

Electronic Patent Application Fee Transmittal

Application Number:				
Filing Date:				
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS			
First Named Inventor/Applicant Name:	Nigel Cook			
Filer:	Ramin Mobarhan/Sheryl Schoen (RM/mh)			
Attorney Docket Number:	092414			
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility application filing	1011	1	330	330
Utility Search Fee	1111	1	540	540
Utility Examination Fee	1311	1	220	220
Pages:				
Claims:				
Claims in excess of 20	1202	11	52	572
Independent claims in excess of 3	1201	3	220	660
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				2322

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	092414
		Application Number	
Title of Invention	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS		
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	Nigel		Cook		
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	092414
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Title of Invention	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS		

Citizenship under 37 CFR 1.41(b) i		CH	
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Application Information:

Title of the Invention	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS		
Attorney Docket Number	092414	Small Entity Status Claimed ☐	
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	5	Suggested Figure for Publication (if any)	

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	092414
		Application Number	
Title of Invention	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS		

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 I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in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.

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Prior Application Status		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61078812	2008-07-08
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			Add

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This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. 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(a).			
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Application Number	Country ⁱ	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			☒ Yes ☐ No
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	092414
		Application Number	
Title of Invention	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS		

If the Assignee is an Organization check here. ☒			
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Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.					
Signature	/William Marcus Hooks/		Date (YYYY-MM-DD)	2009-07-06	
First Name	William	Last Name	Hooks	Registration Number	48857

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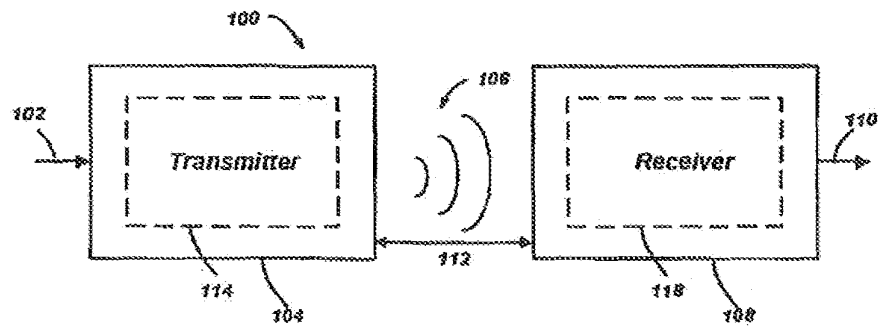


FIG. 1

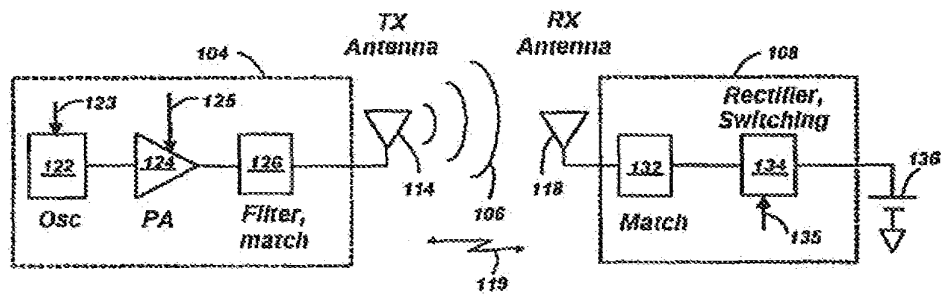


FIG. 2

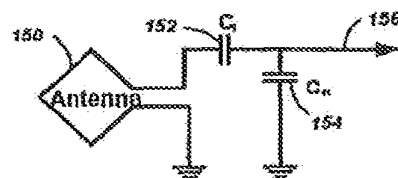


FIG. 3

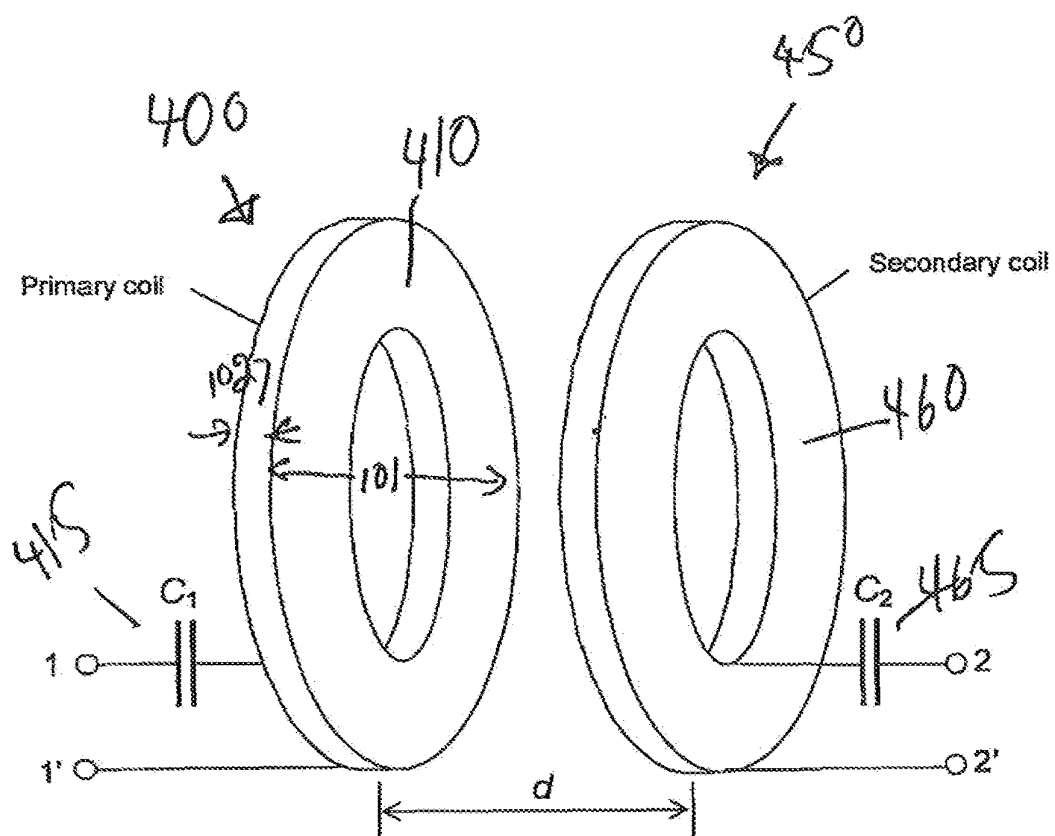


Figure 4

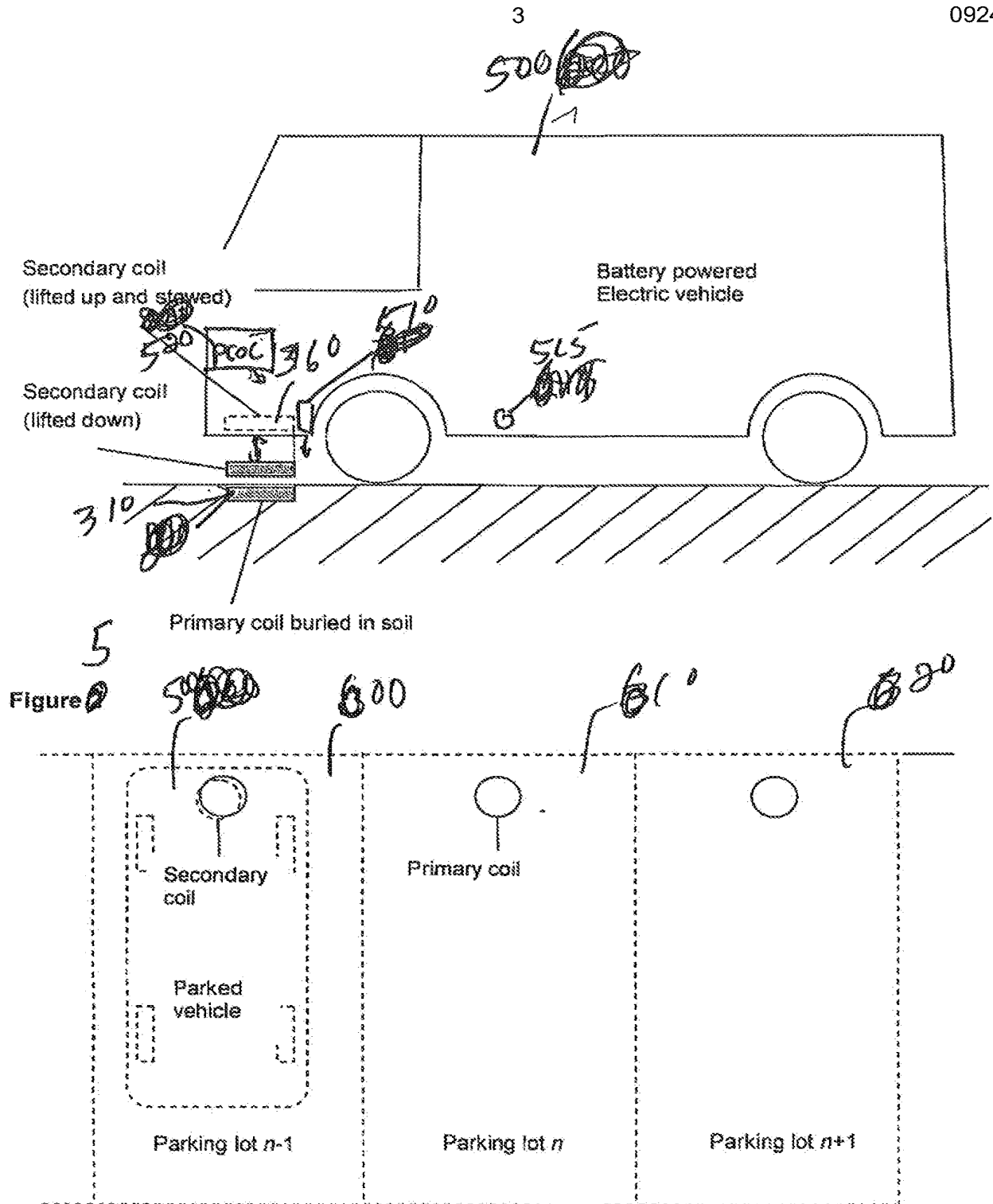


Figure 6

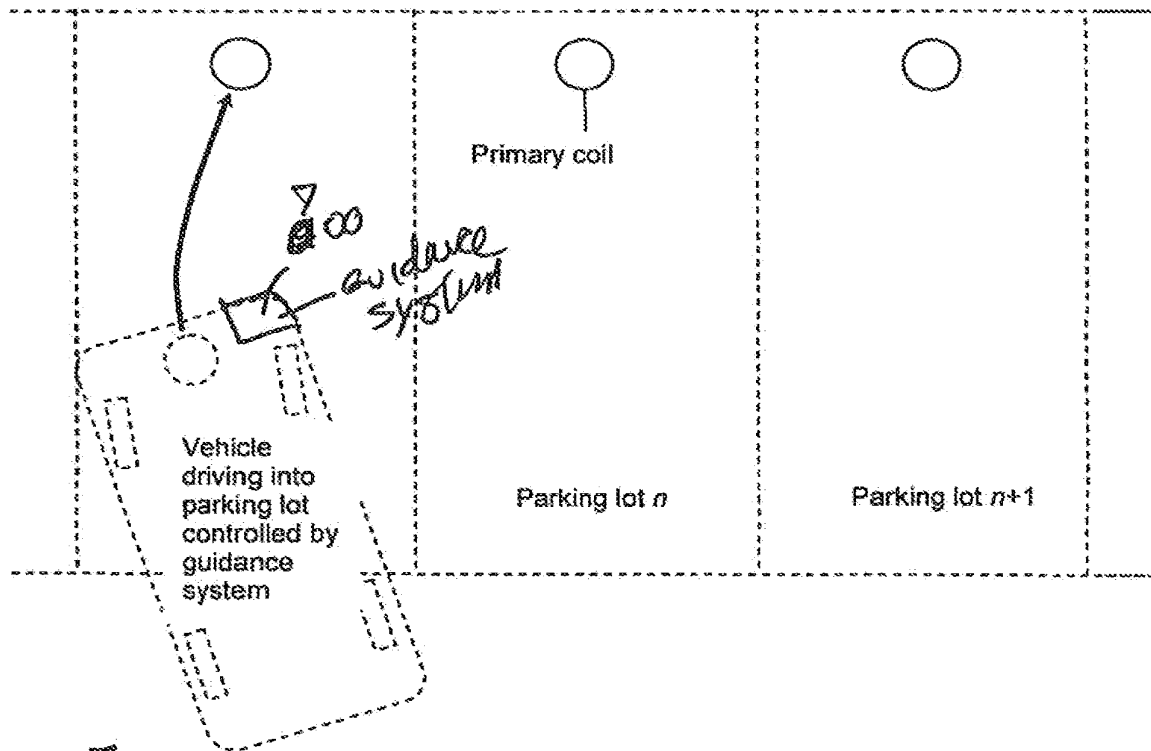


Figure 7

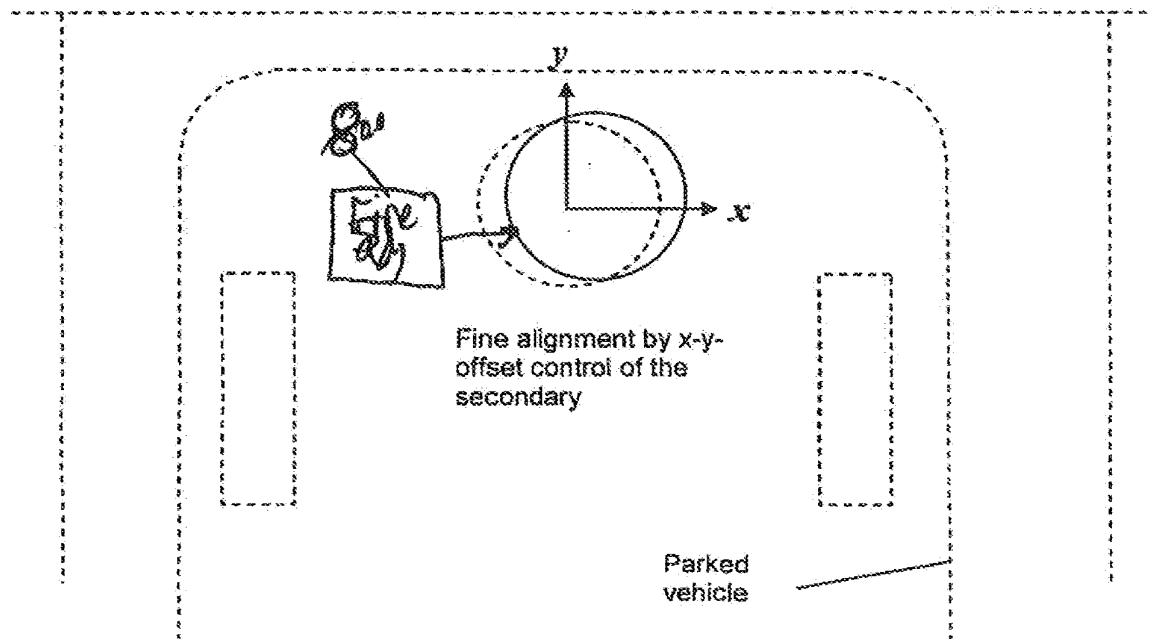


Figure 8

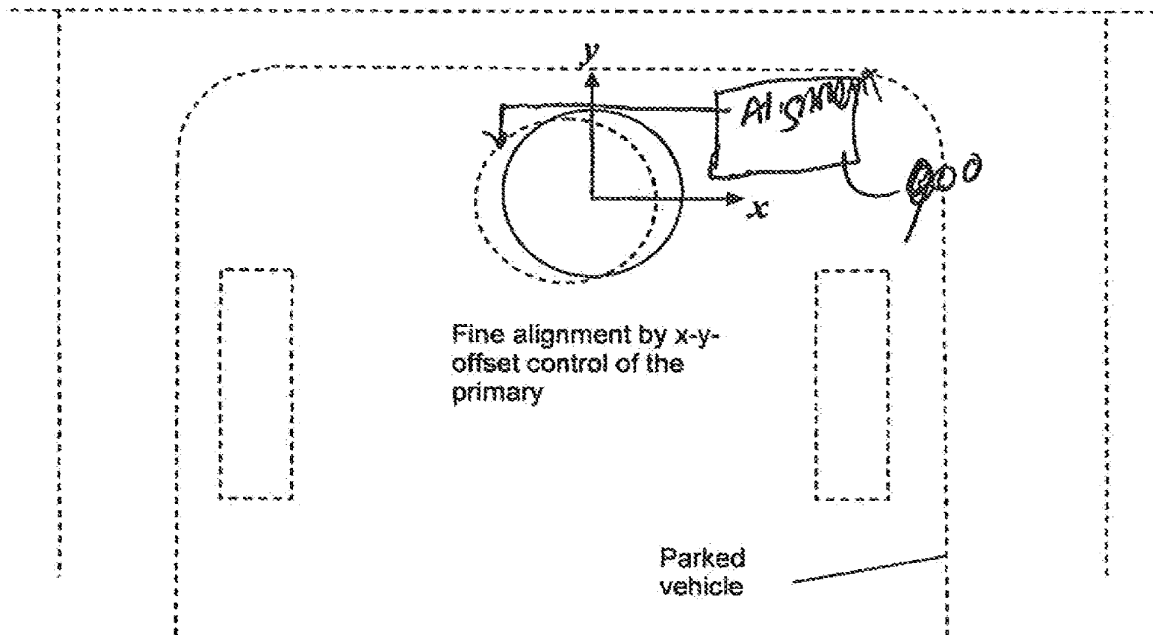


Figure 9

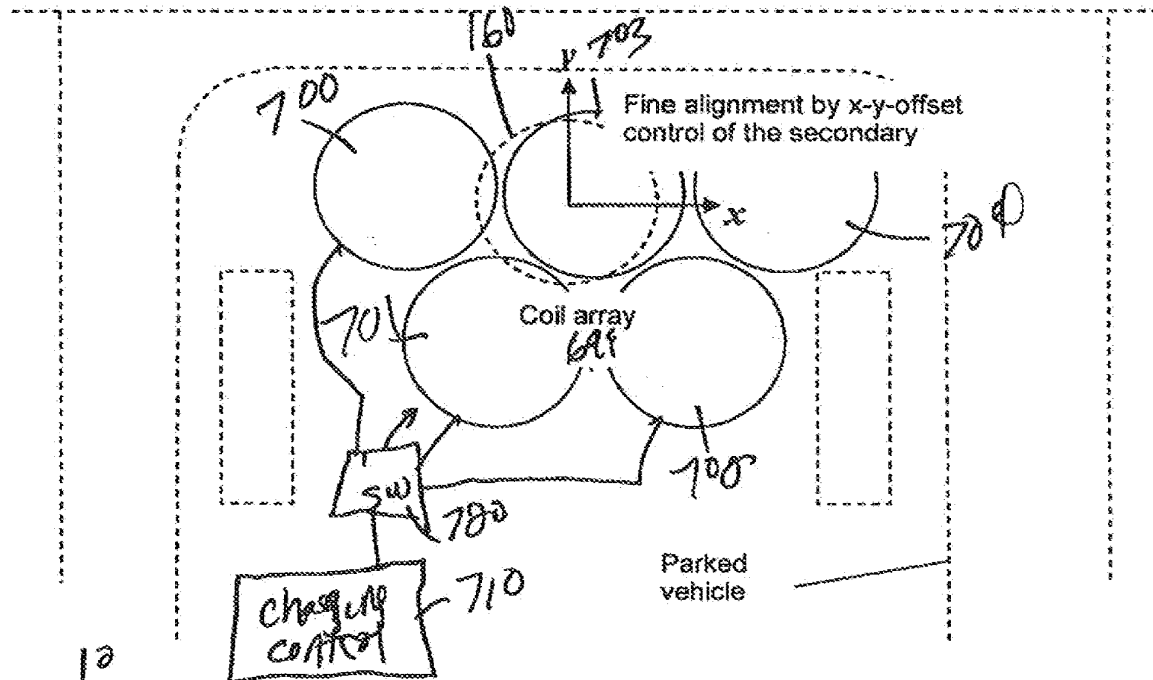


Figure 10

ABSTRACT

Improved battery-charging system for a vehicle. Primary and secondary coils are located in places where the vehicle can receive power from the primary coil by pulling into a parking space, for example. The parking space may have a coil embedded in the ground, or may have an array of coils embedded in the ground. A guidance system is disclosed. Fine positioning is also disclosed. The secondary coil in the vehicle can also be raised or lowered to improve coupling.

WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS

Claim of Priority under 35 U.S.C. §119

[0001] The present Application for Patent claims priority to Provisional Application No. 61/078,812, entitled “WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS” filed July 8, 2008, and assigned to the assignee hereof and hereby expressly incorporated by reference herein.

BACKGROUND

[0002] Our previous applications describe magnetically resonant transfer of power between antennas. The antennas may be capacitively loaded wire loops or multi-turn coils. These form a resonant antenna that efficiently couples energy from a primary structure (a transmitter) to a distal positioned secondary structure (a receiver) via a magnetic field. Both primary and secondary are tuned to a common resonance frequency.

[0003] Our previous applications describe a major issue of wireless power as electromagnetic interference and radiation exposure for human safety. Energy transfer via magnetic field coupling may be mainly constrained by the specified H-field limits. Compliance with these limits may be tested at a defined distance, e.g., 10m, from the radiating structure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0004] FIG. 1 shows a simplified block diagram of a wireless power transfer system.

[0005] FIG. 2 shows a more detailed block diagram of a wireless power transfer system.

[0006] FIG. 3 shows a schematic diagram of a loop antenna for use in exemplary embodiments of the present invention.

- [0007] FIG. 4 shows two disk-shaped coils of similar size used for primary and secondary;
- [0008] FIG. 5 shows how the secondary is lowered down to achieve close proximity coupling;
- [0009] FIG. 6 shows how a vehicle is charged when the coils are coaxial;
- [0010] FIG. 7 illustrates a vehicle controlled by a guidance system;
- [0011] FIG. 8 shows fine alignment by x-y offset control of the secondary;
- [0012] FIG. 9 shows fine alignment by x-y offset control of the primary;
- [0013] FIG. 10 shows the fine alignment by x-y offset control of the secondary above an array of primary coils; and

DETAILED DESCRIPTION

- [0014] The word “exemplary” is used herein to mean “serving as an example, instance, or illustration.” Any embodiment described herein as “exemplary” is not necessarily to be construed as preferred or advantageous over other embodiments.
- [0015] The detailed description set forth below in connection with the appended drawings is intended as a description of exemplary embodiments of the present invention and is not intended to represent the only embodiments in which the present invention can be practiced. The detailed description includes specific details for providing a thorough understanding of the exemplary embodiments of the invention. It will be apparent to those skilled in the art that the exemplary embodiments of the invention may be practiced without these specific details. In some instances, well-known structures and devices are shown in block diagram form in order to avoid obscuring the novelty of the exemplary embodiments presented herein.
- [0016] The words “wireless power” is used herein to mean any form of energy associated with electric fields, magnetic fields, electromagnetic fields, or otherwise that is transmitted from a transmitter to a receiver without the use of physical electromagnetic conductors.
- [0017] FIG. 1 illustrates wireless transmission or charging system 100, in accordance with various exemplary embodiments of the present invention. Input power 102 is

provided to a transmitter 104 for generating a radiated field 106 for providing energy transfer. A receiver 108 couples to the radiated field 106 and generates an output power 110 for storing or consumption by a device (not shown) coupled to the output power 110. Both the transmitter 104 and the receiver 108 are separated by a distance 112. In one exemplary embodiment, transmitter 104 and receiver 108 are configured according to a mutual resonant relationship. When the resonant frequency of receiver 108 and the resonant frequency of transmitter 104 are identical, transmission losses between the transmitter 104 and the receiver 108 are minimal when the receiver 108 is located in the “near-field” of the radiated field 106.

[0018] Transmitter 104 further includes a transmit antenna 114 for providing a means for energy transmission and receiver 108 further includes a receive antenna 118 for providing a means for energy reception. The transmit and receive antennas are sized according to applications and devices to be associated therewith. As stated, an efficient energy transfer occurs by coupling a large portion of the energy in the near-field of the transmitting antenna to a receiving antenna rather than propagating most of the energy in an electromagnetic wave to the far field. A coupling mode may be developed between the transmit antenna 114 and the receive antenna 118 when in this near-field. The area around the antennas 114 and 118 where this near-field coupling may occur is referred to herein as a coupling-mode region.

[0019] FIG. 2 shows a simplified schematic diagram of a wireless power transfer system. The transmitter 104 includes an oscillator 122, a power amplifier 124 and a filter and matching circuit 126. The oscillator 122 is configured to generate at a desired frequency, such as 13.5 MHz, which may be adjusted in response to adjustment signal 123. An alternative uses LF frequencies, e.g., 135 Khz. The oscillator signal may be amplified by the power amplifier 124 with an amplification amount responsive to control signal 125. The filter and matching circuit 126 may be included to filter out harmonics or other unwanted frequencies and match the impedance of the transmitter 104 to the transmit antenna 114.

[0020] The receiver 108 may include a matching circuit 132 and a rectifier and switching circuit 134 to generate a DC power output to charge a battery 136 as shown in

FIG. 2 or power a device coupled to the receiver (not shown). The matching circuit 132 may be included to match the impedance of the receiver 108 to the receive antenna 118.

[0021] As illustrated in FIG. 3, antennas used in exemplary embodiments may be configured as a “loop” antenna 150, which may also be referred to herein as a “magnetic” antenna. Loop antennas may be configured to include an air core or a physical core such as a ferrite core. Using a ferrite core may decrease the effect of extraneous objects. However, ferrite cores may need a certain length to be effective, which may be difficult when used in a vehicle. Air disk coils are considered more suitable for integration in car and for embedding in the ground. LF Ferrites may be used as magnetic shield to prevent fields generating eddy currents in metallic parts of the antenna surrounding.

[0022] Efficiency may be improved by keeping other devices outside of the core area.

[0023] Air core loop antennas may be more tolerable to extraneous physical devices placed in the vicinity of the core. Furthermore, an air core loop antenna allows the placement of other components within the core area. In addition, an air core loop may more readily enable placement of the receive antenna 118 (FIG. 2) within a plane of the transmit antenna 114 (FIG. 2) where the coupled-mode region of the transmit antenna 114 (FIG. 2) may be more powerful.

[0024] As stated, efficient transfer of energy between the transmitter 104 and receiver 108 occurs during matched or nearly matched resonance between the transmitter 104 and the receiver 108. However, even when resonance between the transmitter 104 and receiver 108 are not matched, energy may be transferred at a lower efficiency. Transfer of energy occurs by coupling energy from the near-field of the transmitting antenna to the receiving antenna residing in the neighborhood where this near-field is established rather than propagating the energy from the transmitting antenna into free space.

[0025] The resonant frequency of the loop or magnetic antennas is based on the inductance and capacitance. Inductance in a loop antenna is generally simply the inductance created by the loop, whereas, capacitance is generally added to the loop antenna's inductance to create a resonant structure at a desired resonant frequency. As a non-limiting example, capacitor 152 and capacitor 154 may be added to the antenna to create a resonant circuit that generates resonant signal 156. Accordingly, for larger

diameter loop antennas, the size of capacitance needed to induce resonance decreases as the diameter or inductance of the loop increases. Furthermore, as the diameter of the loop or magnetic antenna increases, the efficient energy transfer area of the near-field increases. Of course, other resonant circuits are possible. As another non-limiting example, a capacitor may be placed in parallel between the two terminals of the loop antenna. In addition, those of ordinary skill in the art will recognize that for transmit antennas the resonant signal 156 may be an input to the loop antenna 150.

[0026] Exemplary embodiments of the invention include coupling power between two antennas that are in the near-fields of each other. As stated, the near-field is an area around the antenna in which electromagnetic fields exist but may not propagate or radiate away from the antenna. They are typically confined to a volume that is near the physical volume of the antenna. In the exemplary embodiments of the invention, magnetic type antennas such as single and multi-turn loop antennas are used for both transmit (Tx) and receive (Rx) antenna systems because magnetic near-field amplitudes tend to be higher for magnetic type antennas in comparison to the electric near-fields of an electric-type antenna (e.g., a small dipole). This allows for potentially higher coupling between the pair. Furthermore, “electric” antennas (e.g., dipoles and monopoles) or a combination of magnetic and electric antennas is also contemplated.

[0027] The Tx antenna can be operated at a frequency that is low enough and with an antenna size that is large enough to achieve good coupling (e.g., >-4 dB) to a small Rx antenna at significantly larger distances than allowed by far field and inductive approaches mentioned earlier. If the Tx antenna is sized correctly, high coupling levels (e.g., -2 to -4 dB) can be achieved when the Rx antenna on a host device is placed within a coupling-mode region (i.e., in the near-field) of the driven Tx loop antenna.

[0028] It should be noted that the foregoing approach is applicable to variety of communication standards such as CDMA, WCDMA, OFDM, and so forth. Those of skill in the art would understand that information and signals may be represented using any of a variety of different technologies and techniques. For example, data, instructions, commands, information, signals, bits, symbols, and chips that may be referenced throughout the above description may be represented by voltages, currents,

electromagnetic waves, magnetic fields or particles, optical fields or particles, or any combination thereof.

[0029] Exemplary embodiments of the invention are directed to (or include) the following.

[0030] Resonant charging is believed by the inventors to be the best way of charging because there is less heating and better efficiency for a same size coil. Accordingly, the exemplary embodiments describe a magnetically coupled system.

[0031] In an exemplary embodiment, it can be theoretically shown that the maximum transferable power depends on the size of the radiating structure (coil diameter), the coupling factor between primary and secondary, and the quality factor (Q-factor) of the primary and secondary.

[0032] Size and coupling factor have a strong impact on radiation level, limiting the distance and maximum transferable power. This is believed due to the fact that while transferred power is maintained constant, the amount of reactive energy stored in the magnetic field surrounding the coils rapidly increases if the secondary is dislodged from the primary so that coupling becomes weaker.

[0033] An improved Q-factor results in higher transfer efficiencies and lowers radiation levels, thus allowing for higher transferable power.

[0034] To demonstrate the relationship of coupling factor and maximum transferable power, a hypothetical energy transfer system formed of two identical circular coils is assumed for an exemplary embodiment. Both primary and secondary are tuned for resonance at 135 KHz using an appropriate capacitor. The coil parameter and the Q-factors of the resonant circuits are listed in Table 1. This can be considered as an example of coils that can be used in an exemplary embodiment.

Parameter	Unit	Primary	Secondary
Coil outer radius	cm	8	8
Coil inner radius	cm	6.5	6.5
Coil axial width	cm	1	1
Number of turns		66	66
Coil area	m ²	0.0201	0.0201
Q-factor of resonator		250	250

Table 1

[0035] The applicable H-field strength limit at 135 kHz and for the given coil area is 57 dBuA/m at 10 m of distance, see European Norm EN 300330 (short range devices).

[0036] Table 2 indicates the resulting r.m.s. currents and voltage in the primary coil. The Table 2 shows thousands of volts of voltage on the primary coil, thus demonstrating the high voltage within the coils. This can be challenging with respect to power/heat dissipation and withstanding voltage.

Distance [cm]	Coupling factor [%]	Efficiency [%]	Maximum transferable power under H-Field limit [W]	Primary coil current [A]	Primary coil voltage [V]
1	74	99	4314	1.3	3077
2	51	98	3392	2.1	2545
4	30	97	2118	2.4	2373
8	12	94	664	2.6	2434
16	3	77	198	3.0	2776
32	1	47	53	3.3	3076

Table 2

[0037] Table 2 actually shows the so called median distance, which is the coil center to center distance, which is for a 1 cm thick coil of an exemplary embodiment. Accordingly, the actual distance between the surfaces of the coil is the distance in centimeters minus 1 cm. Therefore, the 1 cm distance in Table 2 is a value approaching zero: the smallest possible distance between the coils.

[0038] Battery electric vehicles or “BEV”s are known to support a limited driving radius. An exemplar embodiment describes a wireless solution for recharging BEVs.

- [0039] An exemplary embodiment illustrated in Figure 4 forms a primary or transmitter 400 and a secondary or receiver 450. Each of the primary and the secondary uses disk-shaped coil of similar size. The primary coil 410 is a disk-shaped or 'pan cake' coil with its radial width larger than its axial width. The coils are dimensioned to handle high power and sustain the resulting high AC voltages and currents that will be produced, for example, those set forth in Table 2. In an exemplary embodiment, the receive coil 460 has the same size and characteristics as the transmit coil. Coils may also be formed of insulated Litz wire.
- [0040] To minimize radiated fields, coil diameter should be as small as possible. However, in an exemplary embodiment, the coils should be sufficiently large to handle the high power and to allow for some relative positioning error that will generally be present in vehicular applications.
- [0041] Resonance at the operating frequency is achieved by adding an appropriate value high-Q capacitor in series with the coils. Figure 4 shows capacitor 415 in series with transmit coil 410, and shows capacitor 465 in series with receive coil 460. In an exemplary embodiment, both capacitors are dimensioned to withstand the high AC voltages set forth in Table 2.
- [0042] In an exemplary embodiment, the primary coil 310 that delivers the charging power to the vehicle may be completely buried into the soil of a parking lot at a position corresponding to where the secondary coil 360 is likely to be on a vehicle. By putting the primary coil in the ground, it can be run from a higher voltage, for example 220 V or 440 V. The coil is located so that vehicles of different size and length are properly parked when primary and secondary are coaxially aligned. Figures 5 and 6 show the arrangement where the BEV 500 has coil 360 mounted on a lifting mechanism 510 that controls lifting and lowering the coil.
- [0043] The operation may be controlled by a processor 520 in the vehicle 500. Once the coils are coaxially aligned and the primary is detected, the secondary 460 is lowered down to achieve close proximity coupling to the primary 410 as shown in Figure 5. Then the processor may control initial tests to check coupling and efficiency of the power transfer between primary 410 and secondary 460. The tests can be used to adapt the link. Power transfer can start upon successful completion of these tests.

- [0044] In another exemplary embodiment, there can be z axis control in addition to x-y fine positioning control.
- [0045] Figure 6 illustrates how the vehicle 500 can park in any of the spaces 600, 610 and 620. Each of these spaces has an embedded and energized primary coil that can be used to charge the vehicle.
- [0046] An exemplary embodiment in Figure 7 may use a guidance system 700 to assist the driver (or an autopilot in case of an automatically driven vehicle) to accurately position the vehicle. The guidance system may rely on radio positioning principles using the LF or HF band. For example, an exemplary embodiment may sense a degree of coupling between the primary 410 and secondary 460. The amount of coupling can be detected, for example by the vehicle receiving power from the primary. The guidance system can produce an output indicative of the degree, e.g., a sound or display.
- [0047] The vehicle-mounted subsystem may additionally provide an x-y offset control 800 for the secondary coil in another exemplary embodiment shown in Figure 8. The guidance system would only be used for coarse positioning only, while the x-y offset control would adjust the fine alignment to allow better coupling between the coils.
- [0048] Alternatively or in addition, the exemplary embodiment of Figure 9 defines an alignment control 900 as part of the primary subsystem. This may provide x-y offset control that moves the primary coil 410.
- [0049] In another exemplary embodiment shown in Figure 10, an array of primary coils 699 is used instead of a single coil. The array includes closely packed coils 700, 701, 702, 703, 704. While this exemplary embodiment shows five such coils, any number can be used between 3 and 15 coils, for example.
- [0050] A charging control 710 is connected by a switch box 720 to each of the coils. By testing coupling to a secondary, the charging control 710 selects the primary coil of the array 699 that is closest to the secondary 160. In addition, the secondary may also be aligned to the primary that is closest using the x-y offset control of the BEV as in the other exemplary embodiments. In one exemplary embodiment, only one primary will be active for wireless charging once the link is established. All other primaries are deactivated. This exemplary embodiment may also use x-y control of the primaries, by allowing fine movement of these primaries to match the location of the secondary.

- [0051] Another exemplary embodiment describes a robotic vehicle that carries the primary and which automatically moves below the vehicle to the position of the secondary.
- [0052] Another exemplary embodiment comprises a human presence detector that may be used to detect when a human is entering or exiting the vehicle. This can use, for example, an infrared detection system that uses infrared sensors such as 215 located at various places near the vehicle. When the infrared detection system detects heat of a type that is likely to represent a person, it outputs a signal indicative of the presence of a person. In an exemplary embodiment, detection of a person causes the charging to terminate. This may alleviate certain fears that the magnetic charging is otherwise unhealthy.
- [0053] Another exemplary embodiment may include a circuit that automatically detects the field strength, for example, the FCC field strength and automatically maintains the values below the FCC limits.
- [0054] Those of skill would further appreciate that the various illustrative logical blocks, modules, circuits, and algorithm steps described in connection with the embodiments disclosed herein may be implemented as electronic hardware, computer software, or combinations of both. To clearly illustrate this interchangeability of hardware and software, various illustrative components, blocks, modules, circuits, and steps have been described above generally in terms of their functionality. Whether such functionality is implemented as hardware or software depends upon the particular application and design constraints imposed on the overall system. Skilled artisans may implement the described functionality in varying ways for each particular application, but such implementation decisions should not be interpreted as causing a departure from the scope of the exemplary embodiments of the invention.
- [0055] The various illustrative logical blocks, modules, and circuits described in connection with the embodiments disclosed herein may be implemented or performed with a general purpose processor, a Digital Signal Processor (DSP), an Application Specific Integrated Circuit (ASIC), a Field Programmable Gate Array (FPGA) or other programmable logic device, discrete gate or transistor logic, discrete hardware components, or any combination thereof designed to perform the functions described

herein. A general purpose processor may be a microprocessor, but in the alternative, the processor may be any conventional processor, controller, microcontroller, or state machine. A processor may also be implemented as a combination of computing devices, e.g., a combination of a DSP and a microprocessor, a plurality of microprocessors, one or more microprocessors in conjunction with a DSP core, or any other such configuration.

[0056] The steps of a method or algorithm described in connection with the embodiments disclosed herein may be embodied directly in hardware, in a software module executed by a processor, or in a combination of the two. A software module may reside in Random Access Memory (RAM), flash memory, Read Only Memory (ROM), Electrically Programmable ROM (EPROM), Electrically Erasable Programmable ROM (EEPROM), registers, hard disk, a removable disk, a CD-ROM, or any other form of storage medium known in the art. An exemplary storage medium is coupled to the processor such that the processor can read information from, and write information to, the storage medium. In the alternative, the storage medium may be integral to the processor. The processor and the storage medium may reside in an ASIC. The ASIC may reside in a user terminal. In the alternative, the processor and the storage medium may reside as discrete components in a user terminal.

[0057] In one or more exemplary embodiments, the functions described may be implemented in hardware, software, firmware, or any combination thereof. If implemented in software, the functions may be stored on or transmitted over as one or more instructions or code on a computer-readable medium. Computer-readable media includes both computer storage media and communication media including any medium that facilitates transfer of a computer program from one place to another. A storage media may be any available media that can be accessed by a computer. By way of example, and not limitation, such computer-readable media can comprise RAM, ROM, EEPROM, CD-ROM or other optical disk storage, magnetic disk storage or other magnetic storage devices, or any other medium that can be used to carry or store desired program code in the form of instructions or data structures and that can be accessed by a computer. Also, any connection is properly termed a computer-readable medium. For example, if the software is transmitted from a website, server, or other remote source

using a coaxial cable, fiber optic cable, twisted pair, digital subscriber line (DSL), or wireless technologies such as infrared, radio, and microwave, then the coaxial cable, fiber optic cable, twisted pair, DSL, or wireless technologies such as infrared, radio, and microwave are included in the definition of medium. Disk and disc, as used herein, includes compact disc (CD), laser disc, optical disc, digital versatile disc (DVD), floppy disk and blu-ray disc where disks usually reproduce data magnetically, while discs reproduce data optically with lasers. Combinations of the above should also be included within the scope of computer-readable media.

[0058] The previous description of the disclosed exemplary embodiments is provided to enable any person skilled in the art to make or use the present invention. Various modifications to these exemplary embodiments will be readily apparent to those skilled in the art, and the generic principles defined herein may be applied to other embodiments without departing from the spirit or scope of the invention. Thus, the present invention is not intended to be limited to the embodiments shown herein, but is to be accorded the widest scope consistent with the principles and novel features disclosed herein.

CLAIMS

What is claimed is:

1. A transmitter system for wireless power, comprising:
a primary antenna, formed of an inductive element and a capacitor that are collectively magnetically resonant at a first frequency, said primary antenna embedded in the ground, and including a positioning control that detects coupling of said magnetic resonance to a secondary antenna, and automatically adjusts alignment of said primary antenna to improve said coupling.
2. A system as in claim 1, wherein said first frequency is 135 kHz.
3. A system as in claim 2, wherein said primary antenna is a coil has a radial width larger than its axial width.
4. A system as in claim 1, wherein said primary antenna includes an array of antennas that are closely packed to one another, and which extends over a specified area of an intended parking space.
5. A system as in claim 4, further comprising a charging control system, which produces a signal that is magnetically resonant at said first frequency, said signal of a type that, when output to said primary antenna, transmits power to a remote secondary antenna.
6. A system as in claim 5, wherein said charging control system selects one of said coils of said array.
7. A system as in claim 6, further comprising a switching device, which switches the signal to the selected coil only, and does not send any signal to any other coil.

8. A system as in claim 1, further comprising a charging control system, which produces a signal that is magnetically resonant at said first frequency, said signal of a type that, when output to said primary antenna, transmits power to a remote secondary antenna.
9. A system as in claim 1, wherein said positioning control changes x and y positions.
10. A transmitter system for wireless power, comprising:
a plurality of primary coils, forming an array, and closely packed to one another, and each of said primary coils including a capacitor that brings said primary coils to substantial magnetic resonance at a first frequency, said array of primary coils embedded in a ground area.
11. A transmitter system as in claim 10, further comprising a charging control system, which produces a signal that is magnetically resonant at said first frequency, said signal of a type that, when output to one of said coils, transmits power to a remote secondary coil.
12. A system as in claim 11, wherein said first frequency is 135 kHz.
13. A system as in claim 11, further comprising a switching configuration, which switches said output signal to any of said coils of said array.
14. A system as in claim 13, further comprising a detection system, which detects which of said coils has best coupling, and uses said detection to control said switching configuration.
15. A receiver system for wireless power, comprising:
a receiving antenna, formed of a coil and capacitor that are collectively magnetically resonant at a first frequency; and

a lifting device for said receiving antenna, which lifts and lowers said receiving antenna, based on a detection of coupled magnetic resonance.

16. A receiver as in claim 15, further comprising an x-y alignment control, which automatically aligns said receiving antenna to better align with a primary antenna by moving said receiving antenna in x and y directions.

17. A receiver as in claim 15, further comprising a guidance control, which automatically provides guidance information for guiding a vehicle to a location where said receiving antenna is better aligned with a transmitting primary antenna.

18. A receiver system as in claim 15, further comprising circuitry that receives a magnetically induced signal from said receiving antenna and produces power therefrom.

19. A receiver system as in claim 18, wherein said circuitry is resonant at 135 kHz.

20. A receiver system as in claim 15, wherein said receiving antenna and said lifting device are part of a battery operated vehicle.

21. A receiver system for wireless power, comprising:

a vehicle that operates based on electric power;

a receiving coil, formed in said vehicle, formed of a coil and capacitor that are collectively magnetically resonant at a first frequency, and is connected to produce an output that powers said vehicle; and

an alignment control for said receiving coil, which is automatically adjusted to move said receiving coil to improve coupling with said primary coil.

22. A receiver as in claim 21, further comprising a lifting device for said receiving coil, which raises and lowers said receiving coil, automatically based on the detection of magnetic coupling from a primary coil.

23. A receiver as in claim 21, further comprising a guidance control, which automatically provides guidance information for guiding the vehicle to a coarse location where said receiving coil is coarsely aligned with said primary coil.
24. A receiver system as in claim 21, further comprising circuitry that receives a magnetically induced signal from said receiving coil, and produces power therefrom, and uses said power to operate said vehicle.
25. A receiver as in claim 18, wherein said circuitry is resonant at 135 kHz.
26. A receiver as in claim 21, wherein said alignment control is an x-y alignment.
27. A method, comprising:
magnetically receiving power in a battery operated vehicle; and
responsive to detecting magnetic coupling, taking an action in the vehicle to improve coupling of the power to the vehicle system.
28. A method as in claim 27, wherein said taking an action comprises finely positioning a receiving antenna in the vehicle.
29. A method as in claim 27, wherein said taking an action comprises using a guidance system in the vehicle to carry out a coarse positioning.
30. A method as in claim 27, wherein said taking an action comprises lowering the receiving antenna to make the receiving antenna closer to a primary antenna.
31. A method, comprising:
magnetically receiving power in a battery operated vehicle; and
responsive to detecting magnetic coupling, using a guidance system which relies on radio positioning principles to move the vehicle to improve magnetic coupling.

Electronic Acknowledgement Receipt

EFS ID:	5649583
Application Number:	12498159
International Application Number:	
Confirmation Number:	7889
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
First Named Inventor/Applicant Name:	Nigel Cook
Customer Number:	23696
Filer:	Ramin Mobarhan/Sheryl Schoen (RM/mh)
Filer Authorized By:	Ramin Mobarhan
Attorney Docket Number:	092414
Receipt Date:	06-JUL-2009
Filing Date:	
Time Stamp:	17:37:37
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 2322
RAM confirmation Number	4114
Deposit Account	170026
Authorized User	

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

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		092414_2009-07-06_APP.pdf	137458 3d49bbf6bf6a69a289da2b1ef70d19cd1a0c0bde	yes	17
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	12	
	Claims		13	16	
	Abstract		17	17	
Warnings:					
Information:					
2	Drawings-only black and white line drawings	092414_2009-07-06_DWGS.pdf	874581 184b8c8e0e40c2f54e4ab6042f301acc1ef7d61b	no	5
Warnings:					
Information:					
3	Application Data Sheet	092414_2009-07-06_ADShmh.pdf	1381208 0a11cd950569188147f29b2d6cd06912949a430d	no	5
Warnings:					
Information:					
4	Fee Worksheet (PTO-875)	fee-info.pdf	37918 b9bca88b25fa78b4f11b07985b755e823df23ceb	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			2431165		

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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

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Filing Date: 07/06/09

Approved for use through 7/31/2006. OMB 0651-0032

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number

12/498,159**APPLICATION AS FILED – PART I**

(Column 1)

(Column 2)

SMALL ENTITY

OR

OTHER THAN
SMALL ENTITY

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(i))	31 minus 20 =	11
INDEPENDENT CLAIMS (37 CFR 1.16(h))	6 minus 3 =	* 3
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$260 (\$130 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))		

RATE (\$)	FEE (\$)
N/A	
N/A	
N/A	
x\$26	
x\$110	
195	
TOTAL	

RATE (\$)	FEE (\$)
N/A	330
N/A	540
N/A	220
x\$52	572
x\$220	660
390	
TOTAL	2322

* If the difference in column 1 is less than zero, enter "0" in column 2.

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
Total (37 CFR 1.16(i))	*	Minus **	=
Independent (37 CFR 1.16(h))	*	Minus ***	=
Application Size Fee (37 CFR 1.16(s))			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

RATE (\$)	ADDI- TIONAL FEE (\$)
x =	
x =	
N/A	
TOTAL ADD'T FEE	

RATE (\$)	ADDI- TIONAL FEE (\$)
x =	
x =	
N/A	
TOTAL ADD'T FEE	

(Column 1)

(Column 2)

(Column 3)

OR

AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total (37 CFR 1.16(i))	*	Minus **	=
Independent (37 CFR 1.16(h))	*	Minus ***	=
Application Size Fee (37 CFR 1.16(s))			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

RATE (\$)	ADDI- TIONAL FEE (\$)
x =	
x =	
N/A	
TOTAL ADD'T FEE	

RATE (\$)	ADDI- TIONAL FEE (\$)
x =	
x =	
N/A	
TOTAL ADD'T 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.

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SCORE Placeholder Sheet for IFW Content

Application Number: 12498159 Document Date: 7/6/2009

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

- Drawings – Other than Black and White Line Drawings

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

To access the documents in the SCORE database, refer to instructions developed by SIRA.

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Form Revision Date: February 8, 2006



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
12/498,159	07/06/2009	2611	2322	092414	31	6

CONFIRMATION NO. 7889

23696
QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

FILING RECEIPT



OC000000036934941

Date Mailed: 07/21/2009

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**

Applicant(s)

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David Allred, Rancho Santa Fe, CA;

Assignment For Published Patent Application

QUALCOMM INCORPORATED, San Diego, CA

Power of Attorney: None

Domestic Priority data as claimed by applicant

This appln claims benefit of 61/078,812 07/08/2008

Foreign Applications

If Required, Foreign Filing License Granted: 07/15/2009

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/498,159**

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No

Title

WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS

Preliminary Class

375

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

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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>.

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/498,159	07/06/2009	Nigel Cook	092414

CONFIRMATION NO. 7889

FORMALITIES LETTER



Date Mailed: 07/21/2009

23696
QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The oath or declaration is missing.

A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.

Note: If a petition under 37 CFR 1.47 is being filed, an oath or declaration in compliance with 37 CFR 1.63 signed by all available joint inventors, or if no inventor is available by a party with sufficient proprietary interest, is required.

The application is informal since it does not comply with the regulations for the reason(s) indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121(d) are required. The drawings submitted are not acceptable because:
 - The drawings must be reasonably free from erasures and must be free from alterations, overwriting, interlineations, folds, and copy marks. See Figure(s) 5-10.
 - Numbers, letters, and reference characters on the drawings must measure at least 0.32 cm (1/8 inch) in height. See Figure(s) 3.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- To avoid abandonment, a surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.16(f) of **\$130** for a non-small entity, must be submitted with the missing items identified in this notice.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **\$130** for a non-small entity

- **\$130** Surcharge.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.

<https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/bnguyen/

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

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

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	092414
		Application Number	
Title of Invention	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS		
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.)

Applicant Information:

Applicant 1					Remove
Applicant Authority		☒ Inventor		☐ Legal Representative under 35 U.S.C. 117	☐ Party of Interest under 35 U.S.C. 118
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Nigel		Cook		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	El Cajon	State/Province	CA	Country of Residence i	US
Citizenship under 37 CFR 1.41(b) i		GB			
Mailing Address of Applicant:					
Address 1		5775 Morehouse Drive			
Address 2					
City	San Diego		State/Province	CA	
Postal Code	92121		Countryi	US	
Applicant 2					Remove
Applicant Authority		☒ Inventor		☐ Legal Representative under 35 U.S.C. 117	☐ Party of Interest under 35 U.S.C. 118
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Hanspeter		Widmer		
Residence Information (Select One) ☐ US Residency ☒ Non US Residency ☐ Active US Military Service					
City	Solothurn		Country Of Residence i	CH	
Citizenship under 37 CFR 1.41(b) i		CH			
Mailing Address of Applicant:					
Address 1		Jasminweg 1,			
Address 2					
City	Wohlenschwil		State/Province	CH	
Postal Code	5512		Countryi	CH	
Applicant 3					Remove
Applicant Authority		☒ Inventor		☐ Legal Representative under 35 U.S.C. 117	☐ Party of Interest under 35 U.S.C. 118
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Lukas		Sieber		
Residence Information (Select One) ☐ US Residency ☒ Non US Residency ☐ Active US Military Service					
City	Olten		Country Of Residence i	CH	

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	092414
		Application Number	
Title of Invention	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS		

Citizenship under 37 CFR 1.41(b) i		CH	
Mailing Address of Applicant:			
Address 1	Höhenstrasse-West 23		
Address 2			
City	Olten	State/Province	
Postal Code	4600	Countryi	CH
Applicant 4			Remove
Applicant Authority		☒ Inventor ☐ Legal Representative under 35 U.S.C. 117 ☐ Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name
	David		Allred
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service			
City	Rancho Santa Fe	State/Province	CA
		Country of Residence i	US
Citizenship under 37 CFR 1.41(b) i		US	
Mailing Address of Applicant:			
Address 1	16168 Via de Oro		
Address 2			
City	Rancho Santa Fe	State/Province	CA
Postal Code	92067	Countryi	US
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.			Add

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	23696
Email Address	Add Email Remove Email

Application Information:

Title of the Invention	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS		
Attorney Docket Number	092414	Small Entity Status Claimed ☐	
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	5	Suggested Figure for Publication (if any)	

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	092414
		Application Number	
Title of Invention	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS		

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). Enter either 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	23696		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this 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(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.			
Prior Application Status		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
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 benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. 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(a).			
			Remove
Application Number	Country ⁱ	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			☒ Yes ☐ No
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			Add

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.	
Assignee 1	Remove

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	092414	
		Application Number		
Title of Invention	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS			
If the Assignee is an Organization check here. ☒				
Organization Name	QUALCOMM Incorporated			
Mailing Address Information:				
Address 1	5775 Morehouse Drive			
Address 2				
City	San Diego	State/Province	CA	
Country ⁱ	US	Postal Code	92121	
Phone Number	858-845-4265	Fax Number		
Email Address	us-docketing@qualcomm.com			
Additional Assignee Data may be generated within this form by selecting the Add button. Add				

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.					
Signature	/Ramin Mobarhan, Reg# 50,182/		Date (YYYY-MM-DD)	2010-01-20	
First Name	Ramin	Last Name	Mobarhan	Registration Number	50182

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.**

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 the Freedom of Information Act requires disclosure of these records.
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 inspections 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.

Electronic Acknowledgement Receipt

EFS ID:	6858122
Application Number:	12498159
International Application Number:	
Confirmation Number:	7889
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
First Named Inventor/Applicant Name:	Nigel Cook
Customer Number:	23696
Filer:	Ramin Mobarhan/Sheryl Schoen
Filer Authorized By:	Ramin Mobarhan
Attorney Docket Number:	092414
Receipt Date:	21-JAN-2010
Filing Date:	06-JUL-2009
Time Stamp:	18:17:10
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 1860
RAM confirmation Number	4839
Deposit Account	170026
Authorized User	

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

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Response to Pre-Exam Formalities Notice	092414_2010-01-21_MP.pdf	76710	no	2
			db2635f26fc316d05e8fa8cc3b52de886b2a ddba		
Warnings:					
Information:					
2	Oath or Declaration filed	092414_2010-01-21_DEC.pdf	2168736	no	4
			2d12f6d82d83e76a77c9a2c9457f7acefb21 8e37		
Warnings:					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
Information:					
3	Application Data Sheet	092414_2010-01-21_SADS.pdf	970910	no	5
			fff715ce34201b8b9a56c19c8c57970a83f80 3de		
Warnings:					
Information:					
4	Drawings-only black and white line drawings	092414_2010-01-21_RDWGS.pdf	64343	no	5
			b720e557295efa30ae69e5d34874dace43c 26213		
Warnings:					
Information:					
5	Fee Worksheet (PTO-875)	fee-info.pdf	32710	no	2
			d5e031e98c8807d88f93e1a678191b8b54a 58207		
Warnings:					
Information:					
Total Files Size (in bytes):			3313409		

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.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 12/498,159 Confirmation No. 7889
Applicant : Nigel P. Cook
Filed : July 6, 2009

Docket No. : 092414
Customer No. : 23696

RESPONSE TO NOTICE TO FILE MISSING PARTS
OF NONPROVISIONAL APPLICATION

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Notice to file Missing Parts of Nonprovisional Application, Filing Date
Granted, which was mailed on July 21, 2009, enclosed are:

1. Replacement Drawings
2. Executed Declaration

Applicants submit a clean copy of Replacement Drawing Sheets in compliance with 37 CFR 1.84 and 37 CFR 1.121(d). Applicants submit that no new matter is introduced by the submission of the replacement drawing sheets.

Applicants hereby petition for a four (4) month Extension of Time under 37 CFR § 1.136(a). The appropriate fee is submitted herewith.

Please charge Deposit Account No. 17-0026 of QUALCOMM Incorporated a surcharge for late submission in the amount of \$130.00. The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment, to said Deposit Account No. 17-0026. The Commissioner is further hereby authorized to charge to said Deposit Account No. 17-0026, pursuant to 37 CFR 1.25(b), any fee whatsoever which may become properly due or payable, as set forth in 37 CFR 1.16 to 37 CFR 1.18 inclusive, for the entire pendency of this application without specific additional authorization.

Respectfully submitted,

Dated: Jan 20, 2010

By: /Ramin Mobarhan, Reg# 50,182/
Ramin Mobarhan, Reg. No. 50182
(858) 651-6892

QUALCOMM Incorporated
Attn: Patent Department
5775 Morehouse Drive
San Diego, California 92121-1714
Telephone: (858) 658-5102
Facsimile: (858) 658-2502

1/5

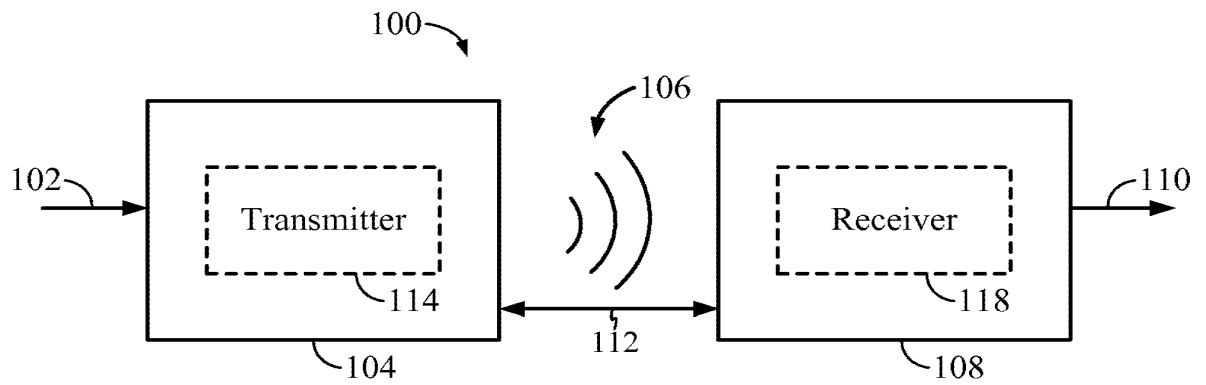


FIG. 1

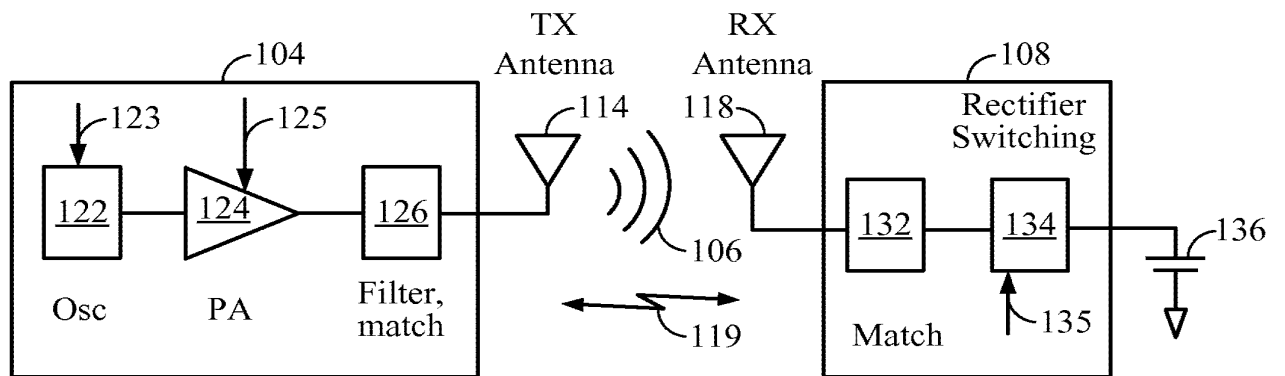


FIG. 2

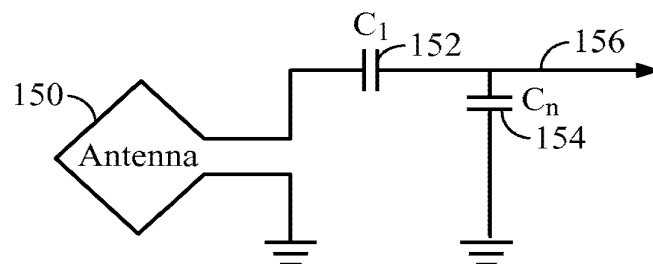


FIG. 3

2/5

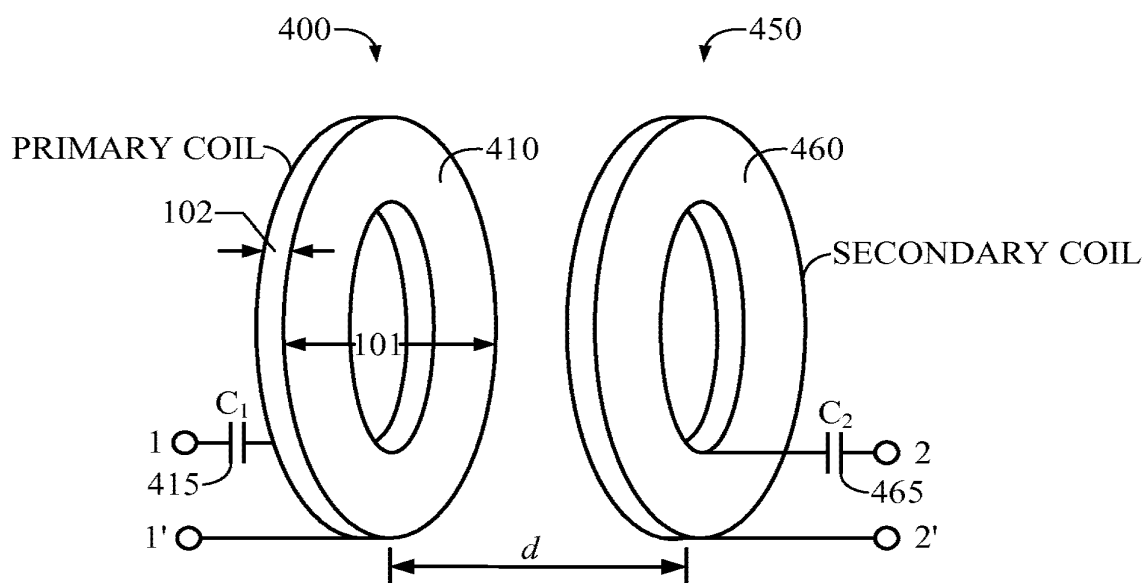


FIG. 4

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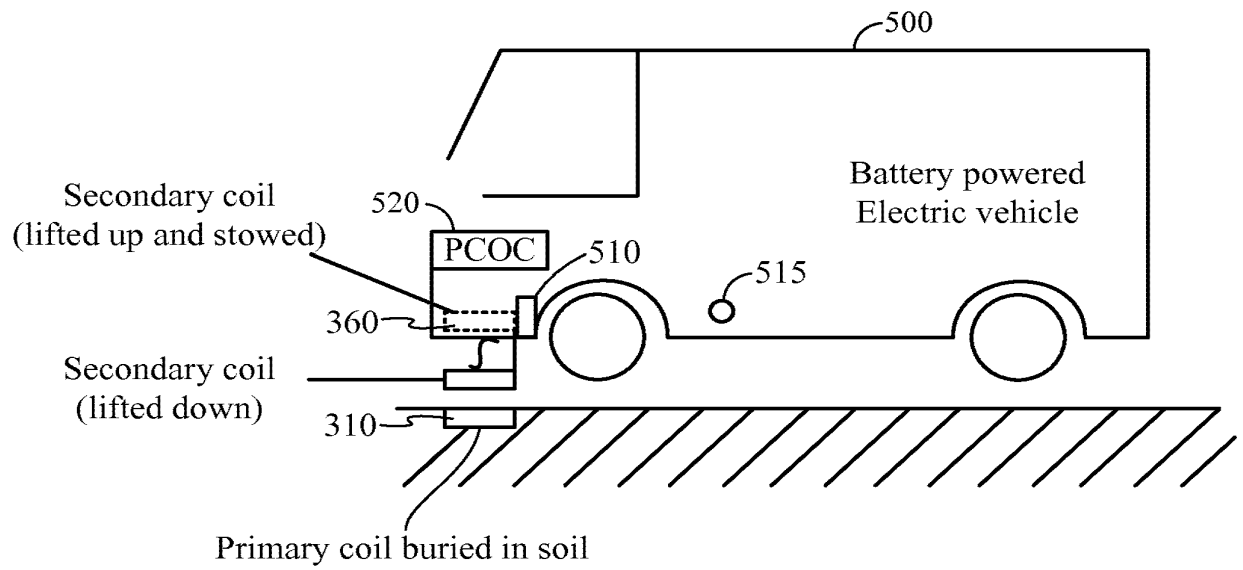


FIG. 5

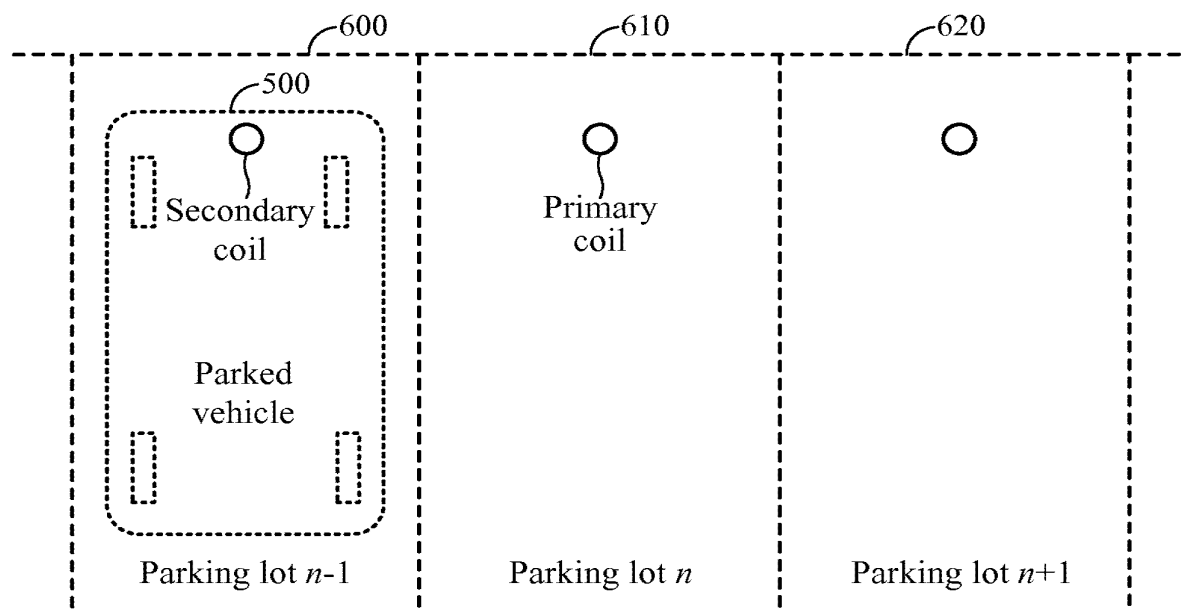


FIG. 6

4/5

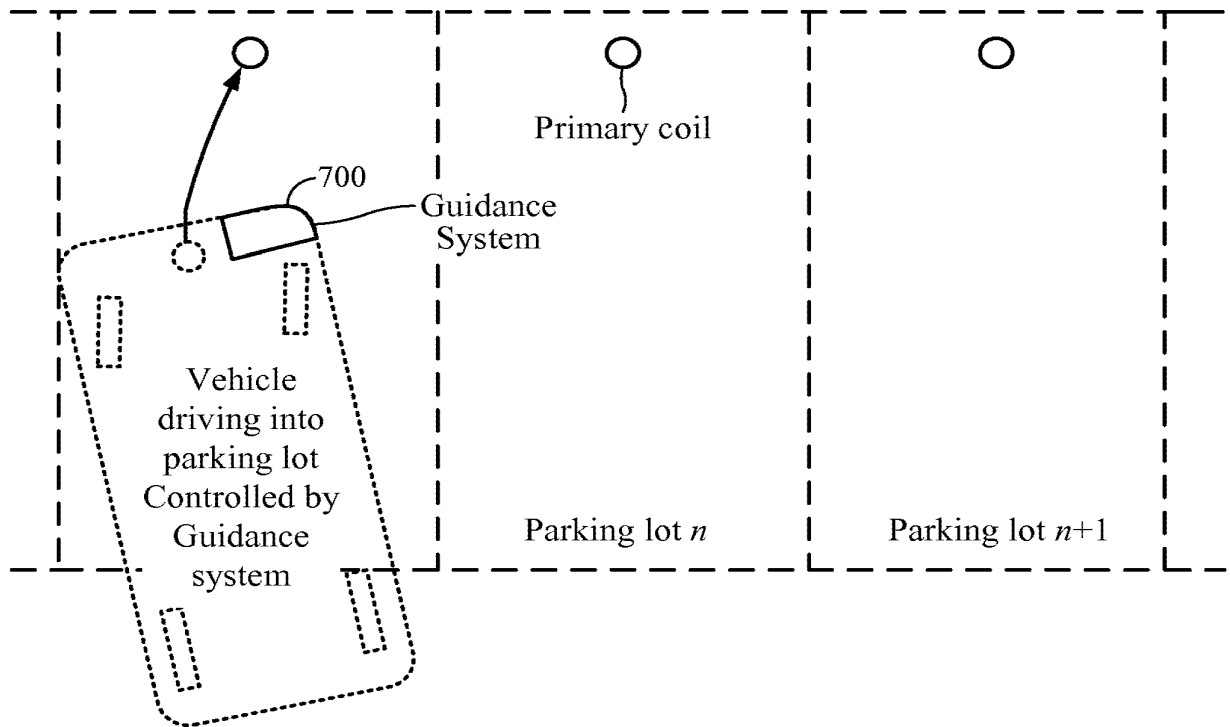


FIG. 7

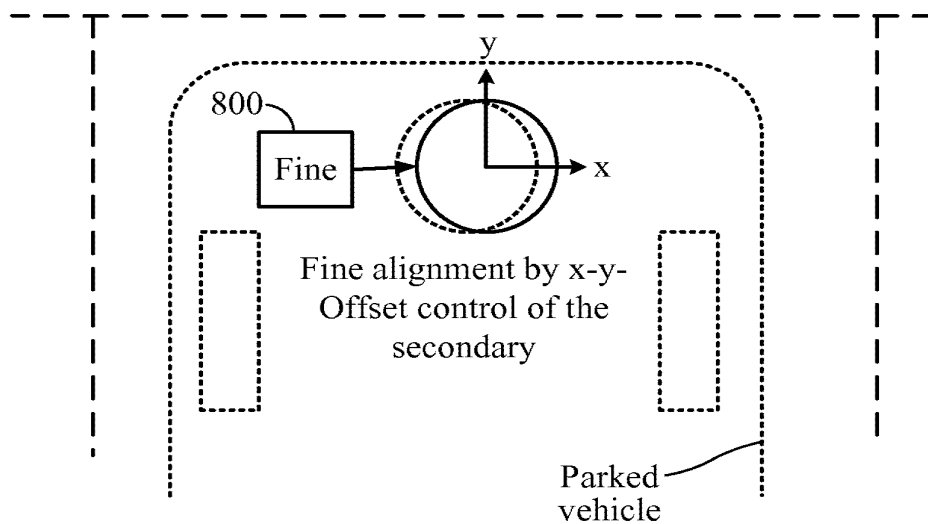


FIG. 8

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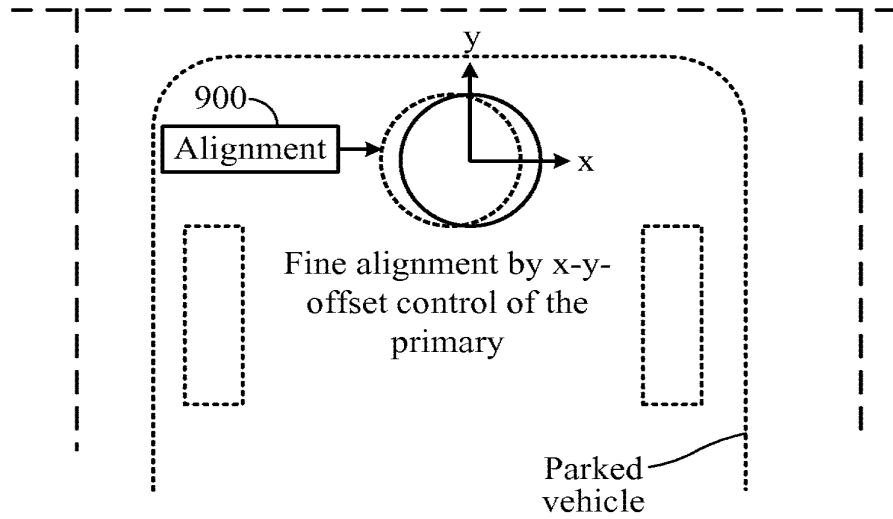


FIG. 9

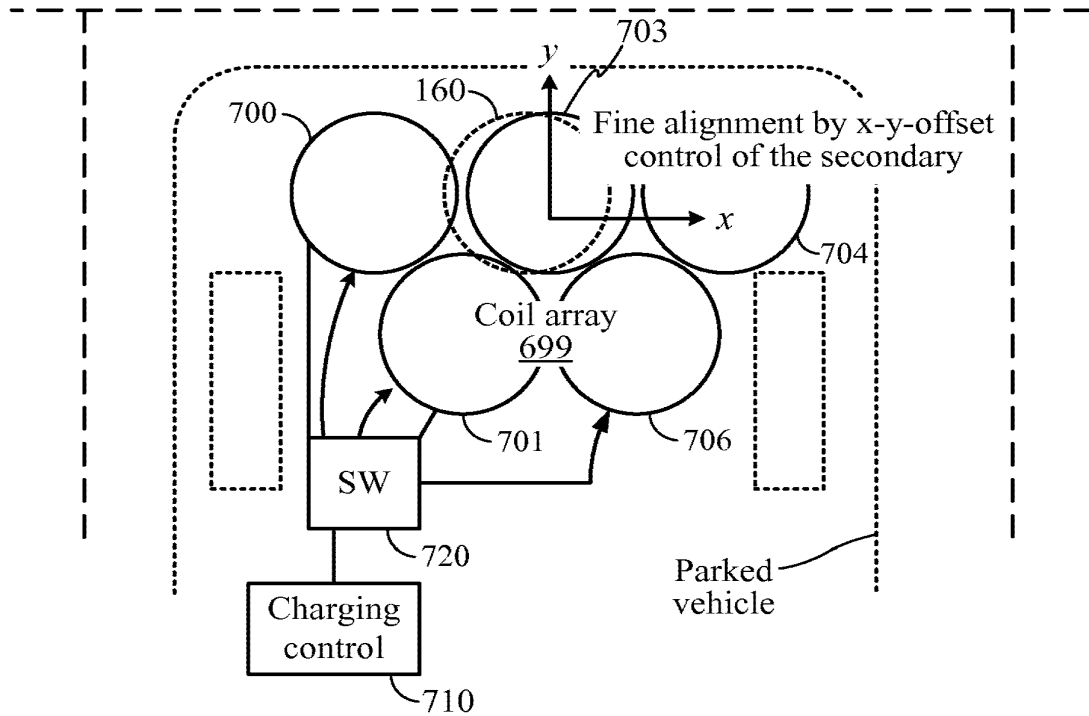


FIG. 10

Electronic Patent Application Fee Transmittal

Application Number:	12498159			
Filing Date:	06-Jul-2009			
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS			
First Named Inventor/Applicant Name:	Nigel Cook			
Filer:	Ramin Mobarhan/Sheryl Schoen			
Attorney Docket Number:	092414			
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Late filing fee for oath or declaration	1051	1	130	130
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 4 months with \$0 paid	1254	1	1730	1730
Miscellaneous:				
Total in USD (\$)				1860

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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****WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS**

As the below named inventor(s), I/we declare that:

This declaration is directed to:

☐

The attached application, or

☒Application No. 12/498,159 filed on July 6, 2009☐

As amended on _____ (if applicable);

I/we believe that I/we am/are the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought;

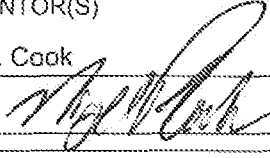
I/we have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above;

I/we acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me/us to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

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.

All statements made herein of my/our own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.

FULL NAME OF INVENTOR(S)Inventor one: Nigel P. CookDate: November 5th 2009Signature: Citizen of: GBInventor two: Hanspeter Widmer

Date: _____

Signature: _____

Citizen of: CH☐ Additional inventors or a legal representative are being named on _____ additional form(s) attached hereto.

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.

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.

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

Title of Invention	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
-------------------------------	--

As the below named inventor(s), I/we declare that:

This declaration is directed to:

☐ The attached application, or
☒ Application No. 12/498,159 filed on July 6, 2009
☐ As amended on _____ (if applicable);

I/we believe that I/we am/are the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought;

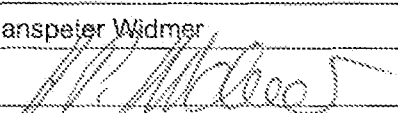
I/we have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above;

I/we acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me/us to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT International filing date of the continuation-in-part application.

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.

All statements made herein of my/our own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.

FULL NAME OF INVENTOR(S)	
Inventor one: <u>Nigel P. Cook</u>	Date: _____
Signature: _____	Citizen of: <u>GB</u>
Inventor two: <u>Hanspeter Widmer</u>	Date: <u>19 Dec 2009</u>
Signature: 	Citizen of: <u>CH</u>

☐ Additional inventors or a legal representative are being named on _____ additional form(s) attached hereto.

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.

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.

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

Title of Invention	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
-------------------------------	--

As the below named inventor(s), I/we declare that:

This declaration is directed to:

☐ The attached application, or

☒ Application No. 12/498,159 filed on July 6, 2009

☐ As amended on _____ (if applicable);

I/we believe that I/we am/are the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought;

I/we have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above;

I/we acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me/us to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT International filing date of the continuation-in-part application.

WARNING:

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All statements made herein of my/our own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.

FULL NAME OF INVENTOR(S)

Inventor one: Lukas Sieber Date: 7/12/2009

Signature: *L. Sieber* Citizen of: CH

Inventor two: David F. Allred Date: _____

Signature: _____ Citizen of: US

☐ Additional inventors or a legal representative are being named on _____ additional form(s) attached hereto.

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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**DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN
APPLICATION DATA SHEET (37 CFR 1.76)****Title of
Invention****WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS**

As the below named inventor(s), I/we declare that:

This declaration is directed to:

☐

The attached application, or

☒Application No. 12/498,159 filed on July 6, 2009☐

As amended on _____ (if applicable);

I/we believe that I/we am/are the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought;

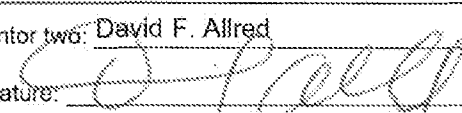
I/we have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above;

I/we acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me/us to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT International filing date of the continuation-in-part application.

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FULL NAME OF INVENTOR(S)Inventor one: Lukas Sieber Date: _____Signature: _____ Citizen of: CHInventor two: David F. Allred Date: 11/23/09Signature:  Citizen of: US☐ Additional inventors or a legal representative are being named on _____ additional form(s) attached hereto.

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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United States Patent and Trademark Office
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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
12/498,159	07/06/2009	2611	2452	092414	31	6

CONFIRMATION NO. 7889

UPDATED FILING RECEIPT

23696
QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121



OC000000039912895

Date Mailed: 02/01/2010

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**

Applicant(s)

Nigel P. Cook, El Cajon, CA;
Hanspeter Widmer, Solothurn, SWITZERLAND;
Lukas Sieber, Olten, SWITZERLAND;
David F. Allred, Rancho Santa Fe, CA;

Assignment For Published Patent Application

QUALCOMM INCORPORATED, San Diego, CA

Power of Attorney: None

Domestic Priority data as claimed by applicant

This appln claims benefit of 61/078,812 07/08/2008

Foreign Applications

If Required, Foreign Filing License Granted: 07/15/2009

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/498,159**

Projected Publication Date: 05/13/2010

Non-Publication Request: No

Early Publication Request: No

Title

WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS

Preliminary Class

375

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 (1-866-999-4158).

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The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as

set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

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.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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.

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: QUALCOMM Incorporated

Application No./Patent No.: 12/498,159 Filed/Issue Date: July 6, 2009

Titled: Wireless high power transfer under regulatory constraints

QUALCOMM Incorporated, a Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;
2. ☐ an assignee of less than the entire right, title, and interest in
(The extent (by percentage) of its ownership interest is _____ %); or
3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

- A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 023827, Frame 0667, or for which a copy therefore is attached.

OR

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Ramin Mobarhan, Reg# 50,182/

February 23, 2010

Signature

Date

Ramin Mobarhan

Patent Counsel

Printed or Typed Name

Title

This collection of information is required by 37 CFR 3.73(b). 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 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.

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.

Electronic Acknowledgement Receipt

EFS ID:	7080431
Application Number:	12498159
International Application Number:	
Confirmation Number:	7889
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
First Named Inventor/Applicant Name:	Nigel P. Cook
Customer Number:	23696
Filer:	Ramin Mobarhan/Sheryl Schoen
Filer Authorized By:	Ramin Mobarhan
Attorney Docket Number:	092414
Receipt Date:	24-FEB-2010
Filing Date:	06-JUL-2009
Time Stamp:	16:50:59
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	Assignee showing of ownership per 37 CFR 3.73(b).	092414_2010-02-24_373BSTMT.pdf	422902 02d20169b20173e0ae3a1cd071608ebbd94403b1	no	2

Warnings:

Information:

2	Power of Attorney	092414_2010-02-24_POA.pdf	326707 9c25eaba2cca365461238333e0eabbfbc5a d2e52	no	1
Warnings:					
Information:					
Total Files Size (in bytes):				749609	
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.					

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:



Practitioners associated with the Customer Number:

23696

OR



Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:



The address associated with Customer Number:

23696

OR

☐ Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone	Email		

Assignee Name and Address:

Qualcomm Incorporated
5775 Morehouse Drive
San Diego, CA 92121

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	August 28, 2009
Name	Katherine W. Umpleby	Telephone	858-651-7170
Title	Vice President, Chief Patent Counsel		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 3 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
12/498,159	07/06/2009	Nigel P. Cook	092414

23696
QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

CONFIRMATION NO. 7889
POA ACCEPTANCE LETTER



Date Mailed: 03/05/2010

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/24/2010.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/hchristian/

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



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
12/498,159	07/06/2009	Nigel P. Cook	092414

CONFIRMATION NO. 7889

23696
QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

PUBLICATION NOTICE



OC000000041602740

Title: WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS

Publication No. US-2010-0117596-A1

Publication Date: 05/13/2010

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

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

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				<i>Complete if Known</i>			
				Application Number		12/498,159	
				Filing Date		2009-07-06	
				First Named Inventor		COOK; Nigel P.,	
				Art Unit		2858	
				Examiner Name		ASSOUAD, PATRICK J	
Sheet	1	of	2	Attorney Docket No: 092414			

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ³ - Number ⁴ Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
	001	DE4236286	05-05-1994	DAIMLER-BENZ AKTIENGESELLSCHAFT, 70567 STUTTGART, DE.		☐
	002	GB2347801	09-13-2000	* ETECHNOLOGY LIMITED.		☐
	003	WO2008051611A2	05-02-2008	FARKAS LASZIO [US], et al.		☐

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T2
	004	"Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Short Range Devices (SRD); Radio Equipment in the Frequency Range 9kHz to 25 MHz and Inductive Loop Systems in the Frequency Range 9 kHz to 30 MHz; Part 2: Harmonized EN Under Article 3.2 of the R&TTE Directive; Final draft ETSI EN 300" ETSI STANDARDS, LIS, SOPHIA ANTIPOLIS CEDEX, FRANCE, Vol. ERM-RP08, No. V1.3.1, 1 January 2006, XP014032134, ISSN: 0000-0001; EETSI EN 300 330-2 v1.3.1 (2001-06).	☐

EXAMINER SIGNATURE

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. 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 2 hours 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, 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 (1-800-786-9199) and select option 2.

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

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				<i>Complete if Known</i>	
				Application Number	12/498,159
				Filing Date	2009-07-06
				First Named Inventor	COOK; Nigel P.,
				Art Unit	2858
				Examiner Name	ASSOUAD, PATRICK J
Sheet	2	of	2	Attorney Docket No: 092414	

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

- ☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

- ☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

- ☐ See attached certification statement.

- ☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

- ☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Ramin Mobarhan, Reg# 50,182/	Date (YYYY-MM-DD)	Jan 21, 2011
Name/Print	Ramin Mobarhan	Registration Number	50182

This collection of information is required by 37 CFR 1.97 and 1.98. 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 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: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Electronic Acknowledgement Receipt

EFS ID:	9313356
Application Number:	12498159
International Application Number:	
Confirmation Number:	7889
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
First Named Inventor/Applicant Name:	Nigel P. Cook
Customer Number:	23696
Filer:	Ramin Mobarhan/Rie Coppinger
Filer Authorized By:	Ramin Mobarhan
Attorney Docket Number:	092414
Receipt Date:	26-JAN-2011
Filing Date:	06-JUL-2009
Time Stamp:	16:26:08
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	Foreign Reference	DE4236286.PDF	157407 442e9333224cc9065ad70bd96a3db1ac95e28bd3	no	1

Warnings:

Information:

2	Foreign Reference	GB2348083.PDF	1936581 3b5d6d38a84a4164d24d61473338eb174d f48468	no	21
Warnings:					
Information:					
3	Foreign Reference	WO2008051611.PDF	191305 8f39f38a3b2c227c7f59220913d86320fcf29 5ca	no	4
Warnings:					
Information:					
4	Information Disclosure Statement (IDS) Filed (SB/08)	092414_IDS_Signed_2.pdf	42911 3d851ab9c53626e08d827256fbc815f29d3 cb065	no	2
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
5	NPL Documents	ELECTROMAGNETIC_COMPATIBILITY_RADIO_SPECTRUM_ARTICLE_3_2.pdf	5395 89223a4524cb77fae57e1ab96288812b3bff 89e2	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			2333599		
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 Acknowledgement Receipt

EFS ID:	10096163
Application Number:	12498159
International Application Number:	
Confirmation Number:	7889
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
First Named Inventor/Applicant Name:	Nigel P. Cook
Customer Number:	23696
Filer:	Eric M. Nelson/Valerie Jones
Filer Authorized By:	Eric M. Nelson
Attorney Docket Number:	092414
Receipt Date:	16-MAY-2011
Filing Date:	06-JUL-2009
Time Stamp:	17:51:35
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		QPC034A_POA.pdf	85907 7ed84add5816ae53a2a1ca30c3d68821a96fb6cc	yes	3

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Assignee showing of ownership per 37 CFR 3.73(b).	1	2
	Power of Attorney	3	3
Warnings:			
Information:			
Total Files Size (in bytes):		85907	
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.			

**REVOCATION & GENERAL POWER OF ATTORNEY
and
CHANGE IN CORRESPONDENCE ADDRESS**

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

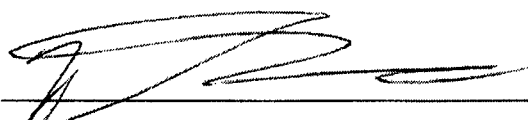
Dear Sir:

The undersigned is an empowered representative of the Assignee and hereby appoints the registrants of Knobbe, Martens, Olson & Bear, LLP, **Customer No. 14,870**, as attorneys and agents to represent the Assignee before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned to the Assignee according to the USPTO assignment records or assignment documents supplied with an accompanying Statement Under 37 C.F.R. § 3.73(b). This appointment is to be to the exclusion of the inventor(s) and his attorney(s) in accordance with the provisions of 37 C.F.R. § 3.71.

Submission of this paper in connection with any matter of the below named assignee, together with a statement under 37 C.F.R. § 3.73(b), shall serve to revoke any previous powers of attorney in that matter.

Attached is a Statement Under 37 C.F.R. § 3.73(b), signed by a registrant of Knobbe, Martens, Olson & Bear, LLP, setting forth a full chain of title for the subject application owned by the Assignee named below.

Please recognize or change the correspondence address for the application identified in the attached Statement to **Customer No. 14,870**.

By:  Date: May 10, 2011
Name: Katherine Umpleby
Title: Vice President, Chief Patent Counsel
Assignee: QUALCOMM Incorporated
Address: 5775 Morehouse Drive, San Diego, CA 92121

11202554
050911

**STATEMENT UNDER 37 CFR § 3.73(b)
ESTABLISHMENT OF ASSIGNEE**

Applicant	:	Cook, et al.
App. No.	:	12/498,159
Filed	:	07-06-2009
For	:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
Examiner	:	ASSOUAD, PATRICK J
Group Art Unit	:	2858
Conf. No.	:	7889

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

Dear Sir:

This document is being filed with a copy of a Power of Attorney signed by the Assignee. This Statement sets forth the chain of title of the above-identified application.

Qualcomm Incorporated is the Assignee of the entire right, title, and interest of the above-referenced application by virtue of:

A chain of title, in reverse order, from the inventors to the current Assignee as shown by the following recorded assignments:

1. Assignment from Nigel P. Cook, Hanspeter Widmer, Lukas Sieber, and David F. Allred to Qualcomm Incorporated recorded in the United States Patent and Trademark Office on January 21, 2010, at Reel 023827, and Frame 0667.

The undersigned is an agent of Customer Number 14,870 and is authorized to act on behalf of the Assignee. Please recognize or change the correspondence address for the above-identified application to **Customer No. 14,870**.

Appl. No. : 12/498,159
Filed : 07-06-2009

Docket No. QPC.034A
Customer No. 14,870

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 5/16/2011

By: 

Eric M. Nelson
Registration No. 43,829
Attorney of Record
Customer No. 14,870
(858) 707-4000



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 NUMBER	PATENT NUMBER	GROUP ART UNIT	FILE WRAPPER LOCATION
12/498,159		2858	



Correspondence Address/Fee Address Change

The following fields have been set to Customer Number 14870 on 05/19/2011

- Correspondence Address
- Maintenance Fee Address

The address of record for Customer Number 14870 is:

14870
KNOBBE, MARTENS, OLSON & BEAR, LLP
2040 Main Street
Fourteenth Floor
Irvine, CA 92614

PART 1 - ATTORNEY/APPLICANT COPY

page 1 of 1



UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/498,159	07/06/2009	Nigel P. Cook	092414

14870
KNOBBE, MARTENS, OLSON & BEAR, LLP
2040 Main Street
Fourteenth Floor
Irvine, CA 92614

CONFIRMATION NO. 7889
POWER OF ATTORNEY NOTICE



OC000000047811153

Date Mailed: 05/26/2011

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/16/2011.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/mnguyen/

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



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 NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/498,159	07/06/2009	Nigel P. Cook	QPC.000GEN

CONFIRMATION NO. 7889

POA ACCEPTANCE LETTER



OC000000047811160

14870
KNOBBE, MARTENS, OLSON & BEAR, LLP
2040 Main Street
Fourteenth Floor
Irvine, CA 92614

Date Mailed: 05/26/2011

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/16/2011.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/mnguyen/

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

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 092414WO	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2009/049975	International filing date (day/month/year) 08/07/2009	(Earliest) Priority Date (day/month/year) 08/07/2008
Applicant QUALCOMM Incorporated		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of:

- ☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☐ **Unity of invention is lacking** (see Box No III)

4. With regard to the **title**,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 5
☐ as suggested by the applicant
☐ as selected by this Authority, because the applicant failed to suggest a figure
☒ as selected by this Authority, because this figure better characterizes the invention
- b. ☐ none of the figures is to be published with the abstract

INTERNATIONAL SEARCH REPORT

 International application No
 PCT/US2009/049975

A. CLASSIFICATION OF SUBJECT MATTER

INV. H02J7/02 H02J5/00 H02J7/00 H04B5/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H02J H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2008/051611 A (FARKAS LASZIO [US]; FARKAS LASZIO [US] FARKAS LASZLO [US]) 2 May 2008 (2008-05-02) paragraphs [0004] - [0007], [0028] - [0030], [0032], [0035], [0036], [0038], [0039], [0043] - [0045], [0048], [0050] - [0052], [0055], [0058]; figure 1 paragraphs [0061] - [0063], [0065]; figure 19 ----- -/--	1-14

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

2 November 2009

Date of mailing of the international search report

16/11/2009

Name and mailing address of the ISA/

 European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040,
 Fax: (+31-70) 340-3016

Authorized officer

Losada Corderi, Iker

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2009/049975

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	DE 42 36 286 A1 (DAIMLER BENZ AG [DE]) 5 May 1994 (1994-05-05) page 2, column 1, lines 1-4 page 2, column 2, lines 10-36; figure 1 page 2, column 2, lines 46-48 page 2, column 2, lines 53-55 page 3, column 3, lines 30-32 page 3, column 3, lines 45-55 page 3, column 3, line 65 - page 3, column 4, line 5 page 3, column 4, lines 45-50 page 3, column 4, line 58 - page 4, column 5, line 7 page 4, column 5, line 7 - column 6, line 15	1-3 16,17, 23,26
X Y	GB 2 347 801 A (EA TECH LTD [GB]) 13 September 2000 (2000-09-13) page 7 - page 8 page 8, lines 20-30 page 10, lines 1-20 page 15, lines 10-20 page 15, lines 20-30; figure 3	1-3,15, 18-22, 24,25, 27-31 16,17, 23,26
A	"Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive; Final draft ETSI EN 300" ETSI STANDARDS, LIS, SOPHIA ANTIPOLIS CEDEX, FRANCE, vol. ERM-RP08, no. V1.3.1, 1 January 2006 (2006-01-01), XP014032134 ISSN: 0000-0001 page 25; table 4 page 27, paragraph 7.3.1 the whole document	1-31

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2009/049975

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 2008051611	A	02-05-2008	EP 2078330 A2	15-07-2009
			US 2008265684 A1	30-10-2008
DE 4236286	A1	05-05-1994	AT 161779 T	15-01-1998
			DK 666805 T3	09-02-1998
			WO 9410004 A1	11-05-1994
			EP 0666805 A1	16-08-1995
			JP 8502640 T	19-03-1996
			US 5654621 A	05-08-1997
GB 2347801	A	13-09-2000	NONE	

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference see form PCT/ISA/220		FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/US2009/049975	International filing date (day/month/year) 08.07.2009	Priority date (day/month/year) 08.07.2008
International Patent Classification (IPC) or both national classification and IPC INV. H02J7/02 H02J5/00 H02J7/00 H04B5/00		
Applicant QUALCOMM Incorporated		

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:  European Patent Office P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Fax: +31 70 340 - 3016	Date of completion of this opinion see form PCT/ISA/210	Authorized Officer Losada Corderí, Iker Telephone No. +31 70 340-8419 
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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2009/049975

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1 (a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ on paper
 - ☐ in electronic form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in electronic form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2009/049975

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>2,12,16,17,19,23,25,26</u>
	No: Claims	<u>1,3-11,13-15,18,20-22,24,27-31</u>
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-31</u>
Industrial applicability (IA)	Yes: Claims	<u>1-31</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1: WO 2008/051611 A (FARKAS LASZIO [US]; FARKAS LASZIO [US]

FARKAS LASZLO [US]) 2 May 2008 (2008-05-02)

D2: DE 42 36 286 A1 (DAIMLER BENZ AG [DE]) 5 May 1994 (1994-05-05)

D3: GB-A-2 347 801 (EA TECH LTD [GB]) 13 September 2000 (2000-09-13)

ART 33(2) PCT: NOVELTY

CLAIM 1

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims **1,3-11,13-15,18,20-22,24,27-31** is not new in the sense of Article 33(2) PCT.

The document D1 discloses (the references in parentheses applying to this document):

A transmitter system for wireless power (**high power wireless resonant energy transfer system, comprising an energy transmission system that is arranged to wirelessly transfer energy across an airgap, §4**), comprising:

a primary antenna (**primaries, §35**), formed of an inductive element and a capacitor (**the combination of each primary winding and its capacitor forms a single resonant circuit, §36**) that are collectively magnetically resonant at a first frequency, said primary antenna embedded in the ground (**energy transmission system preferably beneath the road surface or on the surface, §29, fig 1**), and including a positioning control that detects coupling (**detector of frequency change, §38, charging control system that makes system magnetically resonant, §39**) of said magnetic resonance to a secondary antenna, and automatically adjusts alignment (**the wireless transfer system can also automatically compensate for horizontal misalignment between the energy transmission system, §43**) of said primary antenna to improve said coupling.

2.1. The attention of the applicant is drawn to the fact that D2 and D3 also disclose the subject-matter of **claim 1**, see the corresponding passages cited in the search report.

CLAIM 3

2.3. All the primaries disclosed in D1 and D3 have radial width higher than axial widths (see D1, fig 2, D2, fig., and the relevant passages in the search report).

CLAIM 4

2.4. Furthermore, D1 discloses the use of an array of closely packed primary coils (array, §30, §44).

CLAIM 5 AND 8

2.5. D1 and D2 disclose a charging control system using a magnetically resonant circuit (see D1, charge an onboard energy storage device unit, §29, common system resonant frequency §38-39; see D2, Verfahren und Anordnung zur berührungslosen Energieübertragung beim Laden der Batterie eines Fahrzeugs, wie z. B. eines Elektroautos, [Pg 2, col 1, lines 1-4], Die Schaltungselemente sind so ausgelegt, dass der Reihenschwingkreis der primären Seite und der Parallelschwingkreis der Sekundärseite bei derselben Frequenz in Resonanz kommen [pg 3,col 4, lines 45-50]).

CLAIM 6 AND 7

2.6. D1 discloses several alternatives wherein the charging control system selects one of the coils of said array, comprising a implicitly a switching device (**the vehicle activates the energy transfer system, §51; arrays elements are activated for a short period sequentially, §52, §58; array elements activate when the vehicle passes by, §55**).

CLAIM 9

2.7. D1 discloses a positioning control that changes x and y positions electrically (**the**

wireless transfer system can also automatically compensate for horizontal misalignment between the energy transmission system, §43), and D2 discloses a positioning control that adjust the position of the primary coil in the three directions, x, y and height (Orientierungssignals, pg 4,col 5,line 7-col 6,line 15).

CLAIMS 10,11,13,14

2.8. As already discussed, D1 discloses the use of an array of closely packed primary coils (array, §30, §44) in a transmitter system for wireless power (high power wireless resonant energy transfer system, comprising an energy transmission system that is arranged to wirelessly transfer energy across an airgap, §4), wherein the array (primaries, array, §30, §44,§35), is embedded in the ground (energy transmission system preferably beneath the road surface or on the surface, §29, fig 1).

2.9. Dependent claims 10,11,13,14, do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty, see document D1 and the corresponding passages cited in the search report.

CLAIMS 15, 18 AND 20

2.10. Document D3 discloses (the references in parentheses applying to this document):

A receiver system for wireless power (pgs 7-8), comprising: a receiving antenna (pgs 15, lines 10-20, means may also be provided for raising and lowering the secondary inductor so that, when it is desired to recharge a battery, the secondary inductor can be lowered to a position in which the optimum gap can exist between it and a primary inductor set in, say, a road surface ; the secondary inductor can then be raised to a retracted position for normal travel of the vehicle. Such means may be manually, electrically, hydraulically or pneumatically powered.), formed of a coil and capacitor that are collectively magnetically resonant at a first frequency; and a lifting device for said receiving antenna, which lifts and lowers said receiving antenna, based on a detection of coupled magnetic resonance.

2.11. Document D3 also discloses (**pgs 7-8,pgs 15, lines 10-20**) a battery operated vehicle where the circuitry that receives a magnetically induced signal from said receiving antenna and produces power therefrom.

CLAIMS 21, 22, 24

2.12. The same reasoning of claims 15, 18 and 20 applies mutatis mutandis to the subject-matter of claims 21, 22 and 24.

CLAIMS 27-31

2.13. The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claims 27 and 31, which therefore is also considered not new.

2.14. Dependent claims 28-30 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty.

ART 33(3) PCT: INVENTIVE STEP

3. The subject-matter of **claims 2, 12, 16, 17, 19, 23, 25 and 26** do not involve an inventive step in the sense of art 33(3) PCT.

3.1: The problem solved by the invention, as it can be extracted from paragraphs 2 and 3 of the present application, can be regarded as **how to wirelessly transmit power.**

CLAIMS 2, 12, 19 AND 25

3.2. The choice of the resonance frequency of 135 kHz is a normal design option in the field of inductive coupling wireless power transfer, because it allows high H-field limits at 10 m (**see well-known D4, ETSI EN 300 330, Table 4 in page 25 and section 7.3.1 in page 27**). The person skilled in the art knows the standard and would apply it to the teachings provided in D1 and D2 without exercising any inventive skill.

CLAIMS 16, 17, 23 AND 26

3.3. Document D3 does not disclose the use of mechanical alignment means which imply moving the receiving antenna. Thus, the problem to be solved can be regarded as **how to finely position the coils to increase the efficiency of the power transfer**. As already discussed, D2 discloses a positioning control that adjust the position of the primary coil in the three directions, x, y and height (**Orientierungssignals, pg 4,col 5,line 7-col 6,line 15**), for the use in a wireless inductive power transfer system. The person skilled in the art would therefore apply the teaching in D2 to the system in D3 without exercising any inventive activity.

3.4. Document D2 additionally discloses the use of a HF signal for orienting the first element in the direction of the second element (**Hochfrequenzsignal zum Orientierung des Primärelements, pg 3, col 4, line 58 to pg 4, col 5, line 7**).

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		<i>Complete if Known</i>		
		Application Number	12/498,159	
		Filing Date	2009-07-06	
		First Named Inventor	COOK, Nigel P.	
		Art Unit	2858	
		Examiner Name	ASSOUAD, Patrick J.	
Sheet	2	of	2	Attorney Docket No: QPC.034A / 092414

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

- ☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

- ☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

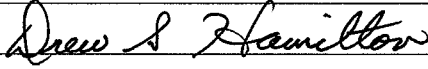
- ☐ See attached certification statement.

- ☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

- ☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date (YYYY-MM-DD)	2011-07-13
Name/Print	Drew S. Hamilton	Registration Number	29,801

This collection of information is required by 37 CFR 1.97 and 1.98. 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 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: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Electronic Acknowledgement Receipt

EFS ID:	10507730
Application Number:	12498159
International Application Number:	
Confirmation Number:	7889
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
First Named Inventor/Applicant Name:	Nigel P. Cook
Customer Number:	14870
Filer:	Drew S. Hamilton/ThuyQuyen Nguyen
Filer Authorized By:	Drew S. Hamilton
Attorney Docket Number:	QPC.034A
Receipt Date:	13-JUL-2011
Filing Date:	06-JUL-2009
Time Stamp:	13:00:32
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		idsQPC034a_20110713.pdf	127141 0b37b7354b17a33bf3d8daf1c877aaa463b2e79f	yes	2

	Multipart Description/PDF files in .zip description								
	Document Description		Start	End					
	Information Disclosure Statement (IDS) Form (SB08)		1	1					
	Transmittal Letter		2	2					
Warnings:									
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2	Non Patent Literature	034WO_ISR_WO_20091116.pdf	1374794	no	12				
			3554093a54bc6228b8b4fedd6c7c18cee0519f5b						
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Total Files Size (in bytes):			1501935						
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.									

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				Filing Date	2009-07-06
				First Named Inventor	COOK, Nigel P.
				Art Unit	2858
				Examiner Name	ASSOUAD, Patrick J.
Sheet	1	of	2	Attorney Docket No: QPC.034A / 092414	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			

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		Country Code ³⁻ Number ⁴ Kind Code ⁵ (if known)				

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	001	International Search Report and Written Opinion - PCT/US2009/049975, International Search Authority - European Patent Office - 07-08-2008.	☐

EXAMINER SIGNATURE

DATE CONSIDERED

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PLUS Search Results for S/N 12498159, Searched Fri Oct 21 15:02:37 EDT 2011

The Patent Linguistics Utility System (PLUS) is a USPTO automated search system for U.S. Patents from 1971 to the present PLUS is a query-by-example search system which produces a list of patents that are most closely related linguistically to the application searched. This search was prepared by the staff of the Scientific and Technical Information Center, SIRA.

4355311 99	7675473 99	20090289107 99
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PLUS Search Results for S/N 12498159, Searched Fri Oct 21 15:02:37 EDT 2011

The Patent Linguistics Utility System (PLUS) is a USPTO automated search system for U.S. Patents from 1971 to the present PLUS is a query-by-example search system which produces a list of patents that are most closely related linguistically to the application searched. This search was prepared by the staff of the Scientific and Technical Information Center, SIRA.

4355311 99	7675473 99	20090289107 99
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				Application Number	12/498,159	
				Filing Date	2009-07-06	
				First Named Inventor	COOK; Nigel P.	
				Art Unit	2858	
				Examiner Name	OMAR, Ahmed H.	
Sheet	1	of	2	Attorney Docket No: QPC.034A / 092414		

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	001	US5311973	05-17-1994	TSENG; Ling-Yuan et al.	
	002	US5661391	08-26-1997	ITO; Makoto et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ₆
		Country Code ³⁻ Number ⁴ Kind Code ⁵ (if known)				
	003	DE102007033654A1	04-24-2008	SEW EURODRIVE GMBH & CO [DE]	English Abstract Only	☒
	004	EP0788212A2	08-06-1997	SUMITOMO WIRING SYSTEMS [JP]		☐
	005	FR2740921A1	05-09-1997	ELECTRICITE DE FRANCE [FR]	English Abstract Only	☒

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T2

EXAMINER SIGNATURE

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. 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 2 hours 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, 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 (1-800-786-9199) and select option 2.

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

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				<i>Complete if Known</i>		
				Application Number	12/498,159	
				Filing Date	2009-07-06	
				First Named Inventor	COOK, Nigel P.	
				Art Unit	2858	
				Examiner Name	OMAR, Ahmed H.	
Sheet	2	of	2	Attorney Docket No: QPC.034A / 092414		

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

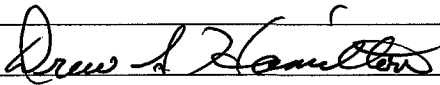
- ☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

- ☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).
- ☐ See attached certification statement.
- ☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- ☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date (YYYY-MM-DD)	2012-02-17
Name/Print	Drew S. Hamilton	Registration Number	29,801

This collection of information is required by 37 CFR 1.97 and 1.98. 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 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: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Electronic Acknowledgement Receipt

EFS ID:	12105050
Application Number:	12498159
International Application Number:	
Confirmation Number:	7889
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
First Named Inventor/Applicant Name:	Nigel P. Cook
Customer Number:	14870
Filer:	Drew S. Hamilton/Jessica Egigian
Filer Authorized By:	Drew S. Hamilton
Attorney Docket Number:	QPC.034A
Receipt Date:	17-FEB-2012
Filing Date:	06-JUL-2009
Time Stamp:	18:10:55
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	Foreign Reference	EP0788212_Sumitomo.pdf	2419922 e105809534d1aaf1e0846c791a4c98f07c7b4d9b	no	68

Warnings:

Information:

2	Foreign Reference	DE102007033654_SEW-EURODRIVE_REV.pdf	1705319 7f9247a83d0bf11d635eef39c05c6f9c12692ca5	no	15
Warnings:					
Information:					
3	Foreign Reference	FR2740921_Electricite_Rev.pdf	3906153 860dd4f9205073e573874c88e1cd276bde1a9fda	no	32
Warnings:					
Information:					
4		QPC034a_20120217rev.pdf	136149 a9ea43fee21e070880bc38ada4cd2ba8601793b	yes	2
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Information Disclosure Statement (IDS) Form (SB08)		1	1	
	Transmittal Letter		2	2	
Warnings:					
Information:					
Total Files Size (in bytes):			8167543		
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.					

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L6	2157	((guid\$3 or guidance or steer\$3 or leading or navigat\$3) near10 (vehicle or automobile or car)) with (location or align\$4 or placement) with (coil or antenna or station or rail)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/03/09 12:57
L7	1431	320/108,109.ccls.	US-PGPUB; USPAT	ADJ	ON	2012/03/09 12:58
L8	15	l6 and L7	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/03/09 12:58
L10	10	"135 khz" and L7	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/03/09 14:37
S1	4	("5311973" "5661391").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/03/06 16:25
S2	2	US "20100117596" A1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/03/06 16:28
S3	12	("5216402" "5264776" "5315227" "5341083" "5341280" "5434493" "5461299" "5462439").PN. OR ("5661391").URPN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2012/03/06 17:29
S4	28	("3914562" "4007817" "4139071" "4184580" "4289226" "4331225" "4532418" "4742283" "4800328" "4836344" "4912391").PN. OR ("5311973").URPN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2012/03/06 17:42
S5	100	(US-20030179149-\$ or US-20030197650-\$ or US-20040142655-\$ or US-20040169587-\$ or US-20050083235-\$ or US-20050088361-\$	US-PGPUB; USPAT	ADJ	ON	2012/03/06 19:10

		or US-20050280503-\$ or US-20060223479-\$ or US-20060238426-\$ or US-20070063915-\$ or US-20070085752-\$ or US-20070097211-\$ or US-20070103313-\$ or US-20070109178-\$ or US-20070115196-\$ or US-20070184799-\$ or US-20070236402-\$ or US-20070244470-\$ or US-20070257800-\$ or US-20070279309-\$ or US-20080024145-\$ or US-20080037464-\$ or US-20080068216-\$ or US-20080144665-\$ or US-20080144666-\$ or US-20080158071-\$).did. or (US-20080234546-\$ or US-20080272296-\$ or US-20080316135-\$ or US-20090010176-\$ or US-20090062778-\$ or US-20090149918-\$ or US-20090167500-\$ or US-20090179743-\$ or US-20090189769-\$ or US-20090198605-\$ or US-20090243278-\$ or US-20090289107-\$ or US-20100015925-\$).did. or (US-4355311-\$ or US-4586044-\$ or US-4792808-\$ or US-4870424-\$ or US-5202832-\$ or US-5264859-\$ or US-5438482-\$ or US-5453750-\$ or US-5478267-\$ or US-5539413-\$ or US-5770970-\$ or US-5805067-\$ or US-5835070-\$ or US-5864316-\$ or US-5949369-\$ or US-5963177-\$ or US-5995041-\$ or US-6011951-\$ or US-6023240-\$ or US-6040803-\$ or US-6072434-\$ or US-6100852-\$ or US-6114447-\$ or US-6137454-\$ or US-6141880-\$ or US-6157377-\$).did. or (US-6177883-\$ or US-6196515-\$ or US-6201511-\$ or US-6204825-\$ or US-6229489-\$ or US-6246370-\$ or US-6317583-\$ or US-6342389-\$ or US-6414605-\$ or US-6693597-\$ or US-6725014-\$ or US-6822605-\$ or US-7068211-\$ or US-7091841-\$ or US-7138955-\$ or US-7151454-\$ or US-7196673-\$ or US-7227493-\$ or US-7233777-\$ or US-7426378-\$ or US-7492262-\$ or US-7663567-\$ or US-7671814-\$ or US-7675473-\$ or US-7701403-\$ or US-7710125-\$ or US-7752911-\$).did. or (US-7807981-\$ or US-7821402-\$ or US-7872610-\$ or US-7885289-\$ or US-7885610-\$ or US-7898493-\$ or US-7907057-\$ or US-7994994-\$).did.				
S6	1425	320/108,109.ccls.	US-PGPUB; USPAT	ADJ	ON	2012/03/06 19:12
S7	1135131	(retract\$4 realign\$5 or align\$5 or position\$3 or lower\$3 or reposition\$3 or position or adjust\$4) same (coil or arm or armature or antenna or inducti\$2)	US-PGPUB; USPAT	ADJ	ON	2012/03/06 19:38
S8	735	S7 and S6	US-PGPUB; USPAT	ADJ	ON	2012/03/06 19:39
S9	1135131	(retract\$4 realign\$5 or align\$5 or	US-PGPUB;	ADJ	ON	2012/03/07

		position\$3 or lower\$3 or reposition\$3 or position or adjust\$4) same (coil or arm or armature or antenna or inducti\$2)	USPAT			16:54
S11	68962	("180" or "903").clas.	US-PGPUB; USPAT	ADJ	ON	2012/03/07 16:56
S12	15503	S9 and S11	US-PGPUB; USPAT	ADJ	ON	2012/03/07 16:56
S17	30	("4347472" "5216402" "5272431" "5341083" "5461298" "5498948" "5523666" "5614808" "5617003" "5654621").PN. OR ("5821731").URPN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2012/03/07 18:20

EAST Search History (Interference)

< This search history is empty >

3/ 9/ 2012 4:21:42 PM
C:\ Users\ aomar\ Documents\ EAST\ Workspaces\ 12498159 -Wireless high power transfer
under regulatory constraints.wsp

Notice of References Cited	Application/Control No. 12/498,159		Applicant(s)/Patent Under Reexamination COOK ET AL.	
	Examiner AHMED OMAR		Art Unit 2858	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,573,090 A	11-1996	Ross, Howard R.	191/10
*	B	US-5,821,728 A	10-1998	Schwind, John P.	320/108
*	C	US-5,821,731 A	10-1998	Kuki et al.	320/108
*	D	US-2011/0221385 A1	09-2011	Partovi et al.	320/101
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				<i>Complete if Known</i>	
				Application Number	12/498,159
				Filing Date	2009-07-06
				First Named Inventor	COOK, Nigel P.
				Art Unit	2858
				Examiner Name	ASSOUAD, Patrick J.
Sheet	1	of	2	Attorney Docket No: QPC.034A / 092414	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T 6
		Country Code ³ - Number ⁴ -Kind Code ⁵ (if known)				

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T2
	001	International Search Report and Written Opinion - PCT/US2009/049975, International Search Authority - European Patent Office - 07-08-2008.	☐

EXAMINER SIGNATURE

/Ahmed Omar/

DATE CONSIDERED

03/09/2012

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. 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 2 hours 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, 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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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.C



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BIB DATA SHEET

CONFIRMATION NO. 7889

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
12/498,159	07/06/2009	320	2858	QPC.034A		
RULE						
APPLICANTS Nigel P. Cook, El Cajon, CA; Hanspeter Widmer, Solothurn, SWITZERLAND; Lukas Sieber, Olten, SWITZERLAND; David F. Allred, Rancho Santa Fe, CA;						
** CONTINUING DATA ***** This appln claims benefit of 61/078,812 07/08/2008						
** FOREIGN APPLICATIONS *****						
** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 07/15/2009						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and /AHMED H OMAR/ Acknowledged Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 5	TOTAL CLAIMS 31	INDEPENDENT CLAIMS 6
ADDRESS KNOBBE, MARTENS, OLSON & BEAR, LLP 2040 Main Street Fourteenth Floor Irvine, CA 92614 UNITED STATES						
TITLE WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS						
FILING FEE RECEIVED 2452	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit		

Search Notes 	Application/Control No. 12498159	Applicant(s)/Patent Under Reexamination COOK ET AL.
	Examiner AHMED OMAR	Art Unit 2858

SEARCHED			
Class	Subclass	Date	Examiner
320	108,109	3/9/2012	A.O.

SEARCH NOTES		
Search Notes	Date	Examiner
PLUS search,inventor name search in PALM, (180 and 903 classes, text search only), also class/subclass search	3/9/2012	A.O.

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

/A.O./ Examiner.Art Unit 2858	
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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.
12/498,159	07/06/2009	Nigel P. Cook	QPC.034A	7889
14870	7590	03/16/2012		
KNOBBE, MARTENS, OLSON & BEAR, LLP 2040 Main Street Fourteenth Floor Irvine, CA 92614			EXAMINER OMAR, AHMED H	
			ART UNIT 2858	PAPER NUMBER
			NOTIFICATION DATE 03/16/2012	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):

efiling@kmob.com
ocpat_uspto@qualcomm.com
jcartee@kmob.com

Office Action Summary	Application No.	Applicant(s)	
	12/498,159	COOK ET AL.	
	Examiner	Art Unit	
	AHMED OMAR	2858	

-- 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 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 06 July 2009.
- 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) 1-31 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-31 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 21 January 2010 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).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
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) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) ☒ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) ☐ Other: ____. |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :01/26/2011,07/13/2011 and 02/17/2012.

DETAILED ACTION

1. The instant application having Application No. 12/498,159 filed on 07/06/2009 is presented for examination by the examiner.

Oath/Declaration

2. The applicant's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in **37 C.F.R. 1.63**.

Priority

3. As required by **M.P.E.P. 201.14(c)**, acknowledgement is made of applicant's claim for priority based on US provisional application#60/078,812, filed on 07/08/2008.

Drawings

4. The applicant's drawings submitted are acceptable for examination purposes.

Information Disclosure Statement

5. As required by M.P.E.P. 609, the applicant's submissions of the Information Disclosure Statement dated 01/26/2011, 07/13/2011 and 02/17/2012 are acknowledged by the examiner and the cited references have been considered in the examination of the claims now pending.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 27-30** are rejected under 35 U.S.C. 102(b) as being anticipated by SCHWIND (US 5,821,728).

As per claim 27, SCHWIND discloses a method, comprising:

magnetically receiving power in a battery operated vehicle (See Figs. 4 and 6, Item#10, disclose an armature which receives power from the primary coil charges the battery [17]) ; and responsive to detecting magnetic coupling, taking an action in the vehicle to improve coupling of the power to the vehicle system (See Col.4, lines 1-11, disclose the level controller automatically lowers the armature to be in close proximity to the primary coil when coupling is detected).

As per claim 28, SCHWIND discloses a method as in claim 27 as discussed above, wherein said taking an action comprises finely positioning a receiving antenna in the vehicle (See Col.4, lines 1-11, disclose the lowering of the armature to be in close proximity to the primary coil).

As per claim 29, SCHWIND discloses a method as in claim 27 as discussed above, wherein said taking an action comprises finely positioning a receiving antenna in the vehicle (See Fig.4).

As per claim 30, SCHWIND discloses a method as in claim 27 as discussed above, wherein said taking an action comprises lowering the receiving antenna to make the receiving antenna closer to a primary antenna (See Col.4, lines 1-11, disclose the lowering of the armature to be in close proximity to the primary coil).

8. **Claims 31** is rejected under 35 U.S.C. 102(b) as being anticipated by ROSS (US 5,573,090).

As per claim 31, ROSS discloses a method, comprising:
magnetically receiving power in a battery operated vehicle (See Fig.1, discloses a vehicle receiving power from a roadway power module); and
responsive to detecting magnetic coupling, using a guidance system which relies on radio positioning principles to move the vehicle to improve magnetic coupling (See Col.26, lines 5-47, disclose an RF link to exchange information and that the “vehicle, and utilizes electronic guidance at pullouts to assure good alignment between the coupling coils.”).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claims 1 and 8-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over KUKI et al. (US 5,821,731) in view of PARTOVI et al. (US 2011/0221385 A1).

As per claim 1, KUKI discloses a transmitter system for wireless power, comprising:
a primary antenna, formed of an inductive element (See Fig.3, Item#10, discloses a primary coil), said primary antenna embedded in the ground (See Fig.1, discloses the primary coil is embedded in the ground), and including a positioning control that detects coupling of said magnetic resonance to a secondary antenna, and automatically adjusts alignment of said primary antenna to improve said coupling (See Col.1, line 62. to Col.2, line 17). However KUKI does not disclose the primary antenna is formed of an inductive element and a capacitor that are collectively resonant at a first frequency.

PARTOVI discloses a non-contact charger comprising a primary coil formed of an inductive element and a capacitor that are collectively resonant at a first frequency (See Fig.9, Items# Lp and 244).

KUKI and PARTOVI are analogous art since they both deal with inductive battery charging.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention disclosed by KUKI with that of PARTOVI by adopting the inductive element with capacitor structure for primary antenna for the benefit of increasing the efficiency of the energy transfer.

As per claim 8, KUKI and PARTOVI disclose a system as in claim 1 as discussed above, further comprising a charging control system, which produces a signal that is magnetically resonant at said first frequency, said signal of a type that, when output to said primary antenna, transmits power to a remote secondary antenna (See PARTOVI, Fig.9, discloses a primary and a secondary coil, where power from the primary coil is inductively transmitted to the secondary coil to charge a battery).

As per claim 9, KUKI and PARTOVI disclose a system as in claim 1 as discussed above, wherein said positioning control changes x and y positions (See KUKI, Fig.3, Items#35X and 35Y, disclose to axis which allow the primary coil position to be adjusted in the X and Y positions).

11. **Claims 10-11, 13-15, 18, 20-22 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHWIND et al. (US 5,821,728) in view of PARTOVI et al. (US 2011/0221385 A1).

As per claim 10, SCHWIND discloses a transmitter system for wireless power, comprising:

a plurality of primary coils, forming an array, and closely packed to one another (See Fig.6, Items#35 discloses a series of inductive coils), said array of primary coils embedded in a ground area (See Fig.6, discloses the coils are placed in the ground). However SCHWIND does not disclose each of said primary coils including a capacitor that brings said primary coils to substantial magnetic resonance at a first frequency.

PARTOVI discloses a non-contact charger comprising a primary coil formed of an inductive element and a capacitor that are collectively resonant at a first frequency (See Fig.9, Items# Lp and 244).

SCHWIND and PARTOVI are analogous art since they both deal with inductive battery charging.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention disclosed by SCHWIND with that of PARTOVI by adopting the inductive element with capacitor structure for primary coil for the benefit of increasing the efficiency of the energy transfer.

As per claim 11, SCHWIND and PARTOVI disclose a transmitter system as in claim 10 as discussed above, further comprising a charging control system, which produces a signal that is magnetically resonant at said first frequency, said signal of a type that, when output to one of said coils, transmits power to a remote secondary coil (See PARTOVI, Fig.9, discloses a primary and a secondary coil, where power from the primary coil is inductively transmitted to the secondary coil to charge a battery).

As per claim 13, SCHWIND and PARTOVI disclose a system as in claim 11 as discussed above, further comprising a switching configuration, which switches said output signal to any of said coils of said array (See Fig.6, Items#36).

As per claim 14, SCHWIND and PARTOVI disclose A system as in claim 13, further comprising a detection system, which detects which of said coils has best coupling, and uses said detection to control said switching configuration (See Fig.6, Items#37, disclose sensors).

As per claims 15 and 21, SCHWIND discloses a receiver system for wireless power comprising:

a receiving antenna, formed of a coil (See Fig.6, Item#10); and a lifting device for said receiving antenna, which lifts and lowers said receiving antenna, based on a detection of coupled magnetic resonance (See Col.4, lines 13-52 discloses a mechanism to lower and lift the armature located at the bottom of the vehicle). However SCHWIND does not disclose the receiving antenna is formed of a coil and a capacitor that are collectively magnetically resonant at a first frequency.

PARTOVI discloses a inductive charger comprising a receiving antenna formed of a coil and a capacitor that are collectively magnetically resonant at a first frequency (See Fig.9).

SCHWIND and PARTOVI are analogous art since they both deal with inductive battery charging.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention disclosed by SCHWIND with that of PARTOVI by adopting the inductive element with capacitor structure for receiver antenna for the benefit of increasing the efficiency of the energy transfer.

As per claim 18, SCHWIND and PARTOVI disclose a receiver system as in claim 15 as discussed above, further comprising circuitry that receives a magnetically induced signal from said receiving antenna and produces power therefrom (See SCHWIND, Fig.4, Item#10, discloses an armature which produces power to via energy receiver from the primary coil to charge battery [17]).

As per claim 20, SCHWIND and PARTOVI disclose a receiver system as in claim 15 as discussed above, wherein said receiving antenna and said lifting device are part of a battery operated vehicle (See SCHWIND, Fig.6, discloses a battery operated vehicle comprising the lifting mechanism and receiving antenna).

As per claim 22, SCHWIND and PARTOVI, disclose a receiver as in claim 21, further comprising a lifting device for said receiving coil, which raises and lowers said receiving coil, automatically based on the detection of magnetic coupling from a primary coil (See Col.4, lines 1-11, discloses a level controller which when the vehicle travels over the magnetic strip, it lowers the armature automatically).

As per claim 24, SCHWIND and PARTOVI disclose a receiver system as in claim 21 as discussed above, further comprising circuitry that receives a magnetically induced signal from said receiving coil, and produces power therefrom, and uses said power to operate said vehicle (See SCHWIND, Fig.4, Item#10, discloses an armature which produces power to via energy receiver from the primary coil to charge battery [17]).

12. **Claims 16 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHWIND et al. (US 5,821,728) in view of PARTOVI et al. (US 2011/0221385 A1) and in further view of KUKI (US 5,821,731).

As per claims 16 and 26, SCHWIND and PARTOVI disclose a receiver as in claims 15 and 21 as discussed above, However SCHWIND and PARTOVI do not disclose it further comprising an x-y alignment control, which automatically aligns said receiving antenna to better align with a primary antenna by moving said receiving antenna in x and y directions.

KUKI discloses a an inductive charging system comprising a primary and secondary coils and an x-y alignment control which automatically aligns the primary and the secondary antennas by moving the antenna in the x-y direction (See KUKI, Fig.3, Items#35X and 35Y, disclose to axis which allow the primary coil position to be adjusted in the X and Y positions).

SCHWIND, PARTOVI and KUKI are analogous art since they all deal with inductive charging.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention disclosed by SCHWIND and PARTOVI with that KUKI by adding the x-y alignment control for the benefit of increasing the efficiency of the energy transfer between the primary and the secondary coils.

13. **Claims 17 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHWIND et al. (US 5,821,728) in view of PARTOVI et al. (US 2011/0221385 A1) and in further view of ROSS (US 5,573,090).

As per claims 17 and 23, SCHWIND and PARTOVI disclose a receiver as in claims 15 and 21 as discussed above, However SCHWIND and PARTOVI do not disclose it further comprising a guidance control, which automatically provides guidance information for guiding a vehicle to a location where said receiving antenna is better aligned with a transmitting primary antenna.

ROSS discloses an electric vehicle charging system comprising a guidance control, which automatically provides guidance information for guiding a vehicle to a location where said receiving antenna is better aligned with a transmitting primary antenna (See Col.26, lines 5-47, disclose an RF link to exchange information and that the “vehicle, and utilizes electronic guidance at pullouts to assure good alignment between the coupling coils.”)

SCHWIND, PARTOVI and ROSS are analogous art since they all deal with inductive charging.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention disclosed by SCHWIND and PARTOVI with that of ROSS by adding the vehicle guidance system for the benefit of increasing the efficiency of the energy transfer.

14. **Claims 4-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over KUKI et al. (US 5,821,731) in view of PARTOVI et al. (US 2011/0221385 A1) and in further view of SCHWIND (US 5,821,728).

As per claim 4, KUKI and PARTOVI disclose a system as in claim 1 as discussed above, However, KUKI and PARTOVI do not disclose wherein said primary antenna includes an array

of antennas that are closely packed to one another, and which extends over a specified area of an intended parking space.

SCHWIND discloses a vehicle battery induction charging comprising a primary and secondary antennas wherein said primary antenna includes an array of antennas that are closely packed to one another, and which extends over a specified area of an intended parking space (See Fig.6, Items#35).

KUKI, PARTOVI and SCHWIND are analogous art since they all deal with inductive charging.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention disclosed by KUKI and PARTOVI with that of SCHWIND by adding the plurality of packed antennas for the benefit of improving the efficiency of the coupling between the primary and secondary antennas.

As per claim 5, KUKI, PARTOVI and SCHWIND disclose a system as in claim 4 as discussed above, further comprising a charging control system, which produces a signal that is magnetically resonant at said first frequency, said signal of a type that, when output to said primary antenna, transmits power to a remote secondary antenna (See SCHWIND, Fig.4, Item#10, discloses an armature which produces power to via energy receiver from the primary coil to charge battery [17]).

As per claim 6, KUKI, PARTOVI and SCHWIND disclose a system as in claim 5 as discussed above, wherein said charging control system selects one of said coils of said array (See

SCHWIND, Fig.6, Items#35-37, disclose Coils which are controlled by sensors such that only a certain coil is activated when its switch is closed).

As per claim 7, KUKI, PARTOVI and SCHWIND disclose a system as in claim 6 as discussed above, further comprising a switching device, which switches the signal to the selected coil only, and does not send any signal to any other coil (See SCHWIND, Fig.6, Items#35-37, disclose Coils which are controlled by sensors such that only a certain coil is activated when its switch is closed, the activation of a switch only activates one coil).

15. **Claims 12, 19 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHWIND et al. (US 5,821,728) in view of PARTOVI et al. (US 2011/0221385 A1) and in further view of KARALIS et al. (US 2011/0227530 A1).

As per claims 12,19 and 25 SCHWIND and PARTOVI disclose a system as in claims 11 and 18 as discussed above, However SCHWIND and PARTOVI do not disclose wherein said first frequency is 135 kHz.

KARALIS discloses a wireless power transmission device at a resonant frequency wherein the frequency is 135 kHz (See Claim 9).

SCHWIND, PARTOVI and KARALIS are analogous art since they all deal with inductive charging.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention disclosed by SCHWIND and PARTOVI with that of KARALIS such

that the resonant frequency is 135 kHz for the benefit of increasing the efficiency of the coupling between the primary and the secondary coils.

16. **Claims 2-3** are rejected under 35 U.S.C. 103(a) as being unpatentable over KUKI et al. (US 5,821,731) in view of PARTOVI et al. (US 2011/0221385 A1) and in further view of KARALIS et al. (US 2011/0227530 A1).

As per claim 2, KUKI and PARTOVI disclose a system as in claim 1 as discussed above, However KUKI and PARTOVI do not disclose wherein said first frequency is 135 kHz.

KARALIS discloses a wireless power transmission device at a resonant frequency wherein the frequency is 135 kHz (See Claim 9).

KUKI, PARTOVI and KARALIS are analogous art since they all deal with inductive charging.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention disclosed by KUKI and PARTOVI with that of KARALIS such that the resonant frequency is 135 kHz for the benefit of increasing the efficiency of the coupling between the primary and the secondary coils.

As per claim 3, KUKI, PARTOVI and KARALIS disclose a system as in claim 2, However KUKI, PARTOVI and KARALIS do not disclose wherein said primary antenna is a coil has a radial width larger than its axial width.

However it would have been an obvious design choice to one of ordinary skill in the art at the time of the invention to modify the invention disclosed by KUKI, PARTOVI and

KARALIS such that the coil has a radial width larger than its axial width for the benefit of allowing the coils to handle high power requirements.

Examiner Notes

Examiner cites particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in its entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner

Conclusion

17. The prior art made of record and not relied upon is cited to establish the level of skill in the applicant's art and those arts considered reasonably pertinent to applicant's disclosure. See **MPEP 707.05(c)**.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AHMED OMAR whose telephone number is (571)270-7165. The examiner can normally be reached on Monday-Thursday 06:30-16:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on 571-272-2210. 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.

/AHMED OMAR/
Examiner, Art Unit 2858

/A. O./

/Patrick J Assouad/
Supervisory Patent Examiner, Art Unit 2858

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				<i>Complete if Known</i>	
				Application Number	12/498,159
				Filing Date	2009-07-06
				First Named Inventor	COOK; Nigel P.
				Art Unit	2858
				Examiner Name	OMAR, Ahmed H.
Sheet	1	of	2	Attorney Docket No: QPC.034A / 092414	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	001	US5311973	05-17-1994	TSENG; Ling-Yuan et al.	
	002	US5661391	08-26-1997	ITO; Makoto et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ₆
		Country Code ³⁻ Number ⁴ Kind Code ⁵ (if known)				
	003	DE102007033654A1	04-24-2008	SEW EURODRIVE GMBH & CO [DE]	English Abstract Only	☒
	004	EP0788212A2	08-06-1997	SUMITOMO WIRING SYSTEMS [JP]		☐
	005	FR2740921A1	05-09-1997	ELECTRICITE DE FRANCE [FR]	English Abstract Only	☒

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ₂

EXAMINER SIGNATURE /Ahmed Omar/

DATE CONSIDERED 03/09/2012

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. 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 2 hours 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, 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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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.C

<i>Index of Claims</i> 	Application/Control No. 12498159	Applicant(s)/Patent Under Reexamination COOK ET AL.
	Examiner AHMED OMAR	Art Unit 2858

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47			
CLAIM		DATE							
Final	Original	03/09/2012							
	1	✓							
	2	✓							
	3	✓							
	4	✓							
	5	✓							
	6	✓							
	7	✓							
	8	✓							
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	25	✓							
	26	✓							
	27	✓							
	28	✓							
	29	✓							
	30	✓							
	31	✓							

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				Application Number		12/498,159	
				Filing Date		2009-07-06	
				First Named Inventor		COOK; Nigel P.,	
				Art Unit		2858	
				Examiner Name		ASSOUAD, PATRICK J	
Sheet	1	of	2	Attorney Docket No: 092414			

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ³ - Number ⁴ Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
	001	DE4236286	05-05-1994	DAIMLER-BENZ AKTIENGESellschaft, 70567 STUTTGART, DE.		☐
	002	GB2347801	09-13-2000	* ETECHNOLOGY LIMITED.		☐
	003	WO2008051611A2	05-02-2008	FARKAS LASZIO [US], et al.		☐

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T2
	004	"Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Short Range Devices (SRD); Radio Equipment in the Frequency Range 9kHz to 25 MHz and Inductive Loop Systems in the Frequency Range 9 kHz to 30 MHz; Part 2: Harmonized EN Under Article 3.2 of the R&TTE Directive; Final draft ETSI EN 300" ETSI STANDARDS, LIS, SOPHIA ANTIPOLIS CEDEX, FRANCE, Vol. ERM-RP08, No. V1.3.1, 1 January 2006, XP014032134, ISSN: 0000-0001; EETSI EN 300 330-2 v1.3.1 (2001-06).	☐

EXAMINER SIGNATURE /Ahmed Omar/

DATE CONSIDERED 03/09/2012

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. 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 2 hours 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, 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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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.C

Electronic Patent Application Fee Transmittal

Application Number:	12498159			
Filing Date:	06-Jul-2009			
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS			
First Named Inventor/Applicant Name:	Nigel P. Cook			
Filer:	Drew S. Hamilton			
Attorney Docket Number:	QPC.034A			
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
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

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				Application Number	12/498,159	
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				First Named Inventor	COOK; Nigel P.	
				Art Unit	2859	
				Examiner Name	OMAR, Ahmed H.	
Sheet	1	of	2	Attorney Docket No: QPC.034A / 092414		

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	001	US7741734	06-22-2010	JOANNOPOULOS; John D. et al.	
	002	US7825543	11-02-2010	KARALIS; Aristeidis et al.	
	003	US20110227530	09-22-2011	KARALIS; Aristeidis et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T 6
		Country Code ³ - Number ⁴ Kind Code ⁵ (if known)				

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T2

EXAMINER SIGNATURE

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. 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 2 hours 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, 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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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		<i>Complete if Known</i>		
		Application Number	12/498,159	
		Filing Date	07-06-2009	
		First Named Inventor	COOK; Nigel P.	
		Art Unit	2859	
		Examiner Name	OMAR, Ahmed H.	
Sheet	2	of	2	Attorney Docket No: QPC.034A / 092414

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

- ☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

- ☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

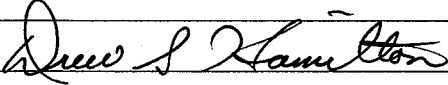
- ☐ See attached certification statement.

- ☒ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

- ☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date (YYYY-MM-DD)	2012-06-15
Name/Print	Drew S. Hamilton	Registration Number	4142

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Electronic Acknowledgement Receipt

EFS ID:	13031245
Application Number:	12498159
International Application Number:	
Confirmation Number:	7889
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
First Named Inventor/Applicant Name:	Nigel P. Cook
Customer Number:	14870
Filer:	Drew S. Hamilton/Lori Larson
Filer Authorized By:	Drew S. Hamilton
Attorney Docket Number:	QPC.034A
Receipt Date:	15-JUN-2012
Filing Date:	06-JUL-2009
Time Stamp:	18:17:30
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 180
RAM confirmation Number	6125
Deposit Account	111410
Authorized User	KNOBBE MARTENS OLSON AND BEAR

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

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		amend.pdf	342961 06384240158180313527ec30c076a10c4245b32c	yes	8
	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	8	
Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	ids.pdf	127517 58112681f9a9f47ff5ca0a79453425fb56b2d08e	no	2
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
3	Fee Worksheet (SB06)	fee-info.pdf	30502 957afabd8ead734c52ce35bcaaa61bd50c7b6ca6	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			500980		
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.					

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A transmitter system for wireless power, comprising:
a ~~primary transmitting antenna~~ formed of including an inductive element and a capacitor, that are collectively magnetically the transmitting antenna being resonant at a first frequency, said primary antenna embedded in the ground, the transmitting antenna being configured to generate a wireless field for charging a device including a receiving antenna;
a guidance controller configured to guide the receiving antenna of the device to a first alignment position relative to the transmitting antenna; and
~~including a positioning control that detects coupling~~ an alignment controller configured to detect coupling of said magnetic resonance to a secondary receiving antenna to said transmitting antenna in the first alignment position based on a measurement indicative of the coupling that is measured at the receiving antenna, and to adjust the position of the automatically adjusts alignment of said primary transmitting antenna relative to the receiving antenna from the first alignment position to a second alignment position having a finer alignment between the receiving antenna and the transmitting antenna than the first alignment position to improve said coupling.
2. (Original) A system as in claim 1, wherein said first frequency is 135 kHz.
3. (Currently Amended) A system as in claim 2, wherein said ~~primary transmitting antenna is a coil~~ has having a radial width larger than its axial width.
4. (Currently Amended) A system as in claim 1, wherein said ~~primary transmitting antenna includes an array of antennas that are closely packed to one another, and which extends over a specified area of an intended~~ a parking space.
5. (Currently Amended) A system as in claim 4, further comprising a charging control system ~~which produces~~ configured to generate a signal ~~that is magnetically resonant~~

at said first frequency, said signal of a type that, when output to said ~~primary~~ transmitting antenna, transmits power to a remote ~~secondary~~ receiving antenna.

6. (Currently Amended) A system as in claim 5, wherein said charging control system selects one of said ~~coils~~ antennas of said array.

7. (Currently Amended) A system as in claim 6, further comprising a switching device, ~~which switches~~ configured to transmit the signal to the selected coil ~~only, and does not send any signal to any other coil.~~

8. (Currently Amended) A system as in claim 1, further comprising a charging control system, ~~which produces~~ configured to generate a signal ~~that is magnetically resonant at said first frequency, said signal~~ of a type that, when output to said ~~primary~~ transmitting antenna, transmits power to a remote ~~secondary~~ receiving antenna.

9. (Original) A system as in claim 1, wherein said positioning control changes x and y positions.

10-14 (Canceled)

15. (Currently Amended) A receiver system for wireless power, comprising:

a receiving antenna, ~~formed of~~ coupled to a device, the receiving antenna including a coil and capacitor that are collectively ~~magnetically resonant at a first frequency; and~~

a guidance controller configured to guide the receiving antenna of the device to a first alignment position relative to a transmitting antenna;

a lifting device for said receiving antenna, ~~which lifts and lowers~~ configured to lift and lower said receiving antenna ~~based on a detection of coupled magnetic resonance;~~ and

~~further comprising an x-y~~ an alignment controller, which configured to automatically aligns said detect coupling of the transmitting antenna and the receiving antenna based on a measurement indicative of the coupling that is measured at the

receiving antenna, the alignment controller being further configured to move said receiving antenna from the first alignment position to a second alignment position to better align with a the primary receiving antenna with the transmitting antenna by moving said receiving antenna in x and y directions.

16. (Currently Amended) A receiver as in claim 15, further comprising an x-y alignment control, ~~which automatically aligns~~ configured to automatically align said receiving antenna to better align with a primary the transmitting antenna by moving said receiving antenna in x and y directions.

17. (Canceled)

18. (Original) A receiver system as in claim 15, further comprising circuitry that receives a magnetically induced signal from said receiving antenna and produces power therefrom.

19. (Original) A receiver system as in claim 18, wherein said circuitry is resonant at 135 kHz.

20. (Original) A receiver system as in claim 15, wherein said receiving antenna and said lifting device are part of a battery operated vehicle.

21-26. (Canceled)

27. (Currently Amended) A method, comprising:
~~magnetically receiving power in a battery operated vehicle; and~~
guiding a receiving antenna of a vehicle to a first alignment position relative to a transmitting antenna; and
responsive to detecting magnetic coupling in the first alignment position based on a measurement indicative of the coupling that is measured at the receiving antenna, moving one of the receiving antenna and the transmitting antenna from the first alignment position to a second alignment position to improve alignment of the receiving antenna

~~with the transmitting antenna taking an action in the vehicle to improve coupling of the power to the vehicle system.~~

28-31. (Canceled).

32. (New) The method of Claim 27, wherein moving one of the receiving antenna and the transmitting antenna comprises moving the receiving antenna laterally relative to the transmitting antenna.

33. (New) The method of Claim 27, wherein moving one of the receiving antenna and the transmitting antenna comprises moving the transmitting antenna laterally relative to the transmitting antenna.

34. (New) The method of Claim 27, wherein moving one of the receiving antenna and the transmitting antenna comprises moving the receiving antenna along an axis that is perpendicular to one of a transmitting antenna coil and a receiving antenna coil.

35. (New) The apparatus of Claim 1, wherein the transmitting antenna is embedded in the ground.

36. (New) The apparatus of Claim 1, wherein the measurement indicative of the coupling comprises a measurement of the amount of power that is transferred to the receiving antenna.

37. (New) The apparatus of Claim 15, wherein the measurement indicative of the coupling comprises a measurement of the amount of power that is transferred to the receiving antenna.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Nigel P. Cook, et al.
App. No.	:	12/498,159
Filed	:	July 6, 2009
For	:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
Examiner	:	Omar, Ahmed H.
Art Unit	:	2858
Conf No.	:	7889

AMENDMENT AND RESPONSE

Mail Stop Amendment

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Dear Commissioner:

In response to the Office Action dated March 16, 2012 in the above identified application, Applicant submits the following:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 6 of this paper.

REMARKS

In the Office Action dated March 16, 2012 (hereinafter the "Office Action"), the Examiner rejected Claims 1-31. With this response, Applicant has amended Claims 1, 3-8, 15, 16, and 27. Applicant has canceled Claims 10-14, 17, 21-26, and 28-31. Claims 32-37 are new. Support for the amendments to the claims and for the new claims may be found at least in claims as originally filed and in paragraphs [0046]-[0047] of the application as published. No new matter is added.

Rejection of Independent Claims 1, 15, and 27

In the Office Action, the Examiner rejects Claim 1 under 35 U.S.C. § 103 (a) in view of Kuki (U.S. 5,821,731) and Partovi (U.S. 2011/0221385). The Examiner rejects Claim 15 under 35 U.S.C. § 103 (a) in view of Schwind (U.S. 5,821,728) in view of Partovi. The Examiner rejects Claim 27 under 35 U.S.C. § 102 (b) in view of Schwind. With this response, Claims 1, 15, and 27 are amended. Applicant respectfully requests reconsideration of the claims in view of the amendments and the following remarks.

With this response, Claim 1 is amended to recite, among other things, "**a guidance controller** configured to guide the receiving antenna of the device **to a first alignment position** relative to the transmitting antenna; and **an alignment controller** configured to detect coupling of said receiving antenna to said transmitting antenna in the first alignment position **based on a measurement indicative of the coupling that is measured at the receiving antenna**, and to adjust the position of the transmitting antenna relative to the receiving antenna **from the first alignment position to a second alignment position having a finer alignment** between the receiving antenna and the transmitting antenna than the first alignment position to improve said coupling." Emphasis added. Each of Claims 15 and 27 recite similar features. Applicant respectfully submits that the cited references do not disclose at least these features of Claims 1, 15, and 27.

The amendments to Claims 1, 15, and 27 include, among other features, features which were previously recited in canceled Claims 17, 23. With reference to the rejection of Claims 17 and 23, the Examiner acknowledges that at least Partovi and Schwind do not disclose or teach a guidance controller. Office Action, pg. 11. Nor does the Examiner rely on Kuki to disclose this

feature. Rather, the Examiner relies upon Ross (U.S. Patent No. 5,573,090) to disclose a guidance controller. Id. In particular, the Examiner relies upon a section of Ross which, in relevant part, states that “[i]t is an all electric vehicle, and utilizes electronic guidance at pullouts to assure good alignment between the coupling coils.” Ross, col. 26, ll. 44-47. However, Applicant respectfully submits that Ross in combination with Patrovi, Schwind, and Kuki, do not teach or suggest at least “an alignment controller configured to detect coupling of said receiving antenna to said transmitting antenna in the first alignment position **based on a measurement indicative of the coupling that is measured at the receiving antenna**, and to adjust the position of the transmitting antenna relative to the receiving antenna **from the first alignment position to a second alignment position having a finer alignment** between the receiving antenna and the transmitting antenna than the first alignment position to improve said coupling,” as recited in amended Claim 1. Nor do Ross, Patrovi, Schwind, and Kuki, considered individually or in combination, disclose the similar features recite in Claims 15 and 27 as amended. Rather, none of the cited references as relied upon by the Examiner describe detection of coupling based on a measurement indicative of the coupling that is measured at the receiving antenna.

Further, Applicant respectfully submits that Karalis (U.S. Patent Publication No. 2011/0227530) does not cure the deficiencies of Patrovi, Schwind, Kuki, and Ross as discussed above. Therefore, Applicant respectfully requests that the rejection of independent Claims 1, 15, and 27 be withdrawn.

Dependent Claims

Claims 2-9, 16, 17-20, and 32-37 depend directly or indirectly from one of Claims 1, 15, and 27 and are therefore allowable over the applied reference for at least the same reasons discussed above. In addition, each dependent claim defines an additional aspect which Applicant submits is allowable over the cited references.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather,

Application No.: 12/498,159
Filing Date: July 6, 2009

any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: June 15, 2012

By: Drew S. Hamilton

Drew S. Hamilton
Registration No. 29,801
Attorney of Record
Customer No. 14870
(858) 707-4000

13391680_nal

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/498,159		Filing Date 07/06/2009		☐ To be Mailed	
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APPLICATION AS FILED – PART I					OTHER THAN SMALL ENTITY				
(Column 1)		(Column 2)		SMALL ENTITY ☐		OR		SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA		RATE (\$)	FEE (\$)	OR		RATE (\$)	FEE (\$)
☐ 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), (l), 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))	minus 20 =	*		X \$ =				X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		X \$ =				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 \$250 (\$125 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		TOTAL		

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY						
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR		SMALL ENTITY	
AMENDMENT	06/15/2012	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 21	Minus	** 31	= 0	X \$ =				X \$60=	0
	Independent (37 CFR 1.16(h))	* 3	Minus	***6	= 0	X \$ =				X \$250=	0
	☐ 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	0
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR		SMALL ENTITY	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR		RATE (\$)	ADDITIONAL FEE (\$)
	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".
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Legal Instrument Examiner:
/BRENDA HARRISON/

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Search Notes 	Application/Control No. 12498159	Applicant(s)/Patent Under Reexamination COOK ET AL.
	Examiner AHMED OMAR	Art Unit 2859

SEARCHED			
Class	Subclass	Date	Examiner
320	108,109	3/9/2012	A.O.

SEARCH NOTES		
Search Notes	Date	Examiner
PLUS search,inventor name search in PALM, (180 and 903 classes, text search only), also class/subclass search	3/9/2012	A.O.
Search updated, See EAST seach history	10/9/2012	A.O.

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

/A.O./ Examiner.Art Unit 2859	
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	144640	(guid\$3 or guidance or align\$3 or alignment) same (controller or control\$4 or processor or micro\$1processor or micro\$1controller) same (improv\$3 or improvement or tune or tuning or finer or better)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/10/09 01:57
L2	1180577	(retract\$4 realign\$5 or align\$5 or position\$3 or lower\$3 or reposition\$3 or position or adjust\$4) same (coil or arm or armature or antenna or inducti\$2)	US-PGPUB; USPAT	ADJ	ON	2012/10/09 01:57
L3	1753	320/108,109.ccls.	US-PGPUB; USPAT	ADJ	ON	2012/10/09 01:57
L4	884	I2 and I3	US-PGPUB; USPAT	ADJ	ON	2012/10/09 01:58
L5	28	I1 and I3	US-PGPUB; USPAT	ADJ	ON	2012/10/09 01:58

EAST Search History (Interference)

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10/ 9/ 2012 1:58:42 AM
C:\ Users\ aomar\ Documents\ EAST\ Workspaces\ 12498159-Wireless high power transfer under regulatory constraints.wsp

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		<i>Complete if Known</i>		
		Application Number	12/498,159	
		Filing Date	07-06-2009	
		First Named Inventor	COOK; Nigel P.	
		Art Unit	2859	
		Examiner Name	OMAR, Ahmed H.	
Sheet	1	of	2	Attorney Docket No: QPC.034A / 092414

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	002	US7825543	11-02-2010	KARALIS; Aristeidis et al.	
	003	US20110227530	09-22-2011	KARALIS; Aristeidis et al.	

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Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ³ - Number ⁴ -Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T2

EXAMINER SIGNATURE

/Ahmed Omar/

DATE CONSIDERED

10/09/2012

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to follow (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 2 hours 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, 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 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.C

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Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Application Number	12/498,159
				Filing Date	07-06-2009
				First Named Inventor	COOK; Nigel P.
				Art Unit	2859
				Examiner Name	OMAR, Ahmed H.
Sheet	2	of	2	Attorney Docket No: QPC.034A / 092414	

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

- ☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

- ☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

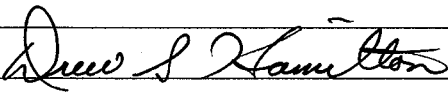
- ☐ See attached certification statement.

- ☒ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

- ☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date (YYYY-MM-DD)	2012-06-15
Name/Print	Drew S. Hamilton	Registration Number	4142

This collection of information is required by 37 CFR 1.97 and 1.98. 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 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: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/498,159	07/06/2009	Nigel P. Cook	QPC.034A	7889
14870	7590	10/19/2012		
KNOBBE, MARTENS, OLSON & BEAR, LLP 2040 Main Street Fourteenth Floor Irvine, CA 92614			EXAMINER OMAR, AHMED H	
			ART UNIT 2859	PAPER NUMBER
			NOTIFICATION DATE 10/19/2012	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):

ocpat_uspto@qualcomm.com
efiling@knobbe.com
jayna.cartee@knobbbe.com

Office Action Summary	Application No.	Applicant(s)	
	12/498,159	COOK ET AL.	
	Examiner	Art Unit	
	AHMED OMAR	2859	

-- 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 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 15 June 2012.
- 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) 1-9, 15, 16, 18-20, 27 and 32-37 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-9, 15, 16, 18-20, 27 and 32-37 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ 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).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
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) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) ☒ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/15/2012</u> . | 6) ☐ Other: ____. |

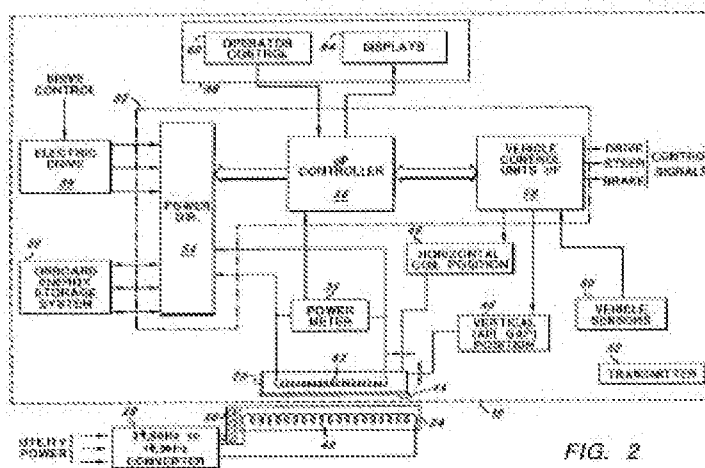
DETAILED ACTION

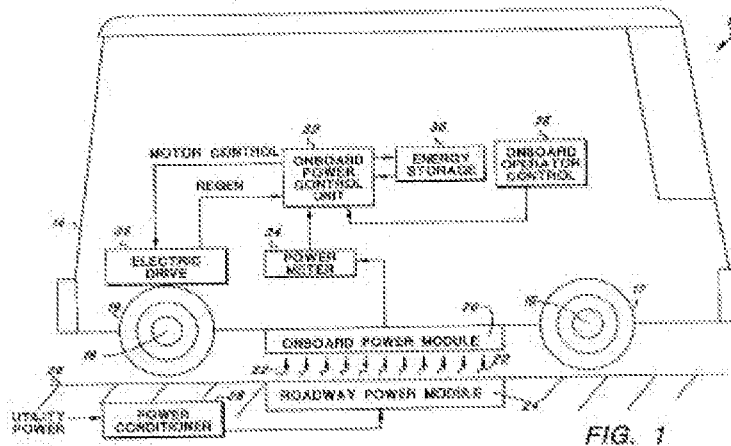
Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1, 4-6, 8-9, 15-16, 18, 20, 27 and 32-37** rejected under 35 U.S.C. 103(a) as being unpatentable over ROSS (US 5,573,090) in view of KUKI et al. (US 5,821,731).





As per claims 1 and 27, ROSS discloses a transmitter system for wireless power, comprising:

a transmitting antenna (See Figs.1 and 2, Item#24), including an inductive element (See Fig.2, Item#40), the transmitting antenna being resonant at a first frequency, the transmitting antenna being configured to generate a wireless field for charging a device including a receiving antenna (See Figs.1 and 2, Item#20);

a guidance controller configured to guide the receiving antenna of the device to a first alignment position relative to the transmitting antenna (See Fig.2, Items#46 and 48, and Col.10, line 50 to Col. 11, line 10, disclose a controller for horizontal and vertical alignment to move the receiving antenna into close proximity to transmitting antenna) ; However ROSS does not disclose an alignment controller configured to detect coupling of said receiving antenna to said transmitting antenna in the first alignment position based on a measurement indicative of the coupling that is measured at the receiving antenna, and to adjust the position of the automatically adjusts alignment of said transmitting antenna relative to the receiving antenna from the first alignment position to a second alignment position having a finer alignment between the

receiving antenna and the transmitting antenna than the first alignment position to improve said coupling.

KUKI discloses an inductive vehicle charging system an alignment controller configured to detect coupling of said receiving antenna to said transmitting antenna in the first alignment position based on a measurement indicative of the coupling that is measured at the receiving antenna, and to adjust the position of the automatically adjusts alignment of said transmitting antenna relative to the receiving antenna from the first alignment position to a second alignment position having a finer alignment between the receiving antenna and the transmitting antenna than the first alignment position to improve said coupling (See KUKI, Col.3, line 27 to Col.4, line 9, disclose that the transmitting antenna comprises a sensor to detect the location of the receiving coil based on the intensity of the magnetic field and the transmitting coil location is adjusted to ensure electromagnetic coupling between the transmitter and the receiver).

ROSS and KUKI are analogous art since they both deal with inductive vehicle battery charging.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention disclosed by ROSS with that of KUKI by adding the alignment controller disclosed by KUKI for the benefit of increasing the efficiency of the power transfer by enhancing the coupling of the transmitter and the receiver. The combination of ROSS and KUKI does not explicitly disclose a capacitor in the transmitting antenna, However it is well known in the art to attach a capacitor to the transmitting antenna for the benefit of increasing the efficiency of the power transfer.

As per claim 4, ROSS and KUKI disclose a system as in claim 1 as discussed above, wherein said primary transmitting antenna includes an array of antennas that are closely packed to one another, and which extends over a specified area of an intended a parking space (See ROSS, Fig.4, Item#82 and 24, disclose a parking area with a plurality of transmitting antennas).

As per claim 5, ROSS and KUKI disclose a system as in claim 4 as discussed above, further comprising a charging control system~~[[, which produces]]~~ configured to generate a signal that is magnetically resonant at said first frequency of a type that, when output to said primary transmitting antenna, transmits power to a remote secondary receiving antenna (See ROSS, Fig.2, Items#42 and 44, disclose a primary coil which receives power from a power source and transmits power to a receiving coil).

As per claim 6, ROSS and KUKI disclose a system as in claim 5 as discussed above, wherein said charging control system selects one of said coils antennas of said array.

As per claim 8, ROSS and KUKI disclose a system as in claim 1 as discussed above, further comprising a charging control system, ~~[[which produces]]~~ configured to generate a signal that is magnetically resonant at said first frequency, said signal of a type that, when output to said primary transmitting antenna, transmits to a remote secondary receiving antenna (See ROSS, Fig.2, Item#40, discloses a transmitting coil which receives a power signal from the power source 28 and transmits power to receiving antenna [42]).

As per claim 9, ROSS and KUKI disclose a system as in claim 1 as discussed above, wherein said positioning control changes x and y positions (See ROSS, Fig.2, Items#46 and 48).

As per claim 35, ROSS and KUKI disclose the apparatus of claim 1 as discussed above, wherein the transmitting antenna is embedded in the ground (See ROSS, Fig.1, Item#24).

As per claim 36, ROSS and KUKI disclose the apparatus of claim 1 as discussed above, wherein the measurement indicative of the coupling comprises a measurement of the amount of power that is transferred to the receiving antenna (See KUKI, Col.3, line 27 to Col.4, line 9, disclose that the transmitting antenna comprises a sensor to detect the location of the receiving coil based on the intensity of the magnetic field and the transmitting coil location is adjusted to ensure electromagnetic coupling between the transmitter and the receiver).

As per claim 15, ROSS and KUKI disclose a receiver for wireless power, comprising:
a receiving antenna [[, formed of]] coupled to a device, the receiving antenna including a coil and capacitor that are [[collectively magnetically]] resonant at a first frequency; [[and]] (See Fig.2, Item#44); and

a guidance controller configured to guide the receiving antenna of the device to a first alignment position relative to a transmitting antenna (See Fig.2, Items#56 and 58, and Col.10, line 50 to Col. 11, line 10, disclose a controller for horizontal and vertical alignment to move the receiving antenna into close proximity to transmitting antenna) ;

a lifting device for said receiving antenna [[, which lifts and lowers]] configured to lift and lower said receiving antenna [[based on a detection of coupled magnetic resonance]] (See Fig.2, Items#46 and 48); However ROSS does not disclose

[[further comprising an x y]] an alignment controller [[which]] configured to [[automatically aligns said]] detect coupling of the transmitting antenna and the receiving antenna based on a measurement indicative of the coupling that is measured at the receiving antenna, the alignment controller being further configured to move said receiving antenna from the first alignment position to a second alignment position to better align [[with a]] the [[primary]] receiving antenna with the transmitting antenna [[by moving said receiving antenna in x and y directions]].

KUKI discloses an inductive vehicle charging system an alignment controller configured to detect coupling of said receiving antenna to said transmitting antenna in the first alignment position based on a measurement indicative of the coupling that is measured at the receiving antenna, and to adjust the position of the automatically adjusts alignment of said transmitting antenna relative to the receiving antenna from the first alignment position to a second alignment position having a finer alignment between the receiving antenna and the transmitting antenna than the first alignment position to improve said coupling (See KUKI, Col.3, line 27 to Col.4, line 9, disclose that the transmitting antenna comprises a sensor to detect the location of the receiving coil based on the intensity of the magnetic field and the transmitting coil location is adjusted to ensure electromagnetic coupling between the transmitter and the receiver).

ROSS and KUKI are analogous art since they both deal with inductive vehicle battery charging.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention disclosed by ROSS with that of KUKI by adding the alignment controller disclosed by KUKI for the benefit of increasing the efficiency of the power transfer by enhancing the coupling of the transmitter and the receiver. The combination of ROSS and KUKI does not explicitly disclose a capacitor in the transmitting antenna, However it is well known in the art to attach a capacitor to the transmitting antenna for the benefit of increasing the efficiency of the power transfer.

As per claim 16, ROSS and KUKI disclose a receiver as in claim 15 as discussed above, further comprising an x-y alignment control [[, which automatically aligns]] configured to automatically align said receiving antenna to better align with [[a primary]] the transmitting antenna by moving said receiving antenna in x and y directions (See ROSS, Fig.2, Items#46 and 48).

A per claim 18, ROSS and KUKI disclose a receiver as in claim 15 as discussed above, further comprising circuitry that receives a magnetically induced signal from said receiving antenna and produces power therefrom (See KUKI, Fig.36, Item#22).

As per claim 20, ROSS and KUKI disclose a receiver as in claim 15 as discussed above, wherein said receiving antenna and said lifting device are part of a battery operated vehicle (See ROSS, Fig.1, Item#12).

As per claim 37, ROSS and KUKI disclose the apparatus of claim 15 as discussed above, wherein the measurement indicative of the coupling comprises a measurement of the amount of the of power that is transferred to the receiving antenna See KUKI, Col.3, line 27 to Col.4, line 9, disclose that the transmitting antenna comprises a sensor to detect the location of the receiving coil based on the intensity of the magnetic field and the transmitting coil location is adjusted to ensure electromagnetic coupling between the transmitter and the receiver).

As per claim 32, ROSS and KUKI disclose the method of claim 27 as discussed above, wherein moving one of the receiving antenna and the transmitting antenna comprises moving the receiving antenna laterally relative to the transmitting antenna (See ROSS, Fig.2, Item#46, discloses a horizontal coil positioning unit).

As per claim 33, ROSS and KUKI disclose the method of claim 27 as discussed above, wherein moving one of the receiving antenna and the transmitting antenna comprises moving the transmitting antenna laterally relative to the transmitting antenna (See KUKI, Fig.3, Items#32X and 32Y, disclose rails which allow the coil to be moved laterally).

As per claim 34, ROSS and KUKI disclose the method of claim 27 as discussed above, wherein moving one of the receiving antenna and the transmitting antenna comprises moving the receiving antenna along an axis that is perpendicular to one of a transmitting antenna coil and a receiving antenna coil (See ROSS, Fig.2, Item#48, disclose a vertical coil positioning unit).

3. **Claims 2-3 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over ROSS (US 5,573,090) in view of KUKI et al. (US 5,821,731) and in further view of KARALIS et al. (US 2011/0227530 A1).

As per claim 2, ROSS and KUKI disclose a system as in claim 1 as discussed above, However ROSS and KUKI do not disclose wherein said first frequency is 135 kHz.

KARALIS discloses a wireless power transmission device at a resonant frequency wherein the frequency is 135 kHz (See Claim 9).

ROSS, KUKI and KARALIS are analogous art since they all deal with inductive charging.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention disclosed by ROSS and KUKI with that of KARALIS such that the resonant frequency is 135 kHz for the benefit of increasing the efficiency of the coupling between the primary and the secondary coils.

As per claim 3, ROSS, KUKI and KARALIS disclose a system as in claim 2 as discussed above, However KUKI, PARTOVI and KARALIS do not disclose wherein said primary antenna is a coil has a radial width larger than its axial width. However it would have been an obvious design choice to one of ordinary skill in the art at the time of the invention to modify the invention disclosed by KUKI, PARTOVI and KARALIS such that the coil has a radial width larger than its axial width for the benefit of allowing the coils to handle high power requirements.

As per claim 19, ROSS and KUKI disclose a receiver as in claim 18 as discussed above, However ROSS and KUKI do not disclose wherein said receiving antenna is resonant at 135 kHz.

KARALIS discloses a wireless power transmission device at a resonant frequency wherein the frequency is 135 kHz (See Claim 9).

ROSS, KUKI and KARALIS are analogous art since they all deal with inductive charging.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention disclosed by ROSS and KUKI with that of KARALIS such that the resonant frequency is 135 kHz for the benefit of increasing the efficiency of the coupling between the primary and the secondary coils.

4. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over ROSS (US 5,573,090) in view of KUKI et al. (US 5,821,731) and in further view of PARTOVI et al. (US 2011/0221385 A1).

As per claim 7, ROSS and KUKI disclose a system as in claim 6 as discussed above, however ROSS and KUKI do not disclose further comprising a switching device [[,which switches]] configured to transmit the signal to the selected coil [[only, and does not send any signal to any other coil]].

PARTOVI disclose an inductive charger comprising a transmitting antenna and a receiving antenna and further comprising a switching device configured to transmit the signal to the selected coil (See Fig.2, Item#126).

ROSS, KUKI and PARTOVI are analogous art since they all deal with inductive charging.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention disclosed ROSS and KUKI with that of PARTOVI by adding a switch in the transmitting coil for the benefit of selectively activating only the transmitting coil corresponding to the desired receiving coil.

Response to Amendment

5. Applicant's arguments/amendments with respect to claims 1, 15 and 27 have been considered but they are moot in view of the new grounds of rejection.

6. **THIS ACTION IS MADE FINAL.** See MPEP §706.07(a). Applicant's amendments necessitated new grounds of rejection. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). Applicant's amendments necessitated new ground of rejection.

7. A Shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE- MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AHMED OMAR whose telephone number is (571)270-7165. The examiner can normally be reached on Monday-Thursday 06:30-16:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. 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.

/AHMED OMAR/
Examiner, Art Unit 2859

/Edward Tso/
Primary Examiner, Art Unit 2859



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BIB DATA SHEET

CONFIRMATION NO. 7889

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
12/498,159	07/06/2009	320	2859	QPC.034A		
RULE						
APPLICANTS Nigel P. Cook, El Cajon, CA; Hanspeter Widmer, Solothurn, SWITZERLAND; Lukas Sieber, Olten, SWITZERLAND; David F. Allred, Rancho Santa Fe, CA;						
** CONTINUING DATA ***** This appln claims benefit of 61/078,812 07/08/2008						
** FOREIGN APPLICATIONS *****						
** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 07/15/2009						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and /AHMED H OMAR/ Acknowledged Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 5	TOTAL CLAIMS 31	INDEPENDENT CLAIMS 6
ADDRESS KNOBBE, MARTENS, OLSON & BEAR, LLP 2040 Main Street Fourteenth Floor Irvine, CA 92614 UNITED STATES						
TITLE WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS						
FILING FEE RECEIVED 2452	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit		

<i>Index of Claims</i> 	Application/Control No. 12498159	Applicant(s)/Patent Under Reexamination COOK ET AL.
	Examiner AHMED OMAR	Art Unit 2859

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant				☐ CPA				☐ T.D.				☐ R.1.47			
CLAIM		DATE													
Final	Original	03/09/2012	10/09/2012												
	1	✓	✓												
	2	✓	✓												
	3	✓	✓												
	4	✓	✓												
	5	✓	✓												
	6	✓	✓												
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	33		✓												
	34		✓												
	35		✓												
	36		✓												

<i>Index of Claims</i> 	Application/Control No. 12498159	Applicant(s)/Patent Under Reexamination COOK ET AL.
	Examiner AHMED OMAR	Art Unit 2859

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47									
CLAIM		DATE							
Final	Original	03/09/2012	10/09/2012						
	37		✓						

Electronic Acknowledgement Receipt

EFS ID:	14753578
Application Number:	12498159
International Application Number:	
Confirmation Number:	7889
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
First Named Inventor/Applicant Name:	Nigel P. Cook
Customer Number:	14870
Filer:	Drew S. Hamilton/Erica Van Sciver
Filer Authorized By:	Drew S. Hamilton
Attorney Docket Number:	QPC.034A / 092414
Receipt Date:	22-JAN-2013
Filing Date:	06-JUL-2009
Time Stamp:	18:51:38
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
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Authorized User	KNOBBE MARTENS OLSON AND BEAR

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Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Foreign Reference	GB2020451_Bolger.pdf	2890732	no	11
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9	Information Disclosure Statement (IDS) Form (SB08)	QPC_034a_IDS.pdf	196277	no	3
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	Amendment Submitted/Entered with Filing of CPA/RCE		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	12	
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Information:					
Total Files Size (in bytes):			24055766		

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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

Applicant : Nigel P. Cook, et al.
App. No. : 12/498,159
Filed : July 6, 2009
For : WIRELESS HIGH POWER TRANSFER UNDER REGULATORY
CONSTRAINTS
Examiner : Omar, Ahmed H.
Art Unit : 2859
Conf No. : 7889

**RESPONSE TO FINAL OFFICE ACTION DATED OCTOBER 19, 2012, AND
REQUEST FOR CONTINUED EXAMINATION (RCE)****Mail Stop RCE**

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

Dear Commissioner:

In response to the Office Action dated October 19, 2012, in the above identified application, Applicant submits the following with a Request for Continued Examination:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 6 of this paper.

REMARKS

This paper is submitted in response to the Office Action dated October 19, 2012 (hereinafter the "Office Action"). In this Response, Applicant amends claims 1-4, 6-8, 15, 16, 18-20, 27 and 32-37 as illustrated in the foregoing section *Amendments to the Claims*. Claims 5 and 9 are canceled. Support for the amendments to the claims may be found at least in claims as originally filed and in Figures 9 and 10, and paragraphs [0043] and [0046]-[0050] of the application as published (Pub. No. US 2010/0117596 A1), and no new matter is added. In light of the foregoing amendments and the following remarks, Applicant respectfully submits pending claims 1-4, 6-8, 15, 16, 18-20, 27 and 32-37 for further consideration.

Rejection of Claims under 35 U.S.C. § 103

Claims 1, 4-6, 8-9, 15-16, 18, 20, 27, and 32-37 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ross (U.S. 5,573,090, "*Ross*") in view of Kuki et al. (U.S. 5,821,731; "*Kuki*"). Claims 2, 3, and 19 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Ross* in view of *Kuki* and in further view of Karalis et al. (US 2011/0227530, "*Karalis*"). Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Ross* in view of *Kuki* and in further view of Partovi et al. (U.S. 2011/0221385 A1, "*Partovi*"). Rejection of claims 5 and 9 are moot as these claims have been canceled. Independent claims 1, 15 and 27 have been amended to clarify certain features of implementations of the invention. Applicant traverses the rejections of claims 1-4, 6-8, 15, 16, 18-20, 27 and 32-37, at least as amended.

Amended claim 1 recites:

1. A transmitter system for wireless power, comprising:
 - a transmitting antenna including an inductive element and a capacitor, said transmitting antenna being resonant at a first frequency, said transmitting antenna being configured to generate a wireless field for charging a device including a receiving antenna;
 - a charging control system coupled to said transmitting antenna and configured to generate a signal at said first frequency and provide said signal to said transmitting antenna; and
 - an alignment controller configured to test coupling of said transmitting antenna to the receiving antenna in the first alignment position and based on a degree of the coupling, the alignment controller further configured to adjust an x-y alignment of the transmitting antenna relative to the receiving antenna from the

first alignment position to a second alignment position having a finer alignment between the receiving antenna and the transmitting antenna than the first alignment position to improve said coupling.

The U.S. Supreme Court has set out an objective analysis for applying §103: “the scope and content of the prior art are ... determined; differences between the prior art and the claims at issue are ... ascertained; and the level of ordinary skill in the pertinent art are resolved.” Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 17-18 (1966). Against this background the obviousness or nonobviousness of the subject matter is determined. KSR Int’l Co. v. Teleflex Inc., 550 U.S. 398 (2007). “To determine whether there was an apparent reason to combine the known elements in the way a patent claims, it will be often necessary to look into interrelated teachings of multiple patents ... and this analysis should be made explicit.” *Id.* “A patent [claim] composed of several elements is not proved obvious merely by determining that each element was, independently, known in the prior art.” *Id.* To establish a prima facie case of obviousness, the references when combined must teach or suggest all of the claim limitations. See M.P.E.P. § 2143. “Determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention.” ATD Corp. v. Lydall, Inc., 159 F.3d 534, 546 (Fed. Cir. 1998). Applicant respectfully asserts that *Ross* and *Kuki* (and the other cited art) do not disclose or suggest the features of amended independent claim 1.

For example, the Office Action indicates *Ross* discloses “a transmitter system for wireless power, comprising: a transmitting antenna (See Figs. 1 and 2, Item#24), including an inductive element (See Fig. 2, Item#40), the transmitting antenna being resonant at a first frequency....” While *Ross* does disclose a roadway-powered electric vehicle system having onboard power metering and communication channel features, *Ross* does not disclose “a transmitting antenna including an inductive element and a capacitor, said transmitting antenna being resonant at a first frequency” in Figs. 1 or 2, or in the corresponding description. In fact, the words “resonant,” “resonance,” or “capacitor” are not disclosed in *Ross*, other than in specific reference to an “ultra-capacitor” energy storage element. (*Ross*, column 9, lines 53-59). The cited “item#24” is a roadway power transmitting module which receives power from a power conditioning unit 28 “at an appropriate frequency.” (*Ross*, column 9, lines 5-15). Although *Ross* discloses the “preferred power conditioner 28 is a 3-phase/60 Hz to 1-phase/f1 kHz converter, where f1 is a

desired coupling frequency” (Ross, column 10, lines 24-26), Ross does not teach or suggest “a transmitting antenna *including an inductive element and a capacitor*, said *transmitting antenna being resonant at a first frequency*” as specifically claimed. This feature facilitates efficient power transfer: “[w]hen the resonant frequency of the receiver 108 and the resonant frequency of transmitter 104 are identical, transmission losses between the transmitter 104 and the receiver are minimal.” (Published Application US 2010/0117596 A1, paragraph [0017]).

Ross does not teach or disclose other features of the amended independent claims. For example, Ross does not disclose the limitations “a charging control system coupled to said transmitting antenna and configured to generate a signal at said first frequency and provide said signal to said transmitting antenna” “said transmitting antenna being resonant at a first frequency” of amended independent claim 1.

Further, claim 1 has been amended to recite “an alignment controller *configured to test coupling of said transmitting antenna to the receiving antenna in the first alignment position and based on a degree of the coupling*, the alignment controller further configured to adjust an x-y alignment of the transmitting antenna relative to the receiving antenna from the first alignment position to a second alignment position having a finer alignment between the receiving antenna and the transmitting antenna than the first alignment position to improve said coupling.” The Office Action indicates that Kuki at column 3 line 27 to column 4 line 9 discloses “an alignment controller configured to detect coupling of said receiving antenna to said transmitting antenna” by its disclosure of a “a sensor to detect the location of the receiving coil based on the intensity of the magnetic field and the transmitting coil location is adjusted to ensure electromagnetic coupling between the transmitter and the receiver.” (Office Action page 4). Applicant respectfully disagrees.

Kuki discloses “coil positioning detecting means for detecting a relational relationship between the primary and secondary coils.” However, Kuki does not teach or suggest a “controller configured to test coupling” as claimed. Instead, Kuki teaches either using magnetic sensors (a first construction) or measuring the phase difference between an exciting voltage and an exciting current (construction two):

In order to detect the positional relationship of the coils based on a magnetic field generated by one of the coils, there may be considered two constructions. In a first construction, magnetic sensors are provided at the primary coil and the secondary coil is excited as described below (i.e.

the coil position detecting means comprises a plurality of spaced apart magnetic sensors provided at the primary coil) and detects the positional relationship between the primary and secondary coils based on a comparison result obtained by comparing the magnetic field intensities detected by the magnetic sensors. In a second construction, the primary coil is merely excited without providing the magnetic sensors. In the latter construction, when the primary coil is excited, the phase of a current flowing through the primary coil differs depending upon the degree of magnetic connection between the primary and secondary coils. Accordingly, a distance between the two coils can be detected by measuring the phase difference between an exciting voltage and an exciting current. (*Kuki* column 3 line 58 – column 4 line 9).

Applicant also respectfully asserts that *Kuki* explicitly teaches away from combining its disclosure with *Ross*. Appellant submits that it is improper to combine references where the references teach away from their combination. See *In re Grasselli*, 218 U.S.P.Q. 769, 779 (Fed. Cir. 1983). The Court of Appeals for the Federal Circuit has stated that a reference teaches away if a “person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Gurley*, 31 U.S.P.Q.2d 1130, 1131 (Fed. Cir. 1994). Additionally, to support a rejection under 35 U.S.C. § 103(a), the Examiner may not “pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.” *In re Wesslau*, 147 U.S.P.Q. 391, 393 (CCPA 1965). Appellant submits that the Examiner in this case has failed to give due consideration to the disclosure of *Kuki* that teaches away from its combination with *Ross*.

For example, amended claim 1 recites *Kuki* “an alignment controller ***configured to test coupling of said transmitting antenna to the receiving antenna in the first alignment position and based on a degree of the coupling***, the alignment controller further configured to adjust an x-y alignment of the transmitting antenna relative to the receiving antenna from the first alignment position to a second alignment position having a finer alignment between the receiving antenna and the transmitting antenna than the first alignment position ***to improve said coupling***.” (*Emphasis* added). *Kuki* explicitly teaches away from coupling a transmitting antenna and a receiving antenna before they are properly position, the transmitting and receiving antenna are not coupled before they are guided into position: “Control means is provided for controlling the driving device coil moving means based on the detection results of the coil position detecting

means to guide both coils to a position where they are to be electromagnetically coupled.” “With this construction, since the coils are guided to the position where they are to be electromagnetically coupled while the positions thereof are being detected, no electromagnetic connection is established while the coils are displaced from each other.” (*Kuki*, column 3, lines 38-49). (*Emphasis added*).

Accordingly, Applicant respectfully asserts all of the limitations of amended independent claim 1 are not disclosed by *Ross* and *Kuki*, singly or in combination, as alleged in the Office Action. Applicant respectfully asserts claims 2-8, which depend directly or indirectly from claim 1, and also in condition for allowance at least for the same reason as claim 1.

Amended independent claims 15 and 27 include similar, but not identical, features as claim 1. For example, amended claim 15 recites:

15. A receiver system for wireless power, comprising:
- a receiving antenna coupled to a device, the *receiving antenna including a coil and capacitor that are resonant at a first frequency*;
 - a guidance controller configured to guide the receiving antenna of the device to a first alignment position relative to a transmitting antenna that is not physically connected to said device coupled to the receiving antenna;
 - a lifting device for said receiving antenna configured to lift and lower said receiving antenna; and
 - an alignment controller configured to sense a degree of coupling of said receiving antenna and the transmitting antenna based on detection of the coupling that is measured at the receiving antenna*, the alignment controller being further configured to move said receiving antenna from the first alignment position to a second alignment position to better align the receiving antenna with the transmitting antenna.

Claim 27 recites:

28. A method comprising:
- guiding a receiving antenna of a vehicle to a first alignment position relative to a transmitting antenna;
 - responsive to detecting a degree of coupling in the first alignment position between the receiving antenna and the transmitting antenna* that is measured at the receiving antenna, moving one of the receiving antenna and the transmitting antenna from the first alignment position to a second alignment position to improve alignment of the receiving antenna with the transmitting antenna and *improve the degree of coupling*.

Applicant respectfully asserts that amended independent claims 15 and 27 are also in condition for allowance for at least the same reasons as claim 1. *Karalis* and *Partovi* are asserted as

allegedly disclosing features of dependent claims 2-3 and 19 (*Karalis*), and claim 7 (*Partovi*), not features of the independent claims 1, 15 and 27. Dependent claims 16, 18-20 and 32-37 depend directly or indirectly from independent claims 15 or 27. For at least the same reasons as amended independent claims 15 and 27, Applicant respectfully asserts dependent claims 16, 18-20 and 32-37 are also in condition for allowance

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

Conclusion

The Applicant has endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections, and that the claims now be found in condition for allowance.

Any claim amendments which are not specifically discussed in the above remarks are not made for patentability purposes, and it is believed that the claims would satisfy the statutory requirements for patentability without the entry of such amendments. Rather, these amendments have only been made to increase claim readability, to improve grammar, and to reduce the time and effort required of those in the art to clearly understand the scope of the claim language.

Application No.: 12/498,159
Filing Date: July 6, 2009

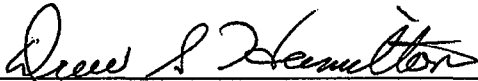
Should the Examiner have any remaining concerns that might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: January 22, 2013

By: 

Drew S. Hamilton
Registration No. 29801
Attorney of Record
Customer No. 14870
(858) 707-4153

14654421
011413

Electronic Patent Application Fee Transmittal

Application Number:	12498159			
Filing Date:	06-Jul-2009			
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS			
First Named Inventor/Applicant Name:	Nigel P. Cook			
Filer:	Drew S. Hamilton/Gisele Metcalf			
Attorney Docket Number:	QPC.034A / 092414			
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
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:				
Request for continued examination	1801	1	930	930
Total in USD (\$)				930

Doc code: RCEX

Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-09)

Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL (Submitted Only via EFS-Web)							
Application Number	12498159	Filing Date	2009-07-06	Docket Number (if applicable)	QPC.034A/092414	Art Unit	2859
First Named Inventor	Nigel P. Cook			Examiner Name	Ahmed H. Omar		
This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application. Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV							
SUBMISSION REQUIRED UNDER 37 CFR 1.114							
Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).							
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☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____							
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☒ Amendment/Reply							
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☐ Other _____							
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☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(l) required)							
☐ Other _____							
FEES							
☒ The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed. The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 111410							
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☒ Patent Practitioner Signature							
☐ Applicant Signature							

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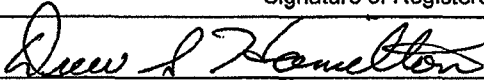
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Signature of Registered U.S. Patent Practitioner			
Signature		Date (YYYY-MM-DD)	2013-01-22
Name	Drew S. Hamilton	Registration Number	29801

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Electronic Acknowledgement Receipt

EFS ID:	14753578
Application Number:	12498159
International Application Number:	
Confirmation Number:	7889
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
First Named Inventor/Applicant Name:	Nigel P. Cook
Customer Number:	14870
Filer:	Drew S. Hamilton/Erica Van Sciver
Filer Authorized By:	Drew S. Hamilton
Attorney Docket Number:	QPC.034A / 092414
Receipt Date:	22-JAN-2013
Filing Date:	06-JUL-2009
Time Stamp:	18:51:38
Application Type:	Utility under 35 USC 111(a)

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Payment was successfully received in RAM	\$ 930
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Authorized User	KNOBBE MARTENS OLSON AND BEAR

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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.

AMENDMENTS TO THE CLAIMS

1. **(Currently amended)** A transmitter system for wireless power, comprising:
 - a transmitting antenna[[,]] including an inductive element and a capacitor, ~~thesaid~~ transmitting antenna being resonant at a first frequency, ~~thesaid~~ transmitting antenna being configured to generate a wireless field for charging a device including a receiving antenna;
 - a charging control system coupled to said transmitting antenna and configured to generate a signal at said first frequency and provide said signal to said transmitting antenna; and ~~a guidance controller configured to guide the receiving antenna of the device to a first alignment position relative to the transmitting antenna; and~~
 - an alignment controller configured to ~~test~~detect coupling of ~~said receiving antenna to said transmitting antenna~~ to the receiving antenna in the first alignment position and based on a ~~degree~~measurement ~~indicative~~ of the coupling ~~that is measured at the receiving antenna,~~ the alignment controller further configured and to adjust ~~[[the]]~~an x-y alignment position of the transmitting antenna relative to the receiving antenna from the first alignment position to a second alignment position having a finer alignment between the receiving antenna and the transmitting antenna than the first alignment position to improve said coupling.
2. **(Currently amended)** ~~A system as in claim~~The transmitter system of claim 1, wherein said first frequency is 135 kHz.
3. **(Currently amended)** ~~A system as in claim~~The transmitter system of claim 2, wherein said transmitting antenna is a coil having a radial width larger than its axial width.
4. **(Currently amended)** ~~A system as in claim~~The transmitter system of claim 1, wherein said transmitting antenna includes an array of antennas that extend over a specified area of a parking space.

5. (Canceled)

6. (Currently amended) ~~A system as in claim~~ The transmitter system of claim 1, wherein said charging control system is further configured to select ~~selects~~ one of said antennas of said array.

7. (Currently amended) ~~A system as in claim~~ The transmitter system of claim 6, further comprising a switching device connected between the charging control system and each of the antennas of the array, the switching device configured to transmit the signal to the selected antenna of the array ~~coil~~.

8. (Currently amended) ~~A system as in claim~~ The transmitter system of claim 1, further comprising a charging control system configured to generate a signal of a type that, when output to said transmitting antenna, transmits power to a remote receiving antenna.

9. (Canceled)

10-14 (Canceled)

15. (Currently amended) A receiver system for wireless power, comprising:
a receiving antenna coupled to a device, the receiving antenna including a coil and capacitor that are resonant at a first frequency;
a guidance controller configured to guide the receiving antenna of the device to a first alignment position relative to a transmitting antenna that is not physically connected to said device coupled to the receiving antenna;
a lifting device for said receiving antenna configured to lift and lower said receiving antenna; and
an alignment controller configured to sense a degree of ~~detect~~ coupling of said receiving antenna and the transmitting antenna and ~~the receiving antenna~~ based on a measurement indicative of ~~detection~~ of the coupling that is measured at the receiving antenna, the alignment controller being further configured to move said receiving antenna

from the first alignment position to a second alignment position to better align the receiving antenna with the transmitting antenna.

16. (Currently amended) ~~A receiver as in~~ The receiver system of claim 15, further comprising an x-y alignment control configured to automatically align said receiving antenna to better align the receiving antenna with the transmitting antenna by moving said receiving antenna in x and y directions based on a degree of coupling between the receiving antenna and the transmitting antenna.

17. (Canceled)

18. (Currently amended) ~~A receiver as in~~ The receiver system of claim 15, further comprising circuitry that receives a magnetically induced signal from said receiving antenna and produces power therefrom.

19. (Currently amended) ~~A receiver as in~~ The receiver system of claim 18, wherein said circuitry is resonant at 135 kHz.

20. (Currently amended) ~~A receiver as in~~ The receiver system of claim 15, wherein said receiving antenna and said lifting device are part of a battery operated vehicle.

21-26. (Canceled)

27. (Currently amended) A method, comprising:

guiding a receiving antenna of a vehicle to a first alignment position relative to a transmitting antenna;

responsive to detecting a degree of coupling in the first alignment position ~~based on measurement indicative of the coupling between the receiving antenna and the transmitting antenna~~ that is measured at the receiving antenna, moving one of the receiving antenna and the transmitting antenna from the first alignment position to a second alignment position to improve alignment of the receiving antenna with the transmitting antenna and improve the degree of coupling.

28-31. (Canceled).

32. **(Currently amended)** The method of ~~claim~~Claim 27, wherein moving one of the receiving antenna and the transmitting antenna comprises moving the receiving antenna laterally relative to the transmitting antenna.

33. **(Currently amended)** The method of ~~claim~~Claim 27, wherein moving one of the receiving antenna and the transmitting antenna comprises moving the transmitting antenna laterally relative to the ~~transmitting~~receiving antenna.

34. **(Currently amended)** The method of ~~claim~~Claim 27, wherein moving one of the receiving antenna and the transmitting antenna comprises moving the receiving antenna along an axis that is perpendicular to one of a transmitting antenna coil and a receiving antenna coil.

35. **(Currently amended)** The apparatus of ~~claim~~Claim 1, wherein the transmitting antenna is embedded in the ground.

36. **(Currently amended)** The apparatus of ~~claim~~Claim 1, wherein the ~~measurement indicative of the coupling test~~ comprises a measurement of the amount of power that is transferred to the receiving antenna.

37. **(Currently amended)** The apparatus of ~~claim~~Claim 15, wherein the ~~measurement indicative of the coupling test~~ comprises a measurement of the amount of power that is transferred to the receiving antenna.

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				<i>Complete if Known</i>		
				Application Number	12498159	
				Filing Date	2009-07-06	
				First Named Inventor	COOK; Nigel P.	
				Art Unit	2859	
				Examiner Name	OMAR, Ahmed H.	
Sheet	1	of	3	Attorney Docket No: QPC.034A / 092414		

U.S. PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	001	5654621		1997-08-05	SEELIG; Anton	

U.S. PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	001	2020451	GB	A	1979-11-14	BOLGER J G .		☐
	002	2007159359	JP	A	2007-06-21	SUMITOMO ELECTRIC INDUSTRIES .	English Abstract Only	☒
	003	2010508007	JP	A	2010-03-11	PHILIPS INTELLECTUAL PROPERTY [NL]	English Abstract Only	☒
	004	8126120	JP	A	1996-05-17	YAZAKI CORP .	English Abstract Only	☒
	005	8237890	JP	A	1996-09-13	FUJI ELECTRIC CO LTD .	English Abstract Only	☒
	006	8502640	JP	A	1996-03-19	DAIMLER-BENZ AG [DE]	English Abstract Only	☒
	007	9213378	JP	A	1997-08-15	SUMITOMO WIRING SYSTEMS., et al.	English Abstract Only	☒

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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. 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 2 hours 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, 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	12498159	
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				First Named Inventor	COOK; Nigel P.	
				Art Unit	2859	
				Examiner Name	OMAR, Ahmed H.	
Sheet	2	of	3	Attorney Docket No: QPC.034A / 092414		

FOREIGN PATENT DOCUMENTS								
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	008	199410004	WO	A1	1994-05-11	DAIMLER-BENZ AG [DE]	English Abstract Only	☒

EXAMINER SIGNATURE

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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. 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 2 hours 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, 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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				Art Unit	2859
				Examiner Name	OMAR, Ahmed H.
Sheet	3	of	3	Attorney Docket No: QPC.034A / 092414	

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

- ☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

- ☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

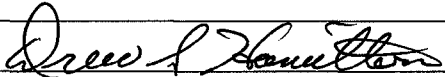
- ☐ See attached certification statement.

- ☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

- ☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date (YYYY-MM-DD)	2013-01-22
Name/Print	Drew S. Hamilton	Registration Number	29,801

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/498,159		Filing Date 07/06/2009		☐ To be Mailed		
APPLICATION AS FILED – PART I											
(Column 1)			(Column 2)		SMALL ENTITY ☐ OR		OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)	
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	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		N/A		N/A		
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A		N/A		N/A		N/A		
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$	=	X \$	=	X \$	=	X \$	=	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=	X \$	=	X \$	=	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 \$250 (\$125 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		TOTAL		TOTAL		TOTAL		
APPLICATION AS AMENDED – PART II											
(Column 1)			(Column 2)		(Column 3)		SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	01/22/2013	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 19	Minus	** 31	= 0	X \$	=	X \$62=	0	0	
	Independent (37 CFR 1.16(h))	* 3	Minus	***6	= 0	X \$	=	X \$250=	0	0	
	☐ 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	0			
(Column 1)			(Column 2)		(Column 3)		SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)	ADDITIONAL FEE (\$)	
	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 number found in the appropriate box in column 1.											

Legal Instrument Examiner:
/Theresa Dawkins/

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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Issue Classification 	Application/Control No. 12498159	Applicant(s)/Patent Under Reexamination COOK ET AL.
	Examiner AHMED OMAR	Art Unit 2859

☐ 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	1		17	15	33										
2	2	10	18	16	34										
3	3	11	19	17	35										
4	4	12	20	18	36										
	5		21	19	37										
5	6		22												
6	7		23												
7	8		24												
	9		25												
	10		26												
	11	13	27												
	12		28												
	13		29												
	14		30												
8	15		31												
9	16	14	32												

/AHMED OMAR/ Examiner.Art Unit 2859 (Assistant Examiner)		01/28/2013 (Date)	Total Claims Allowed: 19	
/EDWARD TSO/ Primary Examiner.Art Unit 2859 (Primary Examiner)		01/28/2013 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1,9

EAST Search History**EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	874	320/109.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/01/28 09:11
S32	146317	(guid\$3 or guidance or align\$3 or alignment) same (controller or control\$4 or processor or micro\$1processor or micro\$1controller) same (improv\$3 or improvement or tune or tuning or finer or better)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/01/28 04:17
S33	2662	320/104,108,109.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/01/28 04:17
S34	32	S32 and S33	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/01/28 04:17
S35	1203999	(retract\$4 realign\$5 or align\$5 or position\$3 or lower\$3 or reposition\$3 or position or adjust\$4) same (coil or arm or armature or antenna or inducti\$2)	US-PGPUB; USPAT	ADJ	ON	2013/01/28 04:17
S36	282	((coupl\$3) with (degree or level)) and S33	US-PGPUB; USPAT	ADJ	ON	2013/01/28 04:18
S37	472327	((coupl\$3) and (degree or level) and (coil or inductor or antenna))	US-PGPUB; USPAT	ADJ	ON	2013/01/28 04:33
S38	542426	((coupl\$3) and (degree or level) and (coil or inductor or antenna))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/01/28 04:34

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S39	474412	((coupl\$3) and (degree or level) and (coil or	US-	ADJ	ON	2013/01/28

		inductor or antenna))	PGPUB; USPAT; UPAD			04:34
S40	289218	((coupl\$3) and (degree or level) and (coil or inductor or antenna) and (position or align\$3 or alignment) and (control or controller or micro\$1controller or micro\$1processor))	US- PGPUB; USPAT; UPAD	ADJ	ON	2013/01/28 04:35
S42	210	((coupl\$3) and (degree or level) and (coil or inductor or antenna) and (position or align\$3 or alignment) and (control or controller or micro\$1controller or micro\$1processor) and (adjust\$3 or adjusting or adjustment or mov\$3) and (capacitor or condenser)).clm.	US- PGPUB; USPAT; UPAD	ADJ	ON	2013/01/28 04:37

1/ 28/ 2013 9:42:05 AM
C:\ Users\ aomar\ Documents\ EAST\ Workspaces\ 12498159-Wireless high power transfer under regulatory constraints.wsp

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				<i>Complete if Known</i>		
				Application Number	12498159	
				Filing Date	2009-07-06	
				First Named Inventor	COOK; Nigel P.	
				Art Unit	2859	
				Examiner Name	OMAR, Ahmed H.	
Sheet	1	of	3	Attorney Docket No: QPC.034A / 092414		

U.S. PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	001	5654621		1997-08-05	SEELIG; Anton	

U.S. PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	001	2020451	GB	A	1979-11-14	BOLGER J G .		☐
	002	2007159359	JP	A	2007-06-21	SUMITOMO ELECTRIC INDUSTRIES .	English Abstract Only	☒
	003	2010508007	JP	A	2010-03-11	PHILIPS INTELLECTUAL PROPERTY [NL]	English Abstract Only	☒
	004	8126120	JP	A	1996-05-17	YAZAKI CORP .	English Abstract Only	☒
	005	8237890	JP	A	1996-09-13	FUJI ELECTRIC CO LTD .	English Abstract Only	☒
	006	8502640	JP	A	1996-03-19	DAIMLER-BENZ AG [DE]	English Abstract Only	☒
	007	9213378	JP	A	1997-08-15	SUMITOMO WIRING SYSTEMS., et al.	English Abstract Only	☒

EXAMINER SIGNATURE

/Ahmed Omar/

DATE CONSIDERED

01/29/2013

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. 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 2 hours 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, 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 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.C

Receipt date: 01/22/2013

12498159 - GAU: 2859

Based on Form PTO/SB/08a; SB/08b

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				<i>Complete if Known</i>	
				Application Number	12498159
				Filing Date	2009-07-06
				First Named Inventor	COOK; Nigel P.
				Art Unit	2859
				Examiner Name	OMAR, Ahmed H.
Sheet	2	of	3	Attorney Docket No: QPC.034A / 092414	

FOREIGN PATENT DOCUMENTS								
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	008	199410004	WO	A1	1994-05-11	DAIMLER-BENZ AG [DE]	English Abstract Only	☒

EXAMINER SIGNATURE

/Ahmed Omar/

DATE CONSIDERED

01/28/2013

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. 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 2 hours 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, 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 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.C

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		<i>Complete if Known</i>		
		Application Number	12498159	
		Filing Date	2009-07-06	
		First Named Inventor	COOK; Nigel P.	
		Art Unit	2859	
		Examiner Name	OMAR, Ahmed H.	
Sheet	3	of	3	Attorney Docket No: QPC.034A / 092414

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

- ☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

- ☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

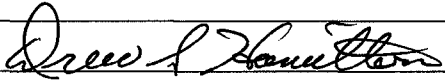
- ☐ See attached certification statement.

- ☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

- ☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date (YYYY-MM-DD)	2013-01-22
Name/Print	Drew S. Hamilton	Registration Number	29,801

This collection of information is required by 37 CFR 1.97 and 1.98. 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 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: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.C



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BIB DATA SHEET

CONFIRMATION NO. 7889

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
12/498,159	07/06/2009	320	2859	QPC.034A / 092414		
RULE						
APPLICANTS Nigel P. Cook, El Cajon, CA; Hanspeter Widmer, Solothurn, SWITZERLAND; Lukas Sieber, Olten, SWITZERLAND; David F. Allred, Rancho Santa Fe, CA;						
** CONTINUING DATA ***** This appln claims benefit of 61/078,812 07/08/2008						
** FOREIGN APPLICATIONS *****						
** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 07/15/2009						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and /AHMED H OMAR/ Acknowledged Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 5	TOTAL CLAIMS 31	INDEPENDENT CLAIMS 6
ADDRESS KNOBBE, MARTENS, OLSON & BEAR, LLP 2040 Main Street Fourteenth Floor Irvine, CA 92614 UNITED STATES						
TITLE WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS						
FILING FEE RECEIVED 2452	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit		



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NOTICE OF ALLOWANCE AND FEE(S) DUE

14870 7590 02/04/2013
KNOBBE, MARTENS, OLSON & BEAR, LLP
2040 Main Street
Fourteenth Floor
Irvine, CA 92614

EXAMINER

OMAR, AHMED H

ART UNIT

PAPER NUMBER

2859

DATE MAILED: 02/04/2013

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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12/498,159

07/06/2009

Nigel P. Cook

QPC.034A / 092414

7889

TITLE OF INVENTION: WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1770	\$300	\$0	\$2070	05/06/2013

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 SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

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: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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)

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.

14870 7590 02/04/2013
KNOBBE, MARTENS, OLSON & BEAR, LLP
2040 Main Street
Fourteenth Floor
Irvine, CA 92614

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.
12/498,159	07/06/2009	Nigel P. Cook	QPC.034A / 092414	7889

TITLE OF INVENTION: WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1770	\$300	\$0	\$2070	05/06/2013

EXAMINER	ART UNIT	CLASS-SUBCLASS
OMAR, AHMED H	2859	320-109000

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 credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

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

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

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 _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information 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.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/498,159	07/06/2009	Nigel P. Cook	QPC.034A / 092414	7889

14870 7590 02/04/2013
KNOBBE, MARTENS, OLSON & BEAR, LLP
2040 Main Street
Fourteenth Floor
Irvine, CA 92614

EXAMINER

OMAR, AHMED H

ART UNIT	PAPER NUMBER
----------	--------------

2859

DATE MAILED: 02/04/2013

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

The Patent Term Adjustment to date is 558 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 558 day(s).

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 Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

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.	Applicant(s)	
	12/498,159	COOK ET AL.	
	Examiner	Art Unit	
	AHMED OMAR	2859	

-- 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 RCE filed on 01/22/2013.
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 1-4,6-8,15,16,18-20,27 and 32-37. 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).
 - 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)

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. ☐ Notice of References Cited (PTO-892) 2. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>01/22/2013</u> 3. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material 4. ☐ Interview Summary (PTO-413),
Paper No./Mail Date ____. | <ol style="list-style-type: none"> 5. ☐ Examiner's Amendment/Comment 6. ☒ Examiner's Statement of Reasons for Allowance 7. ☐ Other ____. |
|--|---|

/Edward Tso/
Primary Examiner, Art Unit 2859

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/22/2013 has been entered.

Reasons for Allowance

Claims 1-4, 6-8, 15-16, 18-20, 27 and 32-37 are allowed. The following is the examiner's statement for allowance. The prior art does not disclose or suggest the following:

“...an alignment controller configured to test coupling of said transmitting antenna to the receiving antenna in the first alignment position and based on a degree of the coupling, the alignment controller further configured to adjust an x-y alignment of the transmitting antenna relative to the receiving antenna from the first alignment position to a second alignment position having a finer alignment between the receiving antenna and the transmitting antenna than the first alignment position to improve said coupling” in combination with the remaining limitations of independent claims 1, 15 and 27. Dependent claims 2-4, 6-8, 16, 18-20 and 32-37 are also allowed.

The examiner found ROSS (US 5,573,090) and KUKI (US 5,821,731) to be the closest prior art to the claimed invention.

ROSS discloses a transmitter system for a wireless power comprising a transmitting antenna and a guidance controller configured to guide the receiving antenna of the device to a

Art Unit: 2859

first alignment position relative to the transmitting antenna. KUKI discloses a vehicle charging system comprising sensor to measure the intensity of the magnetic field between the transmitting and receiving antennas. However neither reference nor their combination disclose the above missing limitation and it would not have been obvious to one of ordinary skill in the art at the time of the invention to modify any of the references in view of the other or any other additional references to add the missing limitation.

Conclusion

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."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ahmed Omar whose telephone number (571)270-7165. The examiner can normally be reached between 7:00 am-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/AHMED OMAR/
Examiner, Art Unit 2859

/Edward Tso/
Primary Examiner, Art Unit 2859

Search Notes 	Application/Control No. 12498159	Applicant(s)/Patent Under Reexamination COOK ET AL.
	Examiner AHMED OMAR	Art Unit 2859

CPC- SEARCHED		
Symbol	Date	Examiner
Y 02T 90/14	1/28/2013	A.O.

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner
Y 02T 90/14, H 02J 7/025	1/28/2013	A.O.

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
320	108,109	3/9/2012	A.O.
320	109	2/4/2013	A.O.

SEARCH NOTES		
Search Notes	Date	Examiner
PLUS search,inventor name search in PALM, (180 and 903 classes, text search only), also class/subclass search	3/9/2012	A.O.
Search updated, See EAST seach history	10/9/2012	A.O.
Search updated, See EAST search history	1/28/2013	A.O.

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
keyword search of PGPUB, USPAT and UPAD claims		1/28/2013	A.O.

/A.O./ Examiner.Art Unit 2859	
----------------------------------	--

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously presented) A transmitter system for wireless power, comprising:
 - a transmitting antenna including an inductive element and a capacitor, said transmitting antenna being resonant at a first frequency, said transmitting antenna being configured to generate a wireless field for charging a device including a receiving antenna;
 - a charging control system coupled to said transmitting antenna and configured to generate a signal at said first frequency and provide said signal to said transmitting antenna; and
 - an alignment controller configured to test coupling of said transmitting antenna to the receiving antenna in the first alignment position and based on a degree of the coupling, the alignment controller further configured to adjust an x-y alignment of the transmitting antenna relative to the receiving antenna from the first alignment position to a second alignment position having a finer alignment between the receiving antenna and the transmitting antenna than the first alignment position to improve said coupling.
2. (Previously presented) The transmitter system of claim 1, wherein said first frequency is 135 kHz.
3. (Previously presented) The transmitter system of claim 2, wherein said transmitting antenna is a coil having a radial width larger than its axial width.
4. (Previously presented) The transmitter system of claim 1, wherein said transmitting antenna includes an array of antennas that extend over a specified area of a parking space.

5. (Canceled)

6. (**Currently amended**) The transmitter system of claim ~~[[1]]~~ 4, wherein said charging control system is further configured to select one of said antennas of said array.

7. (Previously presented) The transmitter system of claim 6, further comprising a switching device connected between the charging control system and each of the antennas of the array, the switching device configured to transmit the signal to the selected antenna of the array.

8. (**Currently amended**) The transmitter system of claim 1, ~~further comprising a~~ wherein said charging control system is configured to generate a signal of a type that, when output to said transmitting antenna, transmits power to a remote receiving antenna.

9-14. (Cancelled)

15. (Previously presented) A receiver system for wireless power, comprising:

a receiving antenna coupled to a device, the receiving antenna including a coil and capacitor that are resonant at a first frequency;

a guidance controller configured to guide the receiving antenna of the device to a first alignment position relative to a transmitting antenna that is not physically connected to said device coupled to the receiving antenna;

a lifting device for said receiving antenna configured to lift and lower said receiving antenna; and

an alignment controller configured to sense a degree of coupling of said receiving antenna and the transmitting antenna based on detection of the coupling that is measured at the receiving antenna, the alignment controller being further configured to move said receiving antenna from the first alignment position to a second alignment position to better align the receiving antenna with the transmitting antenna.

16. (Previously presented) The receiver system of claim 15, further comprising an x-y alignment control configured to automatically align said receiving antenna to better align the receiving antenna with the transmitting antenna by moving said receiving antenna in x and y

directions based on a degree of coupling between the receiving antenna and the transmitting antenna.

17. (Canceled)

18. (Previously presented) The receiver system of claim 15, further comprising circuitry that receives a magnetically induced signal from said receiving antenna and produces power therefrom.

19. (Previously presented) The receiver system of claim 18, wherein said circuitry is resonant at 135 kHz.

20. (Previously presented) The receiver system of claim 15, wherein said receiving antenna and said lifting device are part of a battery operated vehicle.

21-26. (Canceled)

27. (Previously presented) A method, comprising:

guiding a receiving antenna of a vehicle to a first alignment position relative to a transmitting antenna;

responsive to detecting a degree of coupling in the first alignment position between the receiving antenna and the transmitting antenna that is measured at the receiving antenna, moving one of the receiving antenna and the transmitting antenna from the first alignment position to a second alignment position to improve alignment of the receiving antenna with the transmitting antenna and improve the degree of coupling.

28-31. (Canceled)

32. (Previously presented) The method of claim 27, wherein moving one of the receiving antenna and the transmitting antenna comprises moving the receiving antenna laterally relative to the transmitting antenna.

33. (Previously presented) The method of claim 27, wherein moving one of the receiving antenna and the transmitting antenna comprises moving the transmitting antenna laterally relative to the receiving antenna.

34. (Previously presented) The method of claim 27, wherein moving one of the receiving antenna and the transmitting antenna comprises moving the receiving antenna along an axis that is perpendicular to one of a transmitting antenna coil and a receiving antenna coil.

35. (Previously presented) The apparatus of claim 1, wherein the transmitting antenna is embedded in the ground.

36. (Previously presented) The apparatus of claim 1, wherein the coupling test comprises a measurement of the amount of power that is transferred to the receiving antenna.

37. (**Currently amended**) The apparatus of claim 15, wherein the sensed degree of coupling test comprises a measurement of the amount of power that is transferred to the receiving antenna.

Electronic Patent Application Fee Transmittal

Application Number:	12498159			
Filing Date:	06-Jul-2009			
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS			
First Named Inventor/Applicant Name:	Nigel P. Cook			
Filer:	Gregory A. Hermanson			
Attorney Docket Number:	QPC.034A / 092414			
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
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	1780	1780
Publ. Fee- Early, Voluntary, or Normal	1504	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				2080

Electronic Acknowledgement Receipt

EFS ID:	15674295
Application Number:	12498159
International Application Number:	
Confirmation Number:	7889
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
First Named Inventor/Applicant Name:	Nigel P. Cook
Customer Number:	14870
Filer:	Gregory A. Hermanson/Daniela Lopez
Filer Authorized By:	Gregory A. Hermanson
Attorney Docket Number:	QPC.034A / 092414
Receipt Date:	02-MAY-2013
Filing Date:	06-JUL-2009
Time Stamp:	17:13:13
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 2080
RAM confirmation Number	4158
Deposit Account	111410
Authorized User	KNOBBE MARTENS OLSON AND BEAR

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

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

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)	IFee.pdf	101280	no	1
			029554e5698fa20ab26b6eb4f8d9ca234a72facb		
Warnings:					
Information:					
2	Miscellaneous Incoming Letter	Comments.pdf	39349	no	2
			d65bc563d3dc321ba01368f742c2514c75bb6663		
Warnings:					
Information:					
3		312Amend.pdf	211593	yes	6
			840021881f8dd851dd7f2a176a9a61149d6c4e6e		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment after Notice of Allowance (Rule 312)		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	6	
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	32057	no	2
			e21b6d5d59f4f30a73c2a7971910c6f52701d38f		
Warnings:					
Information:					
Total Files Size (in bytes):			384279		

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

Applicant	:	Cook, et al.
App. No.	:	12/498,159
Filed	:	July 6, 2009
For	:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
Examiner	:	Omar, Ahmed H.
Art Unit	:	2859
Conf. No.	:	7889

COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE**Mail Stop: Issue Fee**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Dear Sir:

Applicant respectfully submits that the claims are allowable based on the entire language of the claims including certain portions indicated by the Examiner. Applicant further submits that other limitations or other combinations of limitations present in the allowed claims may separately and independently define patentable subject matter.

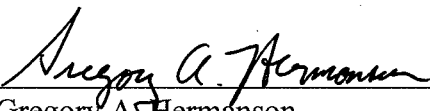
Application No.: 12/498,159
Filing Date: July 6, 2009

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: May 2, 2013

By: 
Gregory A. Hermanson
Registration No. 53,018
Attorney of Record
Customer No. 14,870
(858) 707-4000

15333913
050213

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)

14870 7590 02/04/2013
KNOBBE, MARTENS, OLSON & BEAR, LLP
2040 Main Street
Fourteenth Floor
Irvine, CA 92614

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.
12/498,159	07/06/2009	Nigel P. Cook	QPC.034A / 092414	7889

TITLE OF INVENTION: WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1770	\$300	\$0	\$2070	05/06/2013

EXAMINER	ART UNIT	CLASS-SUBCLASS
OMAR, AHMED II	2859	320-109000

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 Knobbe Martens

2 Olson & Bear, LLP

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)

QUALCOMM Incorporated

San Diego, CA

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 credit any overpayment, to Deposit Account Number 11-1410 (enclose an extra copy of this form).

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

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

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 Gregory A. Hermanson
Typed or printed name **Gregory A. Hermanson**

Date May 2, 2013
Registration No. 53,018

This collection of information 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.

Application No.: 12/498,159
Filing Date: July 6, 2009

REMARKS

With the Notice of Allowance dated February 4, 2013, Claims 1-4, 6-8, 15, 16, 18-20, 27 and 32-37 are allowed. By this paper, Applicant has amended Claims 6, 8, and 37. No new matter is added by any of these amendments.

Applicant corrected the antecedent basis of "said antennas of said array" in Claim 6 by amending Claim 6 so that it depends from Claim 4 instead of Claim 1. Applicant corrected the antecedent basis of "charging control system" by amending Claim 8 from "further comprising a charging control system" to "wherein said charging control system." Applicant corrected the antecedent bases of "coupling" in Claim 37 by amending "coupling test" to "sensed degree of coupling," since independent Claim 15, from which Claim 37 depends, recites "sense a degree of coupling." Applicant requests entry of this amendment under 37 CFR §1.312 for these claim amendments to address the above-identified antecedent basis errors.

Please contact the undersigned at the telephone number below to resolve any issues regarding this submission.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: May 2, 2013

By: Gregory A. Hermanson
Gregory A. Hermanson
Registration No. 53,018
Attorney of Record
Customer No. 14870
(858) 707-4153

15310725
042913

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor	:	Cook et al.
App. No.	:	12/498,159
Filed	:	July 6, 2009
For	:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
Examiner	:	Omar, Ahmed H
Art Unit	:	2859
Conf. No.	:	7889

AMENDMENT UNDER C.F.R. § 1.312

Mail Stop AF

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Dear Sir:

Applicant respectfully submits this Amendment under 37 C.F.R. §1.312 to address obvious or typographical errors in the claims.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 6 of this paper.

QPC.034A

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor	: Cook et al.
App. No.	: 12/498,159
Filed	: July 6, 2009
For	: WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
Examiner	: Omar, Ahmed H
Art Unit	: 2859
Conf. No.	: 7889

AMENDMENT UNDER C.F.R. § 1.312

Mail Stop AF

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

Dear Sir:

Applicant respectfully submits this Amendment under 37 C.F.R. §1.312 to address obvious or typographical errors in the claims.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 6 of this paper.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/498,159	07/06/2009	Nigel P. Cook	QPC.034A / 092414	7889
14870	7590	05/23/2013		
KNOBBE, MARTENS, OLSON & BEAR, LLP 2040 Main Street Fourteenth Floor Irvine, CA 92614			EXAMINER OMAR, AHMED H	
			ART UNIT 2859	PAPER NUMBER
			NOTIFICATION DATE 05/23/2013	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):

ocpat_uspto@qualcomm.com
efiling@knobbe.com
jayna.cartee@knobbbe.com

Response to Rule 312 Communication	Application No.	Applicant(s)
	12/498,159	COOK ET AL.
	Examiner	Art Unit
	AHMED OMAR	2859

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

1. ☒ The amendment filed on 02 May 2013 under 37 CFR 1.312 has been considered, and has been:

a) ☒ entered.

b) ☐ entered as directed to matters of form not affecting the scope of the invention.

c) ☐ disapproved because the amendment was filed after the payment of the issue fee.
Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.

d) ☐ disapproved. See explanation below.

e) ☐ entered in part. See explanation below.

	/Edward Tso/ Primary Examiner, Art Unit 2859
--	---



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.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/498,159	06/18/2013	8466654	QPC.034A / 092414	7889

14870 7590 05/29/2013
KNOBBE, MARTENS, OLSON & BEAR, LLP
2040 Main Street
Fourteenth Floor
Irvine, CA 92614

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 731 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):

Nigel P. Cook, El Cajon, CA;
Hanspeter Widmer, Solothurn, SWITZERLAND;
Lukas Sieber, Olten, SWITZERLAND;
David F. Allred, Rancho Santa Fe, CA;

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.

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.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: WiTricity Corporation

Application No./Patent No.: 8,466,654

Filed/Issue Date: June 18, 2013

Titled: WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS

WiTricity Corporation, a corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose one of options 1, 2, 3 or 4 below):

1. ☒ The assignee of the entire right, title, and interest.
2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):
- ☐ The extent (by percentage) of its ownership interest is ____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.
- ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose one of options A or B below):

- A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
- B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Nigel P. Cook, Hanspeter Widmer, Lukas Sieber, David F. Allred To: QUALCOMM Incorporated

The document was recorded in the United States Patent and Trademark Office at
Reel 023827, Frame 0667, or for which a copy thereof is attached.

2. From: QUALCOMM Incorporated To: WiTricity Corporation

The document was recorded in the United States Patent and Trademark Office at
Reel 048357, Frame 0455, or for which a copy thereof is attached.

[Page 1 of 2]

This collection of information is required by 37 CFR 3.73(b). 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 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.

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STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

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Reel _____, Frame _____, or for which a copy thereof is attached.

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6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.☐ Additional documents in the chain of title are listed on a supplemental sheet(s).☒ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature

Mark M. Abumeri

Printed or Typed Name

Date

43458

Title or Registration Number

[Page 2 of 2]

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.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:



Practitioners associated with the Customer Number:

160649

OR



Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:



The address associated with Customer Number:

160649

OR

☐ Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone			Email

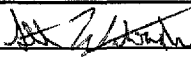
Assignee Name and Address:

WiTricity Corporation
57 Water Street
Watertown, MA 02472

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	2-26-19
Name	Scott Witonsky	Telephone	617-926-2700
Title	VP, Intellectual Property Management		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 3 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.

Electronic Acknowledgement Receipt

EFS ID:	35909902
Application Number:	12498159
International Application Number:	
Confirmation Number:	7889
Title of Invention:	WIRELESS HIGH POWER TRANSFER UNDER REGULATORY CONSTRAINTS
First Named Inventor/Applicant Name:	Nigel P. Cook
Customer Number:	14870
Filer:	Mark M. Abumeri/Sandra Autry
Filer Authorized By:	Mark M. Abumeri
Attorney Docket Number:	QPC.034A / 092414
Receipt Date:	03-MAY-2019
Filing Date:	06-JUL-2009
Time Stamp:	13:32:39
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		POA_WTCY-034A.pdf	238814	yes	3
			4eb79c6a477085a71a405c7f1c0130c93fbc b0f2		

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Power of Attorney	3	3
	Assignee showing of ownership per 37 CFR 3.73	1	2
Warnings:			
Information:			
Total Files Size (in bytes):		238814	
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.			



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United States Patent and Trademark Office
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www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/498,159	07/06/2009	Nigel P. Cook	QPC.034A / 092414

CONFIRMATION NO. 7889

POWER OF ATTORNEY NOTICE



OC000000107982413

14870
KNOBBE, MARTENS, OLSON & BEAR, LLP
QUALCOMM
2040 Main Street
Fourteenth Floor
Irvine, CA 92614
UNITED STATES OF AMERICA

Date Mailed: 05/08/2019

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/03/2019.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

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.

/nbekle/



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/498,159	07/06/2009	Nigel P. Cook	QPC.034A / 092414

CONFIRMATION NO. 7889

POA ACCEPTANCE LETTER



160649
KNOBBE MARTENS OLSON & BEAR LLP
WiTricity's (WTCY)
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

Date Mailed: 05/08/2019

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/03/2019.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

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.

/nbekele/



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APPLICATION NUMBER	PATENT NUMBER	GROUP ART UNIT	REQUEST ID
12/498,159	8466654	2859	100774

PAIR Correspondence Address/Fee Address Change

The following fields have been changed to Customer Number 166872 on 11/27/2019 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