/2010	Karalis et al.			
	A565	2010/0277120	11/4/2010	Cook et al.			
	A566	2010/0277121	11/4/2010	Hall et al.			
	A567	2010/0289341	11/18/2010	Ozaki et al.			

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	A568	2010/0289449	11/18/2010	Elo			
	A569	2010/0295505	11/25/2010	Jung et al.			
	A570	2010/0295506	11/25/2010	Ichikawa			
	A571	2010/0308939	12/9/2010	Kurs			
	A572	2010/0314946	12/16/2010	Budde et al.			
	A573	2010/0327660	12/30/2010	Karalis et al.			
	A574	2010/0327661	12/30/2010	Karalis et al.			
	A575	2010/0328044	12/30/2010	Waffenschmidt et al.			
	A576	2011/0004269	1/6/2011	Strother et al.			
	A577	2011/0012431	1/20/2011	Karalis et al.			
	A578	2011/0018361	1/27/2011	Karalis et al.			
	A579	2011/0025131	2/3/2011	Karalis et al.			
	A580	2011/0025265	2/3/2011	Mochida et al.			
	A581	2011/0318618	12/29/2011	Yajima et al.			
	A582	2011/0031928	2/10/2011	Soar			
	A583	2011/0043046	2/24/2011	Joannopoulos et al.			
	A584	2011/0043047	2/24/2011	Karalis et al.			
	A585	2011/0043048	2/24/2011	Karalis et al.			
	A586	2011/0043049	2/24/2011	Karalis et al.			
	A587	2011/0049995	3/3/2011	Hashiguchi			
	A588	2011/0049996	3/3/2011	Karalis et al.			
	A589	2011/0049998	3/3/2011	Karalis et al.			
	A590	2011/0074218	3/31/2011	Karalis et al.			
	A591	2011/0074346	3/31/2011	Hall et al.			
	A592	2011/0074347	3/31/2011	Karalis et al.			
	A593	2011/0089895	4/21/2011	Karalis et al.			
	A594	2011/0095618	4/28/2011	Schatz et al.			

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U.S. Patent Documents							
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	A595	2011/0115303	5/19/2011	Baarman et al.			
	A596	2011/0115431	5/19/2011	Dunworth et al.			
	A597	2011/0121920	5/26/2011	Kurs et al.			
	A598	2011/0128015	6/2/2011	Dorairaj et al.			
	A599	2011/0140544	6/16/2011	Karalis et al.			
	A600	2011/0148219	6/23/2011	Karalis et al.			
	A601	2011/0162895	7/7/2011	Karalis et al.			
	A602	2011/0169339	7/14/2011	Karalis et al.			
	A603	2011/0181122	7/28/2011	Karalis et al.			
	A604	2011/0193416	8/11/2011	Campanella et al.			
	A605	2011/0193419	8/11/2011	Karalis et al.			
	A606	2011/0198939	8/18/2011	Karalis et al.			
	A607	2011/0215086	9/8/2011	Yeh			
	A608	2011/0221278	9/15/2011	Karalis et al.			
	A609	2011/0227528	9/22/2011	Karalis et al.			
	A610	2011/0227530	9/22/2011	Karalis et al.			
	A611	2011/0241618	10/6/2011	Karalis et al.			
	A612	2011/0248573	10/13/2011	Kanno et al.			
	A613	2011/0254377	10/20/2011	Wildmer et al.			
	A614	2011/0254503	10/20/2011	Widmer et al.			
	A615	2011/0266878	11/3/2011	Cook et al.			
	A616	2011/0278943	11/17/2011	Eckhoff et al.			
	A617	2012/0001492	1/5/2012	Cook et al.			
	A618	2012/0001593	1/5/2012	DiGuardo			
	A619	2012/0007435	1/12/2012	Sada et al.			
	A620	2012/0007441	1/12/2012	John et al.			
	A621	2012/0025602	2/2/2012	Boys et al.			

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U.S. Patent Documents							
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	A622	2012/0032522	2/9/2012	Schatz et al.			
	A623	2012/0038525	2/16/2012	Monsalve Carcelen et al.			
	A624	2012/0049650	3/1/2012	Bella			
	A625	2012/0062345	3/15/2012	Kurs et al.			
	A626	2012/0068549	3/22/2012	Karalis et al.			
	A627	2012/0086284	4/12/2012	Campanella et al.			
	A628	2012/0086867	4/12/2012	Kesler et al.			
	A629	2012/0091794	4/19/2012	Campanella et al.			
	A630	2012/0091795	4/19/2012	Fiorello et al.			
	A631	2012/0091796	4/19/2012	Kesler et al.			
	A632	2012/0091797	4/19/2012	Kesler et al.			
	A633	2012/0091819	4/19/2012	Kulikowski et al.			
	A634	2012/0091820	4/19/2012	Campanella et al.			
	A635	2012/0091949	4/19/2012	Campanella et al.			
	A636	2012/0091950	4/19/2012	Campanella et al.			
	A637	2012/0098350	4/26/2012	Campanella et al.			
	A638	2012/0112531	5/10/2012	Kesler et al.			
	A639	2012/0112532	5/10/2012	Kesler et al.			
	A640	2012/0112534	5/10/2012	Kesler et al.			
	A641	2012/0112535	5/10/2012	Karalis et al.			
	A642	2012/0112536	5/10/2012	Karalis et al.			
	A643	2012/0112538	5/10/2012	Kesler et al.			
	A644	2012/0112691	5/10/2012	Kurs et al.			
	A645	2012/0119569	5/17/2012	Karalis et al.			
	A646	2012/0119575	5/17/2012	Kurs et al.			
	A647	2012/0119576	5/17/2012	Kesler et al.			
	A648	2012/0119698	5/17/2012	Karalis et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A649	2012/0139355	6/7/2012	Ganem et al.			
	A650	2012/0146575	6/14/2012	Armstrong et al.			
	A651	2012/0146580	6/14/2012	Kitamura			
	A652	2012/0153732	6/21/2012	Kurs et al.			
	A653	2012/0153733	6/21/2012	Schatz et al.			
	A654	2012/0153734	6/21/2012	Kurs et al.			
	A655	2012/0153735	6/21/2012	Karalis et al.			
	A656	2012/0153736	6/21/2012	Karalis et al.			
	A657	2012/0153737	6/21/2012	Karalis et al.			
	A658	2012/0153738	6/21/2012	Karalis et al.			
	A659	2012/0153893	6/21/2012	Schatz et al.			
	A660	2012/0146580	6/14/2012	Kitamura			
	A661	2012/0175967	7/12/2012	Dibben et al.			
	A662	2012/0181875	7/19/2012	Wechlin et al.			
	A663	2012/0184338	7/19/2012	Kesler et al.			
	A664	2012/0187757	7/26/2012	Wechlin et al.			
	A665	2012/0206096	8/16/2012	John			
	A666	2012/0223573	9/6/2012	Schatz et al.			
	A667	2012/0228952	9/13/2012	Hall et al.			
	A668	2012/0228953	9/13/2012	Kesler et al.			
	A669	2012/0228954	9/13/2012	Kesler et al.			
	A670	2012/0235500	9/20/2012	Ganem et al.			
	A671	2012/0235501	9/20/2012	Kesler et al.			
	A672	2012/0235502	9/20/2012	Kesler et al.			
	A673	2012/0235503	9/20/2012	Kesler et al.			
	A674	2012/0235504	9/20/2012	Kesler et al.			
	A675	2012/0235505	9/20/2012	Schatz et al.			

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	Applicant WiTricity Corporation	
	Filing Date Herewith	Group Art Unit

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A676	2012/0235566	9/20/2012	Karalis et al.			
	A677	2012/0235567	9/20/2012	Karalis et al.			
	A678	2012/0235633	9/20/2012	Kesler et al.			
	A679	2012/0235634	9/20/2012	Hall et al.			
	A680	2012/0239117	9/20/2012	Kesler et al.			
	A681	2012/0242159	9/27/2012	Lou et al.			
	A682	2012/0242225	9/27/2012	Karalis et al.			
	A683	2012/0248884	10/4/2012	Karalis et al.			
	A684	2012/0248886	10/4/2012	Kesler et al.			
	A685	2012/0248887	10/4/2012	Kesler et al.			
	A686	2012/0248888	10/4/2012	Kesler et al.			
	A687	2012/0248981	10/4/2012	Karalis et al.			
	A688	2012/0256494	10/11/2012	Kesler et al.			
	A689	2012/0267960	10/25/2012	Low et al.			
	A690	2012/0280765	11/8/2012	Kurs et al.			
	A691	2012/0313449	12/13/2012	Kurs et al.			
	A692	2012/0313742	12/13/2012	Kurs et al.			
	A693	2013/0007949	1/10/2013	Kurs et al.			
	A694	2013/0020878	1/24/2013	Karalis et al.			
	A695	2013/0033118	2/7/2013	Karalis et al.			
	A696	2013/0038402	2/14/2013	Karalis et al.			
	A697	2013/0057364	3/7/2013	Kesler et al.			
	A698	2013/0062966	3/14/2013	Verghese et al.			
	A699	2013/0063085	3/14/2013	Takada et al.			
	A700	2013/0069441	3/21/2013	Verghese et al.			
	A701	2013/0069753	3/21/2013	Kurs et al.			
	A702	2013/0099587	4/25/2013	Lou et al.			

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	Filing Date Herewith	Group Art Unit

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A703	2013/0154383	6/20/2013	Kasturi et al.			
	A704	2013/0154389	6/20/2013	Kurs et al.			
	A705	2013/0159956	6/20/2013	Vergheese et al.			
	A706	2013/0175874	7/11/2013	Lou et al.			
	A707	2013/0175875	7/11/2013	Kurs et al.			
	A708	2013/0200716	8/8/2013	Kesler et al.			
	A709	2013/0200721	8/8/2013	Kurs et al.			
	A710	2013/0221744	8/29/2013	Hall et al.			
	A711	2013/0278073	10/24/2013	Kurs et al.			
	A712	2013/0278074	10/24/2013	Kurs et al.			
	A713	2013/0278075	10/24/2013	Kurs et al.			
	A714	2013/0300353	11/14/2013	Kurs et al.			
	A715	2013/0307349	11/21/2013	Hall et al.			
	A716	2013/0320773	12/5/2013	Schatz et al.			
	A717	2013/0334892	12/19/2013	Hall et al.			
	A718	2014/0002012	1/2/2014	McCauley et al.			
	A719	2014/0049422	2/20/2014	Von Novak et al.			
	A720	2014/0070764	3/13/2014	Keeling			
	A721	D541,322	4/24/2007	Garrett et al.			
	A722	D545,855	7/3/2007	Garrett et al.			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	B1	CA 142352	08/13/1912	Canada				
	B2	CN 101807822	08/18/2010	China				
	B3	CN 101983466	3/2/2011	China				
	B4	CN 102239633	11/9/2011	China			Abstract	

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Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	B5	CN 102439669	5/2/2012	China			Abstract	
	B6	CN 103329397	9/25/2013	China			Abstract	
	B7	DE 38 24 972	01/12/1989	Germany			Partial Translation	
	B8	DE 100 29147	12/21/2001	Germany			Abstract	
	B9	DE 200 16 655	03/21/2002	Germany			Partial Translation	
	B10	DE 102 21 484	11/27/2003	Germany			Abstract	
	B11	DE 103 04 584	08/19/2004	Germany			Abstract	
	B12	DE 10 2005 036290	02/15/2007	Germany			Abstract	
	B13	DE 10 2006 044057	4/10/2008	Germany			Abstract	
	B14	DE 10 2009 033 236	1/20/2011	Germany				
	B15	DE 10 2009 033 237	1/20/2011	Germany				
	B16	DE 10 2011 015980	10/4/2012	Germany				
	B17	DE 20 2009 009693	11/25/2010	Germany				
	B18	EP 1 335 477	08/13/2003	Europe				
	B19	EP 1 521 206	04/06/2005	Europe				
	B20	EP 1 524 010	4/20/2005	Europe				
	B21	EP 2 357 716	8/17/2011	Europe				
	B22	EP 2 410 631	1/25/2012	EPO				
	B23	FR 2 968 616	06/15/2012	France				
	B24	JP 02-097005	04/09/1990	Japan			Abstract	
	B25	JP 4-265875	9/22/1992	Japan			Partial Translation	
	B26	JP H6-2975	1/14/1994	JP				
	B27	JP 6-341410	12/13/1994	Japan			Abstract	
	B28	JP H07-225251	8/22/1995	Japan				
	B29	JP 9-182323	7/11/1997	Japan			Abstract	
	B30	JP 9-298847	11/18/1997	Japan			Partial Translation	

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Date Considered

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Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	B31	JP 10-164837	6/19/1998	Japan			Partial Translation	
	B32	JP 11-75329	03/16/1999	Japan			Abstract	
	B33	JP 11-188113	07/13/1999	Japan			Abstract	
	B34	JP 2000-134830	5/12/2000	Japan				
	B35	JP 2001-309580	11/2/2001	Japan			Partial Translation	
	B36	JP 2002-010535	1/11/2002	Japan			Partial Translation	
	B37	JP 2003-179526	6/27/2003	Japan			Abstract	
	B38	JP 2004-166459	6/10/2004	Japan			Abstract	
	B39	JP 2004-201458	7/15/2004	Japan			Abstract	
	B40	JP 2004-229144	8/12/2004	Japan			Abstract	
	B41	JP 2005-57444	3/3/2005	Japan			Abstract	
	B42	JP 2005-149238	6/9/2005	Japan			Partial Translation	
	B43	JP 2006-074848	3/16/2006	Japan			Abstract	
	B44	JP 2007-505480	3/8/2007	Japan			Partial Translation	
	B45	JP 2007-266892	10/11/2007	Japan			Abstract	
	B46	JP 2007-537637	12/20/2007	Japan			Abstract	
	B47	JP 2008-17562	1/24/2008	Japan				
	B48	JP 2008-295231	12/4/2008	Japan				
	B49	JP 2008-508842	3/21/2008	Japan			Abstract	
	B50	JP 2008-206231	9/4/2008	Japan			Abstract	
	B51	JP 2008-206327	9/4/2008	Japan			Abstract	
	B52	JP2009-213295	9/17/2009	Japan				
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	B54	JP 2011-072074	4/7/2011	Japan			Abstract	
	B55	JP 2012-504387	2/16/2012	Japan			Abstract	

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Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
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	B56	JP 2013-543718	12/5/2013	Japan			Not Available	
	B57	KR 10-2007-0017804	2/13/2007	Korea			Abstract	
	B58	KR 10-2008-0007635	1/22/2008	Korea			Abstract	
	B59	KR 10-2009-0122072	11/26/2009	Korea			Abstract	
	B60	KR 10-2011-0050920	5/17/2011	Korea			Abstract	
	B61	SG 112842	7/28/2005	Singapore			Partial Translation	
	B62	WO 92/17929	10/15/1992	WIPO				
	B63	WO 93/23908	11/25/1993	WIPO				
	B64	WO 94/28560	12/08/1994	WIPO				
	B65	WO 95/11545	04/27/1995	WIPO				
	B66	WO 96/02970	02/01/1996	WIPO				
	B67	WO 98/50993	11/12/1998	WIPO				
	B68	WO 00/77910	12/21/2000	WIPO			Abstract	
	B69	WO 03/092329	11/6/2003	WIPO				
	B70	WO 03/096361	11/20/2003	WIPO				
	B71	WO 03/096512	11/20/2003	WIPO				
	B72	WO 2004/015885	2/19/2004	WIPO				
	B73	WO 2004/038888	5/6/2004	WIPO				
	B74	WO 2004/055654	7/1/2004	WIPO				
	B75	WO 2004/073150	8/26/2004	WIPO				
	B76	WO 2004/073166	8/26/2004	WIPO				
	B77	WO 2004/073176	8/26/2004	WIPO				
	B78	WO 2004/073177	8/26/2004	WIPO				
	B79	WO 2004/112216	12/23/2004	WIPO				
	B80	WO 2005/024865	3/17/2005	WIPO				
	B81	WO 2005/060068	6/30/2005	WIPO				

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Foreign Patent Documents or Published Foreign Patent Applications								
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	B82	WO 2005/109597	11/17/2005	WIPO				
	B83	WO 2005/109598	11/17/2005	WIPO				
	B84	WO 2006/011769	2/2/2006	WIPO				
	B85	WO 2007/008646	01/18/2007	WIPO				
	B86	WO 2007/020583	2/22/2007	WIPO				
	B87	WO 2007/042952	4/19/2007	WIPO				
	B88	WO 2007/084716	7/26/2007	WIPO				
	B89	WO 2007/084717	7/26/2007	WIPO				
	B90	WO 2008/109489	9/12/2008	WIPO				
	B91	WO 2008/118178	10/02/2008	WIPO				
	B92	WO 2009/009559	1/5/2009	WIPO				
	B93	WO 2009/018568	2/5/2009	WIPO				
	B94	WO 2009/023155	2/19/2009	WIPO				
	B95	WO 2009/023646	2/19/2009	WIPO				
	B96	WO 2009/033043	3/12/2009	WIPO				
	B97	WO 2009/062438	5/22/2009	WIPO				
	B98	WO 2009/070730	6/4/2009	WIPO				
	B99	WO 2009/126963	10/15/2009	WIPO				
	B100	WO 2009/140506	11/19/2009	WIPO				
	B101	WO 2009/149464	12/10/2009	WIPO				
	B102	WO 2009/155000	12/23/2009	WIPO				
	B103	WO 2010/030977	3/18/2010	WIPO				
	B104	WO 2010/036980	4/1/2010	WIPO				
	B105	WO 2010/039967	4/8/2010	WIPO				
	B106	WO 2010/090538	8/12/2010	WIPO				
	B107	WO 2010/090539	8/12/2010	WIPO				
	B108	WO 2010/093997	8/19/2010	WIPO				

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	B109	WO 2010/104569	9/16/2010	WIPO				
	B110	WO 2011/061388	5/26/2011	WIPO				
	B111	WO 2011/061821	5/26/2011	WIPO				
	B112	WO 2011/062827	5/26/2011	WIPO				
	B113	WO 2011/112795	9/15/2011	WIPO				
	B114	WO 2012/037279	3/22/2012	WIPO				
	B115	WO 2012/170278	12/13/2012	WIPO				
	B116	WO 2013/013235	1/24/2013	WIPO				
	B117	WO 2013/020138	2/7/2013	WIPO				
	B118	WO 2013/036947	3/14/2013	WIPO				
	B119	WO 2013/059441	4/25/2013	WIPO				
	B120	WO 2013/067484	5/10/2013	WIPO				
	B121	WO 2013/113017	8/1/2013	WIPO				
	B122	WO 2013/142840	9/26/2013	WIPO				
	B123	WO 2014/004843	1/3/2014	WIPO				

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	C1	"Intel CTO Says Gap between Humans, Machines Will Close by 2050", <u>Intel News Release</u> , (See intel.com/.../20080821comp.htm?iid=S...) (Printed 11/6/2009)
	C2	"Physics Update, Unwired Energy", <u>Physics Today</u> , pp. 26, (January 2007) (See http://arxiv.org/abs/physics/0611063 .)
	C3	"In pictures: A year in technology", <u>BBC News</u> , (December 28, 2007)
	C4	"Next Little Thing 2010 Electricity without wires", CNN Money (See money.cnn.com/galleries/2009/smallbusiness/0911/gallery.next_little_thing_2010.smb/) (dated November 30, 2009)
	C5	Abe et al. "A Noncontact Charger Using a Resonant Converter with Parallel Capacitor of the Secondary Coil". IEEE, 36(2):444-451, March/April 2000.
	C6	Ahmadian, M. et al., "Miniature Transmitter for Implantable Micro Systems", <u>Proceedings of the 25th Annual International Conference of the IEEE EMBS Cancun, Mexico</u> , pp. 3028-3031 (September 17-21, 2003)

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	Filing Date Herewith	Group Art Unit	

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	C7	Aoki, T. et al., "Observation of strong coupling between one atom and a monolithic microresonator", <i>Nature</i> , Vol. 443:671-674 (2006)
	C8	Apneseth et al. "Introducing wireless proximity switches" ABB Review 4/2002.
	C9	Aristeidis Karalis et al., "Efficient Wireless <i>non-radiative mid-range</i> energy transfer", <i>Annals of Physics</i> , Vol. 323, pp. 34-48 (2008)
	C10	Baker et al., "Feedback Analysis and Design of RF Power Links for Low-Power Bionic Systems," <i>IEEE Transactions on Biomedical Circuits and Systems</i> , Vol. 1(1):28-38 (March 2007)
	C11	Balanis, C.A., "Antenna Theory: Analysis and Design," 3rd Edition, Sections 4.2, 4.3, 5.2, 5.3 (Wiley, New Jersey, 2005).
	C12	Berardelli, P., "Outlets Are Out", ScienceNOW Daily News, Science Now, http://sciencenow.sciencemag.org/cgi/content/full/2006/1114/2 , (November 14, 2006) 2 pages
	C13	Biever, C., "Evanescent coupling' could power gadgets wirelessly", NewScientistsTech.com, http://www.newscientisttech.com/article.ns?id=dn10575&print=true , (November 15, 2006) 2 pages
	C14	Borenstein, S., "Man tries wirelessly boosting batteries", (The Associated Press), USA Today, (November 16, 2006) 1 page
	C15	Borenstein, S., "Man tries wirelessly boosting batteries", AP Science Writer, Boston.com, (See http://www.boston.com/business/technology/articles/2006/11/15/man_tries_wirelessly_b...) (November 15, 2006)
	C16	Boyle, A., "Electro-nirvana? Not so fast", MSNBC, http://cosmiclog.msnbc.msn.com/_news/2007/06/08/4350760-electro-nirvana-not-so-fast , (June 8, 2007) 1 page
	C17	Budhia, M. et al., "A New IPT Magnetic Coupler for Electric Vehicle Charging Systems", IECON 2010 - 36th Annual Conference on IEEE Industrial Electronics Society, Glendale, AZ, pp. 2487-2492 (Nov. 7-10, 2010)
	C18	Budhia, M. et al., "Development and evaluation of single sided flux couplers for contactless electric vehicle charging", 2011 IEEE Energy Conversion Congress and Exposition (ECCE), Phoenix, AZ, pp. 614-621 (September 17-22, 2011)
	C19	Budhia, M. et al., "Development of a Single-Sided Flux Magnetic Coupler for Electric Vehicle IPT", <i>IEEE Transactions on Industrial Electronics</i> , Vol. 60:318-328 (January 2013)
	C20	Bulkeley, W. M., "MIT Scientists Pave the Way For Wireless Battery Charging", The Wall Street Journal (See http://online.wsj.com/article/SB11812395549228045.html?mod=googlenews_wsj), (June 8, 2007) 2 pages
	C21	Burri et al., "Invention Description", (February 5, 2008)
	C22	Cass, S., "Air Power – Wireless data connections are common -- now scientists are working on wireless power", Sponsored by IEEE Spectrum, http://spectrum.ieee.org/computing/hardware/air-power , (November 2006) 2 pages
	C23	Castelvecchi, Davide, "The Power of Induction – Cutting the last cord could resonate with our increasingly gadget dependent lives", <i>Science News Online</i> , Vol. 172, No. 3, July 21, 2007, 6 pages
	C24	Chang, A., "Recharging The Wireless Way – Even physicists forget to recharge their cell phones sometimes.", PC Magazine, ABC News Internet Ventures, (December 12, 2006) 1 page
	C25	CHINAVIEW, "Scientists light bulb with 'wireless electricity'", www.Chinaview.cn, http://news.xinhuanet.com/english/2007-06/08/content_6215681.htm , June 2007, 1 page

Examiner Signature	Date Considered
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	Filing Date Herewith	Group Art Unit	

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	C26	Cooks, G., "The vision of an MIT physicist: Getting rid of pesky rechargers", Boston.com, (December 11, 2006) 1 page
	C27	Derbyshire, D., "The end of the plug? Scientists invent wireless device that beams electricity through your home", Daily Mail, http://www.dailymail.co.uk/pages/live/articles/technology/technology.html?in_article_id=4... , (June 7, 2007) 3 pages
	C28	Eisenberg, Anne, "Automatic Recharging, From a Distance", The New York Times, (see www.nytimes.com/2012/03/11/business/built-in-wireless-charging-for-electronic-devices.html?_r=0) (published on March 10, 2012)
	C29	Esser et al., "A New Approach to Power Supplies for Robots", IEEE, Vol. 27(5):872-875, (September/October 1991)
	C30	Fan, Shanhui et al., "Rate-Equation Analysis of Output Efficiency and Modulation Rate of Photonic-Crystal Light-Emitting Diodes", IEEE Journal of Quantum Electronics, Vol. 36(10):1123-1130 (October 2000)
	C31	Fenske et al., "Dielectric Materials at Microwave Frequencies", Applied Microwave & Wireless, pp. 92-100 (2000)
	C32	Fernandez, C. et al., "A simple dc-dc converter for the power supply of a cochlear implant", IEEE, pp. 1965-1970 (2003)
	C33	Ferris, David, "How Wireless Charging Will Make Life Simpler (And Greener)", Forbes (See forbes.com/sites/davidferris/2012/07/24/how-wireless-charging-will-make-life-simpler-and-greener/print/) (dated July 24, 2012)
	C34	Fildes, J., "Physics Promises Wireless Power", (Science and Technology Reporter), BBC News, (November 15, 2006) 3 pages
	C35	Fildes, J., "The technology with impact 2007", BBC News, (December 27, 2007) 3 pages
	C36	Fildes, J., "Wireless energy promise powers up", BBC News, http://news.bbc.co.uk/2/hi/technology/6725955.stm , (June 7, 2007) 3 pages
	C37	Finkenzeller, Klaus, "RFID Handbook – Fundamentals and Applications in Contactless Smart Cards", Nikkan Kohgyo-sya, Kanno Taihei, first version, pp. 32-37, 253 (August 21, 2001)
	C38	Finkenzeller, Klaus, "RFID Handbook (2nd Edition)", The Nikkan Kogyo Shimbun, Ltd., pp. 19, 20, 38, 39, 43, 44, 62, 63, 67, 68, 87, 88, 291, 292 (Published on May 31, 2004)
	C39	Freedman, D.H., "Power on a Chip", MIT Technology Review, (November 2004)
	C40	Gary Peterson, "MIT WiTricity Not So Original After All", <u>Feed Line No. 9</u> , (See http://www.tfcbooks.com/articles/witricity.htm) printed 11/12/2009
	C41	Geyi, Wen, "A Method for the Evaluation of Small Antenna Q", IEEE Transactions on Antennas and Propagation, Vol. 51(8):2124-2129 (August 2003)
	C42	Hadley, F., "Goodbye Wires- MIT Team Experimentally Demonstrates Wireless Power Transfer, Potentially Useful for Power Laptops, Cell-Phones Without Cords", Massachusetts Institute of Technology, Institute for Soldier D Nanotechnologies, http://web.mit.edu/newsoffice/2007/wireless-0607.html , (June 7, 2007) 3 pages
	C43	Haus, H.A., "Waves and Fields in Optoelectronics," Chapter 7 "Coupling of Modes --- Resonators and Couplers" (Prentice-Hall, New Jersey, 1984).

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EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

Substitute Disclosure Form Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 25236-0036002	Application No. Unknown
	Applicant WiTricity Corporation		
	Filing Date Herewith	Group Art Unit	

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	C44	Heikkinen et al., "Performance and Efficiency of Planar Rectennas for Short-Range Wireless Power Transfer at 2.45 GHz", Microwave and Optical Technology Letters, Vol. 31(2):86-91, (October 20, 2001)
	C45	Highfield, R., "Wireless revolution could spell end of plugs", (Science Editor), Telegraph.co.uk, http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2007/06/07/nwireless107.xml , (June 7, 2007) 3 pages
	C46	Hirai et al., "Integral Motor with Driver and Wireless Transmission of Power and Information for Autonomous Subspindle Drive", IEEE, Vol. 15(1):13-20, (January 2000)
	C47	Hirai et al., "Practical Study on Wireless Transmission of Power and Information for Autonomous Decentralized Manufacturing System", IEEE, Vol. 46(2):349-359, April 1999.
	C48	Hirai et al., "Study on Intelligent Battery Charging Using Inductive Transmission of Power and Information", IEEE, Vol. 15(2):335-345, (March 2000)
	C49	Hirai et al., "Wireless Transmission of Power and Information and Information for Cableless Linear Motor Drive", IEEE, Vol. 15(1):21-27, (January 2000)
	C50	Hirayama, M., "Splashpower - World Leaders in Wireless Power", PowerPoint presentation, Splashpower Japan, (September 3, 2007) 30 pages
	C51	Ho, S. L. et al., "A Comparative Study Between Novel Witricity and Traditional Inductive Magnetic Coupling in Wireless Charging", IEEE Transactions on Magnetics, Vol. 47(5):1522-1525 (May 2011)
	C52	INFOTECH ONLINE, "Recharging gadgets without cables", infotech.indiatimes.com, (November 17, 2006) 1 page
	C53	Jackson, J. D., "Classical Electrodynamics", 3rd Edition, Wiley, New York, 1999, pp. 201-203
	C54	Jackson, J.D., "Classical Electrodynamics," 3rd Edition, Sections 1.11, 5.5, 5.17, 6.9, 8.1, 8.8, 9.2, 9.3 (Wiley, New York, 1999).
	C55	Jacob, M. V. et al., "Lithium Tantalate – A High Permittivity Dielectric Material for Microwave Communication Systems", <u>Proceedings of IEEE TENCON – Poster Papers</u> , pp. 1362-1366, 2003
	C56	Karalis, Aristeidis, "Electricity Unplugged", Feature: Wireless Energy Physics World, physicsworld.com, pp. 23-25 (February 2009)
	C57	Kawamura et al., "Wireless Transmission of Power and Information Through One High-Frequency Resonant AC Link Inverter for Robot Manipulator Applications", IEEE, Vol. 32(3):503-508, (May/June 1996)
	C58	Kurs, A. et al., "Wireless Power Transfer via Strongly Coupled Magnetic Resonances", <u>Science</u> Vol. 317, pp. 83-86 (July 6, 2007)
	C59	Kurs, A. et al., "Simultaneous mid-range power transfer to multiple devices", <u>Applied Physics Letters</u> , Vol. 96, No. 044102 (2010)
	C60	Kurs, A. et al., "Optimized design of a low-resistance electrical conductor for the multimegahertz range", <u>Applied Physics Letters</u> , Vol. 98:172504- 172504-3 (April 2011)
	C61	LAMB, GREGORY M., "Look Ma – no wires! - Electricity broadcast through the air may someday run your home", The Christian Science Monitor, http://www.csmonitor.com/2006/1116/p14s01-stct.html , November 15, 2006, 2 pages
	C62	Lee, "Antenna Circuit Design for RFID Applications," Microchip Technology Inc., AN710, 50 pages (2003)

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	C63	Lee, "RFID Coil Design," Microchip Technology Inc., AN678, 21 pages (1998)
	C64	Liang et al., "Silicon waveguide two-photon absorption detector at 1.5 μm wavelength for autocorrelation measurements," <i>Applied Physics Letters</i> , 81(7):1323-1325 (August 12, 2002)
	C65	Markoff, J., "Intel Moves to Free Gadgets of Their Recharging Cords", <i>The New York Times</i> - nytimes.com, August 21, 2008, 2 pages
	C66	Mediano, A. et al. "Design of class E amplifier with nonlinear and linear shunt capacitances for any duty cycle", <i>IEEE Trans. Microwave Theor. Tech.</i> , volume 55, no. 3, pp. 484-492, (2007)
	C67	Microchip Technology Inc., "microID 13.56 MHz Design Guide - MCRF355/360 Reader Reference Design," 24 pages (2001)
	C68	MINKEL, J R., "Wireless Energy Lights Bulb from Seven Feet Away– Physicists vow to cut the cord between your laptop battery and the wall socket – with just a simple loop of wire", <i>Scientific American</i> , http://www.scientificamerican.com/article.cfm?id=wireless-energy-lights-bulb-from-seven-feet-away , June 7, 2007, 1 page
	C69	MINKEL, J R., "Wireless Energy Transfer May Power Devices at a Distance", <i>Scientific American</i> , November 14, 2006, 1 page
	C70	Morgan, J., "Lab report: Pull the plug for a positive charge", <i>The Herald</i> , Web Issue 2680, (November 16, 2006) 3 pages
	C71	Moskvitch, Katia, "Wireless charging – the future for electric cars?", <i>BBC News Technology</i> (See www.bbc.co.uk/news/technology-14183409) (dated July 21, 2011)
	C72	O'Brien et al., "Analysis of Wireless Power Supplies for Industrial Automation Systems", <i>IEEE</i> , pp. 367-72 (November 2-6, 2003)
	C73	O'Brien et al., "Design of Large Air-Gap Transformers for Wireless Power Supplies", <i>IEEE</i> , pp. 1557-1562 (June 15-19, 2003)
	C74	Pendry, J. B., "A Chiral Route to Negative Refraction", <i>Science</i> , Vol. 306:1353-1355 (2004)
	C75	PHYSICS TODAY, "Unwired energy questions asked answered", September 2007, pp. 16-17
	C76	Powercast LLC. "White Paper" Powercast simply wire free, 2003.
	C77	PR NEWS WIRE, "The Big Story for CES 2007: The public debut of eCoupled Intelligent Wireless Power", Press Release, Fulton Innovation LLC, Las Vegas, NV, (December 27, 2006) 3 pages
	C78	PRESS RELEASE, "The world's first sheet-type wireless power transmission system: Will a socket be replaced by e-wall?", Public Relations Office, School of Engineering, University of Tokyo, Japan, December 12, 2006, 4 pages
	C79	PRESSTV, "Wireless power transfer possible", http://edition.presstv.ir/detail/12754.html , June 11, 2007, 1 page
	C80	Reidy, C. (GLOBE STAFF), "MIT discovery could unplug your iPod forever", <i>Boston.com</i> , http://www.boston.com/business/ticker/2007/06/mit_discovery_c.html , (June 7, 2007) 3 pages
	C81	Risen, C., "Wireless Energy", <i>The New York Times</i> , (December 9, 2007) 1 page
	C82	Sakamoto et al., "A Novel Circuit for Non-Contact Charging Through Electro-Magnetic Coupling", <i>IEEE</i> , pp. 168-174 (1992)
	C83	Scheible, G. et al., "Novel Wireless Power Supply System for Wireless Communication Devices in Industrial Automation Systems", <i>IEEE</i> , pp. 1358-1363, (November 5-8, 2002)

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	C84	Schneider, D. "A Critical Look at Wireless Power", <u>IEEE Spectrum</u> , pp. 35-39 (May 2010)
	C85	Schneider, David, "Electrons Unplugged. Wireless power at a distance is still far away", <u>IEEE Spectrum</u> , pp. 35-39 (May 2010)
	C86	Schuder, J. C. et al., "An Inductively Coupled RF System for the Transmission of 1 kW of Power Through the Skin", <u>IEEE Transactions on Bio-Medical Engineering</u> , Vol. BME-18, No. 4, pp. 265-273 (July 1971)
	C87	Schuder, J. C., "Powering an Artificial Heart: Birth of the Inductively Coupled-Radio Frequency System in 1960", <u>Artificial Organs</u> , Vol. 26:909-915 (2002)
	C88	Schuder, J.C. et al., "Energy Transport Into the Closed Chest From a Set of Very-Large Mutually Orthogonal Coils", <u>Communication Electronics</u> , Vol. 64:527-534 (January 1963)
	C89	Schutz, J. et al., "Load Adaptive Medium Frequency Resonant Power Supply", <u>IEEE</u> , pp. 282-287 (November 2002)
	C90	Sekitani et al. "A large-area wireless power-transmission sheet using printed organic transistors and plastic MEMS switches" www.nature.com/naturematerials . Published online April 29, 2007.
	C91	Sekitani et al., "A large-area flexible wireless power transmission sheet using printed plastic MEMS switches and organic field-effect transistors", <u>IEDM '06, International Electron Devices Meeting</u> , (December 11-13, 2006) 4 pages
	C92	Sekiya, H. et al., "FM/PWM control scheme in class DE inverter", <u>IEEE Trans. Circuits Syst. I</u> , Vol. 51(7) (July 2004)
	C93	Senge, M., "MIT's wireless electricity for mobile phones", <u>Vanguard</u> , http://www.vanguardngr.com/articles/2002/features/gsm/gsm211062007.htm , (June 11, 2007) 1 page
	C94	Sensiper, S., "Electromagnetic wave propagation on helical conductors", <u>Technical Report No. 194</u> (based on PhD Thesis), Massachusetts Institute of Technology, (May 16, 1951) 126 pages
	C95	Soljacic, M., "Wireless Non-Radiative Energy Transfer – PowerPoint presentation". Massachusetts Institute of Technology, (October 6, 2005)
	C96	Soljacic, M. et al., "Wireless Energy Transfer Can Potentially Recharge Laptops Cell Phones Without Cords", (November 14, 2006) 3 pages
	C97	Soljacic, M. et al., "Photonic-crystal slow-light enhancement of nonlinear phase sensitivity", <u>J. Opt. Soc. Am B</u> , Vol. 19, No. 9, pp. 2052-2059 (September 2002)
	C98	Soljacic, M., "Wireless nonradiative energy transfer", <u>Visions of Discovery New Light on Physics, Cosmology, and Consciousness</u> , Cambridge University Press, New York, NY pp. 530-542 (2011)
	C99	Someya, Takao. "The world's first sheet-type wireless power transmission system". University of Tokyo, (December 12, 2006)
	C100	Staelin, David H. et al., <u>Electromagnetic Waves</u> , Chapters 2, 3, 4, and 8, pp. 46-176 and 336-405 (Prentice Hall Upper Saddle River, New Jersey 1998)
	C101	Stark III, Joseph C., "Wireless Power Transmission Utilizing a Phased Array of Tesla Coils", Master Thesis, Massachusetts Institute of Technology (2004)
	C102	Stewart, W., "The Power to Set you Free", <u>Science</u> , Vol. 317:55-56 (July 6, 2007)
	C103	Tang, S.C. et al., "Evaluation of the Shielding Effects on Printed-Circuit-Board Transformers Using Ferrite Plates and Copper Sheets", <u>IEEE Transactions on Power Electronics</u> , Vol. 17:1080-1088 (November 2002)

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	C104	Tesla, Nikola, "High Frequency Oscillators for Electro-Therapeutic and Other Purposes", <u>Proceedings of the IEEE</u> , Vol. 87:1282-1292 (July 1999)
	C105	Tesla, Nikola, "High Frequency Oscillators for Electro-Therapeutic and Other Purposes", <u>The Electrical Engineer</u> , Vol. XXVI, No. 50 (November 17, 1898)
	C106	Texas Instruments, "HF Antenna Design Notes - Technical Application Report," Literature Number 11-08-26-003, 47 pages (September 2003)
	C107	Thomsen et al., "Ultrahigh speed all-optical demultiplexing based on two-photon absorption in a laser diode," <u>Electronics Letters</u> , 34(19):1871-1872 (September 17, 1998)
	C108	UPM Rafsec, "Tutorial overview of inductively coupled RFID Systems," 7 pages (May 2003)
	C109	Valtchev et al. "Efficient Resonant Inductive Coupling Energy Transfer Using New Magnetic and Design Criteria". <u>IEEE</u> , pp. 1293-1298, 2005.
	C110	Vandevoorde et al., "Wireless energy transfer for stand-alone systems: a comparison between low and high power applicability", <u>Sensors and Actuators</u> , Vol. 92:305-311 (2001)
	C111	Vilkomerson, David et al., "Implantable Doppler System for Self-Monitoring Vascular Grafts", <u>IEEE Ultrasonics Symposium</u> , pp. 461-465 (2004)
	C112	Villeneuve, Pierre R. et al., "Microcavities in photonic crystals: Mode symmetry, tunability, and coupling efficiency", <u>Physical Review B</u> , Vol. 54:7837-7842 (September 15, 1996)
	C113	Yariv, Amnon et al., "Coupled-resonator optical waveguide: a proposal and analysis", <u>Optics Letters</u> , Vol. 24(11):711-713 (June 1, 1999)
	C114	Yates, David C. et al., "Optimal Transmission Frequency for Ultralow-Power Short-Range Radio Links", <u>IEEE Transactions on Circuits and Systems - 1, Regular Papers</u> , Vol. 51:1405-1413 (July 2004)
	C115	Yoshihiro Konishi, <u>Microwave Electronic Circuit Technology</u> , Chapter 4, pp. 145-197 (Marcel Dekker, Inc., New York, NY 1998)
	C116	Ziaie, Babak et al., "A Low-Power Miniature Transmitter Using A Low-Loss Silicon Platform For Biotelemetry", <u>Proceedings - 19th International Conference IEEE/EMBS</u> , pp. 2221-2224, (October 30 - November 2, 1997) 4 pages
	C117	Zierhofer, Clemens M. et al., "High-Efficiency Coupling-Insensitive Transcutaneous Power and Data Transmission Via an Inductive Link", <u>IEEE Transactions on Biomedical Engineering</u> , Vol. 37, No. 7, pp. 716-722 (July 1990)
	C118	Copy of Chinese Office Action for Chinese Application No. 2012800496010 dated December 21, 2015 (5 pages)
	C119	Copy of EP Search Report for EP Application No. 15 19 0252 by Examiner A. Tchegho Kamdem dated January 4, 2016 (11 pages)
	C120	Copy of EPO Communication for European Application No. 12 830 255.1 dated April 28, 2015 (6 pages)
	C121	Copy of Korean Official Notice of Preliminary Rejection for Korean Application No. 10-2013-7009960 by Examiner Young-chol Kim dated November 1, 2015 (12 pages)
	C122	Copy of Supplementary European Search Report for Application No. 11831382 by Examiner Matthias Holz dated January 26, 2015 (8 pages)
	C123	Copy of Supplementary European Search Report for European Application No. EP 12 83 0255 dated April 8, 2015 (3 pages)

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Other Documents (include Author, Title, Date, and Place of Publication)		
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	C124	Frickey et al., "Conversions Between S, Z, Y, h, ABCD, and T Parameters which are Valid for Complex Source and Load Impedances", IEEE Transactions on Microwave Theory and Techniques, Vol. 42, No. 2, pp. 205-211 (February 1994)
	C125	PCT/US2013/065963, International Application No. PCT/US2013/065963, International Preliminary Report on Patentability, mailed on April 30, 2015, 11 pages
	C126	PCT/US2013/065963, International Application No. PCT/US2013/065963, International Search Report and Written Opinion, mailed on October 28, 2014, 14 pages
	C127	Copy of Korean Office Action for Korean Application No. 10-2013-7009960 dated March 7, 2016 (13 pages)

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 15/170,397		Filing Date 06/01/2016		☐ To be Mailed	
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ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (j), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))			If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	(Column 1)	(Column 2)	(Column 3)	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	06/01/2016	CLAIMS REMAINING AFTER AMENDMENT					
	Total (37 CFR 1.16(i))	* 1	Minus	** 20	= 0	X \$80 =	0
	Independent (37 CFR 1.16(h))	* 1	Minus	***3	= 0	X \$420 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						0	

AMENDMENT	(Column 1)	(Column 2)	(Column 3)	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
		CLAIMS REMAINING AFTER AMENDMENT					
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE							

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

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This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/170,397	06/01/2016	Simon Verghese	25236-0036002

CONFIRMATION NO. 1258

26207
FISH & RICHARDSON P.C. (WITRICITY)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

INFORMAL NOTICE



Date Mailed: 06/16/2016

INFORMATIONAL NOTICE TO APPLICANT

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
Simon Verghese
Morris P. Kesler
Katherine L. Hall
Herbert T. Lou

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/mbeyene/

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 15/170,397			
APPLICATION AS FILED - PART I									
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY			
FOR	NUMBER FILED	NUMBER EXTRA		RATE(\$)	FEE(\$)		RATE(\$)		
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A			N/A		
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A			N/A		
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A			N/A		
TOTAL CLAIMS (37 CFR 1.16(i))	1	minus 20 =	*				x 80 =		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1	minus 3 =	*				x 420 =		
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00		
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00		
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL			TOTAL 1600		
APPLICATION AS AMENDED - PART II									
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY	
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=		x
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=		x
	Application Size Fee (37 CFR 1.16(s))								
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE			TOTAL ADD'L FEE
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=		x
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=		x
	Application Size Fee (37 CFR 1.16(s))								
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE			TOTAL ADD'L FEE
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.									



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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
15/170,397	06/01/2016	2858	1740	25236-0036002	1	1

CONFIRMATION NO. 1258

FILING RECEIPT



000000083863218

26207
FISH & RICHARDSON P.C. (WITRICITY)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

Date Mailed: 06/16/2016

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Simon Verghese, Arlington, MA;
Morris P. Kesler, Bedford, MA;
Katherine L. Hall, Arlington, MA;
Herbert T. Lou, Carlisle, MA;

Applicant(s)

WiTricity Corporation, Watertown, MA;

Power of Attorney: The patent practitioners associated with Customer Number 26207

Domestic Priority data as claimed by applicant

This application is a CON of 13/608,956 09/10/2012
which claims benefit of 61/532,785 09/09/2011

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 06/14/2016

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/170,397**

Projected Publication Date: 09/22/2016

Non-Publication Request: No

Early Publication Request: No
Title

FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS

Preliminary Class

324

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

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Substitute Disclosure Form U.S. Department of Commerce Patent and Trademark Office Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	Attorney Docket No. 25236-0036002	Application No. 15/170,397
	Applicant WiTricity Corporation	
	Filing Date June 1, 2016	Group Art Unit 2858

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1.						

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	2.							

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	3.	Copy of Australian Patent Examination Report No. 1 by Examiner N. Ahmed Surobhi for Australian Patent Application No. 2012305688, dated May 11, 2016 (3 pages).

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

Electronic Acknowledgement Receipt

EFS ID:	26480338
Application Number:	15170397
International Application Number:	
Confirmation Number:	1258
Title of Invention:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS
First Named Inventor/Applicant Name:	Simon Verghese
Customer Number:	26207
Filer:	Peter Poulin/Cheryl Forrest
Filer Authorized By:	Peter Poulin
Attorney Docket Number:	25236-0036002
Receipt Date:	28-JUL-2016
Filing Date:	01-JUN-2016
Time Stamp:	12:17:51
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		IDS.pdf	136085	yes	2
			c16c93970f387132276efd6dfe5e8250e56c53df		

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Transmittal Letter	1	1
	Information Disclosure Statement (IDS) Form (SB08)	2	2

Warnings:

Information:

2	Non Patent Literature	NPL.PDF	293766	no	3
			fc7614f538faee5c7b461633d9ff7003f63bf83a		

Warnings:

Information:

Total Files Size (in bytes):	429851
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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor :	Simon Verghese	Art Unit :	2858
Serial No. :	15/170,397	Examiner :	Unknown
Filed :	June 1, 2016	Conf. No. :	1258
Title :	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

MAIL STOP AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Please consider the references listed on the enclosed PTO-1449 Form. Copies of foreign patent documents and non-patent literature are enclosed; copies of cited U.S. patents and patent application publications will be provided upon request. A copy of a communication from a foreign patent office in a counterpart application is enclosed.

This statement is being filed within three months of the filing date of the application or before the receipt of a first action on the merits. Please apply any necessary charges or credits to deposit account 06-1050, referencing the above Attorney Docket Number 25236-0036002.

Please contact the undersigned if there are any questions regarding this Statement.

Respectfully submitted,

Date: July 28, 2016

/Peter R. Poulin Reg. No. 74,643/
Peter R. Poulin
Reg. No. 74,643

Customer Number 26207
Fish & Richardson P.C.
Telephone: 6175425070
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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/170,397	06/01/2016	Simon Verghese	25236-0036002

CONFIRMATION NO. 1258

PUBLICATION NOTICE



OC000000085980324

26207
FISH & RICHARDSON P.C. (WITRICITY)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

Title: FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS

Publication No. US-2016-0276875-A1

Publication Date: 09/22/2016

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Electronic Acknowledgement Receipt

EFS ID:	27156060
Application Number:	15170397
International Application Number:	
Confirmation Number:	1258
Title of Invention:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS
First Named Inventor/Applicant Name:	Simon Verghese
Customer Number:	26207
Filer:	Peter Poulin/Cheryl Forrest
Filer Authorized By:	Peter Poulin
Attorney Docket Number:	25236-0036002
Receipt Date:	07-OCT-2016
Filing Date:	01-JUN-2016
Time Stamp:	15:13:45
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		IDS.pdf	149363	yes	2
			be94ac5fae90dedfcf1bec478f474bb609c463f7		

Multipart Description/PDF files in .zip description					
Document Description			Start	End	
Transmittal Letter			1	1	
Information Disclosure Statement (IDS) Form (SB08)			2	2	
Warnings:					
Information:					
2	Foreign Reference	FA2.pdf	382418	no	7
			7c9e1ac4211c368dfcb4a47bb5e02c86286356ed		
Warnings:					
Information:					
3	Foreign Reference	FA3.pdf	843199	no	19
			9cec32af6d13f80b4038e11eeb75360d382d343		
Warnings:					
Information:					
4	Non Patent Literature	NPL.pdf	622562	no	12
			198f3eda88eb3f502fb445117e9c57ab7379b260		
Warnings:					
Information:					
Total Files Size (in bytes):			1997542		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. New Applications Under 35 U.S.C. 111 If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. National Stage of an International Application under 35 U.S.C. 371 If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. New International Application Filed with the USPTO as a Receiving Office If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor :	Simon Verghese	Art Unit :	2858
Serial No. :	15/170,397	Examiner :	Unknown
Filed :	June 1, 2016	Conf. No. :	1258
Title :	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

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This statement is being filed within three months of the filing date of the application or before the receipt of a first action on the merits. No fees are believed to be due. Please apply any necessary charges or credits to deposit account 06-1050, referencing the above attorney docket number.

Please contact the undersigned if there are any questions regarding this statement.

Respectfully submitted,

Date: October 7, 2016

/Peter R. Poulin Reg. No. 74,643/

Peter Poulin
Reg. No. 74,643

Customer Number 26207
Fish & Richardson P.C.
Telephone: 6175425070
Facsimile: (877) 769-7945

23565614.doc

Substitute Disclosure Form U.S. Department of Commerce Patent and Trademark Office Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	Attorney Docket No. 25236-0036002	Application No. 15/170,397
	Applicant WiTricity Corporation	
	Filing Date June 1, 2016	Group Art Unit 2858

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1.	2013/0169062	7/4/2013	Maikawa, et al.			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	2.	JPH 10-327539	12/8/1998	Japan	H02J	7/00	English Abstract Only	
	3.	JP 2012-249401	12/13/2012	Japan	H02J	17/00	See US 2013/0169062	

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	4.	Copy of Office Action for Japanese Patent Application No. 2014-529952 by Examiner K. Nagai dated September 6, 2016 (12 pages)

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

Electronic Acknowledgement Receipt

EFS ID:	27231690
Application Number:	15170397
International Application Number:	
Confirmation Number:	1258
Title of Invention:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS
First Named Inventor/Applicant Name:	Simon Verghese
Customer Number:	26207
Filer:	Peter Poulin/Cheryl Forrest
Filer Authorized By:	Peter Poulin
Attorney Docket Number:	25236-0036002
Receipt Date:	17-OCT-2016
Filing Date:	01-JUN-2016
Time Stamp:	13:47:35
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		IDS.pdf	147295	yes	2
			185a399cf0fb9279d870c88f3cff4ae7f4895cdc		

Multipart Description/PDF files in .zip description					
Document Description			Start	End	
Transmittal Letter			1	1	
Information Disclosure Statement (IDS) Form (SB08)			2	2	
Warnings:					
Information:					
2	Foreign Reference	FA.pdf	598970	no	43
			1d04a189ff760573af57039d613b2eb960f538		
Warnings:					
Information:					
3	Other Reference-Patent/App/Search documents	NPL.pdf	121288	no	4
			71b76f622c9a99bbc8de525bd26aa892dd1ff9e8		
Warnings:					
Information:					
Total Files Size (in bytes):			867553		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

Substitute Disclosure Form Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 25236-0036002	Application No. 15/170,397
		Applicant WiTricity Corporation	
		Filing Date June 1, 2016	Group Art Unit 2858

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1.						

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	2.	EP 2 482 294	8/1/2012	EPO	H01F	38/14		

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	3.	Copy of Second Office Action from the Chinese Patent Office for Chinese Application No. 201280049601.0 by Patent Examiner Zhang Wei dated September 18, 2016 (4 pages)

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor :	Simon Verghese	Art Unit :	2858
Serial No. :	15/170,397	Examiner :	Unknown
Filed :	June 1, 2016	Conf. No. :	1258
Title :	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

MAIL STOP AMENDMENT

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P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Please consider the references listed on the enclosed PTO-1449 Form. Foreign patent documents and non-patent literature are enclosed; cited U.S. patents and patent application publications will be provided on request. A copy of a communication from a foreign patent office in a counterpart application is also enclosed.

This statement is being filed within three months of the filing date of the application or before the receipt of a first action on the merits.

Please apply any necessary charges or credits to deposit account 06-1050, referencing the above attorney docket number.

Please contact the undersigned if there are any questions regarding this statement.

Respectfully submitted,

Date: October 17, 2016

/Peter R. Poulin Reg. No. 74,643/

Peter Poulin
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Fish & Richardson P.C.
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23577532.doc

Electronic Acknowledgement Receipt

EFS ID:	28203037
Application Number:	15170397
International Application Number:	
Confirmation Number:	1258
Title of Invention:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS
First Named Inventor/Applicant Name:	Simon Verghese
Customer Number:	26207
Filer:	Peter Poulin/Cheryl Forrest
Filer Authorized By:	Peter Poulin
Attorney Docket Number:	25236-0036002
Receipt Date:	30-JAN-2017
Filing Date:	01-JUN-2016
Time Stamp:	13:36:29
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		IDS.pdf	145088	yes	2
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Multipart Description/PDF files in .zip description			
Document Description		Start	End
Transmittal Letter		1	1
Information Disclosure Statement (IDS) Form (SB08)		2	2

Warnings:

Information:

Total Files Size (in bytes):	145088
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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Substitute Disclosure Form Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 25236-0036002	Application No. 15/170,397
		Applicant WiTricity Corporation	
		Filing Date June 1, 2016	Group Art Unit 2858

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1.	2010/0253153	10/7/2010	Kondo et al.			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	2.							

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	3.	

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor :	Simon Verghese	Art Unit :	2858
Serial No. :	15/170,397	Examiner :	Unknown
Filed :	June 1, 2016	Conf. No. :	1258
Title :	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

MAIL STOP AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Please consider the references listed on the enclosed PTO-1449 Form. Foreign patent documents and non-patent literature are enclosed; cited U.S. patents and patent application publications will be provided on request.

This statement is being filed within three months of the filing date of the application or before the receipt of a first action on the merits.

Apply any necessary charges or credits to deposit account 06-1050, referencing the above attorney docket number.

Please contact the undersigned if there are any questions regarding this statement.

Respectfully submitted,

Date: January 30, 2017

/Peter R. Poulin Reg. No. 74,643/

Peter Poulin
Reg. No. 74,643

Customer Number 26207
Fish & Richardson P.C.
Telephone: (617) 542-5070
Facsimile: (877) 769-7945

23583712.doc

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-19. (Canceled)

20. (New) A wireless energy transfer system with foreign object debris detection, the system comprising:

a wireless energy transfer source comprising a source resonator configured to generate an oscillating magnetic field; and

a foreign object debris detection system comprising:

at least one magnetic field sensor; and

at least one readout circuit configured to measure one or more electrical parameters of at the at least one magnetic field sensor,

wherein the at least one magnetic field sensor is positioned within the magnetic field of the wireless energy transfer system; and

wherein the foreign object debris detection system is configured to verify that foreign object debris has not moved onto or over the source resonator during generation of the oscillating magnetic field.

21. (New) The system of claim 20, wherein the at least one wireless energy transfer source is configured to generate the oscillating magnetic field to transfer energy to a vehicle.

22. (New) The system of claim 21, wherein the foreign object debris detection system is configured to verify that foreign object debris has not moved onto or over the source resonator prior to a transfer of energy from the source resonator to the vehicle.

23. (New) The system of claim 20, wherein the foreign object debris detection system is configured to verify that foreign object debris has not moved onto or over the source resonator prior to generation of the oscillating magnetic field.

24. (New) The system of claim 21, wherein the foreign object debris detection system is configured to verify that foreign object debris has not moved onto or over the source resonator after the vehicle is positioned over the source resonator and prior to a transfer of energy from the source resonator to the vehicle.

25. (New) The system of claim 22, wherein the foreign object debris detection system is configured to perform a health and/or status check of the wireless energy transfer source before the vehicle is positioned over the source resonator.

26. (New) The system of claim 25, wherein the foreign object debris detection system is configured to perform the health and/or status check less frequently than the verification that foreign object debris has not moved onto or over the source resonator prior to a transfer of energy from the source resonator to the vehicle.

27. (New) The system of claim 25, wherein the foreign object debris detection system is configured to periodically perform the health and/or status check and the verification that foreign object debris has not moved onto or over the source resonator prior to a transfer of energy from the source resonator to the vehicle.

28. (New) The system of claim 20, wherein the wireless energy transfer source is a component of a vehicle charging station.

29. (New) The system of claim 28, further comprising a device module configured to be mounted on an electric vehicle.

30. (New) The system of claim 20, wherein the foreign object debris detection system is integrated into the wireless energy transfer source.

31. (New) The system of claim 20, further comprising an enclosure housing at least a portion of the wireless energy transfer source, wherein the foreign object debris detection system is integrated into the enclosure.

32. (New) The system of claim 20, wherein the wireless energy transfer transfer source is configured to deliver a power of more 3.3 kW to a wireless power receiving device.

33. (New) The system of claim 20, wherein:

the at least one magnetic field sensor comprises a first conductive loop and a second conductive loop having a maximum dimension larger than a maximum dimension of the first conductive loop;

the first conductive loop is positioned in a first spatial region and the second conductive loop is positioned in a second spatial region different from the first spatial region; and

an amplitude of the oscillating magnetic field in the first spatial region is larger than an amplitude of the oscillating magnetic field in the second spatial region.

34. (New) The system of claim 20, wherein:

the at least one magnetic field sensor comprises a first conductive loop and a second conductive loop having a maximum dimension larger than a maximum dimension of the first conductive loop;

the first conductive loop is positioned in a first spatial region and the second conductive loop is positioned in a second spatial region different from the first spatial region; and

a spatial variation of the oscillating magnetic field in the first spatial region is larger than a spatial variation of the oscillating magnetic field in the second spatial region.

35. (New) A method of detecting foreign object debris in a wireless energy transfer system, the method comprising:

generating an oscillating magnetic field using a source resonator to transfer energy wirelessly to a vehicle to charge a battery of the vehicle; and

verifying that no foreign object debris has moved onto or over the source resonator during the transfer of energy.

36. (New) The method of claim 35, further comprising, prior to generating the oscillating magnetic field:

positioning the vehicle over the source resonator; and

verifying that no foreign object debris has moved onto or over the source resonator.

37. (New) The method of claim 36, further comprising, prior to positioning the vehicle over the source resonator:

performing a health and/or status check of the wireless energy transfer source; and

verifying that no foreign object debris has moved onto or over the source resonator.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor	:	Simon Verghese	Art Unit	:	Unknown
Serial No.	:	15/170,397	Examiner	:	Unknown
Filed	:	June 1, 2016	Conf. No.	:	1258
Title	:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS			

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Prior to examination, please amend the application as indicated on the following pages.

First Named Inventor : Simon Verghese
Serial No. : 15/170,397
Filed : June 1, 2016
Page : 6 of 6

Attorney's Docket No.: 25236-0036002 / WTCY-
0064-P04

REMARKS

Claim 1 has been canceled, and new claims 20-37 have been added. Accordingly, claims 20-37 are pending, with claims 20 and 35 in independent form. Applicant asks that the application be examined in view of the amendments presented herein.

No fees are believed to be due at this time. Please apply any necessary charges or credits to Deposit Account 06-1050, referencing the above Attorney Docket Number 25236-0036002.

Respectfully submitted,

Date: January 31, 2017

/Peter R. Poulin Reg. No. 74,643/
Peter R. Poulin
Reg. No. 74,643

Customer Number 26207
Fish & Richardson P.C.
Telephone: (617) 542-5070
Facsimile: (877) 769-7945

23499444.doc

Electronic Acknowledgement Receipt

EFS ID:	28219394
Application Number:	15170397
International Application Number:	
Confirmation Number:	1258
Title of Invention:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS
First Named Inventor/Applicant Name:	Simon Verghese
Customer Number:	26207
Filer:	Peter Poulin/Cheryl Forrest
Filer Authorized By:	Peter Poulin
Attorney Docket Number:	25236-0036002
Receipt Date:	31-JAN-2017
Filing Date:	01-JUN-2016
Time Stamp:	14:55:04
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		PreliminaryAmendment.pdf	66124	yes	6
			ee501e9a01a144b5785c520fc8b36eed09326686		

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Preliminary Amendment	1	1
	Claims	2	5
	Applicant Arguments/Remarks Made in an Amendment	6	6
Warnings:			
Information:			
Total Files Size (in bytes):		66124	
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 15/170,397		Filing Date 06/01/2016		☐ To be Mailed				
ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO													
APPLICATION AS FILED – PART I													
(Column 1)			(Column 2)										
FOR		NUMBER FILED		NUMBER EXTRA		RATE (\$)		FEE (\$)					
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A		N/A		N/A							
☐ SEARCH FEE (37 CFR 1.16(k), (j), or (m))		N/A		N/A		N/A							
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A		N/A		N/A							
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 =		*		X \$ =							
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =		*		X \$ =							
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).											
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))													
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL							
APPLICATION AS AMENDED – PART II													
(Column 1)			(Column 2)			(Column 3)							
AMENDMENT	01/31/2017		CLAIMS REMAINING AFTER AMENDMENT			HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))		* 18		Minus	** 20		= 0		X \$80 =		0	
	Independent (37 CFR 1.16(h))		* 2		Minus	***3		= 0		X \$420 =		0	
	☐ Application Size Fee (37 CFR 1.16(s))												
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))												
										TOTAL ADD'L FEE		0	
(Column 1)			(Column 2)			(Column 3)							
AMENDMENT			CLAIMS REMAINING AFTER AMENDMENT			HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))		*		Minus	**		=		X \$ =			
	Independent (37 CFR 1.16(h))		*		Minus	***		=		X \$ =			
	☐ Application Size Fee (37 CFR 1.16(s))												
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))												
										TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.											LDRC ADRIANE WINSTON		

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Electronic Acknowledgement Receipt

EFS ID:	28297132
Application Number:	15170397
International Application Number:	
Confirmation Number:	1258
Title of Invention:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS
First Named Inventor/Applicant Name:	Simon Verghese
Customer Number:	26207
Filer:	Peter Poulin/Cheryl Forrest
Filer Authorized By:	Peter Poulin
Attorney Docket Number:	25236-0036002
Receipt Date:	08-FEB-2017
Filing Date:	01-JUN-2016
Time Stamp:	12:06:54
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Oath or Declaration filed	ExecutedDeclaration.pdf	788615	no	4
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Information:	
Total Files Size (in bytes):	788615
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**DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN
APPLICATION DATA SHEET (37 CFR 1.76)**

Title of Invention	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS
-------------------------------	---

As the below named inventor, I hereby declare that:

This declaration [] The attached application, or
is directed to:
[X] United States application or PCT international application
number 15/170,397
filed on June 1, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Simon Verghese Date (Optional): 2/2/17

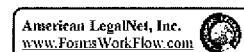
Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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23530348.doc



Title of Invention	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		
As the below named inventor, I hereby declare that:			
This declaration [] is directed to:	The attached application, or [X] United States application or PCT international application number		
	filed on June 1, 2016.	15/170,397	
The above-identified application was made or authorized to be made by me.			
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.			
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.			
WARNING:			
Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.			
LEGAL NAME OF INVENTOR			
Inventor:	Morris P. Kesler	Date (Optional):	11/10/16
Signature:			
Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.			

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of
Invention

FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS

As the below named inventor, I hereby declare that:

This declaration [] The attached application, or
is directed to:[X] United States application or PCT international application
number

15/170,397

filed on June 1, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001
by fine or imprisonment of not more than five (5) years, or both.

WARNING:

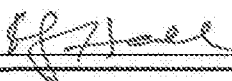
Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Katherine L. Hall

Date (Optional):

Signature:



Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-8199 and select option 2.

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**DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN
APPLICATION DATA SHEET (37 CFR 1.76)**

Title of Invention	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS
-------------------------------	---

As the below named inventor, I hereby declare that:

This declaration [] The attached application, or
is directed to: [X] United States application or PCT international application
number 15/170,397
filed on June 1, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

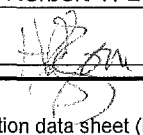
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Herbert T. Lou Date (Optional): 11/11/16

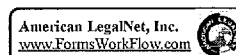
Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

23530348.doc



Substitute Disclosure Form Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 25236-0036002	Application No. 15/170,397
		Applicant WiTricity Corporation	
		Filing Date June 1, 2016	Group Art Unit 2858

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1.						

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	2.							

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	3.	Copy of Japanese Office Action for Japanese Application No. 2014-529952 by Examiner Keiji Nagai dated March 21, 2017 (5 pages)

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor :	Simon Verghese	Art Unit :	2858
Serial No. :	15/170,397	Examiner :	Unknown
Filed :	June 1, 2016	Conf. No. :	1258
Title :	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

MAIL STOP AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Please consider the references listed on the enclosed PTO-1449 Form. Foreign patent documents and non-patent literature are enclosed; cited U.S. patents and patent application publications will be provided on request. A copy of a communication from a foreign patent office in a counterpart application is also enclosed.

This statement is being filed within three months of the filing date of the application or before the receipt of a first action on the merits.

Apply any necessary charges or credits to deposit account 06-1050, referencing the above attorney docket number.

Please contact the undersigned if there are any questions regarding this statement.

Respectfully submitted,

Date: April 25, 2017

/Peter R. Poulin Reg. No. 74,643/

Peter Poulin
Reg. No. 74,643

Customer Number 26207
Fish & Richardson P.C.
Telephone: (617) 542-5070
Facsimile: (877) 769-7945

23634337.doc

Electronic Acknowledgement Receipt

EFS ID:	29023335
Application Number:	15170397
International Application Number:	
Confirmation Number:	1258
Title of Invention:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS
First Named Inventor/Applicant Name:	Simon Verghese
Customer Number:	26207
Filer:	Peter Poulin/Cheryl Forrest
Filer Authorized By:	Peter Poulin
Attorney Docket Number:	25236-0036002
Receipt Date:	25-APR-2017
Filing Date:	01-JUN-2016
Time Stamp:	15:43:07
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		IDS.pdf	147986	yes	2
			42887bf0934e046d9e01948b7c90912e7357213d		

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Transmittal Letter	1	1
	Information Disclosure Statement (IDS) Form (SB08)	2	2

Warnings:

Information:

2	Other Reference-Patent/App/Search documents	OTHER.pdf	354592	no	5
			3662e2ef2df21072655da2ac82a3492a731a8c0c		

Warnings:

Information:

Total Files Size (in bytes):	502578
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Electronic Acknowledgement Receipt

EFS ID:	31254855
Application Number:	15170397
International Application Number:	
Confirmation Number:	1258
Title of Invention:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS
First Named Inventor/Applicant Name:	Simon Verghese
Customer Number:	26207
Filer:	Peter Poulin/Cheryl Forrest
Filer Authorized By:	Peter Poulin
Attorney Docket Number:	25236-0036002
Receipt Date:	18-DEC-2017
Filing Date:	01-JUN-2016
Time Stamp:	13:02:42
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		IDS.pdf	149471	yes	2
			424d54a1d32ac84b8b6713176bfe2e64a52e9c86		

	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Transmittal Letter		1	1	
	Information Disclosure Statement (IDS) Form (SB08)		2	2	
Warnings:					
Information:					
2	Foreign Reference	FA2.pdf	10401223	no	19
			d3edb41b6f69f4e6e64bdd61904f8c097500682e		
Warnings:					
Information:					
3	Foreign Reference	FA3.pdf	6243126	no	14
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Warnings:					
Information:					
4	Other Reference-Patent/App/Search documents	OTHER4.pdf	1438395	no	5
			2c904e70096bb0ced1dd6bb1d48127e6dcad131		
Warnings:					
Information:					
5	Other Reference-Patent/App/Search documents	OTHER5.pdf	2752878	no	7
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Warnings:					
Information:					
Total Files Size (in bytes):			20985093		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor :	Simon Verghese	Art Unit :	2858
Serial No. :	15/170,397	Examiner :	Unknown
Filed :	June 1, 2016	Conf. No. :	1258
Title :	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

MAIL STOP AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Please consider the references listed on the enclosed PTO-1449 Form. Foreign patent documents and non-patent literature are enclosed; cited U.S. patents and patent application publications will be provided on request. A copy of a communication from a foreign patent office in a counterpart application is also enclosed.

This statement is being filed within three months of the filing date of the application or before the receipt of a first action on the merits.

Please apply any necessary charges or credits to deposit account 06-1050, referencing the above attorney docket number. Kindly contact the undersigned if there are any questions regarding this statement.

Respectfully submitted,

Date: December 18, 2017

/Peter R. Poulin Reg. No. 74,643/

Peter Poulin
Reg. No. 74,643

Customer Number 26207
Fish & Richardson P.C.
Telephone: (617) 956-5901
Facsimile: (877) 769-7945

23700733.doc

Substitute Disclosure Form Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 25236-0036002	Application No. 15/170,397
		Applicant WiTricity Corporation	
		Filing Date June 1, 2016	Group Art Unit 2858

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1.	2012/0235637	9/20/2012	Tanabe			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	2.	JP 2009-219177	9/24/2009	JP	H02J	7/00	See US 2012/0235637	
	3.	KR 2003-0092970	12/6/2003	KR	G01N	27/82	English Abstract Only	

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	4.	Copy of Canadian Office Action for Canadian Application No. 2,848,040 by Examiner Rajiv Agarwal dated October 4, 2017 (5 pages)
	5.	Copy of South Korean Office Action for South Korean Application No. 10-2014-7009317 dated December 7, 2017 (10 pages including English Translation)

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

Sheet 1 of 1

Substitute Disclosure Form Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 25236-0036002	Application No. 15/170,397
		Applicant WiTricity Corporation	
		Filing Date June 1, 2016	Group Art Unit 2858

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1.						

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	2.							

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	3.	Copy of Japanese Office Action for Japanese Application No. 2014-529952 by Examiner Keiji Nagai dated March 21, 2017 (5 pages)

Examiner Signature /HAL KAPLAN/	Date Considered 12/20/2017
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /HK/

Sheet 1 of 1

Substitute Disclosure Form Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 25236-0036002	Application No. 15/170,397
		Applicant WiTricity Corporation	
		Filing Date June 1, 2016	Group Art Unit 2858

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1.	2012/0235637	9/20/2012	Tanabe			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	2.	JP 2009-219177	9/24/2009	JP	H02J	7/00	See US 2012/0235637	
	3.	KR 2003-0092970	12/6/2003	KR	G01N	27/82	English Abstract Only	

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
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Examiner Signature /HAL KAPLAN/	Date Considered 12/20/2017
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /HK/

Sheet 1 of 1

Substitute Disclosure Form Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 25236-0036002	Application No. 15/170,397
		Applicant WiTricity Corporation	
		Filing Date June 1, 2016	Group Art Unit 2858

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1.						

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	2.							

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	3.	Copy of Australian Patent Examination Report No. 1 by Examiner N. Ahmed Surobhi for Australian Patent Application No. 2012305688, dated May 11, 2016 (3 pages).

Examiner Signature /HAL KAPLAN/	Date Considered 12/20/2017
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /HK/



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P. O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/170,397	06/01/2016	Simon Verghese	25236-0036002	1258
26207 7590 01/02/2018 FISH & RICHARDSON P.C. (WITRICITY) P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER KAPLAN, HAL IRA	
			ART UNIT 2836	PAPER NUMBER
			NOTIFICATION DATE 01/02/2018	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com
docketing@witricity.com

Office Action Summary	Application No. 15/170,397	Applicant(s) VERGHESE ET AL.	
	Examiner HAL KAPLAN	Art Unit 2836	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on June 1, 2016 and January 31, 2017.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 20-37 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☒ Claim(s) 20,22-31,33 and 34 is/are allowed.
- 7) ☒ Claim(s) 35 and 36 is/are rejected.
- 8) ☒ Claim(s) 21 and 32 is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 6/1/16 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☐ Notice of References Cited (PTO-892) | 3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 4) ☐ Other: ____. |

Continuation of Attachment(s) 2). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :12/18/17,4/25/17,1/30/17,10/17/16,10/7/16,7/28/16,6/1/16.

DETAILED ACTION

1. The present application is being examined under the pre-AIA first to invent provisions.

Drawings

2. The drawings were received on June 1, 2016. These drawings are acceptable.

Information Disclosure Statement

3. The information disclosure statement filed June 1, 2016 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the references for which copies have not been provided have not been considered.
4. It is noted that the Applicants have cited over 900 references, and have not pointed out that any reference(s) is/are more relevant than any others. The Examiner has considered the references, except the references that have been lined through, as stated in MPEP §609.

Claim Objections

5. Claims 21 and 32 are objected to because of the following informalities: Claim 21, line 1, "the at least one wireless energy transfer source" lacks proper antecedent basis because claim 20 only recites a wireless energy transfer source, not at least one. Claim 32, line 1, "transfer transfer" should be "transfer". Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of 35 U.S.C. 112(b):
(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 37 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.
8. Claim 37 recites the limitation "the wireless energy transfer source" in line 1. There is insufficient antecedent basis for this limitation in the claim. It is unclear whether the health and/or status check is performed on the energy source or on the wireless energy transfer system as a whole. For examination purposes, it has been assumed that the health and/or status check is performed on the energy source.

Claim Rejections - 35 USC § 102

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claim(s) 35-36 is/are rejected under pre-AIA 35 U.S.C. 102(a) as being anticipated by the US patent application publication of Hall et al. (2011/0074346).

As to claim 35, Hall discloses a method of detecting foreign object debris in a wireless energy transfer system, the method comprising: generating an oscillating magnetic field using a source resonator (101) to transfer energy wirelessly to a vehicle

(102) to charge a battery of the vehicle (see paragraph [0024] and Figure 1); and verifying that no foreign object debris (110) has moved onto or over the source resonator (101) during the transfer of energy (see paragraphs [0025]-[0027] and Figure 1; if the foreign object debris is detected in certain instances, then it is inherent that it is not detected in other instances).

As to claim 36, the method further comprises, prior to generating the oscillating magnetic field: positioning the vehicle (102) over the source resonator (101) (see paragraph [0024] and Figure 1); and verifying that no foreign object debris (110) has moved onto or over the source resonator (101) (see paragraphs [0025]-[0027] and Figure 1; if the foreign object debris is detected in certain instances, then it is inherent that it is not detected in other instances).

Allowable Subject Matter

10. Claims 20, 22-31, and 33-34 allowed.
11. Claims 21 and 32 are objected to because of informalities, but would be allowable if rewritten with the informalities corrected.
12. Claim 37 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), 2nd paragraph, set forth in this Office action.
13. The following is an examiner's statement of reasons for allowance:

Claims 20, 22-31, and 33-34 are allowed, and claims 21 and 32 contain allowable subject matter, because none of the prior art of record discloses or suggests a foreign object debris detection system comprising: at least one magnetic field sensor;

and at least one readout circuit configured to measure one or more electrical parameters of the at least one magnetic field sensor, wherein the at least one magnetic field sensor is positioned within the magnetic field of the wireless energy transfer system, in combination with the remaining claimed features.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

14. The following is a statement of reasons for the indication of allowable subject matter:

Claim 37 contains allowable subject matter because none of the prior art of record discloses or suggests prior to positioning the vehicle over the source resonator: performing a health and/or status check of the wireless energy transfer source; and verifying that no foreign object debris has moved onto or over the source resonator, in combination with the remaining claimed features.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAL KAPLAN whose telephone number is (571)272-8587. The examiner can normally be reached on M-F 9:30-5:30.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an

interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford N. Barnie can be reached on 571-272-7492. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HAL KAPLAN/
Primary Examiner, Art Unit 2836

Sheet 1 of 39

Substitute Disclosure Form U.S. Department of Commerce Patent and Trademark Office Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	Attorney Docket No. 25236-0036002	Application No. ~~Unknown~~ 15/170,397
	Applicant WiTricity Corporation	
	Filing Date Herewith	Group Art Unit

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A1	645,576	3/20/1900	Tesla			
	A2	649,621	5/15/1900	Tesla			
	A3	787,412	4/18/1905	Tesla			
	A4	1,119,732	12/1/1914	Tesla			
	A5	2,133,494	10/18/1938	Waters			
	A6	3,517,350	6/23/1970	Beaver			
	A7	3,535,543	10/20/1970	Dailey			
	A8	3,780,425	12/25/1973	Penn et al.			
	A9	3,871,176	3/18/1975	Schukei			
	A10	4,088,999	5/9/1978	Fletcher et al.			
	A11	4,095,998	6/20/1978	Hanson			
	A12	4,180,795	12/25/1979	Matsuda et al.			
	A13	4,280,129	7/21/1981	Wells			
	A14	4,450,431	5/22/1984	Hochstein			
	A15	4,588,978	5/13/1986	Allen			
	A16	4,843,259	6/27/1989	Weisshaupt			
	A17	5,027,709	7/2/1991	Slagle			
	A18	5,033,295	7/23/1991	Schmid et al.			
	A19	5,034,658	7/23/1991	Hiering et al.			
	A20	5,053,774	10/1/1991	Schuermann et al.			
	A21	5,070,293	12/3/1991	Ishii et al.			
	A22	5,118,997	6/2/1992	El-Hamamsy			
	A23	5,216,402	6/1/1993	Carosa			
	A24	5,229,652	7/20/1993	Hough			
	A25	5,287,112	2/15/1994	Schuermann			
	A26	5,341,083	8/23/1994	Klontz et al.			
	A27	5,367,242	11/22/1994	Hulman			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A28	5,374,930	12/20/1994	Schuermann			
	A29	5,408,209	4/18/1995	Tanzer et al.			
	A30	5,437,057	7/25/1995	Richley et al.			
	A31	5,455,467	10/3/1995	Young et al.			
	A32	5,493,691	2/20/1996	Barrett			
	A33	5,522,856	6/4/1996	Reineman			
	A34	5,528,113	6/18/1996	Boys et al.			
	A35	5,541,604	7/30/1996	Meier			
	A36	5,550,452	8/27/1996	Shirai et al.			
	A37	5,565,763	10/15/1996	Arrendale et al.			
	A38	5,630,835	5/20/1997	Brownlee			
	A39	5,697,956	12/16/1997	Bornzin			
	A40	5,703,461	12/30/1997	Minoshima et al.			
	A41	5,703,573	12/30/1997	Fujimoto et al.			
	A42	5,710,413	1/20/1998	King et al.			
	A43	5,742,471	4/21/1998	Barbee Jr. et al.			
	A44	5,821,728	10/13/1998	Sshwind			
	A45	5,821,731	10/13/1998	Kuki et al.			
	A46	5,864,323	1/26/1999	Berthon			
	A47	5,898,579	4/27/1999	Boys et al.			
	A48	5,903,134	5/11/1999	Takeuchi			
	A49	5,923,544	7/13/1999	Urano			
	A50	5,940,509	8/17/1999	Jovanovich et al.			
	A51	5,957,956	9/28/1999	Kroll et al.			
	A52	5,959,245	9/28/1999	Moe et al.			
	A53	5,986,895	11/16/1999	Stewart et al.			
	A54	5,993,996	11/30/1999	Firsich			

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Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A55	5,999,308	12/7/1999	Nelson et al.			
	A56	6,012,659	1/11/2000	Nakazawa, Yuji et al.			
	A57	6,047,214	4/4/2000	Mueller et al.			
	A58	6,066,163	5/23/2000	John			
	A59	6,067,473	5/23/2000	Greeninger et al.			
	A60	6,108,579	8/22/2000	Snell et al.			
	A61	6,127,799	10/3/2000	Krishnan			
	A62	6,176,433	1/23/2001	Uesaka et al.			
	A63	6,184,651	2/6/2001	Fernandez et al.			
	A64	6,207,887	3/27/2001	Bass et al.			
	A65	6,232,841	5/15/2001	Bartlett, et al.			
	A66	6,238,387	5/29/2001	Miller, III			
	A67	6,252,762	6/26/2001	Amatucci			
	A68	6,436,299	8/20/2002	Baerman et al.			
	A69	6,450,946	9/17/2002	Forsell			
	A70	6,452,465	9/17/2002	Brown et al.			
	A71	6,459,218	10/1/2002	Boys et al.			
	A72	6,473,028	10/29/2002	Luc			
	A73	6,483,202	11/19/2002	Boys			
	A74	6,515,878	2/4/2003	Meins et al.			
	A75	6,535,133	3/18/2003	Gohara			
	A76	6,561,975	5/13/2003	Pool et al.			
	A77	6,563,425	5/13/2003	Nicholson et al.			
	A78	6,597,076	7/22/2003	Scheible et al.			
	A79	6,609,023	8/19/2003	Fischell et al.			
	A80	6,631,072	10/7/2003	Paul et al.			
	A81	6,650,227	11/18/2003	Bradin			

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	A82	6,664,770	12/16/2003	Bartels			
	A83	6,673,250	1/6/2004	Kuennen et al.			
	A84	6,683,256	1/27/2004	Kao			
	A85	6,696,647	2/24/2004	Ono et al.			
	A86	6,703,921	3/9/2004	Wuidart et al.			
	A87	6,731,071	5/4/2004	Baarman			
	A88	6,749,119	6/15/2004	Scheible et al.			
	A89	6,772,011	8/3/2004	Dolgin			
	A90	6,798,716	9/28/2004	Charych			
	A91	6,803,744	10/12/2004	Sabo			
	A92	6,806,649	10/19/2004	Mollema et al.			
	A93	6,812,645	11/2/2004	Baarman			
	A94	6,825,620	11/30/2004	Kuennen et al.			
	A95	6,831,417	12/14/2004	Baarman			
	A96	6,839,035	1/4/2005	Addonisio et al.			
	A97	6,844,702	1/18/2005	Giannopoulos et al.			
	A98	6,856,291	2/15/2005	Mickle et al.			
	A99	6,858,970	2/22/2005	Malkin et al.			
	A100	6,906,495	6/14/2005	Cheng et al.			
	A101	6,917,163	7/12/2005	Baarman			
	A102	6,917,431	7/12/2005	Soljadic et al.			
	A103	6,937,130	8/30/2005	Scheible et al.			
	A104	6,960,968	11/1/2005	Odendaal et al.			
	A105	6,961,619	11/1/2005	Casey			
	A106	6,967,462	11/22/2005	Landis			
	A107	6,975,198	12/13/2005	Baarman			
	A108	6,988,026	1/17/2006	Breed et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A109	7,027,311	4/11/2006	Vanderelli et al.			
	A110	7,035,076	4/25/2006	Stevenson			
	A111	7,042,196	5/9/2006	Ka-Lai et al.			
	A112	7,069,064	6/27/2006	Govorgian et al.			
	A113	7,084,605	8/1/2006	Mickle et al.			
	A114	7,116,200	10/3/2006	Baarma et al.			
	A115	7,118,240	10/10/2006	Baarma et al.			
	A116	7,126,450	10/24/2006	Baarma et al.			
	A117	7,127,293	10/24/2006	MacDonald			
	A118	7,132,918	11/7/2006	Baarma et al.			
	A119	7,147,604	12/12/2006	Allen et al.			
	A120	7,180,248	2/20/2007	Kuennen et al.			
	A121	7,191,007	3/13/2007	Desai et al.			
	A122	7,193,418	3/20/2007	Freytag			
	A123	7,212,414	5/1/2007	Baarma			
	A124	7,233,137	6/19/2007	Nakamura et al.			
	A125	7,239,110	7/3/2007	Cheng et al.			
	A126	7,248,017	7/24/2007	Cheng et al.			
	A127	7,251,527	7/31/2007	Lyden			
	A128	7,288,918	10/30/2007	DiStefano			
	A129	7,340,304	3/4/2008	MacDonald			
	A130	7,375,492	5/20/2008	Calhoon et al.			
	A131	7,375,493	5/20/2008	Calhoon et al.			
	A132	7,378,817	5/27/2008	Calhoon et al.			
	A133	7,382,636	6/3/2008	Baarma et al.			
	A134	7,385,357	6/10/2008	Kuennen et al.			
	A135	7,443,135	10/28/2008	Cho			

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	Filing Date Herewith	Group Art Unit

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A136	7,462,951	12/9/2008	Baarman			
	A137	7,466,213	12/16/2008	Lobl et al.			
	A138	7,471,062	12/30/2008	Bruning			
	A139	7,474,058	1/6/2009	Baarman			
	A140	7,492,247	2/17/2009	Schmidt et al.			
	A141	7,514,818	4/7/2009	Abe et al.			
	A142	7,518,267	4/14/2009	Baarman			
	A143	7,521,890	4/21/2009	Lee et al.			
	A144	7,525,283	4/28/2009	Cheng et al.			
	A145	7,545,337	6/9/2009	Guenther			
	A146	7,554,316	6/30/2009	Stevens et al.			
	A147	7,599,743	10/6/2009	Hassler, Jr. et al.			
	A148	7,615,936	11/10/2009	Baarman et al.			
	A149	7,639,514	12/29/2009	Baarman			
	A150	7,741,734	6/22/2010	Joannopoulos et al.			
	A151	7,795,708	9/14/2010	Katti			
	A152	7,825,543	11/2/2010	Karalis et al.			
	A153	7,825,544	11/2/2010	Jansen et al.			
	A154	7,835,417	11/16/2010	Heideman et al.			
	A155	7,843,288	11/30/2010	Lee et al.			
	A156	7,844,306	11/30/2010	Shearer et al.			
	A157	7,863,859	1/4/2011	Soar			
	A158	7,868,588	1/11/2011	Altekruse et al.			
	A159	7,879,483	2/1/2011	Sakakibara			
	A160	7,880,337	2/1/2011	Farkas			
	A161	7,884,697	2/8/2011	Wei et al.			
	A162	7,885,050	2/8/2011	Lee			

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U.S. Patent Documents							
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	A163	7,893,564	2/22/2011	Bennett			
	A164	7,919,886	4/5/2011	Tanaka			
	A165	7,923,870	4/12/2011	Jin			
	A166	7,932,798	4/26/2011	Tolle et al.			
	A167	7,936,147	5/3/2011	Kook			
	A168	7,948,209	5/24/2011	Jung			
	A169	7,952,322	5/31/2011	Partovi et al.			
	A170	7,963,941	6/21/2011	Wilk			
	A171	7,969,045	6/28/2011	Schmidt et al.			
	A172	7,994,880	8/9/2011	Chen et al.			
	A173	7,999,506	8/16/2011	Hollar et al.			
	A174	8,022,576	9/20/2011	Joannopoulos et al.			
	A175	8,030,887	10/4/2011	Jung			
	A176	8,035,255	10/11/2011	Kurs et al.			
	A177	8,076,800	12/13/2011	Joannopoulos et al.			
	A178	8,076,801	12/13/2011	Karalis et al.			
	A179	8,084,889	12/27/2011	Joannopoulos et al.			
	A180	8,097,983	1/17/2012	Karalis et al.			
	A181	8,106,539	1/31/2012	Schatz et al.			
	A182	8,115,448	2/14/2012	John			
	A183	8,131,378	3/6/2012	Greenberg et al.			
	A184	8,178,995	5/15/2012	Amano et al.			
	A185	8,188,826	5/29/2012	Okada et al.			
	A186	8,193,769	6/5/2012	Azancot et al.			
	A187	8,212,414	7/3/2012	Howard et al.			
	A188	8,241,097	8/14/2012	Zhu et al.			
	A189	8,260,200	9/4/2012	Shimizu et al.			

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	A190	8,269,375	9/18/2012	Sogabe et al.			
	A191	8,304,935	11/6/2012	Karalis et al.			
	A192	8,310,107	11/13/2012	Jin			
	A193	8,314,513	11/20/2012	Aoyama et al.			
	A194	8,324,759	12/4/2012	Karalis et al.			
	A195	8,334,620	12/18/2012	Park et al.			
	A196	8,344,688	1/1/2013	Yoda et al.			
	A197	8,362,651	1/29/2013	Hamam et al.			
	A198	8,369,905	2/5/2013	Sogabe et al.			
	A199	8,395,282	3/12/2013	Joannopoulos et al.			
	A200	8,395,283	3/12/2013	Joannopoulos et al.			
	A201	8,400,017	3/19/2013	Kurs et al.			
	A202	8,400,018	3/19/2013	Joannopoulos et al.			
	A203	8,400,019	3/19/2013	Joannopoulos et al.			
	A204	8,400,020	3/19/2013	Joannopoulos et al.			
	A205	8,400,021	3/19/2013	Joannopoulos et al.			
	A206	8,400,022	3/19/2013	Joannopoulos et al.			
	A207	8,400,023	3/19/2013	Joannopoulos et al.			
	A208	8,400,024	3/19/2013	Joannopoulos et al.			
	A209	8,406,823	3/26/2013	Kondo et al.			
	A210	8,410,636	4/2/2013	Kurs et al.			
	A211	8,441,154	5/14/2013	Karalis et al.			
	A212	8,446,046	5/21/2013	Fells et al.			
	A213	8,457,547	6/4/2013	Meskens			
	A214	8,461,719	6/11/2013	Kesler et al.			
	A215	8,461,720	6/11/2013	Kurs et al.			
	A216	8,461,721	6/11/2013	Karalis et al.			

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	A217	8,461,722	6/11/2013	Kurs et al.			
	A218	8,461,817	6/11/2013	Martin et al.			
	A219	8,466,583	6/18/2013	Karalis et al.			
	A220	8,471,410	6/25/2013	Karalis et al.			
	A221	8,476,788	7/2/2013	Karalis et al.			
	A222	8,482,157	7/9/2013	Cook et al.			
	A223	8,482,158	7/9/2013	Kurs et al.			
	A224	8,487,480	7/16/2013	Kesler et al.			
	A225	8,497,601	7/30/2013	Hall et al.			
	A226	8,552,592	10/8/2013	Schatz et al.			
	A227	8,569,914	10/29/2013	Karalis et al.			
	A228	8,587,153	11/19/2013	Schatz et al.			
	A229	8,587,155	11/19/2013	Giler et al.			
	A230	8,598,743	12/3/2013	Hall et al.			
	A231	8,618,696	12/31/2013	Karalis et al.			
	A232	8,629,578	1/14/2014	Kurs et al.			
	A233	8,643,326	2/4/2014	Campanella et al.			
	A234	2002/0032471	3/14/2002	Loftin et al.			
	A235	2002/0056233	5/16/2002	Gohara			
	A236	2002/0105343	8/8/2002	Scheible et al.			
	A237	2002/0118004	8/29/2002	Scheible et al.			
	A238	2002/0130642	9/19/2002	Ettes et al.			
	A239	2002/0167294	11/14/2002	Odaohhara			
	A240	2003/0038641	2/27/2003	Scheible			
	A241	2003/0062794	4/3/2003	Scheible et al.			
	A242	2003/0062980	4/3/2003	Scheible et al.			
	A243	2003/0071034	4/17/2003	Thompson et al.			

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	Applicant WiTricity Corporation	
	Filing Date Herewith	Group Art Unit

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A244	2003/0124050	7/3/2003	Yadav et al.			
	A245	2003/0126948	7/10/2003	Yadav et al.			
	A246	2003/0160590	8/28/2003	Schaefer et al.			
	A247	2003/0199778	10/23/2003	Mickle et al.			
	A248	2003/0214255	11/20/2003	Baarman et al.			
	A249	2004/0000974	1/1/2004	Odenaal et al.			
	A250	2004/0026998	2/12/2004	Henriott et al.			
	A251	2004/0100338	5/27/2004	Clark			
	A252	2004/0113847	6/17/2004	Qi et al.			
	A253	2004/0130425	7/8/2004	Dayan et al.			
	A254	2004/0130915	7/8/2004	Baarman			
	A255	2004/0130916	7/8/2004	Baarman			
	A256	2004/0142733	7/22/2004	Parise			
	A257	2004/0150934	8/5/2004	Baarman			
	A258	2004/0189246	9/30/2004	Bulai et al.			
	A259	2004/0201361	10/14/2004	Koh et al.			
	A260	2004/0222751	11/11/2004	Mollema et al.			
	A261	2004/0227057	11/18/2004	Tuominen et al.			
	A262	2004/0232845	11/25/2004	Baarman			
	A263	2004/0233043	11/25/2004	Yazawa et al.			
	A264	2004/0267501	12/30/2004	Freed et al.			
	A265	2005/0007067	1/13/2005	Baarman et al.			
	A266	2005/0021134	1/27/2005	Opie			
	A267	2005/0027192	2/3/2005	Govari et al.			
	A268	2005/0033382	2/10/2005	Single			
	A269	2005/0085873	4/21/2005	Gord et al.			
	A270	2005/0093475	5/5/2005	Kuennen et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A271	2005/0104064	5/19/2005	Hegarty et al.			
	A272	2005/0104453	5/19/2005	Vanderelli et al.			
	A273	2005/0116650	6/2/2005	Baarman			
	A274	2005/0116683	6/2/2005	Cheng et al.			
	A275	2005/0122058	6/9/2005	Baarman et al.			
	A276	2005/0122059	6/9/2005	Baarman et al.			
	A277	2005/0125093	6/9/2005	Kikuchi et al.			
	A278	2005/0127849	6/16/2005	Baarman et al.			
	A279	2005/0127850	6/16/2005	Baarman et al.			
	A280	2005/0127866	6/16/2005	Hamilton et al.			
	A281	2005/0135122	6/23/2005	Cheng et al.			
	A282	2005/0140482	6/30/2005	Cheng et al.			
	A283	2005/0151511	7/14/2005	Chary			
	A284	2005/0156560	7/21/2005	Shimaoka et al.			
	A285	2005/0189945	9/1/2005	Reiderman			
	A286	2005/0194926	9/8/2005	DiStefano			
	A287	2005/0253152	11/17/2005	Klimov et al.			
	A288	2005/0288739	12/29/2005	Hassler, Jr. et al.			
	A289	2005/0288740	12/29/2005	Hassler, Jr. et al.			
	A290	2005/0288741	12/29/2005	Hassler, Jr. et al.			
	A291	2005/0288742	12/29/2005	Giordano et al.			
	A292	2006/0001509	1/5/2006	Gibbs			
	A293	2006/0010902	1/19/2006	Trinh et al.			
	A294	2006/0022636	2/2/2006	Xian et al.			
	A295	2006/0053296	3/9/2006	Busboom et al.			
	A296	2006/0061323	3/23/2006	Cheng et al.			
	A297	2006/0066443	3/30/2006	Hall			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A298	2006/0090956	5/4/2006	Peshkovskiy et al.			
	A299	2006/0132045	6/22/2006	Baarman			
	A300	2006/0164866	7/27/2006	Vanderelli et al.			
	A301	2006/0181242	8/17/2006	Freed et al.			
	A302	2006/0184209	8/17/2006	John et al.			
	A303	2006/0184210	8/17/2006	Singhal et al.			
	A304	2006/0185809	8/24/2006	Elfrink et al.			
	A305	2006/0199620	9/7/2006	Greene et al.			
	A306	2006/0202665	9/14/2006	Hsu			
	A307	2006/0205381	9/14/2006	Beart et al.			
	A308	2006/0214626	9/28/2006	Nilson et al.			
	A309	2006/0219448	10/5/2006	Grieve et al.			
	A310	2006/0238365	10/26/2006	Vecchione et al.			
	A311	2006/0270440	11/30/2006	Shearer et al.			
	A312	2006/0281435	12/14/2006	Shearer et al.			
	A313	2007/0010295	1/11/2007	Greene et al.			
	A314	2007/0013483	1/18/2007	Stewart			
	A315	2007/0016089	1/18/2007	Fischell et al.			
	A316	2007/0021140	1/25/2007	Keyes, IV et al.			
	A317	2007/0024246	2/1/2007	Flaughner			
	A318	2007/0064406	3/22/2007	Beart			
	A319	2007/0069687	3/29/2007	Suzuki			
	A320	2007/0096875	5/3/2007	Waterhouse et al.			
	A321	2007/0105429	5/10/2007	Kohl et al.			
	A322	2007/0117596	5/24/2007	Greene et al.			
	A323	2007/0126650	6/7/2007	Guenther			
	A324	2007/0145830	6/28/2007	Lee et al.			

Examiner Signature /HAL KAPLAN/	Date Considered 12/20/2017
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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A325	2007/0164839	7/19/2007	Naito			
	A326	2007/0171681	7/26/2007	Baarman			
	A327	2007/0176840	8/2/2007	Pristas et al.			
	A328	2007/0178945	8/2/2007	Cook et al.			
	A329	2007/0182367	8/9/2007	Partovi			
	A330	2007/0208263	9/6/2007	John et al.			
	A331	2007/0222542	9/27/2007	Joannopoulos et al.			
	A332	2007/0228833	10/4/2007	Stevens et al.			
	A333	2007/0257636	11/8/2007	Phillips et al.			
	A334	2007/0267918	11/22/2007	Gyland			
	A335	2007/0276538	11/29/2007	Kjellsson et al.			
	A336	2008/0012569	1/17/2008	Hall et al.			
	A337	2008/0014897	1/7/2008	Cook et al.			
	A338	2008/0030415	2/7/2008	Homan et al.			
	A339	2008/0036588	2/14/2008	Iverson et al.			
	A340	2008/0047727	2/28/2008	Sexton et al.			
	A341	2008/0051854	2/28/2008	Bulkes et al.			
	A342	2008/0067874	3/20/2008	Tseng			
	A343	2008/0132909	6/5/2008	Jacob et al.			
	A344	2008/0154331	6/26/2008	John et al.			
	A345	2008/0176521	7/24/2008	Singh et al.			
	A346	2008/0191638	8/14/2008	Kuennen et al.			
	A347	2008/0197710	8/21/2008	Kreitz et al.			
	A348	2008/0197802	8/21/2008	Onishi et al.			
	A349	2008/0211320	9/4/2008	Cook et al.			
	A350	2008/0238364	10/2/2008	Weber et al.			
	A351	2008/0255901	10/16/2008	Carroll et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A352	2008/0265684	10/30/2008	Farkas			
	A353	2008/0266748	10/30/2008	Lee			
	A354	2008/0272860	11/6/2008	Pance			
	A355	2008/0273242	11/6/2008	Woodgate et al.			
	A356	2008/0278264	11/13/2008	Karalis et al.			
	A357	2008/0290736	11/27/2008	Onishi et al.			
	A358	2008/0291277	11/27/2008	Jacobsen et al.			
	A359	2008/0300657	12/4/2008	Stultz			
	A360	2008/0300660	12/4/2008	John			
	A361	2009/0010028	1/8/2009	Baarmen et al.			
	A362	2009/0015075	1/15/2009	Cook et al.			
	A363	2009/0033280	2/5/2009	Choi et al.			
	A364	2009/0033564	2/5/2009	Cook et al.			
	A365	2009/0038623	2/12/2009	Farbarik et al.			
	A366	2009/0045772	2/19/2009	Cook et al.			
	A367	2009/0051224	2/26/2009	Cook et al.			
	A368	2009/0058189	3/5/2009	Cook et al.			
	A369	2009/0058361	3/5/2009	John			
	A370	2009/0067198	3/12/2009	Graham et al.			
	A371	2009/0072627	3/19/2009	Cook et al.			
	A372	2009/0072628	3/19/2009	Cook et al.			
	A373	2009/0072629	3/19/2009	Cook et al.			
	A374	2009/0072782	3/19/2009	Randall			
	A375	2009/0079268	3/26/2009	Cook et al.			
	A376	2009/0079387	3/26/2009	Jin et al.			
	A377	2009/0085408	4/2/2009	Bruhn			
	A378	2009/0085706	4/2/2009	Baarma et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A379	2009/0095449	4/16/2009	Bandai et al.			
	A380	2009/0096413	4/16/2009	Patovi et al.			
	A381	2009/0102292	4/23/2009	Cook et al.			
	A382	2009/0102296	4/23/2009	Green et al.			
	A383	2009/0108679	4/30/2009	Porwal			
	A384	2009/0108997	4/30/2009	Patterson et al.			
	A385	2009/0115628	5/7/2009	Dicks et al.			
	A386	2009/0127937	5/21/2009	Widmer et al.			
	A387	2009/0134712	5/28/2009	Cook et al.			
	A388	2009/0146892	6/11/2009	Shimizu et al.			
	A389	2009/0153273	6/18/2009	Chen			
	A390	2009/0160261	6/25/2009	Elo			
	A391	2009/0161078	6/25/2009	Wu et al.			
	A392	2009/0167253	7/2/2009	Muraoka et al.			
	A393	2009/0167449	7/2/2009	Cook et al.			
	A394	2009/0174263	7/9/2009	Baarma et al.			
	A395	2009/0179502	7/16/2009	Cook et al.			
	A396	2009/0188396	7/30/2009	Hofmann et al.			
	A397	2009/0189458	7/30/2009	Kawasaki			
	A398	2009/0195332	8/6/2009	Joannopoulos et al.			
	A399	2009/0195333	8/6/2009	Joannopoulos et al.			
	A400	2009/0212636	8/27/2009	Cook et al.			
	A401	2009/0213028	8/27/2009	Cook et al.			
	A402	2009/0218884	9/3/2009	Soar			
	A403	2009/0224608	9/10/2009	Cook et al.			
	A404	2009/0224609	9/10/2009	Cook et al.			
	A405	2009/0224723	9/10/2009	Tanabe			

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U.S. Patent Documents							
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	A406	2009/0224856	9/10/2009	Karalis et al.			
	A407	2009/0230777	9/17/2009	Baarma et al.			
	A408	2009/0237194	9/24/2009	Waffenschmidt et al.			
	A409	2009/0243394	10/1/2009	Levine			
	A410	2009/0243397	10/1/2009	Cook et al.			
	A411	2009/0251008	10/8/2009	Sugaya			
	A412	2009/0261778	10/22/2009	Kook			
	A413	2009/0267558	10/29/2009	Jung			
	A414	2009/0267709	10/29/2009	Joannopoulos et al.			
	A415	2009/0267710	10/29/2009	Joannopoulos et al.			
	A416	2009/0271047	10/29/2009	Wakamatsu			
	A417	2009/0271048	10/29/2009	Wakamatsu			
	A418	2009/0273242	11/5/2009	Cook			
	A419	2009/0273318	11/5/2009	Rondoni et al.			
	A420	2009/0278523	11/12/2009	Yoda et al.			
	A421	2009/0281678	11/12/2009	Wakamatsu			
	A422	2009/0284082	11/19/2009	Mohammadian			
	A423	2009/0284083	11/19/2009	Karalis et al.			
	A424	2009/0284218	11/19/2009	Mohammadian et al.			
	A425	2009/0284220	11/19/2009	Toncich et al.			
	A426	2009/0284227	11/19/2009	Mohammadian et al.			
	A427	2009/0284245	11/19/2009	Kirby et al.			
	A428	2009/0284341	11/19/2009	Okada et al.			
	A429	2009/0284369	11/19/2009	Toncich et al.			
	A430	2009/0286470	11/19/2009	Mohammadian et al.			
	A431	2009/0286475	11/19/2009	Toncich et al.			
	A432	2009/0286476	11/19/2009	Toncich et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A433	2009/0289595	11/26/2009	Chen et al.			
	A434	2009/0299918	12/3/2009	Cook et al.			
	A435	2009/0308933	12/17/2009	Osada			
	A436	2009/0322158	12/31/2009	Stevens et al.			
	A437	2009/0322280	12/31/2009	Kamijo et al.			
	A438	2010/0015918	1/21/2010	Liu et al.			
	A439	2010/0017249	1/21/2010	Fincham et al.			
	A440	2010/0033021	2/11/2010	Bennett			
	A441	2010/0034238	2/11/2010	Bennett			
	A442	2010/0036773	2/11/2010	Bennett			
	A443	2010/0038970	2/18/2010	Cook et al.			
	A444	2010/0045114	2/25/2010	Sample et al.			
	A445	2010/0052431	3/4/2010	Mita			
	A446	2010/0052811	3/4/2010	Smith et al.			
	A447	2010/0060077	3/11/2010	Paulus et al.			
	A448	2010/0065352	3/18/2010	Ichikawa			
	A449	2010/0066349	3/18/2010	Lin et al.			
	A450	2010/0076524	3/25/2010	Forsberg et al.			
	A451	2010/0081379	4/1/2010	Cooper et al.			
	A452	2010/0094381	4/15/2010	Kim et al.			
	A453	2010/0096934	4/22/2010	Joannopoulos et al.			
	A454	2010/0102639	4/29/2010	Joannopoulos et al.			
	A455	2010/0102640	4/29/2010	Joannopoulos et al.			
	A456	2010/0102641	4/29/2010	Joannopoulos et al.			
	A457	2010/0104031	4/29/2010	Lacour			
	A458	2010/0109443	5/6/2010	Cook et al.			
	A459	2010/0109445	5/6/2010	Kurs et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A460	2010/0109604	5/6/2010	Boys et al.			
	A461	2010/0115474	5/6/2010	Takada et al.			
	A462	2010/0117454	5/13/2010	Cook et al.			
	A463	2010/0117455	5/13/2010	Joannopoulos et al.			
	A464	2010/0117456	5/13/2010	Karalis et al.			
	A465	2010/0117596	5/13/2010	Cook et al.			
	A466	2010/0123353	5/20/2010	Joannopoulos et al.			
	A467	2010/0123354	5/20/2010	Joannopoulos et al.			
	A468	2010/0123355	5/20/2010	Joannopoulos et al.			
	A469	2010/0123452	5/20/2010	Amano et al.			
	A470	2010/0123530	5/20/2010	Park et al.			
	A471	2010/0127573	5/27/2010	Joannopoulos et al.			
	A472	2010/0127574	5/27/2010	Joannopoulos et al.			
	A473	2010/0127575	5/27/2010	Joannopoulos et al.			
	A474	2010/0127660	5/27/2010	Cook et al.			
	A475	2010/0133918	6/3/2010	Joannopoulos et al.			
	A476	2010/0133919	6/3/2010	Joannopoulos et al.			
	A477	2010/0133920	6/3/2010	Joannopoulos et al.			
	A478	2010/0141042	6/10/2010	Kesler et al.			
	A479	2010/0148589	6/17/2010	Hamam et al.			
	A480	2010/0148723	6/17/2010	Cook et al.			
	A481	2010/0151808	6/17/2010	Toncich et al.			
	A482	2010/0156346	6/24/2010	Takada et al.			
	A483	2010/0156355	6/24/2010	Bauerle et al.			
	A484	2010/0156570	6/24/2010	Hong et al.			
	A485	2010/0164295	7/1/2010	Ichikawa et al.			
	A486	2010/0164296	7/1/2010	Kurs			

Examiner Signature /HAL KAPLAN/	Date Considered 12/20/2017
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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A487	2010/0164297	7/1/2010	Kurs et al.			
	A488	2010/0164298	7/1/2010	Karalis et al.			
	A489	2010/0171368	7/8/2010	Schatz et al.			
	A490	2010/0171370	7/8/2010	Karalis et al.			
	A491	2010/0179384	7/15/2010	Hoeg et al.			
	A492	2010/0181843	7/22/2010	Schatz et al.			
	A493	2010/0181844	7/22/2010	Karalis et al.			
	A494	2010/0181845	7/22/2010	Fiorello et al.			
	A495	2010/0181961	7/22/2010	Novak et al.			
	A496	2010/0181964	7/22/2010	Huggins et al.			
	A497	2010/0184371	7/22/2010	Cook et al.			
	A498	2010/0187911	7/29/2010	Joannopoulos et al.			
	A499	2010/0187913	7/29/2010	Sample			
	A500	2010/0188183	7/29/2010	Shpiro			
	A501	2010/0190435	7/29/2010	Cook et al.			
	A502	2010/0190436	7/29/2010	Cook et al.			
	A503	2010/0194206	8/5/2010	Burdo et al.			
	A504	2010/0194207	8/5/2010	Graham			
	A505	2010/0194334	8/5/2010	Kirby et al.			
	A506	2010/0194335	8/5/2010	Kirby et al.			
	A507	2010/0201189	8/12/2010	Kirby et al.			
	A508	2010/0201201	8/12/2010	Mobarhan et al.			
	A509	2010/0201202	8/12/2010	Kirby et al.			
	A510	2010/0201203	8/12/2010	Schatz et al.			
	A511	2010/0201204	8/12/2010	Sakoda et al.			
	A512	2010/0201205	8/12/2010	Karalis et al.			
	A513	2010/0201310	8/12/2010	Vorenkamp et al.			

Examiner Signature /HAL KAPLAN/	Date Considered 12/20/2017
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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /HK/

Substitute Disclosure Form U.S. Department of Commerce Patent and Trademark Office Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	Attorney Docket No. 25236-0036002	Application No. Unknown
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	Filing Date Herewith	Group Art Unit

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A514	2010/0201312	8/12/2010	Kirby et al.			
	A515	2010/0201313	8/12/2010	Vorenkamp et al.			
	A516	2010/0201316	8/12/2010	Takada et al.			
	A517	2010/0201513	8/12/2010	Vorenkamp et al.			
	A518	2010/0207458	8/19/2010	Joannopoulos et al.			
	A519	2010/0210233	8/19/2010	Cook et al.			
	A520	2010/0213770	8/26/2010	Kikuchi			
	A521	2010/0213895	8/26/2010	Keating et al.			
	A522	2010/0217553	8/26/2010	Von Novak et al.			
	A523	2010/0219694	9/2/2010	Kurs et al.			
	A524	2010/0219695	9/2/2010	Komiyama et al.			
	A525	2010/0219696	9/2/2010	Kojima			
	A526	2010/0222010	9/2/2010	Ozaki et al.			
	A527	2010/0225175	9/9/2010	Karalis et al.			
	A528	2010/0225270	9/9/2010	Jacobs et al.			
	A529	2010/0225271	9/9/2010	Oyobe et al.			
	A530	2010/0225272	9/9/2010	Kirby et al.			
	A531	2010/0231053	9/16/2010	Karalis et al.			
	A532	2010/0231163	9/19/2010	Mashinsky			
	A533	2010/0231340	9/16/2010	Fiorello et al.			
	A534	2010/0234922	9/16/2010	Forsell			
	A535	2010/0235006	9/16/2010	Brown			
	A536	2010/0237706	9/23/2010	Karalis et al.			
	A537	2010/0237707	9/23/2010	Karalis et al.			
	A538	2010/0237708	9/23/2010	Karalis et al.			
	A539	2010/0237709	9/23/2010	Hall et al.			
	A540	2010/0244576	9/30/2010	Hillan et al.			

Examiner Signature /HAL KAPLAN/	Date Considered 12/20/2017
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Substitute Disclosure Form

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A541	2010/0244577	9/30/2010	Shimokawa			
	A542	2010/0244578	9/30/2010	Yoshikawa			
	A543	2010/0244579	9/30/2010	Sogabe et al.			
	A544	2010/0244580	9/30/2010	Uchida et al.			
	A545	2010/0244581	9/30/2010	Uchida			
	A546	2010/0244582	9/30/2010	Yoshikawa			
	A547	2010/0244583	9/30/2010	Shimokawa			
	A548	2010/0244767	9/30/2010	Turner et al.			
	A549	2010/0244839	9/30/2010	Yoshikawa			
	A550	2010/0248622	9/30/2010	Kirby et al.			
	A551	2010/0253152	10/7/2010	Karalis et al.			
	A552	2010/0253281	10/7/2010	Li			
	A553	2010/0256481	10/7/2010	Mareci et al.			
	A554	2010/0256831	10/7/2010	Abramo et al.			
	A555	2010/0259108	10/14/2010	Giler et al.			
	A556	2010/0259109	10/14/2010	Sato			
	A557	2010/0259110	10/14/2010	Kurs et al.			
	A558	2010/0264745	10/21/2010	Karalis et al.			
	A559	2010/0264746	10/21/2010	Kazama et al.			
	A560	2010/0264747	10/21/2010	Hall et al.			
	A561	2010/0276995	11/4/2010	Marzetta et al.			
	A562	2010/0277003	11/4/2010	Von Novak et al.			
	A563	2010/0277004	11/4/2010	Suzuki et al.			
	A564	2010/0277005	11/4/2010	Karalis et al.			
	A565	2010/0277120	11/4/2010	Cook et al.			
	A566	2010/0277121	11/4/2010	Hall et al.			
	A567	2010/0289341	11/18/2010	Ozaki et al.			

Examiner Signature /HAL KAPLAN/	Date Considered 12/20/2017
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	Filing Date Herewith	Group Art Unit

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A568	2010/0289449	11/18/2010	Elo			
	A569	2010/0295505	11/25/2010	Jung et al.			
	A570	2010/0295506	11/25/2010	Ichikawa			
	A571	2010/0308939	12/9/2010	Kurs			
	A572	2010/0314946	12/16/2010	Budde et al.			
	A573	2010/0327660	12/30/2010	Karalis et al.			
	A574	2010/0327661	12/30/2010	Karalis et al.			
	A575	2010/0328044	12/30/2010	Waffenschmidt et al.			
	A576	2011/0004269	1/6/2011	Strother et al.			
	A577	2011/0012431	1/20/2011	Karalis et al.			
	A578	2011/0018361	1/27/2011	Karalis et al.			
	A579	2011/0025131	2/3/2011	Karalis et al.			
	A580	2011/0025265	2/3/2011	Mochida et al.			
	A581	2011/0318618	12/29/2011	Yajima et al.			
	A582	2011/0031928	2/10/2011	Soar			
	A583	2011/0043046	2/24/2011	Joannopoulos et al.			
	A584	2011/0043047	2/24/2011	Karalis et al.			
	A585	2011/0043048	2/24/2011	Karalis et al.			
	A586	2011/0043049	2/24/2011	Karalis et al.			
	A587	2011/0049995	3/3/2011	Hashiguchi			
	A588	2011/0049996	3/3/2011	Karalis et al.			
	A589	2011/0049998	3/3/2011	Karalis et al.			
	A590	2011/0074218	3/31/2011	Karalis et al.			
	A591	2011/0074346	3/31/2011	Hall et al.			
	A592	2011/0074347	3/31/2011	Karalis et al.			
	A593	2011/0089895	4/21/2011	Karalis et al.			
	A594	2011/0095618	4/28/2011	Schatz et al.			

Examiner Signature /HAL KAPLAN/	Date Considered 12/20/2017
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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A595	2011/0115303	5/19/2011	Baarma et al.			
	A596	2011/0115431	5/19/2011	Dunworth et al.			
	A597	2011/0121920	5/26/2011	Kurs et al.			
	A598	2011/0128015	6/2/2011	Dorairaj et al.			
	A599	2011/0140544	6/16/2011	Karalis et al.			
	A600	2011/0148219	6/23/2011	Karalis et al.			
	A601	2011/0162895	7/7/2011	Karalis et al.			
	A602	2011/0169339	7/14/2011	Karalis et al.			
	A603	2011/0181122	7/28/2011	Karalis et al.			
	A604	2011/0193416	8/11/2011	Campanella et al.			
	A605	2011/0193419	8/11/2011	Karalis et al.			
	A606	2011/0198939	8/18/2011	Karalis et al.			
	A607	2011/0215086	9/8/2011	Yeh			
	A608	2011/0221278	9/15/2011	Karalis et al.			
	A609	2011/0227528	9/22/2011	Karalis et al.			
	A610	2011/0227530	9/22/2011	Karalis et al.			
	A611	2011/0241618	10/6/2011	Karalis et al.			
	A612	2011/0248573	10/13/2011	Kanno et al.			
	A613	2011/0254377	10/20/2011	Wildmer et al.			
	A614	2011/0254503	10/20/2011	Widmer et al.			
	A615	2011/0266878	11/3/2011	Cook et al.			
	A616	2011/0278943	11/17/2011	Eckhoff et al.			
	A617	2012/0001492	1/5/2012	Cook et al.			
	A618	2012/0001593	1/5/2012	DiGuardo			
	A619	2012/0007435	1/12/2012	Sada et al.			
	A620	2012/0007441	1/12/2012	John et al.			
	A621	2012/0025602	2/2/2012	Boys et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A622	2012/0032522	2/9/2012	Schatz et al.			
	A623	2012/0038525	2/16/2012	Monsalve Carcelen et al.			
	A624	2012/0049650	3/1/2012	Bella			
	A625	2012/0062345	3/15/2012	Kurs et al.			
	A626	2012/0068549	3/22/2012	Karalis et al.			
	A627	2012/0086284	4/12/2012	Campanella et al.			
	A628	2012/0086867	4/12/2012	Kesler et al.			
	A629	2012/0091794	4/19/2012	Campanella et al.			
	A630	2012/0091795	4/19/2012	Fiorello et al.			
	A631	2012/0091796	4/19/2012	Kesler et al.			
	A632	2012/0091797	4/19/2012	Kesler et al.			
	A633	2012/0091819	4/19/2012	Kulikowski et al.			
	A634	2012/0091820	4/19/2012	Campanella et al.			
	A635	2012/0091949	4/19/2012	Campanella et al.			
	A636	2012/0091950	4/19/2012	Campanella et al.			
	A637	2012/0098350	4/26/2012	Campanella et al.			
	A638	2012/0112531	5/10/2012	Kesler et al.			
	A639	2012/0112532	5/10/2012	Kesler et al.			
	A640	2012/0112534	5/10/2012	Kesler et al.			
	A641	2012/0112535	5/10/2012	Karalis et al.			
	A642	2012/0112536	5/10/2012	Karalis et al.			
	A643	2012/0112538	5/10/2012	Kesler et al.			
	A644	2012/0112691	5/10/2012	Kurs et al.			
	A645	2012/0119569	5/17/2012	Karalis et al.			
	A646	2012/0119575	5/17/2012	Kurs et al.			
	A647	2012/0119576	5/17/2012	Kesler et al.			
	A648	2012/0119698	5/17/2012	Karalis et al.			

Examiner Signature /HAL KAPLAN/	Date Considered 12/20/2017
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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A649	2012/0139355	6/7/2012	Ganem et al.			
	A650	2012/0146575	6/14/2012	Armstrong et al.			
	A651	2012/0146580	6/14/2012	Kitamura			
	A652	2012/0153732	6/21/2012	Kurs et al.			
	A653	2012/0153733	6/21/2012	Schatz et al.			
	A654	2012/0153734	6/21/2012	Kurs et al.			
	A655	2012/0153735	6/21/2012	Karalis et al.			
	A656	2012/0153736	6/21/2012	Karalis et al.			
	A657	2012/0153737	6/21/2012	Karalis et al.			
	A658	2012/0153738	6/21/2012	Karalis et al.			
	A659	2012/0153893	6/21/2012	Schatz et al.			
	A660	2012/0146580	6/14/2012	Kitamura			
	A661	2012/0175967	7/12/2012	Dibben et al.			
	A662	2012/0181875	7/19/2012	Wechlin et al.			
	A663	2012/0184338	7/19/2012	Kesler et al.			
	A664	2012/0187757	7/26/2012	Wechlin et al.			
	A665	2012/0206096	8/16/2012	John			
	A666	2012/0223573	9/6/2012	Schatz et al.			
	A667	2012/0228952	9/13/2012	Hall et al.			
	A668	2012/0228953	9/13/2012	Kesler et al.			
	A669	2012/0228954	9/13/2012	Kesler et al.			
	A670	2012/0235500	9/20/2012	Ganem et al.			
	A671	2012/0235501	9/20/2012	Kesler et al.			
	A672	2012/0235502	9/20/2012	Kesler et al.			
	A673	2012/0235503	9/20/2012	Kesler et al.			
	A674	2012/0235504	9/20/2012	Kesler et al.			
	A675	2012/0235505	9/20/2012	Schatz et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A676	2012/0235566	9/20/2012	Karalis et al.			
	A677	2012/0235567	9/20/2012	Karalis et al.			
	A678	2012/0235633	9/20/2012	Kesler et al.			
	A679	2012/0235634	9/20/2012	Hall et al.			
	A680	2012/0239117	9/20/2012	Kesler et al.			
	A681	2012/0242159	9/27/2012	Lou et al.			
	A682	2012/0242225	9/27/2012	Karalis et al.			
	A683	2012/0248884	10/4/2012	Karalis et al.			
	A684	2012/0248886	10/4/2012	Kesler et al.			
	A685	2012/0248887	10/4/2012	Kesler et al.			
	A686	2012/0248888	10/4/2012	Kesler et al.			
	A687	2012/0248981	10/4/2012	Karalis et al.			
	A688	2012/0256494	10/11/2012	Kesler et al.			
	A689	2012/0267960	10/25/2012	Low et al.			
	A690	2012/0280765	11/8/2012	Kurs et al.			
	A691	2012/0313449	12/13/2012	Kurs et al.			
	A692	2012/0313742	12/13/2012	Kurs et al.			
	A693	2013/0007949	1/10/2013	Kurs et al.			
	A694	2013/0020878	1/24/2013	Karalis et al.			
	A695	2013/0033118	2/7/2013	Karalis et al.			
	A696	2013/0038402	2/14/2013	Karalis et al.			
	A697	2013/0057364	3/7/2013	Kesler et al.			
	A698	2013/0062966	3/14/2013	Verghese et al.			
	A699	2013/0063085	3/14/2013	Takada et al.			
	A700	2013/0069441	3/21/2013	Verghese et al.			
	A701	2013/0069753	3/21/2013	Kurs et al.			
	A702	2013/0099587	4/25/2013	Lou et al.			

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A703	2013/0154383	6/20/2013	Kasturi et al.			
	A704	2013/0154389	6/20/2013	Kurs et al.			
	A705	2013/0159956	6/20/2013	Verghese et al.			
	A706	2013/0175874	7/11/2013	Lou et al.			
	A707	2013/0175875	7/11/2013	Kurs et al.			
	A708	2013/0200716	8/8/2013	Kesler et al.			
	A709	2013/0200721	8/8/2013	Kurs et al.			
	A710	2013/0221744	8/29/2013	Hall et al.			
	A711	2013/0278073	10/24/2013	Kurs et al.			
	A712	2013/0278074	10/24/2013	Kurs et al.			
	A713	2013/0278075	10/24/2013	Kurs et al.			
	A714	2013/0300353	11/14/2013	Kurs et al.			
	A715	2013/0307349	11/21/2013	Hall et al.			
	A716	2013/0320773	12/5/2013	Schatz et al.			
	A717	2013/0334892	12/19/2013	Hall et al.			
	A718	2014/0002012	1/2/2014	McCauley et al.			
	A719	2014/0049422	2/20/2014	Von Novak et al.			
	A720	2014/0070764	3/13/2014	Keeling			
	A721	D541,322	4/24/2007	Garrett et al.			
	A722	D545,855	7/3/2007	Garrett et al.			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	B1	CA 142352	08/13/1912	Canada				
	B2	CN 101807822	08/18/2010	China				
	B3	CN 101983466	3/2/2011	China				
	B4	CN 102239633	11/9/2011	China			Abstract	

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Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	B5	CN 102439669	5/2/2012	China			Abstract	
	B6	CN 103329397	9/25/2013	China			Abstract	
	B7	DE 38 24 972	01/12/1989	Germany			Partial Translation	
	B8	DE 100 29147	12/21/2001	Germany			Abstract	
	B9	DE 200 16 655	03/21/2002	Germany			Partial Translation	
	B10	DE 102 21 484	11/27/2003	Germany			Abstract	
	B11	DE 103 04 584	08/19/2004	Germany			Abstract	
	B12	DE 10 2005 036290	02/15/2007	Germany			Abstract	
	B13	DE 10 2006 044057	4/10/2008	Germany			Abstract	
	B14	DE 10 2009 033 236	1/20/2011	Germany				
	B15	DE 10 2009 033 237	1/20/2011	Germany				
	B16	DE 10 2011 015980	10/4/2012	Germany				
	B17	DE 20 2009 009693	11/25/2010	Germany				
	B18	EP 1 335 477	08/13/2003	Europe				
	B19	EP 1 521 206	04/06/2005	Europe				
	B20	EP 1 524 010	4/20/2005	Europe				
	B21	EP 2 357 716	8/17/2011	Europe				
	B22	EP 2 410 631	1/25/2012	EPO				
	B23	FR 2 968 616	06/15/2012	France				
	B24	JP 02-097005	04/09/1990	Japan			Abstract	
	B25	JP 4-265875	9/22/1992	Japan			Partial Translation	
	B26	JP H6-2975	1/14/1994	JP				
	B27	JP 6-341410	12/13/1994	Japan			Abstract	
	B28	JP H07-225251	8/22/1995	Japan				
	B29	JP 9-182323	7/11/1997	Japan			Abstract	
	B30	JP 9-298847	11/18/1997	Japan			Partial Translation	
Examiner Signature /HAL KAPLAN/				Date Considered 12/20/2017				
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Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	B31	JP 10-164837	6/19/1998	Japan			Partial Translation	
	B32	JP 11-75329	03/16/1999	Japan			Abstract	
	B33	JP 11-188113	07/13/1999	Japan			Abstract	
	B34	JP 2000-134830	5/12/2000	Japan				
	B35	JP 2001-309580	11/2/2001	Japan			Partial Translation	
	B36	JP 2002-010535	1/11/2002	Japan			Partial Translation	
	B37	JP 2003-179526	6/27/2003	Japan			Abstract	
	B38	JP 2004-166459	6/10/2004	Japan			Abstract	
	B39	JP 2004-201458	7/15/2004	Japan			Abstract	
	B40	JP 2004-229144	8/12/2004	Japan			Abstract	
	B41	JP 2005-57444	3/3/2005	Japan			Abstract	
	B42	JP 2005-149238	6/9/2005	Japan			Partial Translation	
	B43	JP 2006-074848	3/16/2006	Japan			Abstract	
	B44	JP 2007-505480	3/8/2007	Japan			Partial Translation	
	B45	JP 2007-266892	10/11/2007	Japan			Abstract	
	B46	JP 2007-537637	12/20/2007	Japan			Abstract	
	B47	JP 2008-17562	1/24/2008	Japan				
	B48	JP 2008-295231	12/4/2008	Japan				
	B49	JP 2008-508842	3/21/2008	Japan			Abstract	
	B50	JP 2008-206231	9/4/2008	Japan			Abstract	
	B51	JP 2008-206327	9/4/2008	Japan			Abstract	
	B52	JP2009-213295	9/17/2009	Japan				
	B53	JP 2009-273260	11/19/2009	Japan				
	B54	JP 2011-072074	4/7/2011	Japan			Abstract	
	B55	JP 2012-504387	2/16/2012	Japan			Abstract	

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Foreign Patent Documents or Published Foreign Patent Applications								
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							Yes	No
	B56	JP 2013-543718	12/5/2013	Japan			Not Available	
	B57	KR 10-2007-0017804	2/13/2007	Korea			Abstract	
	B58	KR 10-2008-0007635	1/22/2008	Korea			Abstract	
	B59	KR 10-2009-0122072	11/26/2009	Korea			Abstract	
	B60	KR 10-2011-0050920	5/17/2011	Korea			Abstract	
	B61	SG 112842	7/28/2005	Singapore			Partial Translation	
	B62	WO 92/17929	10/15/1992	WIPO				
	B63	WO 93/23908	11/25/1993	WIPO				
	B64	WO 94/28560	12/08/1994	WIPO				
	B65	WO 95/11545	04/27/1995	WIPO				
	B66	WO 96/02970	02/01/1996	WIPO				
	B67	WO 98/50993	11/12/1998	WIPO				
	B68	WO 00/77910	12/21/2000	WIPO			Abstract	
	B69	WO 03/092329	11/6/2003	WIPO				
	B70	WO 03/096361	11/20/2003	WIPO				
	B71	WO 03/096512	11/20/2003	WIPO				
	B72	WO 2004/015885	2/19/2004	WIPO				
	B73	WO 2004/038888	5/6/2004	WIPO				
	B74	WO 2004/055654	7/1/2004	WIPO				
	B75	WO 2004/073150	8/26/2004	WIPO				
	B76	WO 2004/073166	8/26/2004	WIPO				
	B77	WO 2004/073176	8/26/2004	WIPO				
	B78	WO 2004/073177	8/26/2004	WIPO				
	B79	WO 2004/112216	12/23/2004	WIPO				
	B80	WO 2005/024865	3/17/2005	WIPO				
	B81	WO 2005/060068	6/30/2005	WIPO				

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	B82	WO 2005/109597	11/17/2005	WIPO				
	B83	WO 2005/109598	11/17/2005	WIPO				
	B84	WO 2006/011769	2/2/2006	WIPO				
	B85	WO 2007/008646	01/18/2007	WIPO				
	B86	WO 2007/020583	2/22/2007	WIPO				
	B87	WO 2007/042952	4/19/2007	WIPO				
	B88	WO 2007/084716	7/26/2007	WIPO				
	B89	WO 2007/084717	7/26/2007	WIPO				
	B90	WO 2008/109489	9/12/2008	WIPO				
	B91	WO 2008/118178	10/02/2008	WIPO				
	B92	WO 2009/009559	1/5/2009	WIPO				
	B93	WO 2009/018568	2/5/2009	WIPO				
	B94	WO 2009/023155	2/19/2009	WIPO				
	B95	WO 2009/023646	2/19/2009	WIPO				
	B96	WO 2009/033043	3/12/2009	WIPO				
	B97	WO 2009/062438	5/22/2009	WIPO				
	B98	WO 2009/070730	6/4/2009	WIPO				
	B99	WO 2009/126963	10/15/2009	WIPO				
	B100	WO 2009/140506	11/19/2009	WIPO				
	B101	WO 2009/149464	12/10/2009	WIPO				
	B102	WO 2009/155000	12/23/2009	WIPO				
	B103	WO 2010/030977	3/18/2010	WIPO				
	B104	WO 2010/036980	4/1/2010	WIPO				
	B105	WO 2010/039967	4/8/2010	WIPO				
	B106	WO 2010/090538	8/12/2010	WIPO				
	B107	WO 2010/090539	8/12/2010	WIPO				
	B108	WO 2010/093997	8/19/2010	WIPO				

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	B109	WO 2010/104569	9/16/2010	WIPO				
	B110	WO 2011/061388	5/26/2011	WIPO				
	B111	WO 2011/061821	5/26/2011	WIPO				
	B112	WO 2011/062827	5/26/2011	WIPO				
	B113	WO 2011/112795	9/15/2011	WIPO				
	B114	WO 2012/037279	3/22/2012	WIPO				
	B115	WO 2012/170278	12/13/2012	WIPO				
	B116	WO 2013/013235	1/24/2013	WIPO				
	B117	WO 2013/020138	2/7/2013	WIPO				
	B118	WO 2013/036947	3/14/2013	WIPO				
	B119	WO 2013/059441	4/25/2013	WIPO				
	B120	WO 2013/067484	5/10/2013	WIPO				
	B121	WO 2013/113017	8/1/2013	WIPO				
	B122	WO 2013/142840	9/26/2013	WIPO				
	B123	WO 2014/004843	1/3/2014	WIPO				

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	C1	"Intel CTO Says Gap between Humans, Machines Will Close by 2050", <u>Intel News Release</u> , (See intel.com/.../20080821comp.htm?iid=S...) (Printed 11/6/2009)
	C2	"Physics Update, Unwired Energy", <u>Physics Today</u> , pp. 26, (January 2007) (See http://arxiv.org/abs/physics/0611063 .)
	C3	"In pictures: A year in technology", <u>BBC News</u> , (December 28, 2007)
	C4	"Next Little Thing 2010 Electricity without wires", CNN Money (See money.cnn.com/galleries/2009/smallbusiness/0911/gallery.next_little_thing_2010.smb/) (dated November 30, 2009)
	C5	Abe et al. "A Noncontact Charger Using a Resonant Converter with Parallel Capacitor of the Secondary Coil". IEEE, 36(2):444-451, March/April 2000.
	C6	Ahmadian, M. et al., "Miniature Transmitter for Implantable Micro Systems", <u>Proceedings of the 25th Annual International Conference of the IEEE EMBS Cancun, Mexico</u> , pp. 3028-3031 (September 17-21, 2003)

Examiner Signature /HAL KAPLAN/	Date Considered 12/20/2017
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	Filing Date Herewith	Group Art Unit	

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	C7	Aoki, T. et al., "Observation of strong coupling between one atom and a monolithic microresonator", <i>Nature</i> , Vol. 443:671-674 (2006)
	C8	Apneseth et al. "Introducing wireless proximity switches" ABB Review 4/2002.
	C9	Aristeidis Karalis et al., "Efficient Wireless <i>non-radiative mid-range</i> energy transfer", <i>Annals of Physics</i> , Vol. 323, pp. 34-48 (2008)
	C10	Baker et al., "Feedback Analysis and Design of RF Power Links for Low-Power Bionic Systems," <i>IEEE Transactions on Biomedical Circuits and Systems</i> , Vol. 1(1):28-38 (March 2007)
	C11	Balanis, C.A., "Antenna Theory: Analysis and Design," 3rd Edition, Sections 4.2, 4.3, 5.2, 5.3 (Wiley, New Jersey, 2005).
	C12	Berardelli, P., "Outlets Are Out", ScienceNOW Daily News, Science Now, http://sciencenow.sciencemag.org/cgi/content/full/2006/1114/2 , (November 14, 2006) 2 pages
	C13	Biever, C., "Evanescent coupling' could power gadgets wirelessly", NewScientistsTech.com, http://www.newscientisttech.com/article.ns?id=dn10575&print=true , (November 15, 2006) 2 pages
	C14	Borenstein, S., "Man tries wirelessly boosting batteries", (The Associated Press), USA Today, (November 16, 2006) 1 page
	C15	Borenstein, S., "Man tries wirelessly boosting batteries", AP Science Writer, Boston.com, (See http://www.boston.com/business/technology/articles/2006/11/15/man_tries_wirelessly_b...) (November 15, 2006)
	C16	Boyle, A., "Electro-nirvana? Not so fast", MSNBC, http://lcosmiclog.msnbc.msn.com/_news/2007/06/08/4350760-electro-nirvana-not-so-fast , (June 8, 2007) 1 page
	C17	Budhia, M. et al., "A New IPT Magnetic Coupler for Electric Vehicle Charging Systems", IECON 2010 - 36th Annual Conference on IEEE Industrial Electronics Society, Glendale, AZ, pp. 2487-2492 (Nov. 7-10, 2010)
	C18	Budhia, M. et al., "Development and evaluation of single sided flux couplers for contactless electric vehicle charging", 2011 IEEE Energy Conversion Congress and Exposition (ECCE), Phoenix, AZ, pp. 614-621 (September 17-22, 2011)
	C19	Budhia, M. et al., "Development of a Single-Sided Flux Magnetic Coupler for Electric Vehicle IPT", <i>IEEE Transactions on Industrial Electronics</i> , Vol. 60:318-328 (January 2013)
	C20	Bulkeley, W. M., "MIT Scientists Pave the Way For Wireless Battery Charging", The Wall Street Journal (See http://online.wsj.com/article/SB11812395549228045.html?mod=googlenews_wsj), (June 8, 2007) 2 pages
	C21	Burri et al., "Invention Description", (February 5, 2008)
	C22	Cass, S., "Air Power – Wireless data connections are common -- now scientists are working on wireless power", Sponsored by IEEE Spectrum, http://spectrum.ieee.org/computing/hardware/air-power , (November 2006) 2 pages
	C23	Castelvecchi, Davide, "The Power of Induction – Cutting the last cord could resonate with our increasingly gadget dependent lives", <i>Science News Online</i> , Vol. 172, No. 3, July 21, 2007, 6 pages
	C24	Chang, A., "Recharging The Wireless Way – Even physicists forget to recharge their cell phones sometimes.", PC Magazine, ABC News Internet Ventures, (December 12, 2006) 1 page
	C25	CHINAVIEW, "Scientists light bulb with 'wireless electricity'", www.Chinaview.cn, http://news.xinhuanet.com/english/2007-06/08/content_6215681.htm , June 2007, 1 page

Examiner Signature /HAL KAPLAN/	Date Considered 12/20/2017
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Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	C26	Cooks, G., "The vision of an MIT physicist: Getting rid of pesky rechargers", Boston.com, (December 11, 2006) 1 page
	C27	Derbyshire, D., "The end of the plug? Scientists invent wireless device that beams electricity through your home", Daily Mail, http://www.dailymail.co.uk/pages/live/articles/technology/technology.html?in_article_id=4... , (June 7, 2007) 3 pages
	C28	Eisenberg, Anne, "Automatic Recharging, From a Distance", The New York Times, (see www.nytimes.com/2012/03/11/business/built-in-wireless-charging-for-electronic-devices.html?_r=0) (published on March 10, 2012)
	C29	Esser et al., "A New Approach to Power Supplies for Robots", IEEE, Vol. 27(5):872-875, (September/October 1991)
	C30	Fan, Shanhui et al., "Rate-Equation Analysis of Output Efficiency and Modulation Rate of Photonic-Crystal Light-Emitting Diodes", IEEE Journal of Quantum Electronics, Vol. 36(10):1123-1130 (October 2000)
	C31	Fenske et al., "Dielectric Materials at Microwave Frequencies", Applied Microwave & Wireless, pp. 92-100 (2000)
	C32	Fernandez, C. et al., "A simple dc-dc converter for the power supply of a cochlear implant", IEEE, pp. 1965-1970 (2003)
	C33	Ferris, David, "How Wireless Charging Will Make Life Simpler (And Greener)", Forbes (See forbes.com/sites/davidferris/2012/07/24/how-wireless-charging-will-make-life-simpler-and-greener/print/) (dated July 24, 2012)
	C34	Fildes, J., "Physics Promises Wireless Power", (Science and Technology Reporter), BBC News, (November 15, 2006) 3 pages
	C35	Fildes, J., "The technology with impact 2007", BBC News, (December 27, 2007) 3 pages
	C36	Fildes, J., "Wireless energy promise powers up", BBC News, http://news.bbc.co.uk/2/hi/technology/6725955.stm , (June 7, 2007) 3 pages
	C37	Finkenzeller, Klaus, "RFID Handbook – Fundamentals and Applications in Contactless Smart Cards", Nikkan Kohgyo-sya, Kanno Taihei, first version, pp. 32-37, 253 (August 21, 2001)
	C38	Finkenzeller, Klaus, "RFID Handbook (2nd Edition)", The Nikkan Kogyo Shimbun, Ltd., pp. 19, 20, 38, 39, 43, 44, 62, 63, 67, 68, 87, 88, 291, 292 (Published on May 31, 2004)
	C39	Freedman, D.H., "Power on a Chip", MIT Technology Review, (November 2004)
	C40	Gary Peterson, "MIT WiTricity Not So Original After All", <u>Feed Line No. 9</u> , (See http://www.tfcbooks.com/articles/witricity.htm) printed 11/12/2009
	C41	Geyi, Wen, "A Method for the Evaluation of Small Antenna Q", IEEE Transactions on Antennas and Propagation, Vol. 51(8):2124-2129 (August 2003)
	C42	Hadley, F., "Goodbye Wires- MIT Team Experimentally Demonstrates Wireless Power Transfer, Potentially Useful for Power Laptops, Cell-Phones Without Cords", Massachusetts Institute of Technology, Institute for Soldier D Nanotechnologies, http://web.mit.edu/newsoffice/2007/wireless-0607.html , (June 7, 2007) 3 pages
	C43	Haus, H.A., "Waves and Fields in Optoelectronics," Chapter 7 "Coupling of Modes --- Resonators and Couplers" (Prentice-Hall, New Jersey, 1984).

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Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	C44	Heikkinen et al., "Performance and Efficiency of Planar Rectennas for Short-Range Wireless Power Transfer at 2.45 GHz", Microwave and Optical Technology Letters, Vol. 31(2):86-91, (October 20, 2001)
	C45	Highfield, R., "Wireless revolution could spell end of plugs", (Science Editor), Telegraph.co.uk, http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2007/06/07/nwireless107.xml , (June 7, 2007) 3 pages
	C46	Hirai et al., "Integral Motor with Driver and Wireless Transmission of Power and Information for Autonomous Subspindle Drive", IEEE, Vol. 15(1):13-20, (January 2000)
	C47	Hirai et al., "Practical Study on Wireless Transmission of Power and Information for Autonomous Decentralized Manufacturing System", IEEE, Vol. 46(2):349-359, April 1999.
	C48	Hirai et al., "Study on Intelligent Battery Charging Using Inductive Transmission of Power and Information", IEEE, Vol. 15(2):335-345, (March 2000)
	C49	Hirai et al., "Wireless Transmission of Power and Information and Information for Cableless Linear Motor Drive", IEEE, Vol. 15(1):21-27, (January 2000)
	C50	Hirayama, M., "Splashpower - World Leaders in Wireless Power", PowerPoint presentation, Splashpower Japan, (September 3, 2007) 30 pages
	C51	Ho, S. L. et al., "A Comparative Study Between Novel Witricity and Traditional Inductive Magnetic Coupling in Wireless Charging", IEEE Transactions on Magnetics, Vol. 47(5):1522-1525 (May 2011)
	C52	INFOTECH ONLINE, "Recharging gadgets without cables", infotech.indiatimes.com, (November 17, 2006) 1 page
	C53	Jackson, J. D., "Classical Electrodynamics", 3rd Edition, Wiley, New York, 1999, pp. 201-203
	C54	Jackson, J.D., "Classical Electrodynamics," 3rd Edition, Sections 1.11, 5.5, 5.17, 6.9, 8.1, 8.8, 9.2, 9.3 (Wiley, New York, 1999).
	C55	Jacob, M. V. et al., "Lithium Tantalate – A High Permittivity Dielectric Material for Microwave Communication Systems", <u>Proceedings of IEEE TENCON – Poster Papers</u> , pp. 1362-1366, 2003
	C56	Karalis, Aristeidis, "Electricity Unplugged", Feature: Wireless Energy Physics World, physicsworld.com, pp. 23-25 (February 2009)
	C57	Kawamura et al., "Wireless Transmission of Power and Information Through One High-Frequency Resonant AC Link Inverter for Robot Manipulator Applications", IEEE, Vol. 32(3):503-508, (May/June 1996)
	C58	Kurs, A. et al., "Wireless Power Transfer via Strongly Coupled Magnetic Resonances", <u>Science</u> Vol. 317, pp. 83-86 (July 6, 2007)
	C59	Kurs, A. et al., "Simultaneous mid-range power transfer to multiple devices", <u>Applied Physics Letters</u> , Vol. 96, No. 044102 (2010)
	C60	Kurs, A. et al., "Optimized design of a low-resistance electrical conductor for the multimegahertz range", <u>Applied Physics Letters</u> , Vol. 98:172504- 172504-3 (April 2011)
	C61	LAMB, GREGORY M., "Look Ma – no wires! - Electricity broadcast through the air may someday run your home", The Christian Science Monitor, http://www.csmonitor.com/2006/1116/p14s01-stct.html , November 15, 2006, 2 pages
	C62	Lee, "Antenna Circuit Design for RFID Applications," Microchip Technology Inc., AN710, 50 pages (2003)

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Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	C63	Lee, "RFID Coil Design," Microchip Technology Inc., AN678, 21 pages (1998)
	C64	Liang et al., "Silicon waveguide two-photon absorption detector at 1.5 μm wavelength for autocorrelation measurements," <i>Applied Physics Letters</i> , 81(7):1323-1325 (August 12, 2002)
	C65	Markoff, J., "Intel Moves to Free Gadgets of Their Recharging Cords", <i>The New York Times</i> - nytimes.com, August 21, 2008, 2 pages
	C66	Mediano, A. et al. "Design of class E amplifier with nonlinear and linear shunt capacitances for any duty cycle", <i>IEEE Trans. Microwave Theor. Tech.</i> , volume 55, no. 3, pp. 484-492, (2007)
	C67	Microchip Technology Inc., "microID 13.56 MHz Design Guide - MCRF355/360 Reader Reference Design," 24 pages (2001)
	C68	MINKEL, J R., "Wireless Energy Lights Bulb from Seven Feet Away– Physicists vow to cut the cord between your laptop battery and the wall socket – with just a simple loop of wire", <i>Scientific American</i> , http://www.scientificamerican.com/article.cfm?id=wireless-energy-lights-bulb-from-seven-feet-away , June 7, 2007, 1 page
	C69	MINKEL, J R., "Wireless Energy Transfer May Power Devices at a Distance", <i>Scientific American</i> , November 14, 2006, 1 page
	C70	Morgan, J., "Lab report: Pull the plug for a positive charge", <i>The Herald</i> , Web Issue 2680, (November 16, 2006) 3 pages
	C71	Moskvitch, Katia, "Wireless charging – the future for electric cars?", <i>BBC News Technology</i> (See www.bbc.co.uk/news/technology-14183409) (dated July 21, 2011)
	C72	O'Brien et al., "Analysis of Wireless Power Supplies for Industrial Automation Systems", <i>IEEE</i> , pp. 367-72 (November 2-6, 2003)
	C73	O'Brien et al., "Design of Large Air-Gap Transformers for Wireless Power Supplies", <i>IEEE</i> , pp. 1557-1562 (June 15-19, 2003)
	C74	Pendry, J. B., "A Chiral Route to Negative Refraction", <i>Science</i> , Vol. 306:1353-1355 (2004)
	C75	PHYSICS TODAY, "Unwired energy questions asked answered", September 2007, pp. 16-17
	C76	Powercast LLC. "White Paper" Powercast simply wire free, 2003.
	C77	PR NEWS WIRE, "The Big Story for CES 2007: The public debut of eCoupled Intelligent Wireless Power", Press Release, Fulton Innovation LLC, Las Vegas, NV, (December 27, 2006) 3 pages
	C78	PRESS RELEASE, "The world's first sheet-type wireless power transmission system: Will a socket be replaced by e-wall?", Public Relations Office, School of Engineering, University of Tokyo, Japan, December 12, 2006, 4 pages
	C79	PRESSTV, "Wireless power transfer possible", http://edition.presstv.ir/detail/12754.html , June 11, 2007, 1 page
	C80	Reidy, C. (GLOBE STAFF), "MIT discovery could unplug your iPod forever", <i>Boston.com</i> , http://www.boston.com/business/ticker/2007/06/mit_discovery_c.html , (June 7, 2007) 3 pages
	C81	Risen, C., "Wireless Energy", <i>The New York Times</i> , (December 9, 2007) 1 page
	C82	Sakamoto et al., "A Novel Circuit for Non-Contact Charging Through Electro-Magnetic Coupling", <i>IEEE</i> , pp. 168-174 (1992)
	C83	Scheible, G. et al., "Novel Wireless Power Supply System for Wireless Communication Devices in Industrial Automation Systems", <i>IEEE</i> , pp. 1358-1363, (November 5-8, 2002)

Examiner Signature /HAL KAPLAN/	Date Considered 12/20/2017
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

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Substitute Disclosure Form	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 25236-0036002	Application No. Unknown
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant WiTricity Corporation	
		Filing Date Herewith	Group Art Unit

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	C84	Schneider, D. "A Critical Look at Wireless Power", <u>IEEE Spectrum</u> , pp. 35-39 (May 2010)
	C85	Schneider, David, "Electrons Unplugged. Wireless power at a distance is still far away", <u>IEEE Spectrum</u> , pp. 35-39 (May 2010)
	C86	Schuder, J. C. et al., "An Inductively Coupled RF System for the Transmission of 1 kW of Power Through the Skin", <u>IEEE Transactions on Bio-Medical Engineering</u> , Vol. BME-18, No. 4, pp. 265-273 (July 1971)
	C87	Schuder, J. C., "Powering an Artificial Heart: Birth of the Inductively Coupled-Radio Frequency System in 1960", <u>Artificial Organs</u> , Vol. 26:909-915 (2002)
	C88	Schuder, J.C. et al., "Energy Transport Into the Closed Chest From a Set of Very-Large Mutually Orthogonal Coils", <u>Communication Electronics</u> , Vol. 64:527-534 (January 1963)
	C89	Schutz, J. et al., "Load Adaptive Medium Frequency Resonant Power Supply", <u>IEEE</u> , pp. 282-287 (November 2002)
	C90	Sekitani et al. "A large-area wireless power-transmission sheet using printed organic transistors and plastic MEMS switches" <u>www.nature.com/naturematerials</u> . Published online April 29, 2007.
	C91	Sekitani et al., "A large-area flexible wireless power transmission sheet using printed plastic MEMS switches and organic field-effect transistors", <u>IEDM '06, International Electron Devices Meeting</u> , (December 11-13, 2006) 4 pages
	C92	Sekiya, H. et al., "FM/PWM control scheme in class DE inverter", <u>IEEE Trans. Circuits Syst. I</u> , Vol. 51(7) (July 2004)
	C93	Senge, M., "MIT's wireless electricity for mobile phones", <u>Vanguard</u> , http://www.vanguardngr.com/articles/2002/features/gsm/gsm211062007.htm , (June 11, 2007) 1 page
	C94	Sensiper, S., "Electromagnetic wave propagation on helical conductors", <u>Technical Report No. 194</u> (based on PhD Thesis), Massachusetts Institute of Technology, (May 16, 1951) 126 pages
	C95	Soljacic, M., "Wireless Non-Radiative Energy Transfer – PowerPoint presentation". Massachusetts Institute of Technology, (October 6, 2005)
	C96	Soljacic, M. et al., "Wireless Energy Transfer Can Potentially Recharge Laptops Cell Phones Without Cords", (November 14, 2006) 3 pages
	C97	Soljacic, M. et al., "Photonic-crystal slow-light enhancement of nonlinear phase sensitivity", <u>J. Opt. Soc. Am B</u> , Vol. 19, No. 9, pp. 2052-2059 (September 2002)
	C98	Soljacic, M., "Wireless nonradiative energy transfer", <u>Visions of Discovery New Light on Physics, Cosmology, and Consciousness</u> , Cambridge University Press, New York, NY pp. 530-542 (2011)
	C99	Someya, Takao. "The world's first sheet-type wireless power transmission system". University of Tokyo, (December 12, 2006)
	C100	Staelin, David H. et al., <u>Electromagnetic Waves</u> , Chapters 2, 3, 4, and 8, pp. 46-176 and 336-405 (Prentice Hall Upper Saddle River, New Jersey 1998)
	C101	Stark III, Joseph C., "Wireless Power Transmission Utilizing a Phased Array of Tesla Coils", Master Thesis, Massachusetts Institute of Technology (2004)
	C102	Stewart, W., "The Power to Set you Free", <u>Science</u> , Vol. 317:55-56 (July 6, 2007)
	C103	Tang, S.C. et al., "Evaluation of the Shielding Effects on Printed-Circuit-Board Transformers Using Ferrite Plates and Copper Sheets", <u>IEEE Transactions on Power Electronics</u> , Vol. 17:1080-1088 (November 2002)

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Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	C104	Tesla, Nikola, "High Frequency Oscillators for Electro-Therapeutic and Other Purposes", <u>Proceedings of the IEEE</u> , Vol. 87:1282-1292 (July 1999)
	C105	Tesla, Nikola, "High Frequency Oscillators for Electro-Therapeutic and Other Purposes", <u>The Electrical Engineer</u> , Vol. XXVI, No. 50 (November 17, 1898)
	C106	Texas Instruments, "HF Antenna Design Notes - Technical Application Report," Literature Number 11-08-26-003, 47 pages (September 2003)
	C107	Thomsen et al., "Ultrahigh speed all-optical demultiplexing based on two-photon absorption in a laser diode," <u>Electronics Letters</u> , 34(19):1871-1872 (September 17, 1998)
	C108	UPM Rafsec, "Tutorial overview of inductively coupled RFID Systems," 7 pages (May 2003)
	C109	Valtchev et al. "Efficient Resonant Inductive Coupling Energy Transfer Using New Magnetic and Design Criteria". <u>IEEE</u> , pp. 1293-1298, 2005.
	C110	Vandevoorde et al., "Wireless energy transfer for stand-alone systems: a comparison between low and high power applicability", <u>Sensors and Actuators</u> , Vol. 92:305-311 (2001)
	C111	Vilkomerson, David et al., "Implantable Doppler System for Self-Monitoring Vascular Grafts", <u>IEEE Ultrasonics Symposium</u> , pp. 461-465 (2004)
	C112	Villeneuve, Pierre R. et al., "Microcavities in photonic crystals: Mode symmetry, tunability, and coupling efficiency", <u>Physical Review B</u> , Vol. 54:7837-7842 (September 15, 1996)
	C113	Yariv, Amnon et al., "Coupled-resonator optical waveguide: a proposal and analysis", <u>Optics Letters</u> , Vol. 24(11):711-713 (June 1, 1999)
	C114	Yates, David C. et al., "Optimal Transmission Frequency for Ultralow-Power Short-Range Radio Links", <u>IEEE Transactions on Circuits and Systems - 1, Regular Papers</u> , Vol. 51:1405-1413 (July 2004)
	C115	Yoshihiro Konishi, <u>Microwave Electronic Circuit Technology</u> , Chapter 4, pp. 145-197 (Marcel Dekker, Inc., New York, NY 1998)
	C116	Ziaie, Babak et al., "A Low-Power Miniature Transmitter Using A Low-Loss Silicon Platform For Biotelemetry", <u>Proceedings - 19th International Conference IEEE/EMBS</u> , pp. 2221-2224, (October 30 - November 2, 1997) 4 pages
	C117	Zierhofer, Clemens M. et al., "High-Efficiency Coupling-Insensitive Transcutaneous Power and Data Transmission Via an Inductive Link", <u>IEEE Transactions on Biomedical Engineering</u> , Vol. 37, No. 7, pp. 716-722 (July 1990)
	C118	Copy of Chinese Office Action for Chinese Application No. 2012800496010 dated December 21, 2015 (5 pages)
	C119	Copy of EP Search Report for EP Application No. 15 19 0252 by Examiner A. Tchegho Kamdem dated January 4, 2016 (11 pages)
	C120	Copy of EPO Communication for European Application No. 12 830 255.1 dated April 28, 2015 (6 pages)
	C121	~~Copy of Korean Official Notice of Preliminary Rejection for Korean Application No. 10-2013-7009960 by Examiner Young-chol Kim dated November 1, 2015 (12 pages)~~
	C122	Copy of Supplementary European Search Report for Application No. 11831382 by Examiner Matthias Holz dated January 26, 2015 (8 pages)
	C123	Copy of Supplementary European Search Report for European Application No. EP 12 83 0255 dated April 8, 2015 (3 pages)

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		~~Frickey et al., "Conversions Between S, Z, Y, h, ABCD, and T Parameters which are Valid for~~
	C124	Complex Source and Load Impedances", IEEE Transactions on Microwave Theory and Techniques, Vol. 42, No. 2, pp. 205-211 (February 1994)
	C125	PCT/US2013/065963, International Application No. PCT/US2013/065963, International Preliminary Report on Patentability, mailed on April 30, 2015, 11 pages
	C126	PCT/US2013/065963, International Application No. PCT/US2013/065963, International Search Report and Written Opinion, mailed on October 28, 2014, 14 pages
	C127	Copy of Korean Office Action for Korean Application No. 10-2013-7009960 dated March 7, 2016 (13 pages)

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Sheet 1 of 1

Substitute Disclosure Form Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 25236-0036002	Application No. 15/170,397
		Applicant WiTricity Corporation	
		Filing Date June 1, 2016	Group Art Unit 2858

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1.						

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	2.	EP 2 482 294	8/1/2012	EPO	H01F	38/14		

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	3.	Copy of Second Office Action from the Chinese Patent Office for Chinese Application No. 201280049601.0 by Patent Examiner Zhang Wei dated September 18, 2016 (4 pages)

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	Applicant WiTricity Corporation	
	Filing Date June 1, 2016	Group Art Unit 2858

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1.	2013/0169062	7/4/2013	Maikawa, et al.			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	2.	JPH 10-327539	12/8/1998	Japan	H02J	7/00	English Abstract Only	
	3.	JP 2012-249401	12/13/2012	Japan	H02J	17/00	See US 2013/0169062	

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	4.	Copy of Office Action for Japanese Patent Application No. 2014-529952 by Examiner K. Nagai dated September 6, 2016 (12 pages)

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	Applicant WiTricity Corporation	
	Filing Date June 1, 2016	Group Art Unit 2858

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1.	2010/0253153	10/7/2010	Kondo et al.			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	2.							

Other Documents (include Author, Title, Date, and Place of Publication)		
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	3.	

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Search Notes 	Application/Control No. 15170397	Applicant(s)/Patent Under Reexamination VERGHESE ET AL.
	Examiner HAL KAPLAN	Art Unit 2836

CPC- SEARCHED		
Symbol	Date	Examiner
H02J 50/00,50/12,7/025,17/00,5/005	12/20/2017	HK
B60L 11/182	12/20/2017	HK
G01R 33/10	12/20/2017	HK
G01V 3/10	12/20/2017	HK
H01F 27/2804,38/14	12/20/2017	HK
Y02T 10/7005,10/7072,90/122,90/14	12/20/2017	HK
H02J 50/60	12/20/2017,12/21/2017	HK

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
307	104	12/20/2017	HK

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

SEARCH NOTES		
Search Notes	Date	Examiner
H02J 50/00,50/12,7/025,17/00,5/005 (text search)	12/20/2017	HK
B60L 11/182 (text search)	12/20/2017	HK
G01R 33/10 (text search)	12/20/2017	HK
G01V 3/10 (text search)	12/20/2017	HK
H01F 27/2804,38/14 (text search)	12/20/2017	HK
Y02T 10/7005,10/7072,90/122,90/14 (text search)	12/20/2017	HK
307/104 (text search)	12/20/2017	HK
Parent S/N 13/608,956 refs. checked	12/20/2017	HK

	/ HAL KAPLAN/ Primary Examiner. Art Unit 2836
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SEARCH NOTES

Search Notes	Date	Examiner
EAST (US-PGPUB,USPAT,USOCR,FPRS,EPO,JPO,DERWENT,IBM_TDB) - See Search History Printout	12/20/2017,12/21/2017	HK
Inventor name/assignee search	12/20/2017	HK
H02J 50/60 (text search)	12/20/2017,12/21/2017	HK

INTERFERENCE SEARCH

US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/HAL KAPLAN/
Primary Examiner.Art Unit 2836

EAST Search History

EAST Search History (Prior Art)

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S10	4286	h02j50/60.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 14:39
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S12	37672	h02j7/025.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 14:40
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S18	7409	h01f27/2804.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 14:41
S19	16288	h01f38/14.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 14:41
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S21	32816	y02t10/7072.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 14:41
S22	10042	y02t90/122.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 14:41
S23	44808	y02t90/14.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 14:41
S24	155682	(S8 or S9 or S10 or S11 or S12 or S13 or S14 or S15 or S16 or S17 or S18 or S19 or S20 or S21 or S22 or S23)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2017/12/20 14:41

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S25	272	witricity.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 14:41
S26	93	(verghese near2 simon).in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 14:43
S27	414	(kesler near2 morris).in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 14:43
S28	409	(hall near2 katherine).in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 14:44
S29	69	(lou near2 herbert).in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 14:44
S30	247	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) same (power energy) same (transfer\$4 transmi\$5) same resona\$4 same (magnetic adj field) same foreign same (detect\$3 sens\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 14:52
S31	23	S30 and (((magnetic adj field) near2 (sens\$3 detect\$3)) same foreign)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 14:58
S32	18	S31 and (vehicle automobile car)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 15:07
S33	218	S30 and (vehicle automobile car)	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2017/12/20 15:08

			EPO; JPO; DERWENT; IBM_TDB			
S34	126	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) same (vehicle automobile truck car) same battery same (foreign adj object))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 15:22
S35	174	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and ((vehicle automobile truck car) same battery same (foreign adj object))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 15:29
S36	1056	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and ((vehicle automobile truck car) same battery) and ((debris (foreign adj object)) with (detect\$3 sens\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 15:42
S37	369	S36 and S24	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 15:42
S38	2	"20020167294".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 16:19
S39	1151	S10 and (vehicle automobile automotive car)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 16:55
S40	86	S10 and (((magnetic adj field) near2 (sens\$3 detect\$3)) same (voltage current))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 16:56
S41	3	"20150145529".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/12/20 17:09
S42	28	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field)	US-PGPUB; USPAT;	OR	ON	2017/12/20 17:29

		((non adj contact) (no adj contact)) same (power energy) same (transfer\$4 transmi\$5) same resona\$4 same (foreign object debris) same (gradiometer ((magnetic adj field) near2 (sens\$3 detect\$3))))	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
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EAST Search History (I nterference)

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12/ 21/ 2017 9:39:50 AM

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Bibliographic Data

Application No: 15170397

Foreign Priority claimed: ☐ Yes ☒ No

35 USC 119 (a-d) conditions met: ☐ Yes ☒ No ☐ Met After Allowance

Verified and Acknowledged:

/HAL KAPLAN/

Examiner's Signature

Initials

Title:

FOREIGN OBJECT DETECTION IN WIRELESS ENERGY
TRANSFER SYSTEMS

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
06/01/2016	307	2836	25236-0036002
RULE			

APPLICANTS

WiTricity Corporation, Watertown, MA, UNITED STATES

INVENTORS

Simon Verghese, Arlington, MA, UNITED STATES

Morris P. Kesler, Bedford, MA, UNITED STATES

Katherine L. Hall, Arlington, MA, UNITED STATES

Herbert T. Lou, Carlisle, MA, UNITED STATES

CONTINUING DATA

13608956 is a PRO of 61532785 09/09/2011

15170397 is a CON of 13608956 09/10/2012PAT 9442172

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

06/14/2016

STATE OR COUNTRY

UNITED STATES

ADDRESS

FISH & RICHARDSON P.C. (WITRICITY)

P.O. BOX 1022

MINNEAPOLIS, MN 55440-1022

UNITED STATES

FILING FEE RECEIVED

\$1,740

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 15/170,397		Filing Date 06/01/2016		☐ To be Mailed	
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ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

(Column 1)		(Column 2)				(Column 1)		(Column 2)		
FOR	NUMBER FILED	NUMBER EXTRA			RATE (\$)			FEE (\$)		
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A			N/A					
☐ SEARCH FEE (37 CFR 1.16(k), (j), or (m))	N/A	N/A			N/A					
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A			N/A					
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*			X \$	=				
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*			X \$	=				
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))			If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).							
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL				

APPLICATION AS AMENDED – PART II

(Column 1)		(Column 2)		(Column 3)				(Column 1)		(Column 2)	
AMENDMENT	01/09/2018	CLAIMS REMAINING AFTER AMENDMENT	Minus	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA			RATE (\$)			ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 16	Minus	** 20	= 0			X \$80 =			0
	Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0			X \$420 =			0
☐ Application Size Fee (37 CFR 1.16(s))											
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))											
								TOTAL ADD'L FEE		0	

(Column 1)		(Column 2)		(Column 3)				(Column 1)		(Column 2)	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	Minus	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA			RATE (\$)			ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=			X \$			
	Independent (37 CFR 1.16(h))	*	Minus	***	=			X \$			
☐ Application Size Fee (37 CFR 1.16(s))											
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))											
								TOTAL ADD'L FEE			

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor :	Simon Verghese	Art Unit :	2836
Serial No. :	15/170,397	Examiner :	Hal Ira Kaplan
Filed :	June 1, 2016	Conf. No. :	1258
Title :	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

Mail Stop Amendment

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY TO ACTION OF JANUARY 2, 2018

Please consider the following reply.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor :	Simon Verghese	Art Unit :	2836
Serial No. :	15/170,397	Examiner :	Hal Ira Kaplan
Filed :	June 1, 2016	Conf. No. :	1258
Title :	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

MAIL STOP AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Please consider the references listed on the enclosed PTO-1449 Form. Foreign patent documents and non-patent literature are enclosed; cited U.S. patents and patent application publications will be provided on request.

This statement is being filed after a first action on the merits, but before receipt of a final action or a notice of allowance. A late submission fee in the amount of \$180, specified by 37 CFR §1.17(p), is being paid with this statement.

Please apply any necessary charges or credits to deposit account 06-1050, referencing the above attorney docket number. Kindly contact the undersigned if there are any questions regarding this statement.

Respectfully submitted,

Date: January 9, 2018

/Peter R. Poulin Reg. No. 74,643/

Peter Poulin
Reg. No. 74,643

Customer Number 26207
Fish & Richardson P.C.
Telephone: (617) 956-5901
Facsimile: (877) 769-7945

23724030.doc

List of Claims (replacing prior versions):

1-19. (Canceled)

20. (Previously Presented) A wireless energy transfer system with foreign object debris detection, the system comprising:

a wireless energy transfer source comprising a source resonator configured to generate an oscillating magnetic field; and

a foreign object debris detection system comprising:

at least one magnetic field sensor; and

at least one readout circuit configured to measure one or more electrical parameters of at the at least one magnetic field sensor,

wherein the at least one magnetic field sensor is positioned within the magnetic field of the wireless energy transfer system; and

wherein the foreign object debris detection system is configured to verify that foreign object debris has not moved onto or over the source resonator during generation of the oscillating magnetic field.

21. (Currently Amended) The system of claim 20, wherein the ~~at least one~~ wireless energy transfer source is configured to generate the oscillating magnetic field to transfer energy to a vehicle.

22. (Previously Presented) The system of claim 21, wherein the foreign object debris detection system is configured to verify that foreign object debris has not moved onto or over the source resonator prior to a transfer of energy from the source resonator to the vehicle.

23. (Previously Presented) The system of claim 20, wherein the foreign object debris detection system is configured to verify that foreign object debris has not moved onto or over the source resonator prior to generation of the oscillating magnetic field.

24. (Previously Presented) The system of claim 21, wherein the foreign object debris detection system is configured to verify that foreign object debris has not moved onto or over the source resonator after the vehicle is positioned over the source resonator and prior to a transfer of energy from the source resonator to the vehicle.
25. (Previously Presented) The system of claim 22, wherein the foreign object debris detection system is configured to perform a health and/or status check of the wireless energy transfer source before the vehicle is positioned over the source resonator.
26. (Previously Presented) The system of claim 25, wherein the foreign object debris detection system is configured to perform the health and/or status check less frequently than the verification that foreign object debris has not moved onto or over the source resonator prior to a transfer of energy from the source resonator to the vehicle.
27. (Previously Presented) The system of claim 25, wherein the foreign object debris detection system is configured to periodically perform the health and/or status check and the verification that foreign object debris has not moved onto or over the source resonator prior to a transfer of energy from the source resonator to the vehicle.
28. (Previously Presented) The system of claim 20, wherein the wireless energy transfer source is a component of a vehicle charging station.
29. (Previously Presented) The system of claim 28, further comprising a device module configured to be mounted on an electric vehicle.
30. (Previously Presented) The system of claim 20, wherein the foreign object debris detection system is integrated into the wireless energy transfer source.

31. (Previously Presented) The system of claim 20, further comprising an enclosure housing at least a portion of the wireless energy transfer source, wherein the foreign object debris detection system is integrated into the enclosure.

32. (Currently Amended) The system of claim 20, wherein the wireless energy transfer ~~transfer~~ source is configured to deliver a power of more than 3.3 kW to a wireless power receiving device.

33. (Previously Presented) The system of claim 20, wherein:

the at least one magnetic field sensor comprises a first conductive loop and a second conductive loop having a maximum dimension larger than a maximum dimension of the first conductive loop;

the first conductive loop is positioned in a first spatial region and the second conductive loop is positioned in a second spatial region different from the first spatial region; and

an amplitude of the oscillating magnetic field in the first spatial region is larger than an amplitude of the oscillating magnetic field in the second spatial region.

34. (Previously Presented) The system of claim 20, wherein:

the at least one magnetic field sensor comprises a first conductive loop and a second conductive loop having a maximum dimension larger than a maximum dimension of the first conductive loop;

the first conductive loop is positioned in a first spatial region and the second conductive loop is positioned in a second spatial region different from the first spatial region; and

a spatial variation of the oscillating magnetic field in the first spatial region is larger than a spatial variation of the oscillating magnetic field in the second spatial region.

35. (Currently Amended) A method of detecting foreign object debris in a wireless energy transfer system, the method comprising:

performing a health and/or status check of a source resonator of the wireless energy transfer system;

verifying that no foreign object debris has moved onto or over the source resonator;
positioning a vehicle over the source resonator;
verifying that no foreign object debris has moved onto or over the source resonator;
generating an oscillating magnetic field using [[a]] the source resonator to transfer energy wirelessly to [[a]] the vehicle to charge a battery of the vehicle; and
verifying that no foreign object debris has moved onto or over the source resonator during the transfer of energy.

36-37. (Canceled)

REMARKS

In reply to the Office Action of January 2, 2018, Applicant has amended claims 21, 32, and 35, and canceled claims 36-37. Accordingly, claims 20-35 are pending, with claims 20 and 35 in independent form.

Allowable Subject Matter

Applicant thanks the Office for indicating that claims 20, 22-31, and 33-34 are allowed, that claims 21 and 32 would be allowable if amended to corrected informalities, and that claim 37 would be allowable if the rejection thereof under 35 U.S.C. § 112 is overcome.

Claim Objections

Claims 21 and 32 were objected to based on informal deficiencies. Applicant has amended these claims to correct the deficiencies, and believes amended claims 21 and 32 are allowable.

Claim Rejections – 35 USC § 112

Claim 37 was rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Applicant has canceled claim 37 without prejudice, making its rejection moot, and therefore respectfully requests that this rejection be withdrawn.

Claim Rejections – 35 USC § 102

Claims 35 and 36 were rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by Hall (U.S. Patent Application Publication No. 2011/0074346). Applicant does not agree that any of these rejections are correct. Nonetheless, solely to expedite prosecution, Applicant has canceled claim 36 and amended claim 35 to include the features of previous claims 36 and 37, with the features from previous claim 37 amended to correct the deficiencies identified by the Office in connection with the rejection under 35 U.S.C. § 112 above.

Accordingly, as acknowledged by the Office, amended claim 35 (which now includes all of the features of previous claim 37) is patentable over Hall, and Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 35 under 35 U.S.C. § 102(a).

Conclusion

All claims are presently allowed or in condition for allowance, and Applicant respectfully requests a notice of allowance in the next communication. Canceled claims, if any, have been canceled without prejudice or disclaimer.

Any circumstance in which Applicant has (a) addressed certain comments of the Office does not mean that Applicant concedes other comments of the Office, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that Applicant concedes any of the Office's positions with respect to that claim or other claims.

Applicant respectfully requests consideration of all filed IDSs not previously considered, by initialing and returning each Form PTO-1449.

No fees are believed to be due. Please apply any necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: January 9, 2018

/Peter R. Poulin Reg. No. 74,643/

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23723169.doc

Electronic Patent Application Fee Transmittal

Application Number:	15170397			
Filing Date:	01-Jun-2016			
Title of Invention:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS			
First Named Inventor/Applicant Name:	Simon Verghese			
Filer:	Peter Poulin/Cheryl Forrest			
Attorney Docket Number:	25236-0036002			
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Total in USD (\$)				180

Electronic Acknowledgement Receipt

EFS ID:	31442849
Application Number:	15170397
International Application Number:	
Confirmation Number:	1258
Title of Invention:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS
First Named Inventor/Applicant Name:	Simon Verghese
Customer Number:	26207
Filer:	Peter Poulin/Cheryl Forrest
Filer Authorized By:	Peter Poulin
Attorney Docket Number:	25236-0036002
Receipt Date:	09-JAN-2018
Filing Date:	01-JUN-2016
Time Stamp:	09:40:09
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 180
RAM confirmation Number	010918INTEFSW00008694061050
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		ReplytoOA.pdf	79550	yes	7
			31f1ee51e1df704d96408276cd66fbc0cebb74eb		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	7	
Warnings:					
Information:					
2		IDS.pdf	153592	yes	2
			cf93b62a0ba992fec361bd1bac9caef0b135bdc5		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Transmittal Letter		1	1	
	Information Disclosure Statement (IDS) Form (SB08)		2	2	
Warnings:					
Information:					
3	Non Patent Literature	NPL.pdf	1267619	no	7
			4f317e8c88f69ec94a24cadf5f940d8545cb073f		
Warnings:					
Information:					

4	Other Reference-Patent/App/Search documents	OTHER.pdf	4262382	no	13
			6b670b24e4c0bc91afc929b081abe34735e8da06		
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	30731	no	2
			60b7d4fdc5193d0cd07ebc19fe8b102ecc9b971b		
Warnings:					
Information:					
Total Files Size (in bytes):				5793874	
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

Substitute Disclosure Form Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 25236-0036002	Application No. 15/170,397
		Applicant WiTricity Corporation	
		Filing Date June 1, 2016	Group Art Unit 2836

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1.						

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	2.							

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	3.	Copy of Korean Official Notice of Preliminary Rejection for Korean Application No. 10-2013-7009960 by Examiner Young-chol Kim dated November 1, 2015 (12 pages)
	4.	Frickey et al., "Conversions Between S, Z, Y, h, ABCD, and T Parameters which are Valid for Complex Source and Load Impedances", IEEE Transactions on Microwave Theory and Techniques, Vol. 42, No. 2, pp. 205-211 (February 1994)

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

Issue Classification 	Application/Control No. 15170397	Applicant(s)/Patent Under Reexamination VERGHESE ET AL.
	Examiner HAL KAPLAN	Art Unit 2836

CPC						
Symbol					Type	Version
H02J		50	/	60	F	2016-02-01
G01R		33	/	10	I	2013-01-01
H02J		17	/	00	I	2013-01-01
G01V		3	/	10	I	2013-01-01
H02J		5	/	005	A	2013-01-01
H01F		27	/	2804	A	2013-01-01
H01F		38	/	14	A	2013-01-01
B60L		11	/	182	I	2013-01-01
H02J		50	/	12	I	2016-02-01
H02J		7	/	025	I	2013-01-01
Y02T		10	/	7005	A	2013-01-01
Y02T		10	/	7072	A	2013-01-01
Y02T		90	/	14	A	2013-01-01
Y02T		90	/	122	A	2013-01-01
			/			

CPC Combination Sets				
Symbol		Type	Set	Version
	/			
	/			

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	16	
/HAL KAPLAN/ Primary Examiner.Art Unit 2836	3/8/2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	20	1

Issue Classification 	Application/Control No. 15170397	Applicant(s)/Patent Under Reexamination VERGHESE ET AL.
	Examiner HAL KAPLAN	Art Unit 2836

☐ Claims renumbered in the same order as presented by applicant															
☐ CPA															
☐ T.D.															
☐ R.1.47															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		17	14	33										
	2		18	15	34										
	3		19	16	35										
	4	1	20		36										
	5	2	21		37										
	6	3	22												
	7	8	23												
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	11	6	27												
	12	9	28												
	13	10	29												
	14	11	30												
	15	12	31												
	16	13	32												

NONE	Total Claims Allowed: 16	
(Assistant Examiner)	(Date)	
/HAL KAPLAN/ Primary Examiner.Art Unit 2836	3/8/2018	O.G. Print Claim(s) 20
(Primary Examiner)	(Date)	O.G. Print Figure 1

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S48	129	h02j50/60.cpc. and @pd>="20171221"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:40
S49	0	S48 and (gradiometer same (voltage current))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:40
S50	0	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) same (power energy) same (transfer\$4 transmi\$5) same resona\$4 same gradiometer same foreign same (detect\$3 sens\$3)) and @pd>="20171221"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:43
S51	6	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) same (power energy) same (transfer\$4 transmi\$5) same resona\$4 same (magnetic adj field) same foreign same (detect\$3 sens\$3)) and @pd>="20171221"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:47
S52	0	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) same (power energy) same (transfer\$4 transmi\$5) same resona\$4 same gradiometer same foreign same (detect\$3 sens\$3)) and @pd>="20171221"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:53
S53	6	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) same (power energy) same (transfer\$4 transmi\$5) same resona\$4 same (magnetic adj field) same foreign same (detect\$3 sens\$3)) and @pd>="20171221"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:53
S54	0	(S52 or S53) and (gradiometer same foreign)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2018/03/07 15:53

			DERWENT; IBM_TDB			
S55	7776	307/104.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:55
S56	26966	h02j50/00,12,60.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:56
S57	38850	h02j7/025.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:56
S58	14359	h02j17/00.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:56
S59	22658	h02j5/005.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:56
S60	11892	b60l11/182.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:56
S61	941	g01r33/10.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:56
S62	1785	g01v3/10.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:56
S63	7657	h01f27/2804.cpc.	US-PGPUB; USPAT; USOCR;	OR	ON	2018/03/07 15:56

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S64	16696	h01f38/14.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:56
S65	97468	y02t10/7005.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:57
S66	10245	y02t90/122.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:57
S67	45308	y02t90/14.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:57
S68	33276	y02t10/7072.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:57
S69	2691	(S55 or S56 or S57 or S58 or S59 or S60 or S61 or S62 or S63 or S64 or S65 or S66 or S67 or S68) and @pd>="20171220"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:58
S70	9	witricity.as. and @pd>="20171220"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 15:58
S71	1	(verghese near2 simon).in. and @pd>="20171220"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:02
S72	2	(kesler near2 morris).in. and	US-PGPUB;	OR	ON	2018/03/07

		@pd> = "20171220"	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			16:04
S73	1	(hall near2 katherine).in. and @pd> = "20171220"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:04
S74	1	(lou near2 herbert).in. and @pd> = "20171220"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:07
S75	6	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) same (power energy) same (transfer\$4 transmi\$5) same resona\$4 same (magnetic adj field) same foreign same (detect\$3 sens\$3)) and @pd> = "20171220"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:24
S76	2	S75 and (((magnetic adj field) near2 (sens\$3 detect\$3)) same foreign)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:25
S77	1	S76 and (vehicle automobile car)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:27
S78	4	S75 and (vehicle automobile car)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:28
S79	3	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) same (vehicle automobile truck car) same battery same (foreign adj object)) and @pd> = "20171220"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:35
S80	4	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and ((vehicle automobile truck car) same battery same (foreign adj	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2018/03/07 16:38

		object)) and @pd>="20171220"	DERWENT; IBM_TDB			
S81	34	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and ((vehicle automobile truck car) same battery) and ((debris (foreign adj object)) with (detect\$3 sens\$3)) and @pd>="20171220"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:39
S82	7776	307/104.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:44
S83	26966	h02j50/00,12,60.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:44
S84	38850	h02j7/025.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:44
S85	14359	h02j17/00.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:44
S86	22658	h02j5/005.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:44
S87	11892	b60l11/182.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:44
S88	941	g01r33/10.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:44
S89	1785	g01v3/10.cpc.	US-PGPUB; USPAT; USOCR;	OR	ON	2018/03/07 16:44

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S92	97468	y02t10/7005.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:44
S93	10245	y02t90/122.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:44
S94	45308	y02t90/14.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:44
S95	33276	y02t10/7072.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:44
S96	2691	(S82 or S83 or S84 or S85 or S86 or S87 or S88 or S89 or S90 or S91 or S92 or S93 or S94 or S95) and @pd>="20171220"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:44
S97	12	S81 and S96	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:44
S98	49	h02j50/60.cpc. and (vehicle automobile	US-PGPUB;	OR	ON	2018/03/07

		automotive car) and @pd> = "20171220"	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			16:47
S99	4	h02j50/60.cpc. and (((magnetic adj field) near2 (sens\$3 detect\$3)) same (voltage current)) and @pd> = "20171220"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:48
S100	4	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) same (power energy) same (transfer\$4 transmi\$5) same resona\$4 same (foreign object debris) same (gradiometer ((magnetic adj field) near2 (sens\$3 detect\$3)))) and @pd> = "20171220"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 16:51
S101	0	h02j50/00,12,60.cpc. and ((source adj resona\$4) with (health status) with check\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 17:02
S102	0	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and ((source adj resona\$4) with (health status) with check\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 17:02
S103	22	h02j50/00,12,60.cpc. and ((source adj resona\$4) with check\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 17:02
S104	24	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and ((source adj resona\$4) with check\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 17:11
S105	11	h02j50/00,12,60.cpc. and ((charging near2 station) with (health status) with check\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 17:18
S106	21	h02j50/00,12,60.cpc. and ((charging near2 station) with check\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2018/03/07 17:19

			JPO; DERWENT; IBM_TDB			
S108	64	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and ((charging near2 station) with (health status) with check\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/07 17:22
S109	327	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and ((charging near2 station) with check\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 09:46
S110	328	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (source with resona\$4 with (dirty damag\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 10:22
S111	106	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (source with resona\$4 with (verif\$4 verification))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 10:34
S112	53	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (source with resona\$4 with check)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 10:49
S113	316	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (source with resona\$4 with (health status))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 11:03
S114	1645	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (source with resona\$4 with mode)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:53
S115	7776	307/104.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:55
S116	26975	h02j50/00,12,60.cpc.	US-PGPUB; USPAT;	OR	ON	2018/03/08 13:55

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S117	38870	h02j7/025.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:55
S118	14359	h02j17/00.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:55
S119	22666	h02j5/005.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:55
S120	11895	b60l11/182.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:55
S121	941	g01r33/10.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:55
S122	1785	g01v3/10.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:55
S123	7660	h01f27/2804.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:55
S124	16701	h01f38/14.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:55

S125	97474	y02t10/7005.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:55
S126	10245	y02t90/122.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:55
S127	45309	y02t90/14.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:55
S128	33277	y02t10/7072.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:55
S129	2726	(S115 or S116 or S117 or S118 or S119 or S120 or S121 or S122 or S123 or S124 or S125 or S126 or S127 or S128) and @pd>="20171220"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:55
S130	6	S114 and S129	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 13:55
S131	12	"648604".ap.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 14:08
S132	177	(status same source same coupled same device same resonator same standby)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 14:11
S133	34741	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (source with status)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2018/03/08 14:20

			DERWENT; IBM_TDB			
S134	15	S133 and S129	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 14:20
S135	5211	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (source with (standby stand-by))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 14:22
S136	2036	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (source with (standby stand-by) with mode)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 14:23
S137	131	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (source with normal with (standby stand-by) with mode)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 14:23
S138	219	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (source with resona\$4 with (standby stand-by))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 14:26
S139	3	"20110074346".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 14:33
S140	12022	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (source with mode with (detect\$3 sens\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 14:36
S141	4048	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (source with resona\$4 with (detect\$3 sens\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 14:36
S142	31	S141 and S129	US-PGPUB; USPAT; USOCR;	OR	ON	2018/03/08 14:37

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S143	24	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (source with resona\$4 with (detect\$3 sens\$3) with (check\$3 verif\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 14:38
S144	5201	(wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (source with (detect\$3 sens\$3) with (check\$3 verif\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 14:41
S145	1	S144 and S129	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/03/08 14:41

EAST Search History (I nterference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	249	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (magnetic adj field) and source and (foreign or object or debris) and (sens\$3 detect\$3 monitor\$3)).clm.	US-PGPUB; USPAT	OR	ON	2018/03/08 16:19
L3	53	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (magnetic adj field) and source and (foreign or object or debris) and (sens\$3 detect\$3 monitor\$3)).clm. and (307/104.ccls. (h02j50/00,12,60 h02j7/025 h02j17/00 h02j5/005 b60l11/182 g01r33/10 g01v3/10 h01f27/2804 h01f38/14 y02t10/7005,7072 y02t90/122,14).cpc.)	US-PGPUB; USPAT	OR	ON	2018/03/08 16:40
L4	2	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (magnetic adj field) and source and (foreign or object or debris) and (sens\$3 detect\$3 monitor\$3) and readout).clm.	US-PGPUB; USPAT	OR	ON	2018/03/08 16:55
L5	0	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (health status) and check and source and resona\$4 and (foreign or object or debris) and (vehicle car automobile automotive) and (magnetic adj field) and (charg\$3 recharg\$3 re-charg\$3) and battery and (transfer\$4 transmi\$5)).clm.	US-PGPUB; USPAT	OR	ON	2018/03/08 17:00
L6	1	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and (health status)	US-PGPUB; USPAT	OR	ON	2018/03/08 17:01

		and source and (foreign or object or debris) and (vehicle car automobile automotive) and (magnetic adj field) and (charg\$3 recharg\$3 re-charg\$3) and battery and (transfer\$4 transmi\$5)).clm.				
L7	8	((wireless inductive near-field noncontact non-contact no-contact ("near" adj field) (non adj contact) (no adj contact)) and source and (foreign or object or debris) and (vehicle car automobile automotive) and (magnetic adj field) and (charg\$3 recharg\$3 re-charg\$3) and battery and (transfer\$4 transmi\$5)).clm.	US-PGPUB; USPAT	OR	ON	2018/03/08 17:05

3/ 8/ 2018 5:09:53 PM
C:\ Users\ hkaplan\ Documents\ EAST\ Workspaces\ 15170397.wsp

Search Notes 	Application/Control No. 15170397	Applicant(s)/Patent Under Reexamination VERGHESE ET AL.
	Examiner HAL KAPLAN	Art Unit 2836

CPC- SEARCHED		
Symbol	Date	Examiner
H02J 50/00,50/12,7/025,17/00,5/005	12/20/2017	HK
B60L 11/182	12/20/2017	HK
G01R 33/10	12/20/2017	HK
G01V 3/10	12/20/2017	HK
H01F 27/2804,38/14	12/20/2017	HK
Y02T 10/7005,10/7072,90/122,90/14	12/20/2017	HK
H02J 50/60	12/20/2017,12/21/2017	HK

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
307	104	12/20/2017	HK

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

SEARCH NOTES		
Search Notes	Date	Examiner
H02J 50/00,50/12,7/025,17/00,5/005 (text search)	12/20/2017	HK
B60L 11/182 (text search)	12/20/2017	HK
G01R 33/10 (text search)	12/20/2017	HK
G01V 3/10 (text search)	12/20/2017	HK
H01F 27/2804,38/14 (text search)	12/20/2017	HK
Y02T 10/7005,10/7072,90/122,90/14 (text search)	12/20/2017	HK
307/104 (text search)	12/20/2017	HK
Parent S/N 13/608,956 refs. checked	12/20/2017	HK

	/HAL KAPLAN/ Primary Examiner.Art Unit 2836
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SEARCH NOTES

Search Notes	Date	Examiner
EAST (US-PGPUB,USPAT,USOCR,FPRS,EPO,JPO,DERWENT,IBM_TDB) - See Search History Printout	12/20/2017,12/21/2017	HK
Inventor name/assignee search	12/20/2017	HK
H02J 50/60 (text search)	12/20/2017,12/21/2017	HK
H02J 50/00,12,60,7/025,17/00,5/005 (updated text search)	3/7/2018,3/8/2018	HK
B60L 11/182 (updated text search)	3/7/2018,3/8/2018	HK
G01R 33/10 (updated text search)	3/7/2018,3/8/2018	HK
G01V 3/10 (updated text search)	3/7/2018,3/8/2018	HK
H01F 27/2804,38/14 (updated text search)	3/7/2018,3/8/2018	HK
Y02T 10/7005,10/7072,90/122,90/14 (updated text search)	3/7/2018,3/8/2018	HK
307/104 (updated text search)	3/7/2018,3/8/2018	HK
EAST (US-PGPUB,USPAT,USOCR,FPRS,EPO,JPO,DERWENT,IBM_TDB) - See Search History Printout (updated search)	3/7/2018,3/8/2018	HK
Inventor name/assignee search (updated)	3/7/2018	HK

INTERFERENCE SEARCH

US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
H02J	5/005; 7/025; 17/00; 50/00,12,60	3/8/2018	HK
B60L	11/182	3/8/2018	HK
G01R	33/10	3/8/2018	HK
G01V	3/10	3/8/2018	HK
H01F	27/2804; 38/14	3/8/2018	HK
Y02T	10/7005,7072; 90/122,14	3/8/2018	HK
307	104	3/8/2018	HK

/HAL KAPLAN/
Primary Examiner.Art Unit 2836

Sheet 1 of 1

Substitute Disclosure Form Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 25236-0036002	Application No. 15/170,397
		Applicant WiTricity Corporation	
		Filing Date June 1, 2016	Group Art Unit 2836

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1.						

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	2.							

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	3.	Copy of Korean Official Notice of Preliminary Rejection for Korean Application No. 10-2013-7009960 by Examiner Young-chol Kim dated November 1, 2015 (12 pages)
	4.	Frickey et al., "Conversions Between S, Z, Y, h, ABCD, and T Parameters which are Valid for Complex Source and Load Impedances", IEEE Transactions on Microwave Theory and Techniques, Vol. 42, No. 2, pp. 205-211 (February 1994)

Examiner Signature /HAL KAPLAN/	Date Considered 03/07/2018
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

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NOTICE OF ALLOWANCE AND FEE(S) DUE

26207 7590 03/15/2018
FISH & RICHARDSON P.C. (WITRICITY)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER

KAPLAN, HAL IRA

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 03/15/2018

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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15/170,397

06/01/2016

Simon Verghese

25236-0036002

1258

TITLE OF INVENTION: FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1000	\$0	\$0	\$1000	06/15/2018

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

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If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

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(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/170,397	06/01/2016	Simon Verghese	25236-0036002	1258

TITLE OF INVENTION: FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1000	\$0	\$0	\$1000	06/15/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
KAPLAN, HAL IRA	2836	307-104000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/170,397	06/01/2016	Simon Verghese	25236-0036002	1258

26207	7590	03/15/2018
FISH & RICHARDSON P.C. (WITRICITY)		
P.O. BOX 1022		
MINNEAPOLIS, MN 55440-1022		

EXAMINER	
KAPLAN, HAL IRA	

ART UNIT	PAPER NUMBER
2836	

DATE MAILED: 03/15/2018

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 15/170,397	Applicant(s) VERGHESE ET AL.	
	Examiner HAL KAPLAN	Art Unit 2836	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant's amendments dated January 24, 2018.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 20-35. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some *c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. ☐ Notice of References Cited (PTO-892) | 5. ☐ Examiner's Amendment/Comment |
| 2. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>1/9/18</u> | 6. ☒ Examiner's Statement of Reasons for Allowance |
| 3. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 7. ☐ Other ____. |
| 4. ☐ Interview Summary (PTO-413),
Paper No./Mail Date ____. | |

/HAL KAPLAN/
Primary Examiner, Art Unit 2836

DETAILED ACTION

1. The present application is being examined under the pre-AIA first to invent provisions.

Allowable Subject Matter

2. Claims 20-35 allowed.
3. The following is an examiner's statement of reasons for allowance:

Claims 20-34 are allowed because none of the prior art of record discloses or suggests a foreign object debris detection system comprising: at least one magnetic field sensor; and at least one readout circuit configured to measure one or more electrical parameters of the at least one magnetic field sensor, wherein the at least one magnetic field sensor is positioned within the magnetic field of the wireless energy transfer system, in combination with the remaining claimed features.

Claim 35 is allowed because none of the prior art of record discloses or suggests performing a health and/or status check of the wireless energy transfer source; and verifying that no foreign object debris has moved onto or over the source resonator, prior to positioning the vehicle over the source resonator, in combination with the remaining claimed features.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

4. Applicant's arguments, see Applicant's Remarks, page 6, line 1 – page 7, line 3, filed January 9, 2018, with respect to the objections and rejections of claims 35-37 under 35 U.S.C. 112, second paragraph, and 102(a) have been fully considered and are persuasive. The objections and rejections of claims 35-37 have been withdrawn.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAL KAPLAN whose telephone number is (571)272-8587. The examiner can normally be reached on M-F 9:30-5:30.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford N. Barnie can be reached on 571-272-7492. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HAL KAPLAN/
Primary Examiner, Art Unit 2836

Electronic Patent Application Fee Transmittal

Application Number:	15170397			
Filing Date:	01-Jun-2016			
Title of Invention:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS			
First Named Inventor/Applicant Name:	Simon Verghese			
Filer:	Peter Poulin/Cheryl Forrest			
Attorney Docket Number:	25236-0036002			
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	1501	1	1000	1000

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor :	Simon Verghese	Art Unit :	2836
Application No. :	15/170,397	Examiner :	Hal Ira Kaplan
Filed :	June 1, 2016	Confirmation No. :	1258
		Notice of Allowance Date:	March 15, 2018
Title :	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

MAIL STOP ISSUE FEE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY TO NOTICE OF ALLOWANCE

In response to the Notice of Allowance dated March 15, 2018, enclosed is a completed Part B - Fee(s) Transmittal.

The issue fee is being paid with this reply on the Electronic Filing System. Please apply those fees and any other necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

COMMENTS ON EXAMINER'S REASONS FOR ALLOWANCE

It is recognized that in accordance with M.P.E.P. § 1302.14, the Examiner's reasons for allowance need not set forth all of the details as to why the claims are allowed. In the above-referenced application, it is not conceded that the Examiner's stated reasons for allowance are the only reasons for which the claims are allowable. The Examiner's reasons for allowance indicate that particular claim elements are not disclosed or suggested by the prior art of record, yet the claims may be patentable for other reasons as well, including the inventive combination of all of the recited claim elements. It is not conceded that the specific limitations identified by the Examiner are necessary to distinguish the art of record or to satisfy the requirements of 35 U.S.C. § 112. Moreover, the Examiner does not assert, and it would not be conceded, that the Examiner's reasons have any bearing on the patentability of claims in any other applications directed to the disclosed subject matter.

First Named Inventor : Simon Verghese
Application No. : 15/170,397
Filed : June 1, 2016
Page : 2 of 2

Attorney Docket: 25236-0036002 / WTCY-0064-P04

In addition, each dependent claim stands on its own and may be allowable on its own merits. In particular, each dependent claim may be allowable on the basis of a combination of some of the features recited in the dependent claim and its base claim(s), which combination of features may not include all of the limitations identified in the Examiner's reasons for allowance.

Respectfully submitted,

Date: June 14, 2018

/Peter R. Poulin Reg. No. 74,643/

Peter Poulin
Reg. No. 74,643

Customer Number 26207
Fish & Richardson P.C.
Telephone: (617) 956-5901
Facsimile: (877) 769-7945

23775677.doc

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

26207 7590 03/15/2018

FISH & RICHARDSON P.C.
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/170,397	06/01/2016	Simon Verghese	25236-0036002	1258

TITLE OF INVENTION: FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS

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nonprovisional	LARGE	\$1000	\$0	\$0	\$1000	06/15/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
KAPLAN, HAL IRA	2836	307-104000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

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2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

1 Fish & Richardson P.C.

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE
WiTricity Corporation

(B) RESIDENCE: (CITY and STATE OR COUNTRY)
Watertown, MA

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☒ Issue Fee

☐ Publication Fee (No small entity discount permitted)

☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

☐ A check in the amount of the fee(s) is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☒ The Director is hereby authorized to charge the required fee(s), or credit any overpayment, to Deposit Account Number 06-1050.

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☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27.

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see form PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature /Peter R. Poulin Reg. No. 74,643/

Date June 14, 2018

Typed or printed name Peter Poulin

Registration No. 74,643

Electronic Acknowledgement Receipt

EFS ID:	32896398
Application Number:	15170397
International Application Number:	
Confirmation Number:	1258
Title of Invention:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS
First Named Inventor/Applicant Name:	Simon Verghese
Customer Number:	26207
Filer:	Peter Poulin/Jennifer MacKenzie
Filer Authorized By:	Peter Poulin
Attorney Docket Number:	25236-0036002
Receipt Date:	14-JUN-2018
Filing Date:	01-JUN-2016
Time Stamp:	12:06:59
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 1000
RAM confirmation Number	061418INTEFSW00013980061050
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	ReplytoNOA.pdf	157840	no	3
			69f43d926c45c4a4cee23f5c3b6d37e81a23f452		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30279	no	2
			2d91f9456ace11c0662150f9ffb63f70cdd049df		
Warnings:					
Information:					
Total Files Size (in bytes):			188119		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. provisional patent application 61/532,785 filed September 9, 2011.

BACKGROUND

Field:

[0002] This disclosure relates to wireless energy transfer and methods for detecting foreign object debris (FOD) on wireless power transmission systems.

Description of the Related Art:

[0003] Energy or power may be transferred wirelessly using a variety of known radiative, or far-field, and non-radiative, or near-field, techniques as detailed, for example, in commonly owned U.S. patent application 12/613,686 published on May 6, 2010 as US 2010/010909445 and entitled “Wireless Energy Transfer Systems,” U.S. patent application 12/860,375 published on December 9, 2010 as 2010/0308939 and entitled “Integrated Resonator-Shield Structures,” U.S. patent application 13/222,915 published on March 15, 2012 as 2012/0062345 and entitled “Low Resistance Electrical Conductor,” U.S. patent application 13/283,811 published on ^{October 4, 2012} _____ as ^{2012/0248981} _____ and entitled “Multi-Resonator Wireless Energy Transfer for Lighting,” the contents of which are incorporated by reference.

[0004] Wireless charging systems that rely on an oscillating magnetic field between two coupled resonators can be efficient, non-radiative, and safe. Non-magnetic and/or non-metallic objects that are inserted between the resonators may not substantially interact with the magnetic field used for wireless energy transfer. In some embodiments, users of wireless power transfer systems may wish to detect the presence of these “foreign objects” and may wish to control, turn down, turn off, alarm, and the like, the wireless power transfer system. Metallic objects and/or other objects inserted between the resonators may interact with the magnetic field of the wireless power transfer system in a way that causes the metallic and/or other objects to perturb the wireless energy transfer and/or to heat up substantially. In some embodiments, users of wireless power transfer systems may wish to detect the presence of these “foreign objects” and may wish to control, turn down, turn off, alarm, and the like, the wireless power transfer system.



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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/170,397	07/17/2018	10027184	25236-0036002	1258

26207 7590 06/27/2018
FISH & RICHARDSON P.C. (WITRICITY)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 154 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Simon Verghese, Arlington, MA;
WiTricity Corporation, Watertown, MA;
Morris P. Kesler, Bedford, MA;
Katherine L. Hall, Arlington, MA;
Herbert T. Lou, Carlisle, MA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

Electronic Acknowledgement Receipt

EFS ID:	33485160
Application Number:	15170397
International Application Number:	
Confirmation Number:	1258
Title of Invention:	FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS
First Named Inventor/Applicant Name:	Simon Verghese
Customer Number:	26207
Filer:	Peter Poulin/Cheryl Forrest
Filer Authorized By:	Peter Poulin
Attorney Docket Number:	25236-0036002
Receipt Date:	21-AUG-2018
Filing Date:	01-JUN-2016
Time Stamp:	13:34:55
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 150
RAM confirmation Number	082118INTEFSW00010810061050
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Certificate of Correction	ReqforCOC.pdf	105082	no	2
			265b5fa7245db6d0bb45ef7be39dde5081289d50		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30356	no	2
			1b128499bc018fe2c6056e8f3fb522312c889c7b		
Warnings:					
Information:					
Total Files Size (in bytes):			135438		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

Electronic Patent Application Fee Transmittal				
Application Number:		15170397		
Filing Date:		01-Jun-2016		
Title of Invention:		FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		
First Named Inventor/Applicant Name:		Simon Verghese		
Filer:		Peter Poulin/Cheryl Forrest		
Attorney Docket Number:		25236-0036002		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
CERTIFICATE OF CORRECTION	1811	1	150	150

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				150

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor	: Simon Verghese	Art Unit	: 2836
Patent No.	: 10,027,184	Examiner	: Hal Ira Kaplan
Issue Date	: July 17, 2018	Conf. No.	: 1258
Serial No.	: 15/170,397		
Filed	: June 1, 2016		
Title	: FOREIGN OBJECT DETECTION IN WIRELESS ENERGY TRANSFER SYSTEMS		

Attention Certificate of Corrections Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR CERTIFICATE OF CORRECTION

Please issue a certificate of correction in accordance with the attached form.

One or more of the errors to be corrected were made by applicant. The fee of \$150 is being paid with this request.

Apply any other necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: August 21, 2018

/Peter R. Poulin Reg. No. 74,643/

Peter Poulin
Reg. No. 74,643

Customer Number 26207
Fish & Richardson P.C.
Telephone: (617) 956-5901
Facsimile: (877) 769-7945

23801133.doc

**UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION**

Page 1 of 1

PATENT NO. : 10,027,184

APPLICATION NO.: 15/170,397

ISSUE DATE : July 17, 2018

INVENTOR(S) : Simon Verghese, Morris P. Kesler, Katherine L. Hall and Herbert T. Lou

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 12

Line 18, in Claim 1, after "of" delete "at"

MAILING ADDRESS OF SENDER (Please do not use customer number below):

Fish & Richardson P.C.

P.O. Box 1022

Minneapolis, MN 55440-1022

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and selection option2.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/170,397	06/01/2016	Simon Verghese	25236-0036002	1258
26207 7590 08/31/2018 FISH & RICHARDSON P.C. (WITRICITY) P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER KAPLAN, HAL IRA	
			ART UNIT 2836	PAPER NUMBER
			NOTIFICATION DATE 08/31/2018	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com
docketing@witricity.com



UNITED STATES PATENT AND TRADEMARK OFFICE

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Patent No. 10027184
Issued Date: 17 July, 2018
Appl. No: 15/170,397
Filed.: 01 June 2016

PART (A) RESPONSE FOR CERTIFICATES OF CORRECTION

This is a decision on the Certificate of Correction request filed 21 August 2018.

The request for issuance of Certificate of Correction for the above-identified correction(s) under the provisions of 37 CFR 1.322 and/or 1.323 is hereby:

(Check one)

☒ Approved ☐ Approved in Part ☐ Denied

Comments:

PART (B) PETITION UNDER 37 CFR 1.324 OR 37 CFR 1.48

☐ This is a decision on the petition filed to correct inventorship under 37 CFR 1.324.

☐ This is a decision on the request under 37 CFR 1.48, petition filed . In view of the fact that the patent has already issued, the request under 37 CFR 1.48 has been treated as a petition to correct inventorship under 37 CFR 1.324.

The petition is hereby: ☐ Granted ☐ Dismissed

Comment:

The patented filed is being forwarded to Certificate of Corrections Branch for issuance of a certificate naming only the actual inventor or inventors.

/Jared Fureman/
Technology Center 2800
Phone: (571)272-2391

Certificates of Correction Branch email: CustomerServiceCoC@uspto.gov CoC Central Phone Number: (703) 756-1814

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 10,027,184 B2
APPLICATION NO. : 15/170397
DATED : July 17, 2018
INVENTOR(S) : Simon Verghese et al.

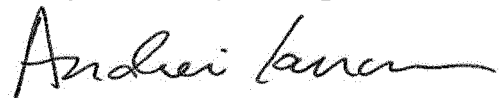
Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 12

Line 18, in Claim 1, after “of” delete “at”

Signed and Sealed this
Twenty-fifth Day of September, 2018

A handwritten signature in black ink, appearing to read "Andrei Iancu", with a stylized, cursive script.

Andrei Iancu
Director of the United States Patent and Trademark Office



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APPLICATION NUMBER	PATENT NUMBER	GROUP ART UNIT	REQUEST ID
15/170,397	10027184	2836	101015

PAIR Correspondence Address/Fee Address Change

The following fields have been changed to Customer Number 166872 on 12/03/2019 via Private PAIR in view of the certification copied below that authorized the change.

- Maintenance Fee Address

The address for Customer Number 166872 is:

166872

WiTricity Corporation

57 Water Street

Watertown, MA 02472

I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

An attorney or Agent of Record registered to practice before the Patent and Trademark Office who has been given power of attorney in this application

Signature:	/Misha K. Hill/
Name:	Misha K. Hill
Registration Number:	59737