



ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
17/443,183

RECEIPT DATE / TIME
07/22/2021 04:32:12 AM ET

ATTORNEY DOCKET #
HQUPAT003

Title of Invention

MAGNETIC MOUNT FOR ELECTRONIC DEVICES

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 9455

FILED BY Paul Chung

PATENT CENTER # 60246931

FILING DATE -

CUSTOMER # 170953

FIRST NAMED
INVENTOR Dae-Young Kim

CORRESPONDENCE
ADDRESS -

AUTHORIZED BY -

Documents

TOTAL DOCUMENTS: 5

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
generatedADS60246931.pdf	5	Application Data Sheet	122 KB
HQUPAT003_Drawings.pdf	21	Drawings-only black and white line drawings	452 KB
HQUPAT003_Declaration.pdf	2	Oath or Declaration filed	155 KB
HQUPAT003_Claims.pdf	3	Claims	32 KB
HQUPAT003_Specification.pdf	29	Specification	110 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
generatedADS60246931.pdf	13F008625FA1E7170058341A2963ED2B465012E2FF1DD578FA 2446C303DF69846F7E29DBF690B9702F1D1ABFAD9CEFE3D8 E033B138A4AB75BB0E7680E30A8237
HQUPAT003_Drawings.pdf	BE712575544E04B03686C41B74ABAE5AF7F38D5B4F84A0376 A1CAA73BEDE58D9AD6FB6FBB1AD4C012702B06ED9636A75B B22790ECFF4D8A44EF00BA57740D9BF
HQUPAT003_Declaration.pdf	A0308BDD0A09AD34E4063E018D4A74FA5D05E39494E291F04 06BD119793F0E9901EF614058D4447F2780A00E087D4C0B3C0 F0BFB6027CDED3733B2AA0FBEC9A8
HQUPAT003_Claims.pdf	43F2E9A2FDDE0F5651FECAB000679F78A8D614E1D7244054D 47808AB91E6C70AAFADC1D97A41BBE4C954D3A9E11F21420 BEA8617F0C317A8DEE841FACD75773C
HQUPAT003_Specification.pdf	DAE8A335E8DBE2065EAF1032F093E4C907A87E26B200D6A91 2D2B786B82F04CFBBCA084AC0C6E5BE4E3851CC025F59D26 C236AAC029C8D83F6FDD72ACD2C19A3

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 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.

FIG. 1A

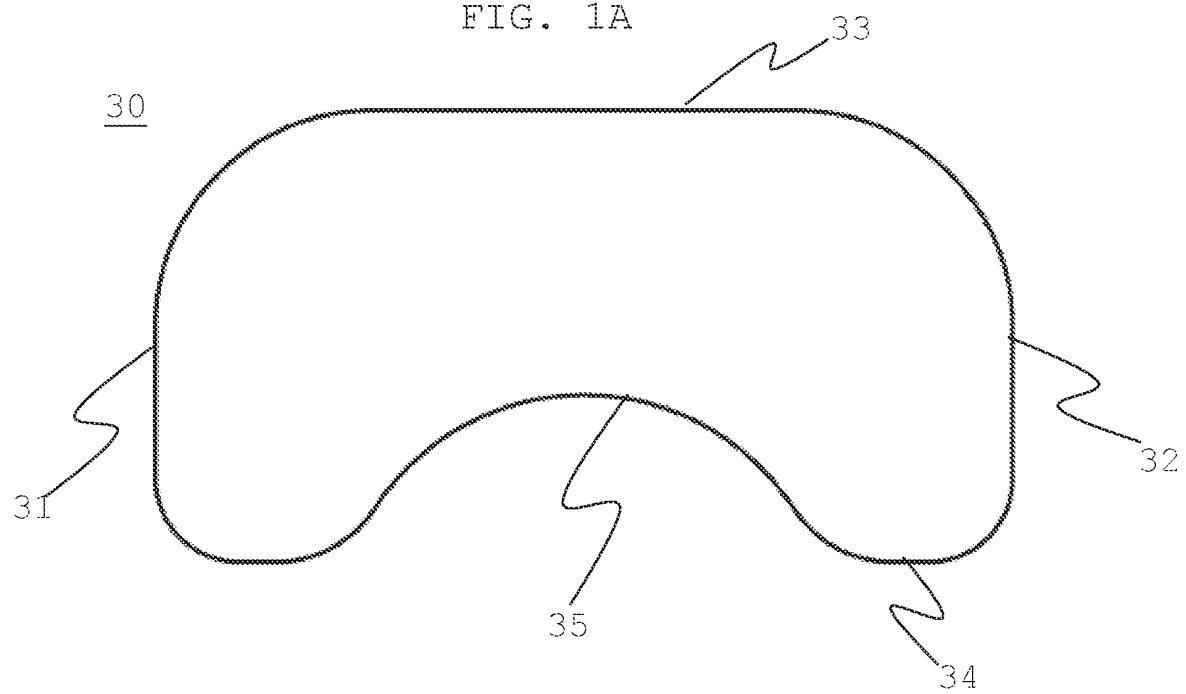


FIG. 1B

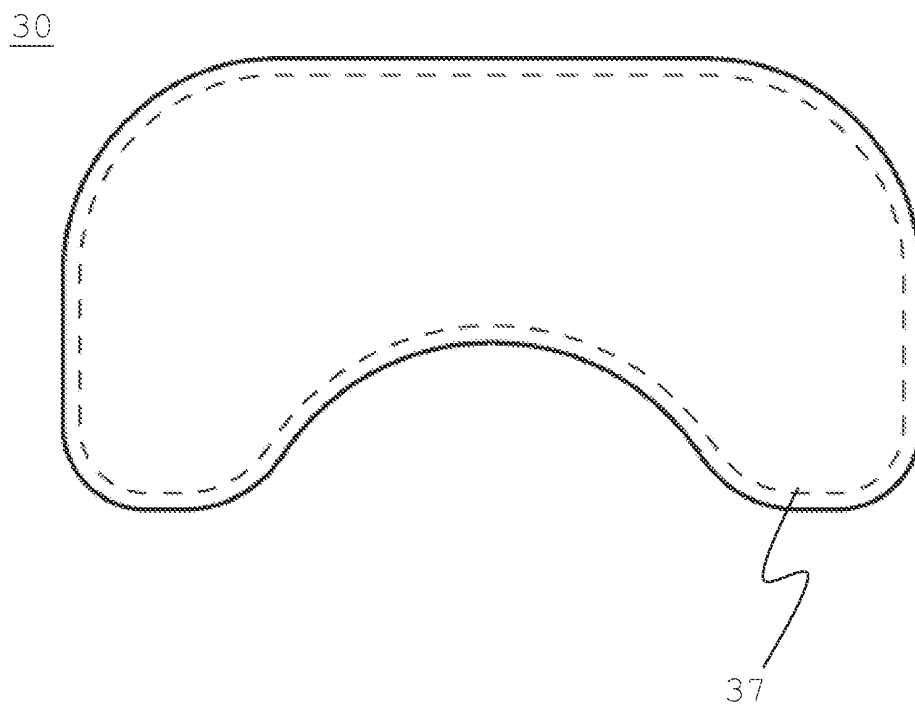


FIG. 1C

30

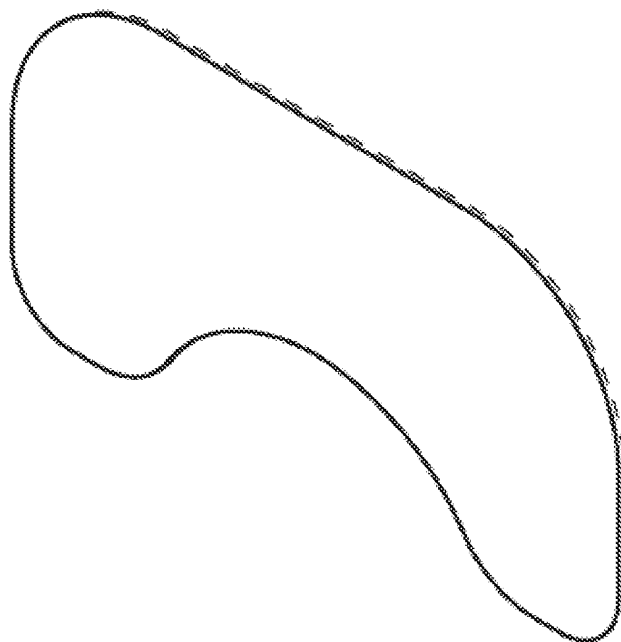
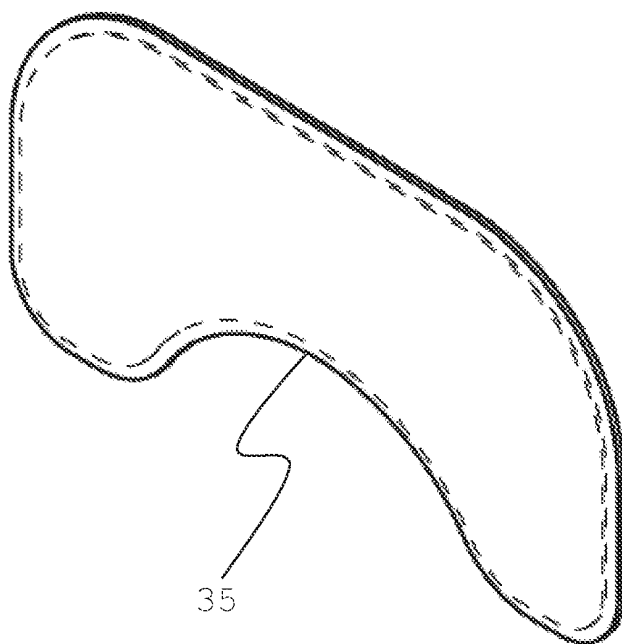


FIG. 1D

30



35

FIG. 2A

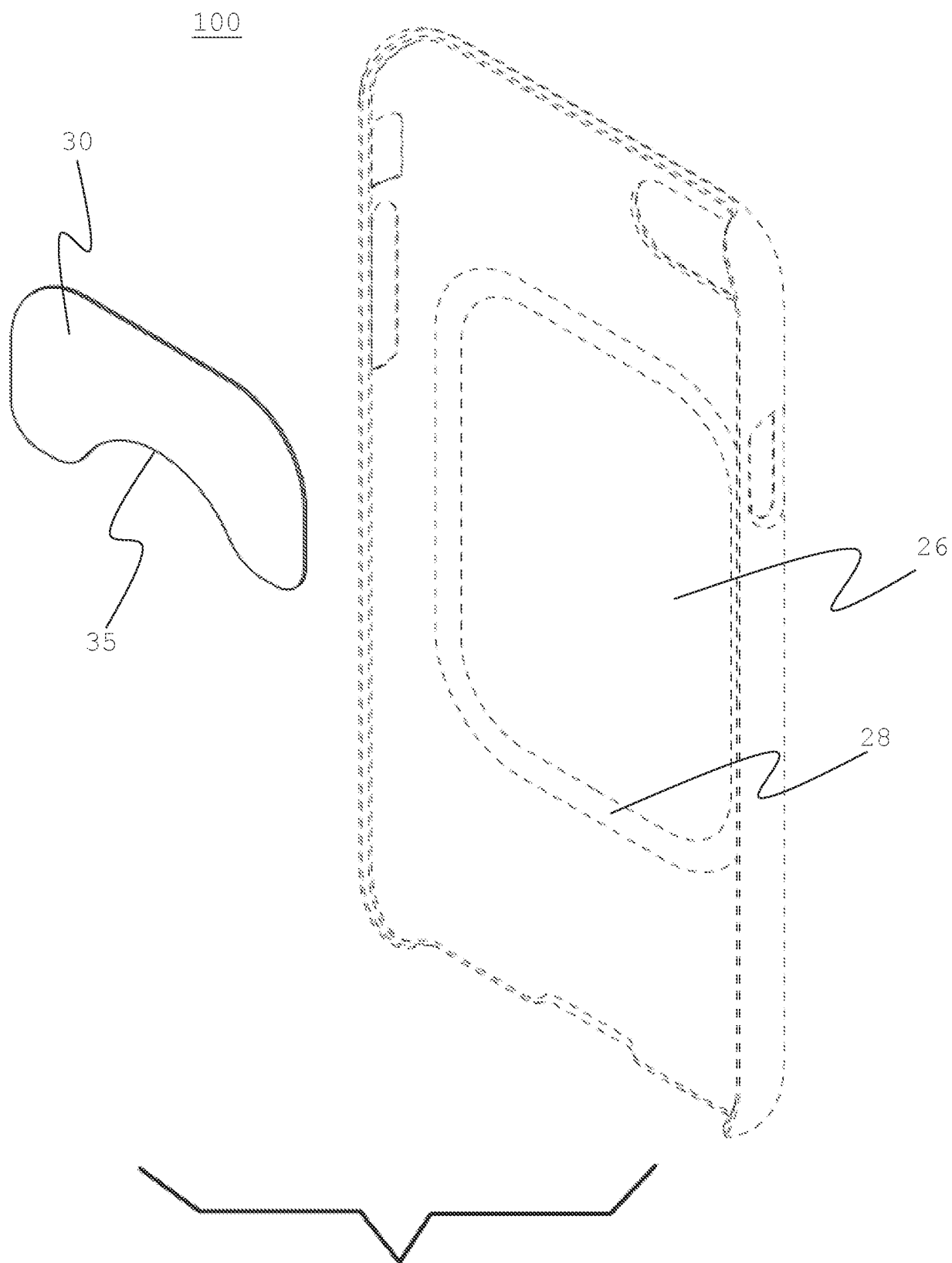


FIG. 2B

100

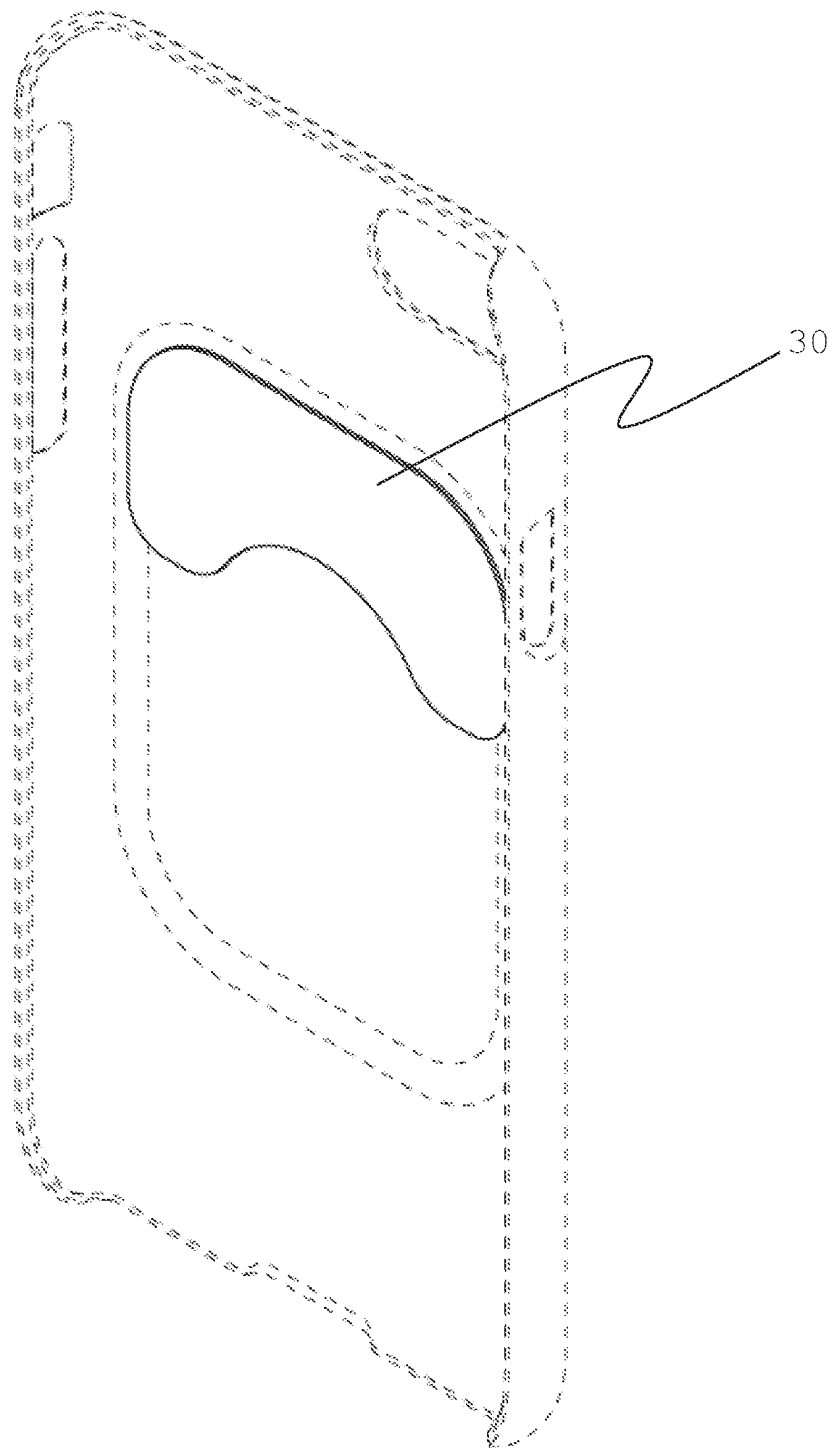


FIG. 3A

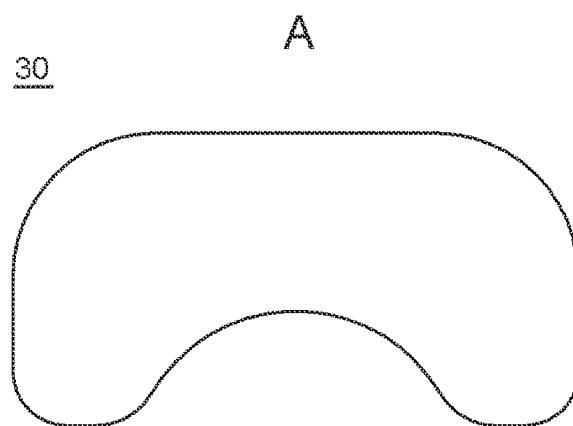


FIG. 3B

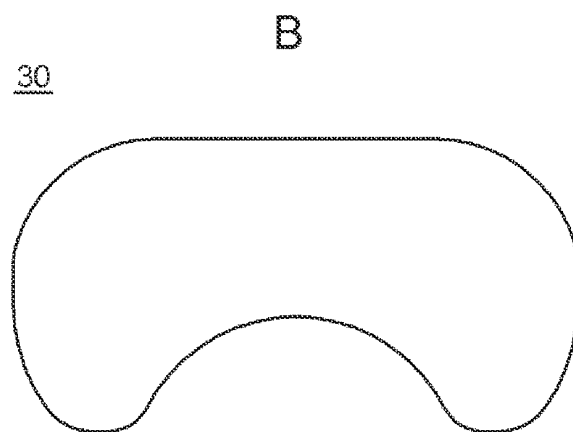


FIG. 3C

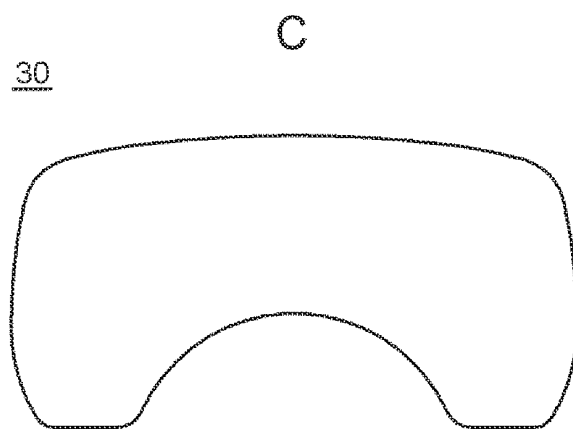


FIG. 4A

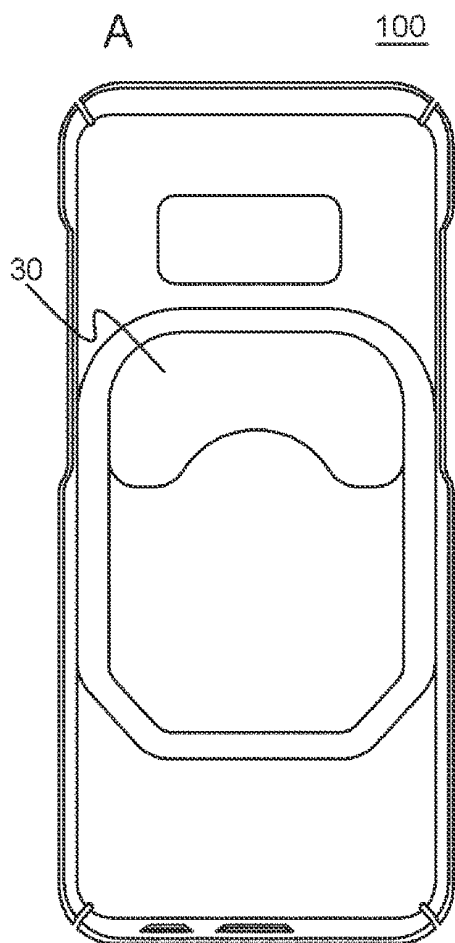


FIG. 4B

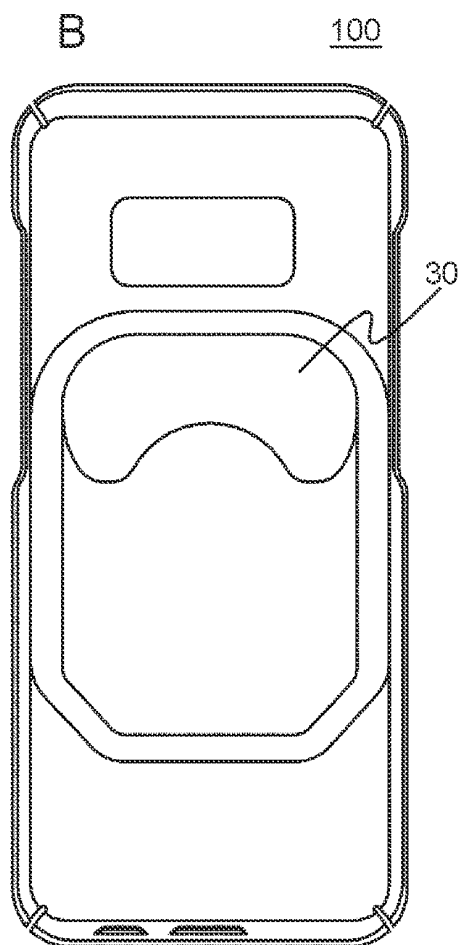


FIG. 4C

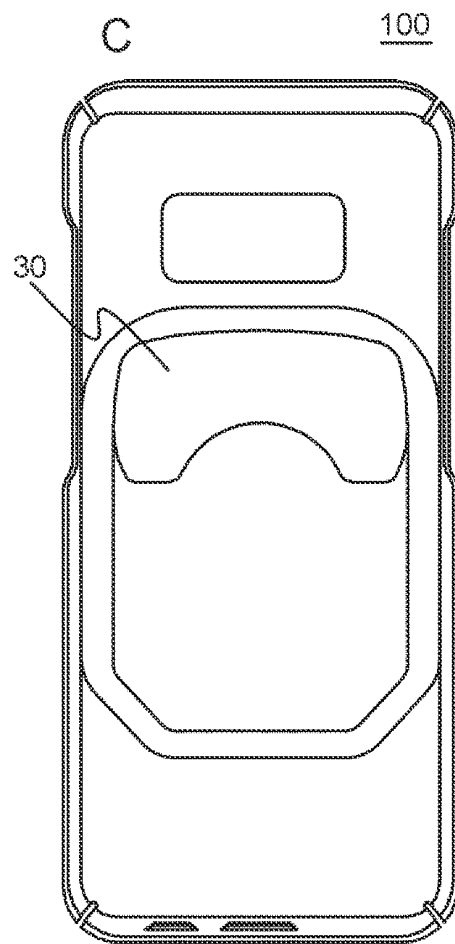


FIG. 5A

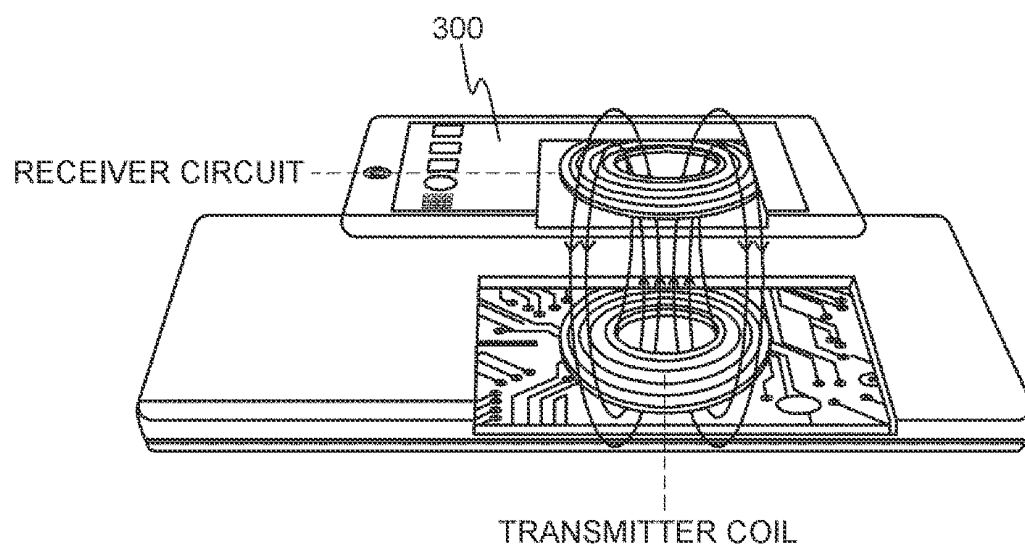


FIG. 5B

Receiver circuit or receiver coil 310

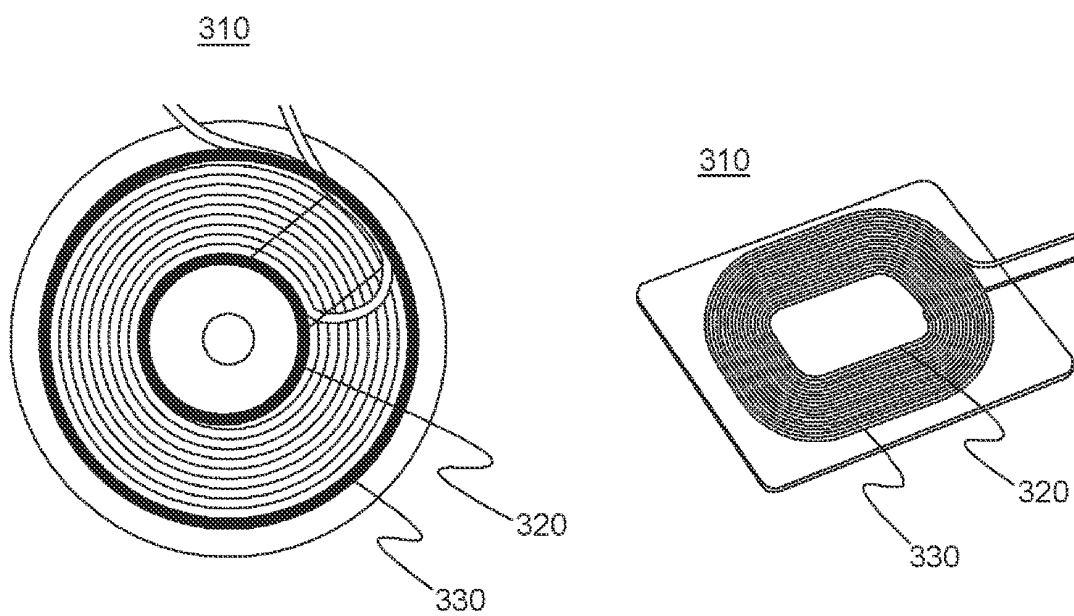
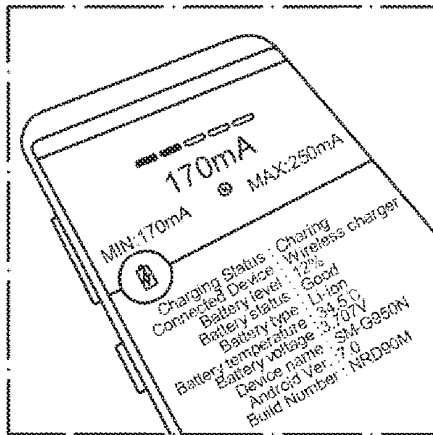
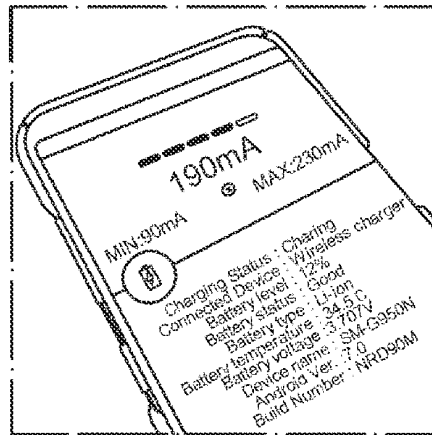


FIG. 6A



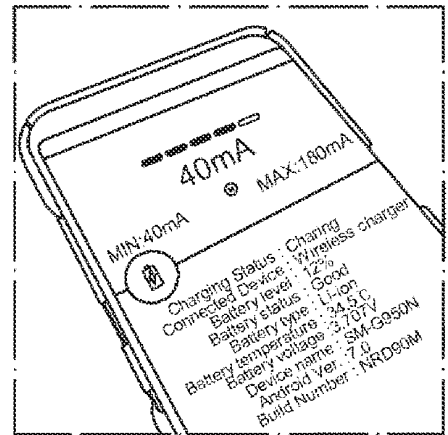
No case

170~250mA
Avg. 210mA



Using the case of FIG. 4B

90~230mA
Avg. 190mA



Using the case of FIG. 4C

40~180mA
Avg. 80mA

FIG. 6B

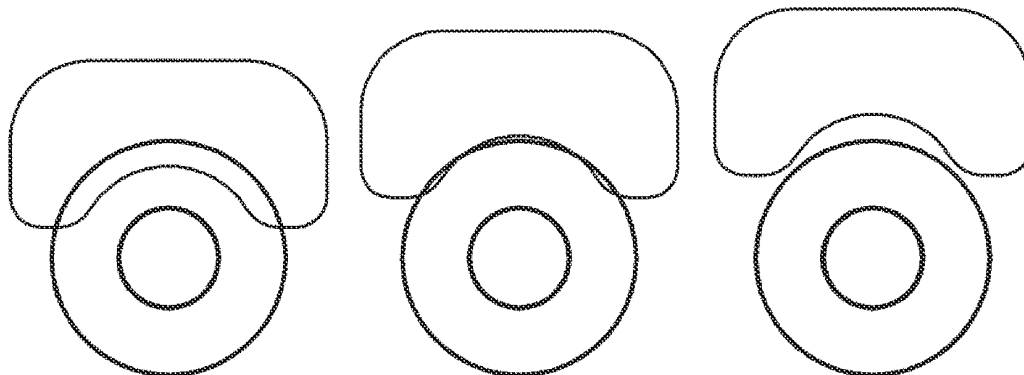


FIG. 7

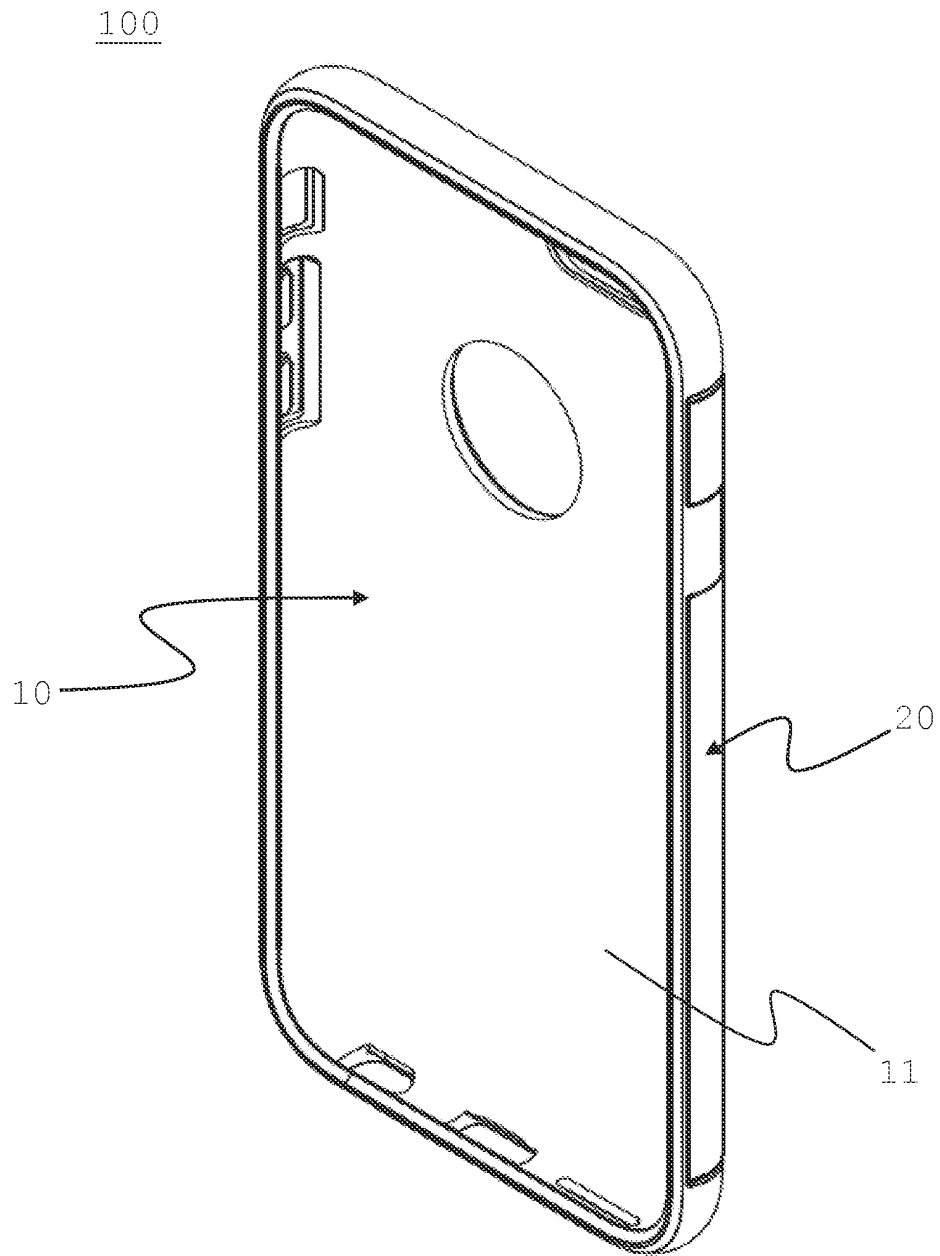


FIG. 8

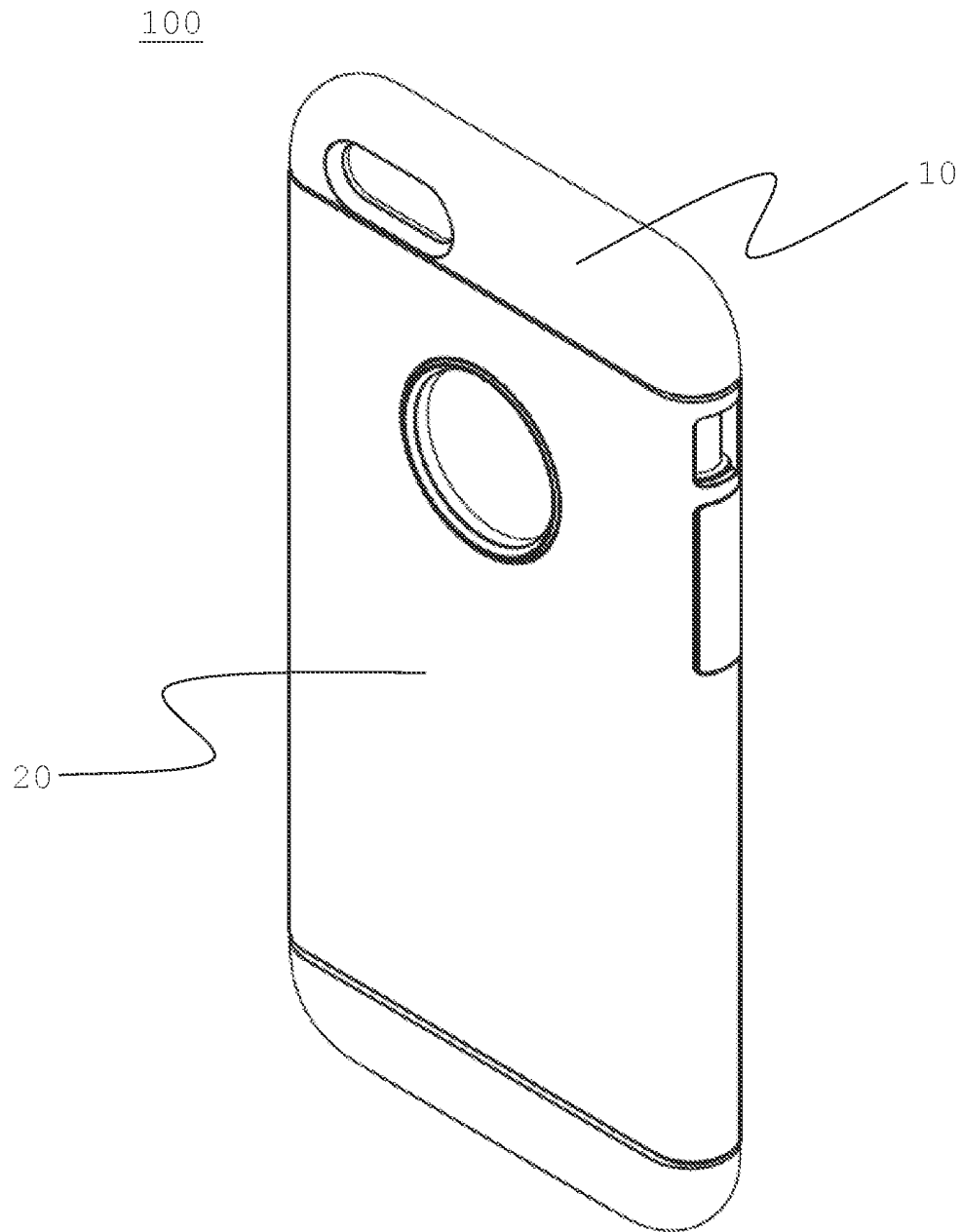


FIG. 9

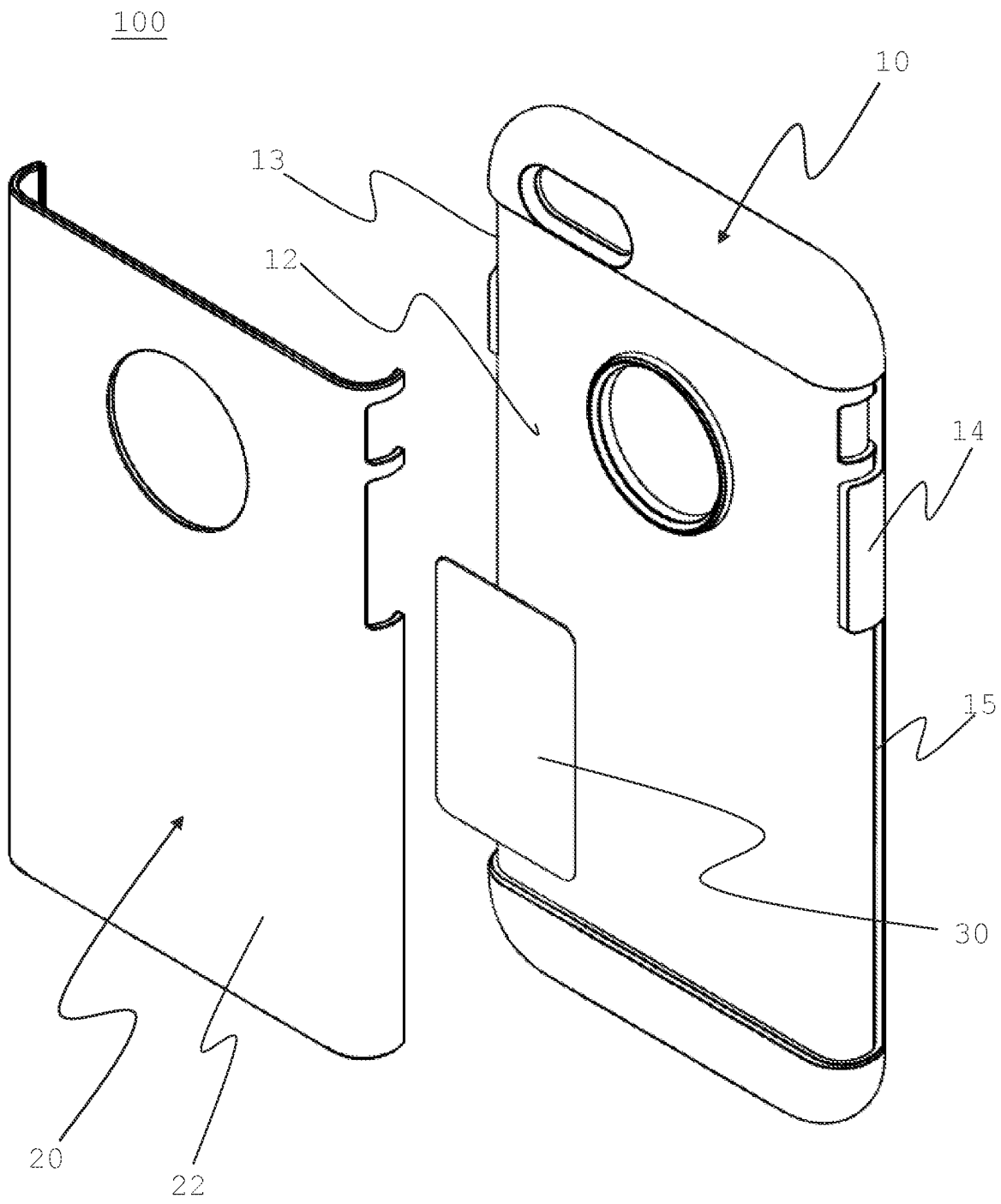


FIG. 10

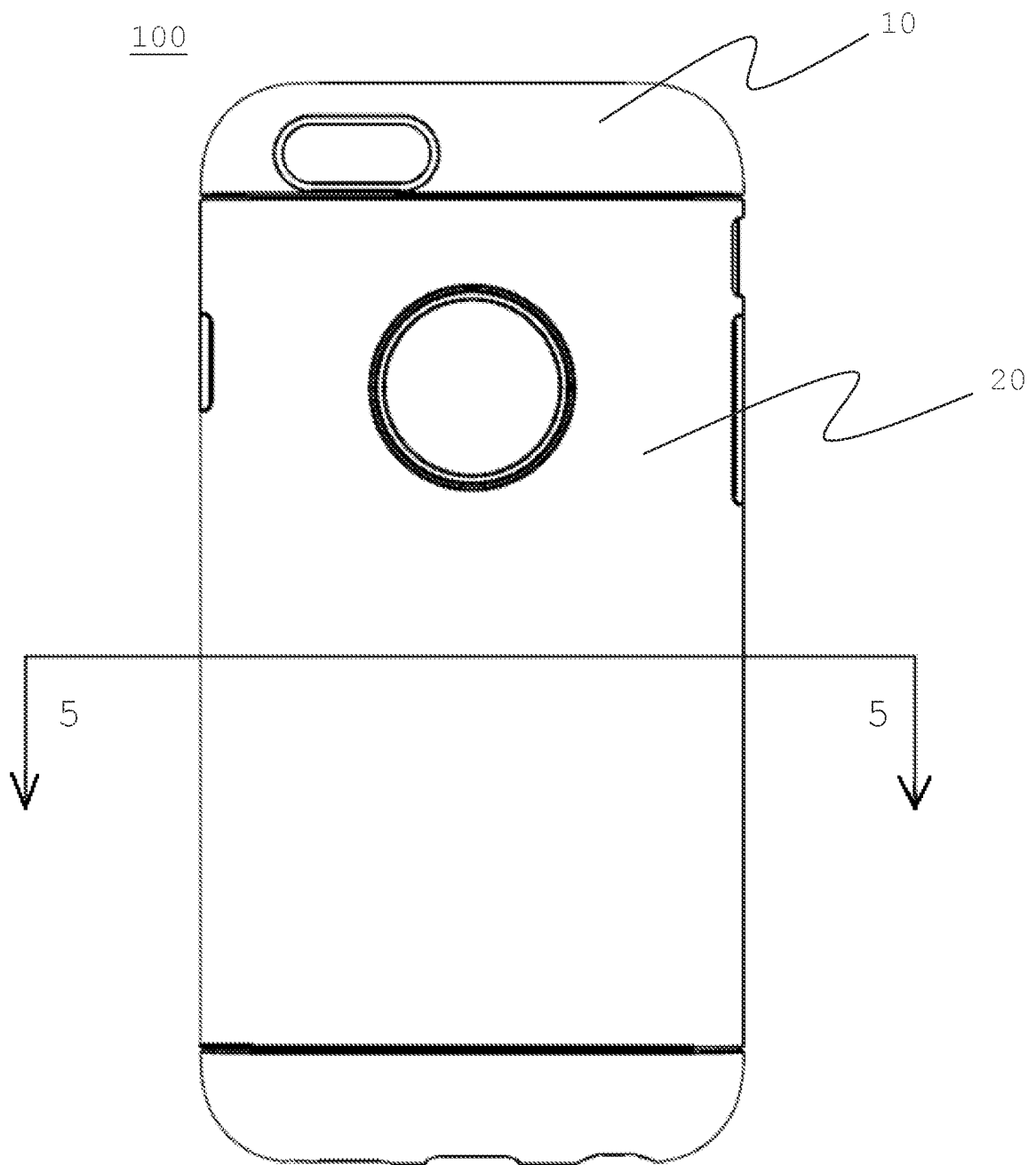


FIG. 11

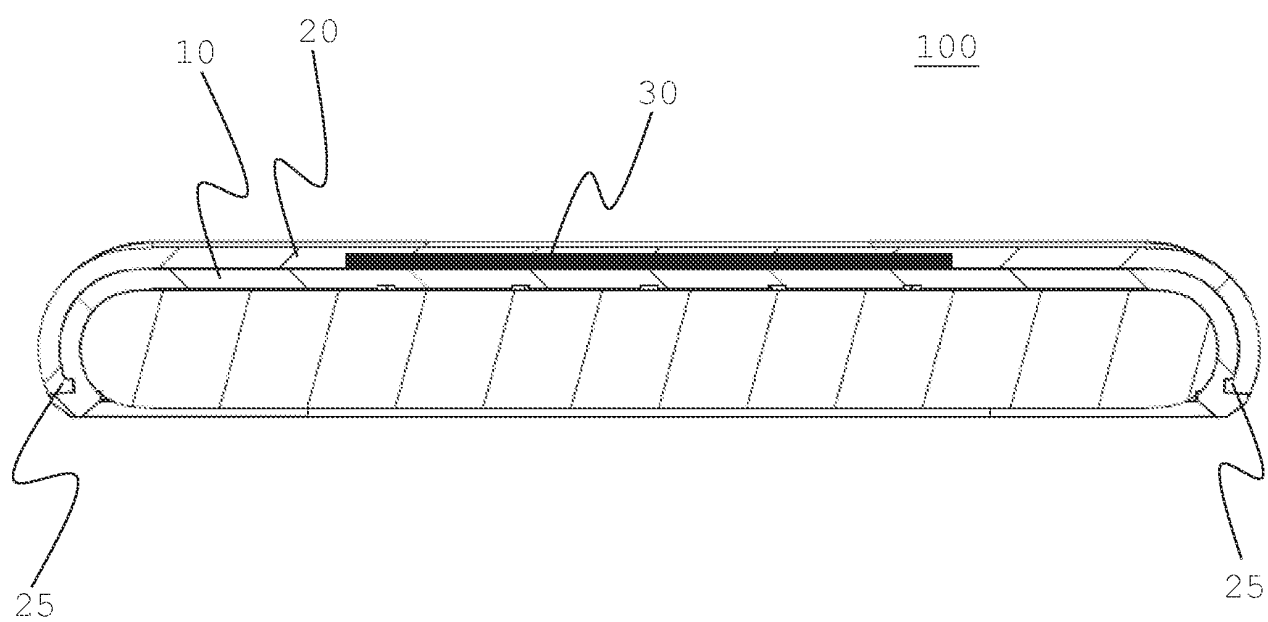


FIG. 12

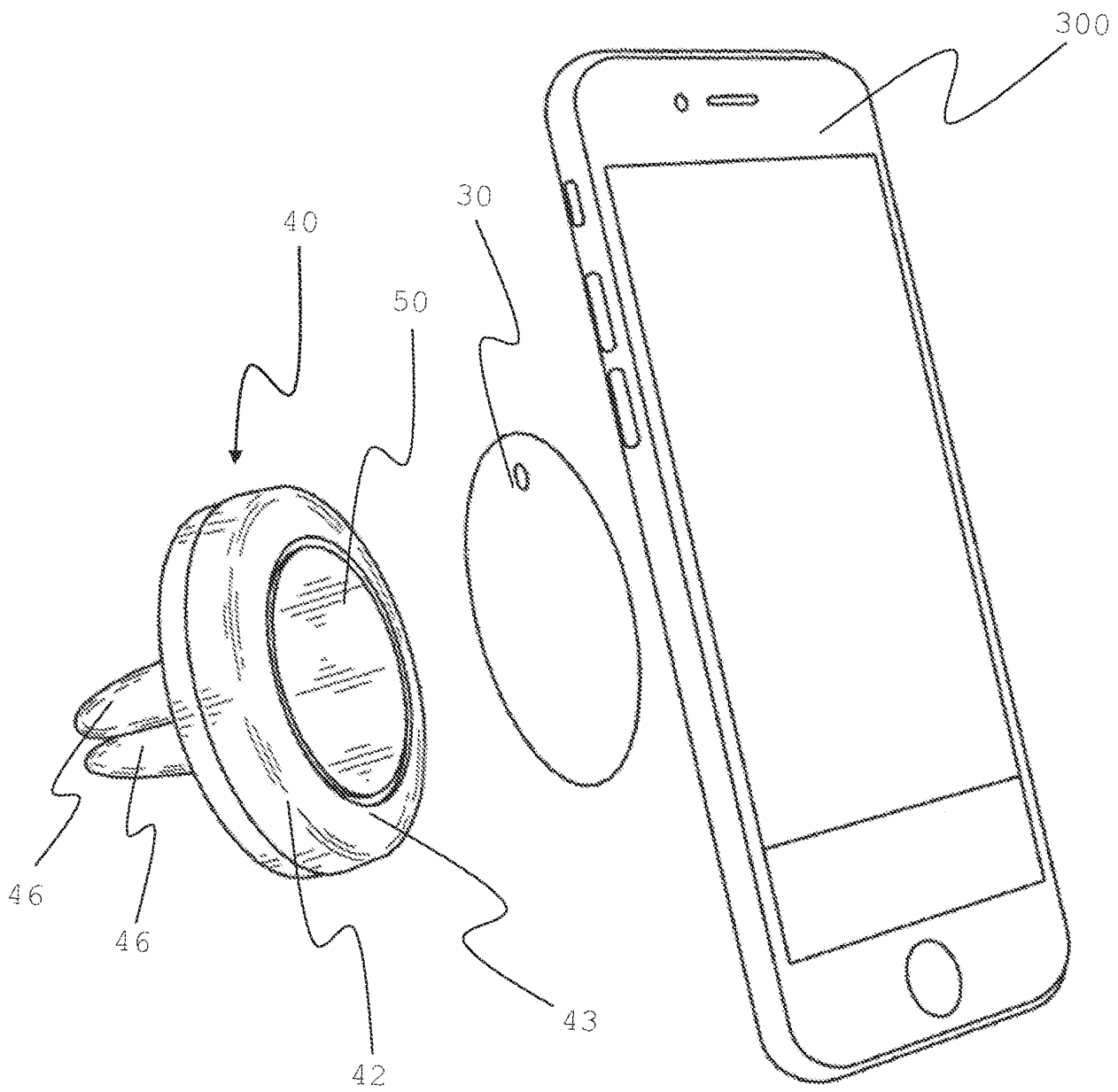
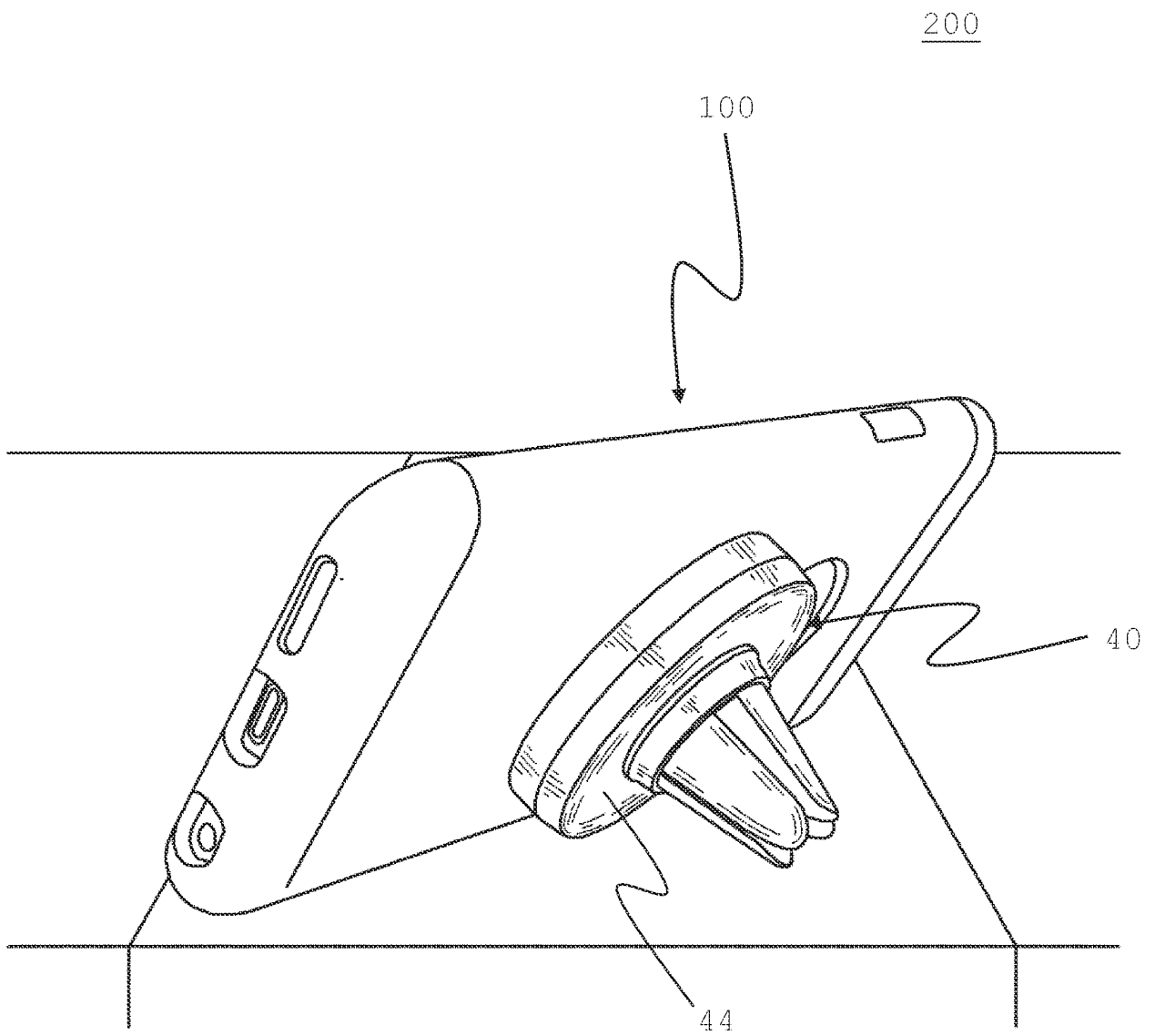


FIG. 13



200

FIG. 14

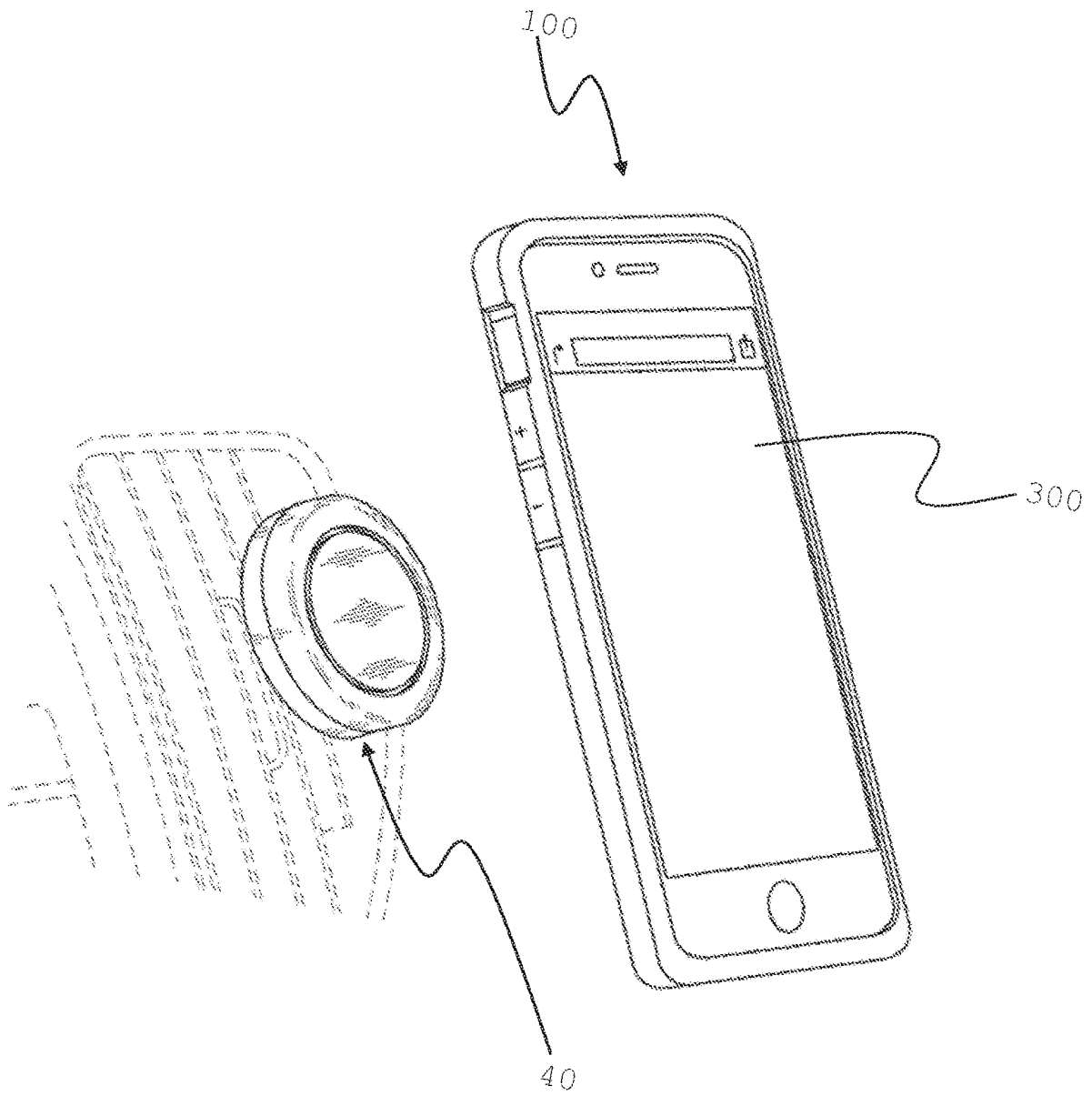


FIG. 15

100

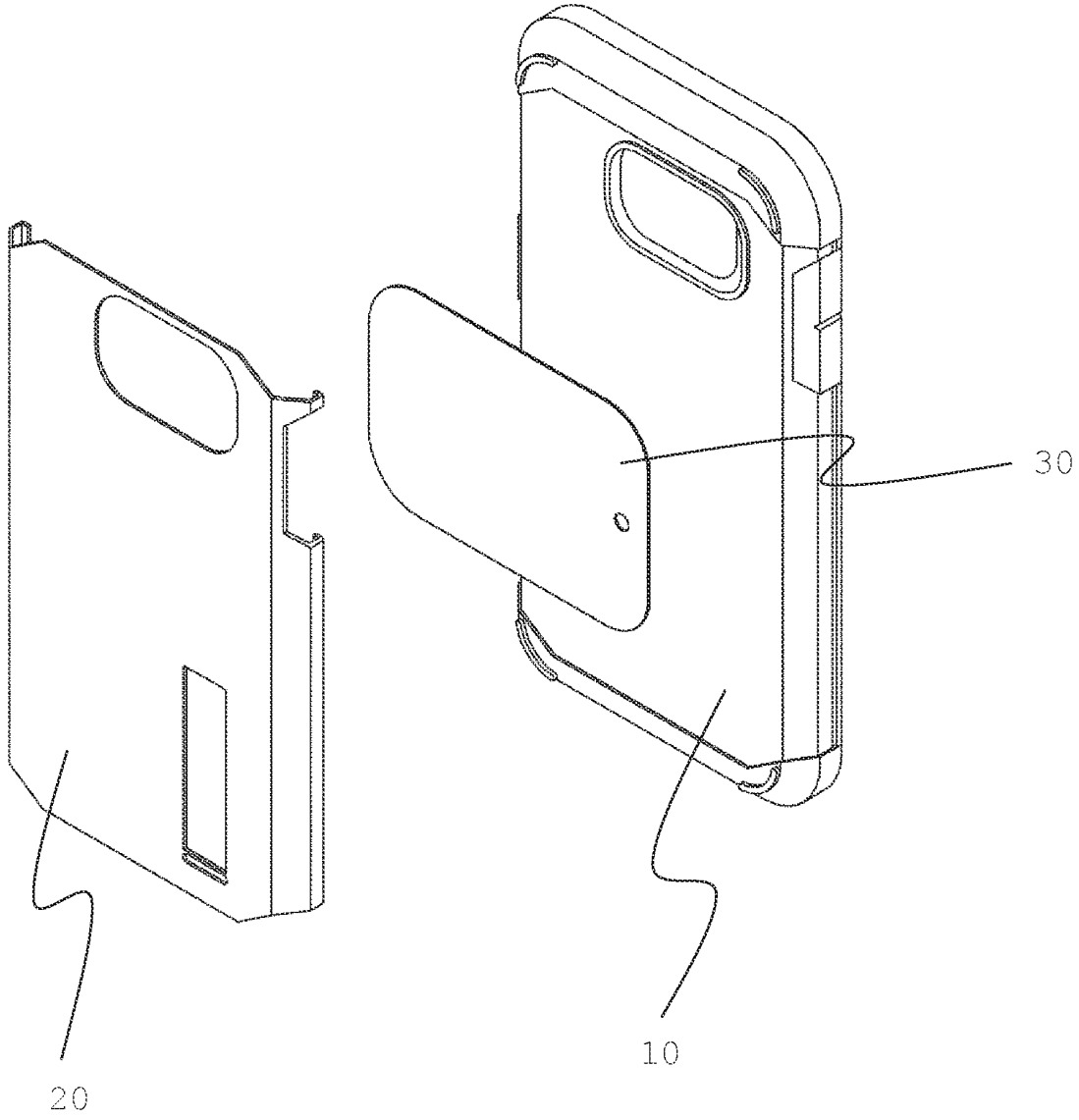


FIG. 16

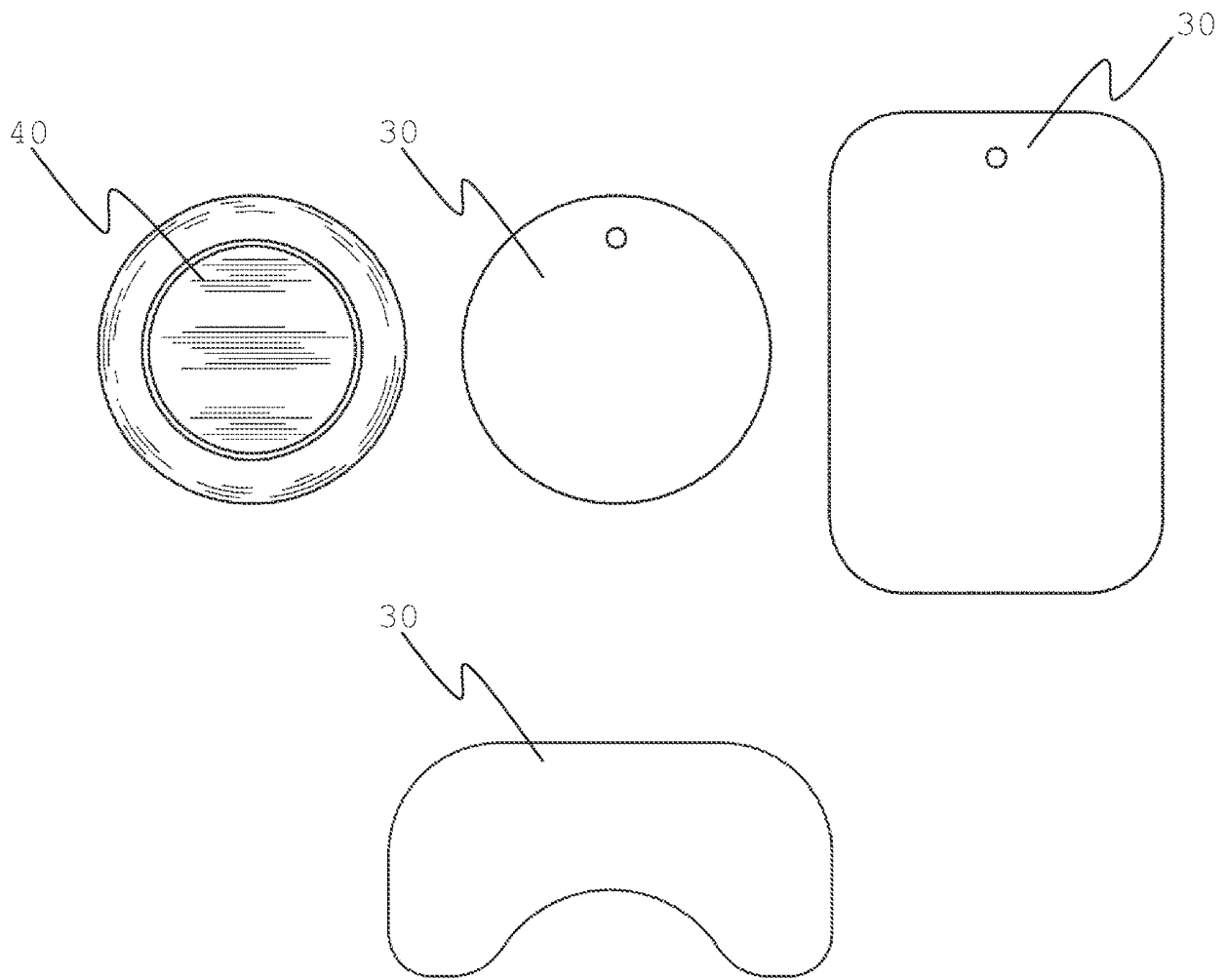


FIG. 17

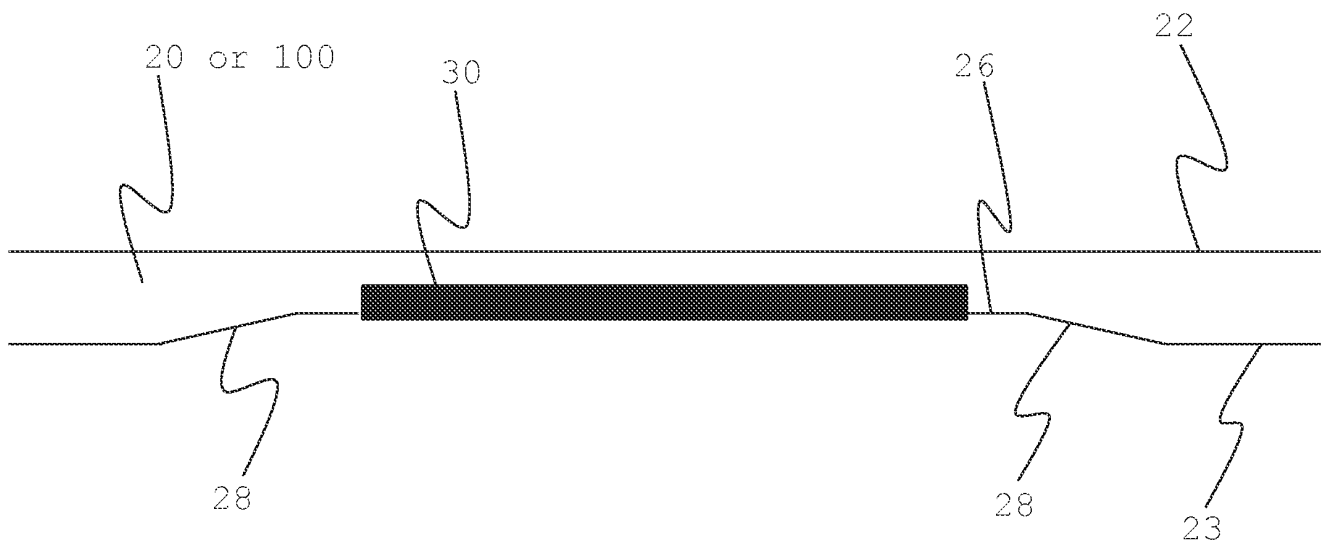
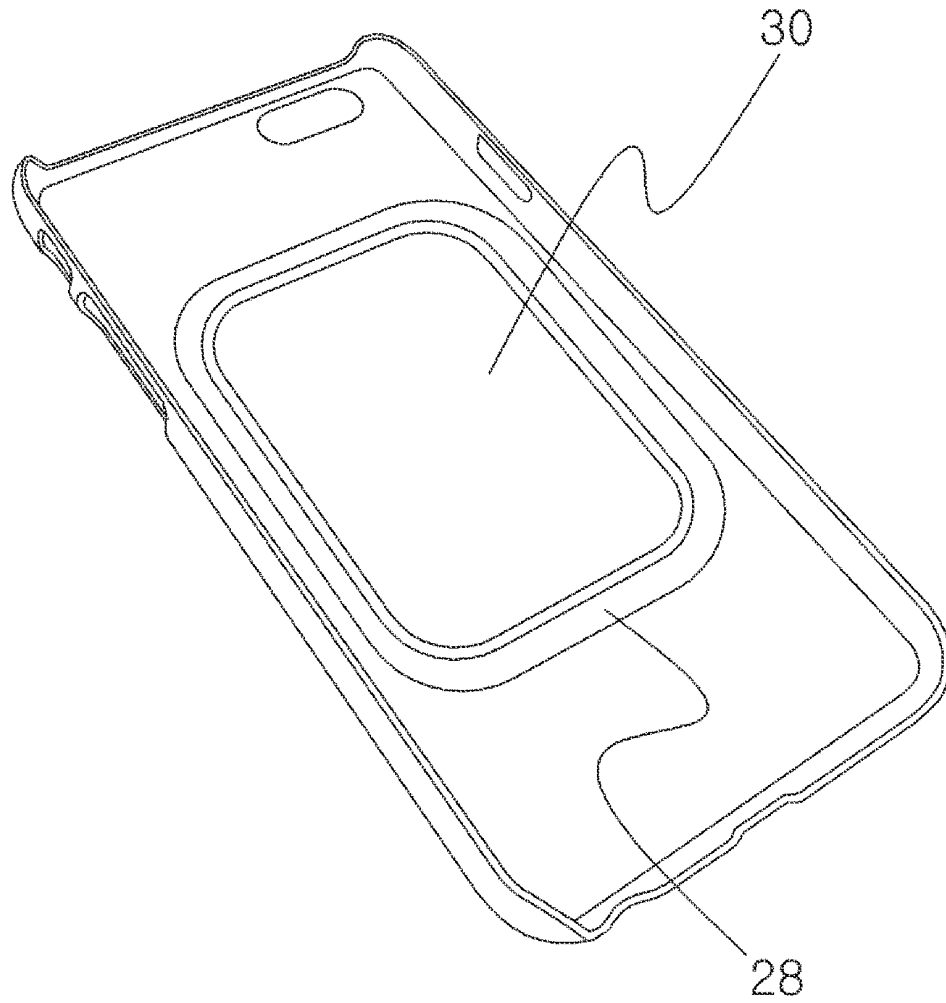


FIG. 18

100



Application Data Sheet 37 CFR 1.76

The Application Data Sheet is part of the provisional or non-provisional 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.

Inventor Information

of inventors: 1

1. Dae-Young Kim

Residence Information

Non-US Residency
Seoul
KOREA, REPUBLIC OF

Mailing Address

446 Bongeunsa-ro, Gangnam-gu
Seoul, --- 06153
KOREA, REPUBLIC OF

Application Information

Customer number 170953 -

Correspondence address ---

Title of invention MAGNETIC MOUNT FOR ELECTRONIC DEVICES

Attorney docket number HQUPAT003

Entity status Small

Application type Nonprovisional Application under 35 USC 111(a)

Subject matter	Utility
Total number of drawing sheets	21
Suggested figure for publication	---
Filing by reference	No
Publication request	Normal eighteen-month publication

Representative Information

of representatives: 1

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).

Name **Paul Chung**
Registration number 72842

Domestic Benefit/National Stage Information

of benefit claims: 2

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c), 386(c), or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.

Prior app status Pending
Application number ---
Continuity type Division of
Prior app number 16581596
Filing Date 09/24/2019

Prior app status Patented
Application number 16581596
Continuity type Continuation of

Prior app number 15989033
Filing Date 05/24/2018
Patent number 10469119
Issue date 11/05/2019

Foreign Priority Information

of foreign priority claims: 0

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. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).



Data was not provided for this section.

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

Checking this box will cause the application to be examined under the first inventor to file provisions of the AIA.

☐

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

NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 2016, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization or Opt-Out of Authorization to Permit Access

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

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

NOTE:

This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the

initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

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

Priority Document Exchange (PDX)

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

A.

Search Results from U.S. Application to EPO

Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby grants the USPTO authority to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

B.

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

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐

A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐

B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with the search results from the instant application.

NOTE:

Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Applicant Information

of applicants: 1

The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46.

1. **SPIGEN KOREA CO., LTD.**
446 Bongeunsa-ro, Gangnam-gu
Seoul, --- 06153

Applicant Organization
Applicant type Assignee

KOREA, REPUBLIC OF

Phone: ---

Fax: ---

Email: ---

Assignee Information including Non-Applicant Assignee Information

of assignees: 0

An assignee-applicant identified in the "Applicant" section will appear on the patent application as an applicant.

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.



Data was not provided for this section.

Signature

NOTE:

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

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

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

Signature	First name	Last name	Registration #	Date
/Paul Chung/	Paul	Chung	72842	07/22/2021

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

Title of Invention	MAGNETIC MOUNT FOR ELECTRONIC DEVICES
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As the below named inventor, I hereby declare that:

This declaration is directed to: ☒ The attached application, or
☐ United States application or PCT international application number _____
 filed on _____.

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

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

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

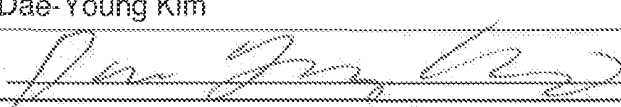
WARNING:

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

LEGAL NAME OF INVENTOR

Inventor: Dae-Young Kim

Date (Optional): 5/24/2018

Signature: 

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

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

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

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.

MAGNETIC MOUNT FOR ELECTRONIC DEVICES

What is claimed is:

1. A case for an electronic device wherein the electronic device has a receiver coil for wireless charging constructed within the electronic device and the receiver coil is formed in between an inner boundary and an outer boundary, the case comprising:

a protective cover constructed to receive the electronic device therein; and

a metal plate constructed to be received in between the protective cover and the electronic device,

wherein the metal plate is made of a magnet which produces magnetic flux, and

wherein the metal plate received in between the protective cover and the electronic device is positioned to substantially allow magnetic waves to pass through the area formed by the inner boundary.

2. The case of claim 1, wherein the metal plate does not overlap with an orthographic parallel projection of the area formed by the inner boundary.

3. The case of claim 1, wherein the inner boundary and the outer boundary are substantially circular.

4. The case of claim 1, wherein the metal plate has a rounded concave edge.

5. The case of claim 4, wherein the rounded concave edge substantially symmetrically aligns to respective orthographic parallel projections of the inner boundary and the outer boundary onto a projection plane of the metal plate.

6. The case of claim 5, wherein the rounded concave edge at least partially overlaps with an orthographic parallel projection of the outer boundary onto a projection plane of the metal plate.

7. The case of claim 5, wherein the rounded concave edge is placed outside an orthographic parallel projection of the outer boundary onto a projection plane of the metal plate.

8. The case of claim 1, wherein the metal plate is substantially rectangular with a first side having the rounded concave edge, and

wherein the metal plate has third and fourth sides

that are substantially parallel to each other and has a second side that is substantially parallel to the first side.

9. The case of claim 8, wherein the metal plate has rounded corners.

10. The case of claim 1, wherein the metal plate is substantially trapezoidal wherein the rounded concave edge is formed on a shorter side of two parallel sides, and wherein the metal plate has rounded corners.

11. The case of claim 1, wherein the metal plate is attached to the protective cover by an adhesive.



ELECTRONIC PAYMENT RECEIPT

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MAGNETIC MOUNT FOR ELECTRONIC DEVICES

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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.

MAGNETIC MOUNT FOR ELECTRONIC DEVICES

BY

DAE-YOUNG KIM

5 CROSS-REFERENCE TO RELATED APPLICATIONS

 This application is divisional application of and
claims priority to U.S. patent application No. 16/581,596
filed on September 24, 2019, which is continuation
application of and claims priority to U.S. patent
10 application No. 15/989,033 filed on May 24, 2018, which
claims priority to U.S. provisional patent application No.
62/511,280, filed on May 25, 2017, the disclosures of which
are incorporated herein by reference in their entirety.

FIELD OF THE INVENTION

15 The present invention relates to a case having a metal
plate for magnetically mounting the case with an electronic
device installed therein to a support having a magnet, and
more particularly, to a metal plate having a rounded
concave edge.

20 BACKGROUND OF THE INVENTION

 A magnetic mount for an electronic device such as a
smart phone, cellular phone, mobile phone, tablet computing
device, etc. has been introduced. A mobile phone mount has
magnetically attractable members, one of which is installed

in a case and the other of which is installed in a support.
The support supports the case so that the case stands or
the support can be mounted on an air vent of a vehicle.
Such magnetic mount for electronic devices is disclosed in
5 the U.S. Patent Application No. 15/359,465, filed on
November 22, 2016, the disclosure of which is incorporated
herein by reference in its entirety. The magnetically
attractable members are usually a metal plate and a magnet,
and the metal plate is attached to an electronic device or
10 a case.

However, such metal plate may impede or prevent
wireless charging of a cell phone because the metal plate
blocks electromagnetic field for wireless charging.
Wireless charging uses an electromagnetic field to transfer
15 energy between two objects through electromagnetic
induction, and FIG. 5A illustrates how it works using the
transmitter coil and the receiver circuit. Since the metal
plate blocks the electromagnetic field, it substantially
impedes or prevents wireless charging of an electronic
20 device.

This invention is directed to solve this problem.

SUMMARY OF THE INVENTION

The present invention contrives to solve the
disadvantages of the prior art. The present invention

provides a metal plate, having a rounded concave edge, for magnetically mounting a case for an electronic device.

The object of the present invention is to provide a case for an electronic device wherein the electronic device
5 has a receiver coil for wireless charging and the receiver coil is formed in between an inner circle and an outer circle, comprising: a hard protective frame constructed to receive the electronic device therein wherein the hard protective frame has a recess which faces the electronic
10 device; and a metal plate constructed to be received in the recess. The metal plate is constructed to enable magnetic retention or attachment of the case to a support having a magnet. The metal plate has a rounded concave edge, and the metal plate does not overlap with the inner circle.
15 Preferably, the rounded concave edge, the inner circle, and the outer circle are substantially symmetrical with respect to a same line.

Another object of the present invention is to provide a metal plate for magnetically mounting a case for an
20 electronic device wherein the electronic device has a receiver coil for wireless charging and the receiver coil is formed in between an inner circle and an outer circle, the metal plate comprising: a rounded concave edge. The metal plate is constructed to be attachable to the case.

The metal plate is constructed to enable magnetic retention or attachment of the case to a support having a magnet, and the metal plate does not overlap with the inner circle. Preferably, the rounded concave edge, the inner circle, and
5 the outer circle are substantially symmetrical with respect to a same line.

The advantages of the present invention are: (1) the metal plate of the present invention helps a case with an electronic device installed therein magnetically attracted
10 and retained by the support having a magnet, and at the same time, the case having the metal plate does not substantially impede or prevent wireless charging of the electronic device; (2) the metal plate does not substantially impede or prevent wireless charging of the
15 electronic device, and thus a user does not have to remove the metal plate for wireless charging; and (3) the convenience and ease to charge wirelessly electronic device installed in the case having the metal plate for magnetic attachment of the electronic device to a magnetic support,
20 or the electronic device with the installed metal plate, from any number of orientations and positions of the metal plate despite the possibility of interference or disruption of wireless charging by the metal plate.

Although the present invention is briefly summarized, the fuller understanding of the invention can be obtained by the following drawings, detailed description and appended claims.

5

BRIEF DESCRIPTION OF THE DRAWINGS

These and other features, aspects and advantages of the present invention will become better understood with reference to the accompanying drawings, wherein:

FIGS. 1A-D are front view, rear view, front
10 perspective view, and rear perspective view of the metal plate according to the present invention;

FIG. 2A is the view before the metal plate is attached to a case;

FIG. 2B is the view where the metal plate is attached
15 to the case;

FIGS. 3A through 3B show alternative shapes of the metal plate;

FIGS. 4A-C show the metal plates of FIGS. 3A and 3B attached to the case;

FIG. 5A shows a schematic drawing to illustrate how
20 wireless charging works using the transmitter coil and receiver circuit (receiver coil);

FIG. 5B shows the receiver circuit or receiver coil;

FIG. 6A shows test results related to wireless charging;

FIG. 6B shows various positions of the metal plate relative to the receiver coil of the electronic device;

5 FIG. 7 shows a front perspective view of a case according to the invention for magnetic mount;

FIG. 8 shows a rear perspective view of the case according to the invention for magnetic mount;

10 FIG. 9 shows an exploded view of the case having a soft protective cover, a hard protective frame and a metal plate according to the invention for magnetic mount;

FIG. 10 shows a rear view of the case according to the invention for magnetic mount;

FIG. 11 shows a cross sectional view of FIG. 10;

15 FIG. 12 shows a schematic perspective view of a magnetic mount illustrating magnetic attraction between the support and the metal plate to support or retain an electronic device according to the invention for magnetic mount;

20 FIG. 13 shows a perspective view of the magnetic mount having the case and the support such that the support magnetically attracts and retains the case so that the case can stand on a flat surface;

FIG. 14 shows a perspective view of the magnetic mount having the case and the support such that the support magnetically attracts and retains the case and the support is inserted and securely retained by an air vent of a
5 vehicle;

FIG. 15 shows another exploded view of the case having the soft protective cover, the hard protective frame and the metal plate according to the invention for magnetic mount;

10 FIG. 16 shows the support, the metal plate shaped to be circular, the metal plate shaped to be rectangular, and the metal plate shaped according to the present invention;

FIG. 17 shows alternative cross sectional view of the case or the hard protective frame; and

15 FIG. 18 shows a perspective view of the case or the hard protective frame having the cross-sectional view of FIG. 17.

DETAILED DESCRIPTION EMBODIMENTS OF THE INVENTION

Reference will now be made in detail to the preferred
20 embodiments of the present invention, examples of which are illustrated in the accompanying drawings, which form a part of this disclosure. It is to be understood that this invention is not limited to the specific devices, methods, conditions or parameters described and/or shown herein, and

that the terminology used herein is for the purpose of describing particular embodiments by way of example only and is not intended to be limiting of the claimed invention.

Also, as used in the specification including the
5 appended claims, the singular forms "a", "an", and "the" include the plural, and reference to a particular numerical value includes at least that particular value, unless the context clearly dictates otherwise. Ranges may be expressed herein as from "about" or "approximately" one particular
10 value and/or to "about" or "approximately" another particular value. When such a range is expressed, another embodiment includes from the one particular value and/or to the other particular value. Similarly, when values are expressed as approximations, by use of the antecedent
15 "about", it will be understood that the particular value forms another embodiment.

FIGS. 1A-D are front view, rear view, front perspective view, and rear perspective view of the metal plate (30) according to the present invention. FIG. 2A is
20 the view before the metal plate (30) is attached to a case (100), and FIG. 2B is the view where the metal plate (30) is attached to the case (100).

The case (100) for an electronic device (300) wherein the electronic device (300) has a receiver coil (310) for

wireless charging and the receiver coil (310) is formed in between an inner boundary (320) and an outer boundary (330), comprises: a hard protective frame (20) constructed to receive the electronic device (300) therein wherein the
5 hard protective frame (20) has a recess (26) which faces the electronic device (300); and a metal plate (30) constructed to be received in the recess (26) of the hard protective frame (20). The metal plate (30) is constructed to enable magnetic retention or attachment of the case
10 (100) to a support (40) having a magnet (50).

The metal plate (30) is made of ferromagnetic material. The metal plate (30) has a rounded concave edge (35), and the metal plate (30) does not overlap with the inner boundary (320). Here, "overlap" means when the metal plate
15 (30) and the inner boundary (320) are viewed from the front, they do not overlap as illustrated in FIG. 6B.

The rounded concave edge (35) may be circular, elliptical, substantially circular, or substantially elliptical, including the rounded concave edge (35) formed
20 by a smoothly curved line. Both ends of the rounded concave edge (35) may be rounded the other way as shown in FIGS. 3A through 3C.

The case (100) may be made of a hard protective frame (20) alone, a soft protective cover (10) alone, or

combination thereof. In any structure, the metal plate (30) is attached to the case (100). Preferably, the soft protective cover (10) is made of thermoplastic polyurethane and the hard protective frame (20) is made of polycarbonate.

5 Preferably, the inner boundary (320) and the outer boundary (330) are circular as in FIG. 5B. Alternatively, the inner boundary (320) and the outer boundary (330) may be rectangular with rounded corners as in FIG. 5B.

As illustrated in FIG. 6B, when the metal plate (30) is attached to the case (100) and the electronic device (300) is installed in the case (100), the rounded concave edge (35), the inner boundary (320), and the outer boundary (330) are substantially symmetrical with respect to the same line. The inner boundary (320) and the outer boundary (330) are generally concentric, and the rounded concave edge (35) may or may not be concentric as well.

FIG. 6B shows various relative locations between the metal plate (35) and the boundaries (320, 330). The rounded concave edge (35) may be placed in between the inner boundary (320) and the outer boundary (330). Alternatively, the rounded concave edge (35) may overlap with the outer boundary (330). Or, the rounded concave edge (35) may be placed outside the outer boundary (330).

As in FIGS. 1A-D, the metal plate (30) may be substantially rectangular with one side (34) having the rounded concave edge (35). In addition, the metal plate (30) may have rounded corners, preferably, all four corners are rounded. In FIG. 1A, sides (31, 32) are substantially parallel to each other and sides (33, 34) are substantially parallel to each other as well.

In the alternative embodiment as in FIG. 3B, the metal plate (30) may be substantially trapezoidal wherein the rounded concave edge (35) is formed on a shorter side (34) of two parallel sides (33, 34). In addition, the metal plate (30) may have rounded corners, preferably, all four corners are rounded.

FIGS. 3A, 3B and 3C show alternative designs of the metal plate (30), and FIGS. 4A, 4B and 4C show them attached to the case (100).

The metal plate (30) is attached to the hard protective frame (20) by an adhesive (37). Preferably, the adhesive (37) is a double-sided adhesive.

As in FIG. 1B, the metal plate (30) may have an adhesive layer covered with transparent film. A user may remove the transparent film and attach the adhesive layer to the case (100).

The hard protective frame (20) may further comprise a surrounding recess (28) which surrounds the recess (26) and gradually recesses from a flat surface (23) of the hard protective frame (20) to the recess (26).

5 The case, having the hard protective frame (20), may further comprises a soft protective cover (10) which comprises a back panel (12) to cover a back portion of the electronic device (300), and a side wall (14) extending from a top surface (11) of the back panel (12) along edges
10 (13) of the back panel (12).

In the alternative embodiment, a metal plate (30) for magnetically mounting an electronic device (300) or a case (100) with an electronic device (300) installed therein wherein the electronic device (300) has a receiver coil
15 (310) for wireless charging and the receiver coil (310) is formed in between an inner boundary (320) and an outer boundary (330), the metal plate (30) comprising: a rounded concave edge (35).

The metal plate (30) is constructed to be attachable
20 to the electronic device (300) or the case (100). The metal plate (30) is constructed to enable magnetic retention or attachment of the electronic device (300) to a support (40) having a magnet (50), and the metal plate (30) attached to the electronic device (300) or the case (100) is

constructed not to substantially block magnetic waves passing through the area formed by the inner boundary.

The metal plate (30) may be directly attached to the electronic device (300) or to the case (100) for
5 magnetically mounting the electronic device (300) to a support (40). Alternatively, the metal plate (30) may be attached to the electronic device (300) which is then installed in the case (100).

As illustrated in FIG. 5B, the inner boundary (320)
10 and the outer boundary (330) are substantially circular, or substantially rectangular with rounded corners.

The rounded concave edge (35) substantially symmetrically aligns to respective orthographic parallel projections of the inner boundary (320) and the outer
15 boundary (330) onto a projection plane of the metal plate (30).

The rounded concave edge (35) may be placed in between the inner boundary (320) and the outer boundary (330). Alternatively, the rounded concave edge (35) at least
20 partially overlaps with an orthographic parallel projection of the outer boundary (330) onto a projection plane of the metal plate (30). Or, the rounded concave edge (35) may be placed outside an orthographic parallel projection of the

outer boundary (330) onto a projection plane of the metal plate (30).

The metal plate (30) is substantially rectangular with a first side (34) having the rounded concave edge (35), and
5 the metal plate (30) has rounded corners. The metal plate (30) has third and fourth sides (31, 32) that are substantially parallel to each other and has a second side (33) that is substantially parallel to the first side (34). Alternatively, the metal plate (30) may be substantially
10 trapezoidal, wherein the rounded concave edge (35) is formed on a shorter side (34) of two parallel sides (33, 34), and wherein the metal plate (30) has rounded corners.

The metal plate (30) may further comprise an adhesive layer (37). The adhesive may be glue, bond, paste, tape,
15 double-sided adhesive, or the like known in the art, but preferably, the adhesive is a double-sided adhesive. The double-sided adhesive may be a double-sided adhesive tape or sheet where one side of the adhesive tape can affix onto the metal plate (30) and the other side can be used to
20 affix onto the case or electronic device thereby coupling the metal plate (30) with case or electronic device. Typically, the side of the double-sided adhesive tape used to affix the metal plate (30) onto the case or electronic device is initially covered by a release tape that is

removable by the user when ready to affix or attach the metal plate (30) to either the electronic device (300) or the case (100) for magnetically mounting the electronic device (300) to a support (40). The metal plate (30) may be
5 attached to the recess of the case, or the metal plate (30) may be attached to outer side of the case or directly to the electronic device.

Table 1 shows data from the wireless charging of an electronic device having a receiver circuit already
10 installed therein, as also shown in FIG. 6A. The current driven by the wireless charging (transmitter coil as shown in FIG. 5A) is reported by the electronic device. The first column of table 1 contains data on the wireless charging of an electronic device having a receiver circuit
15 installed therein without a metal plate (30) and without being attached to a case. The current shown by the electronic device during wireless charging ranged from 170 mA to 250 mA with an average charging current of 210 mA. The second and third columns contain data on the wireless
20 charging of an electronic device having a receiver circuit installed therein with the electronic device being reversibly attached to cases having a metal plate (30) affixed in the manner as shown in FIGS. 4B and 4C respectively. For the case of FIG. 4B with the affixed

metal plate (30), the charging current as displayed on the electronic device is 90 mA to 230 mA with an average charging current of 190 mA. For the case of FIG. 4C with the affixed metal plate (30), the charging current as

5 displayed on the electronic device is 40 mA to 180 mA with an average charging current of 80 mA. Thus, even with the case having the metal plate (30), the wireless charging for the electronic device affixed therein is still very effective.

10 Table 1. Wireless Charging

	No Case	FIG. 4B	FIG. 4C
Charging Current Range	170-250 mA	90-230 mA	40-180 mA
Avg Charging Current	210 mA	190 mA	80 mA

The metal plate (30) of the present invention helps a case with an electronic device installed therein that is magnetically attracted and retained by the support having a

15 magnet, and at the same time, the case having the metal plate (30) does not substantially impede or prevent wireless charging of the electronic device. In addition, the metal plate does not substantially impede or prevent wireless charging of the electronic device, and thus a user

20 does not have to remove the metal plate for wireless charging.

Below is the description of the invention disclosed in the U.S. Patent Application No. 15,359,465, filed on November 22, 2016, the disclosure of which is incorporated herein by reference in its entirety.

5 FIGS. 7 and 8 respectively show front and rear perspective views of a case (100) according to the present invention. FIG. 9 shows an exploded view of the case (100) having a soft protective cover (10), a hard protective frame (20) and a metal plate (30).

10 A magnetic mount (200) of the present invention for an electronic device (300) comprises: a case (100) and a support (40). The case (100) comprises a soft protective cover (10) which comprises a back panel (12) to cover a back portion of the electronic device (300), and a side
15 wall (14) extending from a top surface (11) of the back panel (12) along edges (13) of the back panel (12); a hard protective frame (20) constructed to removably mount over the soft protective cover (10); and a metal plate (30) placed between the soft protective cover (10) and the hard
20 protective frame (20). The support (40) has a magnet (50). In addition, the metal plate (30) and magnet (50) are magnetically attractable to each other for magnetically attracting and retaining the case (100) to the support (40).

FIG. 10 shows a rear view of the case (100) and FIG. 11 shows a cross sectional view of FIG. 10.

The soft protective cover (10) may have a recess (not shown) formed on the back panel (12) to receive the metal plate (30). In the alternative as shown in FIG. 11, the hard protective frame (20) may have a recess to receive the metal plate (30). Or, the soft protective cover (10) may have a first recess formed on the back panel (12) and the hard protective frame (20) may have a second recess such that the first and second recesses form a housing to receive the metal plate (30) therein.

FIG. 12 shows a schematic perspective view of the magnetic mount (200) illustrating magnetic attraction between the support (40) and the metal plate (30) to support or retain the electronic device (300).

The support (40) comprises a body (42) and a plurality of legs (46), wherein the body (42) is substantially in a form of a geometric prism or cylinder which has two bases (43, 44) facing each other wherein the legs (46) are attached to one (44) of the two bases (43, 44), wherein the magnet (50) is placed in the body (42). One base (43) of the support (40) has a flat surface to be magnetically attached to the case (100).

The body (42) is substantially in a shape of a prism, a right prism, a uniform prism, or cylinder. Preferably, the body is substantially cylindrical or substantially in a shape of a right prism having two bases of regular convex
5 and rectangular sides, for example, regular hexagon right prism, regular octagon right prism, or the like.

When the case (100) is magnetically retained by the support (40), the base (43) of the body (42) and an outer surface (22) of the hard protective frame (20) create
10 enough friction to prevent the case (100) from sliding on the base (43). To create such friction, the surface of the base (43) may be rough.

FIG. 13 shows a perspective view of the magnetic mount (200) such that the support (40) magnetically attracts and
15 retains the case (100) so that the case (100) can stand on a flat surface. FIG. 14 shows a perspective view of the magnetic mount (200) such that the support (40) magnetically attracts and retains the case (100) and the support (40) is inserted into and securely retained by an
20 air vent of a vehicle which is comprised of parallel vanes.

The plurality of legs (46) of the support (40) are configured to support the case (100) magnetically retained by the support (40) so that the case (100) stands on a flat surface. When the case (100) is magnetically retained by

the support (40), the case (100) can stand on a flat surface and the angle between the case (100) and the flat surface can be adjusted by adjusting the location of the support (40) with respect to the case (100). The adjusted
5 location can be maintained. The friction between the case (100) and the support (40) should be weak enough to allow such location adjustment, but strong enough to prevent slipping of the case (100) away from the support (40).

In addition, the plurality of legs (46) of the support
10 (40) is constructed to be received and retained by an air vent of a vehicle. FIG. 14 shows the support (40) inserted into and retained by the air vent of a vehicle. By the magnetic attraction between the support (40) and the case (100), the case (100) can be mounted onto the air vent of a
15 vehicle. The support (40) is detachably fixed to the air vent and the case (100) can rotate or slide a little with respect to the support (40). Because of friction between the support (40) and the case (100), adjusted rotation or sliding of the case (100) can be maintained so that a user
20 can adjust the angle of the case (100) suitable and convenient for him.

Preferably, the metal plate (30) is made of ferromagnetic material and the magnet (50) produces magnetic flux. More specifically, the metal plate (30) may

be made of steel, stainless steel, or iron. As in FIGS. 15 and 16, the metal plate (30) may be made of ferromagnetic metal plate.

The metal plate (30) is close enough to an outer
5 surface (22) of the hard protective frame (20) and the magnet produces enough magnetic flux so that the support (40) attracts and retains the case (100) with the electronic device (300) installed therein in place.

Additionally, the support (40) and the case (100)
10 create enough friction to prevent the case (100) from sliding on or slipping from the support (40) when the case (100) is magnetically retained by the support (40).

Alternatively, the magnet (50) may be made of ferromagnetic material and the metal plate (30) may be made
15 of a magnet which produces magnetic flux.

The body (42) of the support (40) may be geometrically a prism or cylinder. More preferably, the body (42) is substantially cylindrical as FIG. 12 or FIG. 13. Cylindrical shape is preferable in rotating the support
20 (40) or case (100) with respect to each other. The plurality of legs (46) is attached about a center of the base (44) and preferably, there are four legs (46). Four legs (46) may form a square layout so that they can be easily inserted into an air vent of a vehicle.

The metal plate (30) may be a circular metal plate or a rectangular metal plate, as shown in FIGS. 15 and 16, or a substantially rectangular or substantially trapezoidal plate as shown in FIGS. 1 and 3.

5 The soft protective cover (10) is made of soft material and the hard protective frame (20) is made of hard material. Preferably, the soft protective cover (10) is made of thermoplastic polyurethane and the hard protective frame (20) is made of polycarbonate.

10 As shown in FIG. 11, the soft protective cover (10) comprises a longitudinal recess (15) and the hard protective frame (20) comprises a longitudinal protrusion (25) such that the longitudinal recess (15) of the soft protective cover (10) receives the longitudinal protrusion
15 (25) of the hard protective frame (20) therein for secure coupling between the soft protective cover (10) and the hard protective frame (20).

 The soft protective cover (10) is sufficiently flexible to accept insertion of the electronic device (300)
20 therein and sufficiently rigid to securely retain the inserted electronic device (300).

 The magnetic mount (200) may further comprise a double-sided adhesive for attaching the metal plate (30) either to the soft protective cover (10) or to the hard

protective frame (20). The double-sided adhesive may be a double-sided adhesive tape or sheet.

If the soft protective cover (10) has a recess (not shown) formed on the back panel (12) to receive the metal plate (30), the double-sided adhesive may be located in the recess to attach the metal plate (30) to the soft protective cover (10). The double-sided adhesive may be a double-sided adhesive tape or sheet.

If the hard protective frame (20) has a recess to receive the metal plate (30), the double-sided adhesive may be located in the recess to attach the metal plate (30) to the hard protective frame (20).

Alternatively, the magnetic mount (200) may further comprise two double-sided adhesives one of which is for attaching the metal plate (30) to the soft protective cover (10) and the other of which is for attaching the first metal plate (30) to the hard protective frame (20).

In case that the soft protective cover (10) has a first recess formed on the back panel (12) and the hard protective frame (20) has a second recess, and the first and second recesses form a housing to receive the metal plate (30) therein, two double-sided adhesives may be located in both of the recesses for attaching the metal

plate (30) to the soft protective cover (10) and the hard protective frame (20).

The metal plate (30) may be attached either to the soft protective cover (10) or to the hard protective frame
5 (20) by an adhesive such as glue, bond, paste, tape, double-sided adhesive, etc. The double-sided adhesive may be a double-sided adhesive tape or sheet.

In the alternative embodiment, a magnetic mount (200) for an electronic device (300) may comprise: a case (100)
10 for receiving an electronic device therein; a metal plate (30) attached to a back of the case (100) by an adhesive; and a support (40) having a magnet (50). The metal plate (30) and magnet (50) are magnetically attractable to each other for magnetically attracting and retaining the case
15 (100) to the support (40). The adhesive may be glue, bond, paste, tape, double-sided adhesive, etc. The metal plate (30) may be circular, rectangular, substantially circular, substantially rectangular or substantially trapezoidal.

The metal plate (30) may be made of ferromagnetic
20 material and the magnet (50) may be made of a magnet which produces magnetic flux. More specifically, the metal plate (30) may be made of steel, stainless steel, or iron. Preferably, the metal plate (30) may be made of ferromagnetic metal plate.

Alternatively, the magnet (50) may be made of ferromagnetic material and the metal plate (30) may be made of a magnet which produces magnetic flux.

Still in the alternative embodiment of the present invention, a magnetic mount (200) for an electronic device (300) comprises: a metal plate (30) to be attachable to a back of the electronic device (300) by an adhesive; and a support (40) having a magnet (50). The metal plate (30) and the magnet (50) are magnetically attractable to each other for magnetically attracting and retaining the case (100) to the support (40). In addition, one side of the adhesive is attached to the metal plate (30).

The metal plate (30) may be made of ferromagnetic material and the magnet (50) may be made of a magnet which produces magnetic flux. The magnet produces enough magnetic flux so that the support (40) attracts and retains the electronic device (300). The support (40) and the metal plate (30) create enough friction to prevent the metal plate (30) from sliding on the support (40) when the electronic device (300) is magnetically retained by the support (40).

Another side of the adhesive may be covered with a release tape so that after removing the release tape, the

another side of the adhesive can be attached to the back of the case.

The adhesive may be glue, bond, paste, tape, double-sided adhesive, or the like known in the art, but
5 preferably, the adhesive is a double-sided adhesive. The double-sided adhesive may be a double-sided adhesive tape or sheet.

FIGS. 11 and 17 show cross-sectional views of the present invention. The embodiment of FIG. 11 is explained
10 above and the embodiment of FIG. 17 further comprises a surrounding recess (28).

In this embodiment, the hard protective frame (20) has a recess (26) to receive the metal plate (30) therein, and the hard protective frame (20) may further comprise a
15 surrounding recess (28) which surrounds the recess (26) and slopes away from a flat surface (23) of the hard protective frame (20) to the recess (26) creating a cavity.

In the alternative, the case (100) may comprise a recess (26), formed on its back (23) facing the electronic
20 device (300), for receiving the metal plate (30) therein, and the case (100) may further comprise a surrounding recess (28) which surrounds the recess (26) and slopes away from a flat surface (23) of the case (100) to the recess

(26) thereby creating a cavity. FIG. 18 shows a drawing of the case (100) according to this embodiment.

In FIG. 18, the recess (26) is formed on the inner surface (23) of the case (100) and the surrounding recess (28) is formed along the outer boundary of the recess (26) to surround the recess (26). The surrounding recess (28) may gradually recess from a flat surface (23) of the case (100) (or the hard protective frame (20)) to the recess (26). As shown in FIG. 17, the surrounding recess (28) gradually recesses and becomes flat toward the recess (26).

The metal plate (30) may be flush with the recess (26) or slightly protrude out of the recess (26). In other words, the height of the metal plate (30) may be about or slightly greater than the depth of the recess (26). However, the metal plate (30) does not protrude beyond the flat surface (23) of the case (100) (or the hard protective frame (20)).

Accordingly, the surrounding recess (28) forms space between the metal plate (30) and the electronic device (300) in order to prevent scratches or damages by the metal plate (30) to the electronic device (300). In addition, without the surrounding recess (28), a boundary line of the recess (26) may be formed on the outer surface (22) of the case (100) or the hard protective frame (30) which is visible from outside. The surrounding recess (28) prevents

such boundary line of the recess from being formed on the outer surface (22) and makes the part of the case (100) or the hard protective frame (20) in contact with the metal plate (30) less vulnerable to damage.

5 While the invention has been shown and described with reference to different embodiments thereof, it will be appreciated by those skilled in the art that variations in form, detail, compositions and operation may be made without departing from the spirit and scope of the
10 invention as defined by the accompanying claims.

ABSTRACT

A case for an electronic device wherein the electronic device has a receiver coil for wireless charging and the receiver coil is formed in between an inner circle and an
5 outer circle, includes: a hard protective frame constructed to receive the electronic device therein wherein the hard protective frame faces the electronic device; and a metal plate constructed to be received in the recess. The metal plate is constructed to enable magnetic retention or
10 attachment of the case to a support having a magnet. The metal plate has a rounded concave edge, and the metal plate does not overlap with the inner circle. Preferably, the rounded concave edge, the inner circle, and the outer circle are substantially symmetrical with respect to a same
15 line.



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
17/443,183	07/22/2021	Dac-Young Kim	HQUPAT003

CONFIRMATION NO. 9455

FORMALITIES LETTER



170953
SPIGEN KOREA CO., LTD.
446 Bongeunsa-ro, Gangnam-gu
Seoul, 06153
KOREA, REPUBLIC OF

Date Mailed: 08/05/2021

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Filing Date Granted

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given **TWO MONTHS** from the date of this Notice within which to correct the informalities indicated below. 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 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 application contains a section in the specification containing the brief description of the figures, but is missing the description of Figure(s) **3C** as required by 37 CFR 1.74 and 37 CFR 1.77(b)(9). A brief description of each drawing figure presented is required to satisfy this requirement.
 - To add a brief description of a figure, a proper substitute specification in compliance with 37 CFR 1.121(b)(3) and 1.125, providing a brief description of each drawing figure presented, must be submitted. See also 37 CFR 1.77(b)(9).

Note: If applicant wishes to delete the undescribed figure, replacement sheets must be submitted to renumber the figure(s) consecutively.

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.

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

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/sbekurezion/

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 17/443,183			
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(\$)		
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	80		N/A			
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	350		N/A			
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	400		N/A			
TOTAL CLAIMS (37 CFR 1.16(i))	11	minus 20 = *	x 50 =	0.00	OR				
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1	minus 3 = *	x 240 =	0.00					
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00					
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00					
			TOTAL	830		TOTAL			
* 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	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =		
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =		
	Application Size Fee (37 CFR 1.16(s))					OR			
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR			
			TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE			
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY	
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =		
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =		
	Application Size Fee (37 CFR 1.16(s))					OR			
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR			
			TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.									



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
17/443,183	07/22/2021	2854	830	HQUPAT003	11	1

CONFIRMATION NO. 9455

FILING RECEIPT



0000000127499347

170953
SPIGEN KOREA CO., LTD.
446 Bongeunsa-ro, Gangnam-gu
Seoul, 06153
KOREA, REPUBLIC OF

Date Mailed: 08/05/2021

Receipt is acknowledged of this non-provisional utility 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 FIRST INVENTOR, 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 corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction 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 provided that the request is grantable.

Inventor(s)

Dae-Young Kim, Seoul, KOREA, REPUBLIC OF;

Applicant(s)

SPIGEN KOREA CO., LTD., Seoul, KOREA, REPUBLIC OF;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a DIV of 16/581,596 09/24/2019 PAT 11101838
which is a CON of 15/989,033 05/24/2018 PAT 10469119

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

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

Permission to Access Application via Priority Document Exchange: Yes

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The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 17/443,183**

Projected Publication Date: To Be Determined - pending completion of Corrected Papers

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

MAGNETIC MOUNT FOR ELECTRONIC DEVICES

Preliminary Class

101

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

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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.

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
17/443,183	07/22/2021	Dac-Young Kim	HQUPAT003

CONFIRMATION NO. 9455

FORMALITIES LETTER



170953
SPIGEN KOREA CO., LTD.
446 Bongeunsa-ro, Gangnam-gu
Seoul, 06153
KOREA, REPUBLIC OF

Date Mailed: 08/05/2021

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Filing Date Granted

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given **TWO MONTHS** from the date of this Notice within which to correct the informalities indicated below. 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 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 application contains a section in the specification containing the brief description of the figures, but is missing the description of Figure(s) **3C** as required by 37 CFR 1.74 and 37 CFR 1.77(b)(9). A brief description of each drawing figure presented is required to satisfy this requirement.
 - To add a brief description of a figure, a proper substitute specification in compliance with 37 CFR 1.121(b)(3) and 1.125, providing a brief description of each drawing figure presented, must be submitted. See also 37 CFR 1.77(b)(9).

Note: If applicant wishes to delete the undescribed figure, replacement sheets must be submitted to renumber the figure(s) consecutively.

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/sbekurezion/

Electronic Acknowledgement Receipt

EFS ID:	43949394
Application Number:	17443183
International Application Number:	
Confirmation Number:	9455
Title of Invention:	MAGNETIC MOUNT FOR ELECTRONIC DEVICES
First Named Inventor/Applicant Name:	Dae-Young Kim
Customer Number:	170953
Filer:	Paul Joon Chung
Filer Authorized By:	
Attorney Docket Number:	HQUPAT003
Receipt Date:	05-OCT-2021
Filing Date:	22-JUL-2021
Time Stamp:	12:51:51
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Response to Pre-Exam Formalities Notice	HQUPAT003_Notice.pdf	69262 d9599be95ed26020687d1b4e7f58f696ea846617	no	2

Warnings:

Information:					
2	Applicant Response to Pre-Exam Formalities Notice	HQUPAT003_Response.pdf	71311	no	2
			af69fb2f8b9e5ac170930b191edde7bef7eb81f6		
Warnings:					
Information:					
3	Applicant Response to Pre-Exam Formalities Notice	HQUPAT003_Specification_Amended.pdf	112229	no	29
			58b7dbd72e15fc7519d362cb49ad6474d891cb4		
Warnings:					
Information:					
Total Files Size (in bytes):			252802		
<p>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.</p> <p><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.</p> <p><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.</p> <p><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.</p>					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:	)	
Dae-Young Kim	)	
	)	
Application No.: 17/443,183	)	Confirmation No.: 9455
	)	
Filed: July 22, 2021	)	
	)	
For: <i>MAGNETIC MOUNT FOR</i>	)	Seoul, KOREA
<i>ELECTRONIC DEVICES</i>	)	
	)	

AMENDMENT IN RESPONSE TO OFFICE ACTION

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Dear Sir/Madam:

This paper is in response to the Notice To File Corrected Application Papers dated August 5, 2021 for which a response is due on October 5, 2021. Accordingly, this paper is timely filed.

Amendments to the Specification begin on page 2 of this paper. No new matter was added in the amendment.

Very truly yours,

Dated: October 5, 2021

By: /Paul Chung/

Paul Chung

Reg. No. 72,842

SPIGEN KOREA CO., LTD.
 446 Bongeunsa-ro, Gangnam-gu,
 Seoul, Republic of Korea 06153
 Tel. +82-2-760-7288
 Fax. +82-2-862-3452

Amendments to the Specification

Please replace the description at lines 16-19 on page 5 with the following:

FIGS. 3A through 3[[B]]C show alternative shapes of the metal plate;

FIGS. 4A-C show the metal plates of FIGS. 3A [[and]] through 3[[B]]C, respectively, attached to the case;

MAGNETIC MOUNT FOR ELECTRONIC DEVICES

BY

DAE-YOUNG KIM

5 CROSS-REFERENCE TO RELATED APPLICATIONS

 This application is divisional application of and
claims priority to U.S. patent application No. 16/581,596
filed on September 24, 2019, which is continuation
application of and claims priority to U.S. patent
10 application No. 15/989,033 filed on May 24, 2018, which
claims priority to U.S. provisional patent application No.
62/511,280, filed on May 25, 2017, the disclosures of which
are incorporated herein by reference in their entirety.

FIELD OF THE INVENTION

15 The present invention relates to a case having a metal
plate for magnetically mounting the case with an electronic
device installed therein to a support having a magnet, and
more particularly, to a metal plate having a rounded
concave edge.

20 BACKGROUND OF THE INVENTION

 A magnetic mount for an electronic device such as a
smart phone, cellular phone, mobile phone, tablet computing
device, etc. has been introduced. A mobile phone mount has
magnetically attractable members, one of which is installed

in a case and the other of which is installed in a support.
The support supports the case so that the case stands or
the support can be mounted on an air vent of a vehicle.
Such magnetic mount for electronic devices is disclosed in
5 the U.S. Patent Application No. 15/359,465, filed on
November 22, 2016, the disclosure of which is incorporated
herein by reference in its entirety. The magnetically
attractable members are usually a metal plate and a magnet,
and the metal plate is attached to an electronic device or
10 a case.

However, such metal plate may impede or prevent
wireless charging of a cell phone because the metal plate
blocks electromagnetic field for wireless charging.
Wireless charging uses an electromagnetic field to transfer
15 energy between two objects through electromagnetic
induction, and FIG. 5A illustrates how it works using the
transmitter coil and the receiver circuit. Since the metal
plate blocks the electromagnetic field, it substantially
impedes or prevents wireless charging of an electronic
20 device.

This invention is directed to solve this problem.

SUMMARY OF THE INVENTION

The present invention contrives to solve the
disadvantages of the prior art. The present invention

provides a metal plate, having a rounded concave edge, for magnetically mounting a case for an electronic device.

The object of the present invention is to provide a case for an electronic device wherein the electronic device
5 has a receiver coil for wireless charging and the receiver coil is formed in between an inner circle and an outer circle, comprising: a hard protective frame constructed to receive the electronic device therein wherein the hard protective frame has a recess which faces the electronic
10 device; and a metal plate constructed to be received in the recess. The metal plate is constructed to enable magnetic retention or attachment of the case to a support having a magnet. The metal plate has a rounded concave edge, and the metal plate does not overlap with the inner circle.
15 Preferably, the rounded concave edge, the inner circle, and the outer circle are substantially symmetrical with respect to a same line.

Another object of the present invention is to provide a metal plate for magnetically mounting a case for an
20 electronic device wherein the electronic device has a receiver coil for wireless charging and the receiver coil is formed in between an inner circle and an outer circle, the metal plate comprising: a rounded concave edge. The metal plate is constructed to be attachable to the case.

The metal plate is constructed to enable magnetic retention or attachment of the case to a support having a magnet, and the metal plate does not overlap with the inner circle. Preferably, the rounded concave edge, the inner circle, and
5 the outer circle are substantially symmetrical with respect to a same line.

The advantages of the present invention are: (1) the metal plate of the present invention helps a case with an electronic device installed therein magnetically attracted
10 and retained by the support having a magnet, and at the same time, the case having the metal plate does not substantially impede or prevent wireless charging of the electronic device; (2) the metal plate does not substantially impede or prevent wireless charging of the
15 electronic device, and thus a user does not have to remove the metal plate for wireless charging; and (3) the convenience and ease to charge wirelessly electronic device installed in the case having the metal plate for magnetic attachment of the electronic device to a magnetic support,
20 or the electronic device with the installed metal plate, from any number of orientations and positions of the metal plate despite the possibility of interference or disruption of wireless charging by the metal plate.

Although the present invention is briefly summarized, the fuller understanding of the invention can be obtained by the following drawings, detailed description and appended claims.

5

BRIEF DESCRIPTION OF THE DRAWINGS

These and other features, aspects and advantages of the present invention will become better understood with reference to the accompanying drawings, wherein:

FIGS. 1A-D are front view, rear view, front
10 perspective view, and rear perspective view of the metal plate according to the present invention;

FIG. 2A is the view before the metal plate is attached to a case;

FIG. 2B is the view where the metal plate is attached
15 to the case;

FIGS. 3A through 3C show alternative shapes of the metal plate;

FIGS. 4A-C show the metal plates of FIGS. 3A through 3C, respectively, attached to the case;

FIG. 5A shows a schematic drawing to illustrate how
20 wireless charging works using the transmitter coil and receiver circuit (receiver coil);

FIG. 5B shows the receiver circuit or receiver coil;

FIG. 6A shows test results related to wireless charging;

FIG. 6B shows various positions of the metal plate relative to the receiver coil of the electronic device;

5 FIG. 7 shows a front perspective view of a case according to the invention for magnetic mount;

FIG. 8 shows a rear perspective view of the case according to the invention for magnetic mount;

10 FIG. 9 shows an exploded view of the case having a soft protective cover, a hard protective frame and a metal plate according to the invention for magnetic mount;

FIG. 10 shows a rear view of the case according to the invention for magnetic mount;

FIG. 11 shows a cross sectional view of FIG. 10;

15 FIG. 12 shows a schematic perspective view of a magnetic mount illustrating magnetic attraction between the support and the metal plate to support or retain an electronic device according to the invention for magnetic mount;

20 FIG. 13 shows a perspective view of the magnetic mount having the case and the support such that the support magnetically attracts and retains the case so that the case can stand on a flat surface;

FIG. 14 shows a perspective view of the magnetic mount having the case and the support such that the support magnetically attracts and retains the case and the support is inserted and securely retained by an air vent of a
5 vehicle;

FIG. 15 shows another exploded view of the case having the soft protective cover, the hard protective frame and the metal plate according to the invention for magnetic mount;

10 FIG. 16 shows the support, the metal plate shaped to be circular, the metal plate shaped to be rectangular, and the metal plate shaped according to the present invention;

FIG. 17 shows alternative cross sectional view of the case or the hard protective frame; and

15 FIG. 18 shows a perspective view of the case or the hard protective frame having the cross-sectional view of FIG. 17.

DETAILED DESCRIPTION EMBODIMENTS OF THE INVENTION

Reference will now be made in detail to the preferred
20 embodiments of the present invention, examples of which are illustrated in the accompanying drawings, which form a part of this disclosure. It is to be understood that this invention is not limited to the specific devices, methods, conditions or parameters described and/or shown herein, and

that the terminology used herein is for the purpose of describing particular embodiments by way of example only and is not intended to be limiting of the claimed invention.

Also, as used in the specification including the
5 appended claims, the singular forms "a", "an", and "the" include the plural, and reference to a particular numerical value includes at least that particular value, unless the context clearly dictates otherwise. Ranges may be expressed herein as from "about" or "approximately" one particular
10 value and/or to "about" or "approximately" another particular value. When such a range is expressed, another embodiment includes from the one particular value and/or to the other particular value. Similarly, when values are expressed as approximations, by use of the antecedent
15 "about", it will be understood that the particular value forms another embodiment.

FIGS. 1A-D are front view, rear view, front perspective view, and rear perspective view of the metal plate (30) according to the present invention. FIG. 2A is
20 the view before the metal plate (30) is attached to a case (100), and FIG. 2B is the view where the metal plate (30) is attached to the case (100).

The case (100) for an electronic device (300) wherein the electronic device (300) has a receiver coil (310) for

wireless charging and the receiver coil (310) is formed in between an inner boundary (320) and an outer boundary (330), comprises: a hard protective frame (20) constructed to receive the electronic device (300) therein wherein the
5 hard protective frame (20) has a recess (26) which faces the electronic device (300); and a metal plate (30) constructed to be received in the recess (26) of the hard protective frame (20). The metal plate (30) is constructed to enable magnetic retention or attachment of the case
10 (100) to a support (40) having a magnet (50).

The metal plate (30) is made of ferromagnetic material. The metal plate (30) has a rounded concave edge (35), and the metal plate (30) does not overlap with the inner boundary (320). Here, "overlap" means when the metal plate
15 (30) and the inner boundary (320) are viewed from the front, they do not overlap as illustrated in FIG. 6B.

The rounded concave edge (35) may be circular, elliptical, substantially circular, or substantially elliptical, including the rounded concave edge (35) formed
20 by a smoothly curved line. Both ends of the rounded concave edge (35) may be rounded the other way as shown in FIGS. 3A through 3C.

The case (100) may be made of a hard protective frame (20) alone, a soft protective cover (10) alone, or

combination thereof. In any structure, the metal plate (30) is attached to the case (100). Preferably, the soft protective cover (10) is made of thermoplastic polyurethane and the hard protective frame (20) is made of polycarbonate.

5 Preferably, the inner boundary (320) and the outer boundary (330) are circular as in FIG. 5B. Alternatively, the inner boundary (320) and the outer boundary (330) may be rectangular with rounded corners as in FIG. 5B.

As illustrated in FIG. 6B, when the metal plate (30) is attached to the case (100) and the electronic device (300) is installed in the case (100), the rounded concave edge (35), the inner boundary (320), and the outer boundary (330) are substantially symmetrical with respect to the same line. The inner boundary (320) and the outer boundary (330) are generally concentric, and the rounded concave edge (35) may or may not be concentric as well.

FIG. 6B shows various relative locations between the metal plate (35) and the boundaries (320, 330). The rounded concave edge (35) may be placed in between the inner boundary (320) and the outer boundary (330). Alternatively, the rounded concave edge (35) may overlap with the outer boundary (330). Or, the rounded concave edge (35) may be placed outside the outer boundary (330).

As in FIGS. 1A-D, the metal plate (30) may be substantially rectangular with one side (34) having the rounded concave edge (35). In addition, the metal plate (30) may have rounded corners, preferably, all four corners are rounded. In FIG. 1A, sides (31, 32) are substantially parallel to each other and sides (33, 34) are substantially parallel to each other as well.

In the alternative embodiment as in FIG. 3B, the metal plate (30) may be substantially trapezoidal wherein the rounded concave edge (35) is formed on a shorter side (34) of two parallel sides (33, 34). In addition, the metal plate (30) may have rounded corners, preferably, all four corners are rounded.

FIGS. 3A, 3B and 3C show alternative designs of the metal plate (30), and FIGS. 4A, 4B and 4C show them attached to the case (100).

The metal plate (30) is attached to the hard protective frame (20) by an adhesive (37). Preferably, the adhesive (37) is a double-sided adhesive.

As in FIG. 1B, the metal plate (30) may have an adhesive layer covered with transparent film. A user may remove the transparent film and attach the adhesive layer to the case (100).

The hard protective frame (20) may further comprise a surrounding recess (28) which surrounds the recess (26) and gradually recesses from a flat surface (23) of the hard protective frame (20) to the recess (26).

5 The case, having the hard protective frame (20), may further comprises a soft protective cover (10) which comprises a back panel (12) to cover a back portion of the electronic device (300), and a side wall (14) extending from a top surface (11) of the back panel (12) along edges
10 (13) of the back panel (12).

In the alternative embodiment, a metal plate (30) for magnetically mounting an electronic device (300) or a case (100) with an electronic device (300) installed therein wherein the electronic device (300) has a receiver coil
15 (310) for wireless charging and the receiver coil (310) is formed in between an inner boundary (320) and an outer boundary (330), the metal plate (30) comprising: a rounded concave edge (35).

The metal plate (30) is constructed to be attachable
20 to the electronic device (300) or the case (100). The metal plate (30) is constructed to enable magnetic retention or attachment of the electronic device (300) to a support (40) having a magnet (50), and the metal plate (30) attached to the electronic device (300) or the case (100) is

constructed not to substantially block magnetic waves passing through the area formed by the inner boundary.

The metal plate (30) may be directly attached to the electronic device (300) or to the case (100) for
5 magnetically mounting the electronic device (300) to a support (40). Alternatively, the metal plate (30) may be attached to the electronic device (300) which is then installed in the case (100).

As illustrated in FIG. 5B, the inner boundary (320)
10 and the outer boundary (330) are substantially circular, or substantially rectangular with rounded corners.

The rounded concave edge (35) substantially symmetrically aligns to respective orthographic parallel projections of the inner boundary (320) and the outer
15 boundary (330) onto a projection plane of the metal plate (30).

The rounded concave edge (35) may be placed in between the inner boundary (320) and the outer boundary (330). Alternatively, the rounded concave edge (35) at least
20 partially overlaps with an orthographic parallel projection of the outer boundary (330) onto a projection plane of the metal plate (30). Or, the rounded concave edge (35) may be placed outside an orthographic parallel projection of the

outer boundary (330) onto a projection plane of the metal plate (30).

The metal plate (30) is substantially rectangular with a first side (34) having the rounded concave edge (35), and
5 the metal plate (30) has rounded corners. The metal plate (30) has third and fourth sides (31, 32) that are substantially parallel to each other and has a second side (33) that is substantially parallel to the first side (34). Alternatively, the metal plate (30) may be substantially
10 trapezoidal, wherein the rounded concave edge (35) is formed on a shorter side (34) of two parallel sides (33, 34), and wherein the metal plate (30) has rounded corners.

The metal plate (30) may further comprise an adhesive layer (37). The adhesive may be glue, bond, paste, tape,
15 double-sided adhesive, or the like known in the art, but preferably, the adhesive is a double-sided adhesive. The double-sided adhesive may be a double-sided adhesive tape or sheet where one side of the adhesive tape can affix onto the metal plate (30) and the other side can be used to
20 affix onto the case or electronic device thereby coupling the metal plate (30) with case or electronic device. Typically, the side of the double-sided adhesive tape used to affix the metal plate (30) onto the case or electronic device is initially covered by a release tape that is

removable by the user when ready to affix or attach the metal plate (30) to either the electronic device (300) or the case (100) for magnetically mounting the electronic device (300) to a support (40). The metal plate (30) may be
5 attached to the recess of the case, or the metal plate (30) may be attached to outer side of the case or directly to the electronic device.

Table 1 shows data from the wireless charging of an electronic device having a receiver circuit already
10 installed therein, as also shown in FIG. 6A. The current driven by the wireless charging (transmitter coil as shown in FIG. 5A) is reported by the electronic device. The first column of table 1 contains data on the wireless charging of an electronic device having a receiver circuit
15 installed therein without a metal plate (30) and without being attached to a case. The current shown by the electronic device during wireless charging ranged from 170 mA to 250 mA with an average charging current of 210 mA. The second and third columns contain data on the wireless
20 charging of an electronic device having a receiver circuit installed therein with the electronic device being reversibly attached to cases having a metal plate (30) affixed in the manner as shown in FIGS. 4B and 4C respectively. For the case of FIG. 4B with the affixed

metal plate (30), the charging current as displayed on the electronic device is 90 mA to 230 mA with an average charging current of 190 mA. For the case of FIG. 4C with the affixed metal plate (30), the charging current as

5 displayed on the electronic device is 40 mA to 180 mA with an average charging current of 80 mA. Thus, even with the case having the metal plate (30), the wireless charging for the electronic device affixed therein is still very effective.

10 Table 1. Wireless Charging

	No Case	FIG. 4B	FIG. 4C
Charging Current Range	170-250 mA	90-230 mA	40-180 mA
Avg Charging Current	210 mA	190 mA	80 mA

The metal plate (30) of the present invention helps a case with an electronic device installed therein that is magnetically attracted and retained by the support having a

15 magnet, and at the same time, the case having the metal plate (30) does not substantially impede or prevent wireless charging of the electronic device. In addition, the metal plate does not substantially impede or prevent wireless charging of the electronic device, and thus a user

20 does not have to remove the metal plate for wireless charging.

Below is the description of the invention disclosed in the U.S. Patent Application No. 15,359,465, filed on November 22, 2016, the disclosure of which is incorporated herein by reference in its entirety.

5 FIGS. 7 and 8 respectively show front and rear perspective views of a case (100) according to the present invention. FIG. 9 shows an exploded view of the case (100) having a soft protective cover (10), a hard protective frame (20) and a metal plate (30).

10 A magnetic mount (200) of the present invention for an electronic device (300) comprises: a case (100) and a support (40). The case (100) comprises a soft protective cover (10) which comprises a back panel (12) to cover a back portion of the electronic device (300), and a side
15 wall (14) extending from a top surface (11) of the back panel (12) along edges (13) of the back panel (12); a hard protective frame (20) constructed to removably mount over the soft protective cover (10); and a metal plate (30) placed between the soft protective cover (10) and the hard
20 protective frame (20). The support (40) has a magnet (50). In addition, the metal plate (30) and magnet (50) are magnetically attractable to each other for magnetically attracting and retaining the case (100) to the support (40).

FIG. 10 shows a rear view of the case (100) and FIG. 11 shows a cross sectional view of FIG. 10.

The soft protective cover (10) may have a recess (not shown) formed on the back panel (12) to receive the metal plate (30). In the alternative as shown in FIG. 11, the hard protective frame (20) may have a recess to receive the metal plate (30). Or, the soft protective cover (10) may have a first recess formed on the back panel (12) and the hard protective frame (20) may have a second recess such that the first and second recesses form a housing to receive the metal plate (30) therein.

FIG. 12 shows a schematic perspective view of the magnetic mount (200) illustrating magnetic attraction between the support (40) and the metal plate (30) to support or retain the electronic device (300).

The support (40) comprises a body (42) and a plurality of legs (46), wherein the body (42) is substantially in a form of a geometric prism or cylinder which has two bases (43, 44) facing each other wherein the legs (46) are attached to one (44) of the two bases (43, 44), wherein the magnet (50) is placed in the body (42). One base (43) of the support (40) has a flat surface to be magnetically attached to the case (100).

The body (42) is substantially in a shape of a prism, a right prism, a uniform prism, or cylinder. Preferably, the body is substantially cylindrical or substantially in a shape of a right prism having two bases of regular convex
5 and rectangular sides, for example, regular hexagon right prism, regular octagon right prism, or the like.

When the case (100) is magnetically retained by the support (40), the base (43) of the body (42) and an outer surface (22) of the hard protective frame (20) create
10 enough friction to prevent the case (100) from sliding on the base (43). To create such friction, the surface of the base (43) may be rough.

FIG. 13 shows a perspective view of the magnetic mount (200) such that the support (40) magnetically attracts and
15 retains the case (100) so that the case (100) can stand on a flat surface. FIG. 14 shows a perspective view of the magnetic mount (200) such that the support (40) magnetically attracts and retains the case (100) and the support (40) is inserted into and securely retained by an
20 air vent of a vehicle which is comprised of parallel vanes.

The plurality of legs (46) of the support (40) are configured to support the case (100) magnetically retained by the support (40) so that the case (100) stands on a flat surface. When the case (100) is magnetically retained by

the support (40), the case (100) can stand on a flat surface and the angle between the case (100) and the flat surface can be adjusted by adjusting the location of the support (40) with respect to the case (100). The adjusted
5 location can be maintained. The friction between the case (100) and the support (40) should be weak enough to allow such location adjustment, but strong enough to prevent slipping of the case (100) away from the support (40).

In addition, the plurality of legs (46) of the support
10 (40) is constructed to be received and retained by an air vent of a vehicle. FIG. 14 shows the support (40) inserted into and retained by the air vent of a vehicle. By the magnetic attraction between the support (40) and the case (100), the case (100) can be mounted onto the air vent of a
15 vehicle. The support (40) is detachably fixed to the air vent and the case (100) can rotate or slide a little with respect to the support (40). Because of friction between the support (40) and the case (100), adjusted rotation or sliding of the case (100) can be maintained so that a user
20 can adjust the angle of the case (100) suitable and convenient for him.

Preferably, the metal plate (30) is made of ferromagnetic material and the magnet (50) produces magnetic flux. More specifically, the metal plate (30) may

be made of steel, stainless steel, or iron. As in FIGS. 15 and 16, the metal plate (30) may be made of ferromagnetic metal plate.

The metal plate (30) is close enough to an outer
5 surface (22) of the hard protective frame (20) and the magnet produces enough magnetic flux so that the support (40) attracts and retains the case (100) with the electronic device (300) installed therein in place.

Additionally, the support (40) and the case (100)
10 create enough friction to prevent the case (100) from sliding on or slipping from the support (40) when the case (100) is magnetically retained by the support (40).

Alternatively, the magnet (50) may be made of ferromagnetic material and the metal plate (30) may be made
15 of a magnet which produces magnetic flux.

The body (42) of the support (40) may be geometrically a prism or cylinder. More preferably, the body (42) is substantially cylindrical as FIG. 12 or FIG. 13. Cylindrical shape is preferable in rotating the support
20 (40) or case (100) with respect to each other. The plurality of legs (46) is attached about a center of the base (44) and preferably, there are four legs (46). Four legs (46) may form a square layout so that they can be easily inserted into an air vent of a vehicle.

The metal plate (30) may be a circular metal plate or a rectangular metal plate, as shown in FIGS. 15 and 16, or a substantially rectangular or substantially trapezoidal plate as shown in FIGS. 1 and 3.

5 The soft protective cover (10) is made of soft material and the hard protective frame (20) is made of hard material. Preferably, the soft protective cover (10) is made of thermoplastic polyurethane and the hard protective frame (20) is made of polycarbonate.

10 As shown in FIG. 11, the soft protective cover (10) comprises a longitudinal recess (15) and the hard protective frame (20) comprises a longitudinal protrusion (25) such that the longitudinal recess (15) of the soft protective cover (10) receives the longitudinal protrusion
15 (25) of the hard protective frame (20) therein for secure coupling between the soft protective cover (10) and the hard protective frame (20).

 The soft protective cover (10) is sufficiently flexible to accept insertion of the electronic device (300)
20 therein and sufficiently rigid to securely retain the inserted electronic device (300).

 The magnetic mount (200) may further comprise a double-sided adhesive for attaching the metal plate (30) either to the soft protective cover (10) or to the hard

protective frame (20). The double-sided adhesive may be a double-sided adhesive tape or sheet.

If the soft protective cover (10) has a recess (not shown) formed on the back panel (12) to receive the metal plate (30), the double-sided adhesive may be located in the
5 recess to attach the metal plate (30) to the soft protective cover (10). The double-sided adhesive may be a double-sided adhesive tape or sheet.

If the hard protective frame (20) has a recess to
10 receive the metal plate (30), the double-sided adhesive may be located in the recess to attach the metal plate (30) to the hard protective frame (20).

Alternatively, the magnetic mount (200) may further comprise two double-sided adhesives one of which is for
15 attaching the metal plate (30) to the soft protective cover (10) and the other of which is for attaching the first metal plate (30) to the hard protective frame (20).

In case that the soft protective cover (10) has a first recess formed on the back panel (12) and the hard
20 protective frame (20) has a second recess, and the first and second recesses form a housing to receive the metal plate (30) therein, two double-sided adhesives may be located in both of the recesses for attaching the metal

plate (30) to the soft protective cover (10) and the hard protective frame (20).

The metal plate (30) may be attached either to the soft protective cover (10) or to the hard protective frame
5 (20) by an adhesive such as glue, bond, paste, tape, double-sided adhesive, etc. The double-sided adhesive may be a double-sided adhesive tape or sheet.

In the alternative embodiment, a magnetic mount (200) for an electronic device (300) may comprise: a case (100)
10 for receiving an electronic device therein; a metal plate (30) attached to a back of the case (100) by an adhesive; and a support (40) having a magnet (50). The metal plate (30) and magnet (50) are magnetically attractable to each other for magnetically attracting and retaining the case
15 (100) to the support (40). The adhesive may be glue, bond, paste, tape, double-sided adhesive, etc. The metal plate (30) may be circular, rectangular, substantially circular, substantially rectangular or substantially trapezoidal.

The metal plate (30) may be made of ferromagnetic
20 material and the magnet (50) may be made of a magnet which produces magnetic flux. More specifically, the metal plate (30) may be made of steel, stainless steel, or iron. Preferably, the metal plate (30) may be made of ferromagnetic metal plate.

Alternatively, the magnet (50) may be made of ferromagnetic material and the metal plate (30) may be made of a magnet which produces magnetic flux.

Still in the alternative embodiment of the present invention, a magnetic mount (200) for an electronic device (300) comprises: a metal plate (30) to be attachable to a back of the electronic device (300) by an adhesive; and a support (40) having a magnet (50). The metal plate (30) and the magnet (50) are magnetically attractable to each other for magnetically attracting and retaining the case (100) to the support (40). In addition, one side of the adhesive is attached to the metal plate (30).

The metal plate (30) may be made of ferromagnetic material and the magnet (50) may be made of a magnet which produces magnetic flux. The magnet produces enough magnetic flux so that the support (40) attracts and retains the electronic device (300). The support (40) and the metal plate (30) create enough friction to prevent the metal plate (30) from sliding on the support (40) when the electronic device (300) is magnetically retained by the support (40).

Another side of the adhesive may be covered with a release tape so that after removing the release tape, the

another side of the adhesive can be attached to the back of the case.

The adhesive may be glue, bond, paste, tape, double-sided adhesive, or the like known in the art, but
5 preferably, the adhesive is a double-sided adhesive. The double-sided adhesive may be a double-sided adhesive tape or sheet.

FIGS. 11 and 17 show cross-sectional views of the present invention. The embodiment of FIG. 11 is explained
10 above and the embodiment of FIG. 17 further comprises a surrounding recess (28).

In this embodiment, the hard protective frame (20) has a recess (26) to receive the metal plate (30) therein, and the hard protective frame (20) may further comprise a
15 surrounding recess (28) which surrounds the recess (26) and slopes away from a flat surface (23) of the hard protective frame (20) to the recess (26) creating a cavity.

In the alternative, the case (100) may comprise a recess (26), formed on its back (23) facing the electronic
20 device (300), for receiving the metal plate (30) therein, and the case (100) may further comprise a surrounding recess (28) which surrounds the recess (26) and slopes away from a flat surface (23) of the case (100) to the recess

(26) thereby creating a cavity. FIG. 18 shows a drawing of the case (100) according to this embodiment.

In FIG. 18, the recess (26) is formed on the inner surface (23) of the case (100) and the surrounding recess (28) is formed along the outer boundary of the recess (26) to surround the recess (26). The surrounding recess (28) may gradually recess from a flat surface (23) of the case (100) (or the hard protective frame (20)) to the recess (26). As shown in FIG. 17, the surrounding recess (28) gradually recesses and becomes flat toward the recess (26).

The metal plate (30) may be flush with the recess (26) or slightly protrude out of the recess (26). In other words, the height of the metal plate (30) may be about or slightly greater than the depth of the recess (26). However, the metal plate (30) does not protrude beyond the flat surface (23) of the case (100) (or the hard protective frame (20)).

Accordingly, the surrounding recess (28) forms space between the metal plate (30) and the electronic device (300) in order to prevent scratches or damages by the metal plate (30) to the electronic device (300). In addition, without the surrounding recess (28), a boundary line of the recess (26) may be formed on the outer surface (22) of the case (100) or the hard protective frame (30) which is visible from outside. The surrounding recess (28) prevents

such boundary line of the recess from being formed on the outer surface (22) and makes the part of the case (100) or the hard protective frame (20) in contact with the metal plate (30) less vulnerable to damage.

5 While the invention has been shown and described with reference to different embodiments thereof, it will be appreciated by those skilled in the art that variations in form, detail, compositions and operation may be made without departing from the spirit and scope of the
10 invention as defined by the accompanying claims.

ABSTRACT

A case for an electronic device wherein the electronic device has a receiver coil for wireless charging and the receiver coil is formed in between an inner circle and an
5 outer circle, includes: a hard protective frame constructed to receive the electronic device therein wherein the hard protective frame faces the electronic device; and a metal plate constructed to be received in the recess. The metal plate is constructed to enable magnetic retention or
10 attachment of the case to a support having a magnet. The metal plate has a rounded concave edge, and the metal plate does not overlap with the inner circle. Preferably, the rounded concave edge, the inner circle, and the outer circle are substantially symmetrical with respect to a same
15 line.



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170953
SPIGEN KOREA CO., LTD.
446 Bongeunsa-ro, Gangnam-gu
Seoul, 06153
KOREA, REPUBLIC OF

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Inventor(s)

Dae-Young Kim, Seoul, KOREA, REPUBLIC OF;

Applicant(s)

SPIGEN KOREA CO., LTD., Seoul, KOREA, REPUBLIC OF;

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

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

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**** SMALL ENTITY ****

Title

MAGNETIC MOUNT FOR ELECTRONIC DEVICES

Preliminary Class

101

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

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Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 17/443,183			
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(\$)		
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	80		N/A			
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	350		N/A			
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	400		N/A			
TOTAL CLAIMS (37 CFR 1.16(i))	11	minus 20 = *	x 50 =	0.00	OR				
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1	minus 3 = *	x 240 =	0.00					
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00					
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00					
			TOTAL	830		TOTAL			
* 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	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =		
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =		
	Application Size Fee (37 CFR 1.16(s))					OR			
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR			
			TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE			
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY	
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =		
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =		
	Application Size Fee (37 CFR 1.16(s))					OR			
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR			
			TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.									



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
17/443,183	07/22/2021	Dac-Young Kim	HQUPAT003

CONFIRMATION NO. 9455

PUBLICATION NOTICE



OC000000131096737

170953
SPIGEN KOREA CO., LTD.
446 Bongeunsa-ro, Gangnam-gu
Seoul, 06153
KOREA, REPUBLIC OF

Title:MAGNETIC MOUNT FOR ELECTRONIC DEVICES

Publication No.US-2022-0014225-A1

Publication Date:01/13/2022

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/>.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/443,183	07/22/2021	Dae-Young Kim	HQUPAT003	9455
170953 7590 02/02/2023 SPIGEN KOREA CO., LTD. 446 Bongeunsa-ro, Gangnam-gu Seoul, 06153 KOREA, REPUBLIC OF			EXAMINER TRANDAI, CINDY HUYEN	
			ART UNIT 2648	PAPER NUMBER
			MAIL DATE 02/02/2023	DELIVERY MODE PAPER

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.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Claim Rejections - 35 USC § 103

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

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

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103 as being unpatentable over Wojcik (US 20160294427 A1) in view of Partovi (US 20160056664 A1).

Regarding claim 1, Wojcik teaches a case (***Wojcik, Fig. 1, case 200***) for an electronic device (***Wojcik, Fig. 1, electronic device 100***) wherein the electronic device has a receiver coil (***Wojcik, Fig. 1, receiving coil 112***) for wireless charging (***Wojcik, Par. 25***) constructed within the electronic device (***Wojcik, Fig. 1***) and the receiver coil is formed in between an inner boundary and an outer boundary

(Wojcik, Fig. 1, inside the coil (inner boundary), outside the coil (outer boundary)), the case comprising: a protective cover **(Wojcik, Fig. 1 and Par. 21, case 200 is a protective case)** constructed to receive the electronic device therein **(Wojcik, Fig. 1)**; and a metal plate **(Wojcik, Fig. 1, ferrite 200 (i.e. metal plate) and Par. 29, ferrite 210 is formed by a high magnetic permeability material)** constructed to be received in between the protective cover and the electronic device **(Wojcik, Fig. 1 and Par. 25)**, wherein the metal plate is made of a magnet which produces magnetic flux **(Wojcik, Fig. 1 and Par. 25)**, and wherein the metal plate received in between the protective cover and the electronic device is positioned to substantially allow magnetic waves to pass through ~~the area formed by the inner boundary~~ **“the receiver/receiving coil 112” (Par. 25, ferrite 210 concentrates a magnetic flux from an external charging device to increase magnetic coupling to receiving coil 112 and, thus, efficiency of power (i.e. magnetic waves) transfer from the external charging device to the receiver/receiving coil 112).**

However, Wojcik does not teach the magnetic waves to pass through the area formed by the inner boundary.

Partovi teaches incorporating a permanent magnet(and/or electromagnet) into the receiver in behind, in front, around or at the center of the receiver coil , and bringing the receiver close to the charger surface, at this point, a local ‘magnetic aperture’ is opened up in the ferromagnetic, ferrite, or other magnetic material or layer, allowing the transmitter coil's electromagnetic field to be transmitted through this local aperture **(Partovi, Pars. 186-189).**

Therefore, it would have been obvious for one of ordinary skill in the art before the effective filing date of the claimed invention to incorporate the above teaching as taught by Partovi into Wojcik to configure the ferrite (metal plate) in any shape and at any desired location that is efficiently coupled to the receiver coil.

Regarding claim 2, the combination of Wojcik and Partovi teaches previous claim. The combination further teaches the case of claim 1, wherein the metal plate does not overlap with an orthographic parallel projection of the area formed by the inner boundary (*Partovi, Pars. 186-189*).

Regarding claim 3, the combination of Wojcik and Partovi teaches previous claim. The combination further teaches the case of claim 1, wherein the inner boundary and the outer boundary are substantially circular (*Partovi, Par. 197*).

Regarding claim 4, the combination of Wojcik and Partovi teaches previous claim. The combination further teaches the case of claim 1, wherein the metal plate has a rounded concave edge (*Partovi, Par. 278*).

Regarding claim 5, the combination of Wojcik and Partovi teaches previous claim. The combination further teaches the case of claim 4, wherein the rounded concave edge substantially symmetrically aligns to respective orthographic parallel projections of the inner boundary and the outer boundary onto a projection plane of the metal plate (*Partovi, Pars. 197, 278*).

Regarding claim 6, the combination of Wojcik and Partovi teaches previous claim. The combination further teaches the case of claim 5, wherein the rounded concave edge at least partially overlaps with an orthographic parallel projection of the outer boundary onto a projection plane of the metal plate (*Partovi, Pars. 197, 278*).

Regarding claim 7, the combination of Wojcik and Partovi teaches previous claim. The combination further teaches the case of claim 5, wherein the rounded concave edge is placed outside an

orthographic parallel projection of the outer boundary onto a projection plane of the metal plate

(Partovi, Pars. 197, 278).

Regarding claim 8, the combination of Wojcik and Partovi teaches previous claim. The combination further teaches the case of claim 1, wherein the metal plate is substantially rectangular with a first side having the rounded concave edge, and wherein the metal plate has third and fourth sides that are substantially parallel to each other and has a second side that is substantially parallel to the first side **(Partovi, Par. 278, possible to achieve the same or a similar effect with use of any appropriate one or several permanent magnets or electromagnets of arc, disc, cylinder, square, rectangular, triangular, oval, or ring, etc. shape).**

Regarding claim 9, the combination of Wojcik and Partovi teaches previous claim. The combination further teaches the case of claim 8, wherein the metal plate has rounded corners **(Partovi, Par. 278).**

Regarding claim 10, the combination of Wojcik and Partovi teaches previous claim. The combination further teaches the case of claim 1, wherein the metal plate is substantially trapezoidal wherein the rounded concave edge is formed on a shorter side of two parallel sides, and wherein the metal plate has rounded corners **(Partovi, Par. 278, possible to achieve the same or a similar effect with use of any appropriate one or several permanent magnets or electromagnets of arc, disc, cylinder, square, rectangular, triangular, oval, or ring, etc. shape).**

Regarding claim 11, the combination of Wojcik and Partovi teaches previous claim. The combination further teaches the case of claim 1, wherein the metal plate is attached to the protective cover by an adhesive (**Wojcik, Par. 28 & See also Partovi, Pars. 276-277**).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Yio et al. US 20170098958 A1

Kim et al. US 20170077727 A1

Mao et al. US 20170117085 A1

Weiss US 20130300220 A1

Van Bosch et al. US 20170063128 A1

Corl et al. US 20130289412 A1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CINDY HUYEN TRANDAI whose telephone number is (571)270-1914. The examiner can normally be reached Monday-Thurs 9AM-6:30PM and Friday 8AM-Noon.

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

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wesley L. Kim can be reached on 571-272-7867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: <https://patentcenter.uspto.gov>. Visit <https://www.uspto.gov/patents/apply/patent-center> for more information about Patent Center and <https://www.uspto.gov/patents/docx> for information about filing in DOCX format. For additional questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cindy Trandai/
Primary Examiner, Art Unit 2648
1/31/2023

Notice of References Cited	Application/Control No. 17/443,183		Applicant(s)/Patent Under Reexamination Kim, Dae-Young	
	Examiner CINDY H TRANDAI		Art Unit 2648	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20160294427-A1	10-2016	Wojcik; James J.	H04B1/3888	1/1
*	B	US-20160056664-A1	02-2016	Partovi; Afshin	H02J7/0042	307/104
*	C	US-20170098958-A1	04-2017	YIO; Soon Joung	H01F38/14	1/1
*	D	US-20170077727-A1	03-2017	KIM; Hee Seung	H04M1/0202	1/1
*	E	US-20170117085-A1	04-2017	Mao; Hengchun	H01F41/02	1/1
*	F	US-20130300220-A1	11-2013	Weiss; Gene J.	H02K7/1876	310/30
*	G	US-20170063128-A1	03-2017	Van Bosch; James A	H01F27/2871	1/1
	H					
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FOREIGN PATENT DOCUMENTS

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

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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*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.

Search Notes 	Application/Control No. 17/443,183	Applicant(s)/Patent Under Reexamination Kim, Dae-Young
	Examiner CINDY H TRANDAI	Art Unit 2648

CPC - Searched*		
Symbol	Date	Examiner
H02J50/10	01/31/2023	ct

CPC Combination Sets - Searched*		
Symbol	Date	Examiner
F16M13/00 OR H05K5/03 OR F16B2001/0035	01/31/2023	ct
H04B1/3883 or H04B5/0081 or H04B5/0037 or H04B1/3888)	01/31/2023	ct
H04B1/3888 OR A45C11/00 OR A45C13/1069 OR H02J7/0042 OR H02J50/10 OR A45C2011/002 OR A45C2011/003 OR H04B1/3877	01/31/2023	ct

US Classification - Searched*			
Class	Subclass	Date	Examiner

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

Search Notes		
Search Notes	Date	Examiner

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	claim search in PE2E	01/31/2023	ct

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PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	0	"15989033"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 04:57 PM
L2	75	(back or rear) near (case or cover) same magnetic\$3 metal plate	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 05:05 PM
L3	4	("20110228458" "8746448").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 05:11 PM
L4	113	(back or rear) near (panel) same magnetic\$3 metal	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 07:04 PM
L5	575	(back or rear) near (panel) same metal near plate	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 07:05 PM
L6	10	(back or rear) near (panel) same metal near plate same attach\$5 magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 07:05 PM
L7	6	(back or rear) near (case or cover) same metal near plate same attach\$5 magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 07:07 PM
L8	17	("3990848" "4647428" "4808347" "5342584" "5938076").PN. OR ("6632405").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2018/07/13 07:08 PM
L9	39	(back or rear) near (case or cover) same metal near plate and attach\$5 magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 07:12 PM
L10	2	"15452342"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 07:13 PM
L11	30	("20100081377" "20110192857" "20140299739" "20140354218" "20150320168" "20160051019" "20160072933" "20160260532" "4319097" "5992807" "7374142" "9379759" "9616821").PN	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 07:17 PM
L12	5652	magnetic near plate same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:09 PM
L13	10	magnetic near plate with (rear or back) near cover same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:10 PM

L14	2	magnet near plate with (rear or back) near cover same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:10 PM
L15	3	magnetic near plate near magnetic with (rear or back) near cover same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:13 PM
L16	30	magnetic near plate near magnetic with (rear or back) near cover	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:13 PM
L17	47	magnetic near plate near magnetic same (rear or back) near cover	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:15 PM
L18	17	L17 not L16	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:15 PM
L19	0	magnetic near plate near metal same (rear or back) near cover	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:16 PM
L20	10	magnetic near plate same attach\$5 same (rear or back) near cover	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:17 PM
L21	2	magnetic near plate same attach\$5 same (rear or back) near case	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:18 PM
L22	8	magnetic near plate same attach\$5 same (rear or back) near housing	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:18 PM
L23	29	magnetic near plate same coil same (rear or back) near (cas\$3 or housing or frame or cover)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:22 PM
L24	2344	coil same magnet\$3 same (rear or back) near (casing or housing or cover)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:27 PM
L25	33	coil same magnet\$3 near plate same (rear or back) near (casing or housing or cover)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:28 PM
L26	2370	coil same1 magnet\$3 same (rear or back) near (casing or housing or cover)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:29 PM
L27	11542	wireless near charg\$3 same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:31 PM
L28	160	wireless near charg\$3	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19

L29	1	and coil (rear or back) near (cover or casing or housing) "15783733"	EPO; JPO; DERWENT) (US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	03:31 PM 2018/07/19 04:36 PM
L30	18	("20150137742" "20120 274271" "20140295199 " "20130257367" "2016 0141099" "2007021716 3" "20160079671" "201 50048752" "201402471 88").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 05:03 PM
L31	1	wireless near charg\$3 and magnetic near plate same5 (rear or back) near (cover or casing or housing)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 05:11 PM
L32	89	wireless near charg\$3 and magnet same (rear or back) near (cover or casing or housing)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 05:16 PM
L33	2	(first or second) near magnet and coil and (US "20150214749" A1)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 11:11 AM
L34	13	("8669678" "8901881"). PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 12:09 PM
L35	42	concave near magnet same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 12:11 PM
L36	6452	magnet same receiv\$3 near coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 12:31 PM
L37	119	magnet same receiv\$3 near coil same recess	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 12:31 PM
L38	804	magnet same coil same (rear or back) near (cover or casing or housing)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 12:40 PM
L39	28	magnet same receiv\$3 near coil same (rear or back) near (cover or casing or housing)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 12:41 PM
L40	39	wireless adj3 (charg\$3 or power) and magnet near plate same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 04:13 PM
L41	1	receiver adj coil and transmit\$5 adj coil and magnet and (US "20160003270" A1)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 04:25 PM
L42	1	receiver adj coil and	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20

L43	70	magnet and (US "20160003270" A1) (partovi afshin).inv.	EPO; JPO; DERWENT) (US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	04:39 PM 2018/07/23 11:58 AM
L44	2	US "20050115916" A1	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 01:57 PM
L45	28049	(H02J7/025 OR H02J5/005 OR H04B5/0037 OR H04B5/0081 OR H04B5/0093).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:46 PM
L46	834	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:47 PM
L47	6456	magnet same receiv\$3 near coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:48 PM
L48	347	L47 and L45	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:48 PM
L49	1	L45 and L46	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:48 PM
L50	804	magnet same coil same (rear or back) near (cover or casing or housing)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:49 PM
L51	30	L50 and L45	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:49 PM
L52	170	(spigen korea).as.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:50 PM
L53	1	receiv\$3 near coil and L52	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:50 PM
L54	1	metal near plate same magnet\$3 and L52	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:53 PM
L55	2	metal near plate and L52	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:53 PM
L56	1	"15989033"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 05:06 PM
L57	30644	(H02J7/025 OR H02J5/005 OR H04B5/0037 OR H04B5/0081 OR H04B5/0093).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 05:07 PM
L58	920	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08

L59	1	L57 and L58	EPO; JPO; DERWENT) (US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	05:07 PM 2019/01/08 05:07 PM
L60	851	magnet same coil same (rear or back) near (cover or casing or housing)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 05:07 PM
L61	30	L60 and L57	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 05:07 PM
L62	30	L60 and L57	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 05:24 PM
L63	42	(back or rear) near (case or cover) same metal near plate and attach\$5 magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 05:40 PM
L64	1	((back or rear) near (case or cover) same metal near plate same attach\$5 magnet same coil).clm.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 06:39 PM
L65	5599	(H04B1/3888)).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 07:12 PM
L66	851	magnet same coil same (rear or back) near (cover or casing or housing)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 07:13 PM
L67	2	L65 and L66	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 07:13 PM
L69	10281	(H02J50/10 OR).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 07:15 PM
L70	12	L66 and L69	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 07:15 PM
L75	10	magnet same support ring same mobile near device	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 08:39 AM
L76	4	magnet same support ring same inside back near (cover or case)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 08:46 AM
L77	4	magnet inside back near (cover or case) same support ring	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 08:47 AM
L78	4	magnet same inside back near (cover or case) same support ring	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 08:47 AM
L79	0	magnet same metal	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09

		near plate same back near (cover or case) same support ring	EPO; JPO; DERWENT)				08:48 AM
L80	6	magnet same metal near plate same back near (cover or case) same support	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 08:48 AM
L81	0	"87466448"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 08:59 AM
L82	16	"8746448"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 08:59 AM
L83	18	("20090219677" "20100222118" "20110011906" "20110266316" "20110303709" "20120011888" "20120031937" "20120063066" "20140084034" "8550317" "8672374" "8746448" "8833820").PN. OR ("8887970").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2019/01/09 09:05 AM
L84	3	US "9486910" B2 and magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 09:09 AM
L85	35	("20090270050" "20100222118" "20110266316" "20110284599" "20120031937" "20120326003" "20130146625" "20130313845" "20140084034" "5762305" "7717483" "8186642" "8480144" "8550317" "8672374" "8887970" "9033384" "9137915" "D376308" "D471400" "D616285" "D651205" "D674380" "D681420" "D693818" "D713140" "D716287" "D729787").PN. OR ("9486910").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2019/01/09 09:12 AM
L86	41	magnet same metal near plate same (back or rear) near (cover or case)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 09:19 AM
L87	118	magnet and metal near	(US-PGPUB; USPAT;	WITH	ON	ON	2019/01/09

		plate same (back or rear) near (cover or case)	EPO; JPO; DERWENT)				09:44 AM
L88	77	L87 not L86	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 09:45 AM
L89	2	"15452342"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 09:48 AM
L90	6	("20140321052" "8746448" "20110228458").PN	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 10:58 AM
L91	74	magnet and metal near plate same (protect\$5 or hard) near (cover or case)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 11:02 AM
L92	984	metal near plate same (protect\$5 or hard) near (cover or case)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 11:18 AM
L93	5599	(H04B1/3888).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 11:19 AM
L94	10281	(H02J50/10 OR).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 11:19 AM
L95	15801	L93 or L94	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 11:19 AM
L96	12	L92 and L95	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 11:19 AM
L97	44	shape metal near plate same (protect\$5 or hard) near (cover or case)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:16 PM
L98	22	metal near plate same (protect\$5 or hard) near (cover or case) same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:17 PM
L99	4	metal near plate same (protect\$5 or hard) near (cover or case) and (receiv\$3 or transmit\$4) near coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:21 PM
L100	1258	metal near plate and (receiv\$3 or transmit\$4) near coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:24 PM
L101	103	L95 and L100	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:24 PM
L102	103	L101 not L97	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:25 PM

L103	102	L101 not L96	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:25 PM
L104	102	L101 not L91	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:25 PM
L105	8889814	"20" not "19"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 01:11 PM
L106	6	("20080136369" "20110 050161" "20110192857 ").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 01:29 PM
L111	243	"7239110"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 04:26 PM
L112	9	mobile near device same case near cover (hard or soft)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 04:47 PM
L113	162	device same case near cover (hard or soft)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 04:48 PM
L114	3	US "20120151973" A1	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/10 09:05 AM
L115	3	(metal or magnet) adj plate with (rear or back) near (cover or case) same1 coil near around	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/10 09:47 AM
L116	3	"20140321052"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/05 01:22 PM
L117	2	("8746448").pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/05 01:23 PM
L118	27	("20030213886" "20090283559" "20100222118" "20110266313" "20110266316" "20120048873" "20120063066" "3938166" "5383091" "8428664").PN. OR ("8746448").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2019/06/05 01:24 PM
L119	57	magnet\$5 near metal same antenna same housing	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/05 01:54 PM
L120	868	magnet\$5 near metal same mount	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	WITH	ON	ON	2019/06/05 02:28 PM

L121	27	L120 and antenna	IBM_TDB) (US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/05 02:28 PM
L122	0	metal around antennasame (protective near cover or cover or housing)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/05 02:39 PM
L123	542	metal around antenna same (protective near cover or cover or housing)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/05 02:39 PM
L124	94	metal with around near antenna same (protective near cover or cover or housing)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/05 02:40 PM
L125	12	(metal or magnet) adj plate with (rear or back) near (cover or case) same1 coil near (receiv\$3 or transmit\$5 or antenna)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/06/05 03:23 PM
L126	103	(metal or magnet) adj plate with (rear or back or protective) near (cover or case) same (antenna or coil)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/06/05 03:27 PM
L127	6036	(H04B1/3888).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/06/09 10:22 AM
L128	983	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/06/09 10:23 AM
L129	687	(kim dae\$1young).inv.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/09 10:34 AM
L130	88	L129 and metal	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/09 10:34 AM
L131	3	"15989033"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2020/10/20 01:42 PM
L132	2451	(H04B5/00).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2020/10/20 01:45 PM
L133	1148	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2020/10/20 01:45 PM
L134	7240	(H04B1/3888).CPC.	(US-PGPUB; USPAT; EPO; JPO;	WITH	ON	ON	2020/10/20 01:45 PM

L135	37949	(H02J7/025 OR H02J5/005 OR H04B5/0037 OR H04B5/0081 OR H04B5/0093).CPC.	DERWENT) (US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2020/10/20 01:45 PM
L136	1148	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2020/10/20 01:45 PM
L137	17256	(H02J50/10).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2020/10/20 01:46 PM
L138	73	magnet same metal near plate same (back or rear) near (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 01:49 PM
L139	108	magnet\$3 same plate same hard near (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:02 PM
L140	105	L139 not L138	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:04 PM
L141	170594	magnet\$3 same plate same (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:44 PM
L142	51755	L132 or L133 or L134 or L135 or L136 or L137	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:45 PM
L143	1144	L141 and L142	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:45 PM
L144	0	magnet same metal near plate same (back or rear) near rear with (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:45 PM
L145	309	magnet same metal near plate same (back or rear) with (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:46 PM
L146	15	L145 and L142	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:46 PM
L147	2139	magnet same (ion or metal\$5 or steel) near (sheet or plate) same (back or rear) same (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 02:59 PM

L148	72	magnet\$3 with (retention or attachment) same (ion or metal\$5 or steel) near (sheet or plate) same (back or rear) same (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 03:01 PM
L149	185	wireless same (ion or metal\$5 or steel) near (sheet or plate) same (back or rear) same (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 03:09 PM
L150	184	L149 not L148	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 03:09 PM
L151	3	"15989033"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/01/12 03:10 PM
L152	20	("20130129138" "20130148839" "20130265702" "20160087469" "20160134142" "20170026498" "20170126268" "20170170678" "20170259424" "20180020812" "8390255" "8514042" "8891800" "9225372" "9275049" "9288295" "9331519" "9419670" "9473192" "9874914").PN. OR ("10892625").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2021/01/12 03:25 PM
L153	566	magnet\$3 with (retention or attachment) same (sheet or plate) same (back or rear) same (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 03:38 PM
L154	16717	antenna same coil same wireless	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 03:39 PM
L155	16	L153 and L154	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 03:39 PM
L156	123	magnet\$3 with (retention or attachment) same (sheet or plate) same (back or rear) same	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 03:48 PM

L157	0	(cover or case) same (antenna or coil) magnet\$3 with (retention or attachment) same (sheet or plate) same (back or rear) same soft near (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 04:38 PM
L158	260	magnet\$3 with (retention or attachment) same (sheet or plate) same (back or rear) same (silicon or plastic)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 04:40 PM
L159	23724	(protect\$3 or safeguard or shield) same rear near (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 04:57 PM
L160	13018	magnet\$3 with (retention or attachment) same (sheet or plate)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 04:59 PM
L161	48	L159 and L160	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 05:00 PM
L162	55	(protect\$3 or safeguard or shield) same rear near (cover or case) same wireless near charg\$3	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 05:02 PM
L163	21806	(H02J7/0029 or H02J50/005).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 05:18 PM
L164	12485	(H04B1/3888).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 05:20 PM
L166	1603	(B65D81/022).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 05:41 PM
L167	1198	magnet\$3 with (retention or attachment) same (sheet or plate) same (plastic or silicon or shock near absorption)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 05:41 PM
L168	1	"16581596"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 10:58 AM
L169	0	magnetic near metmal	(US-PGPUB; USPAT;	WITH	ON	ON	2021/04/19

L170	106	same (soft or hard) near (cover or case)	EPO; JPO; DERWENT)				11:31 AM
		magnetic near metal	(US-PGPUB; USPAT;	WITH	ON	ON	2021/04/19
		same (soft or hard) near (cover or case)	EPO; JPO; DERWENT)				11:31 AM
L171	87982	(H02J7/025 or H02J50/10 or H02J50/70 or H01R24/60 or H02J7/0044).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19
							11:41 AM
L172	739	coil same battery and wireless near power and magnetic near (plate or shield)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19
							11:50 AM
L173	2621	coil same battery and magnetic near (plate or shield)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19
							11:50 AM
L174	37986	(electro\$1magnetic or electro adj magmetic) and (resonant or wireless) near power	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19
							11:52 AM
L175	7092993	(shell or case or cover) same (mount\$3 or insert\$3 or attach\$3)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19
							11:57 AM
L176	2621	coil same battery and magnetic near (plate or shield)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19
							11:58 AM
L177	37986	(electro\$1magnetic or electro adj magmetic) and (resonant or wireless) near power	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19
							11:58 AM
L178	639	L176 and L177	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19
							11:58 AM
L179	441	L175 and L178	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19
							12:00 PM
L180	87982	(H02J7/025 or H02J50/10 or H02J50/70 or H01R24/60 or H02J7/0044).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19
							12:01 PM
L181	387	L180 and L179	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19
							12:01 PM
L182	666	metal around antenna same (protective near cover or cover or	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	WITH	ON	ON	2021/04/19
							12:01 PM

L183	0	housing) L181 and L182	IBM_TDB) (US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:01 PM
L184	13309	magnet\$3 with (retention or attachment) same (sheet or plate)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:02 PM
L185	57	L181 and L184	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:02 PM
L186	21	("20120013295" "20120 281356" "20120057322 " "20140132206" "5656 983" "20120169276" "2 0110221389" "2015034 9578").PN.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:03 PM
L187	669337	(antenna or coil) same (electro\$1 magnetic or electro adj magmetic or resonant)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:30 PM
L188	15479	(protective near cover or cover or housing or cas\$3 or shell) and magnetic near (plate or dish or layer) same (mount\$3 or attach\$5 or affix\$3)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:33 PM
L189	38407	(H02J7/025 OR H02J5/005 OR H04B5/0037 OR H04B5/0081 OR H04B5/0093).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:35 PM
L190	1192	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:35 PM
L191	4	L189 and L190	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:35 PM
L192	18822	(H02J50/10 OR).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:35 PM
L193	18825	L191 or L192	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:35 PM
L194	2510	(H04B5/00).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:36 PM
L195	1192	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:36 PM

L196	7586	(H04B1/3888).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:36 PM
L197	38407	(H02J7/025 OR H02J5/005 OR H04B5/0037 OR H04B5/0081 OR H04B5/0093).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:36 PM
L198	1192	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:36 PM
L199	18822	(H02J50/10).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:36 PM
L200	53770	L194 or L195 or L196 or L197 or L198 or L199	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:36 PM
L201	106338	L180 or L197 or L200	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:38 PM
L202	2054	L187 and L188	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:38 PM
L203	151	L201 and L202	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:39 PM
L204	5	("20110050164" "20130300352" "20140239916").PN. OR ("9484769").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2021/04/19 01:07 PM
L205	17	flygrip	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:31 PM
L206	757741	(metal or alloy or foil) same (shell or case or cover) same (mount\$3 or insert\$3 or attach\$3)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:44 PM
L207	229916	((electro\$1magnetic or electro adj magmetic or resonant or (wireless near power) or receiver) near (coil or antenna))	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:48 PM
L208	229916	((electro\$1magnetic or electro adj magmetic or resonant or (wireless near power) or receiver) near (coil or antenna))	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:49 PM
L209	5851	L206 and L207	(US-PGPUB; USPAT; USOCR; FPRS; EPO;	WITH	ON	ON	2021/04/19 01:51 PM

L210	14077	(metal or alloy or foil) same (rear or back) near (shell or case or cover) same (mount\$3 or insert\$3 or attach\$3)	JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:51 PM
L211	1715	L206 and L184	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:52 PM
L212	14077	L206 and L210	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:52 PM
L213	627	(metal or alloy or foil) same (rear or back) near (shell or case or cover) same (mount\$3 or insert\$3 or attach\$3) same magneti\$4	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:53 PM
L214	627	L206 and L213	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:53 PM
L215	24	L207 and L213	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:54 PM
L216	304295	(alluminum or metal or alloy or foil) same (rear or back or bottom) near (shell or case or cover or side)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 02:14 PM
L228	789909	(alluminum or metal or alloy or foil) near (attach\$5 or insert\$3 or plate)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 03:42 PM
L229	827	(silicon or rubber) same (back or rear) near (cas\$3 or cover or shell) same (hard or soft)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 03:44 PM
L230	24	L228 and L229	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 03:47 PM
L231	507	(silicon or rubber) same (back or rear) near (cas\$3 or cover or shell) and L228	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 03:47 PM
L232	229916	((electro\$1magnetic or electro adj magmetic or resonant or (wireless near power) or receiver)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 03:48 PM

L233	5	near (coil or antenna) L231 and L232	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 03:48 PM
L234	2119	(silicon or rubber) near (cas\$3 or cover or shell) and plastic near (cas\$3 or cover or shell)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 04:20 PM
L235	4	L231 and L234	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 04:23 PM
L236	17	L232 and L234	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 04:24 PM
L237	319	(recev\$3 or (wireless near power)) near coil and (metal or magnet\$4) same (attach\$4 or insert or mount\$3) same (case\$3 or hous\$3 or cover or accessor\$4 or shell)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 04:28 PM
L238	5	("20110050164" "20130300352" "20140239916").PN. OR ("9484769").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2021/04/19 04:31 PM
L239	5	("20110050164" "20130300352" "20140239916").PN. OR ("9484769").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2021/04/19 04:31 PM
L240	6	"15081882"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 04:32 PM
L241	336	(recev\$3 or (wireless near power)) near coil and (metal or magnet\$4) same (attach\$4 or insert or mount\$3) same (case\$3 or hous\$3 or cover or accessor\$4 or shell or frame)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 04:34 PM
L242	3	("9025317").pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 05:12 PM
L243	401	("20010040109" "20020009195" "20020065054"	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2021/04/19 05:15 PM

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		"7525792" "7535799" "7540844" "7555325" "7558594" "7594576" "7609512" "7613386" "7623898" "7630746" "7653292" "7663878" "7663879" "7668580" "7679674" "7688580" "7697269" "7711400" "7733642" "7755975" "7772507" "7775354" "7787756" "7789228" "7789696" "7801425" "7850032" "7854434" "7889489" "7907394" "7926818" "7933122" "7936566" "7941196" "7944697" "7975870" "7978092" "7988468" "7993071" "8014134" "8024015" "8031472" "8032194" "8050022" "8053668" "8068331" "8089757" "8101859" "8138434" "8164899" "8167126" "8191706" "8204561" "8223997" "8245842" "8251210" "8265264" "8269104" "8286789" "8295043" "8311595" "8373980" "8400408" "8430240" "8454101" "D516807" "D530079").PN. OR ("D574819" "D575056" "D581421" "D582149" "D589016" "D593319" "D597089" "D603603" "D606751" "D619361" "D620000" "D622716").PN. OR ("9025317").URPN.					
L244	42837	(H04B1/3883 or H04B5/0081 or H04B5/0037 or H04B1/3888).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 05:55 PM
L245	1001	(alluminum or metal or alloy or foil or ferrite) with (attach\$5 or affix\$3 or mount\$3) same receiv\$3 near coil	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 05:56 PM
L246	46	L244 and L245	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 05:57 PM
L247	732	(B65D81/022).CPC.	(US-PGPUB; USPAT;	WITH	ON	ON	2021/04/19

L248	36	L234 and L247	EPO; JPO; DERWENT) (US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	06:13 PM 2021/04/19 06:24 PM
L249	46	L244 and L245	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 06:24 PM
L250	18822	(H02J50/10).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 06:33 PM
L251	3	"16581596"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 12:26 PM
L252	4	charger NEAR coil SAME metal NEAR plate	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 12:41 PM
L253	493	charger NEAR coil SAME magnetic	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 01:02 PM
L255	314	253 AND @ad<"20170525"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 01:09 PM
L257	144	charger NEAR coil SAME magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 01:10 PM
L258	91	257 AND @ad<"20170525"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 01:10 PM
L259	1	"17443183"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 01:16 PM
L260	2513	receiver NEAR coil SAME magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 02:02 PM
L261	261	receiver NEAR coil SAME electronic AND magnet SAME cover	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 02:03 PM
L262	168	261 AND @ad<"20170525"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 02:03 PM
L263	207	electronic SAME coil AND magnet SAME cover NEAR (rear OR back)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 02:28 PM
L264	116	263 AND @ad<"20170525"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 02:28 PM
L265	100	264 NOT 262	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 02:29 PM

L266	88	264 NOT 262	(US-PGPUB; USPAT)	WITH	ON	ON	2022/08/16 02:35 PM
L267	40	(electro\$1magnetic OR magnetic) adj1(wave OR signal) NEAR (go\$3 OR pass\$3) NEAR through SAME receiv\$3 coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/17 11:44 AM
L268	28	(electro\$1magnetic OR magnetic) adj1(wave OR signal) NEAR (go\$3 OR pass\$3) NEAR through SAME receiv\$3 coil	(US-PGPUB; USPAT)	WITH	ON	ON	2022/08/17 11:52 AM
L269	21	268 AND @ad<"20170525"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/17 11:53 AM
L270	13	268 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2022/08/17 11:53 AM
L271	30	("6067474" "6847190" "7362228" "7638958" "8035255" "8061014" "9240630" "20070048176" "20100161002" "20120062171" "20120218068" "20120223595" "20140091636" "20140266921" "20150130409" "20150171658" "20150182230" "20150280450").pn. OR ("10236709").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2022/08/17 01:21 PM
L272	13998	(metal OR ferrite) SAME magnet\$3 AND receiv\$3 NEAR coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/17 02:03 PM
L273	4222	(metal OR ferrite) SAME magnet\$3 SAME receiv\$3 NEAR coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/17 02:03 PM
L274	587	(metal OR ferrite) SAME magnet\$3 SAME receiv\$3 NEAR coil SAME case	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/17 02:03 PM
L275	382	274 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2022/08/17 02:04 PM
L276	7	("1110138").pn.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/10/28 04:43 PM
L277	4	("11101838").pn.	(US-PGPUB; USPAT; EPO; JPO;	WITH	ON	ON	2022/10/28 04:44 PM

L278	127	(receiv\$3 OR antenna) SAME (metal OR ferrite) NEAR coil AND (rear OR back) NEAR cover	DERWENT) (US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/10/28 05:14 PM
L279	319	(receiv\$3 OR antenna) NEAR coil SAME (metal OR ferrite) AND (rear OR back) NEAR cover	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/10/28 05:15 PM
L280	100	(receiv\$3 OR antenna) NEAR coil SAME (metal OR ferrite) SAME (rear OR back) NEAR cover	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/10/28 05:15 PM
L281	44	280 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2022/10/28 05:15 PM
L282	11	"11101838"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/30 12:06 PM
L283	12817	(electromagnetic OR receiver OR transmitter OR antenna OR power OR charging OR magnet\$3) NEAR coil AND cover SAME metal	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 11:08 AM
L284	901	(electromagnetic OR receiver OR transmitter OR antenna OR power OR charging OR magnet\$3) NEAR coil AND cover SAME metal NEAR plate	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 11:09 AM
L285	564	284 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 11:09 AM
L286	28	(electromagnetic OR receiver OR transmitter OR antenna OR power OR charging OR magnet\$3) NEAR coil AND cover SAME metal NEAR magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 11:23 AM
L287	2	US "20200076243" A1	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 11:25 AM
L288	747	electromagnet\$3 SAME pass\$3 AND (inner OR outer) NEAR (surface OR boundary) AND protect\$3 NEAR (case OR cover) AND magnet\$3 SAME metal	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 12:48 PM
L289	501	288 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 12:48 PM
L290	4404	electronic NEAR device	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31

L291	684	SAME protect\$3 NEAR cover electronic NEAR device SAME protect\$3 WITH (rear OR back) NEAR cover	(US-PGPUB; USPAT)	WITH	ON	ON	01:11 PM 2023/01/31 01:11 PM
L292	2	electronic NEAR device SAME protect\$3 WITH (rear OR back) NEAR cover same1 metal NEAR magnetic	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 01:12 PM
L293	0	electronic NEAR device SAME protect\$3 WITH (rear OR back) NEAR cover same1 metal NEAR magne	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 01:13 PM
L294	1	electronic NEAR device SAME protect\$3 WITH (rear OR back) NEAR cover same1 metal NEAR magnet	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 01:13 PM
L295	52	electronic NEAR device SAME protect\$3 WITH (rear OR back) NEAR cover same1 magnet	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 01:13 PM
L296	105	protect\$3 WITH (rear OR back) NEAR cover AND (magnet OR magnetic\$4) NEAR mount\$3	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 01:28 PM
L297	52	296 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 01:28 PM
L298	20330	(F16M13/00 OR H05K5/03 OR F16B2001/0035).cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 01:55 PM
L299	114	magnetic NEAR flux SAME metal SAME cover (back OR rear) AND coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 02:38 PM
L300	85	299 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 02:38 PM
L301	100	coil SAME inner NEAR boundary SAME outer NEAR boundary	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 06:59 PM
L302	72	301 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 06:59 PM
L303	180	(metal OR ferrite) SAME magnet\$3 SAME receiv\$3 NEAR coil SAME case AND 250	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 07:20 PM
L304	91	303 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 07:20 PM
L305	59365	(H04B1/3888 OR	(US-PGPUB; USPAT;	WITH	ON	ON	2023/01/31

		A45C11/00 OR A45C13/1069 OR H02J7/0042 OR H02J50/10 OR A45C2011/002 OR A45C2011/003 OR H04B1/3877).cpc.	EPO; JPO; DERWENT)				07:21 PM
L306	315	electronic NEAR device SAME protect\$3 WITH (rear OR back) NEAR cover AND 305	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 07:22 PM
L307	213	306 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 07:23 PM

PE2E SEARCH - Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
N71	1	((back or rear) near (case or cover) same metal near plate same attach\$5 magnet same coil).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/08 06:39 PM
N72	0	(metal near plate same magnet same coil same (block\$3 or prevent\$3) ner (signal or wave)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/08 06:45 PM
N73	3	(metal near plate same (magnet or electromagnetic) near (signal or wave) same coil).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/08 06:46 PM
N74	28	(rear near (cover or case) same (magnet or electromagnetic) near (signal or wave)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/08 07:04 PM
N107	79	(metal near plate same magnet same coil).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/09 01:10 PM
N108	86	(metal near plate same magnet same (cover or case)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/09 01:11 PM
N109	2857114	"20" not "19"	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/09 01:12 PM
N110	70	N108 not N107	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/09 01:12 PM
N165	24	(magnet\$3 with (retention or attachment) same (sheet or plate) same (back or rear) same (cover or case)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/01/12 03:50 PM
N217	9425	(magnet\$3 same ((resonant\$3 near	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:07 PM

N218	2667	antenna) or coil) same (cover or cas\$3 or shell)).clm. (magnet\$3 same ((resonant\$3 near antenna) or coil) same (cover or cas\$3 or shell) same (attach\$3 or mount\$3)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:08 PM
N219	58	(magnet\$3 same ((resonant\$3 near antenna) or coil) same (cover or cas\$3 or shell) same (attach\$3 or mount\$3) same (soft or hard)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:09 PM
N220	2	("20150123604" "20170040825").PN. OR ("10291058").URPN.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:13 PM
N221	8	((resonant or electro\$3magnetic or electro adj magnetic) same magnet\$3 same (retention or attachment) same (sheet or plate) same (back or rear)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:20 PM
N222	1395	(magnet\$3 same receiver near coil).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:22 PM
N223	2	(magnet\$3 same receiver near coil same (soft or hard) near (cover or case or shell or layer)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:23 PM
N224	18	("20010045616" "20020158306" "20030141801" "20050085122" "20080019083" "20100156344" "5760335" "6018298" "6149760" "6489745" "6531030" "7175339" "7248017" "8188826" "8203328" "8269595").PN. OR ("9084343").URPN.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:24 PM
N225	18	("20010045616" "20020158306" "20030141801" "20050085122" "20080019083" "20100156344" "5760335" "6018298"	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:24 PM

N226	2	"6149760" "6489745" "6531030" "7175339" "7248017" "8188826" "8203328" "8269595").PN. OR ("9084343").URPN. (metal near (plate or layer or dish) same ((resonant\$3 near antenna) or coil) same (cover or cas\$3 or shell) same (attach\$3 or mount\$3) same (soft or hard)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 01:39 PM
N227	73	(metal near (plate or layer or dish) same ((resonant\$3 near antenna) or coil) same (cover or cas\$3 or shell) same (attach\$3 or mount\$3)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 01:40 PM
N228	8170	protect\$3 NEAR (case OR cover) AND magnet\$3 SAME metal	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 12:45 PM
N229	3510	(inner OR outer) NEAR (surface OR boundary) AND protect\$3 NEAR (case OR cover) AND magnet\$3 SAME metal	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 12:46 PM
N230	1663	electromagnet\$3 AND (inner OR outer) NEAR (surface OR boundary) AND protect\$3 NEAR (case OR cover) AND magnet\$3 SAME metal	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 12:47 PM
N231	741	electromagnet\$3 SAME pass\$3 AND (inner OR outer) NEAR (surface OR boundary) AND protect\$3 NEAR (case OR cover) AND magnet\$3 SAME metal	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 12:47 PM

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA/82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	17/443,183
Filing Date	July 22, 2021
First Named Inventor	Dae-Young Kim
Title	MAGNETIC MOUNT FOR ELECTRONIC DEVICES
Art Unit	2648
Examiner Name	CINDY HUYEN TRANDAI
Attorney Docket Number	PJK7786360

SIGNATURE of Applicant or Patent Practitioner

Signature	/Jihun Kim/	Date (Optional)	
Name	Jihun Kim	Registration Number	80,730
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐

*Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 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.

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below:

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☒ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

103671

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☒ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

Firm or
Individual Name:

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Spigen Korea Co., Ltd.

☐ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.45(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature

Beomchang Jeon

Date (Optional):

Feb 9 2023

Name

Beomchang Jeon

Title

Head of Legal Division of Spigen Korea Co., Ltd.

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 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 5 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 1455, Alexandria, VA 22313-1455.

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
17/443,183

RECEIPT DATE / TIME
03/10/2023 06:11:25 PM ET

ATTORNEY DOCKET #
HQUPAT003

Title of Invention

MAGNETIC MOUNT FOR ELECTRONIC DEVICES

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 9455

FILED BY Irene Ree

PATENT CENTER # 61725432

FILING DATE 07/22/2021

CUSTOMER # 170953

FIRST NAMED
INVENTOR Dae-Young Kim

CORRESPONDENCE
ADDRESS -

AUTHORIZED BY Hyun Woo Shin

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
PJK7786360-POA.pdf	2	Power of Attorney	940 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
PJK7786360-POA.pdf	715DB269963EF2435E92E3D3800A21CE37E14A4FB6F2F2491D 6BB8C21D51BF07333031C7EF6636B11CB3F8418D72CF4D79F 79CAF0B9ADCA4934D81F2D80600ED

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 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.



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
17/443,183	07/22/2021	Dac-Young Kim	PJK7786360

CONFIRMATION NO. 9455

POA ACCEPTANCE LETTER



103671

Bridgeway IP Law Group, PLLC

11350 Random Hills Rd.

Suite 800

Fairfax, VA 22030

Date Mailed: 03/27/2023

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/10/2023.

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.

/afessehayc/

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 17/443,183		Filing Date 07/22/2021		☐ To be Mailed			
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO											
APPLICATION AS FILED - PART I											
		(Column 1)		(Column 2)							
FOR		NUMBER FILED		NUMBER EXTRA		RATE (\$)		FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A		N/A		N/A					
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A		N/A		N/A					
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A		N/A		N/A					
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 = *				x \$50 =					
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 = *				x \$240 =					
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))											
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL					
APPLICATION AS AMENDED - PART II											
		(Column 1)		(Column 2)		(Column 3)					
AMENDMENT	06/29/2023		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		
									ADDITIONAL FEE (\$)		
	Total (37 CFR 1.16(i))		* 10 Minus		** 20 = 0		x \$40 =		0		
	Independent (37 CFR 1.16(h))		* 1 Minus		*** 3 = 0		x \$192 =		0		
	☐ Application Size Fee (37 CFR 1.16(s))										
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))											
								TOTAL ADD'L FEE		0	
		(Column 1)		(Column 2)		(Column 3)					
AMENDMENT			CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		
									ADDITIONAL FEE (\$)		
	Total (37 CFR 1.16(i))		* Minus		** =		x \$0 =				
	Independent (37 CFR 1.16(h))		* Minus		*** =		x \$0 =				
	☐ Application Size Fee (37 CFR 1.16(s))										
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))											
								TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.								LIE			
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".								/RAMONA D WILSON/			
*** 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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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Confirmation No.: 9455

Dae-Young KIM

Group Art Unit: 2648

Appl. No.: 17/443,183

Examiner: Cindy Huyen TRANDAI

Filed: July 22, 2021

Attorney Docket No.: PJK7786360

Title: MAGNETIC MOUNT FOR ELECTRONIC DEVICES

AMENDMENT UNDER 37 C.F.R. § 1.111

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

Dear Sir:

In reply to the outstanding Office Action of February 2, 2023, reconsideration and withdrawal of the rejections made therein are respectfully requested, in view of the following amendments and remarks on the pages that follow.

Inasmuch as the Office Action sets a three-month shortened statutory period which expires on May 2, 2023, this Amendment is timely filed, along with two-months extension of time (EOT).

The Patent and Trademark Office is hereby authorized to charge any fees necessary to preserve the pendency of this application or credit any overpayment to Deposit Account No. 60-4741, making reference to the above-identified Attorney Docket No. PJK7786360.

AMENDMENTS TO CLAIMS:

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

Listing of Claims:

1. (Currently Amended) A case for an electronic device wherein the electronic device has a receiver coil for wireless charging constructed within the electronic device and the receiver coil is formed in between an inner boundary and an outer boundary, the case comprising:

a protective cover constructed to receive the electronic device therein; and

a metal plate constructed to be received in between the protective cover and the electronic device,

wherein the metal plate is made of a magnet which produces magnetic flux, ~~and~~

wherein the metal plate received in between the protective cover and the electronic device is positioned to substantially allow magnetic waves to pass through ~~the~~ an area formed by the inner boundary of the receiver coil, and

wherein the metal plate does not overlap with an orthographic parallel projection of the area formed by the inner boundary of the receiver coil.

2. (Cancelled)

3. (Original) The case of claim 1, wherein the inner boundary and the outer boundary are substantially circular.

4. (Original) The case of claim 1, wherein the metal plate has a rounded concave edge.

5. (Original) The case of claim 4, wherein the rounded concave edge substantially symmetrically aligns to respective orthographic parallel projections of the inner boundary and the outer boundary onto a projection plane of the metal plate.

6. (Original) The case of claim 5, wherein the rounded concave edge at least partially overlaps with an orthographic parallel projection of the outer boundary onto a projection plane of the metal plate.

7. (Original) The case of claim 5, wherein the rounded concave edge is placed outside an orthographic parallel projection of the outer boundary onto a projection plane of the metal plate.

8. (Currently Amended) The case of claim 1, wherein the metal plate is substantially rectangular with a first side having ~~the~~a rounded concave edge, and
wherein the metal plate has third and fourth sides that are substantially parallel to each other and has a second side that is substantially parallel to the first side.

9. (Original) The case of claim 8, wherein the metal plate has rounded corners.

10. (Currently Amended) The case of claim 1, wherein the metal plate is substantially trapezoidal wherein ~~the~~a rounded concave edge is formed on a shorter side of two parallel sides, and wherein the metal plate has rounded corners.

11. (Original) The case of claim 1, wherein the metal plate is attached to the protective cover by an adhesive.

REMARKS

By entry of this Amendment, claims 1 and 3-11 will be pending, with claim 1 being independent. Claim 1 has been amended to incorporate the subject matter of original claim 2, which is hereby cancelled.

No new matter has been added. Entry of this Amendment is respectfully requested.

Claim Rejections- 35 U.S.C. 103

Claims 1-11 are rejected under 35 USC 103 as being unpatentable over US 2016/0294427 A1 (“Wojcik”) in view of US 2016/0056664 A1 (“Partovi”).

While not conceding the appropriateness of the Examiner’s rejections, but merely to advance prosecution of the instant application, independent claim 1 has been amended to be further distinguished from the cited references.

Claim 1 as amended recites:

“A case for an electronic device wherein the electronic device has a receiver coil for wireless charging constructed within the electronic device and the receiver coil is formed in between an inner boundary and an outer boundary, the case comprising:

a protective cover constructed to receive the electronic device therein; and
a metal plate constructed to be received in between the protective cover and the electronic device,

wherein the metal plate is made of a magnet which produces magnetic flux,

wherein the metal plate received in between the protective cover and the electronic device is positioned to substantially allow magnetic waves to pass through an area formed by the inner boundary of the receiver coil, and

wherein the metal plate does not overlap with an orthographic parallel projection of the area formed by the inner boundary of the receiver coil.” (*Emphasis added*)

The case for electronic device of amended claim 1 includes, *inter alia*, a magnetic metal plate and addresses the problem of conventional cases which impede or prevent wireless charging of the electronic device due to the metal plate blocking the electromagnetic field for wireless charging. See “Background of the Invention” section on pages 1-2 of the specification. In order to solve this technical problem, the case of claim 1 requires that (1) the metal plate is received in between the protective cover and the electronic device, and (2) the metal plate does not overlap with the orthographic parallel projection of the area formed by the inner boundary of the receiver coil of the electronic device. Applicant submits that these technical features/solutions are not disclosed or made obvious by the cited references.

First, Wojcik discloses a protective case 200 for an electronic device 100 including a shell 202 for receiving and at least partially covering an electronic device 100, and the case 200 includes a core comprising a second material (e.g., ferrite 210) having a magnetic permeability substantially greater than a magnetic permeability of the first material of the shell 202. Further, the core increases magnetic coupling between the wireless charging coil of the installed electronic device and a source charging coil when the protective case is placed in proximity to the source charging coil. See Abstract of Wojcik with reference to representative FIG. 1 reproduced below.

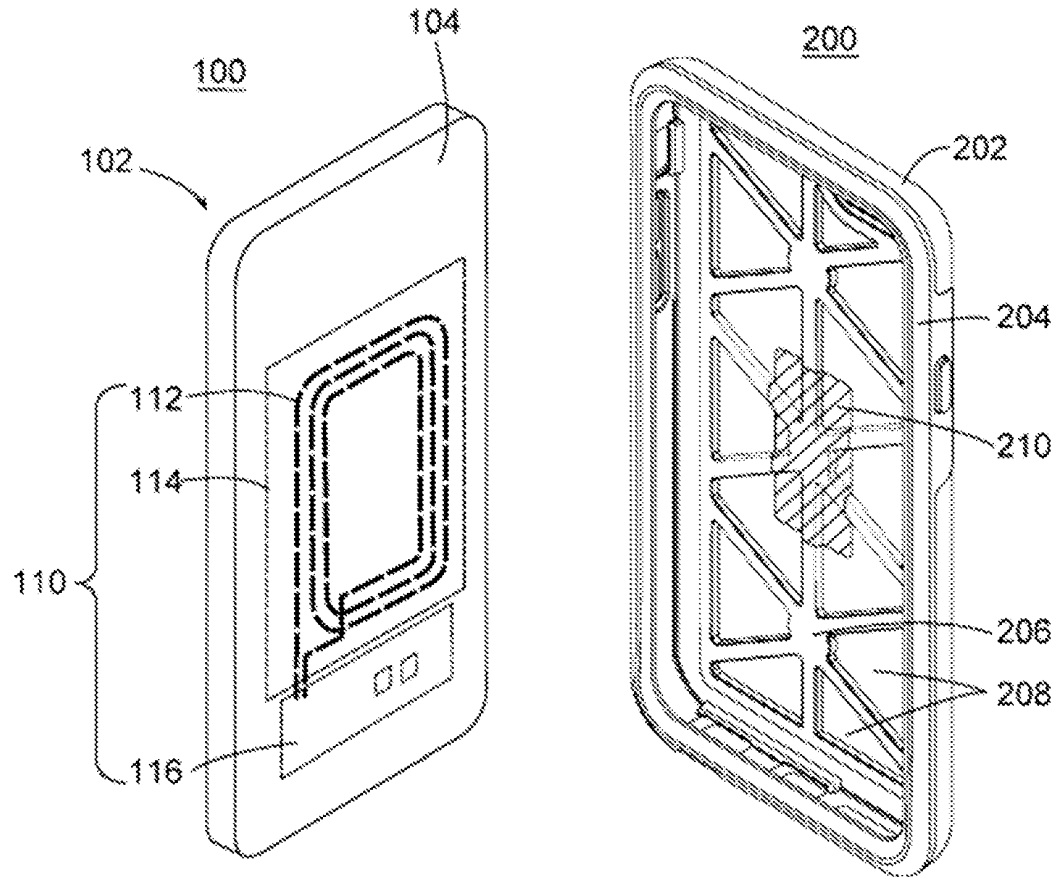


FIG. 1 of Wojcik

However, as acknowledged by the Office Action at page 3, Wojcik does not teach the magnetic waves to pass through the area formed by the inner boundary. Further, Wojcik does not teach that the metal plate does not overlap with an orthographic parallel projection of the area formed by the inner boundary.

The Office Action relies on Partovi to assert that the defects of Wojcik can be cured by obvious modification using the disclosures of Partovi. Applicant respectfully disagrees for at least the following reasons.

First, Partovi relates to a system for use in wireless charging or wireless powering across multiple protocols which can wireless charge multiple devices at non-specific alignments. See Abstract and paras. [0003]-[0004]. The system of Partovi uses “magnetic aperture” by incorporating a permanent and/or electromagnet in the charging system.

However, Partovi uses the magnetic aperture in a magnetic shield or ferromagnetic layer by saturating the layer through application of a DC and/or AC magnetic field, and the magnetic material/switching layer is disposed adjacent to the charger coils. See below reproduction of FIG. 21 of Partovi.

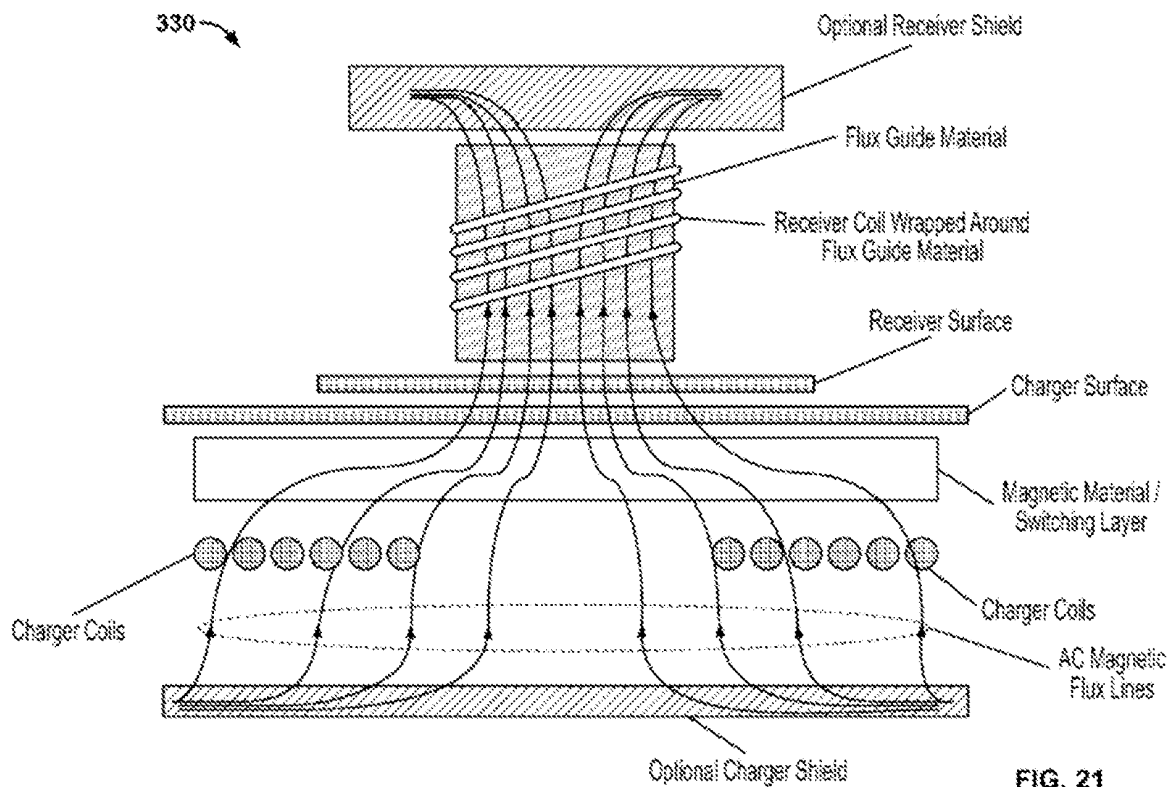


FIG. 21 of Partovi

Therefore, Partovi cannot make obvious the metal plate of claim 1 which is placed between the protective cover and the electronic device. That is, modifying the case of Wojcik with the disclosure of Partovi to arrive at the claimed invention would not have been obvious to one of ordinary skill in the art. Wojcik discloses the ferrite 210 to be disposed in the recess of the shell 202 between the shell 202 and the electronic device 100, and to remove the ferrite 210 from out of the shell and adjacent the charger coils cannot be an obvious combination of Wojcik and Partovi as one of ordinary skill in the art would not have found sufficient motivation to do so.

Second, Partovi fails to disclose or make obvious the limitation, “wherein the metal plate does not overlap with an orthographic parallel projection of the area formed by the inner boundary”. As seen in the cross-sectional schematic views of the embodiments shown in FIGS. 20, 21, 23, etc., the magnetic material completely overlaps with the orthographic parallel projection of the area formed by the inner boundary of the receiver coils. Further, the Office Action cites to paras. [0186]-[0189] to reject original claim 2 which recites the aforementioned limitation. However, paras. [0186]-[0189] of Partovi merely discloses that the magnets can be used in various shapes to shift the operating position of the magnetization curve so that the combination of the transmitter coil, the affected ferromagnet layer and the receiver coil move to a resonance condition at a given frequency for power transfer, and does not disclose – explicitly or implicitly – that the magnets do not overlap with the area formed by the inner boundary. Thus, Partovi in combination with Wojcik fails to make obvious amended claim 1.

Lastly, it is noted that paragraph [0278] of Partovi states, in part: “Since a particular type of magnet and field strength may be required to open the aperture (in conjunction with the magnetic layer), it is therefore unlikely that a casual or accidental placement of a magnet by a user will open this aperture.” Applicant submits Partovi addresses a much more technically difficult problem

using a different technical solution (e.g., magnetic coupling), which is completely different from the technical problem and solution addressed by the present invention. Thus, one of ordinary skill in the art would not have found it obvious to arrive at the case as recited in amended claim 1 by modifying the case of Wojcik with the disclosure of Partovi.

In light of the foregoing, Applicant respectfully submits that the cited references, either alone or in combination, fail to anticipate the claimed invention or make obvious the claimed invention, as they do not disclose, teach, or suggest at least the particular features, “wherein the metal plate received in between the protective cover and the electronic device is positioned to substantially allow magnetic waves to pass through the area formed by the inner boundary, and wherein the metal plate does not overlap with an orthographic parallel projection of the area formed by the inner boundary,” as recited in amended claim 1.

Therefore, independent claim 1 is patentable for at least the above reasons, and its dependent claims are also patentable for the same reasons as their independent base claim, as well as on their own merits.

Thus, it is respectfully requested that these rejections under 35 U.S.C. 103 be reconsidered and withdrawn.

CONCLUSION

Accordingly, reconsideration of the outstanding Office action and allowance of the present application and all the claims therein are respectfully requested and believed to be appropriate. It is submitted that all of the pending issues have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that

rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this reply should be construed as an intention to concede any issue with regard to any claim, except as specifically stated in this reply, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment. Accordingly, entry of the amendments and allowance of the claims are respectfully requested.

Should the Examiner have any questions or comments regarding this matter, the undersigned may be contacted at the below-listed telephone number.

Respectfully submitted,

/Jihun Kim/
Jihun Kim (Reg. No. 80,730)
Hyun Woo Shin (Reg. No. 74,319)

June 29, 2023

BRIDGEWAY IP LAW GROUP, PLLC
11350 Random Hills Rd., Suite 800, Fairfax, VA 22030
(703) 349-6047, (703) 890-9097 (FAX)
jkim@bridgewayip.com

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) PJK7786360																																		
Application Number 17/443,183	Filed July 22, 2021																																			
For MAGNETIC MOUNT FOR ELECTRONIC DEVICES																																				
Art Unit 2648	Examiner CINDY HUYEN TRANDAI																																			
<p>This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.</p> <p>The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):</p> <table style="width: 100%; border-collapse: collapse;"><thead><tr><th></th><th style="text-align: center;"><u>Fee</u></th><th style="text-align: center;"><u>Small Entity Fee</u></th><th style="text-align: center;"><u>Micro Entity Fee</u></th><th></th></tr></thead><tbody><tr><td>☐ One month (37 CFR 1.17(a)(1))</td><td style="text-align: right;">\$220</td><td style="text-align: right;">\$88</td><td style="text-align: right;">\$44</td><td>\$ _____</td></tr><tr><td>☒ Two months (37 CFR 1.17(a)(2))</td><td style="text-align: right;">\$640</td><td style="text-align: right;">\$256</td><td style="text-align: right;">\$128</td><td>\$ <u>256</u></td></tr><tr><td>☐ Three months (37 CFR 1.17(a)(3))</td><td style="text-align: right;">\$1,480</td><td style="text-align: right;">\$592</td><td style="text-align: right;">\$296</td><td>\$ _____</td></tr><tr><td>☐ Four months (37 CFR 1.17(a)(4))</td><td style="text-align: right;">\$2,320</td><td style="text-align: right;">\$928</td><td style="text-align: right;">\$464</td><td>\$ _____</td></tr><tr><td>☐ Five months (37 CFR 1.17(a)(5))</td><td style="text-align: right;">\$3,160</td><td style="text-align: right;">\$1,264</td><td style="text-align: right;">\$632</td><td>\$ _____</td></tr></tbody></table> <p>☒ Applicant asserts small entity status. See 37 CFR 1.27.</p> <p>☐ Applicant certifies micro entity status. See 37 CFR 1.29. Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.</p> <p>☐ A check in the amount of the fee is enclosed.</p> <p>☐ Payment by credit card. Form PTO-2038 is attached.</p> <p>☐ The Director has already been authorized to charge fees in this application to a Deposit Account.</p> <p>☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number <u>60-4741</u>.</p> <p>☒ Payment made via EFS-Web.</p> <p>WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.</p> <p>I am the</p> <p>☐ applicant/inventor.</p> <p>☐ assignee of record of the entire interest. See 37 CFR 3.71. 37 CFR 3.73(b) statement is enclosed (Form PTO/SB/96).</p> <p>☒ attorney or agent of record. Registration number <u>80,730</u></p> <p>☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.</p> <table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 50%; padding: 5px;"><u>/Jihun KIM/</u> Signature</td><td style="width: 50%; padding: 5px;"><u>June 29, 2023</u> Date</td></tr><tr><td style="padding: 5px;"><u>Jihun KIM</u> Typed or printed name</td><td style="padding: 5px;"><u>703-349-6700</u> Telephone Number</td></tr></table> <p>NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.</p> <p>☐ * Total of _____ forms are submitted.</p>				<u>Fee</u>	<u>Small Entity Fee</u>	<u>Micro Entity Fee</u>		☐ One month (37 CFR 1.17(a)(1))	\$220	\$88	\$44	\$ _____	☒ Two months (37 CFR 1.17(a)(2))	\$640	\$256	\$128	\$ <u>256</u>	☐ Three months (37 CFR 1.17(a)(3))	\$1,480	\$592	\$296	\$ _____	☐ Four months (37 CFR 1.17(a)(4))	\$2,320	\$928	\$464	\$ _____	☐ Five months (37 CFR 1.17(a)(5))	\$3,160	\$1,264	\$632	\$ _____	<u>/Jihun KIM/</u> Signature	<u>June 29, 2023</u> Date	<u>Jihun KIM</u> Typed or printed name	<u>703-349-6700</u> Telephone Number
	<u>Fee</u>	<u>Small Entity Fee</u>	<u>Micro Entity Fee</u>																																	
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Electronic Patent Application Fee Transmittal				
Application Number:		17443183		
Filing Date:		22-Jul-2021		
Title of Invention:		MAGNETIC MOUNT FOR ELECTRONIC DEVICES		
First Named Inventor/Applicant Name:		Dae-Young Kim		
Filer:		Jihun Kim/Irene Ree		
Attorney Docket Number:		PJK7786360		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 2 months with \$0 paid	2252	1	256	256
Miscellaneous:				
Total in USD (\$)				256

Electronic Acknowledgement Receipt

EFS ID:	48226545
Application Number:	17443183
International Application Number:	
Confirmation Number:	9455
Title of Invention:	MAGNETIC MOUNT FOR ELECTRONIC DEVICES
First Named Inventor/Applicant Name:	Dae-Young Kim
Customer Number:	103671
Filer:	Jihun Kim/Irene Ree
Filer Authorized By:	Jihun Kim
Attorney Docket Number:	PJK7786360
Receipt Date:	29-JUN-2023
Filing Date:	22-JUL-2021
Time Stamp:	10:27:52
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$256
RAM confirmation Number	E20236SA28099503
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Authorized User	

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File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1-PJK7786360-A01-Amenment_NFOA.pdf	904860	yes	10
			40f4413f88f4651edf09010e88c990e74314ff686		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment/Request for Reconsideration-After Non-Final Rejection		1	1	
	Claims		2	3	
	Applicant Arguments/Remarks Made in an Amendment		4	10	
Warnings:					
Information:					
2	Extension of Time	2-PJK7786360-EOT.pdf	283079	no	2
			f4b28ab9815c544bf2fea10088e5f40e5d6191ff		
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	38254	no	2
			b434d3115eaafe5ac3170ffbaa82204a0060ae36		
Warnings:					
Information:					
Total Files Size (in bytes):			1226193		

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.

Doc Code: DIST.E.FILE Document Description: Electronic Terminal Disclaimer - Filed		PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce
Electronic Petition Request	TERMINAL DISCLAIMER TO OBIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	
Application Number	17443183	
Filing Date	22-Jul-2021	
First Named Inventor	Dae-Young Kim	
Attorney Docket Number	PJK7786360	
Title of Invention	MAGNETIC MOUNT FOR ELECTRONIC DEVICES	
☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action ☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.		
Owner	Percent Interest	
SPIGEN KOREA CO., LTD.	100%	
<p>The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)</p> <p>11101838</p> <p>as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.</p> <p>In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:</p> <ul style="list-style-type: none"> - expires for failure to pay a maintenance fee; - is held unenforceable; - is found invalid by a court of competent jurisdiction; - is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321; - has all claims canceled by a reexamination certificate; - is reissued; or - is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer. <p>☒ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.</p>		

☐ I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.	
Applicant claims the following fee status:	
☒ Small Entity ☐ Micro Entity ☐ Regular Undiscounted	
I hereby declare that all statements made herein of my own knowledge are true and that all statements made 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 so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.	
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES I certify, in accordance with 37 CFR 1.4(d)(4) that I am:	
☒ An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application Registration Number <u>74319</u>	
☐ A sole inventor ☐ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application ☐ A joint inventor; all of whom are signing this request	
Signature	/Hyun Woo Shin/
Name	Hyun Woo Shin

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
 Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal				
Application Number:		17443183		
Filing Date:		22-Jul-2021		
Title of Invention:		MAGNETIC MOUNT FOR ELECTRONIC DEVICES		
First Named Inventor/Applicant Name:		Dae-Young Kim		
Filer:		Hyun Woo Shin		
Attorney Docket Number:		PJK7786360		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
STATUTORY OR TERMINAL DISCLAIMER	2814	1	170	170
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				170

Doc Code: DISQ.E.FILE
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 17443183

Filing Date: 22-Jul-2021

Applicant/Patent under Reexamination: Kim

Electronic Terminal Disclaimer filed on August 10, 2023

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt

EFS ID:	48426866
Application Number:	17443183
International Application Number:	
Confirmation Number:	9455
Title of Invention:	MAGNETIC MOUNT FOR ELECTRONIC DEVICES
First Named Inventor/Applicant Name:	Dae-Young Kim
Customer Number:	103671
Filer:	Hyun Woo Shin
Filer Authorized By:	
Attorney Docket Number:	PJK7786360
Receipt Date:	10-AUG-2023
Filing Date:	22-JUL-2021
Time Stamp:	20:43:58
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$170
RAM confirmation Number	E202380K43569916
Deposit Account	
Authorized User	

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

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	41254	no	2
			c950025e23e1a8773c62cf822163e8f708a7cb83		

Warnings:**Information:**

2	Fee Worksheet (SB06)	fee-info.pdf	37681	no	2
			49c4f39934f1c45bc0d0a547ea48cf68ccbd1b8f		

Warnings:**Information:****Total Files Size (in bytes):**

78935

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.



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

NOTICE OF ALLOWANCE AND FEE(S) DUE

103671 7590 08/21/2023
Bridgeway IP Law Group, PLLC
11350 Random Hills Rd.
Suite 800
Fairfax, VA 22030

EXAMINER

TRANDAI, CINDY HUYEN

ART UNIT

PAPER NUMBER

2648

DATE MAILED: 08/21/2023

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/443,183	07/22/2021	Dae-Young Kim	PJK7786360	9455

TITLE OF INVENTION: MAGNETIC MOUNT FOR ELECTRONIC DEVICES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0.00	\$0.00	\$480	11/21/2023

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

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

HOW TO REPLY TO THIS NOTICE:

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

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

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

For purposes of this notice, small entity fees are 40% the amount of undiscounted fees, and micro entity fees are 20% the amount of undiscounted fees.

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

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

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

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (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 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. **Because electronic patent issuance may occur shortly after issue fee payment, any desired continuing application should preferably be filed prior to payment of this issue fee in order not to jeopardize copendency.**

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

103671 7590 08/21/2023
Bridgeway IP Law Group, PLLC
11350 Random Hills Rd.
Suite 800
Fairfax, VA 22030

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 transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/443,183	07/22/2021	Dae-Young Kim	PJK7786360	9455
TITLE OF INVENTION: MAGNETIC MOUNT FOR ELECTRONIC DEVICES				

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0.00	\$0.00	\$480	11/21/2023

EXAMINER	ART UNIT	CLASS-SUBCLASS
TRANDAI, CINDY HUYEN	2648	455-575800

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/AIA/122 or PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or 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 must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). 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. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required)

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

- ☐ Electronic Payment via Patent Center or EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

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

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

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

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

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

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

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/443,183	07/22/2021	Dae-Young Kim	PJK7786360	9455
103671	7590	08/21/2023	EXAMINER	
Bridgeway IP Law Group, PLLC 11350 Random Hills Rd. Suite 800 Fairfax, VA 22030			TRANDAI, CINDY HUYEN	
			ART UNIT	PAPER NUMBER
			2648	

DATE MAILED: 08/21/2023

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

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

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

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

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

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

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.** Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

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

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

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

<i>Notice of Allowability</i>	Application No. 17/443,183	Applicant(s) Kim, Dae-Young	
	Examiner CINDY H TRANDAI	Art Unit 2648	AIA (FITF) Status Yes

-- 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 6/29/2023.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 1 and 3-11. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

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

Certified copies:

a) ☐ All b) ☐ Some* c) ☐ None of the:

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

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

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

/Cindy Trandai/ Primary Examiner, Art Unit 2648	
--	--

<i>Examiner-Initiated Interview Summary</i>	Application No. 17/443,183	Applicant(s) Kim, Dae-Young		
	Examiner CINDY H TRANDAI	Art Unit 2648	AIA (First Inventor to File) Status Yes	Page 1 of 1

All Participants (applicant, applicants representative, PTO personnel)	Title	Type
CINDY H TRANDAI	Primary Examiner	Telephonic
Jihun Kim (Reg. No. 80,730)	Attorney of Record	

Date of Interview: 08 August 2023

Issues Discussed:

Non-statutory Double Patenting

Discussed terminal Disclaimer for parent patent.

/Cindy Trandai/ Primary Examiner, Art Unit 2648	
<p>Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04</p> <p>Please further see: MPEP 713.04 Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b) 37 CFR § 1.2 Business to be transacted in writing</p>	

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

Search Notes 	Application/Control No. 17/443,183	Applicant(s)/Patent Under Reexamination Kim, Dae-Young
	Examiner CINDY H TRANDAI	Art Unit 2648

CPC - Searched*		
Symbol	Date	Examiner
H02J50/10	01/31/2023	ct

CPC Combination Sets - Searched*		
Symbol	Date	Examiner
F16M13/00 OR H05K5/03 OR F16B2001/0035	01/31/2023	ct
H04B1/3883 or H04B5/0081 or H04B5/0037 or H04B1/3888)	01/31/2023	ct
H04B1/3888 OR A45C11/00 OR A45C13/1069 OR H02J7/0042 OR H02J50/10 OR A45C2011/002 OR A45C2011/003 OR H04B1/3877	01/31/2023	ct

US Classification - Searched*			
Class	Subclass	Date	Examiner

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

Search Notes		
Search Notes	Date	Examiner
US-PGPUB, USPAT, EPO, JPO and DERWENT in PE2E	01/31/2023	ct
Update search in PE2E	08/08/2023	ct

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	claim search in PE2E	01/31/2023	ct

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Issue Classification 	Application/Control No. 17/443,183	Applicant(s)/Patent Under Reexamination Kim, Dae-Young
	Examiner CINDY H TRANDAI	Art Unit 2648

CPC						
Symbol					Type	Version
H04B	/	1	/	3888	F	2013-01-01
A45C	/	11	/	00	I	2013-01-01
H02J	/	50	/	10	I	2016-02-01
H02J	/	7	/	0042	I	2013-01-01
A45C	/	13	/	1069	I	2013-01-01
H04B	/	1	/	3877	A	2013-01-01
A45C	/	2011	/	002	A	2013-01-01
A45C	/	2011	/	003	A	2013-01-01

CPC Combination Sets					
Symbol			Type	Set	Ranking
	/				

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	10	
/Cindy Trandai/ Primary Examiner, Art Unit 2648 (Primary Examiner)	08 August 2023 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 6B

Issue Classification 	Application/Control No. 17/443,183	Applicant(s)/Patent Under Reexamination Kim, Dae-Young
	Examiner CINDY H TRANDAI	Art Unit 2648

INTERNATIONAL CLASSIFICATION			
CLAIMED			
H04B	/	1	/ 3883
NON-CLAIMED			
	/		/

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	10	
/Cindy Trandai/ Primary Examiner, Art Unit 2648 (Primary Examiner)	08 August 2023 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 6B

Issue Classification 	Application/Control No. 17/443,183	Applicant(s)/Patent Under Reexamination Kim, Dae-Young
	Examiner CINDY H TRANDAI	Art Unit 2648

☐ Claims renumbered in the same order as presented by applicant	☐ CPA	☒ T.D.	☐ R.1.47
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CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	9	10												
-	2	10	11												
2	3														
3	4														
4	5														
5	6														
6	7														
7	8														
8	9														

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 10	
/Cindy Trandai/ Primary Examiner, Art Unit 2648 (Primary Examiner) _____ (Date) 08 August 2023		O.G. Print Claim(s) 1	O.G. Print Figure 6B

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	0	"15989033"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 04:57 PM
L2	75	(back or rear) near (case or cover) same magnetic\$3 metal plate	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 05:05 PM
L3	4	("20110228458" "8746448").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 05:11 PM
L4	113	(back or rear) near (panel) same magnetic\$3 metal	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 07:04 PM
L5	575	(back or rear) near (panel) same metal near plate	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 07:05 PM
L6	10	(back or rear) near (panel) same metal near plate same attach\$5 magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 07:05 PM
L7	6	(back or rear) near (case or cover) same metal near plate same attach\$5 magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 07:07 PM
L8	17	("3990848" "4647428" "4808347" "5342584" "5938076").PN. OR ("6632405").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2018/07/13 07:08 PM
L9	39	(back or rear) near (case or cover) same metal near plate and attach\$5 magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 07:12 PM
L10	2	"15452342"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 07:13 PM
L11	30	("20100081377" "20110192857" "20140299739" "20140354218" "20150320168" "20160051019" "20160072933" "20160260532" "4319097" "5992807" "7374142" "9379759" "9616821").PN	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/13 07:17 PM
L12	5652	magnetic near plate same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:09 PM
L13	10	magnetic near plate with (rear or back) near cover same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:10 PM

L14	2	magnet near plate with (rear or back) near cover same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:10 PM
L15	3	magnetic near plate near magnetic with (rear or back) near cover same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:13 PM
L16	30	magnetic near plate near magnetic with (rear or back) near cover	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:13 PM
L17	47	magnetic near plate near magnetic same (rear or back) near cover	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:15 PM
L18	17	L17 not L16	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:15 PM
L19	0	magnetic near plate near metal same (rear or back) near cover	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:16 PM
L20	10	magnetic near plate same attach\$5 same (rear or back) near cover	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:17 PM
L21	2	magnetic near plate same attach\$5 same (rear or back) near case	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:18 PM
L22	8	magnetic near plate same attach\$5 same (rear or back) near housing	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:18 PM
L23	29	magnetic near plate same coil same (rear or back) near (cas\$3 or housing or frame or cover)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:22 PM
L24	2344	coil same magnet\$3 same (rear or back) near (casing or housing or cover)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:27 PM
L25	33	coil same magnet\$3 near plate same (rear or back) near (casing or housing or cover)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:28 PM
L26	2370	coil same1 magnet\$3 same (rear or back) near (casing or housing or cover)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:29 PM
L27	11542	wireless near charg\$3 same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 03:31 PM
L28	160	wireless near charg\$3	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19

L29	1	and coil (rear or back) near (cover or casing or housing) "15783733"	EPO; JPO; DERWENT) (US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	03:31 PM 2018/07/19 04:36 PM
L30	18	("20150137742" "20120 274271" "20140295199 " "20130257367" "2016 0141099" "2007021716 3" "20160079671" "201 50048752" "201402471 88").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 05:03 PM
L31	1	wireless near charg\$3 and magnetic near plate same5 (rear or back) near (cover or casing or housing)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 05:11 PM
L32	89	wireless near charg\$3 and magnet same (rear or back) near (cover or casing or housing)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/19 05:16 PM
L33	2	(first or second) near magnet and coil and (US "20150214749" A1)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 11:11 AM
L34	13	("8669678" "8901881"). PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 12:09 PM
L35	42	concave near magnet same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 12:11 PM
L36	6452	magnet same receiv\$3 near coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 12:31 PM
L37	119	magnet same receiv\$3 near coil same recess	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 12:31 PM
L38	804	magnet same coil same (rear or back) near (cover or casing or housing)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 12:40 PM
L39	28	magnet same receiv\$3 near coil same (rear or back) near (cover or casing or housing)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 12:41 PM
L40	39	wireless adj3 (charg\$3 or power) and magnet near plate same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 04:13 PM
L41	1	receiver adj coil and transmit\$5 adj coil and magnet and (US "20160003270" A1)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20 04:25 PM
L42	1	receiver adj coil and	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/20

L43	70	magnet and (US "20160003270" A1) (partovi afshin).inv.	EPO; JPO; DERWENT) (US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	04:39 PM 2018/07/23 11:58 AM
L44	2	US "20050115916" A1	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 01:57 PM
L45	28049	(H02J7/025 OR H02J5/005 OR H04B5/0037 OR H04B5/0081 OR H04B5/0093).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:46 PM
L46	834	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:47 PM
L47	6456	magnet same receiv\$3 near coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:48 PM
L48	347	L47 and L45	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:48 PM
L49	1	L45 and L46	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:48 PM
L50	804	magnet same coil same (rear or back) near (cover or casing or housing)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:49 PM
L51	30	L50 and L45	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:49 PM
L52	170	(spigen korea).as.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:50 PM
L53	1	receiv\$3 near coil and L52	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:50 PM
L54	1	metal near plate same magnet\$3 and L52	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:53 PM
L55	2	metal near plate and L52	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2018/07/23 04:53 PM
L56	1	"15989033"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 05:06 PM
L57	30644	(H02J7/025 OR H02J5/005 OR H04B5/0037 OR H04B5/0081 OR H04B5/0093).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 05:07 PM
L58	920	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08

L59	1	L57 and L58	EPO; JPO; DERWENT) (US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	05:07 PM 2019/01/08 05:07 PM
L60	851	magnet same coil same (rear or back) near (cover or casing or housing)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 05:07 PM
L61	30	L60 and L57	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 05:07 PM
L62	30	L60 and L57	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 05:24 PM
L63	42	(back or rear) near (case or cover) same metal near plate and attach\$5 magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 05:40 PM
L64	1	((back or rear) near (case or cover) same metal near plate same attach\$5 magnet same coil).clm.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 06:39 PM
L65	5599	(H04B1/3888)).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 07:12 PM
L66	851	magnet same coil same (rear or back) near (cover or casing or housing)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 07:13 PM
L67	2	L65 and L66	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 07:13 PM
L69	10281	(H02J50/10 OR).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 07:15 PM
L70	12	L66 and L69	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/08 07:15 PM
L75	10	magnet same support ring same mobile near device	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 08:39 AM
L76	4	magnet same support ring same inside back near (cover or case)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 08:46 AM
L77	4	magnet inside back near (cover or case) same support ring	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 08:47 AM
L78	4	magnet same inside back near (cover or case) same support ring	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 08:47 AM
L79	0	magnet same metal	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09

		near plate same back near (cover or case) same support ring	EPO; JPO; DERWENT)				08:48 AM
L80	6	magnet same metal near plate same back near (cover or case) same support	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 08:48 AM
L81	0	"87466448"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 08:59 AM
L82	16	"8746448"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 08:59 AM
L83	18	("20090219677" "20100222118" "20110011906" "20110266316" "20110303709" "20120011888" "20120031937" "20120063066" "20140084034" "8550317" "8672374" "8746448" "8833820").PN. OR ("8887970").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2019/01/09 09:05 AM
L84	3	US "9486910" B2 and magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 09:09 AM
L85	35	("20090270050" "20100222118" "20110266316" "20110284599" "20120031937" "20120326003" "20130146625" "20130313845" "20140084034" "5762305" "7717483" "8186642" "8480144" "8550317" "8672374" "8887970" "9033384" "9137915" "D376308" "D471400" "D616285" "D651205" "D674380" "D681420" "D693818" "D713140" "D716287" "D729787").PN. OR ("9486910").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2019/01/09 09:12 AM
L86	41	magnet same metal near plate same (back or rear) near (cover or case)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 09:19 AM
L87	118	magnet and metal near	(US-PGPUB; USPAT;	WITH	ON	ON	2019/01/09

		plate same (back or rear) near (cover or case)	EPO; JPO; DERWENT)				09:44 AM
L88	77	L87 not L86	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 09:45 AM
L89	2	"15452342"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 09:48 AM
L90	6	("20140321052" "8746448" "20110228458").PN	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 10:58 AM
L91	74	magnet and metal near plate same (protect\$5 or hard) near (cover or case)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 11:02 AM
L92	984	metal near plate same (protect\$5 or hard) near (cover or case)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 11:18 AM
L93	5599	(H04B1/3888).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 11:19 AM
L94	10281	(H02J50/10 OR).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 11:19 AM
L95	15801	L93 or L94	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 11:19 AM
L96	12	L92 and L95	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 11:19 AM
L97	44	shape metal near plate same (protect\$5 or hard) near (cover or case)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:16 PM
L98	22	metal near plate same (protect\$5 or hard) near (cover or case) same coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:17 PM
L99	4	metal near plate same (protect\$5 or hard) near (cover or case) and (receiv\$3 or transmit\$4) near coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:21 PM
L100	1258	metal near plate and (receiv\$3 or transmit\$4) near coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:24 PM
L101	103	L95 and L100	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:24 PM
L102	103	L101 not L97	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:25 PM

L103	102	L101 not L96	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:25 PM
L104	102	L101 not L91	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 12:25 PM
L105	8889814	"20" not "19"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 01:11 PM
L106	6	("20080136369" "20110 050161" "20110192857 ").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 01:29 PM
L111	243	"7239110"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 04:26 PM
L112	9	mobile near device same case near cover (hard or soft)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 04:47 PM
L113	162	device same case near cover (hard or soft)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/09 04:48 PM
L114	3	US "20120151973" A1	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/10 09:05 AM
L115	3	(metal or magnet) adj plate with (rear or back) near (cover or case) same1 coil near around	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/01/10 09:47 AM
L116	3	"20140321052"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/05 01:22 PM
L117	2	("8746448").pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/05 01:23 PM
L118	27	("20030213886" "20090283559" "20100222118" "20110266313" "20110266316" "20120048873" "20120063066" "3938166" "5383091" "8428664").PN. OR ("8746448").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2019/06/05 01:24 PM
L119	57	magnet\$5 near metal same antenna same housing	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/05 01:54 PM
L120	868	magnet\$5 near metal same mount	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	WITH	ON	ON	2019/06/05 02:28 PM

L121	27	L120 and antenna	IBM_TDB) (US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/05 02:28 PM
L122	0	metal around antennasame (protective near cover or cover or housing)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/05 02:39 PM
L123	542	metal around antenna same (protective near cover or cover or housing)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/05 02:39 PM
L124	94	metal with around near antenna same (protective near cover or cover or housing)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/05 02:40 PM
L125	12	(metal or magnet) adj plate with (rear or back) near (cover or case) same1 coil near (receiv\$3 or transmit\$5 or antenna)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/06/05 03:23 PM
L126	103	(metal or magnet) adj plate with (rear or back or protective) near (cover or case) same (antenna or coil)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/06/05 03:27 PM
L127	6036	(H04B1/3888).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/06/09 10:22 AM
L128	983	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2019/06/09 10:23 AM
L129	687	(kim dae\$1young).inv.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/09 10:34 AM
L130	88	L129 and metal	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2019/06/09 10:34 AM
L131	3	"15989033"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2020/10/20 01:42 PM
L132	2451	(H04B5/00).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2020/10/20 01:45 PM
L133	1148	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2020/10/20 01:45 PM
L134	7240	(H04B1/3888).CPC.	(US-PGPUB; USPAT; EPO; JPO;	WITH	ON	ON	2020/10/20 01:45 PM

L135	37949	(H02J7/025 OR H02J5/005 OR H04B5/0037 OR H04B5/0081 OR H04B5/0093).CPC.	DERWENT) (US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2020/10/20 01:45 PM
L136	1148	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2020/10/20 01:45 PM
L137	17256	(H02J50/10).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2020/10/20 01:46 PM
L138	73	magnet same metal near plate same (back or rear) near (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 01:49 PM
L139	108	magnet\$3 same plate same hard near (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:02 PM
L140	105	L139 not L138	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:04 PM
L141	170594	magnet\$3 same plate same (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:44 PM
L142	51755	L132 or L133 or L134 or L135 or L136 or L137	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:45 PM
L143	1144	L141 and L142	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:45 PM
L144	0	magnet same metal near plate same (back or rear) near rear with (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:45 PM
L145	309	magnet same metal near plate same (back or rear) with (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:46 PM
L146	15	L145 and L142	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2020/10/20 02:46 PM
L147	2139	magnet same (ion or metal\$5 or steel) near (sheet or plate) same (back or rear) same (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 02:59 PM

L148	72	magnet\$3 with (retention or attachment) same (ion or metal\$5 or steel) near (sheet or plate) same (back or rear) same (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 03:01 PM
L149	185	wireless same (ion or metal\$5 or steel) near (sheet or plate) same (back or rear) same (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 03:09 PM
L150	184	L149 not L148	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 03:09 PM
L151	3	"15989033"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/01/12 03:10 PM
L152	20	("20130129138" "20130148839" "20130265702" "20160087469" "20160134142" "20170026498" "20170126268" "20170170678" "20170259424" "20180020812" "8390255" "8514042" "8891800" "9225372" "9275049" "9288295" "9331519" "9419670" "9473192" "9874914").PN. OR ("10892625").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2021/01/12 03:25 PM
L153	566	magnet\$3 with (retention or attachment) same (sheet or plate) same (back or rear) same (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 03:38 PM
L154	16717	antenna same coil same wireless	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 03:39 PM
L155	16	L153 and L154	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 03:39 PM
L156	123	magnet\$3 with (retention or attachment) same (sheet or plate) same (back or rear) same	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 03:48 PM

L157	0	(cover or case) same (antenna or coil) magnet\$3 with (retention or attachment) same (sheet or plate) same (back or rear) same soft near (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 04:38 PM
L158	260	magnet\$3 with (retention or attachment) same (sheet or plate) same (back or rear) same (silicon or plastic)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 04:40 PM
L159	23724	(protect\$3 or safeguard or shield) same rear near (cover or case)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 04:57 PM
L160	13018	magnet\$3 with (retention or attachment) same (sheet or plate)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 04:59 PM
L161	48	L159 and L160	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 05:00 PM
L162	55	(protect\$3 or safeguard or shield) same rear near (cover or case) same wireless near charg\$3	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 05:02 PM
L163	21806	(H02J7/0029 or H02J50/005).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 05:18 PM
L164	12485	(H04B1/3888).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 05:20 PM
L166	1603	(B65D81/022).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 05:41 PM
L167	1198	magnet\$3 with (retention or attachment) same (sheet or plate) same (plastic or silicon or shock near absorption)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/01/12 05:41 PM
L168	1	"16581596"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 10:58 AM
L169	0	magnetic near metmal	(US-PGPUB; USPAT;	WITH	ON	ON	2021/04/19

L170	106	same (soft or hard) near (cover or case) magnetic near metal same (soft or hard) near (cover or case)	EPO; JPO; DERWENT) (US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	11:31 AM 2021/04/19 11:31 AM
L171	87982	(H02J7/025 or H02J50/10 or H02J50/70 or H01R24/60 or H02J7/0044).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 11:41 AM
L172	739	coil same battery and wireless near power and magnetic near (plate or shield)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 11:50 AM
L173	2621	coil same battery and magnetic near (plate or shield)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 11:50 AM
L174	37986	(electro\$1magnetic or electro adj magmetic) and (resonant or wireless) near power	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 11:52 AM
L175	7092993	(shell or case or cover) same (mount\$3 or insert\$3 or attach\$3)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 11:57 AM
L176	2621	coil same battery and magnetic near (plate or shield)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 11:58 AM
L177	37986	(electro\$1magnetic or electro adj magmetic) and (resonant or wireless) near power	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 11:58 AM
L178	639	L176 and L177	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 11:58 AM
L179	441	L175 and L178	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:00 PM
L180	87982	(H02J7/025 or H02J50/10 or H02J50/70 or H01R24/60 or H02J7/0044).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:01 PM
L181	387	L180 and L179	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:01 PM
L182	666	metal around antenna same (protective near cover or cover or	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	WITH	ON	ON	2021/04/19 12:01 PM

L183	0	housing) L181 and L182	IBM_TDB) (US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:01 PM
L184	13309	magnet\$3 with (retention or attachment) same (sheet or plate)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:02 PM
L185	57	L181 and L184	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:02 PM
L186	21	("20120013295" "20120 281356" "20120057322 " "20140132206" "5656 983" "20120169276" "2 0110221389" "2015034 9578").PN.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:03 PM
L187	669337	(antenna or coil) same (electro\$1 magnetic or electro adj magmetic or resonant)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:30 PM
L188	15479	(protective near cover or cover or housing or cas\$3 or shell) and magnetic near (plate or dish or layer) same (mount\$3 or attach\$5 or affix\$3)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:33 PM
L189	38407	(H02J7/025 OR H02J5/005 OR H04B5/0037 OR H04B5/0081 OR H04B5/0093).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:35 PM
L190	1192	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:35 PM
L191	4	L189 and L190	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:35 PM
L192	18822	(H02J50/10 OR).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:35 PM
L193	18825	L191 or L192	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:35 PM
L194	2510	(H04B5/00).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:36 PM
L195	1192	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:36 PM

L196	7586	(H04B1/3888).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:36 PM
L197	38407	(H02J7/025 OR H02J5/005 OR H04B5/0037 OR H04B5/0081 OR H04B5/0093).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:36 PM
L198	1192	(A45C13/002).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:36 PM
L199	18822	(H02J50/10).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 12:36 PM
L200	53770	L194 or L195 or L196 or L197 or L198 or L199	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:36 PM
L201	106338	L180 or L197 or L200	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:38 PM
L202	2054	L187 and L188	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:38 PM
L203	151	L201 and L202	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 12:39 PM
L204	5	("20110050164" "20130300352" "20140239916").PN. OR ("9484769").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2021/04/19 01:07 PM
L205	17	flygrip	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:31 PM
L206	757741	(metal or alloy or foil) same (shell or case or cover) same (mount\$3 or insert\$3 or attach\$3)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:44 PM
L207	229916	((electro\$1magnetic or electro adj magmetic or resonant or (wireless near power) or receiver) near (coil or antenna))	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:48 PM
L208	229916	((electro\$1magnetic or electro adj magmetic or resonant or (wireless near power) or receiver) near (coil or antenna))	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:49 PM
L209	5851	L206 and L207	(US-PGPUB; USPAT; USOCR; FPRS; EPO;	WITH	ON	ON	2021/04/19 01:51 PM

L210	14077	(metal or alloy or foil) same (rear or back) near (shell or case or cover) same (mount\$3 or insert\$3 or attach\$3)	JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:51 PM
L211	1715	L206 and L184	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:52 PM
L212	14077	L206 and L210	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:52 PM
L213	627	(metal or alloy or foil) same (rear or back) near (shell or case or cover) same (mount\$3 or insert\$3 or attach\$3) same magneti\$4	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:53 PM
L214	627	L206 and L213	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:53 PM
L215	24	L207 and L213	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 01:54 PM
L216	304295	(alluminum or metal or alloy or foil) same (rear or back or bottom) near (shell or case or cover or side)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 02:14 PM
L228	789909	(alluminum or metal or alloy or foil) near (attach\$5 or insert\$3 or plate)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 03:42 PM
L229	827	(silicon or rubber) same (back or rear) near (cas\$3 or cover or shell) same (hard or soft)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 03:44 PM
L230	24	L228 and L229	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 03:47 PM
L231	507	(silicon or rubber) same (back or rear) near (cas\$3 or cover or shell) and L228	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 03:47 PM
L232	229916	((electro\$1magnetic or electro adj magmetic or resonant or (wireless near power) or receiver)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 03:48 PM

L233	5	near (coil or antenna) L231 and L232	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 03:48 PM
L234	2119	(silicon or rubber) near (cas\$3 or cover or shell) and plastic near (cas\$3 or cover or shell)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 04:20 PM
L235	4	L231 and L234	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 04:23 PM
L236	17	L232 and L234	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 04:24 PM
L237	319	(recev\$3 or (wireless near power)) near coil and (metal or magnet\$4) same (attach\$4 or insert or mount\$3) same (case\$3 or hous\$3 or cover or accessor\$4 or shell)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 04:28 PM
L238	5	("20110050164" "20130300352" "20140239916").PN. OR ("9484769").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2021/04/19 04:31 PM
L239	5	("20110050164" "20130300352" "20140239916").PN. OR ("9484769").URPN.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2021/04/19 04:31 PM
L240	6	"15081882"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 04:32 PM
L241	336	(recev\$3 or (wireless near power)) near coil and (metal or magnet\$4) same (attach\$4 or insert or mount\$3) same (case\$3 or hous\$3 or cover or accessor\$4 or shell or frame)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 04:34 PM
L242	3	("9025317").pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 05:12 PM
L243	401	("20010040109" "20020009195" "20020065054"	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2021/04/19 05:15 PM

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L244	42837	(H04B1/3883 or H04B5/0081 or H04B5/0037 or H04B1/3888).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 05:55 PM
L245	1001	(alluminum or metal or alloy or foil or ferrite) with (attach\$5 or affix\$3 or mount\$3) same receiv\$3 near coil	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 05:56 PM
L246	46	L244 and L245	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 05:57 PM
L247	732	(B65D81/022).CPC.	(US-PGPUB; USPAT;	WITH	ON	ON	2021/04/19

L248	36	L234 and L247	EPO; JPO; DERWENT) (US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	06:13 PM 2021/04/19 06:24 PM
L249	46	L244 and L245	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	WITH	ON	ON	2021/04/19 06:24 PM
L250	18822	(H02J50/10).CPC.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2021/04/19 06:33 PM
L251	3	"16581596"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 12:26 PM
L252	4	charger NEAR coil SAME metal NEAR plate	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 12:41 PM
L253	493	charger NEAR coil SAME magnetic	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 01:02 PM
L255	314	253 AND @ad<"20170525"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 01:09 PM
L257	144	charger NEAR coil SAME magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 01:10 PM
L258	91	257 AND @ad<"20170525"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 01:10 PM
L259	1	"17443183"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 01:16 PM
L260	2513	receiver NEAR coil SAME magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 02:02 PM
L261	261	receiver NEAR coil SAME electronic AND magnet SAME cover	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 02:03 PM
L262	168	261 AND @ad<"20170525"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 02:03 PM
L263	207	electronic SAME coil AND magnet SAME cover NEAR (rear OR back)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 02:28 PM
L264	116	263 AND @ad<"20170525"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 02:28 PM
L265	100	264 NOT 262	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/16 02:29 PM

L266	88	264 NOT 262	(US-PGPUB; USPAT)	WITH	ON	ON	2022/08/16 02:35 PM
L267	40	(electro\$1magnetic OR magnetic) adj1(wave OR signal) NEAR (go\$3 OR pass\$3) NEAR through SAME receiv\$3 coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/17 11:44 AM
L268	28	(electro\$1magnetic OR magnetic) adj1(wave OR signal) NEAR (go\$3 OR pass\$3) NEAR through SAME receiv\$3 coil	(US-PGPUB; USPAT)	WITH	ON	ON	2022/08/17 11:52 AM
L269	21	268 AND @ad<"20170525"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/17 11:53 AM
L270	13	268 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2022/08/17 11:53 AM
L271	30	("6067474" "6847190" "7362228" "7638958" "8035255" "8061014" "9240630" "20070048176" "20100161002" "20120062171" "20120218068" "20120223595" "20140091636" "20140266921" "20150130409" "20150171658" "20150182230" "20150280450").pn. OR ("10236709").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	WITH	ON	ON	2022/08/17 01:21 PM
L272	13998	(metal OR ferrite) SAME magnet\$3 AND receiv\$3 NEAR coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/17 02:03 PM
L273	4222	(metal OR ferrite) SAME magnet\$3 SAME receiv\$3 NEAR coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/17 02:03 PM
L274	587	(metal OR ferrite) SAME magnet\$3 SAME receiv\$3 NEAR coil SAME case	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/08/17 02:03 PM
L275	382	274 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2022/08/17 02:04 PM
L276	7	("1110138").pn.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/10/28 04:43 PM
L277	4	("11101838").pn.	(US-PGPUB; USPAT; EPO; JPO;	WITH	ON	ON	2022/10/28 04:44 PM

L278	127	(receiv\$3 OR antenna) SAME (metal OR ferrite) NEAR coil AND (rear OR back) NEAR cover	DERWENT) (US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/10/28 05:14 PM
L279	319	(receiv\$3 OR antenna) NEAR coil SAME (metal OR ferrite) AND (rear OR back) NEAR cover	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/10/28 05:15 PM
L280	100	(receiv\$3 OR antenna) NEAR coil SAME (metal OR ferrite) SAME (rear OR back) NEAR cover	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2022/10/28 05:15 PM
L281	44	280 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2022/10/28 05:15 PM
L282	11	"11101838"	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/30 12:06 PM
L283	12817	(electromagnetic OR receiver OR transmitter OR antenna OR power OR charging OR magnet\$3) NEAR coil AND cover SAME metal	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 11:08 AM
L284	901	(electromagnetic OR receiver OR transmitter OR antenna OR power OR charging OR magnet\$3) NEAR coil AND cover SAME metal NEAR plate	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 11:09 AM
L285	564	284 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 11:09 AM
L286	28	(electromagnetic OR receiver OR transmitter OR antenna OR power OR charging OR magnet\$3) NEAR coil AND cover SAME metal NEAR magnet	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 11:23 AM
L287	2	US "20200076243" A1	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 11:25 AM
L288	747	electromagnet\$3 SAME pass\$3 AND (inner OR outer) NEAR (surface OR boundary) AND protect\$3 NEAR (case OR cover) AND magnet\$3 SAME metal	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 12:48 PM
L289	501	288 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 12:48 PM
L290	4404	electronic NEAR device	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31

L291	684	SAME protect\$3 NEAR cover electronic NEAR device SAME protect\$3 WITH (rear OR back) NEAR cover	(US-PGPUB; USPAT)	WITH	ON	ON	01:11 PM 2023/01/31 01:11 PM
L292	2	electronic NEAR device SAME protect\$3 WITH (rear OR back) NEAR cover same1 metal NEAR magnetic	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 01:12 PM
L293	0	electronic NEAR device SAME protect\$3 WITH (rear OR back) NEAR cover same1 metal NEAR magne	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 01:13 PM
L294	1	electronic NEAR device SAME protect\$3 WITH (rear OR back) NEAR cover same1 metal NEAR magnet	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 01:13 PM
L295	52	electronic NEAR device SAME protect\$3 WITH (rear OR back) NEAR cover same1 magnet	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 01:13 PM
L296	105	protect\$3 WITH (rear OR back) NEAR cover AND (magnet OR magnetic\$4) NEAR mount\$3	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 01:28 PM
L297	52	296 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 01:28 PM
L298	20330	(F16M13/00 OR H05K5/03 OR F16B2001/0035).cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 01:55 PM
L299	114	magnetic NEAR flux SAME metal SAME cover (back OR rear) AND coil	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 02:38 PM
L300	85	299 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 02:38 PM
L301	100	coil SAME inner NEAR boundary SAME outer NEAR boundary	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 06:59 PM
L302	72	301 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 06:59 PM
L303	180	(metal OR ferrite) SAME magnet\$3 SAME receiv\$3 NEAR coil SAME case AND 250	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/01/31 07:20 PM
L304	91	303 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 07:20 PM
L305	59365	(H04B1/3888 OR	(US-PGPUB; USPAT;	WITH	ON	ON	2023/01/31

		A45C11/00 OR A45C13/1069 OR H02J7/0042 OR H02J50/10 OR A45C2011/002 OR A45C2011/003 OR H04B1/3877).cpc.	EPO; JPO; DERWENT)				07:21 PM
L306	315	electronic NEAR device SAME protect\$3 WITH (rear OR back) NEAR cover AND 305	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 07:22 PM
L307	213	306 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 07:23 PM
L308	600	(rear OR back) NEAR (cover OR case) SAME coil same2 (metal OR ferrite) SAME magnet\$3	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/08/08 09:24 AM
L309	334	308 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/08/08 09:25 AM
L310	13	(inner OR outer OR inside OR outside) NEAR coil SAME (rear OR back) NEAR (cover OR case) SAME (metal OR ferrite) SAME magnet\$3	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/08/08 09:34 AM
L311	28	plate NEAR (metal OR ferrite) SAME magnet\$3 SAME coil SAME (rear OR back) NEAR (cover OR case)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/08/08 09:35 AM
L312	162	plate NEAR (metal OR ferrite) SAME magnet\$3 SAME (rear OR back) NEAR (cover OR case)	(US-PGPUB; USPAT; EPO; JPO; DERWENT)	WITH	ON	ON	2023/08/08 09:36 AM
L313	17	162 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/08/08 09:36 AM

PE2E SEARCH - Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
N71	1	((back or rear) near (case or cover) same metal near plate same attach\$5 magnet same coil).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/08 06:39 PM
N72	0	(metal near plate same magnet same coil same (block\$3 or prevent\$3) ner (signal or wave)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/08 06:45 PM
N73	3	(metal near plate same (magnet or	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/08 06:46 PM

N74	28	electromagnetic) near (signal or wave) same coil).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/08 07:04 PM
N107	79	(rear near (cover or case) same (magnet or electromagnetic) near (signal or wave)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/09 01:10 PM
N108	86	(metal near plate same magnet same coil).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/09 01:11 PM
N109	2857114	(metal near plate same magnet same (cover or case)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/09 01:12 PM
N110	70	"20" not "19"	(US-PGPUB; USPAT)	WITH	ON	ON	2019/01/09 01:12 PM
N165	24	N108 not N107	(US-PGPUB; USPAT)	WITH	ON	ON	2021/01/12 03:50 PM
N217	9425	(magnet\$3 with (retention or attachment) same (sheet or plate) same (back or rear) same (cover or case)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:07 PM
N218	2667	(magnet\$3 same ((resonant\$3 near antenna) or coil) same (cover or cas\$3 or shell)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:08 PM
N219	58	(magnet\$3 same ((resonant\$3 near antenna) or coil) same (cover or cas\$3 or shell) same (attach\$3 or mount\$3)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:09 PM
N220	2	(magnet\$3 same ((resonant\$3 near antenna) or coil) same (cover or cas\$3 or shell) same (attach\$3 or mount\$3) same (soft or hard)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:13 PM
N221	8	("20150123604" "20170040825").PN. OR ("10291058").URPN.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:20 PM
N222	1395	((resonant or electro\$3magnetic or electro adj magnetic) same magnet\$3 same (retention or attachment) same (sheet or plate) same (back or rear)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:22 PM
		(magnet\$3 same receiver near coil).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	

N223	2	(magnet\$3 same receiver near coil same (soft or hard) near (cover or case or shell or layer)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:23 PM
N224	18	("20010045616" "20020158306" "20030141801" "20050085122" "20080019083" "20100156344" "5760335" "6018298" "6149760" "6489745" "6531030" "7175339" "7248017" "8188826" "8203328" "8269595").PN. OR ("9084343").URPN.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:24 PM
N225	18	("20010045616" "20020158306" "20030141801" "20050085122" "20080019083" "20100156344" "5760335" "6018298" "6149760" "6489745" "6531030" "7175339" "7248017" "8188826" "8203328" "8269595").PN. OR ("9084343").URPN.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 12:24 PM
N226	2	(metal near (plate or layer or dish) same ((resonant\$3 near antenna) or coil) same (cover or cas\$3 or shell) same (attach\$3 or mount\$3) same (soft or hard)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 01:39 PM
N227	73	(metal near (plate or layer or dish) same ((resonant\$3 near antenna) or coil) same (cover or cas\$3 or shell) same (attach\$3 or mount\$3)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2021/04/19 01:40 PM
N228	8170	protect\$3 NEAR (case OR cover) AND magnet\$3 SAME metal	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 12:45 PM
N229	3510	(inner OR outer) NEAR (surface OR boundary) AND protect\$3 NEAR (case OR cover) AND magnet\$3 SAME metal	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 12:46 PM
N230	1663	electromagnet\$3 AND (inner OR outer) NEAR	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 12:47 PM

N231	741	(surface OR boundary) AND protect\$3 NEAR (case OR cover) AND magnet\$3 SAME metal electromagnet\$3 SAME pass\$3 AND (inner OR outer) NEAR (surface OR boundary) AND protect\$3 NEAR (case OR cover) AND magnet\$3 SAME metal	(US-PGPUB; USPAT)	WITH	ON	ON	2023/01/31 12:47 PM
N232	7	(plate NEAR (metal OR ferrite) SAME magnet\$3 SAME (rear OR back) NEAR (cover OR case)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2023/08/08 11:18 AM
N233	654	(coil SAME (metal OR ferrite) SAME magnet\$3 SAME (cover OR case)).clm.	(US-PGPUB; USPAT)	WITH	ON	ON	2023/08/08 11:20 AM
N234	439	N233 AND @ad<"20170525"	(US-PGPUB; USPAT)	WITH	ON	ON	2023/08/08 11:20 AM

Bibliographic Data

Application No: 17/443,183

Foreign Priority claimed: ☐ Yes ☒ No

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

Verified and Acknowledged:

/Cindy Trandai/

Examiner's Signature

Initials

Title:

MAGNETIC MOUNT FOR ELECTRONIC DEVICES

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
07/22/2021	455	2648	PJK7786360
RULE			

APPLICANTS

SPIGEN KOREA CO., LTD., Seoul, KOREA, REPUBLIC OF

INVENTORS

Dae-Young Kim, Seoul, KOREA, REPUBLIC OF

CONTINUING DATA

This application is a DIV of 16581596 09/24/2019 PAT 11101838

16581596 is a CON of 15989033 05/24/2018 PAT 10469119

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

08/05/2021

** SMALL ENTITY **

STATE OR COUNTRY

KOREA, REPUBLIC OF

ADDRESS

Bridgeway IP Law Group, PLLC

11350 Random Hills Rd.

Suite 800

Fairfax, VA 22030

UNITED STATES

FILING FEE RECEIVED

\$830



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	REQUEST ID
17/443,183	07/22/2021	Dae-Young Kim	PJK7786360	194297

Acknowledgement of Loss of Entitlement to Entity Status Discount

The entity status change request below filed through Private PAIR on 08/22/2023 has been accepted.

CERTIFICATIONS:

Change of Entity Status:

☒ Applicant changing to regular undiscounted fee status.

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

This portion must be completed by the signatory or signatories making the entity status change in accordance with 37 CFR 1.4(d)(4).

Signature:	/Jihun Kim/
Name:	Jihun Kim
Registration Number:	80730



ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
17/443,183

RECEIPT DATE / TIME
11/20/2023 07:19:10 PM Z ET

ATTORNEY DOCKET #
PJ K7786360

Title of Invention

MAGNETIC MOUNT FOR ELECTRONIC DEVICES

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 9455

FILED BY Irene Ree

PATENT CENTER # 63329329

FILING DATE 07/22/2021

CUSTOMER # 103671

FIRST NAMED
INVENTOR Dae-Young Kim

CORRESPONDENCE
ADDRESS -

AUTHORIZED BY J ihun Kim

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
PJ K7786360- IssueFee_Transmittal.pdf	1	Issue Fee Payment (PTO-85B)	159 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
PJ K7786360- IssueFee_Transmittal.pdf	EECD89369D2CAC41BF8F5187E73F9A21AD17DC6ABDB53E7 D8E6EE75498AFE505D0C4346F7B135B86AA8F17E309FCFE2A 461D4B6CE6D5C32774C9D22188DB5986

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 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.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (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 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. **Because electronic patent issuance may occur shortly after issue fee payment, any desired continuing application should preferably be filed prior to payment of this issue fee in order not to jeopardize copendency.**

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

103671 7590 08/21/2023
Bridgeway IP Law Group, PLLC
11350 Random Hills Rd.
Suite 800
Fairfax, VA 22030

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 transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

17/443,183 07/22/2021 Dae-Young Kim PJK7786360 9455

TITLE OF INVENTION: MAGNETIC MOUNT FOR ELECTRONIC DEVICES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional SMALL \$480 \$0.00 \$0.00 \$480 11/21/2023

EXAMINER	ART UNIT	CLASS-SUBCLASS
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TRANDAI, CINDY HUYEN 2648 455-575800

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/AIA/122 or PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or 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 Bridgeway IP Law Group, PLLC

2 Jihun Kim

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 must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

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

SPIGEN KOREA CO., LTD.

Seoul, KR

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

4a. Fees submitted: ☒ Issue Fee ☐ Publication Fee (if required)

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

☒ Electronic Payment via Patent Center or EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

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

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☒ Applicant changing to regular undiscounted fee status.

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

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

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

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

Authorized Signature /Jihun Kim/

Date November 20, 2023

Typed or printed name Jihun Kim

Registration No. 80,730



ELECTRONIC PAYMENT RECEIPT

APPLICATION #
17/443,183

RECEIPT DATE / TIME
11/20/2023 07:19:10 PM Z ET

ATTORNEY DOCKET #
PJ K7786360

Title of Invention

MAGNETIC MOUNT FOR ELECTRONIC DEVICES

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	9455	FILED BY	Irene Ree
PATENT CENTER #	63329329	AUTHORIZED BY	J ihun Kim
CUSTOMER #	103671	FILING DATE	07/22/2021
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Dae-Young Kim

Payment Information

PAYMENT METHOD CARD / 5166	PAYMENT TRANSACTION ID E2023AJ J 19565100	PAYMENT AUTHORIZED BY Irene Ree
-------------------------------	--	------------------------------------

FEE CODE	DESCRIPTION	ITEM PRICE(\$)	QUANTITY	ITEM TOTAL(\$)
1501	UTILITY ISSUE FEE	1200.00	1	1200.00
TOTAL AMOUNT:				\$1,200.00

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 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.



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

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/443,183	01/02/2024	11863223	PJK7786360	9455

103671

7590

12/13/2023

Bridgeway IP Law Group, PLLC

11350 Random Hills Rd.

Suite 800

Fairfax, VA 22030

ISSUE NOTIFICATION

The projected patent number and issue date are specified above. The patent will issue electronically. The electronically issued patent is the official patent grant pursuant to 35 U.S.C. § 153. The patent may be accessed on or after the issue date through Patent Center at <https://patentcenter.uspto.gov/>. The patent will be available in both the public and the private sides of Patent Center. Further assistance in electronically accessing the patent, or about Patent Center, is available by calling the Patent Electronic Business Center at 1-888-217-9197.

The USPTO is implementing electronic patent issuance with a transition period, during which period the USPTO will mail a ceremonial paper copy of the electronic patent grant to the correspondence address of record. Additional copies of the patent (i.e., certified and presentation copies) may be ordered for a fee from the USPTO's Certified Copy Center at <https://certifiedcopycenter.uspto.gov/index.html>. The Certified Copy Center may be reached at (800)972-6382.

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 33 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 Center (<https://patentcenter.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 Patents Stakeholder Experience (OPSE), Stakeholder Support Division (SSD) at (571)-272-4200.

INVENTOR(s) (Please see PATENT CENTER site <https://patentcenter.uspto.gov> for additional inventors):

Dae-Young Kim, Seoul, KOREA, REPUBLIC OF;

APPLICANT(s) (Please see PATENT CENTER site <https://patentcenter.uspto.gov> for additional applicants):

SPIGEN KOREA CO., LTD., Seoul, KOREA, REPUBLIC OF;

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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Confirmation No.: 9455

Dae-Young Kim

Group Art Unit: 2648

Application No. 17/443,183

Examiner: Cindy Huyen Trandai

Filed: July 22, 2021

Attorney Docket No.: PJK7786360

Title: MAGNETIC MOUNT FOR ELECTRONIC DEVICES

PAYMENT OF DEFICIENCY UNDER 37 CFR 1.28(c)

Director of the USPTO
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to the provisions of 37 C.F.R. 1.28(c), excuse of erroneous claim of small entity is respectfully requested for the above-identified patent and the deficient fee payment under 37 CFR 1.28(c) is submitted herewith.

The instant request, accompanied by the deficient payment as itemized below, is being submitted in the USPTO upon discovery of the erroneous claim. The application at the time of filing claimed small entity status in good faith and the USPTO fees were paid with small entity discount in error and without deceptive intent.

Accordingly, acceptance of the deficient payments and excuse of the error in the previous small entity claim are respectfully requested.

Itemization of the Deficiency Payment under 37 CFR 1.28(c)(2)(ii)

Type of Fee Paid Erroneously (USPTO Fee Code)	Amount Paid & Date of Payment (Mailroom Date)	Correct Amount Due to USPTO	Amount of Deficiency Owed
Basic Utility Filing Fee (4011)	\$80.00 (July 22, 2021)	\$320.00	\$240.00
Utility Search Fee (2111)	\$350.00 (July 22, 2021)	\$700.00	\$350.00
Utility Examination Fee (2311)	\$400.00 (July 22, 2021)	\$800.00	\$400.00
TOTAL AMOUNT OF DEFICIENCY OWED:			\$990.00

The Patent and Trademark Office is hereby authorized to charge the deficient fee payment of \$990.00 and any other fees necessary in relation to this request, or to credit any overpayment, to Deposit Account No. 60-4741, making reference to Attorney Docket No. PJK7786360.

Should there be any questions, the Office is invited to contact the undersigned at the below listed contact information.

December 13, 2023
Bridgeway IP Law Group, PLLC
11350 Random Hills Rd, Suite 800
Fairfax, 22030, VA
(703) 349-6047
(703) 890-9097 (FAX)

Respectfully submitted,
Bridgeway IP Law Group, PLLC

/Jihun Kim/
Jihun Kim, Reg. No. 80,730
Hyun Woo Shin, Reg. No. 74,319



ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
17/443,183

RECEIPT DATE / TIME
12/13/2023 03:08:41 PM Z ET

ATTORNEY DOCKET #
PJK7786360

Title of Invention

MAGNETIC MOUNT FOR ELECTRONIC DEVICES

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # 11863223

CONFIRMATION # 9455

FILED BY Irene Ree

PATENT CENTER # 63600714

FILING DATE 07/22/2021

CUSTOMER # 103671

FIRST NAMED
INVENTOR Dae-Young Kim

CORRESPONDENCE
ADDRESS -

AUTHORIZED BY Jihun Kim

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
PJK7786360- Petition__1__28c.pdf	2	Petition for review by the Office of Petitions	24 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
PJK7786360-Petition__1__28c.pdf	B10EF964A43B57004CB619623FB55B5F348F9D9A386FCB90C C887508CF205D432BA334B9C5093917212629ED4B6F72A4410 C72BFE915297FEB992CCB10A7E974

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 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.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

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Alexandria, Virginia 22313-1450

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/443,183	07/22/2021	Dae-Young Kim	PJK7786360	9455
103671 7590 01/02/2024 Bridgeway IP Law Group, PLLC 11350 Random Hills Rd. Suite 800 Fairfax, VA 22030			EXAMINER TRANDAI, CINDY HUYEN	
			ART UNIT 2648	PAPER NUMBER
			NOTIFICATION DATE 01/02/2024	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):

docket@bridgewayip.com
hshin@bridgewayip.com
patent_sl@bridgewayip.com



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.
17/443,183	02-Jan-2024	11863223

Bridgeway IP Law Group, PLLC
11350 Random Hills Rd.
Fairfax, VA 22030

EGRANT NOTIFICATION

Your electronic patent grant (eGrant) is now available, which can be accessed via Patent Center at <https://patentcenter.uspto.gov>

The electronic patent grant is the official patent grant under 35 U.S.C. 153. For more information, please visit <https://www.uspto.gov/electronicgrants>



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/443,183	07/22/2021	Dae-Young Kim	PJK7786360	9455
103671 7590 03/13/2024 Bridgeway IP Law Group, PLLC 11350 Random Hills Rd. Suite 800 Fairfax, VA 22030			EXAMINER TRANDAI, CINDY HUYEN	
			ART UNIT 2648	PAPER NUMBER
			NOTIFICATION DATE 03/13/2024	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):

docket@bridgewayip.com
hshin@bridgewayip.com
patent_sl@bridgewayip.com



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

In re Patent No. 11,863,223

Issue Date: January 02, 2024

Application No. 17/443,183

Filing or 371(c) Date: July 22, 2021

Attorney Docket No. PJK7786360

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DECISION ON PETITION

This is a notice regarding the request for acceptance of a fee deficiency submission under 37 CFR 1.28(c) filed December 13, 2023.

The Office no longer investigates or rejects original or reissue applications under 37 CFR 1.56. **1098 Off. Gaz. Pat. Office 502 (January 3, 1989)**. Therefore, nothing in this Notice is intended to imply that an investigation was done.

The fee deficiency submission under 37 CFR 1.28(c) is hereby **NOT ACCEPTED**.

As stated in 37 CFR 1.28(c), if status as a small entity is established in good faith, and fees as a small entity are paid in good faith, in any application or patent, and it is later discovered that such status as a small entity was established in error, or that through error the Office was not notified of a loss of entitlement to small entity status as required by § 1.27(g)(2), the error will be excused upon: compliance with the separate submission and itemization requirements of paragraphs (c)(1) and (c)(2) of this section, and the deficiency payment requirement of paragraph (c)(2)(ii) of this section:

(ii) *Itemization of the deficiency payment.* An itemization of the total deficiency payment is required. The itemization must include the following information:

(A) Each particular type of fee that was erroneously paid as a small entity, (*e.g.*, basic statutory filing fee, two-month extension of time fee) along with the current fee amount for a non-small entity;

(B) The small entity fee actually paid, and when. This will permit the Office to differentiate, for example, between two one-month extension of time fees erroneously paid as a small entity but on different dates;

(C) The deficiency owed amount (for each fee erroneously paid); and

(D) The total deficiency payment owed, which is the sum or total of the individual deficiency owed amounts set forth in paragraph (c)(2)(ii)(C) of this section.

The instant request does not comply with itemization requirements (A), (B), (C) and (D) as listed above. It is noted the extension of time for \$256 filed June 29, 2023 is missing from the itemization chart, therefore items A-D are incorrect.

In view of the above, the request cannot be accepted at this time.

Applicant is given **ONE MONTH or THIRTY DAYS**, whichever is longer, from the mailing date of this decision to submit the fees required pursuant to 37 CFR 1.28(2)(i) and a replacement itemized listing of each fee erroneously paid as a small entity in compliance with 37 CFR 1.28(c)(2)(ii). **NO EXTENSION OF TIME UNDER 37 CFR 1.136 IS PERMITTED.**

Further correspondence with respect to this matter should be addressed as follows:

By mail: Mail Stop PETITIONS
Commissioner for Patents
Post Office Box 1450
Alexandria, VA 22313-1450

By hand: Customer Window located at:

U.S. Patent and Trademark Office
Customer Service Window Randolph Building
401 Dulany Street
Alexandria, VA 22314

By fax: (571) 273-8300
ATTN: Office of Petitions

By Internet: Patent Center¹

Any questions concerning this matter may be directed to the Tamie Jarrett at (571) 270-1309.

/Irvin Dingle/
Irvin Dingle
Lead Paralegal Specialist, OPET

¹ <https://patentcenter.uspto.gov>.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Confirmation No.: 9455

Dae-Young Kim

Group Art Unit: 2648

Application No. 17/443,183

Examiner: Cindy Huyen Trandai

Filed: July 22, 2021

Attorney Docket No.: PJK7786360

Title: MAGNETIC MOUNT FOR ELECTRONIC DEVICES

RESPONSE TO PETITION DECISION

Director of the USPTO
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the Decision on Petition mailed on March 13, 2024 (“the Petition Decision”), issued in connection with the Request for Acceptance of a Fee Deficiency submitted on December 13, 2023 (“the Original Petition”), Applicant submits herewith the corrected itemization listing of deficiency payment.

The Original Petition was not accepted because the itemization listing submitted on December 13, 2023, did not include an extension of time fee for \$256 paid on June 29, 2023.

Applicant hereby submits a corrected itemization listing of deficiency payments as required by 37 CFR 1.28(c)(2)(ii) and the Petition Decision, and requests acceptance of the deficient fees.

Accordingly, acceptance of the deficient payments and excuse of the error in the previous small entity claim are respectfully requested.

Corrected Itemization of the Deficiency Payment under 37 CFR 1.28(c)(2)(ii)

Type of Fee Paid Erroneously (USPTO Fee Code)	Amount Paid & Date of Payment (Mailroom Date)	Correct Amount Due to USPTO	Amount of Deficiency Owed
Basic Utility Filing Fee (4011)	\$80.00 (July 22, 2021)	\$320.00	\$240.00
Utility Search Fee (2111)	\$350.00 (July 22, 2021)	\$700.00	\$350.00
Utility Examination Fee (2311)	\$400.00 (July 22, 2021)	\$800.00	\$400.00
Extension For Response Within 2nd Month (2252)	\$256.00 (June 29, 2023)	\$640.00	\$384.00
TOTAL AMOUNT OF DEFICIENCY OWED:			\$1,374.00

The Patent and Trademark Office is hereby authorized to charge the deficient fee payment of **\$1,374.00** and any other fees necessary in relation to this request or to credit any overpayment, to Deposit Account No. 60-4741, making reference to Attorney Docket No. PJK7786360. **It is noted that the deficient fee of \$990 has already been withdrawn from the Deposit Account on March 6, 2024.**

Should there be any questions, the Office is invited to contact the undersigned at the below listed contact information.

March 20, 2024
Bridgeway IP Law Group, PLLC
11350 Random Hills Rd, Suite 800
Fairfax, 22030, VA
(703) 349-6047
(703) 890-9097 (FAX)

Respectfully submitted,
Bridgeway IP Law Group, PLLC

/Jihun Kim/
Jihun Kim, Reg. No. 80,730
Hyun Woo Shin, Reg. No. 74,319



ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
17/443,183

RECEIPT DATE / TIME
03/20/2024 04:06:39 PM Z ET

ATTORNEY DOCKET #
PJK7786360

Title of Invention

MAGNETIC MOUNT FOR ELECTRONIC DEVICES

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # 11863223

CONFIRMATION # 9455

FILED BY Irene Ree

PATENT CENTER # 64768021

FILING DATE 07/22/2021

CUSTOMER # 103671

FIRST NAMED
INVENTOR Dae-Young Kim

CORRESPONDENCE
ADDRESS -

AUTHORIZED BY Jihun Kim

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
PJK7786360- RenewedPetition_1_28c.pdf	2	Petition for review by the Office of Petitions	25 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
PJK7786360- RenewedPetition_1_28c.pdf	DD16916E709F2ADA604D2A8E834555CFB9AE87D7FF91164A CACF3C4BB6ED0E2E2A47A8E724688C580644C4D22FF55991 9D420284EB0956E8B49B3E0326E424DB

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 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.



United States Patent and Trademark Office

Office of the Chief Financial Officer

Document Code:WFEE

User :Gloria Arias

Sale Accounting Date:04/17/2024

Sale Item Reference Number	Effective Date
17443183	03/20/2024

Document Number	Fee Code	Fee Code Description	Amount Paid	Payment Method
I20244G808387320	1461	1.28(C) SUBMISSIONS - APPLIC FILE FEE	\$1,374.00	Deposit Account



United States Patent and Trademark Office

Office of the Chief Financial Officer

Document Code:WFEE

User :Gloria Arias

Refund Accounting Date:04/17/2024

Effective Date	Sale Item Reference Number	Refund Total
04/17/2024	17443183	\$990.00

Document Number	Fee Code	Fee Code Description	Amount Paid	Payment Method	Account Number
I20244GE47029951	1461	1.28(C) SUBMISSIONS - APPLIC FILE FEE	\$990.00	DA	604741



United States Patent and Trademark Office

Office of the Chief Financial Officer

Document Code:WFEE

User :Gloria Arias

Sale Adjustment Accounting Date:04/17/2024

Effective Date	Sale Accounting Date	Sale Item Reference Number
04/17/2024	04/17/2024	17443183

Document Number	Fee Code	Fee Code Description	Amount Paid	Payment Method
I20244GE47029951	1461	1.28(C) SUBMISSIONS - APPLIC FILE FEE	\$990.00	DA



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/443,183	07/22/2021	Dae-Young Kim	PJK7786360	9455
103671 7590 04/23/2024 Bridgeway IP Law Group, PLLC 11350 Random Hills Rd. Suite 800 Fairfax, VA 22030			EXAMINER TRANDAI, CINDY HUYEN	
			ART UNIT 2648	PAPER NUMBER
			NOTIFICATION DATE 04/23/2024	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):

docket@bridgewayip.com
hshin@bridgewayip.com
patent_sl@bridgewayip.com



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

In re Patent No. 11,863,223

Issue Date: January 02, 2024

Application No. 17/443,183

Filing or 371(c) Date: July 22, 2021

Attorney Docket No. PJK7786360

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DECISION ON PETITION

This is a notice regarding the renewed request for acceptance of a fee deficiency submission under 37 CFR 1.28(c) filed March 20, 2024.

The Office no longer investigates or rejects original or reissue applications under 37 CFR 1.56. **1098 Off. Gaz. Pat. Office 502 (January 3, 1989)**. Therefore, nothing in this Notice is intended to imply that an investigation was done.

The fee deficiency submission under 37 CFR 1.28(c) is hereby **ACCEPTED**.

This patent is no longer entitled to small entity status. Accordingly, all future fees paid in this patent must be paid at the undiscounted entity rate.

The \$990 filed December 13, 2023 is unnecessary and is being credit to petitioner's deposit account.

Inquiries related to this communication should be directed to Tamie Jarrett at (571) 270-1309.

/Irvin Dingle/

Irvin Dingle

Lead Paralegal Specialist, OPET

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

Assignment ID: PATI1490152

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
Spigen, Korea Co., Ltd.	12/12/2025
RECEIVING PARTY DATA	
Company Name:	Intellectual Discovery Co. Ltd.
Street Address:	7th Floor, 419 Teheran-ro
Internal Address:	Gangnam-gu
City:	Seoul
State/Country:	KOREA, REPUBLIC OF
Postal Code:	06160
PROPERTY NUMBERS Total: 11	
Property Type	Number
Application Number:	62511280
Application Number:	63650790
Application Number:	19275610
Patent Number:	10469119
Patent Number:	11101838
Patent Number:	11863223
Patent Number:	12052044
Patent Number:	12081257
Patent Number:	12388482
Patent Number:	12224788
Patent Number:	12191902
CORRESPONDENCE DATA	
Fax Number:	
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
Phone:	+8(210)262-74193
Email:	albert.lee@aju-ipg.com
Correspondent Name:	Albert Lee
Address Line 1:	1800 Diagonal Road
Address Line 2:	Suite 600

Address Line 4: Alexandria, VIRGINIA 22314	
NAME OF SUBMITTER:	Albert Lee
SIGNATURE:	/Albert Lee/
DATE SIGNED:	12/19/2025
	This document serves as an Oath/Declaration (37 CFR 1.63).
Total Attachments: 2 source=Patent Purchase Agreement (Spigen X ID)_251212#page1.tiff source=Patent Purchase Agreement (Spigen X ID)_251212#page2.tiff	

EXHIBIT B

PATENT ASSIGNMENT AGREEMENT

WHEREAS, **Spigen, Korea Co., Ltd.**, having a place of business at 446, Bongeunsa-ro, Gangnam-gu, Seoul, 06153, Republic of Korea (hereinafter “SELLER”) is the sole and exclusive owner of certain United States and/or foreign patents and/or patent applications listed in Schedule A annexed hereto (collectively referred to as the “Patents”); and

WHEREAS **Intellectual Discovery Co. Ltd**, having a place of business at 7th Fl., 419, Teheran-ro, Gangnam-gu, Seoul, 06160, Republic of Korea (hereinafter “PURCHASER”) is desirous of acquiring the right, title and interest in, to and under the said Patents (and all foreign counterparts and related foreign patents).

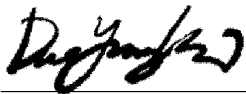
Now, Therefore,

For good and valuable consideration, the receipt of which is hereby acknowledged, SELLER does hereby sell, assign, transfer and set over to PURCHASER, the Patents aforesaid, and any inventions claimed in said Patent, any reissue or reissues of said Patents already granted and which may be granted, any certificates of reexamination already granted and which may be granted the same to be held and enjoyed by PURCHASER for its own use and enjoyment, and for the use and enjoyment of its successors, assigns or other legal representatives, to the end of the term or terms for which said Patents are or may be granted, reissued or extended as fully and entirely as the same would have been held and enjoyed by SELLER, if this assignment and sale had not been made; together with all claims for damages by reason of past, current, and future infringement and/or provisional rights under said Patents, with the right to sue for, and collect the same for its own use and behalf, and for the use and behalf of its successors, assigns or other legal representatives.

And, SELLER, hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all Letters Patents of the United States on said inventions to PURCHASER as assignee of the entire interest.

In Witness Whereof, SELLER has executed this Assignment by its duly authorized representative.

SELLER

By:  _____

Name: Daeyoung Kim

Title: CEO

Date: 12-12-2025

Schedule A

List of Patents

No.	Country	Application No.	Filed	Patent No.	Issued
1	KR	2024-0066976	2024.05.23	-	-
2	KR	2024-0075462	2024.06.11	-	-
3	US	62-511280	2017.05.25	-	-
4	US	15-989033	2018.05.24	10469119	2019.11.05
5	US	16-581596	2019.09.24	11101838	2021.08.24
6	US	17-443183	2021.07.22	11863223	2024.01.02
7	US	18-518265	2023.11.22	12052044	2024.07.30
8	US	18-518303	2023.11.22	12081257	2024.09.03
9	US	18-535674	2023.12.11	12388482	2025.08.12
10	US	18-660932	2024.05.10	12224788	2025.02.11
11	US	63-650790	2024.05.22	-	-
12	US	18-768599	2024.07.10	12191902	2025.01.07
13	US	19-275610	2025.07.21	-	-

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

Assignment ID: PATI1609538

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
	Intellectual Discovery Co., Ltd	02/13/2026
RECEIVING PARTY DATA		
Company Name:	Magnova, LLC	
Street Address:	2021 Guadalupe Street	
Internal Address:	Dobie Center, Suite 260	
City:	Austin	
State/Country:	TEXAS	
Postal Code:	78705	
PROPERTY NUMBERS Total: 11		
Property Type	Number	
Application Number:	62511280	
Application Number:	63650790	
Application Number:	19275610	
Patent Number:	10469119	
Patent Number:	11101838	
Patent Number:	11863223	
Patent Number:	12052044	
Patent Number:	12081257	
Patent Number:	12388482	
Patent Number:	12224788	
Patent Number:	12191902	
CORRESPONDENCE DATA		
Fax Number:		
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>		
Phone:	2122028191	
Email:	albert.lee@aju-ipg.com	
Correspondent Name:	Mr. Albert Lee	
Address Line 1:	1800 Diagonal Road	
Address Line 2:	Suite 600	

Address Line 4: Alexandria, VIRGINIA 22314	
NAME OF SUBMITTER:	Albert Lee
SIGNATURE:	/Albert Lee/
DATE SIGNED:	02/14/2026
	This document serves as an Oath/Declaration (37 CFR 1.63).
Total Attachments: 2 source=Patent Assignment Agreement - ID to Magnova 20260213#page1.tiff source=Patent Assignment Agreement - ID to Magnova 20260213#page2.tiff	

EXHIBIT B

PATENT ASSIGNMENT AGREEMENT

WHEREAS, **Intellectual Discovery Co. Ltd**, having a place of business at 33rd Fl., 152, Teheran-ro, Gangnam-gu, Seoul, 06236, Republic of Korea (hereinafter "SELLER") is the sole and exclusive owner of certain United States and/or foreign patents and/or patent applications listed in Schedule A annexed hereto (collectively referred to as the "Patents"); and

WHEREAS **Magnova, LLC**, having a place of business at 2021 Guadalupe Street, Dobie Center, Suite 260, AUSTIN, 78705, U.S.A (hereinafter "PURCHASER") is desirous of acquiring the right, title and interest in, to and under the said Patents (and all foreign counterparts and related foreign patents).

Now, Therefore,

For good and valuable consideration, the receipt of which is hereby acknowledged, SELLER does hereby sell, assign, transfer and set over to PURCHASER, the Patents aforesaid, and any inventions claimed in said Patent, any reissue or reissues of said Patents already granted and which may be granted, any certificates of reexamination already granted and which may be granted the same to be held and enjoyed by PURCHASER for its own use and enjoyment, and for the use and enjoyment of its successors, assigns or other legal representatives, to the end of the term or terms for which said Patents are or may be granted, reissued or extended as fully and entirely as the same would have been held and enjoyed by SELLER, if this assignment and sale had not been made; together with all claims for damages by reason of past, current, and future infringement and/or provisional rights under said Patents, with the right to sue for, and collect the same for its own use and behalf, and for the use and behalf of its successors, assigns or other legal representatives.

And, SELLER, hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all Letters Patents of the United States on said inventions to PURCHASER as assignee of the entire interest.

In Witness Whereof, SELLER has executed this Assignment by its duly authorized representative.

SELLER

By: 

Name: Dongsuk Bae

Title: Executive Vice President (IP Head)

Date: Feb 15, 2026

Schedule A

List of Patents

No.	Country	Application No.	Filed	Patent No.	Issued
1	KR	2024-0066976	2024.05.23	-	-
2	KR	2024-0075462	2024.06.11	-	-
3	US	62-511280	2017.05.25	-	-
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6	US	17-443183	2021.07.22	11863223	2024.01.02
7	US	18-518265	2023.11.22	12052044	2024.07.30
8	US	18-518303	2023.11.22	12081257	2024.09.03
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11	US	63-650790	2024.05.22	-	-
12	US	18-768599	2024.07.10	12191902	2025.01.07
13	US	19-275610	2025.07.21	-	-