

**UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

SCRAMOGE TECHNOLOGY LTD.,

Plaintiff,

v.

APPLE INC.,

Defendant.

Case No. 6:21-cv-00579-ADA

JURY TRIAL DEMANDED

**PLAINTIFF'S PRELIMINARY DISCLOSURE OF ASSERTED CLAIMS AND
INFRINGEMENT CONTENTIONS TO APPLE INC.**

Scramoge Technology Limited (“Plaintiff” or “Scramoge”) submits the following Preliminary Disclosure of Asserted Claims and Infringement Contentions to Apple Inc. (“Defendant” or “Apple”). This disclosure is based on the information available to Scramoge as of the date of this disclosure, and Scramoge reserves the right to amend this disclosure to the full extent consistent with the Court’s Rules and Orders.

I. Asserted Claims

Scramoge asserts that Apple has infringed and continue to infringe at least the following claims of Scramoge’s patents (collectively, the “Asserted Claims”):

- a. **U.S. Patent No. 10,622,842 (“the ’842 Patent”)**: Claims 1, 2, 5, 6, 7, 14, 15, 16, 19, and 20.
- b. **U.S. Patent No. 9,806,565 (“the ’565 Patent”)**: Claims 1, 2, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19 and 20.
- c. **U.S. Patent No. 10,804,740 (“the ’740 Patent”)**: Claims 6, 7, 16, 17, 19, and 20.

- d. **U.S. Patent No. 9,843,215 (“the ’215 Patent”)**: Claims 1, 5, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 21, and 22.
- e. **U.S. Patent No. 10,424,941 (“the ’941 Patent”)**: Claims 1, 2, 3, 4, 6, and 7.
- f. **U.S. Patent No. 9,997,962 (“the ’962 Patent”)**: Claims 1, 2, 3, 4, 7, 8, 18 and 19.

Scramoge reserves the right to seek leave of court to add, delete, substitute, or otherwise amend this list of asserted claims should further discovery, the Court’s claim construction, or other circumstances so merit.

II. Accused Products

Scramoge contends that the Asserted Claims are infringed by the various apparatuses used, made, sold, offered for sale, or imported into the United States by Apple (the “Accused Products”). The Accused Products include at least the following, as well as products with reasonably similar functionality:

- **The Asserted Claims of the ’842, ’215, and ’962 Patents:** iPhone 8, 8 Plus, X, XR, XS, XS Max, 11, 11 Pro, 11 Pro Max, SE (second generation), 12, 12 mini, 12 Pro, and 12 Pro Max.
- **The Asserted Claims of the ’565 Patent:** iPhone 12, 12 mini, 12 Pro, and 12 Pro Max.
- **The Asserted Claims of the ’740 Patent:** iPhone 8, 8 Plus, X, XR, XS, XS Max, 11, 11 Pro, 11 Pro Max, SE (second generation), 12, 12 mini, 12 Pro, 12 Pro Max, AirPods (second generation) and AirPods Pro.
- **The Asserted Claims of the ’941 Patent:** Apple Watch, Watch Series 1, Watch Series 2, Watch Series 3, Watch Series 4, Watch Series 5, Watch Series 6, and Watch Series SE.

Scramoge reserves the right to amend this list of accused instrumentalities, as well as other information contained in this document and the exhibits hereto, to incorporate new information

learned during the course of discovery, including, but not limited to, the inclusion of newly released products, versions, or any other equivalent devices ascertained through discovery. Further, to the extent any accused infringing products have gone through or will go through name changes, but were or will be used or sold with the same accused features, earlier corresponding products under different names also are accused.

III. Claim Charts

Claim charts identifying a location of every element of every asserted claim of the asserted Scramoge Patents within accused products are attached hereto as Exhibits A–H. Scramoge’s analysis of the Accused Products is based on limited publicly available information and based on Scramoge’s own investigation prior to any discovery in this action. In an effort to focus the issues, Scramoge identifies exemplary evidence for each claim limitation. The evidence cited for a particular limitation should be considered in light of the additional evidence cited for the other claim limitations. Scramoge reserves the right to rely on evidence cited for any particular limitation of an asserted claim for any other limitation asserted for that claim. Unless otherwise indicated, the information provided that corresponds to each claim element is considered to indicate that each claim element is found within each of the different variations of each respective Accused Products described above.

Scramoge reserves the right to amend these claim charts, as well as other information contained in this document and the exhibits hereto. Scramoge further reserves the right to amend these claim charts to incorporate new information learned during the course of discovery, including, but not limited to, information that is not publicly available or readily discernible without discovery or undue burden.

IV. Literal Infringement / Doctrine of Equivalents

Scramoge contends that Apple has directly infringed and continues to directly infringe the asserted claims by making, using, offering for sale, selling, and importing into the United States the Accused Products. Scramoge asserts that, under the proper construction of the asserted claims and their claim terms, the limitations of the asserted claims of the asserted Scramoge patents are literally present in the accused products, as set forth in the claim charts attached hereto as Exhibits A–H. Scramoge contends that any and all elements found not to be literally infringed are infringed under the doctrine of equivalents because the differences between the claimed inventions and the accused instrumentalities, if any, are insubstantial.

Scramoge’s contention is that each limitation is literally met, and necessarily also would be met under the doctrine of equivalents because there are no substantial differences between the Accused Products and the claims, in function, way, or result. If Apple attempts to argue that there is no infringement literally and also no infringement under doctrine of equivalents and attempts to draw any distinction between the claimed functionality and the functionality in the Accused Products, then Scramoge reserves its right to rebut the alleged distinction as a matter of literal infringement and/or as to whether any such distinction is substantial under the doctrine of equivalents.

Scramoge reserves the right to amend its Infringement Contentions as to literal infringement or infringement under the doctrine of equivalents in light of new information learned during the course of discovery and the Court’s claim construction.

V. Priority Dates

The Asserted Claims are entitled to a priority date of at least the following:

- a. **U.S. Patent No. 10,622,842:** Each asserted claim of the ’842 Patent is entitled to at least a priority date of November 4, 2011.

b. **U.S. Patent No. 9,806,565:** Each asserted claim of the '565 Patent is entitled to at least a priority date of March 23, 2012.

c. **U.S. Patent No. 10,804,740:** Each asserted claim of the '740 Patent is entitled to at least a priority date of March 23, 2012.

d. **U.S. Patent No. 9,843,215:** Each asserted claim of the '215 Patent is entitled to at least a priority date of March 4, 2014.

e. **U.S. Patent No. 10,424,941:** Each asserted claim of the '941 Patent is entitled to at least a priority date of January 28, 2014.

f. **U.S. Patent No. 9,997,962:** Each asserted claim of the '962 Patent is entitled to at least a priority date of June 27, 2013.

VI. Identification of Instrumentalities Practicing the Claimed Inventions

At this time, Scramoge is not relying on any assertion that any of its own instrumentalities practice the claims of the Asserted Patents.

VII. Document Production Accompanying Disclosure

Scramoge submits the following Document Production Accompanying Disclosure, along with an identification of the categories to which each of the documents corresponds.

Scramoge is presently unaware of any documents sufficient to evidence any discussion with, disclosure to, or other manner of providing to a third party, or sale of or offer to sell, the inventions recited in the Asserted Claims of the asserted patents prior to the application date or priority date for the asserted patents. A diligent search continues for documents and Scramoge reserves the right to supplement this response.

Scramoge is presently unaware of documents regarding the conception, reduction to practice, design, and development of each claimed invention of the asserted patents, which were

created before the date of application for the asserted patent or the priority date identified above. A diligent search continues for documents and Scramoge reserves the right to supplement this response.

Scramoge identifies the following documents as being the file histories for the Asserted Patents: SCRAMOGE-APPLE-00000068 - SCRAMOGE-APPLE-00004186.

Dated: September 7, 2021

Respectfully submitted,

By: /s/ Seth Hasenour

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CERTIFICATE OF SERVICE

I certify that this document is being served upon counsel of record for Defendant on September 7, 2021 via electronic service.

/s/ Seth Hasenour
Seth Hasenour

EXHIBIT A

U.S. Patent No. 10,622,842 (“’842 Patent”)

Accused Products

Apple products, including without limitation the Apple iPhone 8, iPhone 8 Plus, iPhone X, iPhone Xs, iPhone Xs Max, iPhone XR, iPhone 11, iPhone 11 Pro, iPhone 11 Pro Max, iPhone SE (second generation), iPhone 12, iPhone 12 Mini, iPhone 12 Pro, and iPhone 12 Pro Max (“Accused Products”), infringe at least Claims 1, 2, 5, 6, 7, 14, 16, 19, and 20 of the ’842 Patent.

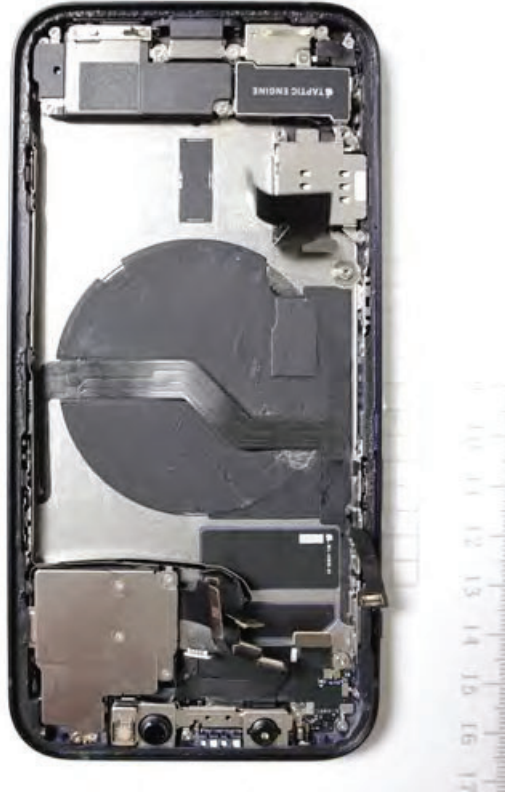
Claim 1

Claim 1
[Ipre] A wireless power receiver, comprising:

Accused Products

To the extent the preamble is limiting, each Accused Product includes a wireless power receiver.

See, e.g.:



Photograph of the wireless power receiver from the exemplary Apple iPhone 12.

Claim 1

Accused Products

[1a] a shielding unit;

Each Accused Product comprises a shielding unit.

See, e.g.:

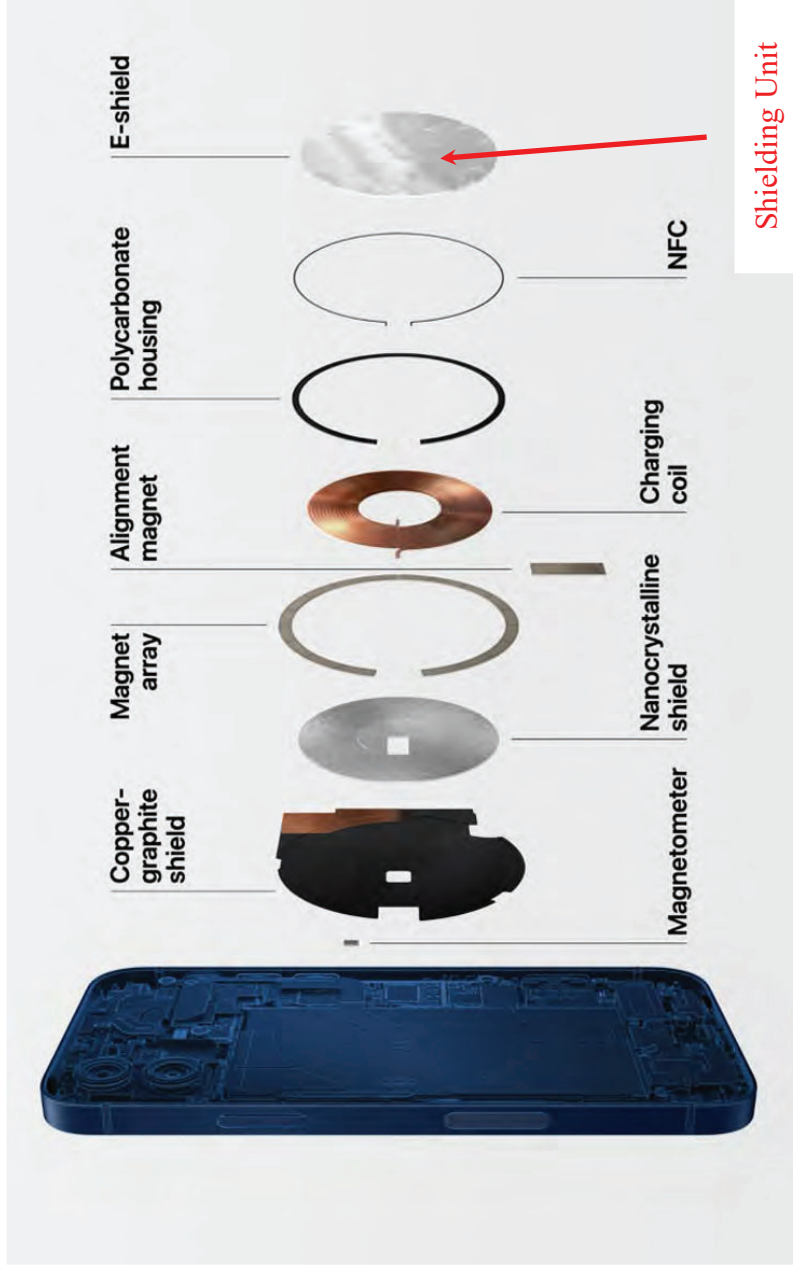
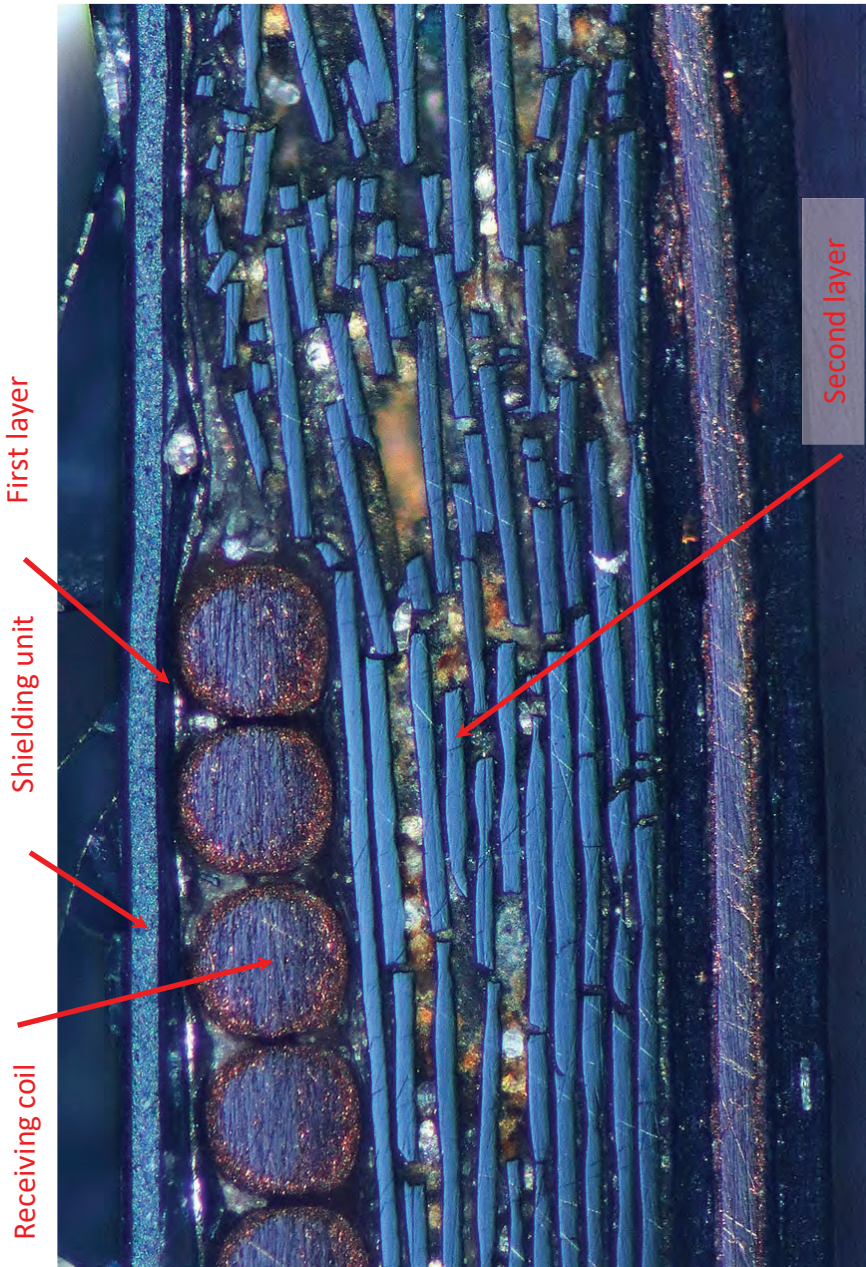
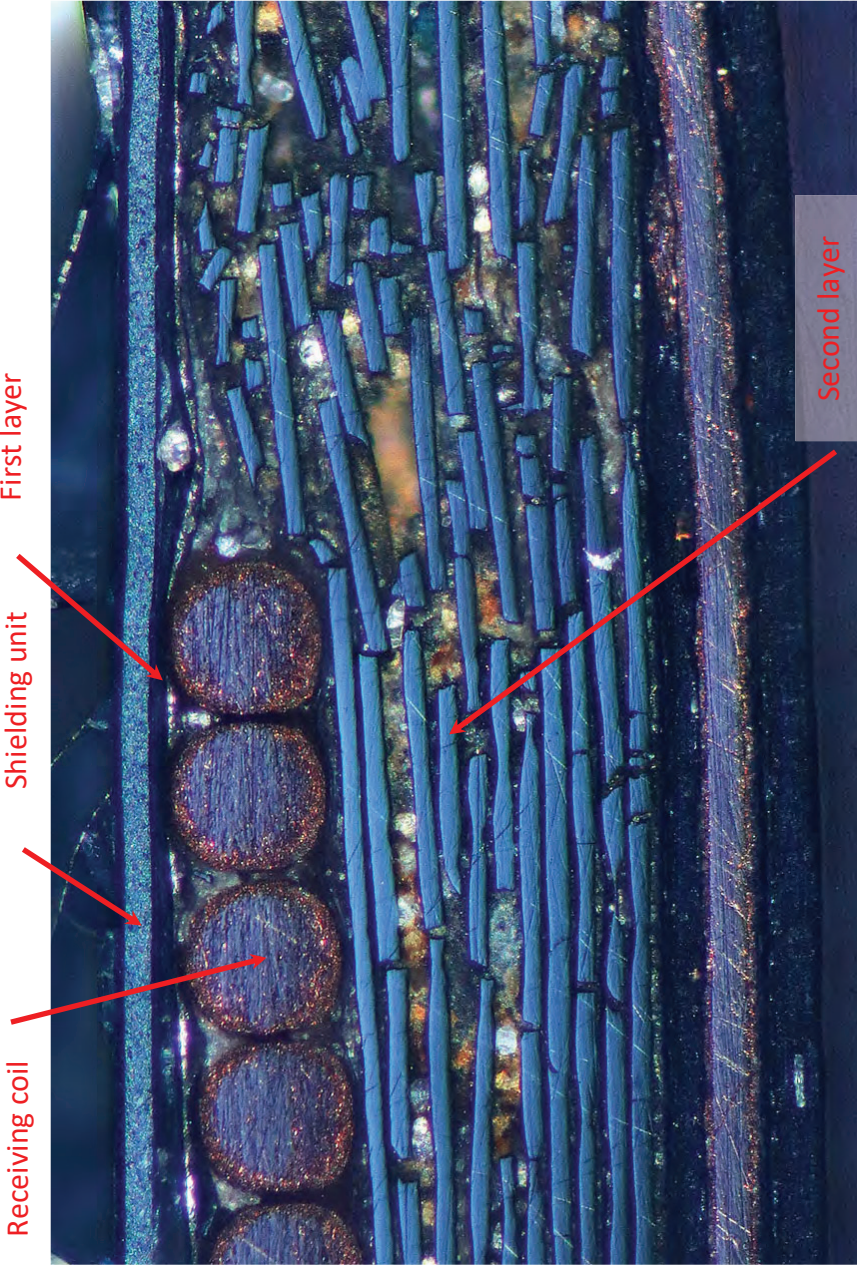


Diagram of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the shielding unit labeled as "E-shield", <https://www.nfcw.com/2020/10/14/368646/apple-includes-nfc-in-magsafe-accessories-for-new-iphones/>.

| | |
|--|---|
| <p>Claim 1</p> | <p>Accused Products</p> |
| <p>[1b] a first layer on the shielding unit;</p> |  <p>Receiving coil</p> <p>Shielding unit</p> <p>First layer</p> <p>Second layer</p> <p>Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the shielding unit.</p> <p>Each Accused Product comprises a first layer on the shielding unit.</p> <p>See, e.g.:</p> |

| | |
|---|---|
| <p>Claim 1</p> | <p>Accused Products</p> |
| <p>[1c] a wireless power receiving coil on the first layer;</p> |  <p>Receiving coil</p> <p>Shielding unit</p> <p>First layer</p> <p>Second layer</p> <p>Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating first layer on the shielding unit.</p> <p>Each Accused Product comprises a wireless power receiving coil on the first layer.</p> <p>See, e.g.:</p> |

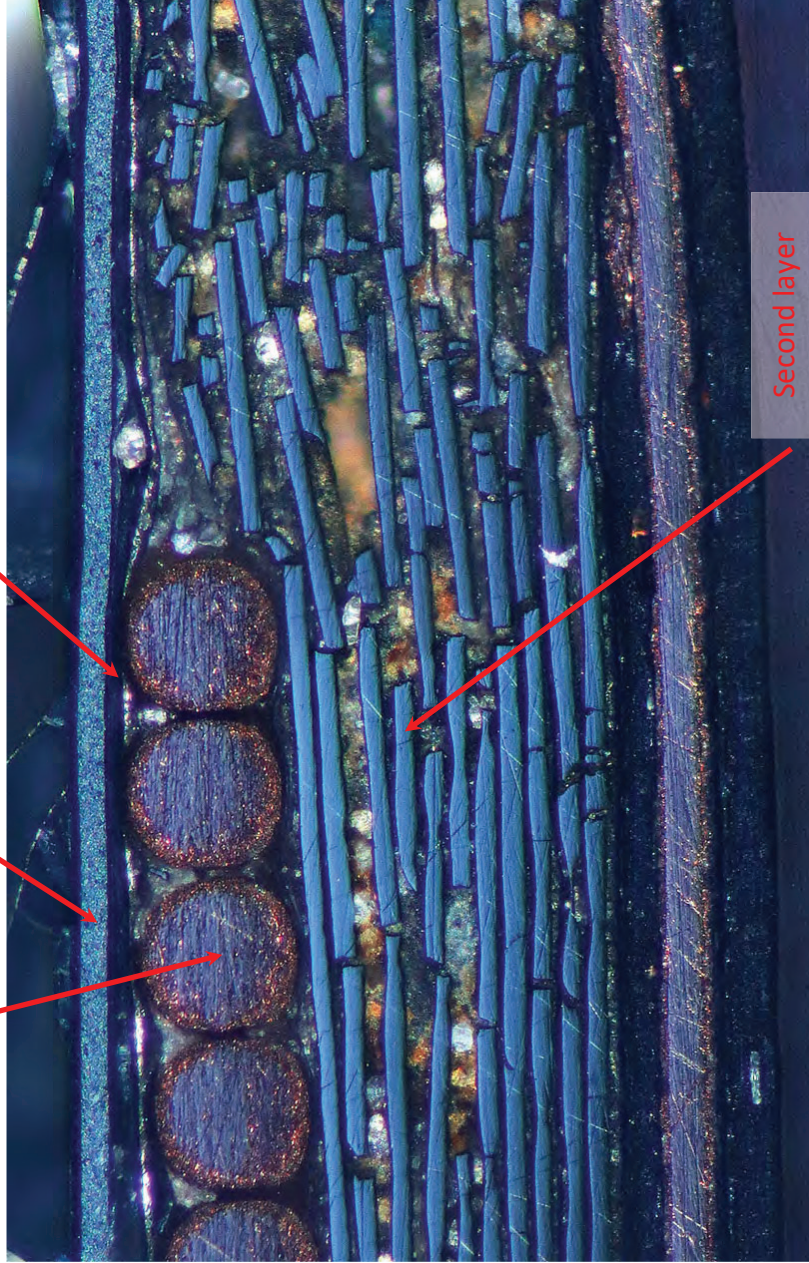
Claim 1

Accused Products

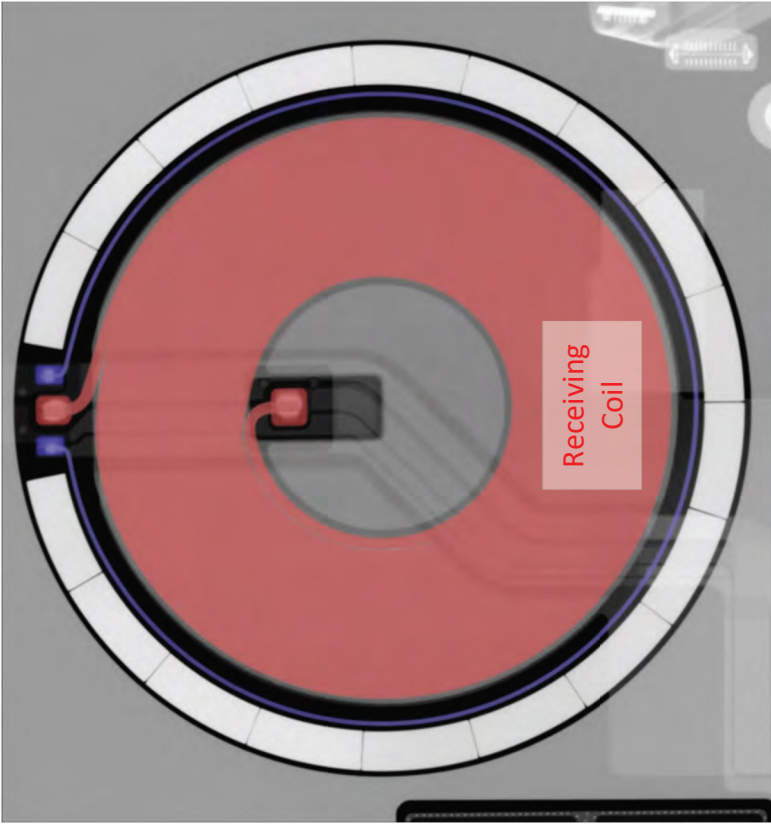
Receiving coil

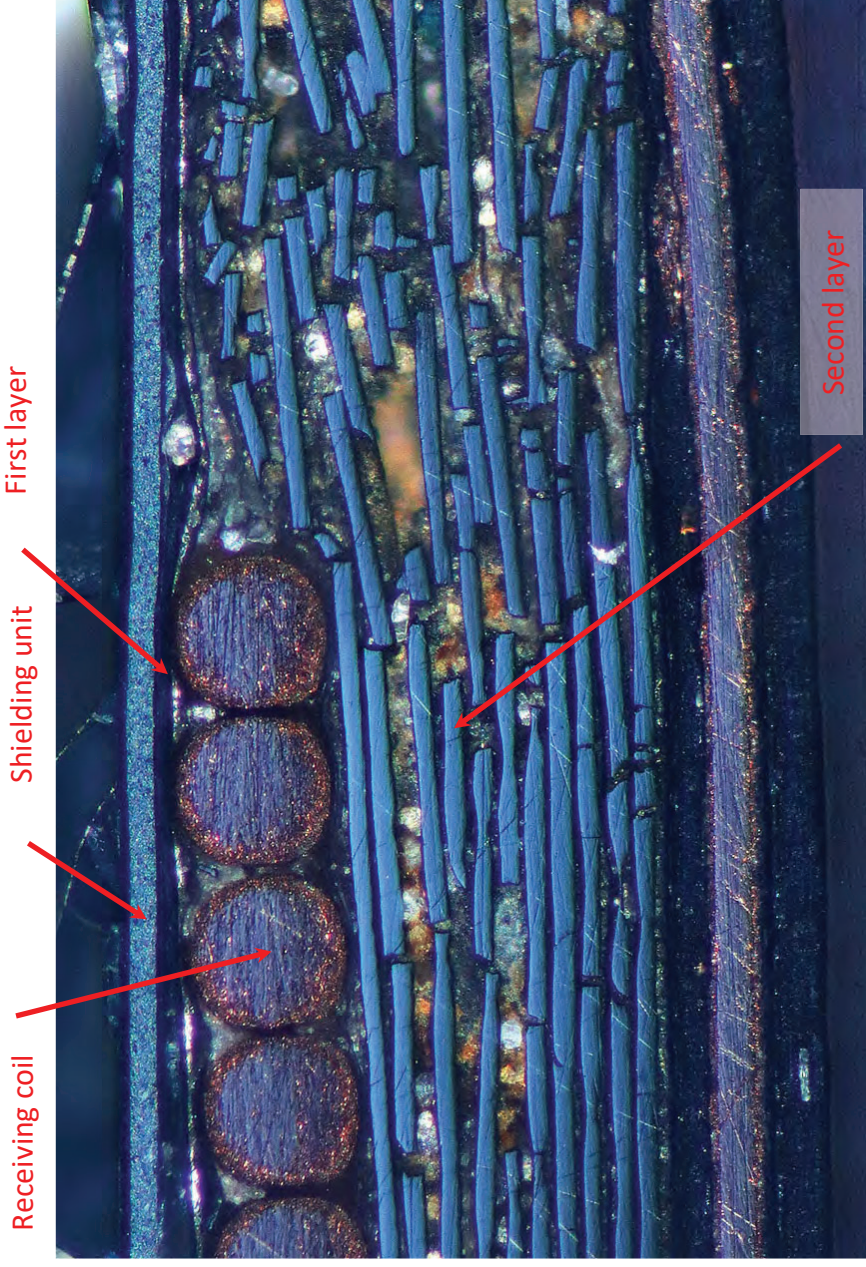
Shielding unit

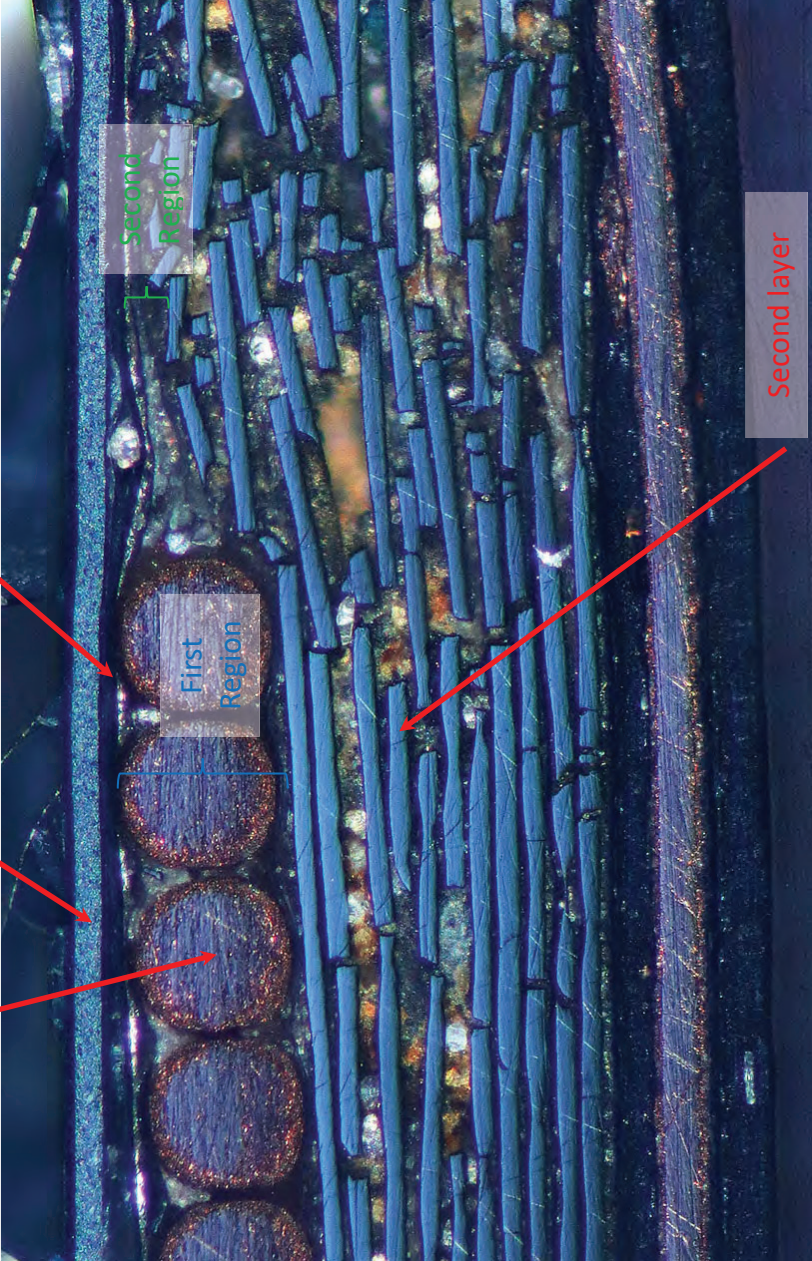
First layer

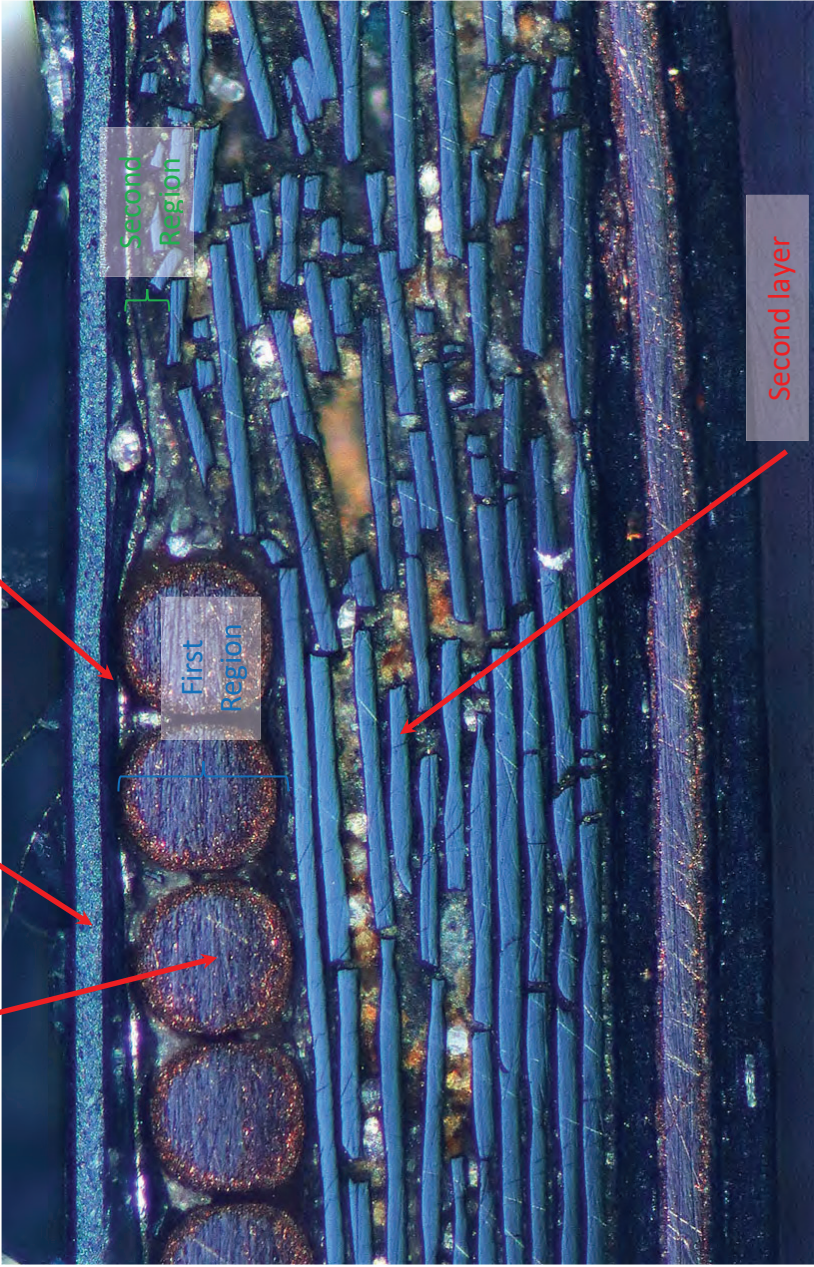


Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the wireless power receiving coil on the first layer.

| Claim 1 | Accused Products |
|--|---|
| |  <p data-bbox="1063 241 1136 1470">X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the spiral pattern of the wireless power receiving coil (red).</p> |
| <p data-bbox="1161 1501 1234 1900">[1d] a second layer on the wireless power receiving coil;</p> | <p data-bbox="1161 367 1193 1470">Each Accused Product comprises a second layer on the wireless power receiving coil.</p> <p data-bbox="1209 210 1282 1470">For example, the second layer includes a polymer layer and/or soft magnetic layers adjacent to the coil.</p> <p data-bbox="1307 1344 1347 1470"><i>See, e.g.:</i></p> |

| Claim 1 | Accused Products |
|---|---|
| |  <p data-bbox="1153 210 1250 1470">Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the second layer on the wireless power receiving coil.</p> |
| <p data-bbox="1250 1480 1396 1906">[1e] a first region in which at least one of the first layer and the second layer overlaps the wireless power receiving coil</p> | <p data-bbox="1250 189 1396 1480">Each Accused Product includes a first region in which at least one of the first layer and the second layer overlaps the wireless power receiving coil in a vertical direction perpendicular to an upper surface of the shielding unit.</p> |

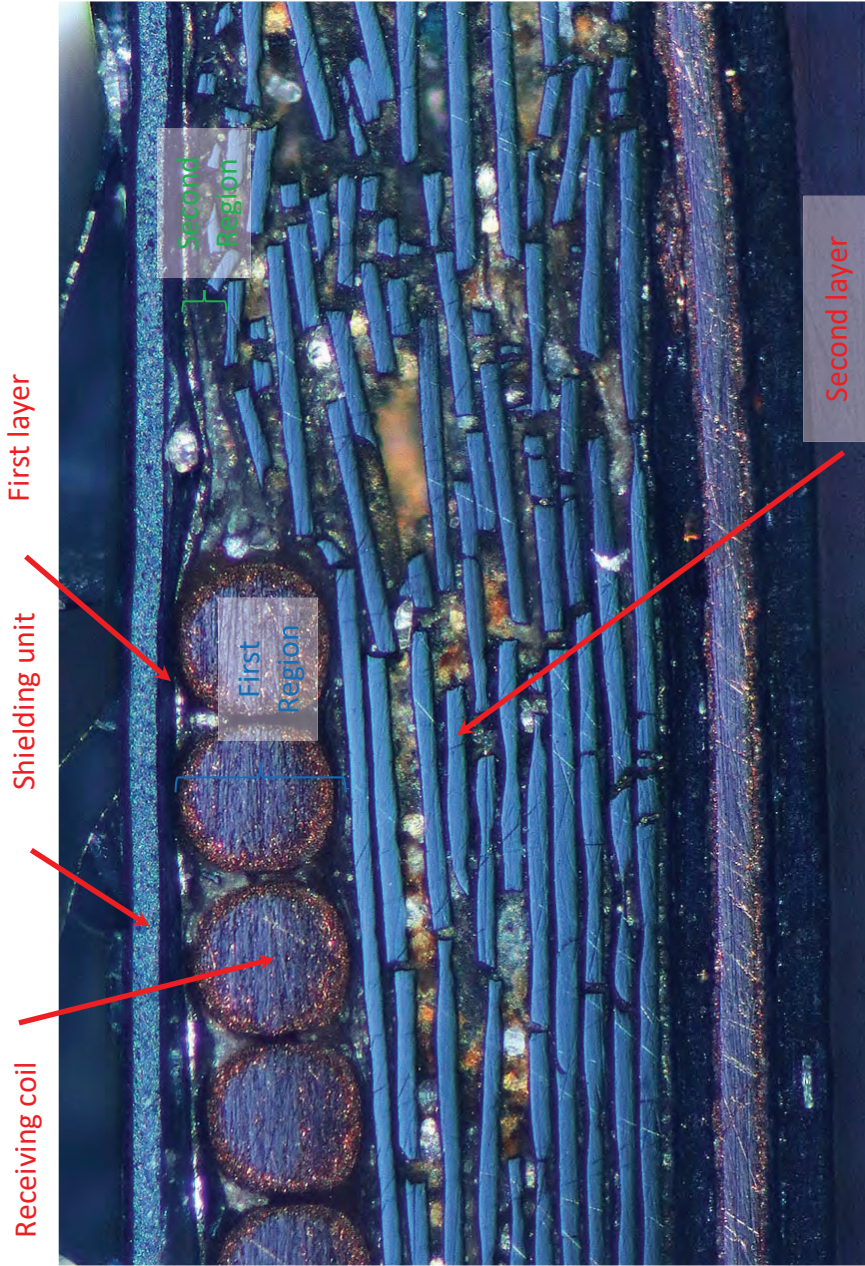
| | |
|---|-------------------------|
| <p>Claim 1</p> <p>in a vertical direction perpendicular to an upper surface of the shielding unit;</p> | <p>Accused Products</p> |
| <p>See, e.g.:</p>  <p>Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the first region where the first layer and the second layer overlaps the wireless power receiving coil in a vertical direction perpendicular to an upper surface of the shielding unit.</p> | |

| Claim 1 | Accused Products |
|---|---|
| <p>[1f] and a second region in which at least one of the first layer and the second layer does not overlap the wireless power receiving coil in the vertical direction,</p> | <p>Each Accused Product includes a second region in which at least one of the first layer and the second layer does not overlap the wireless power receiving coil in the vertical direction.</p> <p>See, e.g.:</p>  <p>Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the second region where the first layer and the second layer do not overlap the wireless power receiving coil in the vertical direction.</p> |

| Claim 1 | Accused Products |
|--|--|
| <p>[1g] wherein a first distance, measured in the vertical direction, between the first layer and the second layer in the first region is greater than a second distance, measured in the vertical direction, between the first layer and the second layer in the second region.</p> | <p>Each Accused Product includes a first distance, measured in the vertical direction, between the first layer and the second layer in the first region which is greater than a second distance, measured in the vertical direction, between the first layer and the second layer in the second region.</p> <p><i>See, e.g.:</i></p> |

Claim 1

Accused Products



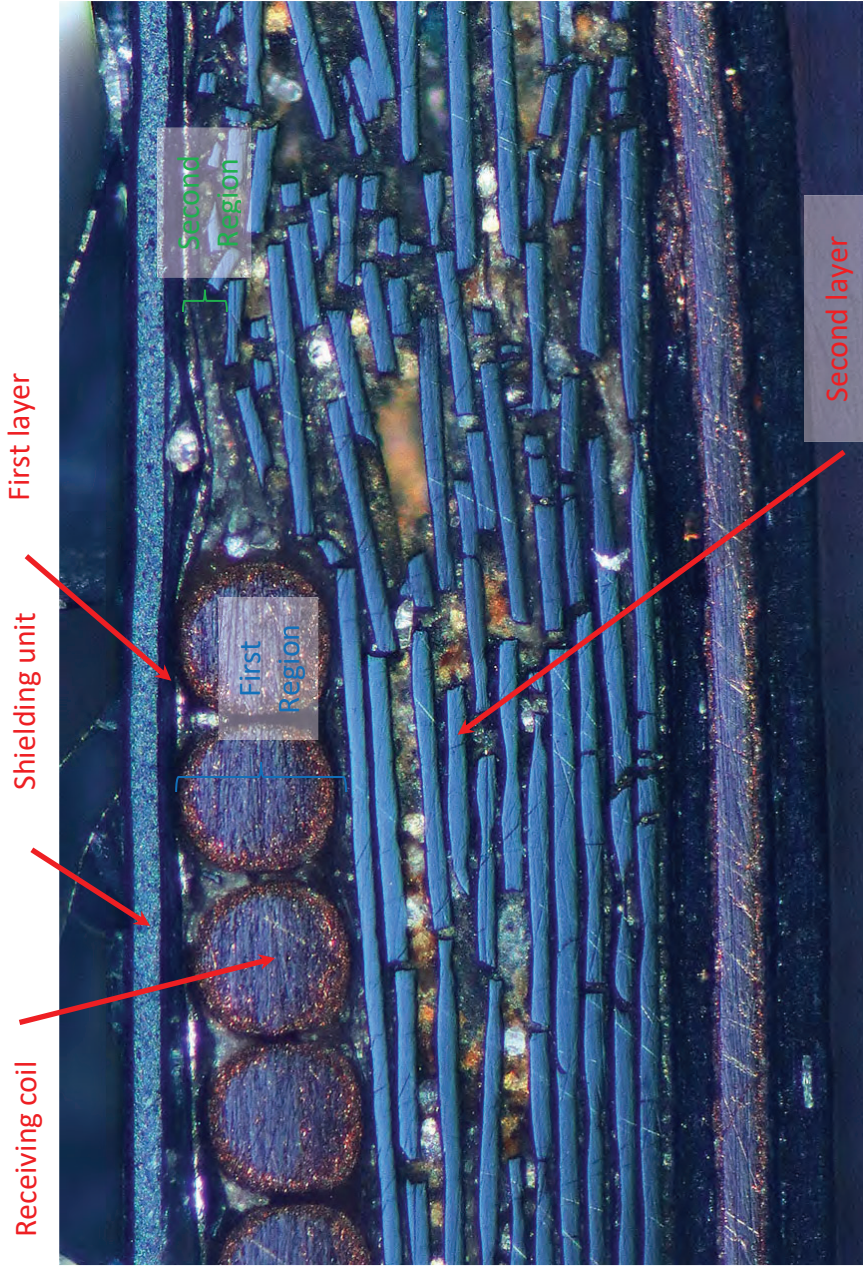
Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating that a first distance (blue bracket), measured in the vertical direction between the first and second layer in the first region, is approximately 4 times greater than a second distance (green bracket), measured in the vertical direction, between the first layer and the second layer in the second region.

Claim 2

| Claim 2 | Accused Products |
|---|--|
| <p>The wireless power receiver of claim 1, wherein the second distance is smaller than a thickness, measured in the vertical direction, of the wireless power receiving coil.</p> | <p>In each Accused Product, the wireless power receiver of claim 1 has the second distance smaller than a thickness, measured in the vertical direction, of the wireless power receiving coil. <i>See, e.g.:</i></p> |

Claim 2

Accused Products



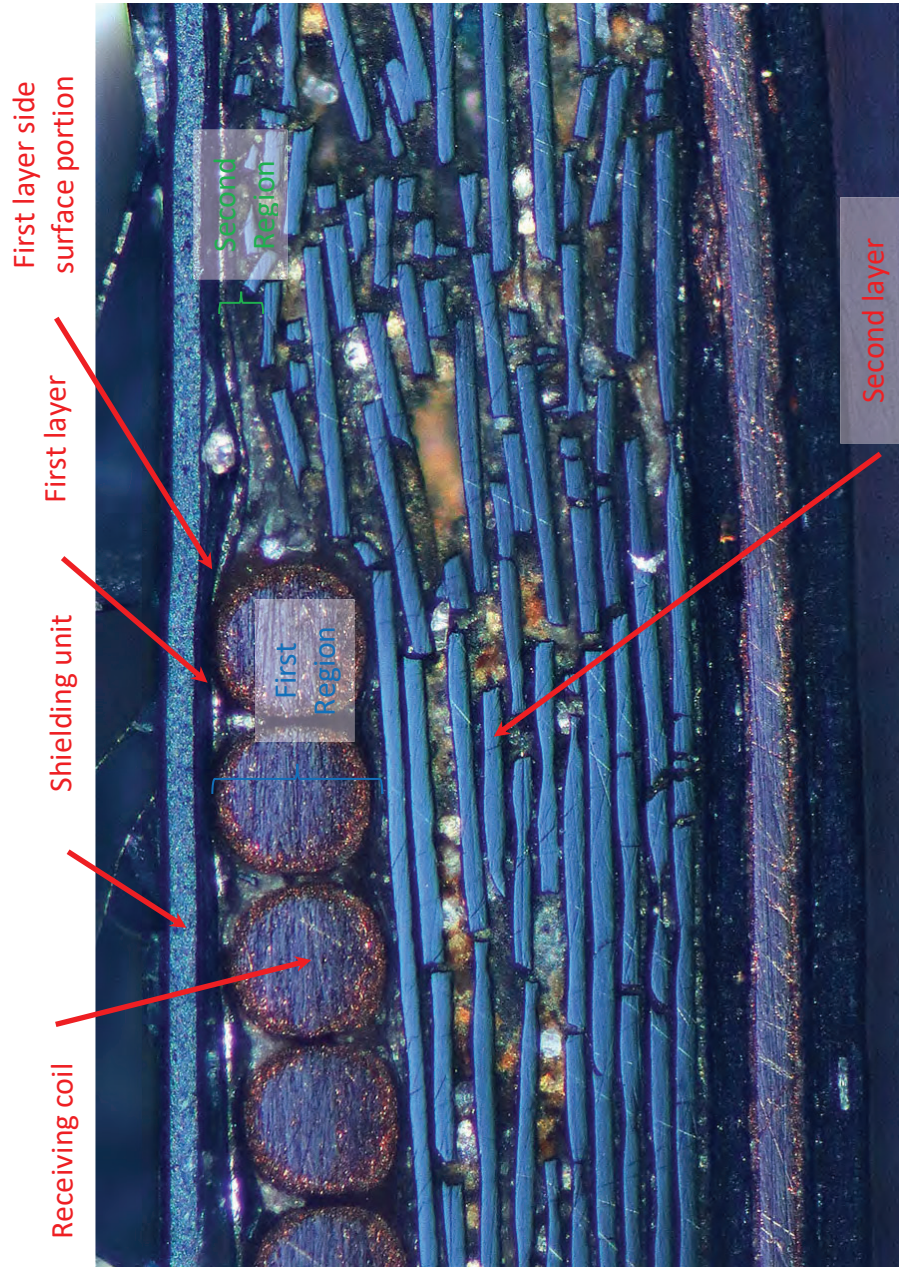
Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating that a thickness of the wireless power receiving coil (blue bracket), measured in the vertical direction, is approximately 4 times greater than a second distance (green bracket), measured in the vertical direction, between the first layer and the second layer in the second region.

Claim 5

| Claim 5 | Accused Products |
|---|--|
| <p>The wireless power receiver of claim 1, wherein a portion of the first layer is disposed on a side surface of the wireless power receiving coil.</p> | <p>In each Accused Product, the wireless power receiver of claim 1 has a portion of the first layer that is disposed on a side surface of the wireless power receiving coil. <i>See, e.g.:</i></p> |

Claim 5

Accused Products



Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating a portion of the first layer is disposed on a side surface of the wireless power receiving coil.

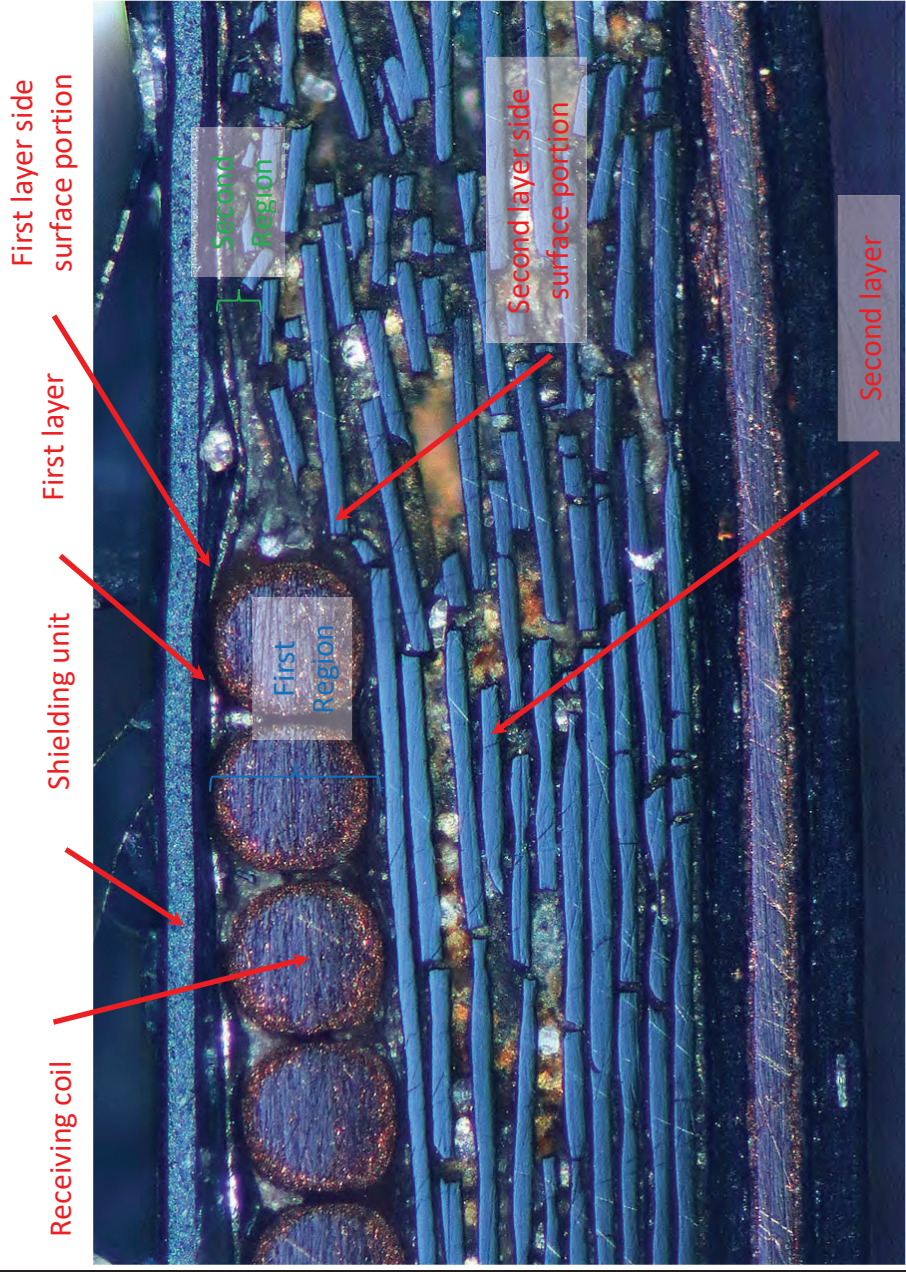
Claim 6

Claim 6
The wireless power receiver of claim 5, wherein a portion of the second layer is disposed on the side surface of the wireless power receiving coil.


Accused Products

In each Accused Product, the wireless power receiver of claim 5 has a portion of the second layer that is disposed on the side surface of the wireless power receiving coil.

See, e.g.:



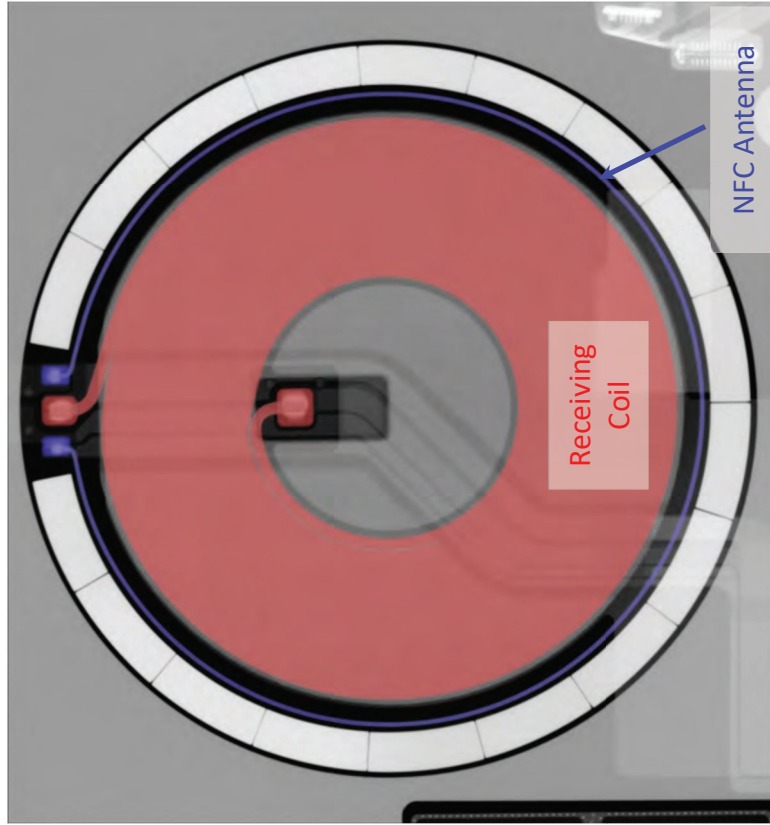
| | |
|---------|--|
| Claim 6 | Accused Products |
| | Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating a portion of the second layer is disposed on the side surface of the wireless power receiving coil. |

| | |
|--|--|
| Claim 7 | Accused Products |
| Claim 7 | Accused Products |
| <p>The wireless power receiver of claim 1, comprising: a short range communication antenna on the first layer.</p> | <p>In each iPhone 12 Accused Product, the wireless power receiver of claim 1 comprises a short range communication antenna on the first layer.</p> <p>See, e.g.:</p>  |

Claim 7

Accused Products

Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating a short range communication antenna (labeled NFC) on the first layer.



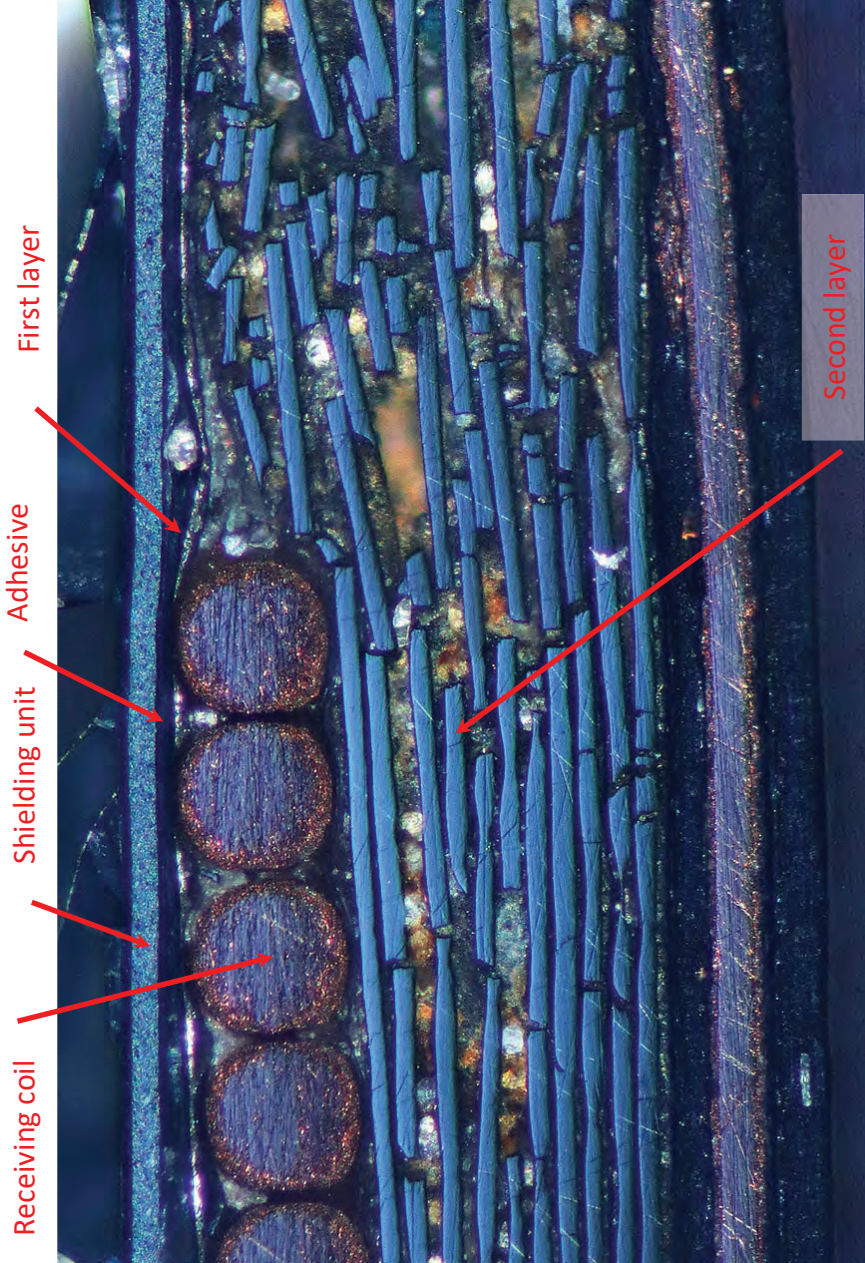
X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the short range communication antenna (labeled NFC).

Claim 14

| Claim 14 | Accused Products |
|---|--|
| The wireless power receiver of claim 1, comprising: an adhesive between the shielding unit and the first layer. | In each Accused Product, the wireless power receiver of claim 1 comprises an adhesive between the shielding unit and the first layer. <i>See, e.g.:</i> |

Claim 14

Accused Products



Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating an adhesive between the shielding unit and the first layer.

Claim 16

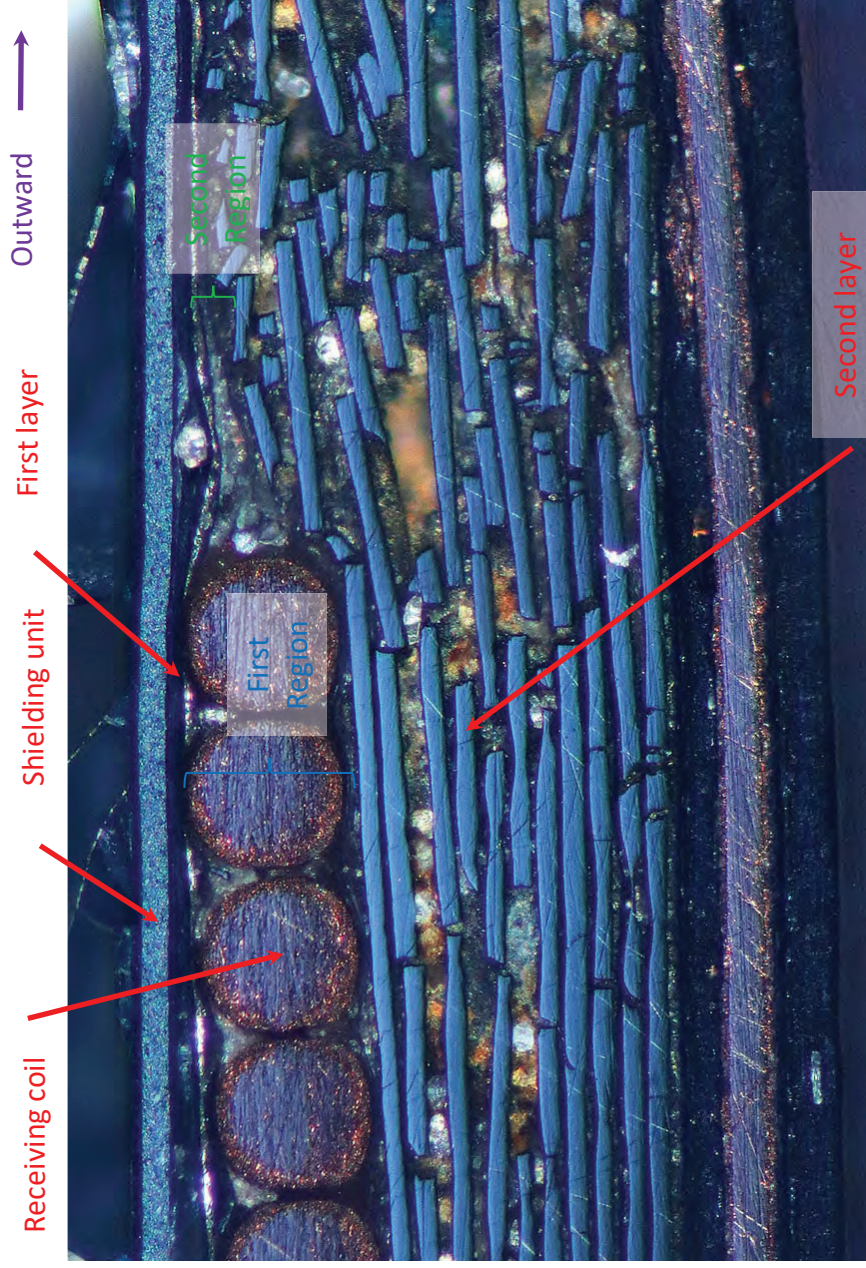
Claim 16

The wireless power receiver of claim 1, wherein the second region is positioned at an outer side of the wireless power receiving coil.

Accused Products

In each Accused Product, the wireless power receiver of claim 1 has the second region positioned at an outer side of the wireless power receiving coil.

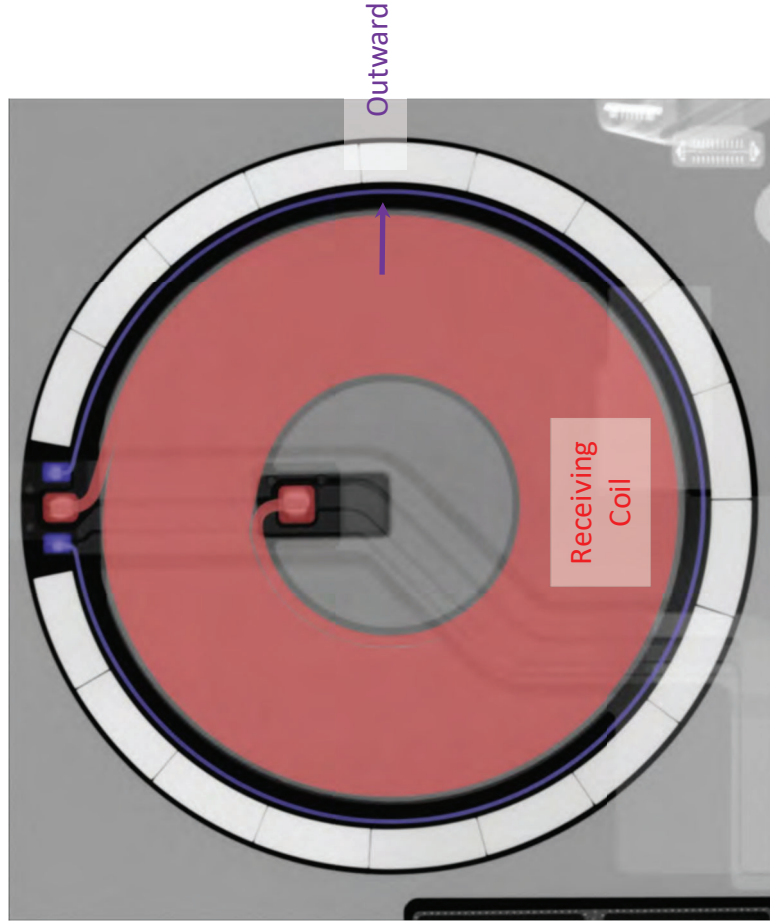
See, e.g.:



Claim 16

Accused Products

Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the second region at an outer side of the wireless power receiving coil. The outward direction is indicated by the purple arrow.



X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the spiral pattern of the wireless power receiving coil (red) and its outer side covered by the optical cross section image above.

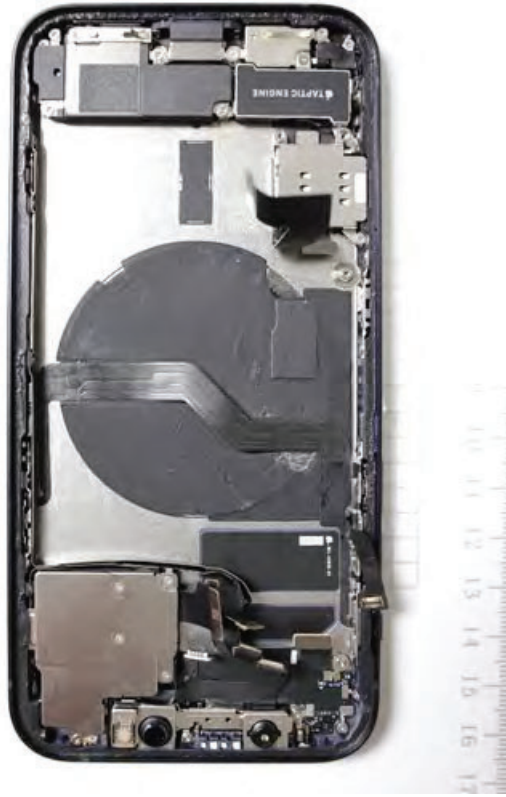
Claim 19

Claim 19

[19pre] A wireless power receiver, comprising:

Accused Products

To the extent the preamble is limiting, each Accused Product includes a wireless power receiver.
See, e.g.:



Photograph of the wireless power receiver from the exemplary Apple iPhone 12.

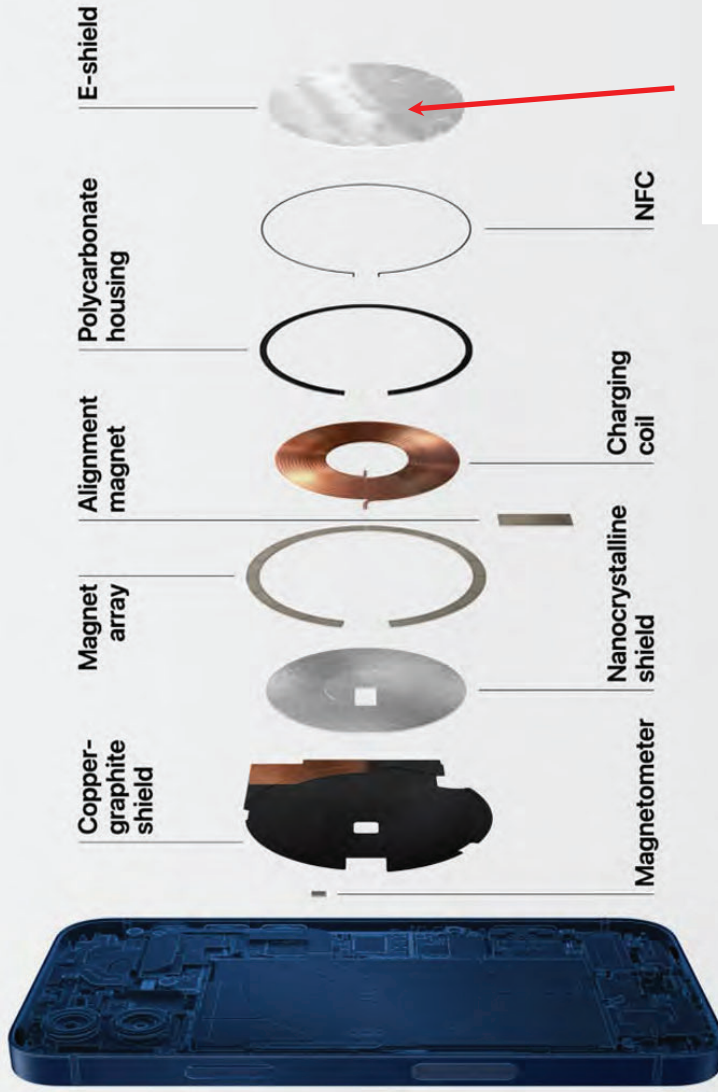
[19a] a shielding unit;

Each Accused Product comprises a shielding unit.

See, e.g.:

Claim 19

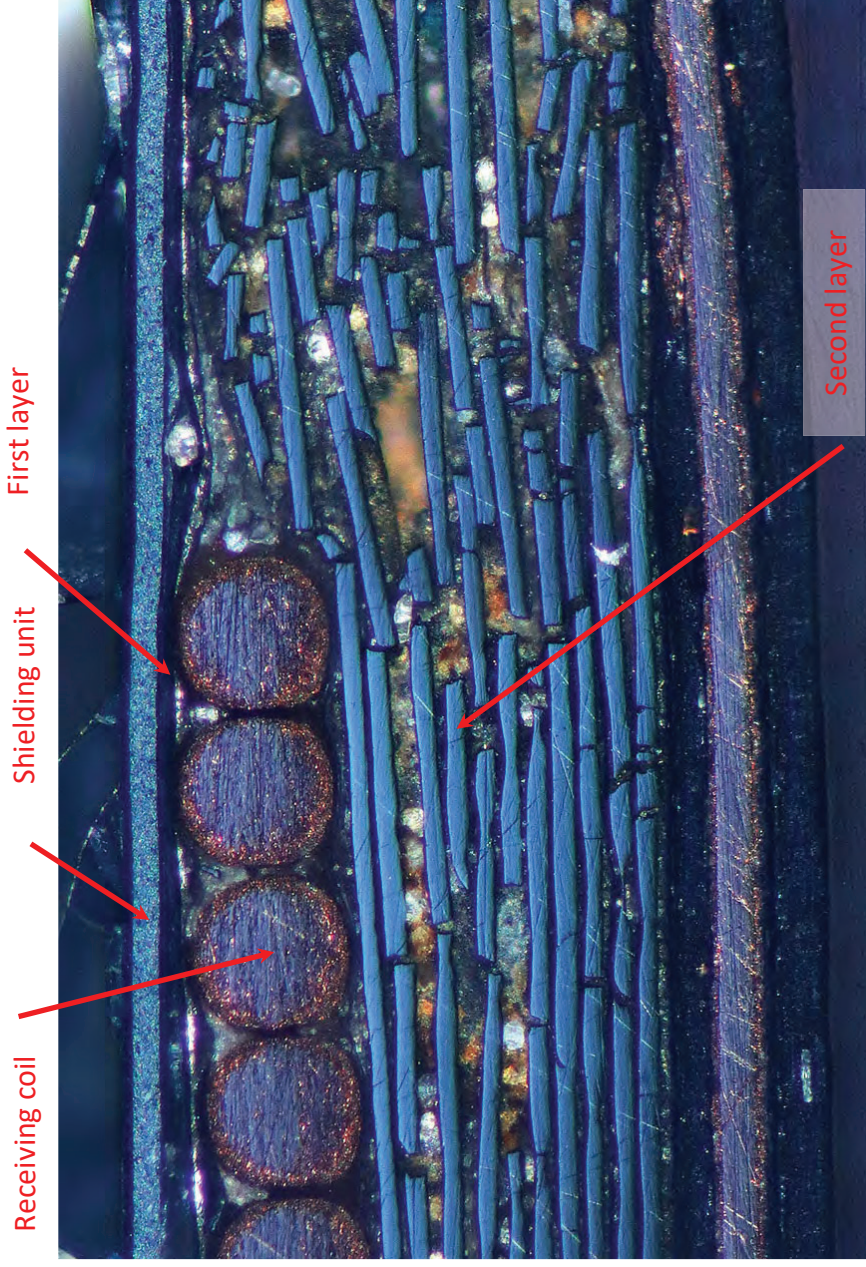
Accused Products



Shielding Unit

Diagram of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the shielding unit labeled as "E-shield", <https://www.nfcw.com/2020/10/14/368646/apple-includes-nfc-in-magsafe-accessories-for-new-iphones/>.

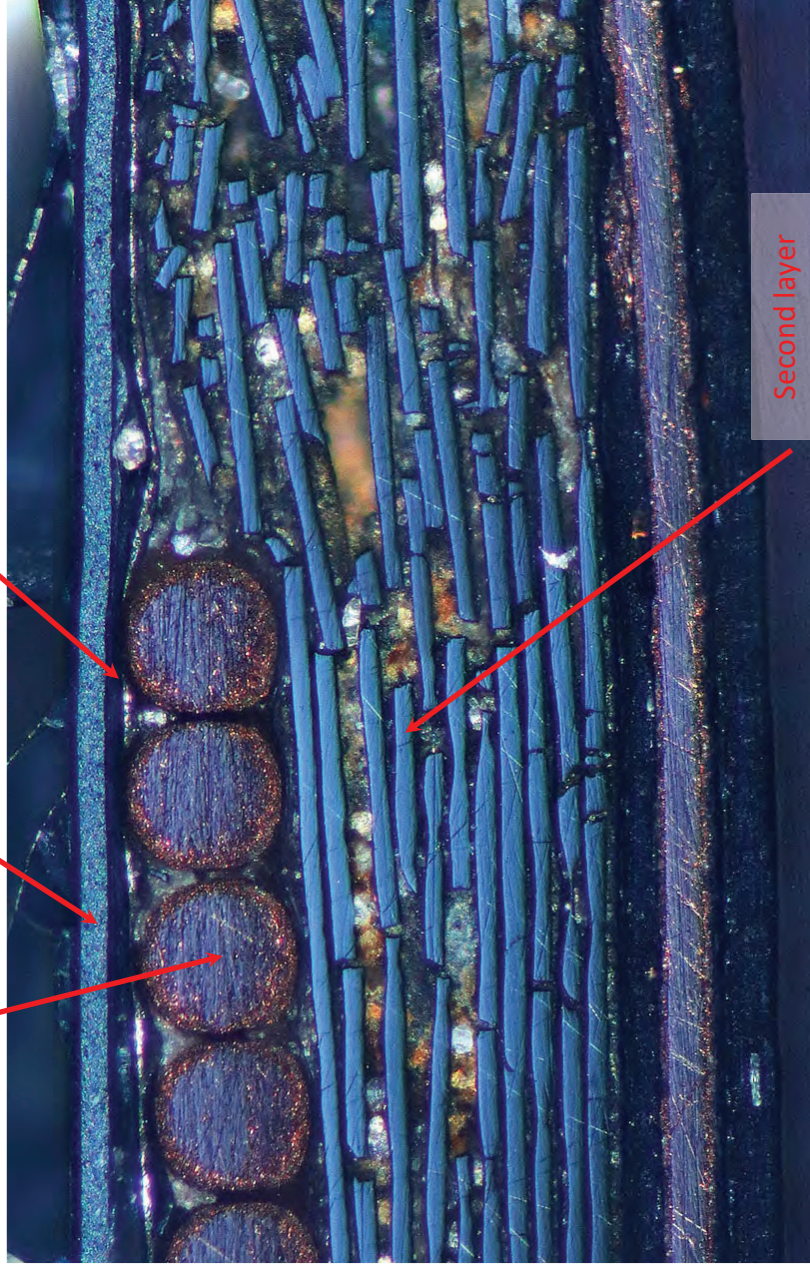
| | |
|---|---|
| <p>Claim 19</p> | <p>Accused Products</p> |
| <p>[19b] a first layer on the shielding unit;</p> | <p>Receiving coil</p> <p>Shielding unit</p> <p>First layer</p> <p>Second layer</p> <p>Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the shielding unit.</p> <p>Each Accused Product comprises a first layer on the shielding unit.</p> <p>See, e.g.:</p> |

| | |
|---|---|
| Claim 19 | Accused Products |
| |  <p>Receiving coil</p> <p>Shielding unit</p> <p>First layer</p> <p>Second layer</p> <p>Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating first layer on the shielding unit.</p> <p>Each Accused Product comprises a wireless power receiving coil on the first layer.</p> <p>See, e.g.:</p> |
| [19c] a wireless power receiving coil on the first layer; | |

Claim 19

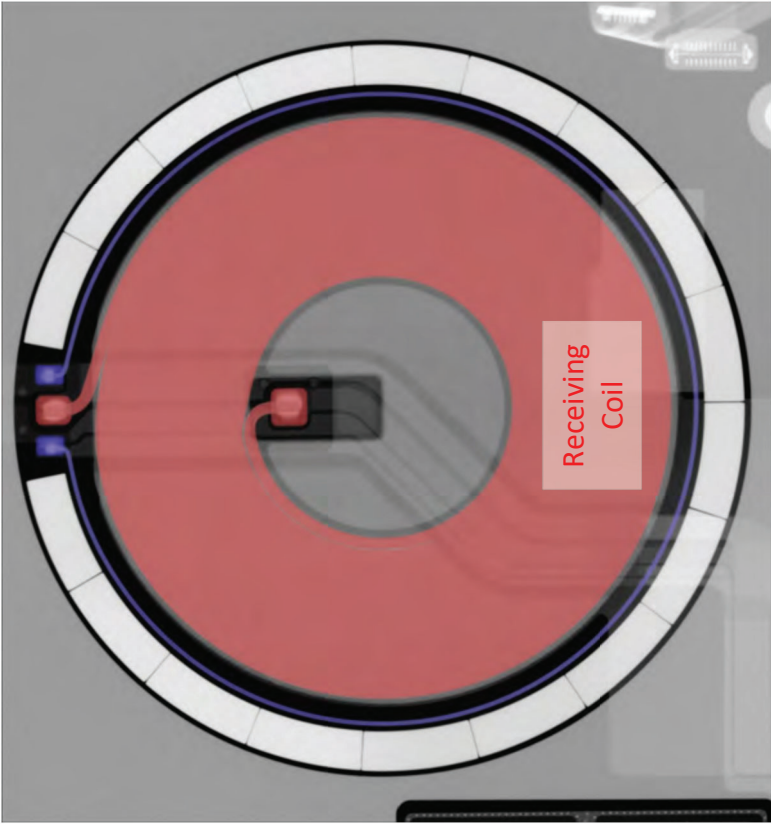
Accused Products

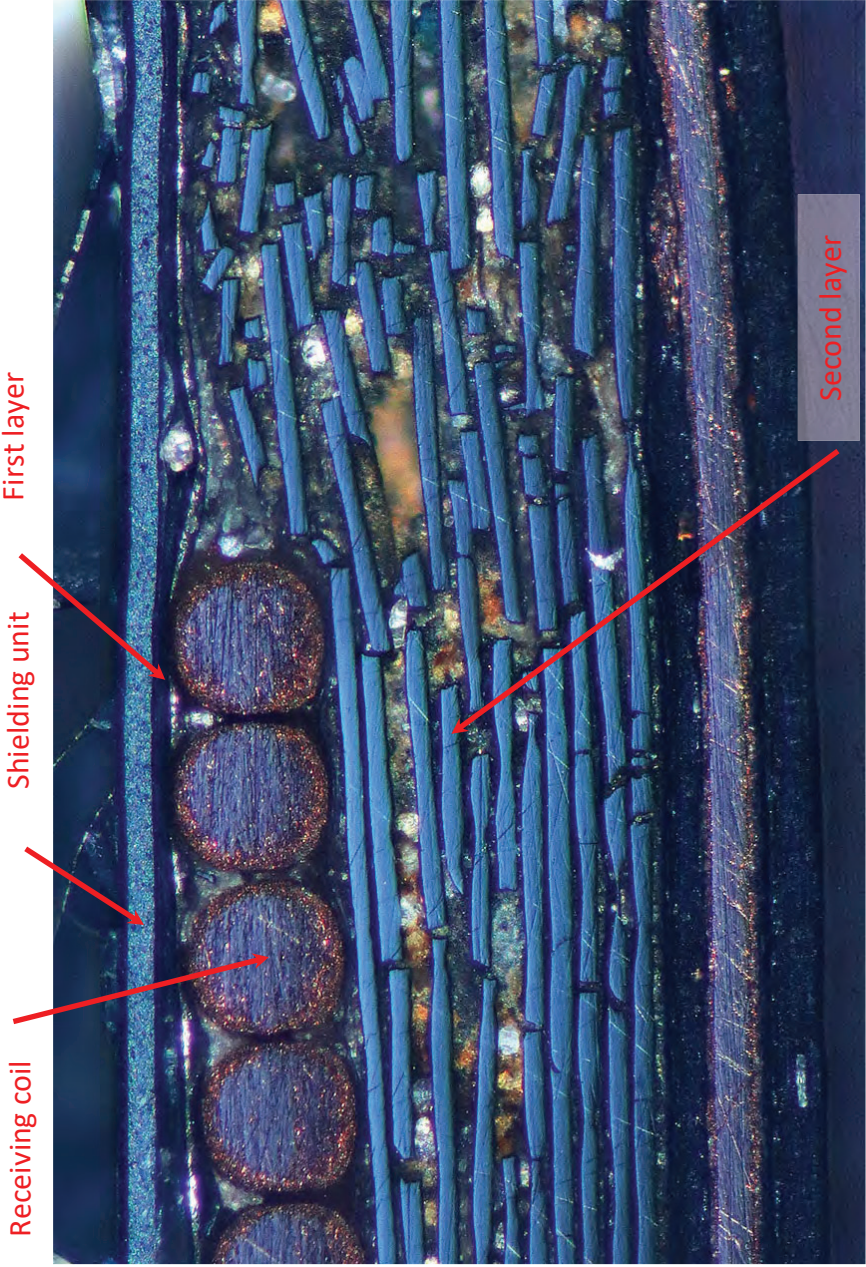
Receiving coil
Shielding unit
First layer



Second layer

Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the wireless power receiving coil on the first layer.

| Claim 19 | Accused Products |
|---|---|
| |  <p data-bbox="1063 241 1136 1470">X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the spiral pattern of the wireless power receiving coil (red).</p> |
| <p data-bbox="1161 1501 1234 1900">[19d] a second layer on the wireless power receiving coil;</p> | <p data-bbox="1161 367 1193 1470">Each Accused Product comprises a second layer on the wireless power receiving coil.</p> <p data-bbox="1209 210 1282 1470">For example, the second layer includes a polymer layer and/or soft magnetic layers adjacent to the coil.</p> <p data-bbox="1307 1344 1347 1470"><i>See, e.g.:</i></p> |

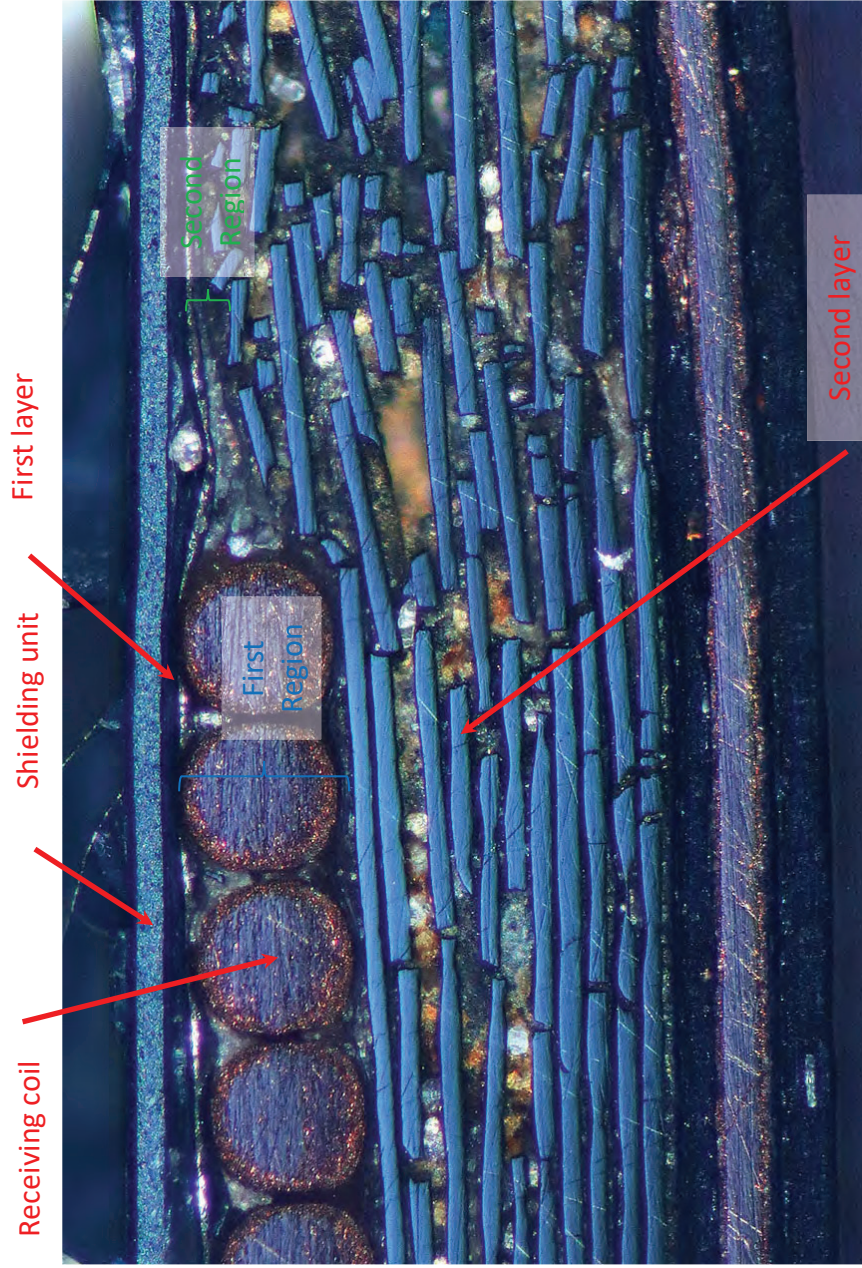
| | |
|--|---|
| <p>Claim 19</p> | <p>Accused Products</p> |
| <p>[19e] a first region in which at least one of the first layer and the second layer overlaps the wireless power receiving coil</p> |  <p>Receiving coil</p> <p>Shielding unit</p> <p>First layer</p> <p>Second layer</p> <p>Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the second layer on the wireless power receiving coil.</p> |
| <p>[19e] a first region in which at least one of the first layer and the second layer overlaps the wireless power receiving coil</p> | <p>Each Accused Product includes a first region in which at least one of the first layer and the second layer overlaps the wireless power receiving coil in a vertical direction perpendicular to an upper surface of the shielding unit.</p> |

Claim 19

in a vertical direction perpendicular to an upper surface of the shielding unit; and

Accused Products

See, e.g.:

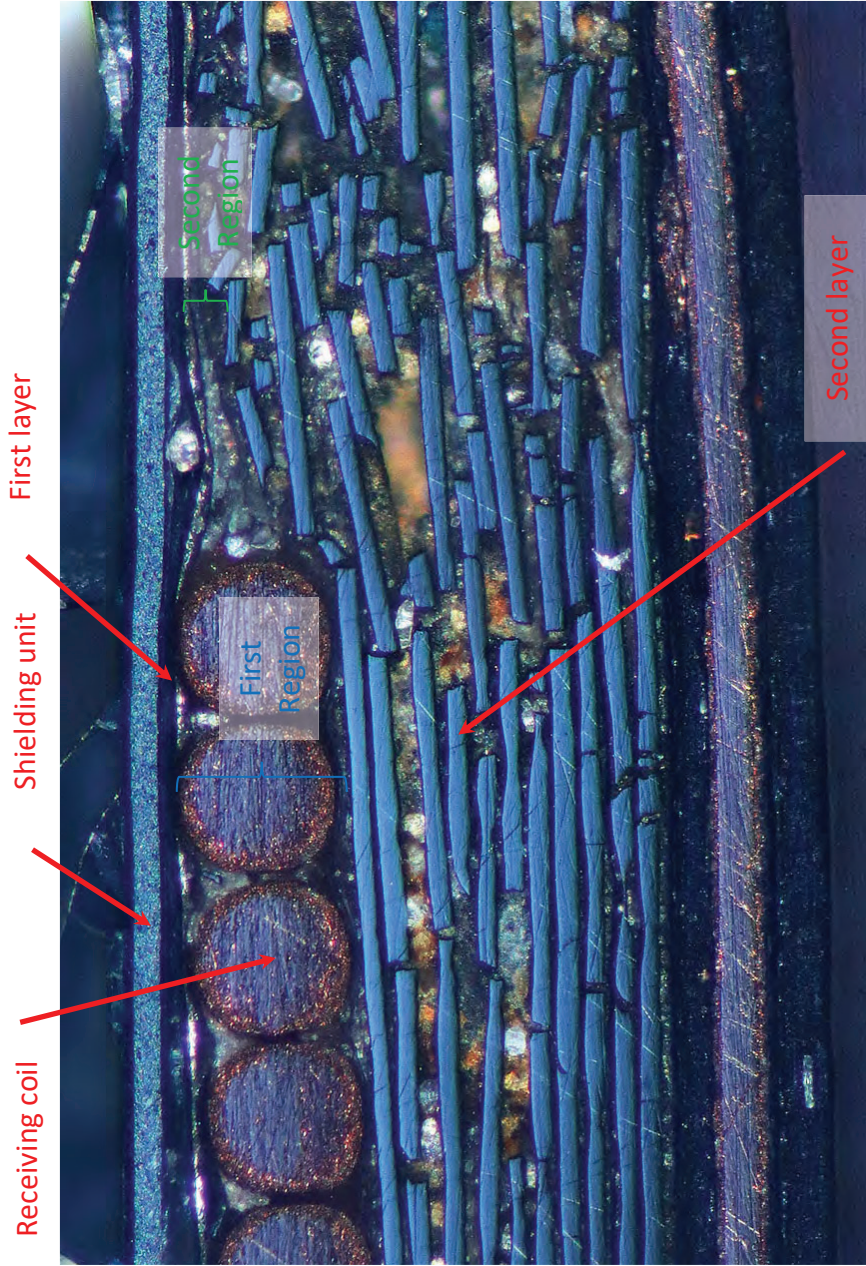


Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the first region where the first layer and the second layer overlaps the wireless power receiving coil in a vertical direction perpendicular to an upper surface of the shielding unit.

| Claim 19 | Accused Products |
|--|---|
| <p>[19f] a second region in which at least one of the first layer and the second layer does not overlap the wireless power receiving coil in the vertical direction,</p> | <p>Each Accused Product includes a second region in which at least one of the first layer and the second layer does not overlap the wireless power receiving coil in the vertical direction. <i>See, e.g.:</i></p> |

Claim 19

Accused Products

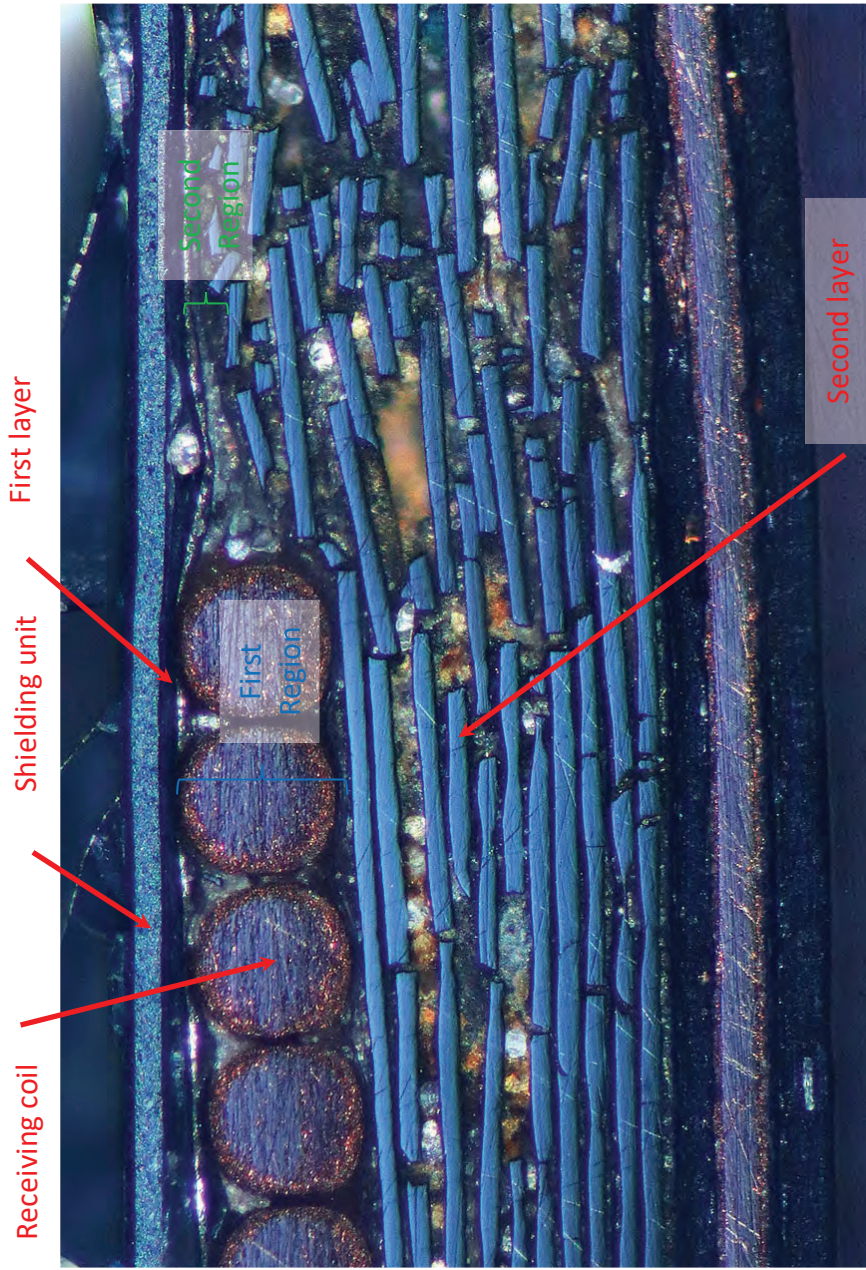


Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the second region where the first layer and the second layer do not overlap the wireless power receiving coil in the vertical direction.

| Claim 19 | Accused Products |
|--|---|
| <p>[19g] wherein a first gap between the first layer and the second layer in the first region is larger than a second gap between the first layer and the second layer in the second region.</p> | <p>Each Accused Product includes a first gap, measured in the vertical direction, between the first layer and the second layer in the first region which is greater than a second gap, measured in the vertical direction, between the first layer and the second layer in the second region. <i>See, e.g.:</i></p> |

Claim 19

Accused Products



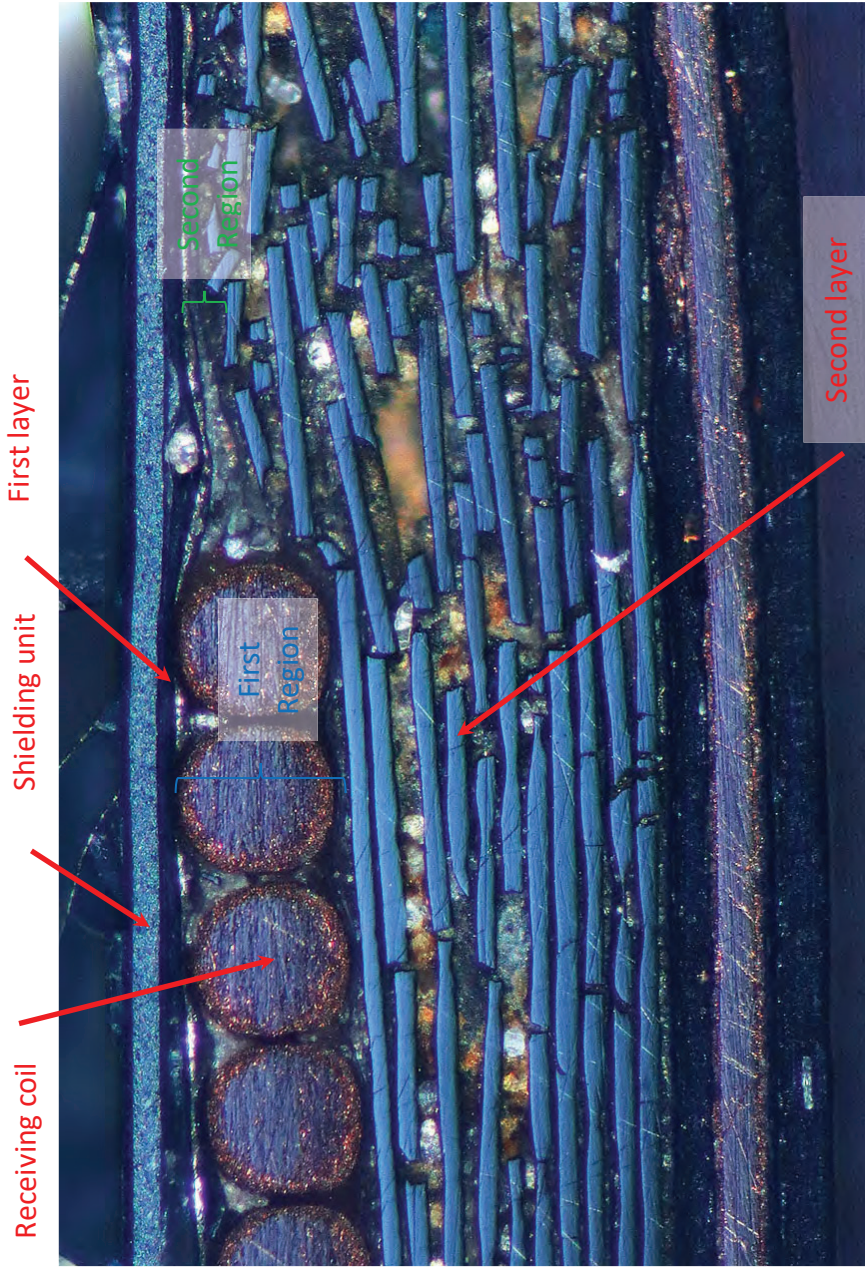
Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating that a first gap (blue bracket), measured in the vertical direction between the first and second layer in the first region, is approximately 4 times greater than a second gap (green bracket), measured in the vertical direction, between the first layer and the second layer in the second region.

Claim 20

| Claim 20 | Accused Products |
|--|--|
| The wireless power receiver of claim 19, wherein the second gap is smaller than a thickness, measured in the vertical direction, of the wireless power receiving coil. | In each Accused Product, the wireless power receiver of claim 19 has the second gap smaller than a thickness, measured in the vertical direction, of the wireless power receiving coil. <i>See, e.g.:</i> |

Claim 20

Accused Products



Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating that a thickness of the wireless power receiving coil (blue bracket), measured in the vertical direction, is approximately 4 times greater than a second gap (green bracket), measured in the vertical direction, between the first layer and the second layer in the second region.

EXHIBIT B

U.S. Patent No. 10,622,842 (“’842 Patent”)

Accused Products

Apple products, including without limitation the Apple iPhone 8, iPhone 8 Plus, iPhone X, iPhone Xs, iPhone Xs Max, iPhone XR, iPhone 11, iPhone 11 Pro, iPhone 11 Pro Max, iPhone SE (second generation), iPhone 12, iPhone 12 Mini, iPhone 12 Pro, and iPhone 12 Pro Max (“Accused Products”), infringe at least Claims 1, 2, 5, 6, 14, 15, 16, 19, and 20 of the ’842 Patent.

Claim 1

| Claim 1 | Accused Products |
|---|---|
| [Ipre] A wireless power receiver, comprising: | <p>To the extent the preamble is limiting, each Accused Product includes a wireless power receiver.</p> <p><i>See, e.g.:</i></p>  <p>Photograph of the wireless power receiver from the exemplary Apple iPhone 12.</p> |

Claim 1

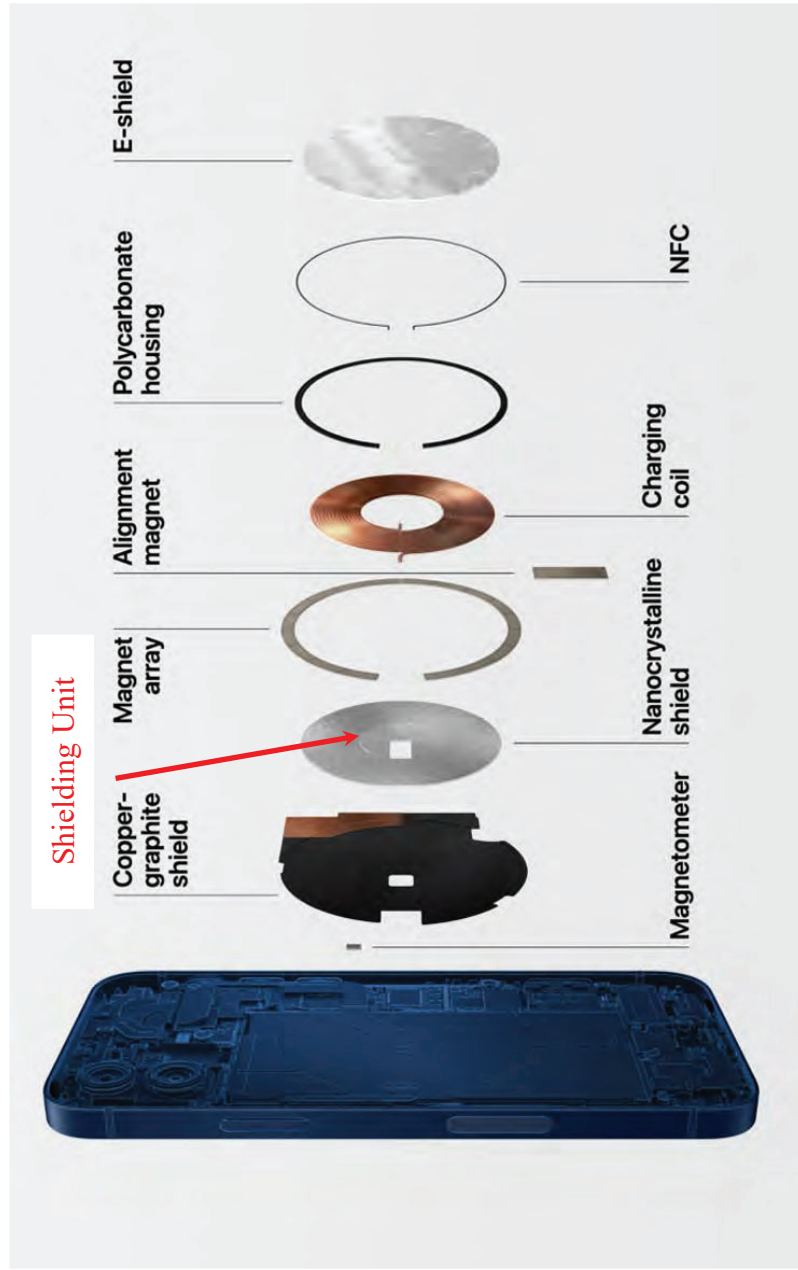
[1a] a shielding unit;

Accused Products

Each Accused Product comprises a shielding unit.

For example, the shielding unit is comprised of layers of an iron and silicon alloy that acts to shield magnetic fields.

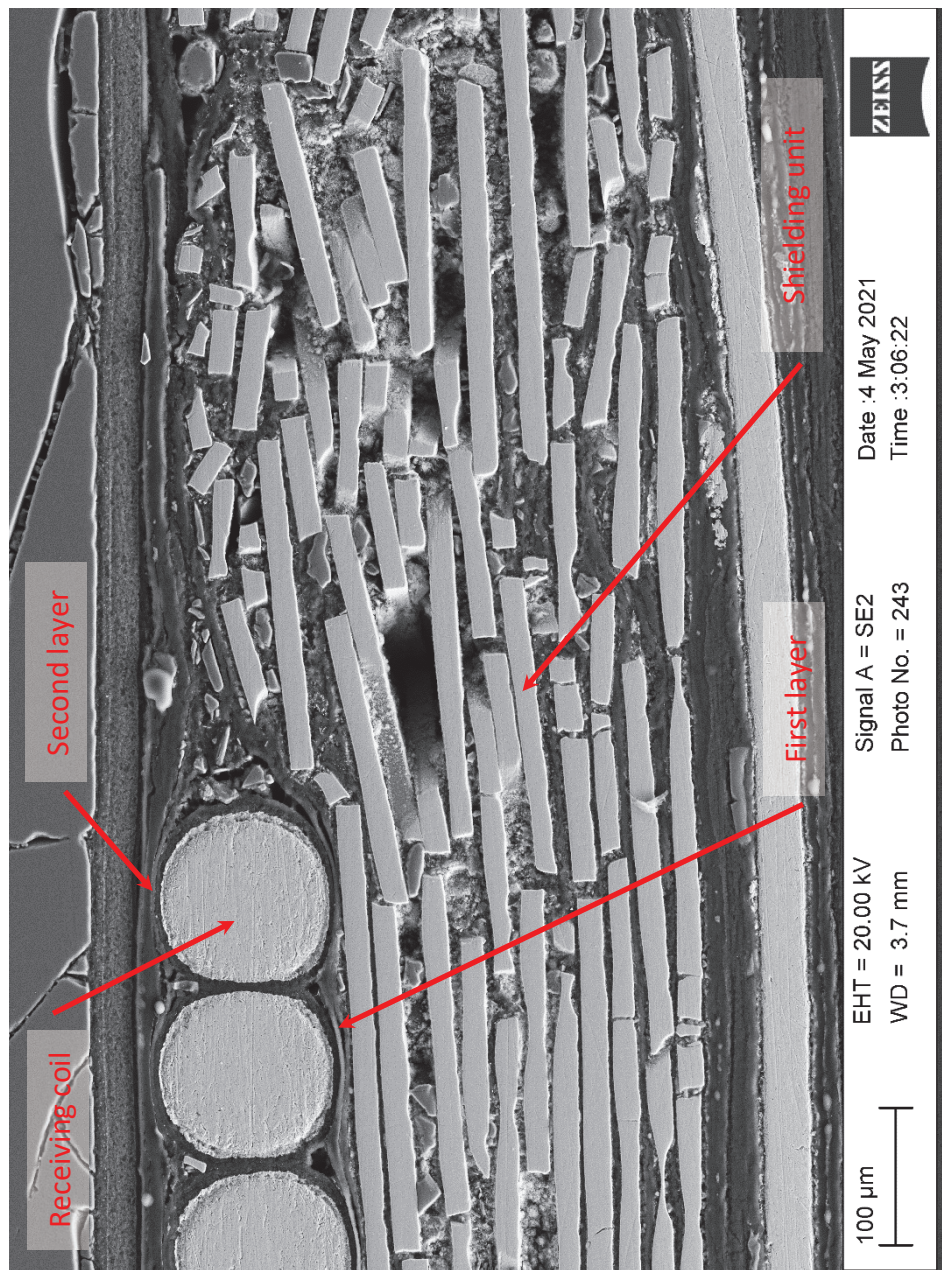
See, e.g.:



| Claim 1 | Accused Products |
|---------|---|
| | <p>Diagram of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the shielding unit labeled as “nanocrystalline shield”, https://www.nfcw.com/2020/10/14/368646/apple-includes-nfc-in-magsafe-accessories-for-new-iphones/.</p> |

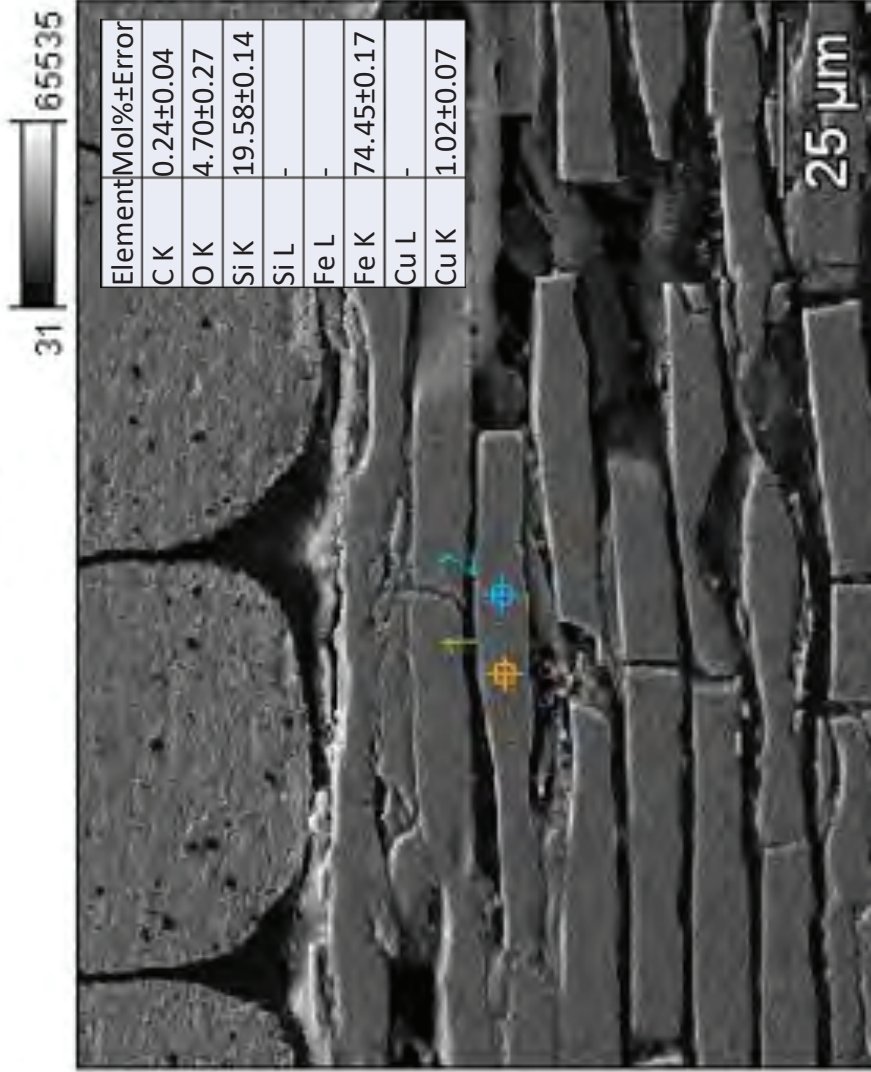
Claim 1

Accused Products



SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the shielding unit comprising layers of iron and silicon alloy.

Base(9)



SEM image and EDS measurements of the layers comprising the shielding unit. The elemental composition shown is averaged over the orange and blue points, and the high iron and silicon content suggests a soft magnetic material alloy used for magnetic shielding.

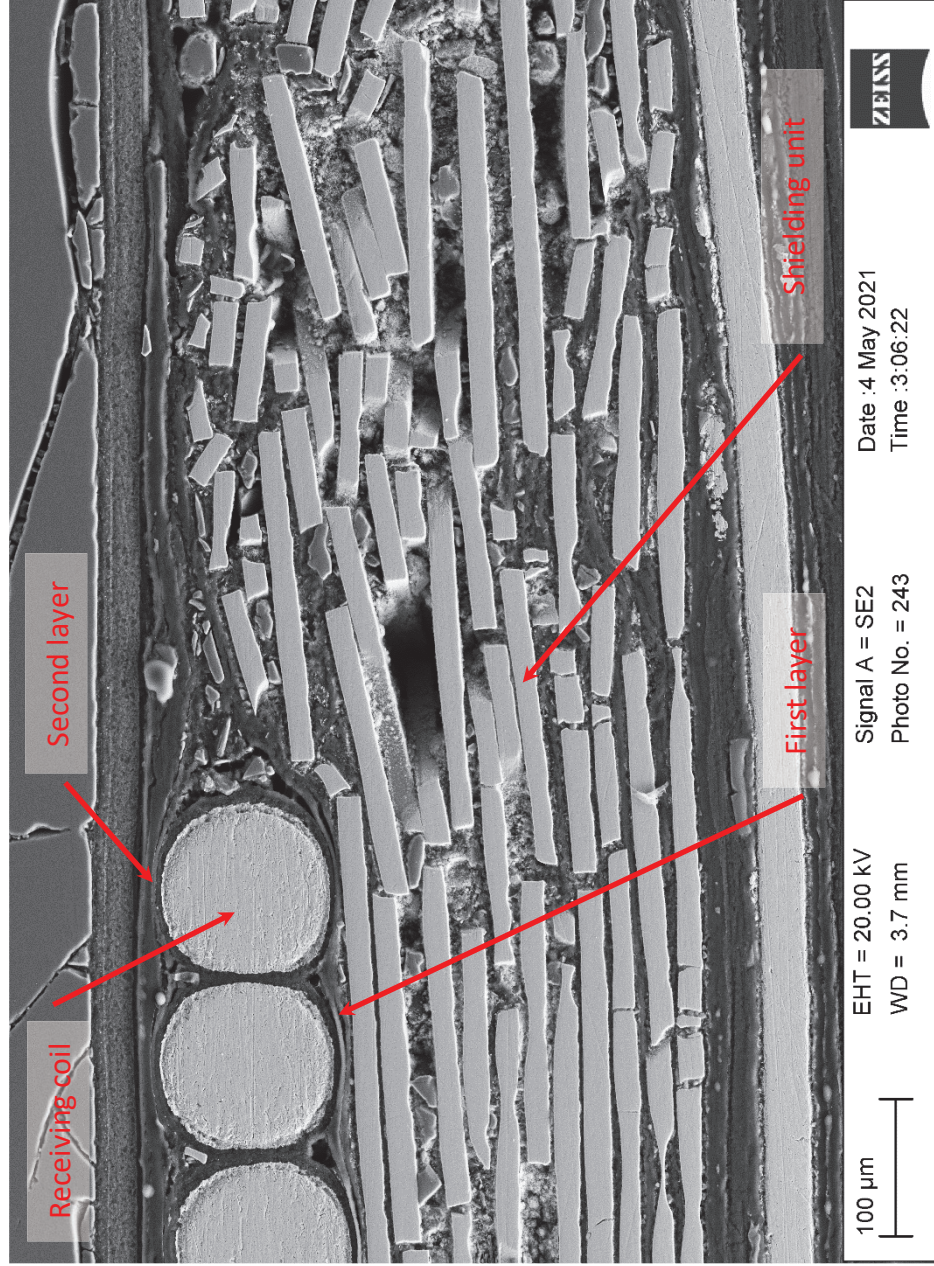
Claim 1

Accused Products

[1b] a first layer on the shielding unit;

Each Accused Product comprises a first layer on the shielding unit.

See, e.g.:



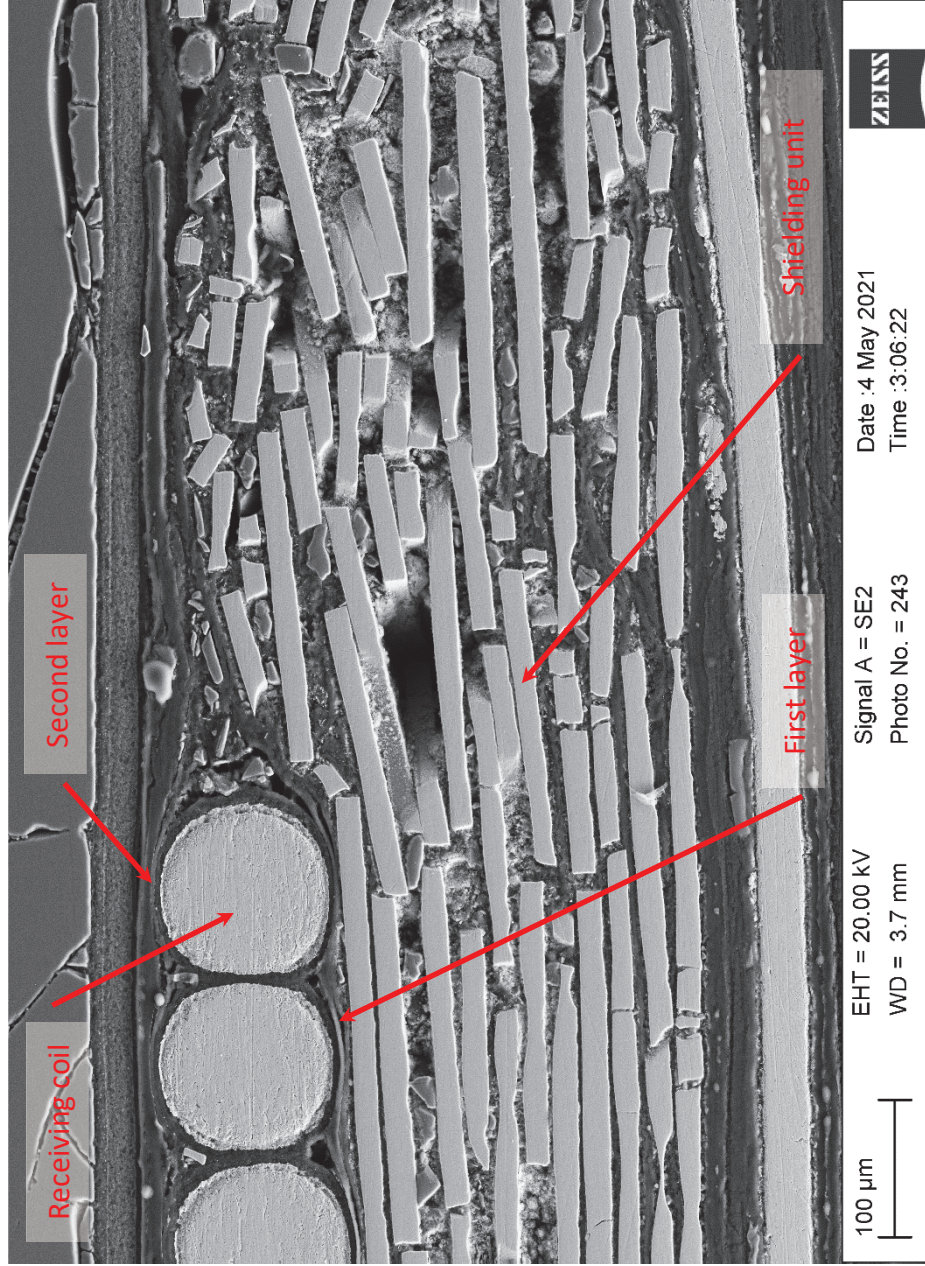
SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating first layer on the shielding unit.

Claim 1

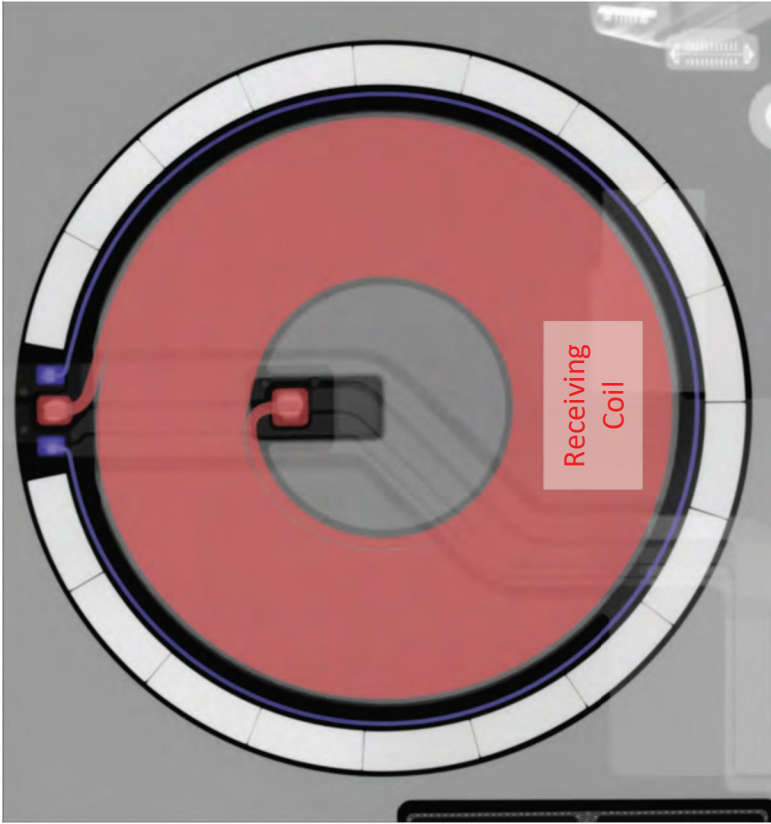
[1c] a wireless power receiving coil on the first layer;

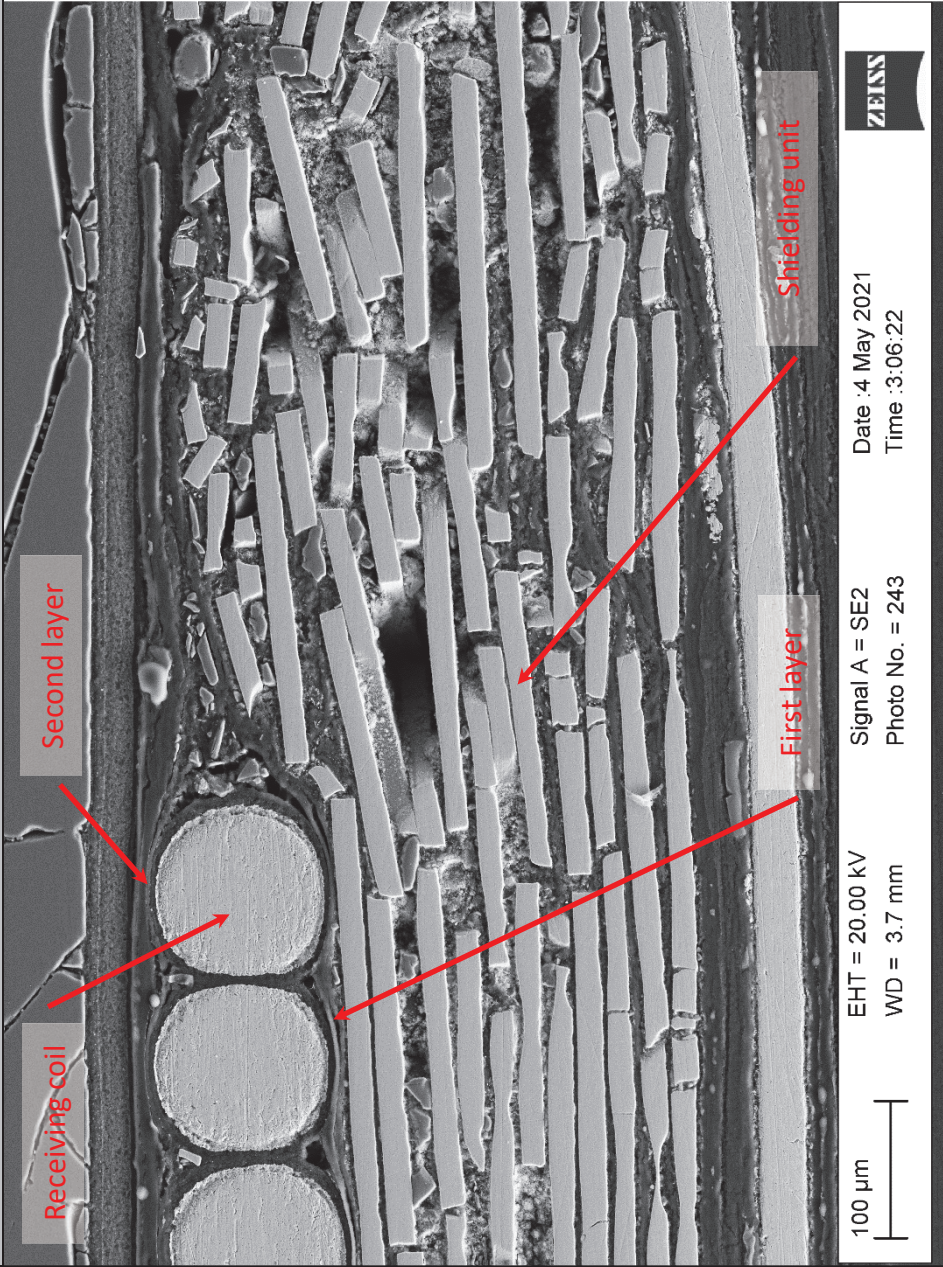
Accused Products

Each Accused Product comprises a wireless power receiving coil on the first layer.
See, e.g.:



SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the wireless power receiving coil on the first layer.

| Claim 1 | Accused Products |
|--|---|
| |  <p data-bbox="1063 241 1136 1470">X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the spiral pattern of the wireless power receiving coil (red).</p> |
| <p data-bbox="1161 1501 1234 1900">[1d] a second layer on the wireless power receiving coil;</p> | <p data-bbox="1161 367 1193 1470">Each Accused Product comprises a second layer on the wireless power receiving coil.</p> <p data-bbox="1218 1344 1250 1470"><i>See, e.g.:</i></p> |

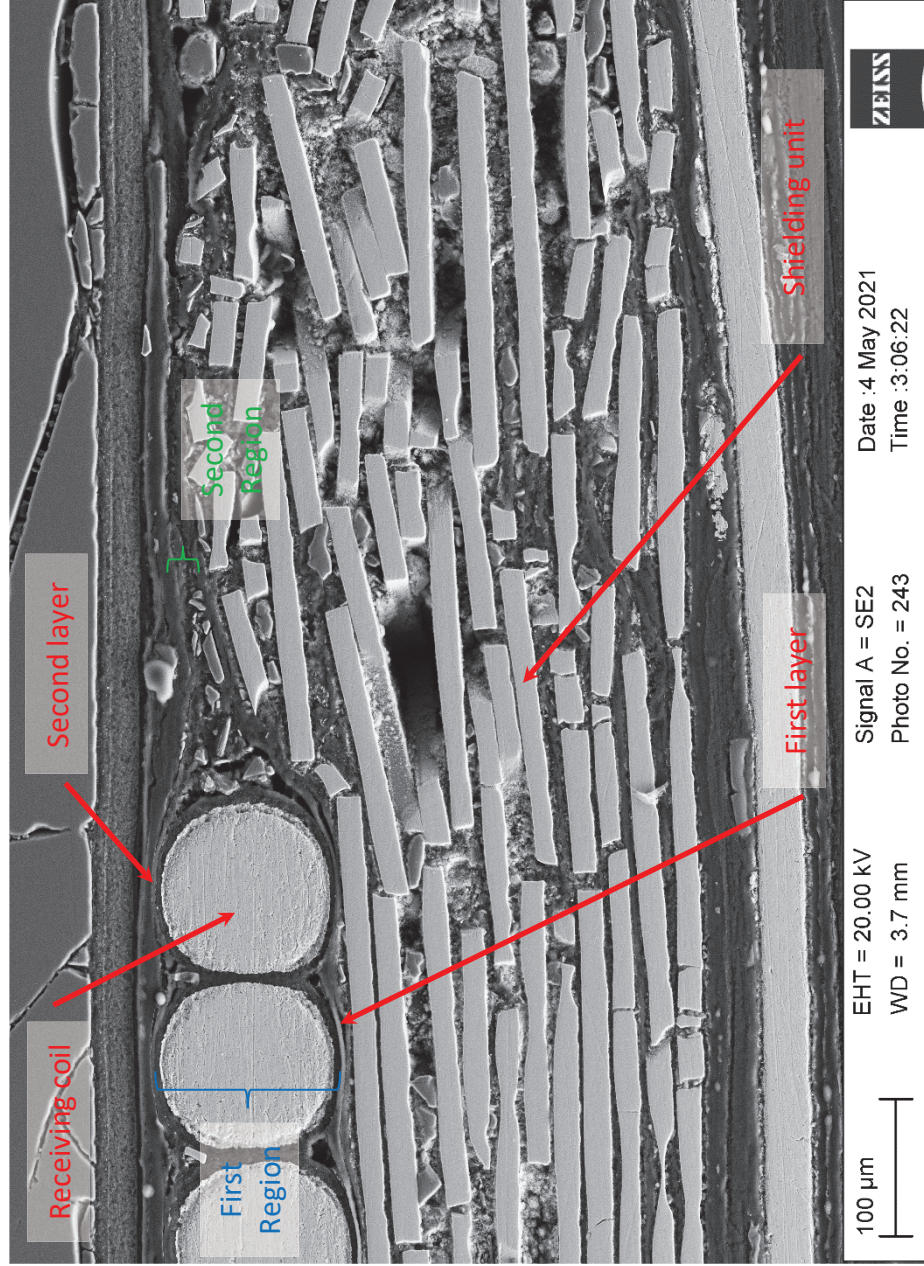
| | |
|--|--|
| Claim 1 | <p style="text-align: center;">Accused Products</p>  <p>SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the second layer on the wireless power receiving coil.</p> <p>Each Accused Product includes a first region in which at least one of the first layer and the second layer overlaps the wireless power receiving coil in a vertical direction perpendicular to an upper surface of the shielding unit.</p> |
| [1e] a first region in which at least one of the first layer and the second layer overlaps the | |

Claim 1

wireless power receiving coil
in a vertical direction
perpendicular to an upper
surface of the shielding unit;

Accused Products

See, e.g.:

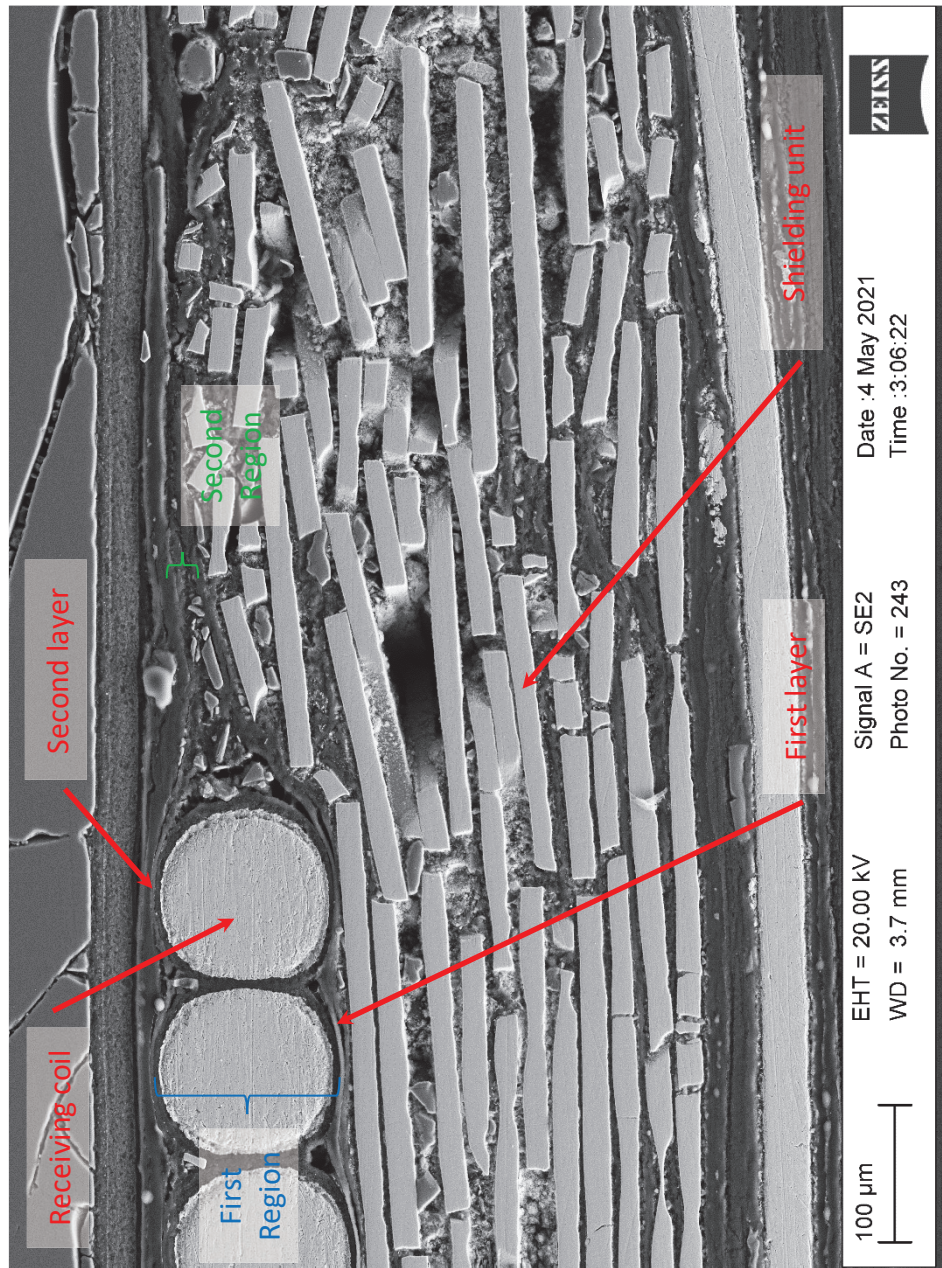


SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the first region where the first layer and the second layer overlaps the wireless power receiving coil in a vertical direction perpendicular to an upper surface of the shielding unit.

| Claim 1 | Accused Products |
|---|---|
| <p>[1f] and a second region in which at least one of the first layer and the second layer does not overlap the wireless power receiving coil in the vertical direction,</p> | <p>Each Accused Product includes a second region in which at least one of the first layer and the second layer does not overlap the wireless power receiving coil in the vertical direction. <i>See, e.g.:</i></p> |

Claim 1

Accused Products

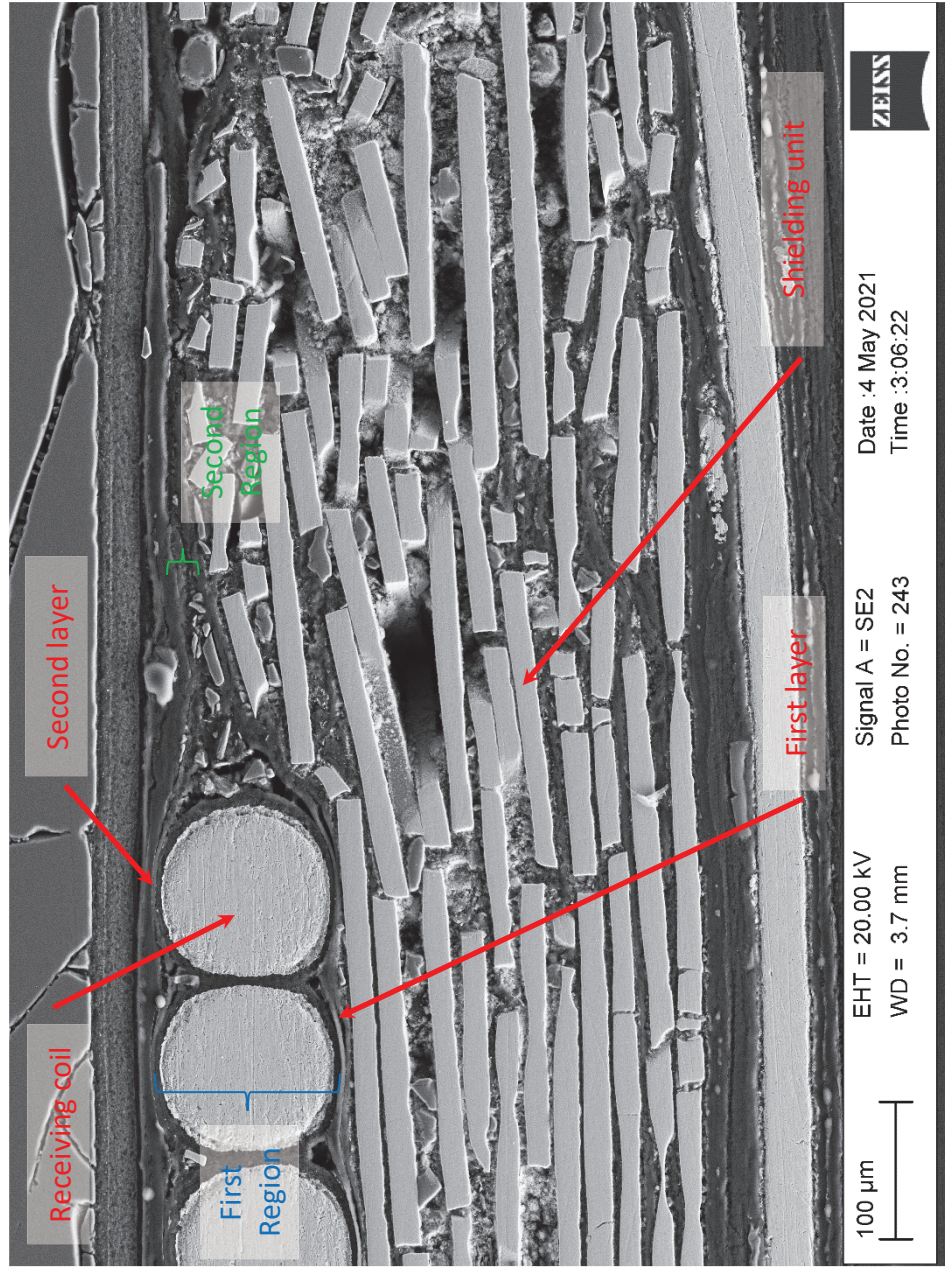


SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the second region where the first layer and the second layer do not overlap the wireless power receiving coil in the vertical direction.

| Claim 1 | Accused Products |
|--|--|
| <p>[1g] wherein a first distance, measured in the vertical direction, between the first layer and the second layer in the first region is greater than a second distance, measured in the vertical direction, between the first layer and the second layer in the second region.</p> | <p>Each Accused Product includes a first distance, measured in the vertical direction, between the first layer and the second layer in the first region which is greater than a second distance, measured in the vertical direction, between the first layer and the second layer in the second region.</p> <p><i>See, e.g.:</i></p> |

Claim 1

Accused Products



SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating that a first distance (blue bracket), measured in the vertical direction between the first and second layer in the first region, is approximately 6 times greater than a second distance (green bracket), measured in the vertical direction, between the first layer and the second layer in the second region.

Claim 2

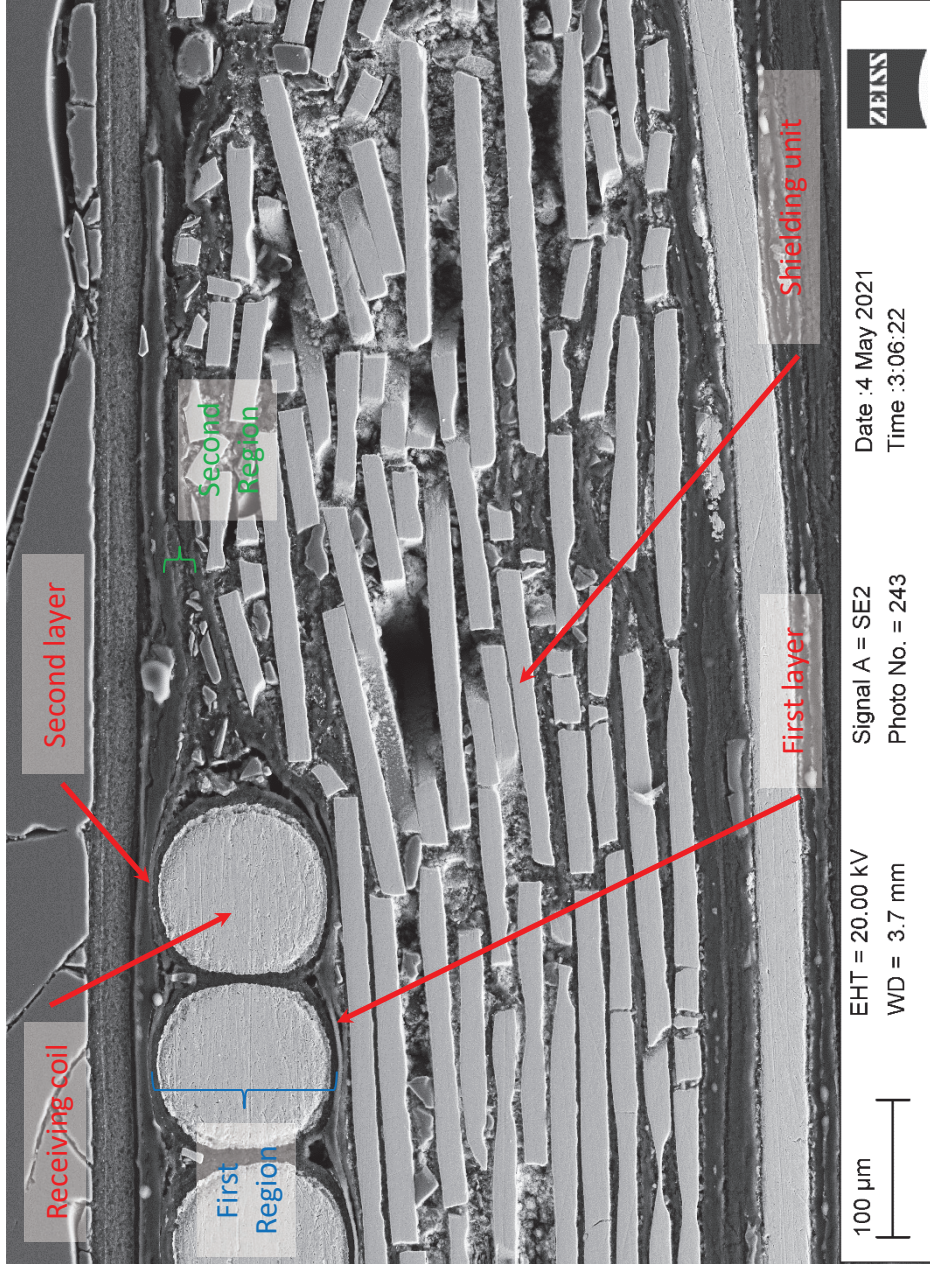
Claim 2

The wireless power receiver of claim 1, wherein the second distance is smaller than a thickness, measured in the vertical direction, of the wireless power receiving coil.

Accused Products

In each Accused Product, the wireless power receiver of claim 1 has the second distance smaller than a thickness, measured in the vertical direction, of the wireless power receiving coil.

See, e.g.:



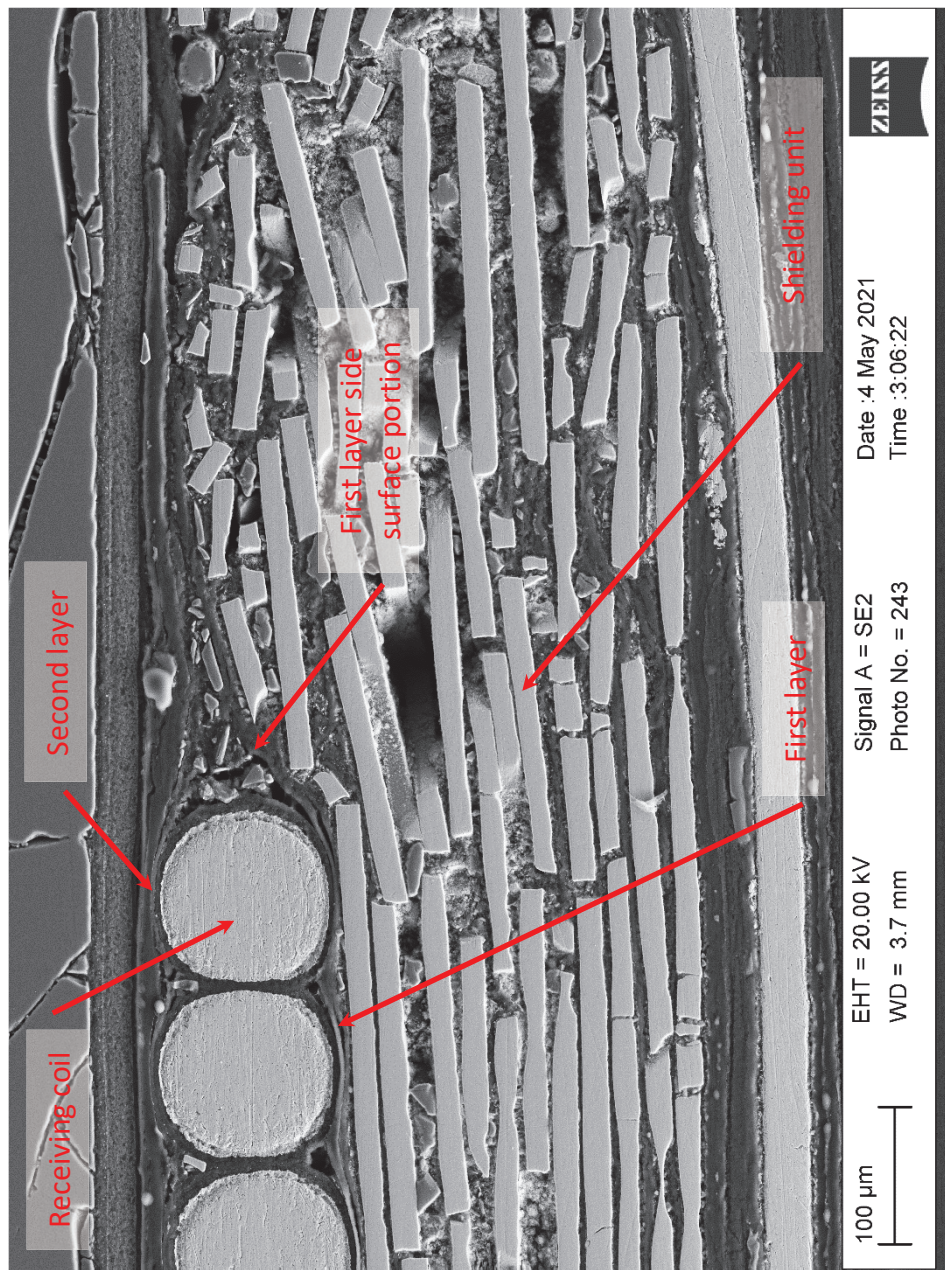
| Claim 2 | Accused Products |
|---------|--|
| | SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating that a thickness of the wireless power receiving coil (blue bracket), measured in the vertical direction, is approximately 6 times greater than a second distance (green bracket), measured in the vertical direction, between the first layer and the second layer in the second region. |

Claim 5

| Claim 5 | Accused Products |
|--|--|
| The wireless power receiver of claim 1, wherein a portion of the first layer is disposed on a side surface of the wireless power receiving coil. | In each Accused Product, the wireless power receiver of claim 1 has a portion of the first layer that is disposed on a side surface of the wireless power receiving coil. <i>See, e.g.:</i> |

Claim 5

Accused Products



SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating a portion of the first layer is disposed on a side surface of the wireless power receiving coil.

Claim 6

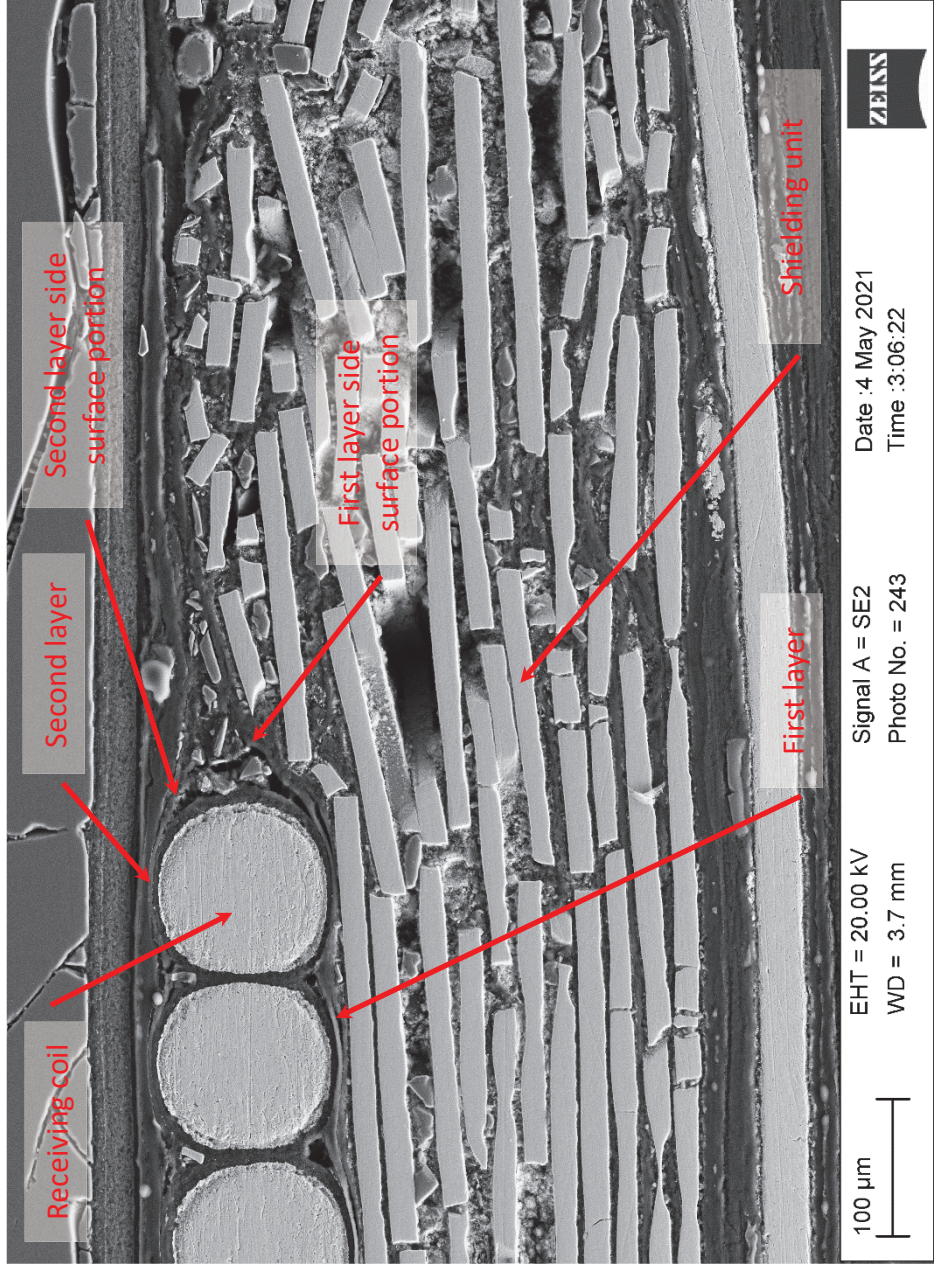
Claim 6

The wireless power receiver of claim 5, wherein a portion of the second layer is disposed on the side surface of the wireless power receiving coil.

Accused Products

In each Accused Product, the wireless power receiver of claim 5 has a portion of the second layer that is disposed on the side surface of the wireless power receiving coil.

See, e.g.:



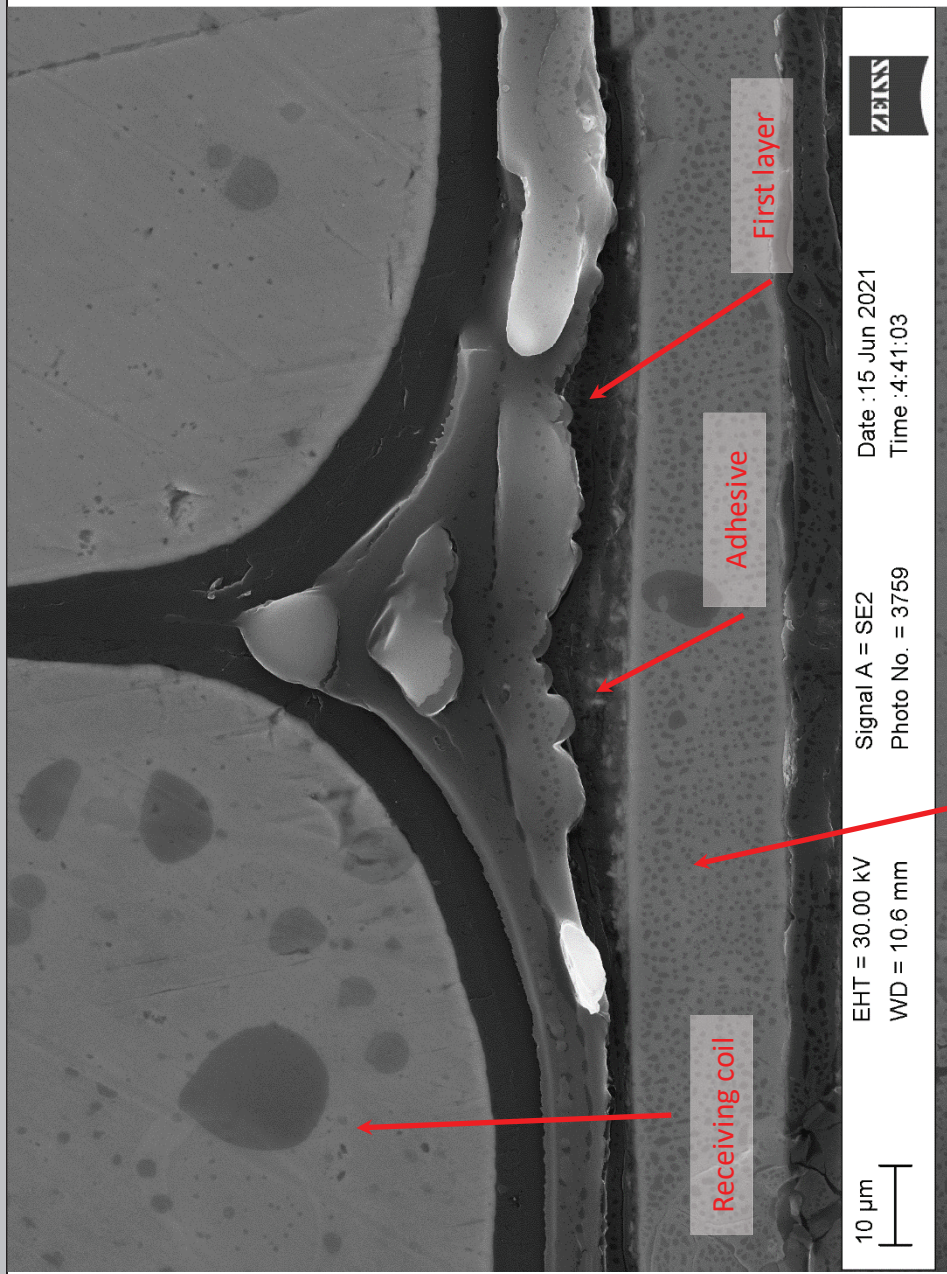
| | |
|---------|--|
| Claim 6 | Accused Products |
| | SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating a portion of the second layer is disposed on the side surface of the wireless power receiving coil. |

Claim 14

| | |
|---|--|
| Claim 14 | Accused Products |
| The wireless power receiver of claim 1, comprising: an adhesive between the shielding unit and the first layer. | In each Accused Product, the wireless power receiver of claim 1 comprises an adhesive between the shielding unit and the first layer. <i>See, e.g.:</i> |


Claim 14

Accused Products



SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating an adhesive between the shielding unit and the first layer.

Claim 15

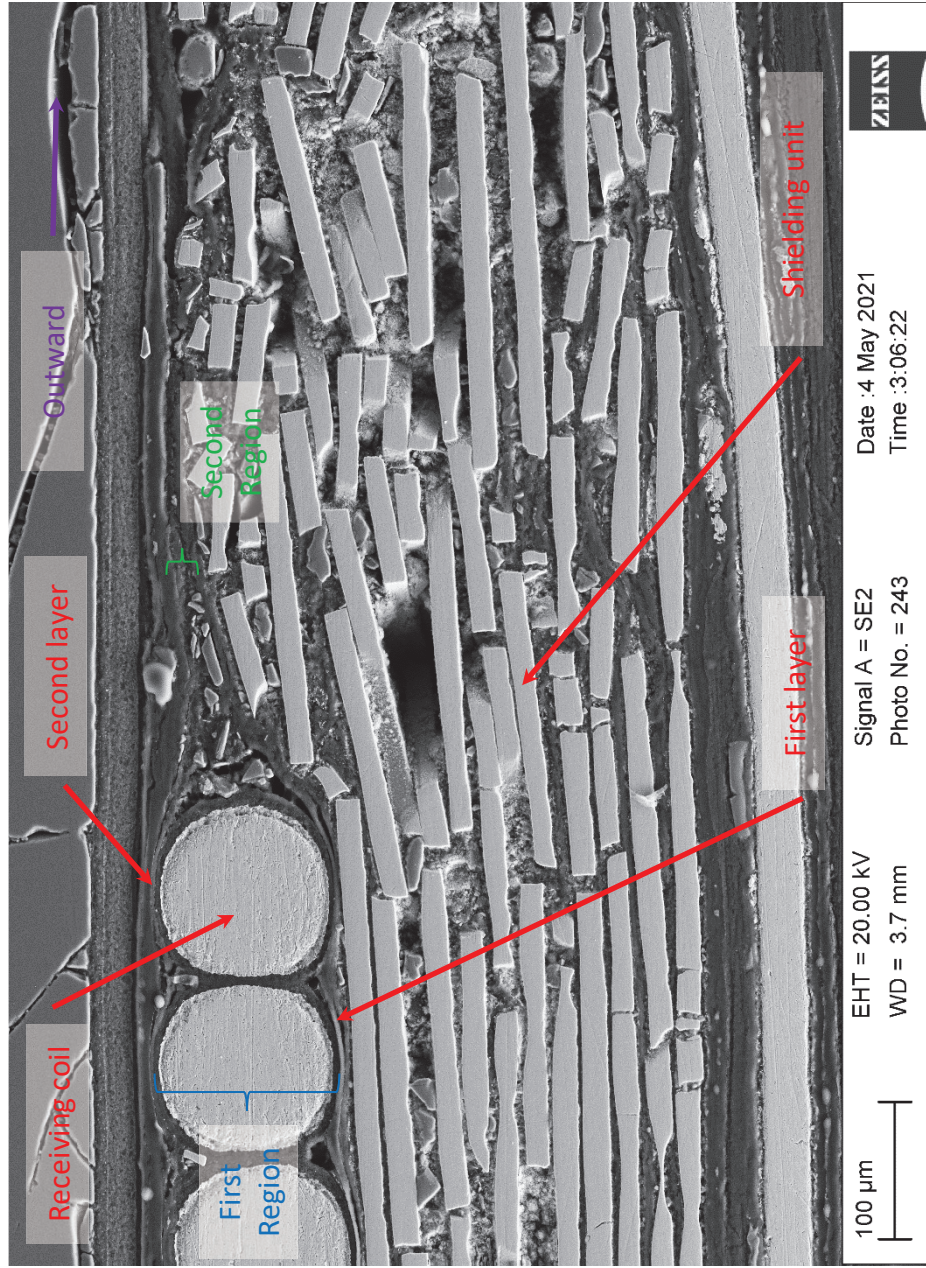
| Claim 15 | Accused Products |
|--|--|
| <p>The wireless power receiver of claim 1, wherein the shielding unit has a reception space in a predetermined area.</p> | <p>In each Accused Product, the wireless power receiver of claim 1 comprises a shielding unit with a reception space in a predetermined area.</p> <p><i>See, e.g.:</i></p>  <p>Optical cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating a reception space in a predetermined area formed by an indentation in the shielding unit for the wireless power receiving coil inside the green box.</p> |

Claim 16

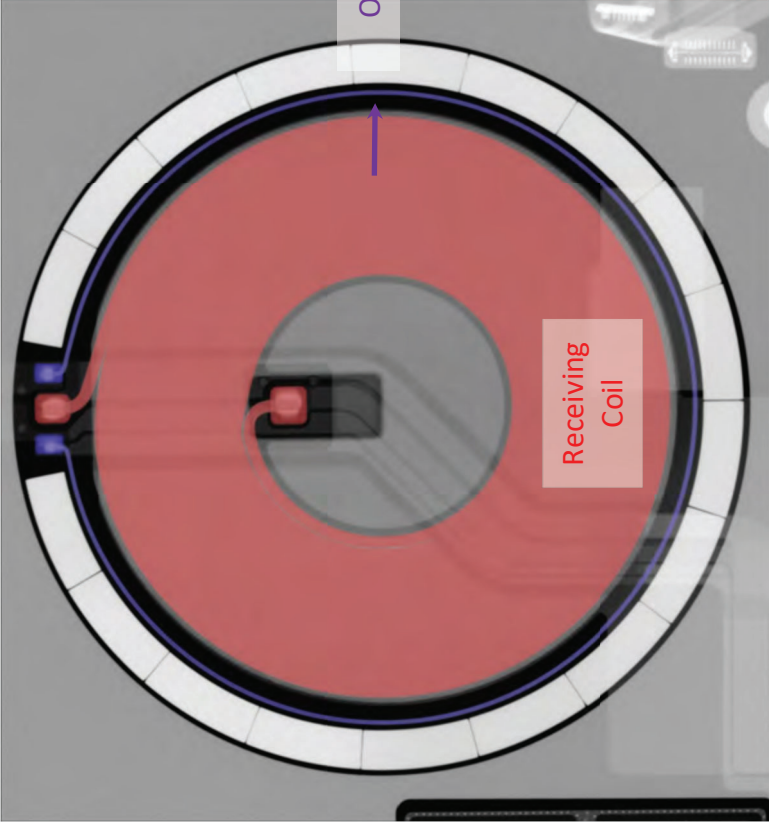
| Claim 16 | Accused Products |
|---|---|
| <p>The wireless power receiver of claim 1, wherein the second region is positioned at an outer side of the wireless power receiving coil.</p> | <p>In each Accused Product, the wireless power receiver of claim 1 has the second region positioned at an outer side of the wireless power receiving coil.</p> <p><i>See, e.g.:</i></p> |

Claim 16

Accused Products



SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the second region at an outer side of the wireless power receiving coil. The outward direction is indicated by the purple arrow.

| | |
|---|---|
| Claim 16 | Accused Products |
|  <p data-bbox="1047 241 1161 1470">X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the spiral pattern of the wireless power receiving coil (red) and its outer side covered by the optical cross section image above.</p> | <p data-bbox="625 546 657 661">Outward</p> <p data-bbox="812 966 909 1134">Receiving Coil</p> |

| | |
|---|---|
| Claim 19 | Accused Products |
| <p data-bbox="1315 1564 1388 1900">[19pre] A wireless power receiver, comprising:</p> | <p data-bbox="1315 231 1356 1470">To the extent the preamble is limiting, each Accused Product includes a wireless power receiver.</p> <p data-bbox="1372 1344 1412 1470"><i>See, e.g.:</i></p> |

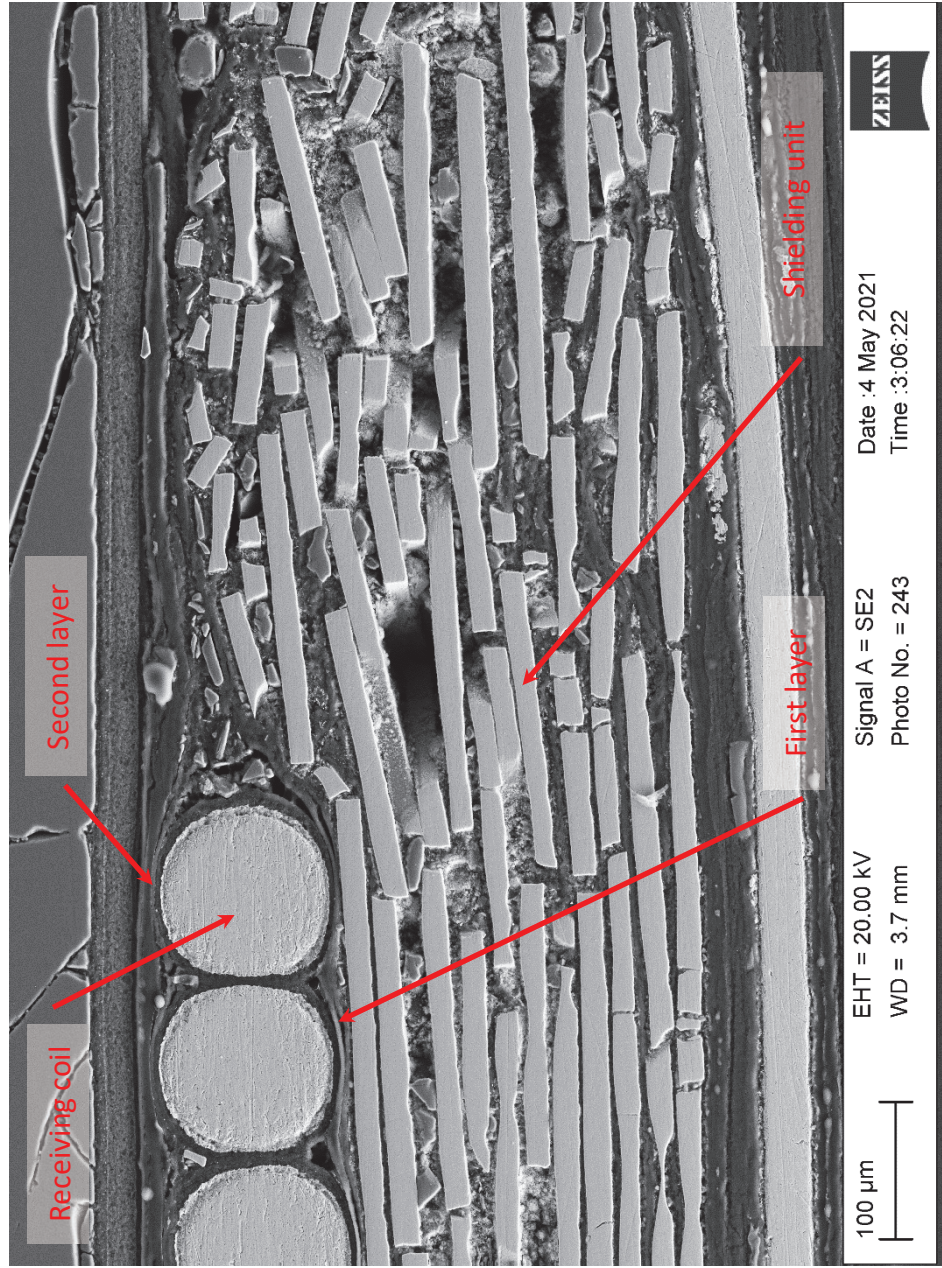
| | |
|-------------------------|---|
| Claim 19 | Accused Products |
| [19a] a shielding unit; |  <p data-bbox="852 430 885 1459">Photograph of the wireless power receiver from the exemplary Apple iPhone 12.</p> |
| | <p data-bbox="917 829 950 1459">Each Accused Product comprises a shielding unit.</p> <p data-bbox="974 283 1039 1459">For example, the shielding unit is comprised of layers of an iron and silicon alloy that acts to shield magnetic fields.</p> <p data-bbox="1063 1354 1096 1459"><i>See, e.g.:</i></p> |



Diagram of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the shielding unit labeled as “nanocrystalline shield”, <https://www.nfcw.com/2020/10/14/368646/apple-includes-nfc-in-magsafe-accessories-for-new-iphones/>.

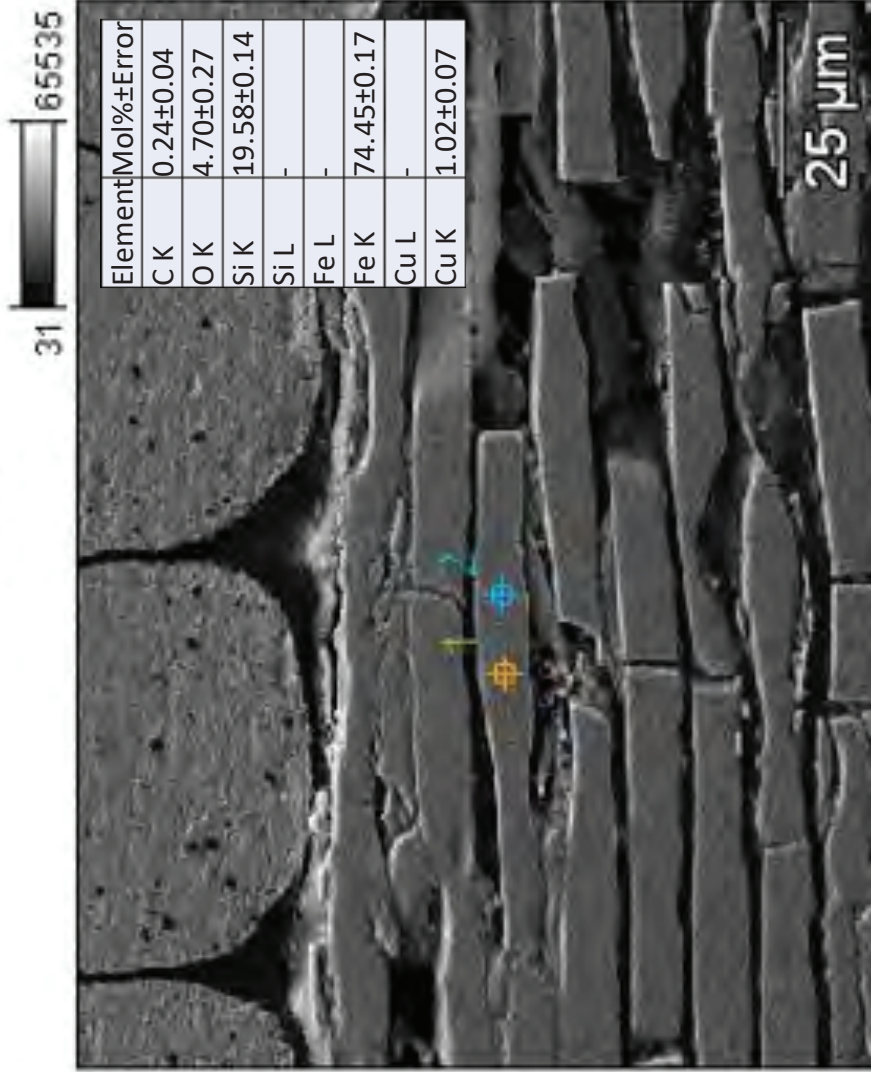
Claim 19

Accused Products



SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the shielding unit comprising layers of iron and silicon alloy.

Base(9)



SEM image and EDS measurements of the layers comprising the shielding unit. The elemental composition shown is averaged over the orange and blue points, and the high iron and silicon content suggests a soft magnetic material alloy used for magnetic shielding.

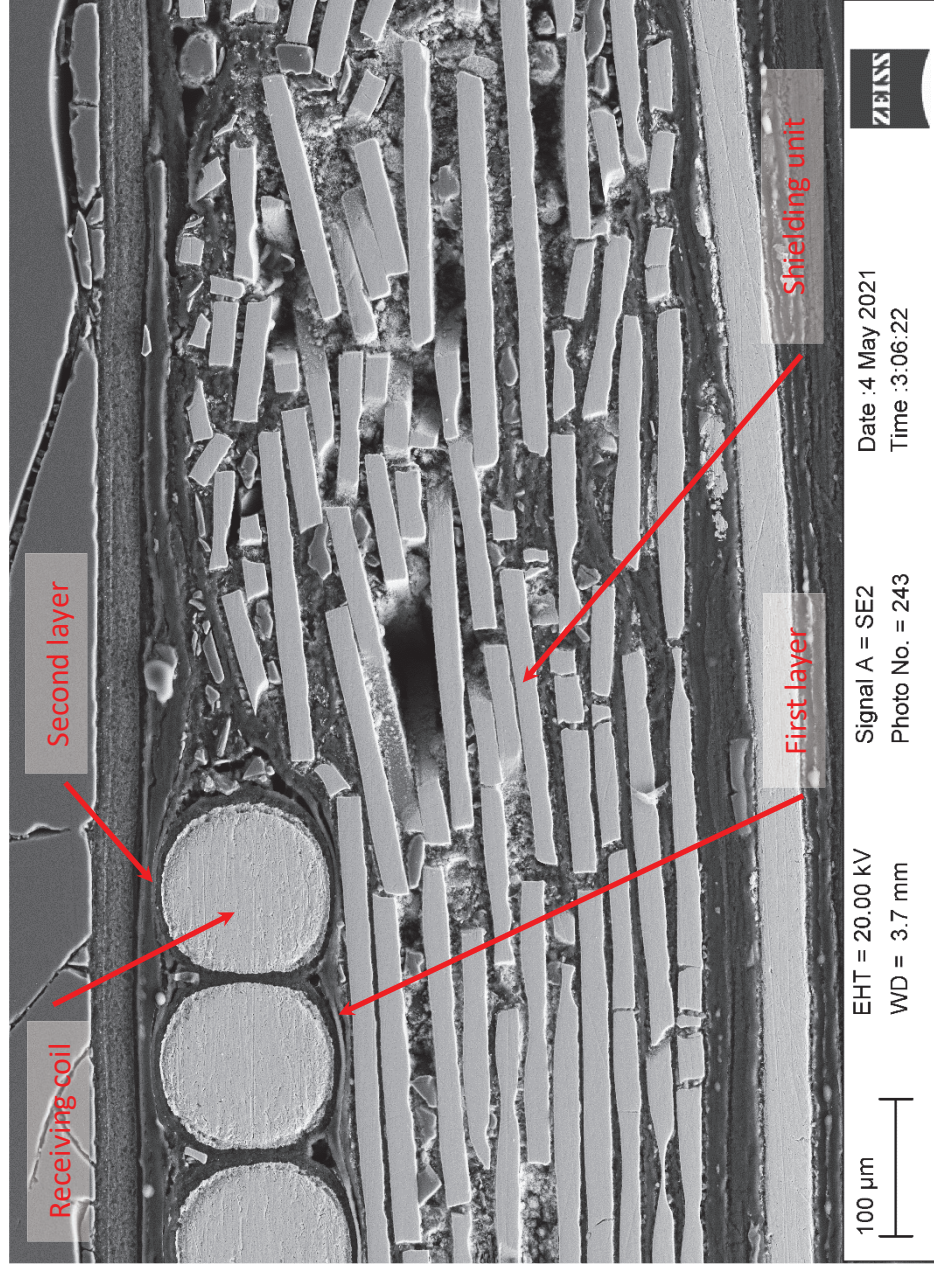
Claim 19

Accused Products

[19b] a first layer on the shielding unit;

Each Accused Product comprises a first layer on the shielding unit.

See, e.g.:



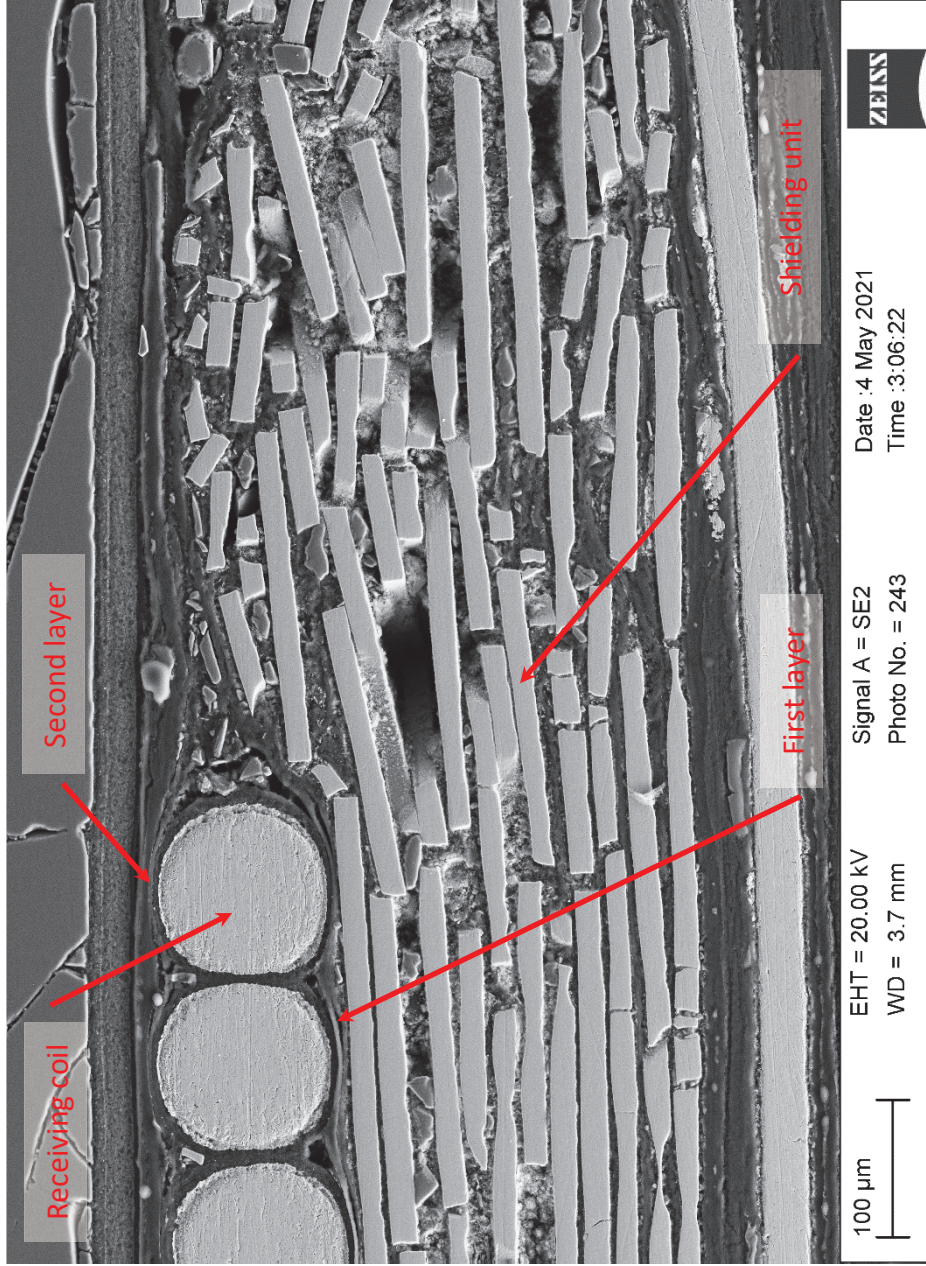
SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating first layer on the shielding unit.

Claim 19

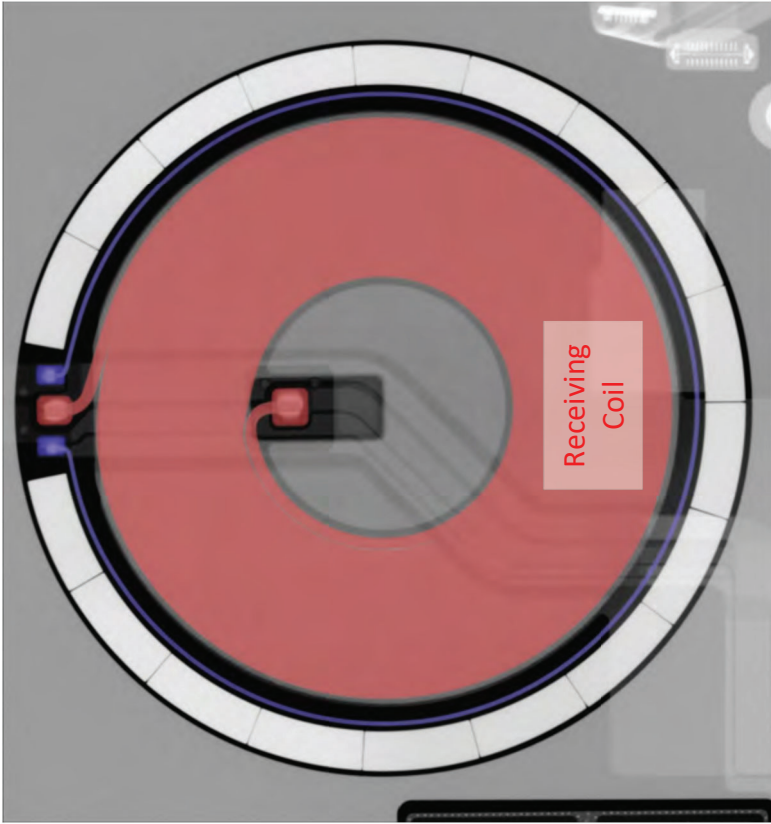
[19c] a wireless power receiving coil on the first layer;

Accused Products

Each Accused Product comprises a wireless power receiving coil on the first layer.
See, e.g.:



SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the wireless power receiving coil on the first layer.

| | |
|--|--|
| <p>Claim 19</p> | <p>Accused Products</p> |
|  <p>X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the spiral pattern of the wireless power receiving coil (red).</p> | <p>Each Accused Product comprises a second layer on the wireless power receiving coil. <i>See, e.g.:</i></p> |
| <p>[19d] a second layer on the wireless power receiving coil;</p> | <p><i>See, e.g.:</i></p> |

| | |
|---|---|
| Claim 19 | Accused Products |
| | |
| <p>SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the second layer on the wireless power receiving coil.</p> | |
| <p>[19e] a first region in which at least one of the first layer and the second layer overlaps the wireless power receiving coil in a vertical direction perpendicular to an upper surface of the shielding unit.</p> | <p>Each Accused Product includes a first region in which at least one of the first layer and the second layer overlaps the wireless power receiving coil in a vertical direction perpendicular to an upper surface of the shielding unit.</p> |

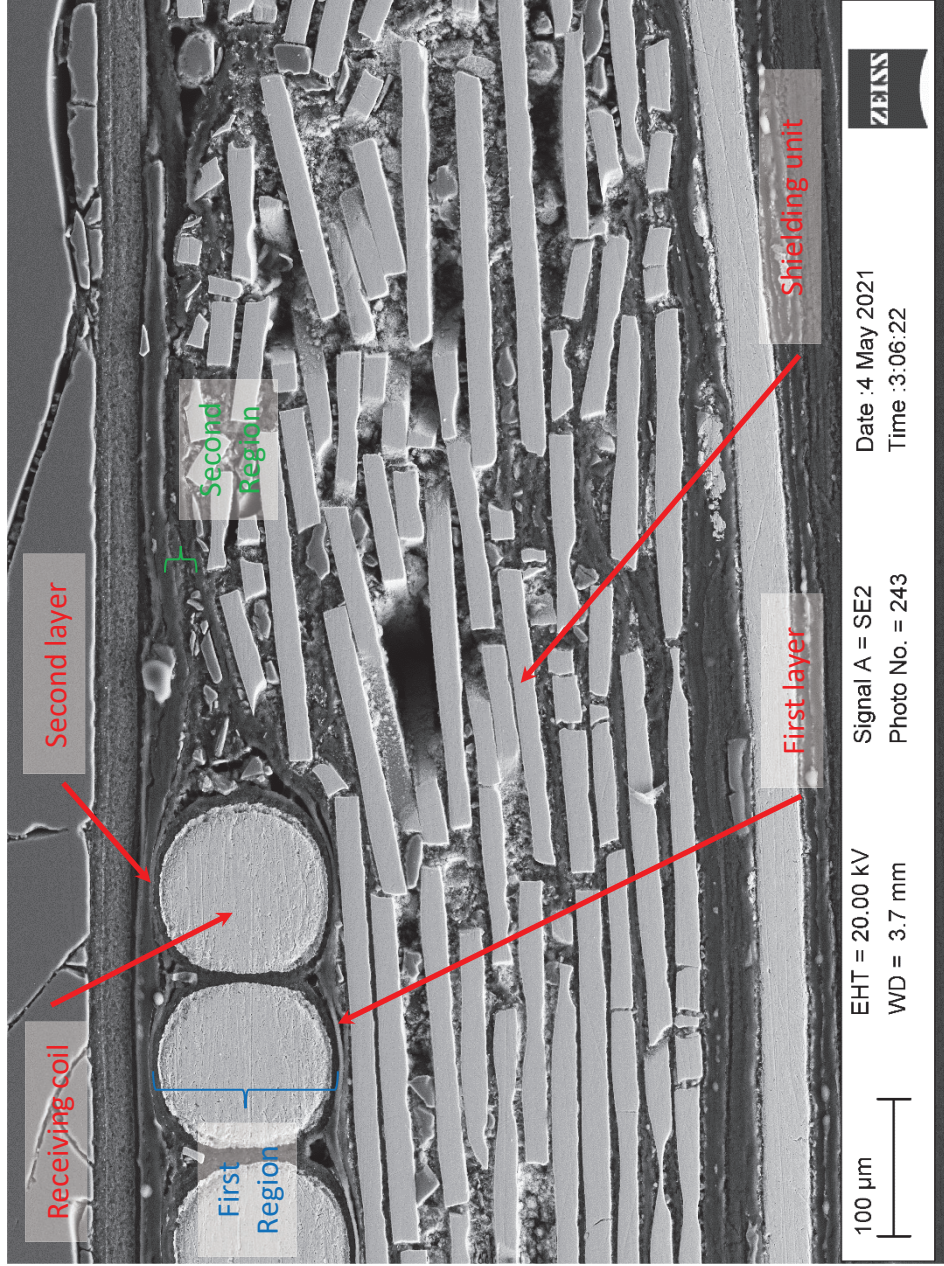
Claim 19

wireless power receiving coil in a vertical direction perpendicular to an upper surface of the shielding unit; and

Accused Products

For example, the Apple iPhone 12 includes a first region where the one of the first layer and the second layer overlap the wireless power receiving coil in a vertical direction perpendicular to an upper surface of the shielding unit.

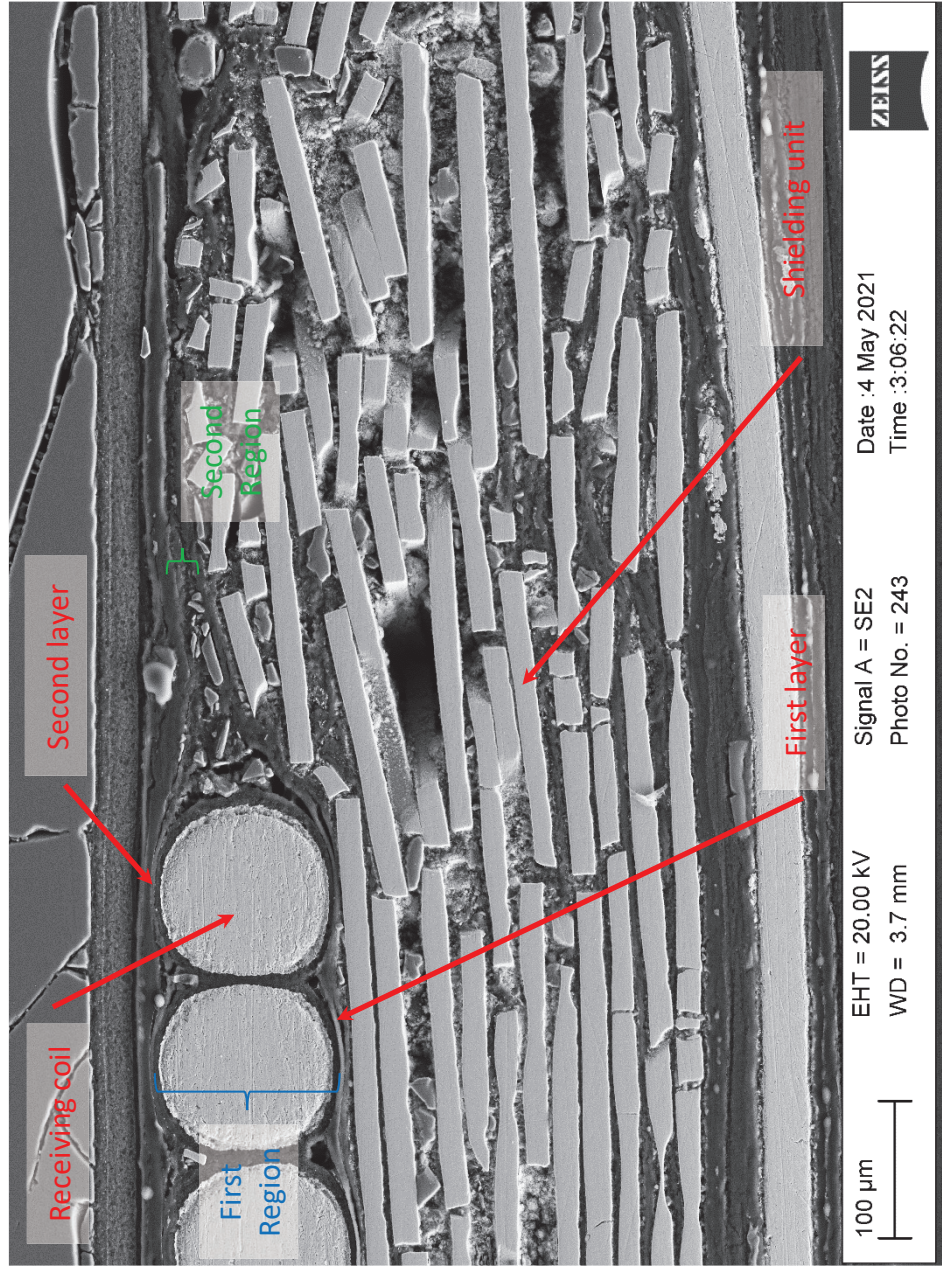
See, e.g.:



| Claim 19 | Accused Products |
|--|---|
| <p>[19f] a second region in which at least one of the first layer and the second layer does not overlap the wireless power receiving coil in the vertical direction,</p> | <p>SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the first region where the first layer and the second layer overlaps the wireless power receiving coil in a vertical direction perpendicular to an upper surface of the shielding unit.</p> |
| <p></p> | <p>Each Accused Product includes a second region in which at least one of the first layer and the second layer does not overlap the wireless power receiving coil in the vertical direction. <i>See, e.g.:</i></p> |

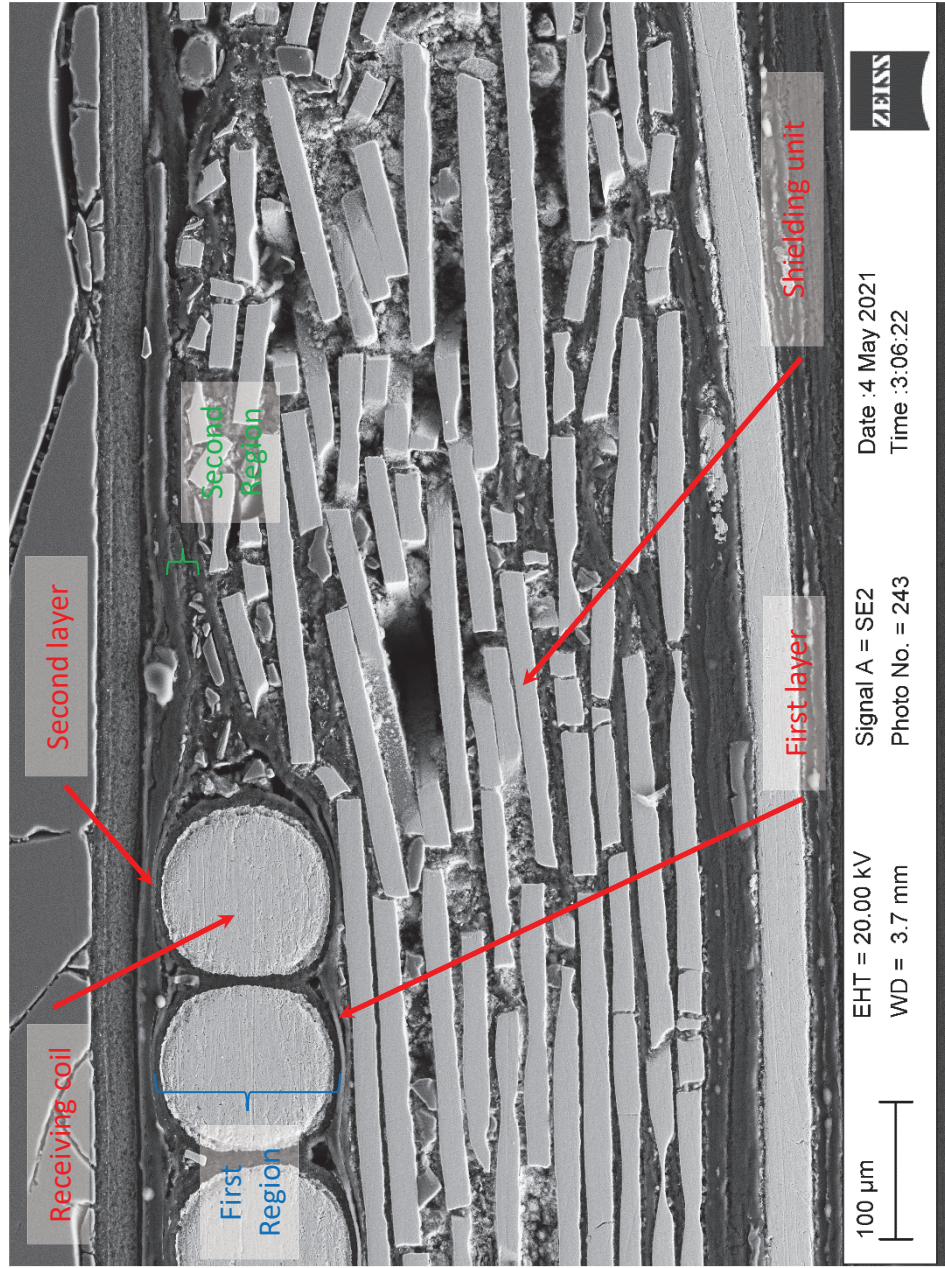
Claim 19

Accused Products



SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the second region where the first layer and the second layer do not overlap the wireless power receiving coil in the vertical direction.

| Claim 19 | Accused Products |
|--|---|
| <p>[19g] wherein a first gap between the first layer and the second layer in the first region is larger than a second gap between the first layer and the second layer in the second region.</p> | <p>Each Accused Product includes a first gap, measured in the vertical direction, between the first layer and the second layer in the first region which is greater than a second gap, measured in the vertical direction, between the first layer and the second layer in the second region. <i>See, e.g.:</i></p> |



SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating that a first gap (blue bracket), measured in the vertical direction between the first and second layer in the first region, is approximately 6 times greater than a second gap (green bracket), measured in the vertical direction, between the first layer and the second layer in the second region.

Claim 20

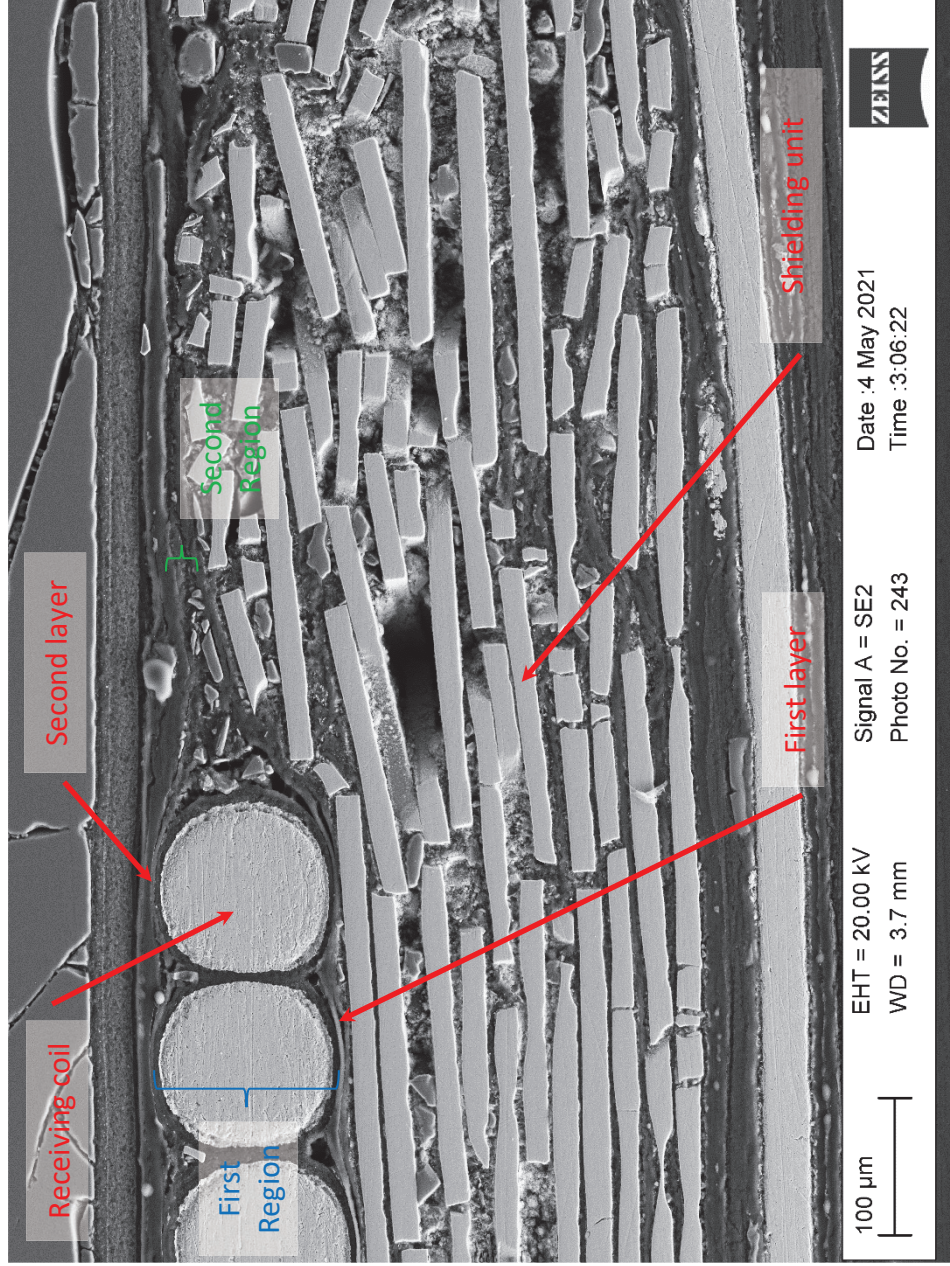
Claim 20

The wireless power receiver of claim 19, wherein the second gap is smaller than a thickness, measured in the vertical direction, of the wireless power receiving coil.

Accused Products

In each Accused Product, the wireless power receiver of claim 19 has the second gap smaller than a thickness, measured in the vertical direction, of the wireless power receiving coil.

See, e.g.:



| Claim 20 | Accused Products |
|----------|--|
| | <p>SEM cross section image of the wireless power receiver from the exemplary Apple iPhone 12 illustrating that a thickness of the wireless power receiving coil (blue bracket), measured in the vertical direction, is approximately 6 times greater than a second gap (green bracket), measured in the vertical direction, between the first layer and the second layer in the second region.</p> |

EXHIBIT C

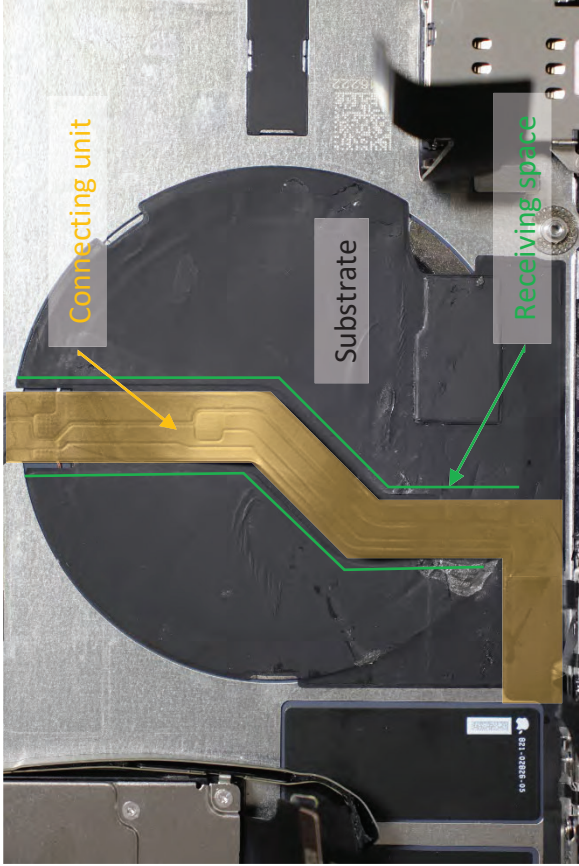

U.S. Patent No. 9,806,565 (“’565 Patent”)

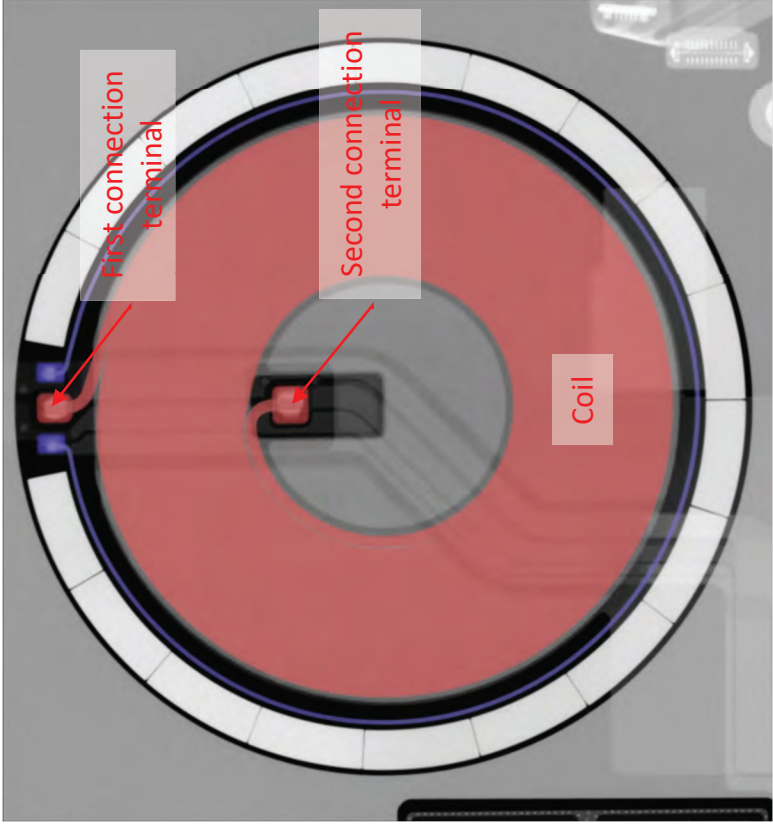
Accused Products

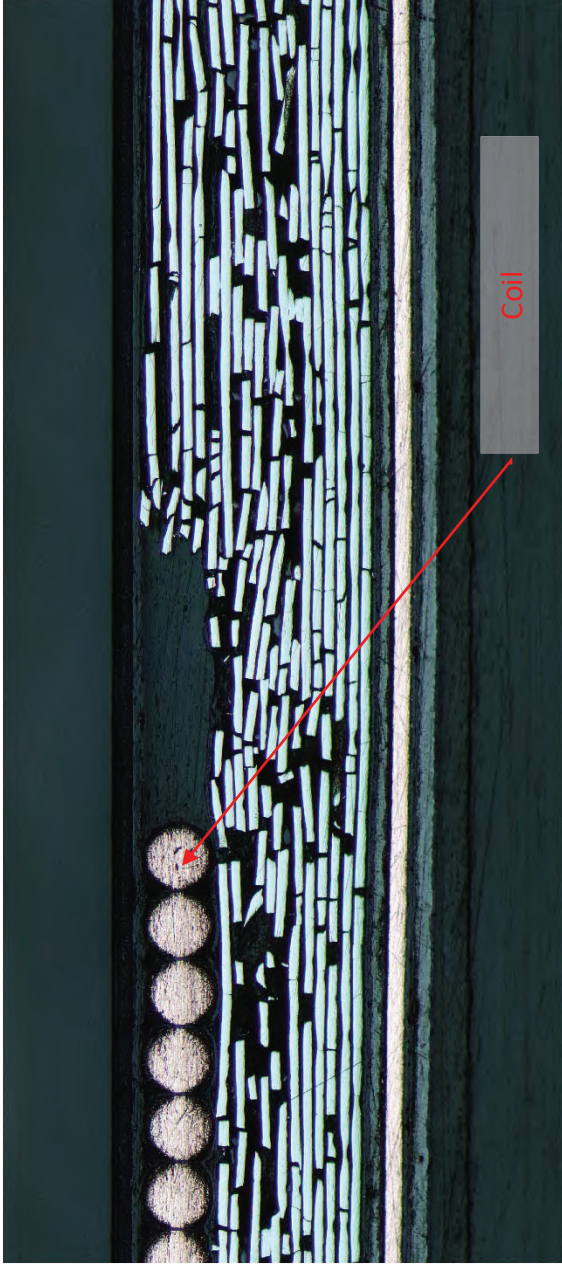
Apple products, including without limitation the Apple iPhone 12, iPhone 12 Mini, iPhone 12 Pro, and iPhone 12 Pro Max (“Accused Products”), infringe at least Claims 1, 2, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19 and 20 of the ’565 Patent.

Claim 1

| Claim 1 | Accused Products |
|--|---|
| <p>[1pre] A wireless power receiver comprising:</p> | <p>To the extent the preamble is limiting, each Accused Product includes a wireless power receiver.</p> <p><i>See, e.g.:</i></p>  <p>Photograph of the wireless power receiver from the exemplary Apple iPhone 12.</p> |
| <p>[1a] a substrate comprising a receiving space of a predetermined shape formed therein for a connecting unit</p> | <p>Each Accused Product comprises a substrate comprising a receiving space of a predetermined shape formed therein for a connecting unit configured to connect to a wireless power receiving circuit.</p> |

| Claim 1 | Accused Products |
|---|---|
| <p>configured to connect to a wireless power receiving circuit;</p> | <p>For example, a receiving space is formed in the substrate for a connecting unit. The substrate includes polymer and/or magnetic layers.</p> <p>See, e.g.:</p>  <p>Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing the receiving space within green lines formed in the substrate for a connecting unit (yellow).</p>  <p>Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the receiving space formed by an indentation in the substrate that includes polymer and/or magnetic layers.</p> |

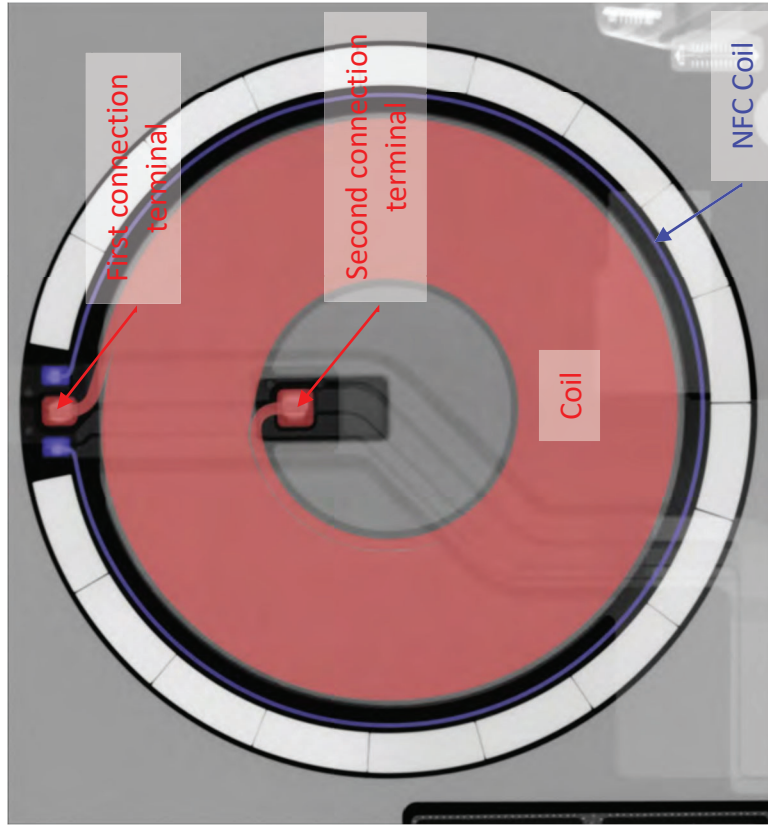
| Claim 1 | Accused Products |
|--|---|
| <p>[1b] a coil unit disposed on the substrate, the coil unit comprising a first connection terminal, a second connection terminal, and a coil; and</p> | <p>Each Accused Product comprises a coil unit disposed on the substrate, the coil unit comprising a first connection terminal, a second connection terminal, and a coil.</p> <p><i>See, e.g.:</i></p>  <p>X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the coil (red) and the first and second connection terminals.</p> |

| Claim 1 | Accused Products |
|--|--|
| |  <p data-bbox="824 325 893 1476">Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the coil disposed on the substrate.</p> <p data-bbox="896 218 974 1476">Each Accused Product comprises a short-range communication antenna disposed on the substrate and surrounding the coil.</p> |
| <p data-bbox="263 525 324 1911">[1c] a short-range communication antenna disposed on the substrate and surrounding the coil;</p> | |

Claim 1

Accused Products

See, e.g.:





X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the short-range communication antenna (blue) surrounding the coil.

Claim 1

Accused Products



Diagram from Apple presentation of the exemplary Apple iPhone 12 illustrating the near-field communication (NFC) coil, <https://www.nfcw.com/2020/10/14/368646/apple-includes-nfc-in-magsafe-accessories-for-new-iphones/>.

| Claim 1 | Accused Products |
|--|---|
| <p>[1d] wherein the coil is configured to wirelessly receive power, wherein the coil is formed as a conductive pattern on or within the substrate,</p> |  <p>Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the short-range communication antenna (blue) disposed on the substrate and surrounding the coil.</p> |
| <p>See, e.g.:</p> |  <p>In each Accused Product, the coil is configured to wirelessly receive power, wherein the coil is formed as a conductive pattern on or within the substrate,</p> |

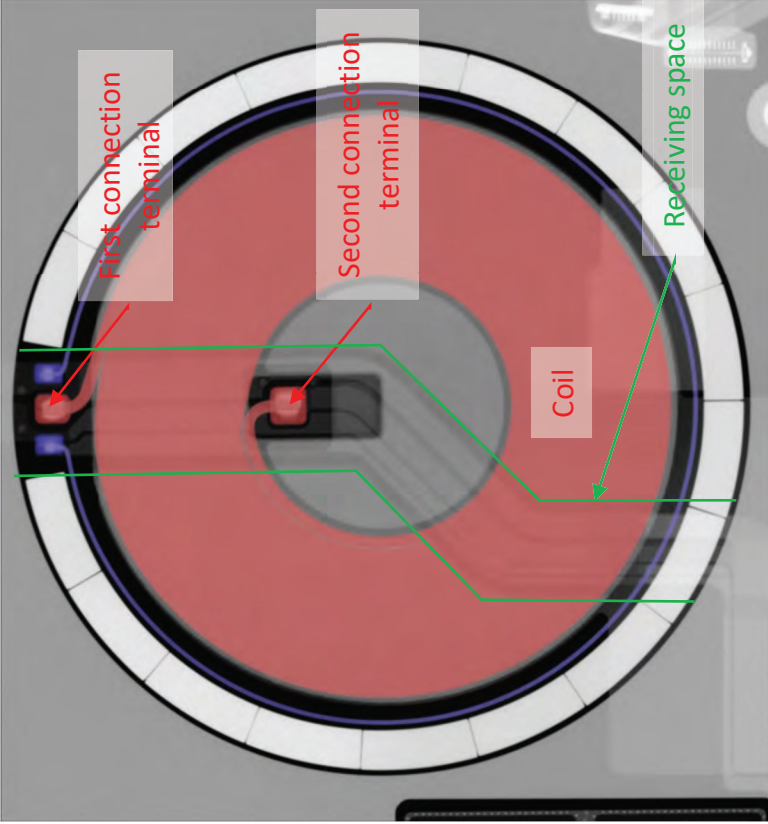
Claim 1

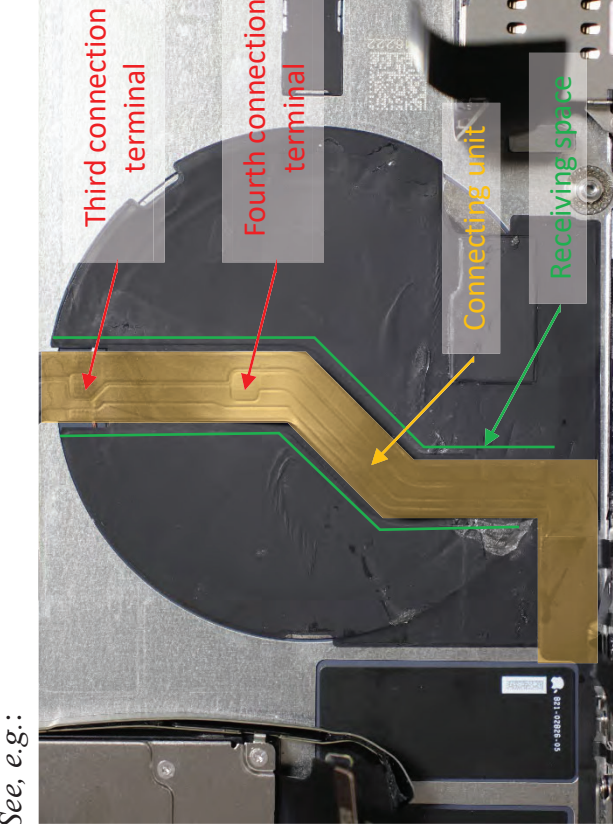
Accused Products

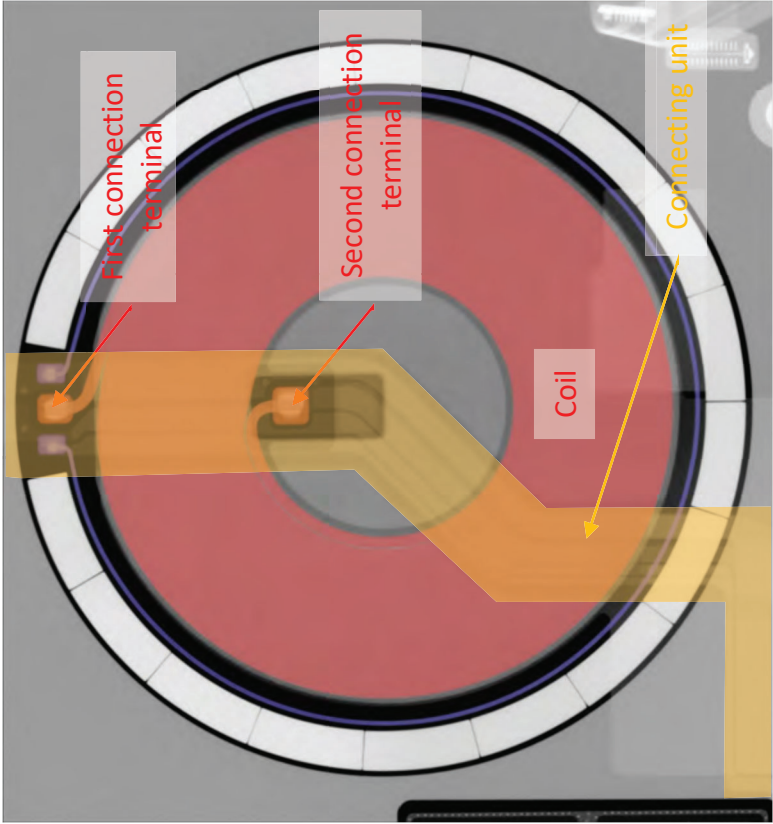
Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the conductive pattern of the coil disposed on the substrate.

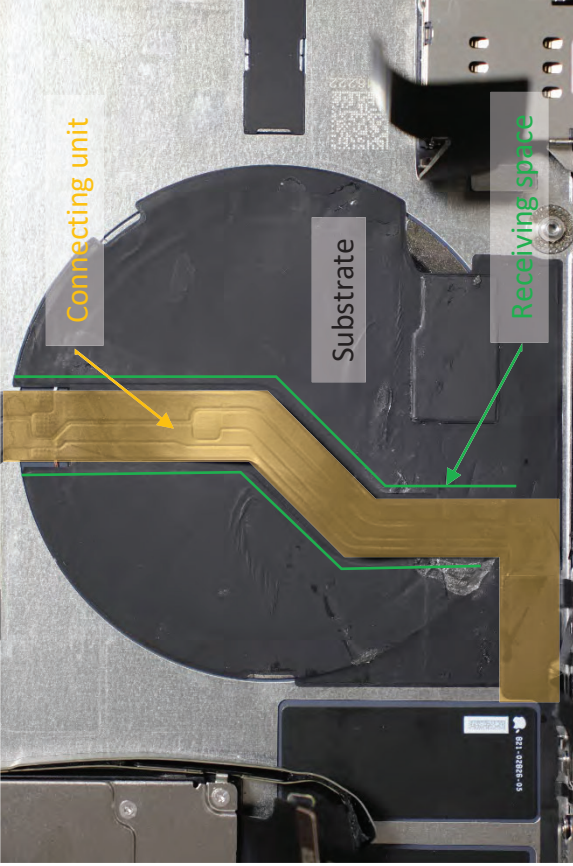


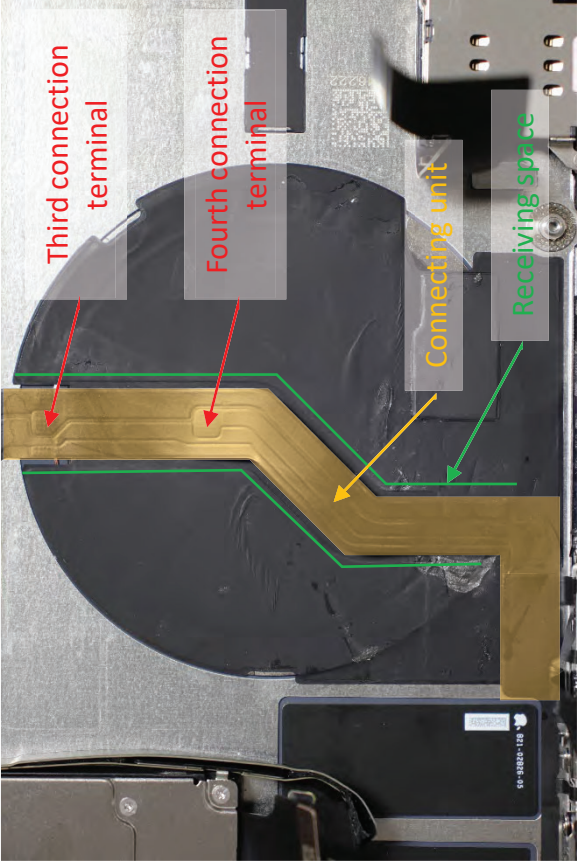
Diagram from Apple presentation of the exemplary Apple iPhone 12 illustrating the charging coil for receiving power wirelessly, <https://www.nfcw.com/2020/10/14/368646/apple-includes-nfc-in-magsafe-accessories-for-new-iphones/>.

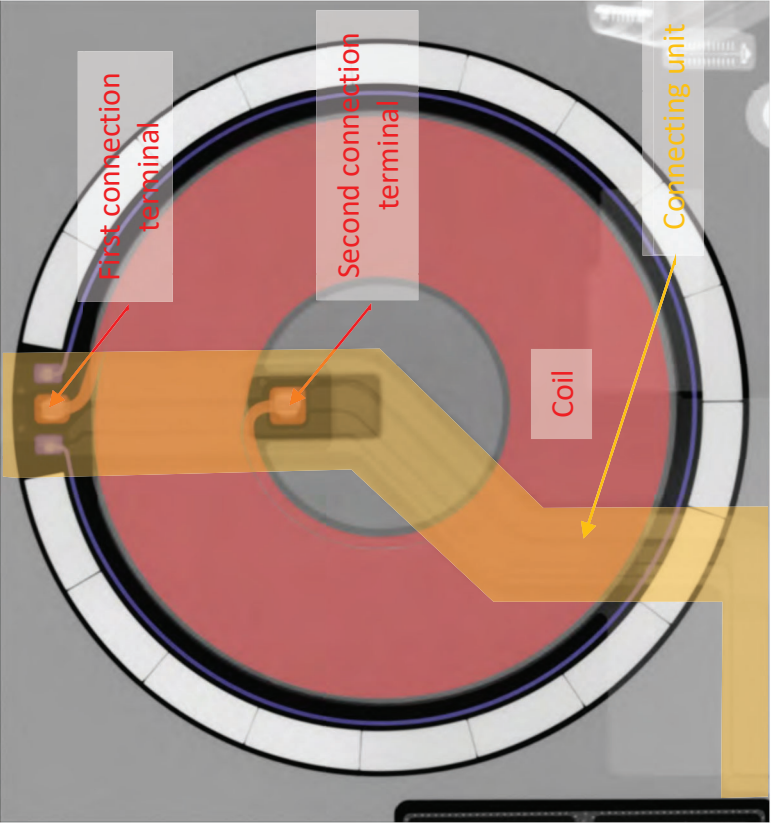
| Claim 1 | Accused Products |
|--|--|
| <p>[1e] wherein the conductive pattern comprises a conductive line wound at least two times and conductive pattern has a spiral shape, wherein the first connection terminal is located at one end of the coil and the second connection terminal is located at the other end of the coil, wherein the coil unit overlaps the receiving space in a first direction perpendicular to an upper surface of the substrate,</p> | <p>In each Accused Product, the conductive pattern comprises a conductive line wound at least two times and conductive pattern has a spiral shape, wherein the first connection terminal is located at one end of the coil and the second connection terminal is located at the other end of the coil, wherein the coil unit overlaps the receiving space in a first direction perpendicular to an upper surface of the substrate.</p> <p>See, e.g.:</p>  <p>X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the conductive pattern of the coil wound into a spiral shape with more than two turns (red) and the</p> |

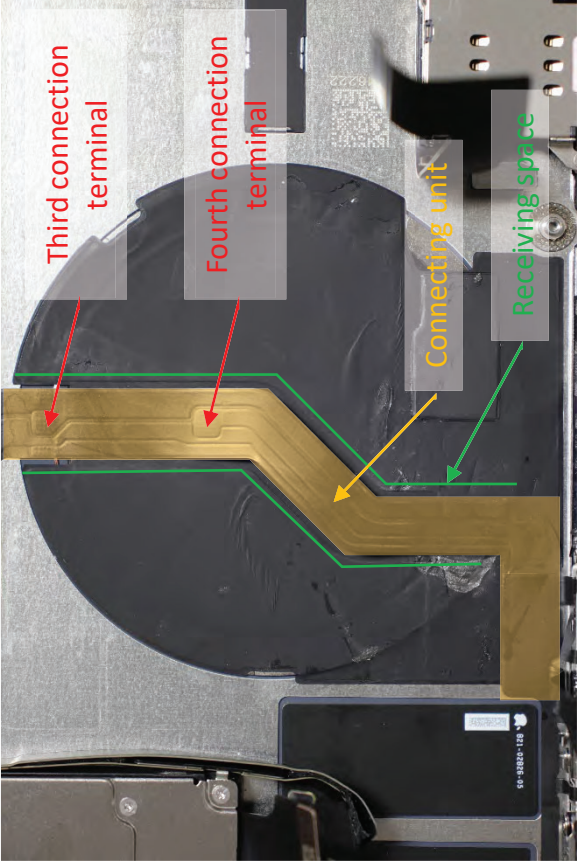
| Claim 1 | Accused Products |
|---|---|
| <p>[1f] wherein the connecting unit is disposed in the receiving space and connected to the coil unit,</p> | <p>first and second connection terminals at each end of the coil. The coil overlaps the receiving space within green lines in a direction perpendicular to the substrate.</p> |
| <p>In each Accused Product, the connecting unit is disposed in the receiving space and connected to the coil unit. See, e.g.:</p>  <p>Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing the connecting unit (yellow) disposed in the receiving space within green lines and the terminals connecting it to the coil unit.</p> | <p>In each Accused Product, the connecting unit is disposed in the receiving space and connected to the coil unit. See, e.g.:</p> |

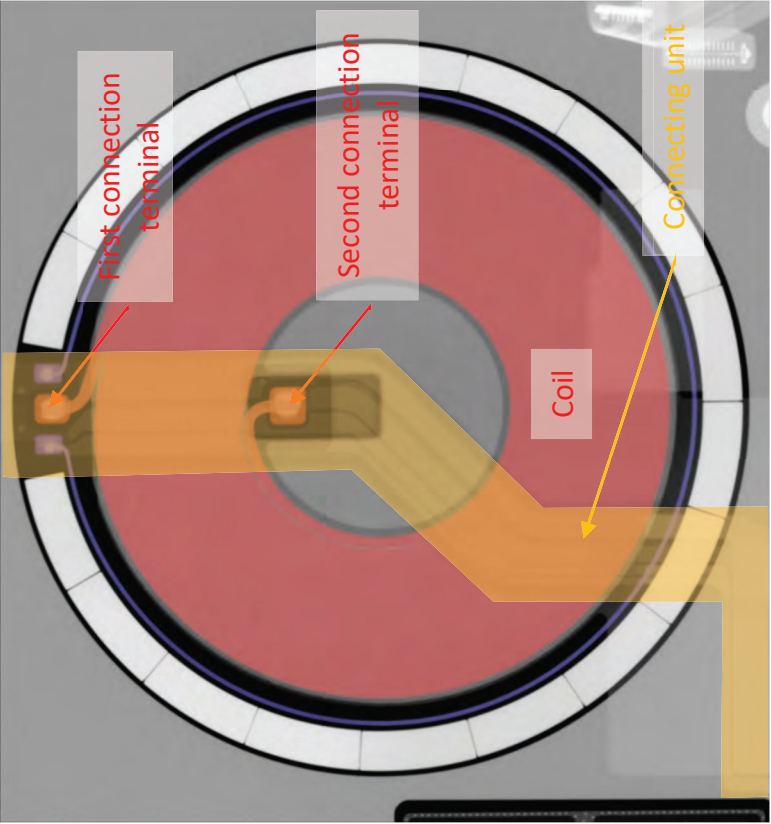
| Claim 1 | Accused Products |
|--|--|
| |  <p data-bbox="1055 325 1128 1470">X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the connection of the connecting unit to the coil unit.</p> |
| <p data-bbox="1153 1501 1331 1900">[1g] wherein the connecting unit overlaps the receiving space in a second direction parallel to the upper surface of the substrate, and</p> | <p data-bbox="1153 241 1226 1470">In each Accused Product, the connecting unit overlaps the receiving space in a second direction parallel to the upper surface of the substrate.</p> |

| Claim 1 | Accused Products |
|---|---|
| | <p data-bbox="261 1350 293 1465">See, e.g.:</p>  <p data-bbox="889 210 998 1465">Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing the connecting unit in yellow overlapping the receiving space within green lines in a direction parallel to the upper surface of the substrate.</p> |
| [1h] wherein the connecting unit comprises: | <p data-bbox="1024 827 1057 1465">Each Accused Product includes a connecting unit.</p> <p data-bbox="1081 1083 1114 1465">See <i>supra</i> claim element [1a].</p> |
| [1h.1] a third connection terminal connected to the first connection terminal of the coil unit; and | <p data-bbox="1140 226 1209 1465">In each Accused Product, the connecting unit comprises a third connection terminal connected to the first connection terminal of the coil unit.</p> |


| | |
|---------|---|
| Claim 1 | <p data-bbox="207 716 240 953">Accused Products</p> <p data-bbox="261 1352 293 1465">See, e.g.:</p>  <p data-bbox="878 239 954 1465">Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing a third connection terminal connected to the first connection terminal of the coil unit (yellow).</p> |
|---------|---|

| | |
|---|--|
| <p>Claim 1</p> | <p>Accused Products</p> |
|  <p>The diagram is an X-ray view of a circular wireless power receiver. It features a central red circular coil. Two connection terminals are positioned around the coil: one on the left labeled 'First connection terminal' and one on the right labeled 'Second connection terminal'. A yellow 'Connecting unit' is located between these two terminals, with a yellow arrow pointing to it. The entire assembly is housed within a circular frame.</p> | <p>X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the third terminal connected to the first terminal of the coil unit.</p> |
| <p>[1h.2] a fourth connection terminal connected to the second connection terminal of the coil unit.</p> | <p>In each Accused Product, the connecting unit comprises a fourth connection terminal connected to the second connection terminal of the coil unit.</p> |

| | |
|---------|--|
| Claim 1 | Accused Products |
| | <p>See, e.g.:</p>  <p>Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing a fourth connection terminal connected to the second connection terminal of the coil unit (yellow).</p> |

| | |
|---|------------------|
| Claim 1 | Accused Products |
|  <p data-bbox="1063 241 1136 1459">X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the fourth terminal connected to the second terminal of the coil unit.</p> | |

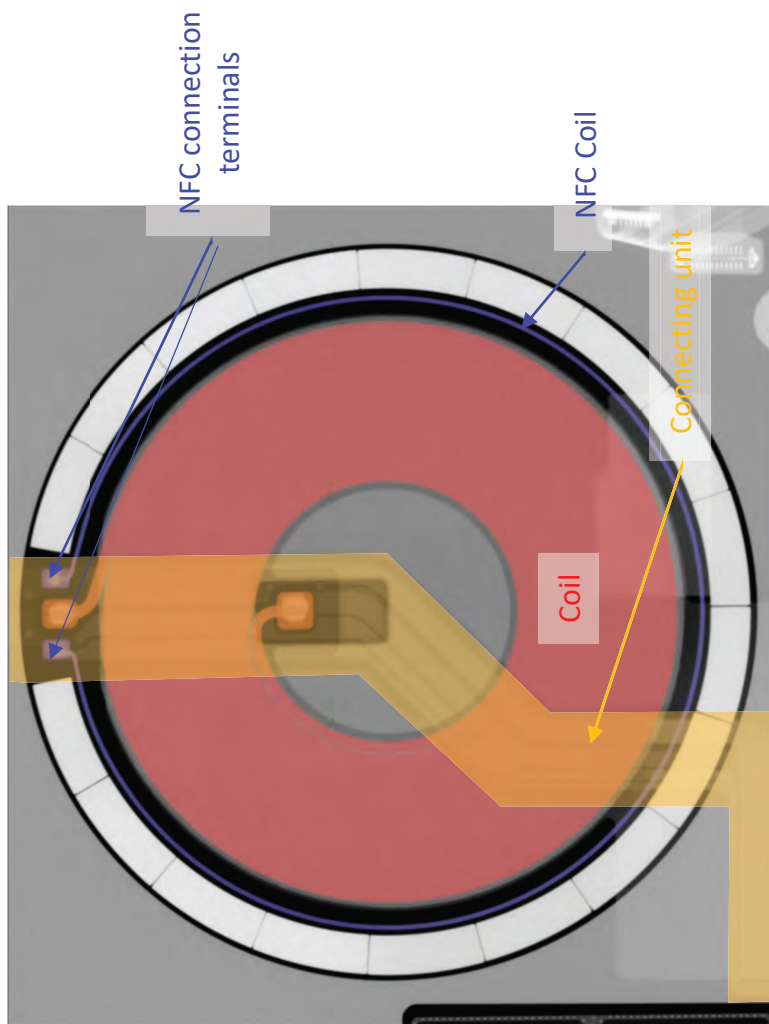
| | |
|---|------------------|
| Claim 2 | Accused Products |
| <p data-bbox="1291 262 1404 1900">In each Accused Product, the wireless power receiver of claim 1 has the shape of the receiving space corresponding to a shape of the connecting unit.</p> | |

| | |
|--|--|
| <p>Claim 2</p> <p>corresponds to a shape of the connecting unit.</p> | <p>Accused Products</p> <p>See, e.g.:</p>  <p>Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing the shape of the receiving space (within green lines formed in the substrate) corresponds to the shape of the connecting unit (yellow).</p> |
|--|--|

| | |
|--|--|
| <p>Claim 4</p> <p>The wireless power receiver of claim 1, wherein the connecting unit is connected to the short-range communication antenna.</p> | <p>Accused Products</p> <p>In each Accused Product, the wireless power receiver of claim 1 has the connecting unit connected to the short-range communication antenna.</p> <p>See, e.g.:</p> |
|--|--|


Claim 4

Accused Products



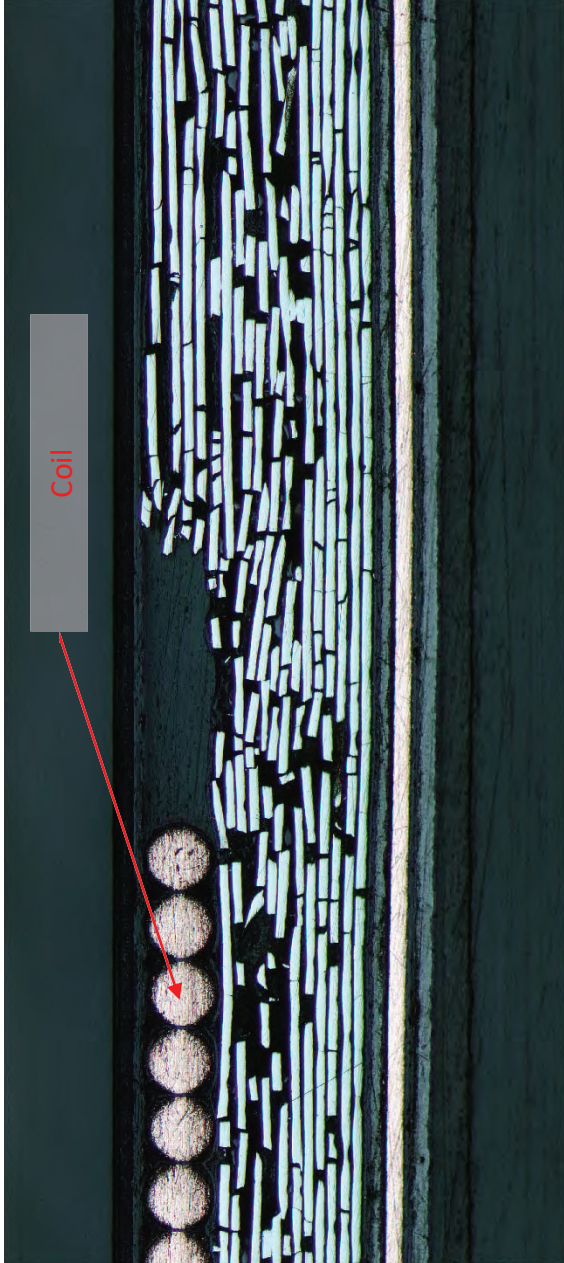
X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the connection of the connecting unit (yellow) to the NFC coil (blue).

Claim 6

| | Accused Products |
|---|---|
| <p>Claim 6</p> <p>The wireless power receiver of claim 1, wherein the substrate comprises a pattern groove for receiving a part of the coil and wherein the part of the coil is disposed in the pattern groove.</p> | <p>In each Accused Product, the wireless power receiver of claim 1 has the substrate comprising a pattern groove for receiving a part of the coil and wherein the part of the coil is disposed in the pattern groove.</p> <p><i>See, e.g.:</i></p>  <p>Coil</p> <p>Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the pattern groove in the substrate for receiving the coil.</p> |

Claim 7

| | Accused Products |
|--|---|
| <p>Claim 7</p> <p>The wireless power receiver of claim 1, wherein the coil has a thickness smaller than a thickness of the substrate and wherein an upper portion of the coil is exposed out of the substrate.</p> | <p>In each Accused Product, the wireless power receiver of claim 1 has a thickness of the coil smaller than a thickness of the substrate and wherein an upper portion of the coil is exposed out of the substrate.</p> <p><i>See, e.g.:</i></p> |

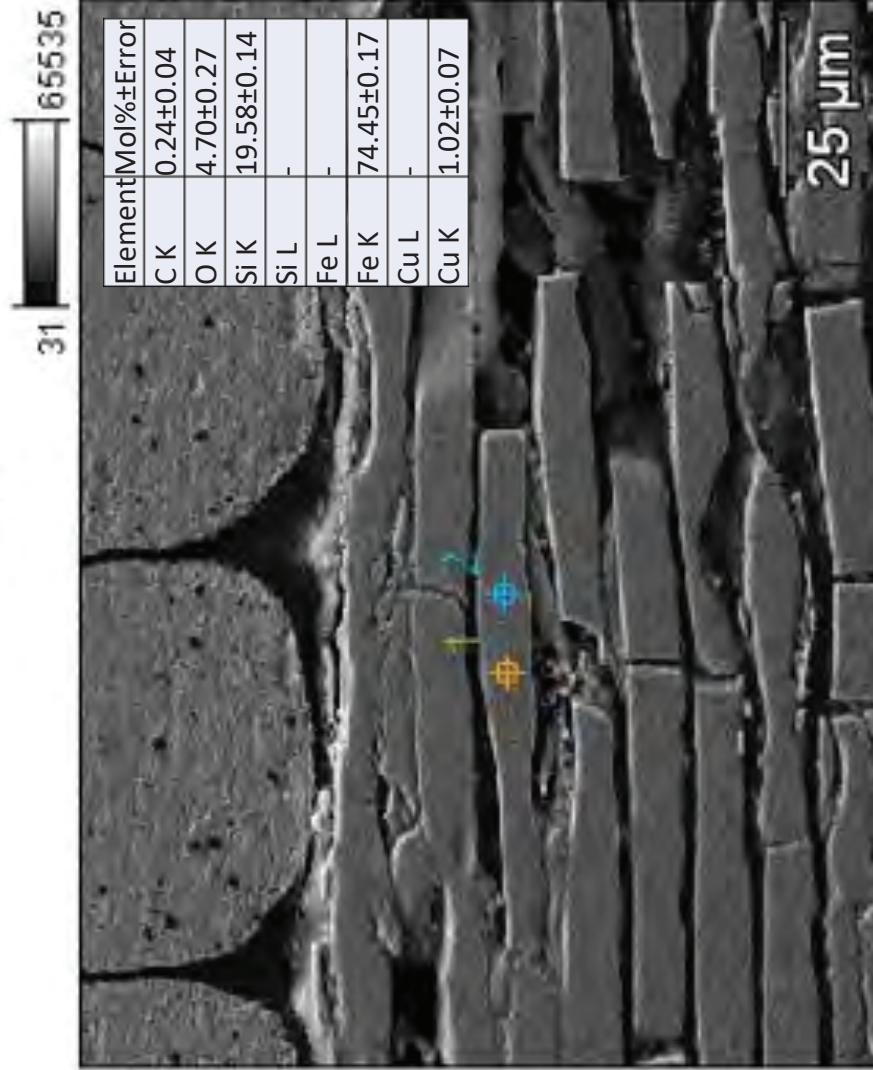
| | |
|---|------------------|
| Claim 7 | Accused Products |
|  <p data-bbox="836 216 941 1476">Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating a thickness of the coil that is smaller than a thickness of the substrate and a portion that is exposed out of the substrate.</p> | |

| | |
|---|------------------|
| Claim 8 | Accused Products |
| <p data-bbox="1104 216 1169 1476">In each Accused Product, a wireless portable terminal comprises the wireless power receiver of claim 1.</p> <p data-bbox="1193 216 1226 1476"><i>See, e.g.:</i></p> | |

| | |
|---|------------------|
| Claim 8 | Accused Products |
|  <p data-bbox="836 241 901 1459">Photograph of the portable terminal comprising the wireless power receiver from the exemplary Apple iPhone 12.</p> | |

| | |
|--|------------------|
| Claim 9 | Accused Products |
| <p data-bbox="1063 1491 1169 1890">The wireless power receiver of claim 1, wherein the substrate comprises magnetic material.</p> <p data-bbox="1161 220 1226 1459">For example, the substrate in the exemplary Apple iPhone 12 comprises layers of a soft magnetic material with a high composition of iron and silicon.</p> <p data-bbox="1258 1354 1291 1459"><i>See, e.g.:</i></p> | |

Base(9)



SEM image and EDS measurements of the soft magnetic material layers comprising the substrate. The elemental composition shown is averaged over the orange and blue points, and the high iron and silicon content suggests a soft magnetic material.

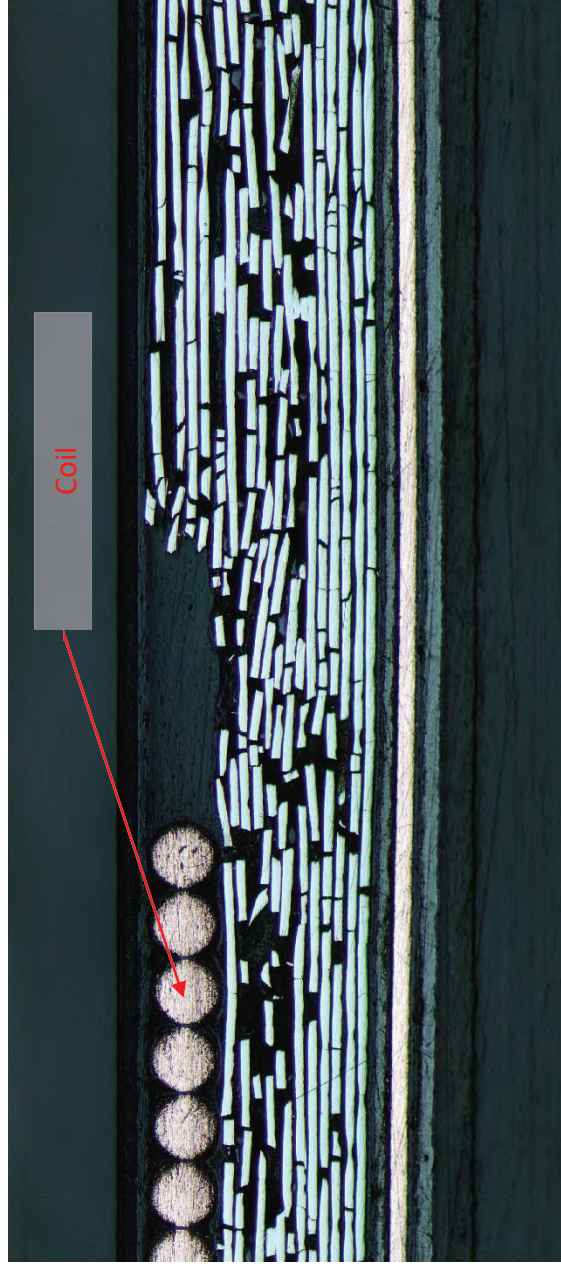
Claim 10

Claim 10
The wireless power receiver of claim 1, wherein the substrate is flexible.

Accused Products

In each Accused Product, the wireless power receiver of claim 1 has the substrate flexible.
For example, the substrate is comprised of fragmented magnetic material layers that allow it to be flexible.

See, e.g.:



Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the fragmented magnetic material layers that make the substrate flexible.

Claim 11

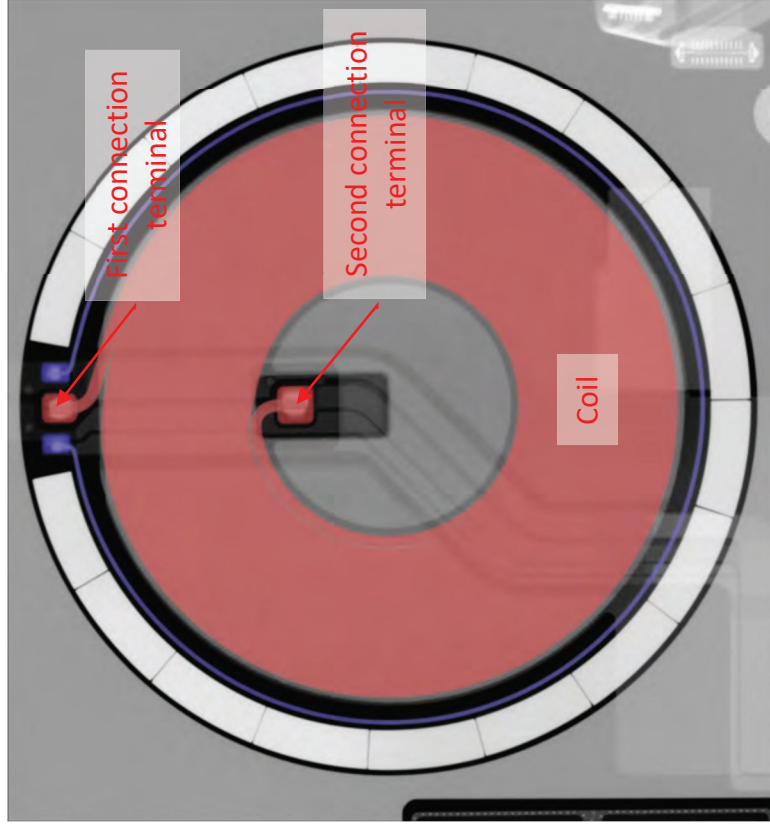
Claim 11

The wireless power receiver of claim 1, wherein the one end of the coil is at an outside portion of the conductive pattern and the other end of the coil is at an inside portion of the conductive pattern.

Accused Products

In each Accused Product, the wireless power receiver of claim 1 has one end of the coil at an outside portion of the conductive pattern and the other end of the coil at an inside portion of the conductive pattern.

See, e.g.:



X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating one end of the coil (red) at the outside of the conductive pattern and the other end of the coil at the inside of the conductive pattern.

Claim 12

Claim 12

[12pre] A wireless power receiver comprising:

Accused Products

To the extent the preamble is limiting, each Accused Product includes a wireless power receiver.
See, e.g.:

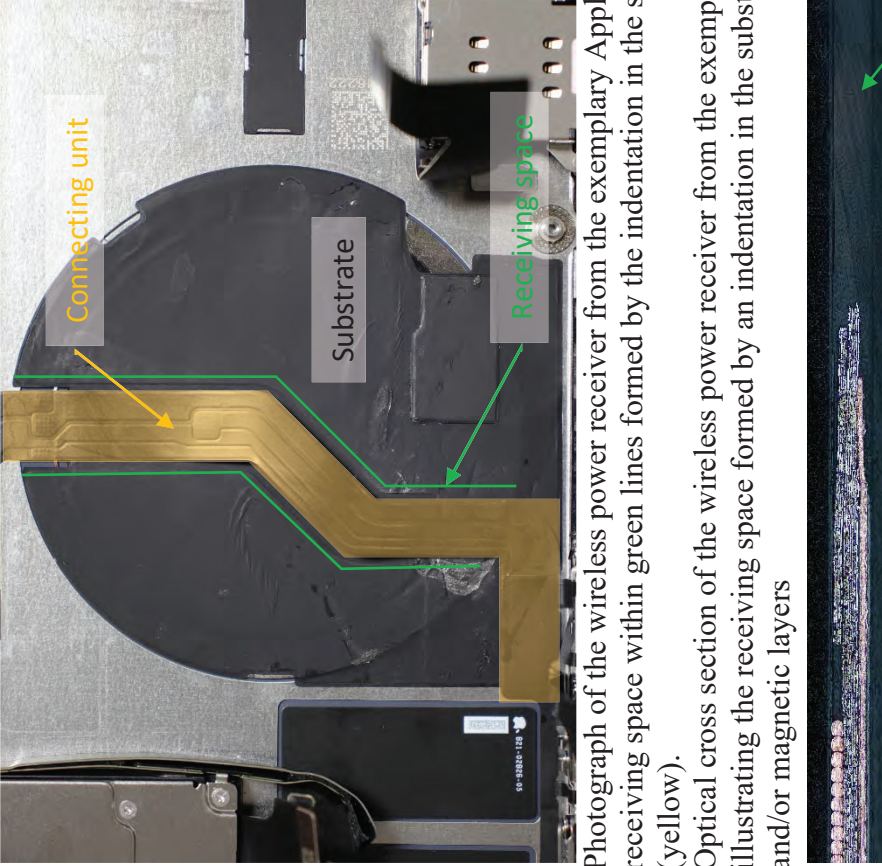



Photograph of the wireless power receiver from the exemplary Apple iPhone 12.

[12a] a substrate comprising a receiving space of a predetermined shape formed therein for a connecting unit configured to connect to a wireless power receiving circuit; and

Each Accused Product comprises a substrate comprising a receiving space of a predetermined shape formed therein for a connecting unit configured to connect to a wireless power receiving circuit.

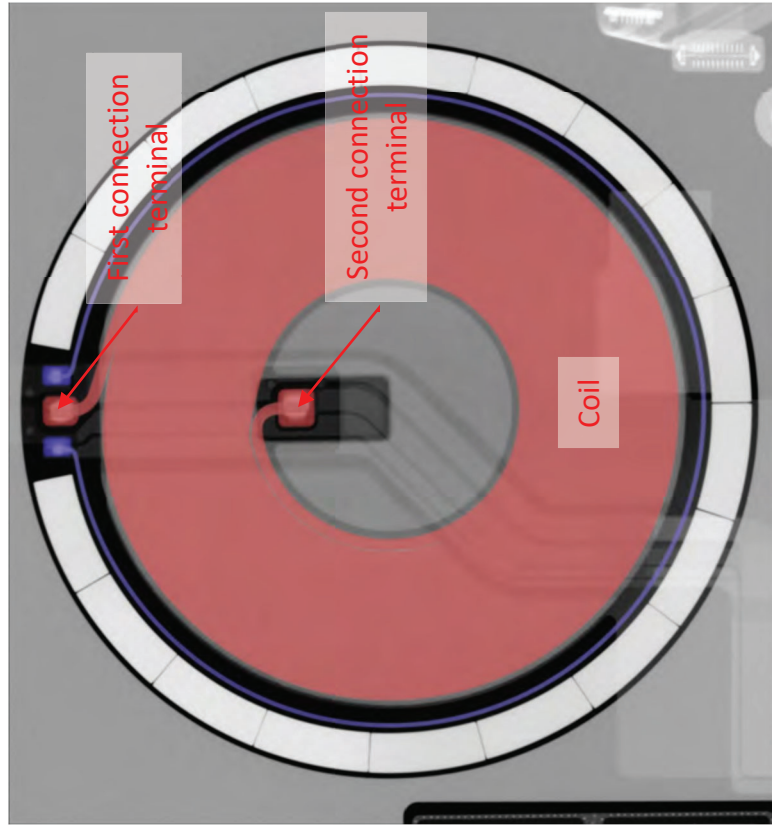
For example, a receiving space is formed by an indentation in the substrate for a connecting unit. The substrate includes polymer and/or magnetic layers.

| | |
|--|--|
| <p>Claim 12</p> | <p>Accused Products</p> |
| <p>See, e.g.:</p>  <p>Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing the receiving space within green lines formed by the indentation in the substrate for a connecting unit (yellow).</p> <p>Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the receiving space formed by an indentation in the substrate that includes polymer and/or magnetic layers</p>  | <p>Each Accused Product comprises a coil unit, the coil unit comprising a first connection terminal, a second connection terminal, and a coil.</p> |
| <p>[12b] a coil unit comprising a first connection terminal, a second connection terminal, and a coil; and</p> | <p>Each Accused Product comprises a coil unit, the coil unit comprising a first connection terminal, a second connection terminal, and a coil.</p> |

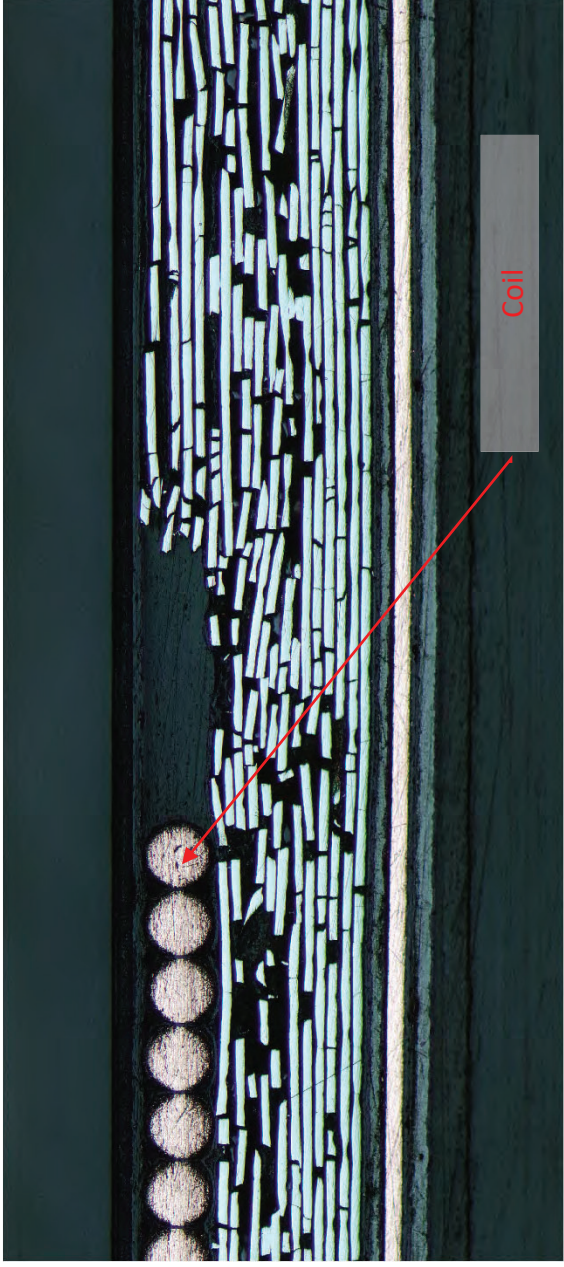
Claim 12

Accused Products

See, e.g.:



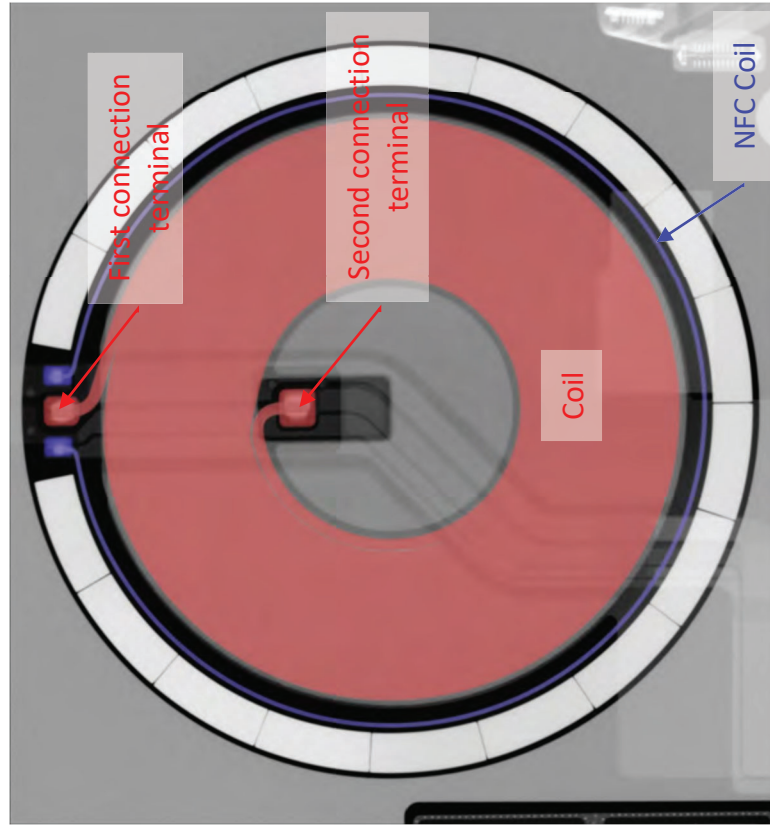
X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the coil (red) and the first and second connection terminals.

| Claim 12 | Accused Products |
|---|---|
| |  <p data-bbox="836 210 909 1470">Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the coil.</p> |
| <p data-bbox="909 1480 1063 1911">[12c] a short-range communication antenna disposed on the substrate and surrounding the coil;</p> | <p data-bbox="909 189 1063 1480">Each Accused Product comprises a short-range communication antenna disposed on the substrate and surrounding the coil.</p> |

Claim 12

Accused Products

See, e.g.:




X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the short-range communication antenna (blue) surrounding the coil.

Claim 12

Accused Products



Diagram from Apple presentation of the exemplary Apple iPhone 12 illustrating the near-field communication (NFC) coil, <https://www.nfcw.com/2020/10/14/368646/apple-includes-nfc-in-magsafe-accessories-for-new-iphones/>.

| | |
|--|--|
| <p>Claim 12</p> | <p>Accused Products</p> |
| <p>[12d] wherein the coil is configured to wirelessly receive power,</p> |  <p>Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the short-range communication antenna (blue) disposed on the substrate and surrounding the coil.</p> <p>In each Accused Product, the coil is configured to wirelessly receive power. See, e.g.:</p> |

Claim 12

Accused Products

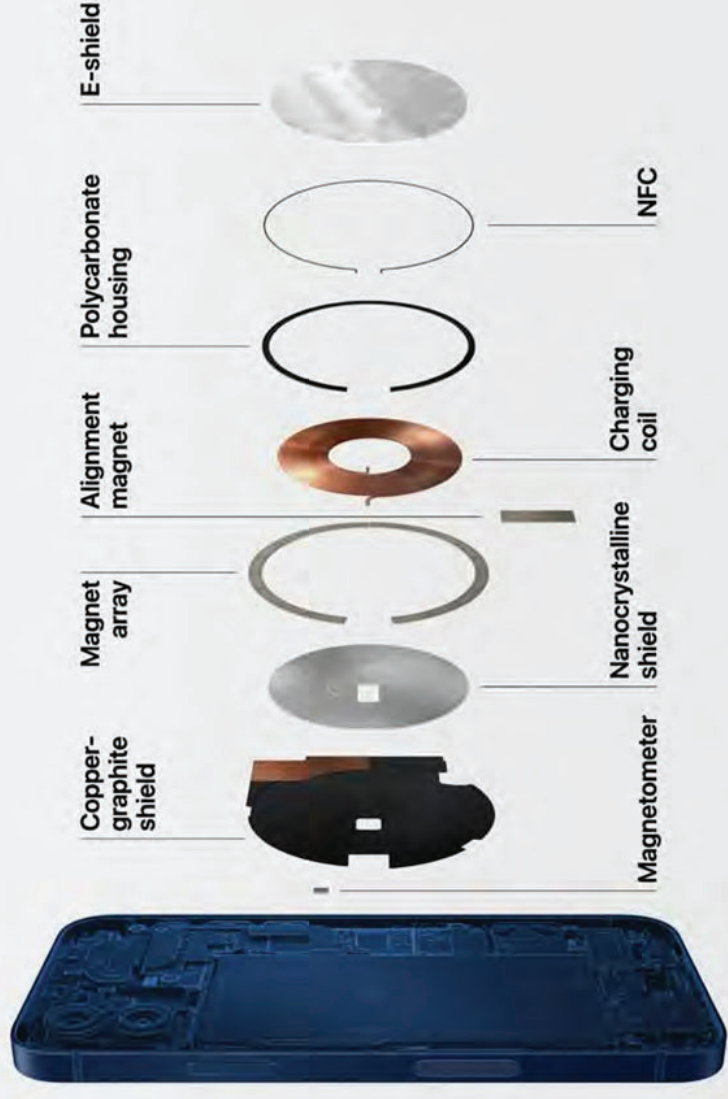
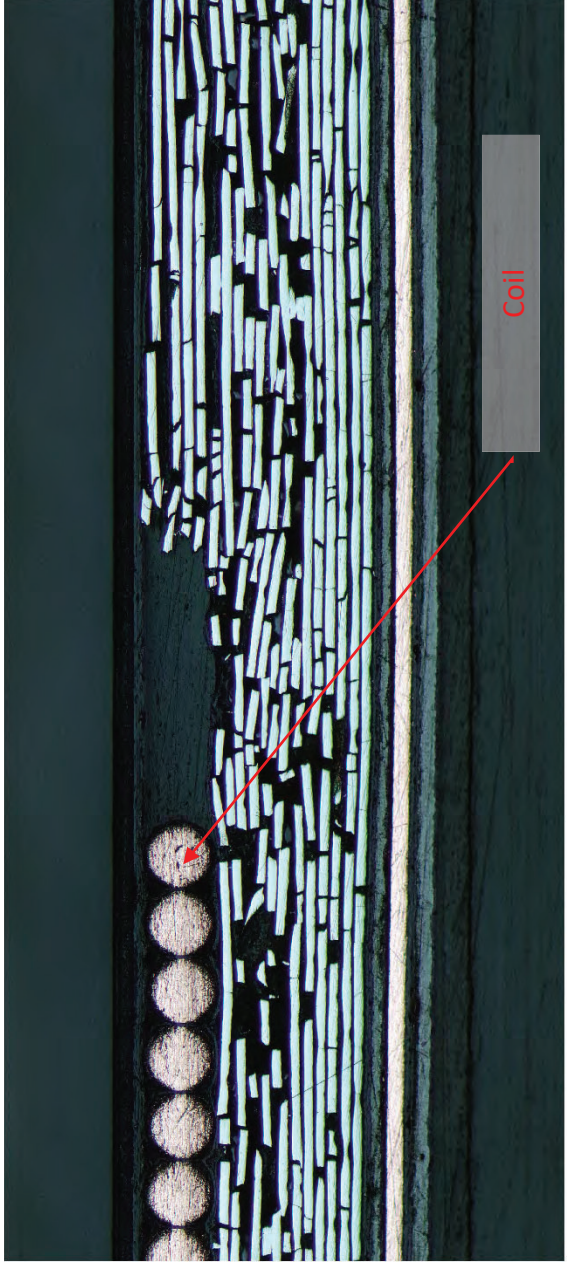
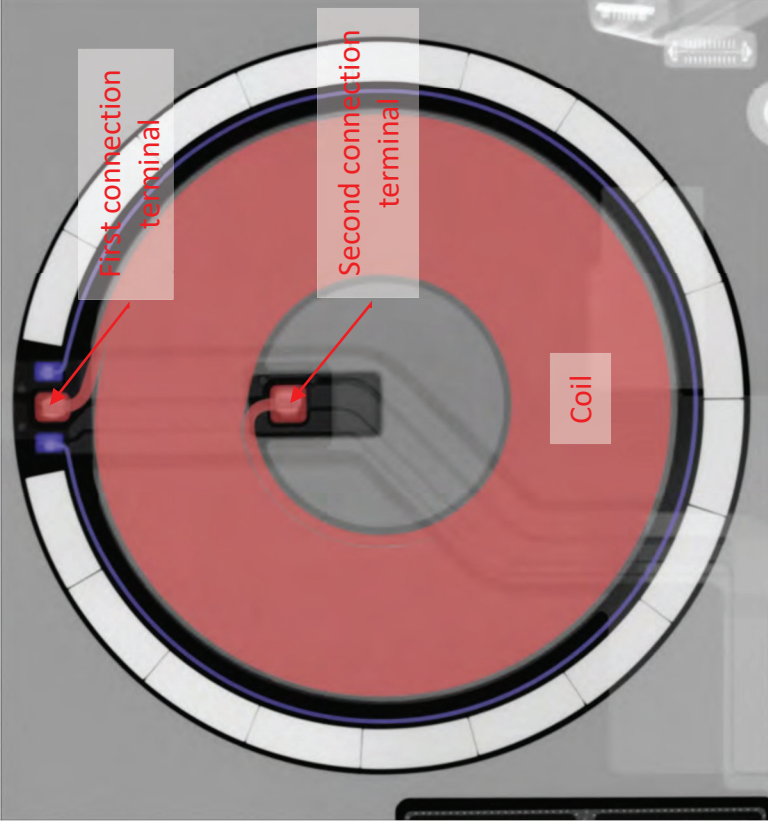


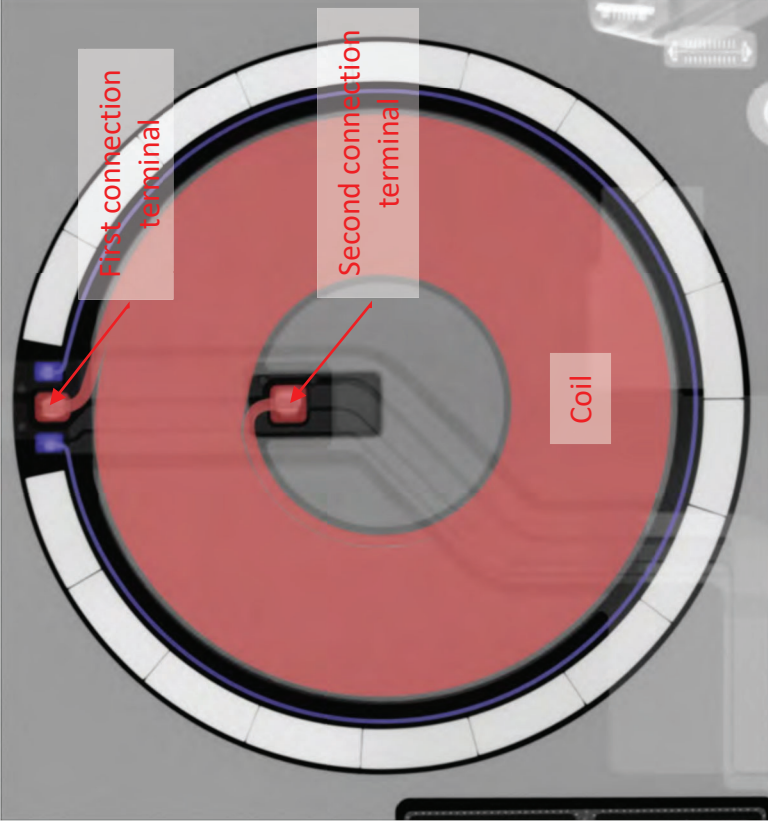
Diagram from Apple presentation of the exemplary Apple iPhone 12 illustrating the charging coil for receiving power wirelessly, <https://www.nfcw.com/2020/10/14/368646/apple-includes-nfc-in-magsafe-accessories-for-new-iphones/>.

[12e] wherein the coil is formed as a conductive pattern on or within the substrate,

In each Accused Product, the coil is formed as a conductive pattern on or within the substrate.
See, e.g.:

| Claim 12 | Accused Products |
|--|--|
| |  <p data-bbox="836 325 917 1470">Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the conductive pattern of the coil on the substrate.</p> |
| <p data-bbox="933 1491 1112 1900">[12f] wherein the conductive pattern comprises a conductive line wound at least two times and conductive pattern has a spiral shape,</p> | <p data-bbox="933 231 1015 1470">In each Accused Product, the conductive pattern comprises a conductive line wound at least two times and conductive pattern has a spiral shape.</p> |

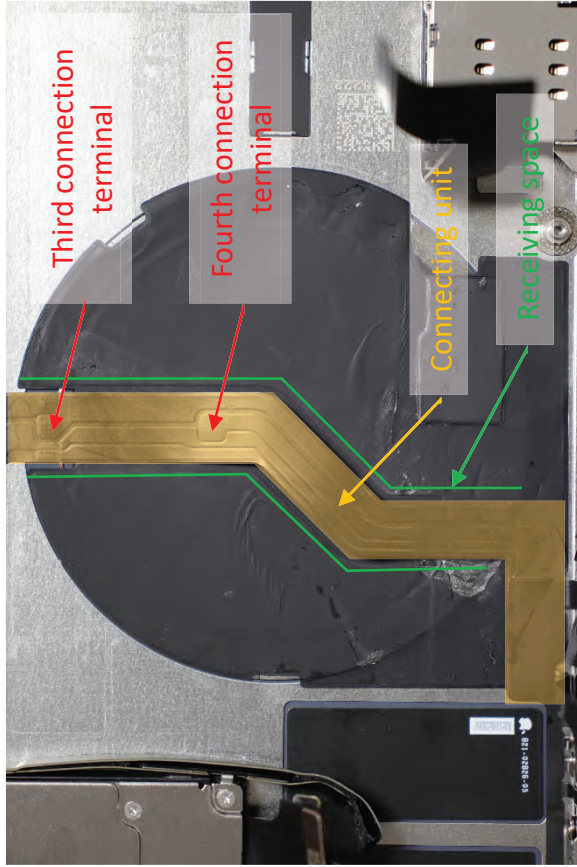
| Claim 12 | Accused Products |
|--|---|
| | <p>See, e.g.:</p>  <p>X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the conductive pattern of the coil having a spiral shape (red).</p> <p>In each Accused Product, the first connection terminal is located at one end of the coil and the second connection terminal is located at the other end of the coil.</p> |
| <p>[12g] wherein the first connection terminal is located at one end of the coil and the second connection terminal is located at the other end of the coil,</p> | |

| Claim 12 | Accused Products |
|---|---|
| <p>See, e.g.:</p>  <p>The image is an X-ray of a circular wireless power receiver. It features a central spiral-shaped coil, highlighted in red, which is connected to two terminals. The first terminal is on the left side of the coil, and the second terminal is on the right side. Red arrows point from text labels to these terminals. The label 'Coil' is placed near the center of the spiral. The entire assembly is housed within a circular frame.</p> | <p>X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the conductive pattern of the coil having a spiral shape (red).</p> |
| <p>[12h] wherein the connecting unit is disposed in the receiving space and connected to the coil unit,</p> | <p>In each Accused Product, the connecting unit is disposed in the receiving space and connected to the coil unit.</p> |

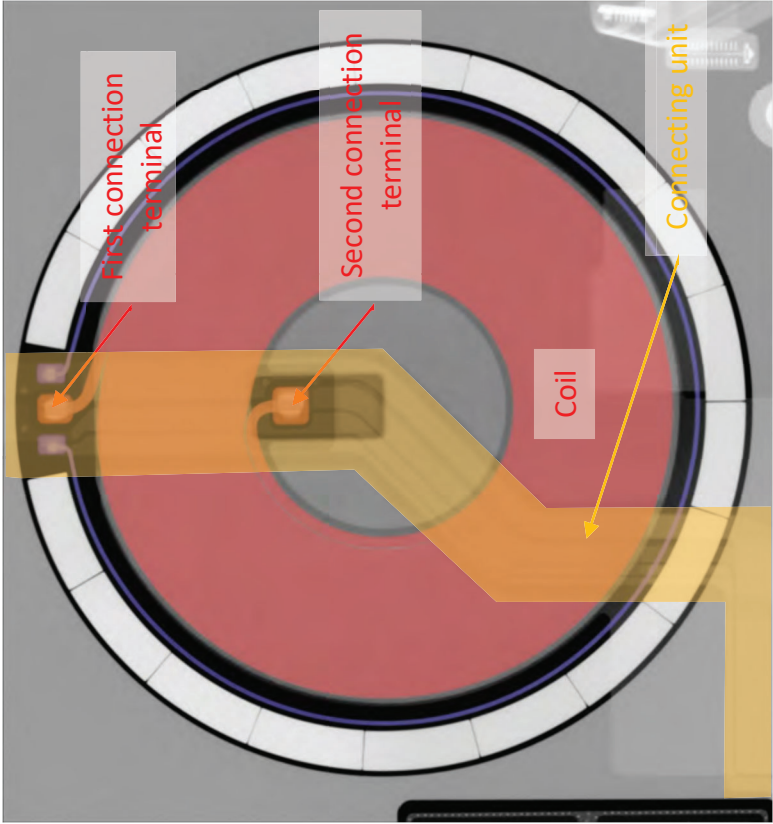
Claim 12

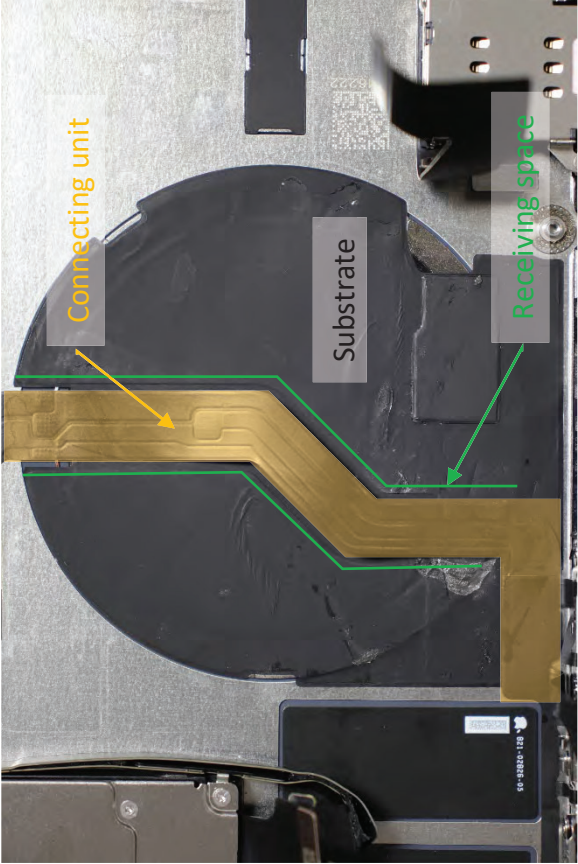
Accused Products

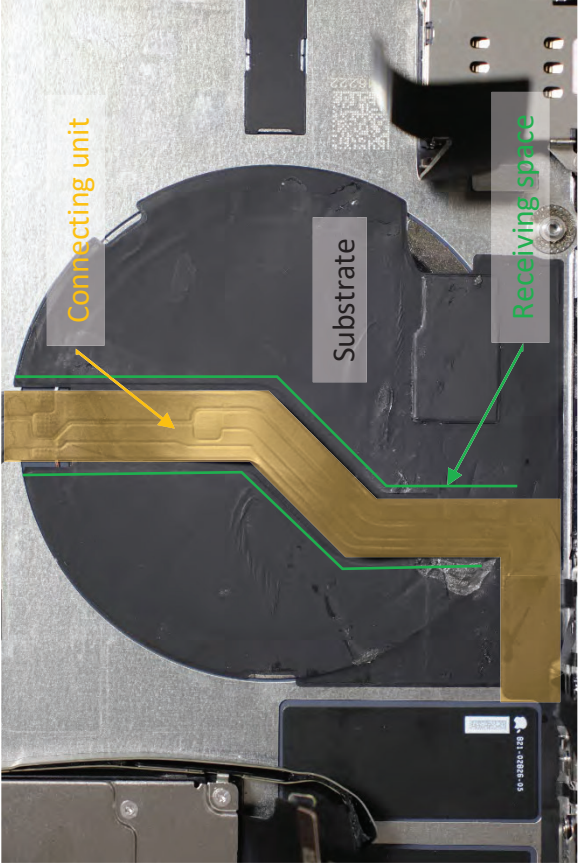
See, e.g.:



Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing the connecting unit (yellow) disposed in the receiving space within green lines and the terminals connecting it to the coil unit.

| | |
|---|---|
| <p>Claim 12</p> | <p>Accused Products</p> |
|  <p>The diagram is a top-down X-ray view of a circular wireless power receiver. It features a central red circular area labeled 'Coil'. Surrounding the coil is a grey ring labeled 'Connecting unit'. Two small orange components are labeled 'First connection terminal' and 'Second connection terminal'. Orange lines connect the labels to their respective parts in the diagram.</p> | <p>X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the connection of the connecting unit to the coil unit.</p> |
| <p>[12i] wherein the connecting unit overlaps the receiving space in a direction parallel to the upper surface of the substrate, and</p> | <p>In each Accused Product, the connecting unit overlaps the receiving space in a direction parallel to the upper surface of the substrate.</p> |

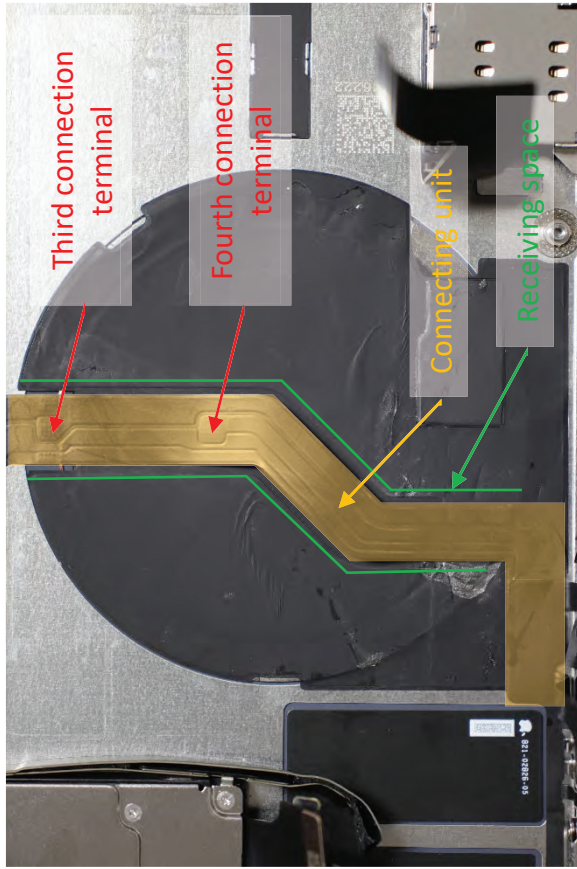
| | |
|----------|--|
| Claim 12 | <p data-bbox="207 716 240 951">Accused Products</p> <p data-bbox="261 1346 293 1465">See, e.g.:</p>  <p data-bbox="889 212 997 1465">Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing the connecting unit in yellow overlapping the receiving space within green lines in a direction parallel to the upper surface of the substrate.</p> <p data-bbox="1024 827 1057 1465">Each Accused Product includes a connecting unit.</p> |
| | <p data-bbox="1024 1524 1089 1892">[12]] wherein the connecting unit comprises:</p> |

| | |
|----------|---|
| Claim 12 | <p data-bbox="207 716 240 951">Accused Products</p> <p data-bbox="261 1346 293 1465">See, e.g.:</p>  <p data-bbox="889 281 959 1465">Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing the connecting unit in orange.</p> <p data-bbox="987 226 1057 1465">In each Accused Product, the connecting unit comprises a third connection terminal connected to the first connection terminal of the coil unit.</p> |
| Claim 12 | <p data-bbox="987 1501 1122 1892">[12k] a third connection terminal connected to the first connection terminal of the coil unit; and</p> |

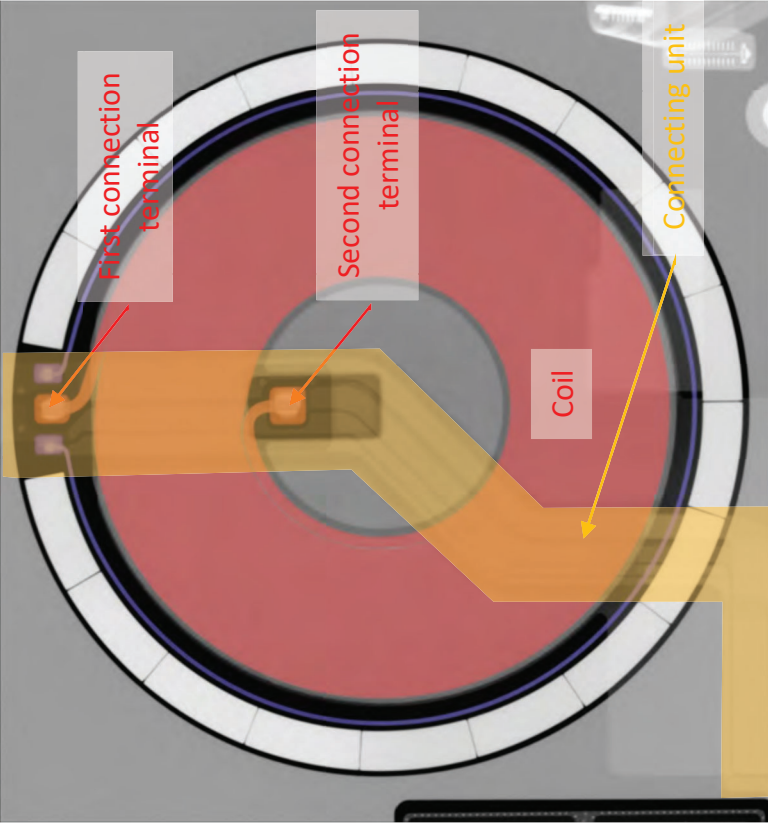
Claim 12

Accused Products

See, e.g.:

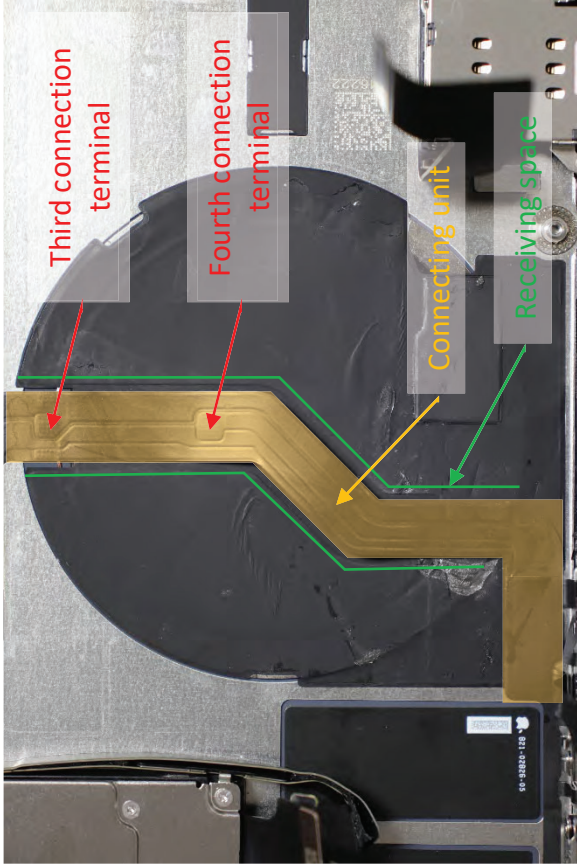


Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing a third connection terminal connected to the first connection terminal of the coil unit (yellow).

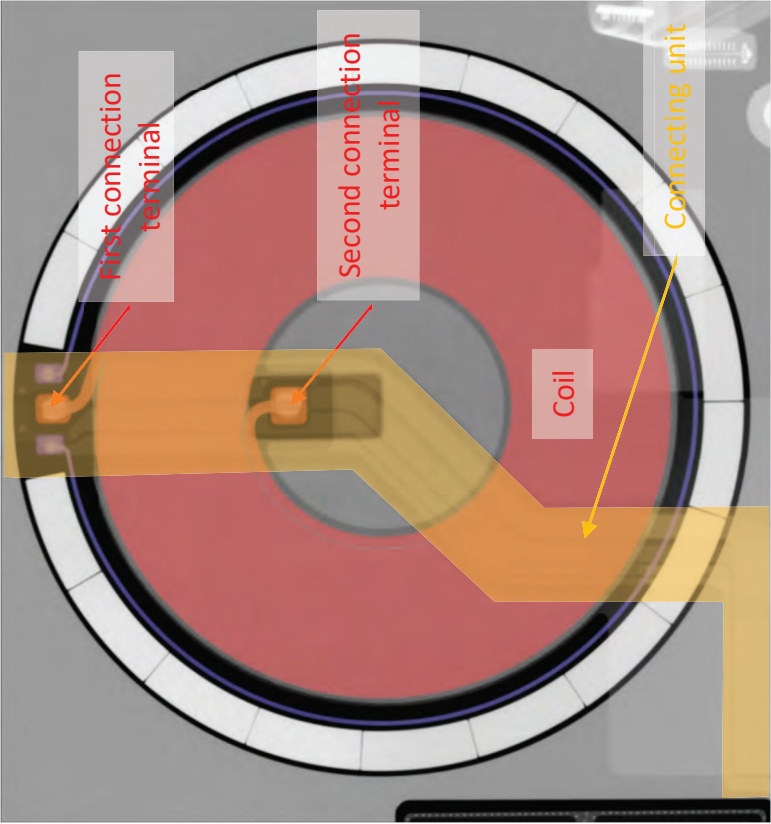
| | |
|--|---|
| <p>Claim 12</p> | <p>Accused Products</p> |
|  <p>X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the third terminal connected to the first terminal of the coil unit.</p> | <p>In each Accused Product, the connecting unit comprises a fourth connection terminal connected to the second connection terminal of the coil unit. See, e.g.:</p> |
| <p>[12] a fourth connection terminal connected to the second connection terminal of the coil unit; and</p> | <p></p> |

Claim 12

Accused Products

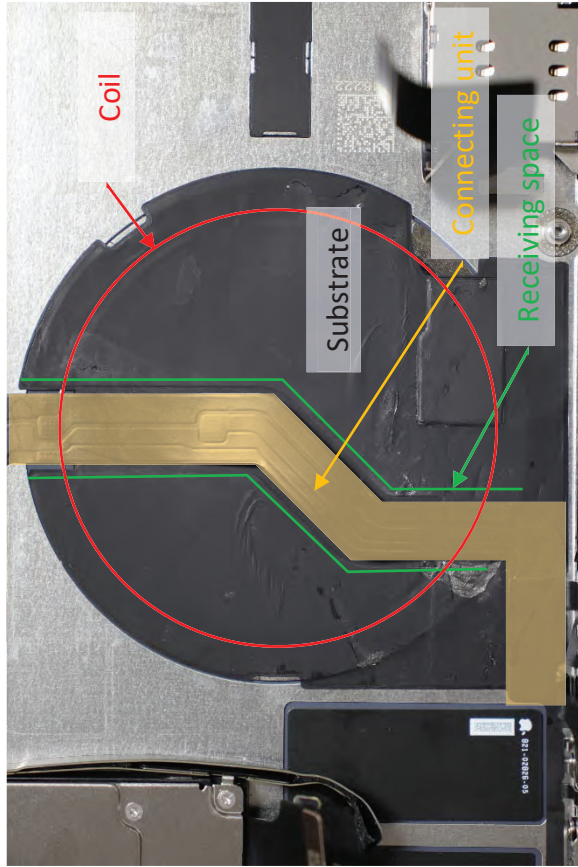


Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing a fourth connection terminal connected to the second connection terminal of the coil unit (yellow).

| | |
|--|--|
| <p>Claim 12</p> | <p>Accused Products</p> |
|  | <p>X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the fourth terminal connected to the second terminal of the coil unit.</p> |
| <p>[12m] wherein the coil unit is disposed on the substrate and the connecting unit.</p> | <p>In each Accused Product, the coil unit is disposed on the substrate and the connecting unit. See, e.g.:</p> |

Claim 12

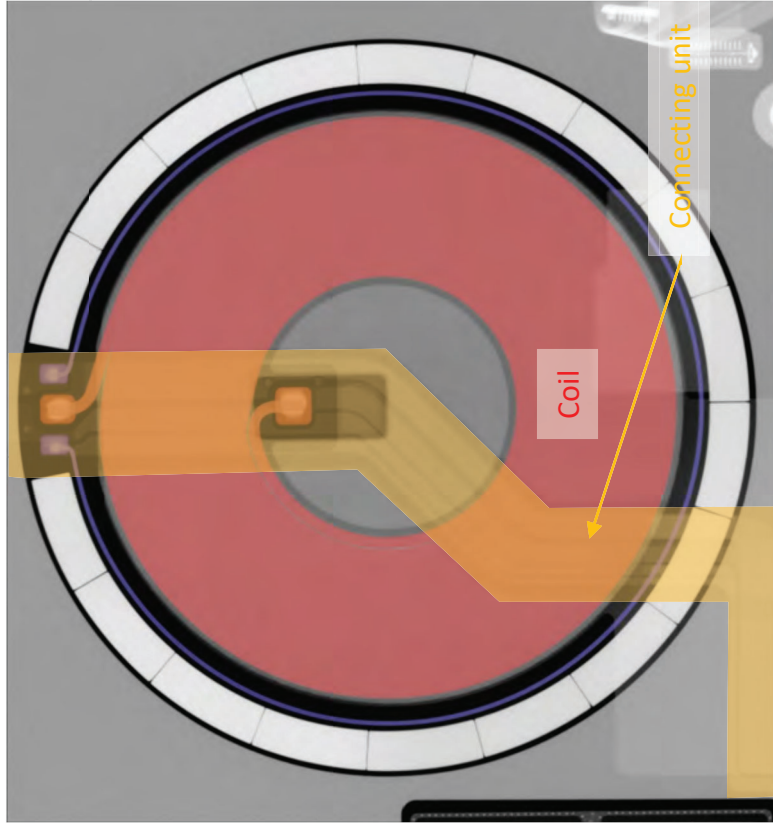
Accused Products



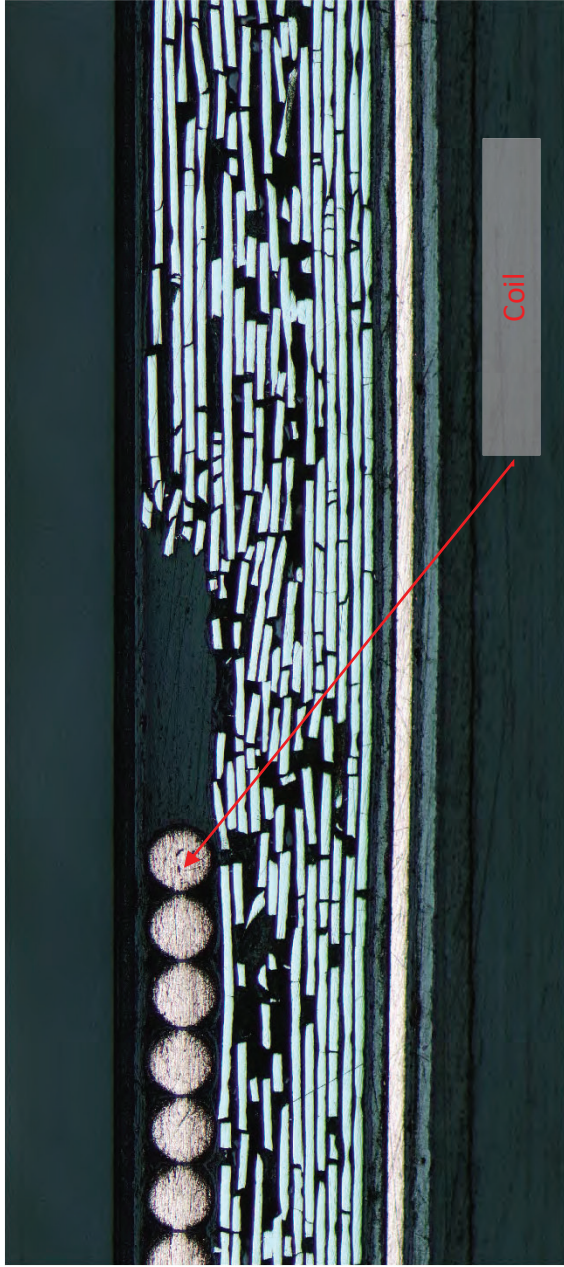
Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing the coil unit disposed on the substrate and the connecting unit.

Claim 12

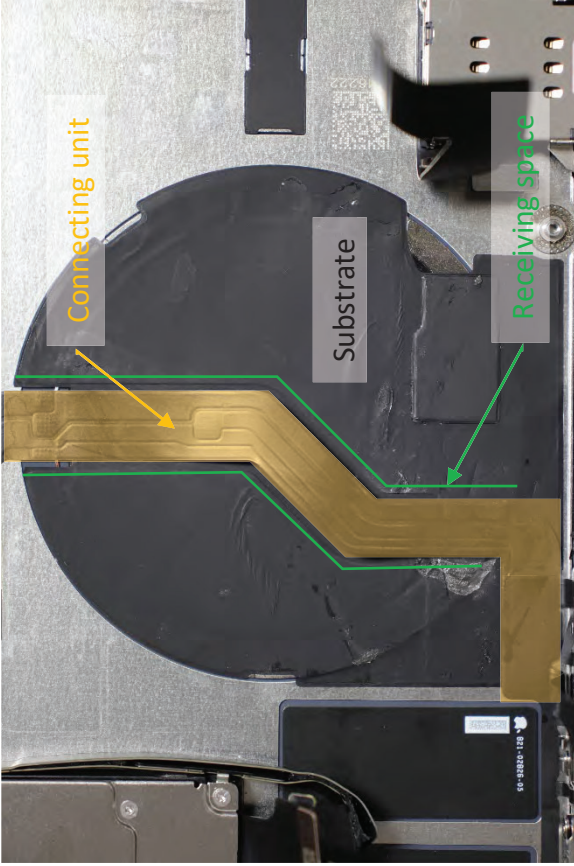
Accused Products




X-ray of the wireless power receiver from the exemplary Apple iPhone 12 the coil unit disposed on the substrate and the connecting unit.

| | |
|---|------------------|
| Claim 12 | Accused Products |
|  <p data-bbox="828 325 901 1476">Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the coil disposed on the substrate.</p> | |

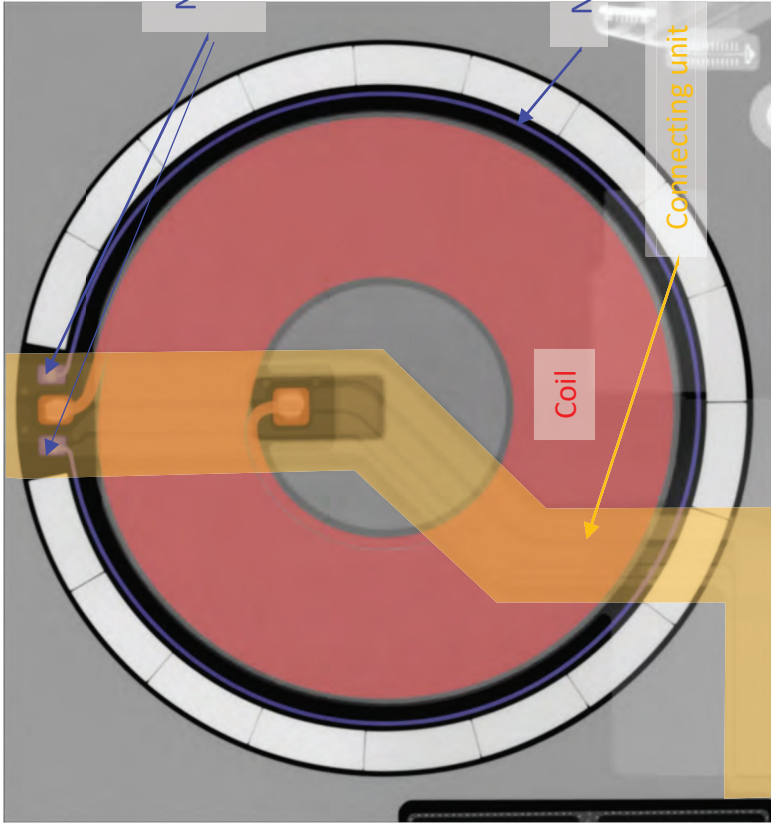
| | |
|---|---|
| Claim 13 | Accused Products |
| <p data-bbox="1055 1491 1234 1906">The wireless power receiver of claim 12, wherein the connecting unit is configured such that it is separable from the receiving space.</p> | <p data-bbox="1055 325 1136 1476">In each Accused Product, the wireless power receiver of claim 12 has the connecting unit configured such that it is separable from the receiving space.</p> |

| | |
|---|-------------------------|
| Claim 13 | Accused Products |
| <p>See, e.g.:</p>  <p>Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing that the connecting unit (yellow) is separable from the receiving space within green lines formed by the indentation in the substrate.</p> | <p>Accused Products</p> |


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|---|---|
| Claim 14 | Accused Products |
| <p>The wireless power receiver of claim 12, wherein the predetermined shape of the receiving space corresponds to a shape of the connecting unit.</p> | <p>Accused Products</p> <p>In each Accused Product, the wireless power receiver of claim 12 has the predetermined shape of the receiving space corresponding to a shape of the connecting unit.</p> |

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| Claim 14 | Accused Products |
| <p>See, e.g.:</p>  <p>Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing the shape of the receiving space (within green lines formed in the substrate) corresponds to the shape of the connecting unit (yellow).</p> | |

| | |
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| Claim 16 | Accused Products |
| <p>The wireless power receiver of claim 12, wherein the connecting unit is connected to the short-range communication antenna.</p> | <p>In each Accused Product, the wireless power receiver of claim 12 has the connecting unit connected to the short-range communication antenna.</p> <p>See, e.g.:</p> |

| | |
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| Claim 16 | <p style="text-align: center;">Accused Products</p>  <p style="text-align: center;">X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the connection of the connecting unit (yellow) to the NFC coil (blue).</p> |
|----------|--|

| | |
|---|---|
| <p>Claim 17</p> <p>The wireless power receiver of claim 12, wherein the substrate comprises a pattern groove for</p> | <p style="text-align: center;">Accused Products</p> <p>In each Accused Product, the wireless power receiver of claim 12 has the substrate comprising a pattern groove for receiving a part of the coil, and wherein the part of the coil is disposed in the pattern groove.</p> |
|---|---|

| | |
|---|--|
| <p>Claim 17</p> <p>receiving a part of the coil, and wherein the part of the coil is disposed in the pattern groove.</p> | <p style="text-align: center;">Accused Products</p> <p>See, e.g.:</p>  <p>Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the pattern groove in the substrate for receiving the coil.</p> |
|---|--|

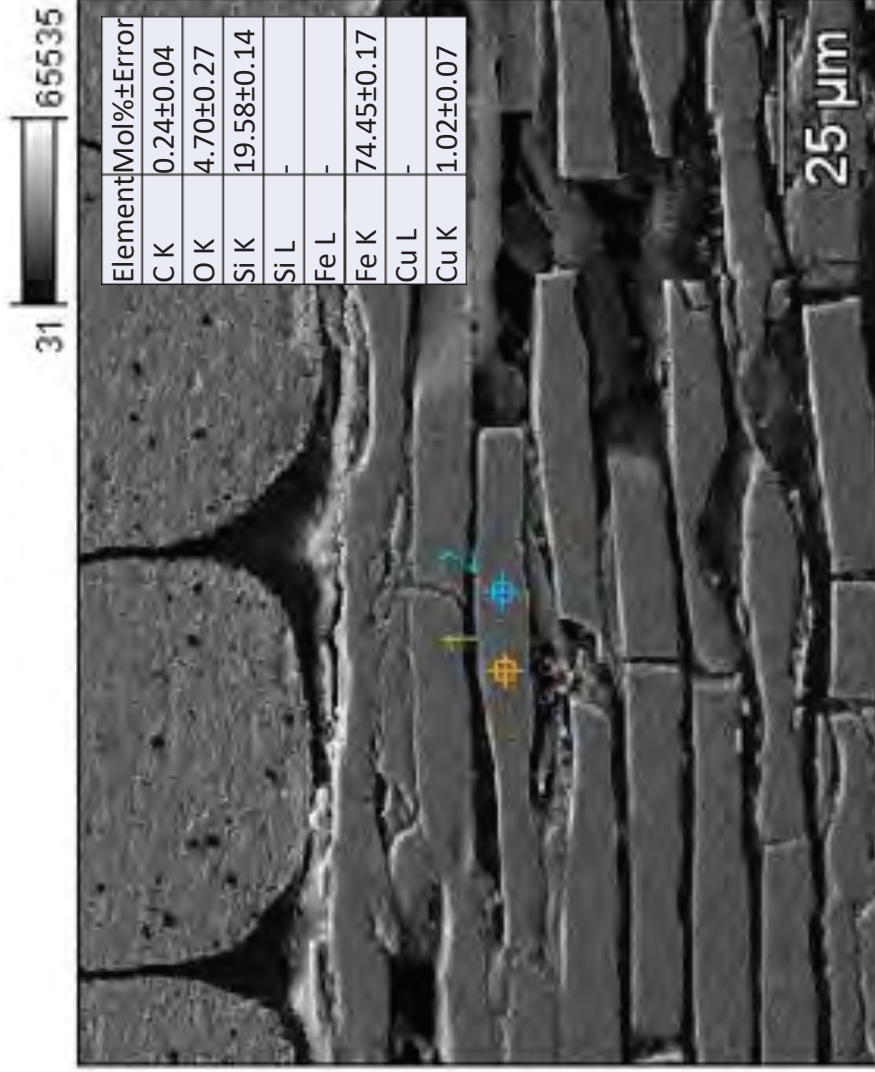
| | |
|---|---|
| <p>Claim 18</p> <p>A wireless portable terminal, comprising the wireless power receiver of claim 12.</p> | <p style="text-align: center;">Accused Products</p> <p>In each Accused Product, a wireless portable terminal comprises the wireless power receiver of claim 12.</p> <p>See, e.g.:</p>  |
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| | |
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| Claim 18 | Accused Products |
| | Photograph of the portable terminal comprising the wireless power receiver from the exemplary Apple iPhone 12. |

Claim 19

| | |
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| Claim 19 | Accused Products |
| The wireless power receiver of claim 12, wherein the substrate comprises magnetic material. | <p>In each Accused Product, the wireless power receiver of claim 12 has the substrate comprising magnetic material.</p> <p>For example, the substrate in the exemplary Apple iPhone 12 comprises layers of a soft magnetic material with a high composition of iron and silicon.</p> <p><i>See, e.g.:</i></p> |

Base(9)



SEM image and EDS measurements of the soft magnetic material layers comprising the substrate. The elemental composition shown is averaged over the orange and blue points, and the high iron and silicon content suggests a soft magnetic material.

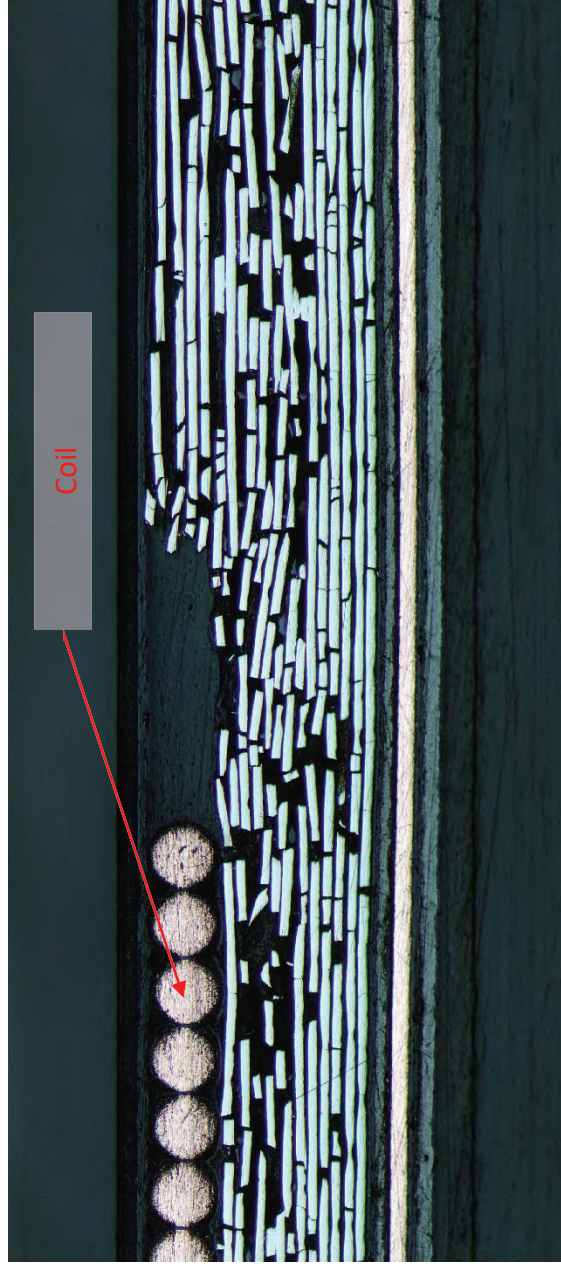
Claim 20

Claim 20
The wireless power receiver of claim 12, wherein the substrate is flexible.

Accused Products

In each Accused Product, the wireless power receiver of claim 12 has the substrate flexible.
For example, the substrate is comprised of fragmented magnetic material layers that allow it to be flexible.

See, e.g.:



Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the fragmented magnetic material layers that make the substrate flexible.

EXHIBIT D

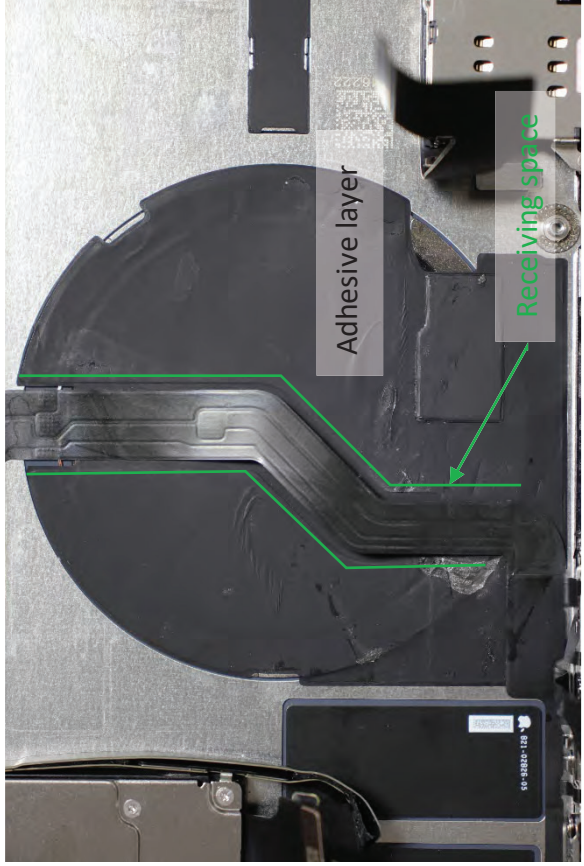

U.S. Patent No. 10,804,740 (“’740 Patent”)

Accused Products

Apple products, including without limitation the Apple iPhone 8, iPhone 8 Plus, iPhone X, iPhone Xs, iPhone Xs Max, iPhone XR, iPhone 11, iPhone 11 Pro, iPhone 11 Pro Max, iPhone SE (second generation), iPhone 12, iPhone 12 Mini, iPhone 12 Pro, and iPhone 12 Pro Max (“Accused Products”), infringe at least Claims 16, 17, 19, and 20 of the ’740 Patent.

Claim 16

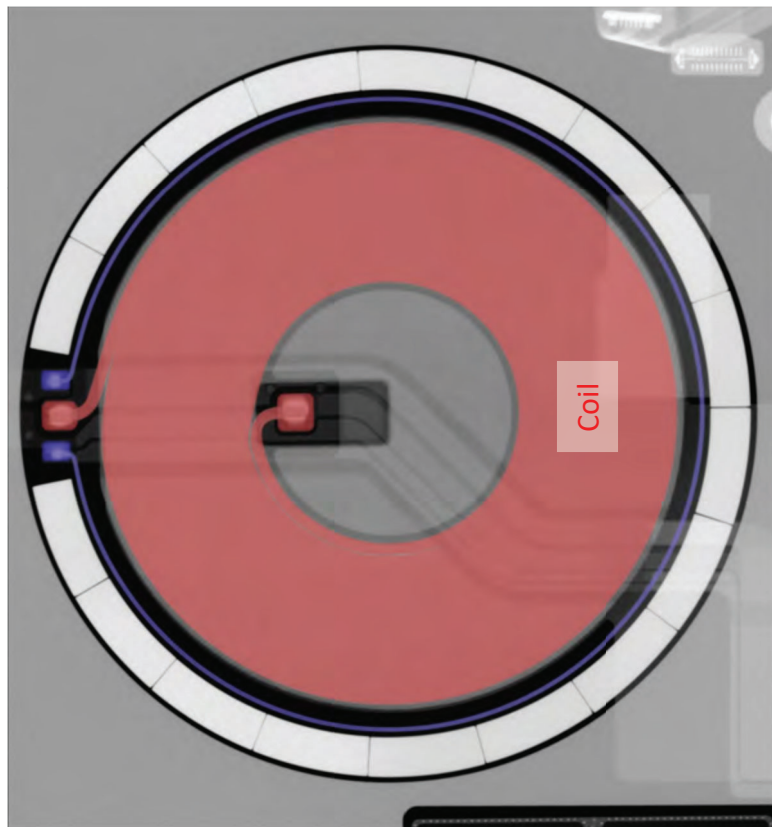
| Claim 16 | Accused Products |
|--|--|
| <p>[16pre] A wireless power receiver comprising:</p> | <p>To the extent the preamble is limiting, each Accused Product includes a wireless power receiver.</p> <p>See, e.g.:</p>  <p>Photograph of the wireless power receiver from the exemplary Apple iPhone 12.</p> |
| <p>[16a] an adhesive layer comprising a receiving space;</p> | <p>In each Accused Product, the wireless power receiver comprises an adhesive layer comprising a receiving space.</p> |

| | |
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| <p>Claim 16</p> | <p>Accused Products</p> |
| <p>For example, a receiving space is formed by an indentation in the adhesive layer. See, e.g.:</p>  <p>Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing the receiving space within green lines formed by the indentation in the adhesive layer for a connecting unit.</p>  <p>Receiving Space</p> | <p>Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the receiving space formed by the indentation in the adhesive layer. In each Accused Product, the wireless power receiver comprises a coil on the adhesive layer.</p> |
| <p>[[16b] a coil on the adhesive layer;</p> | |

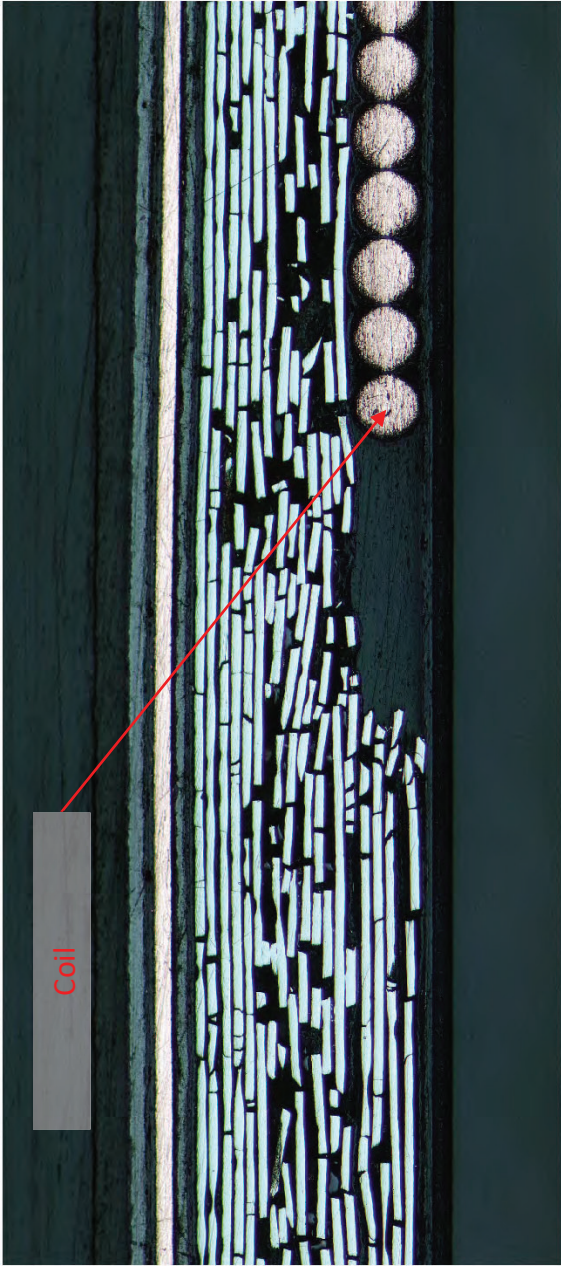
Claim 16

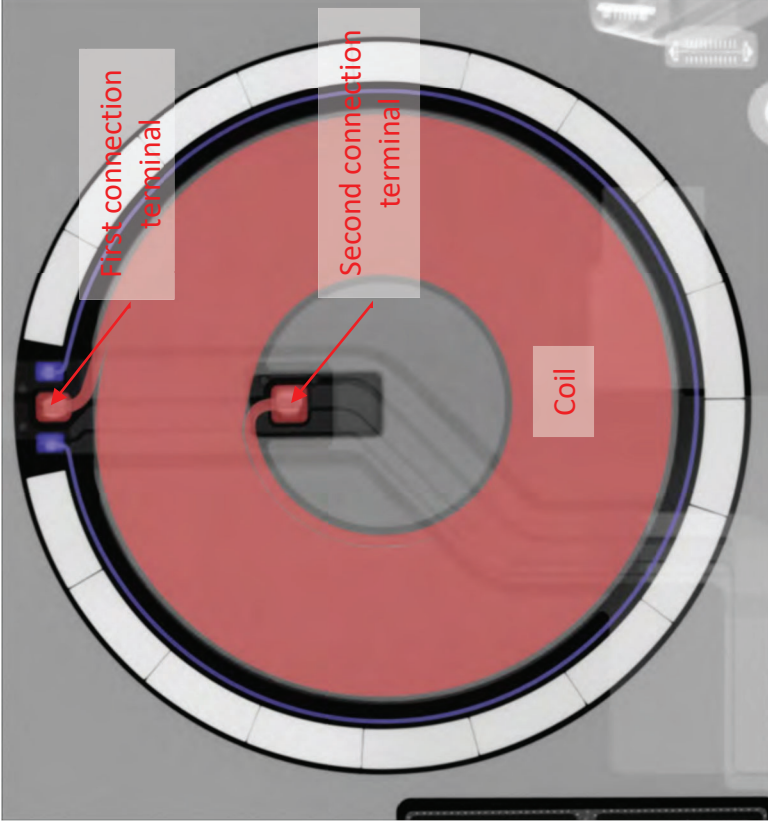
Accused Products

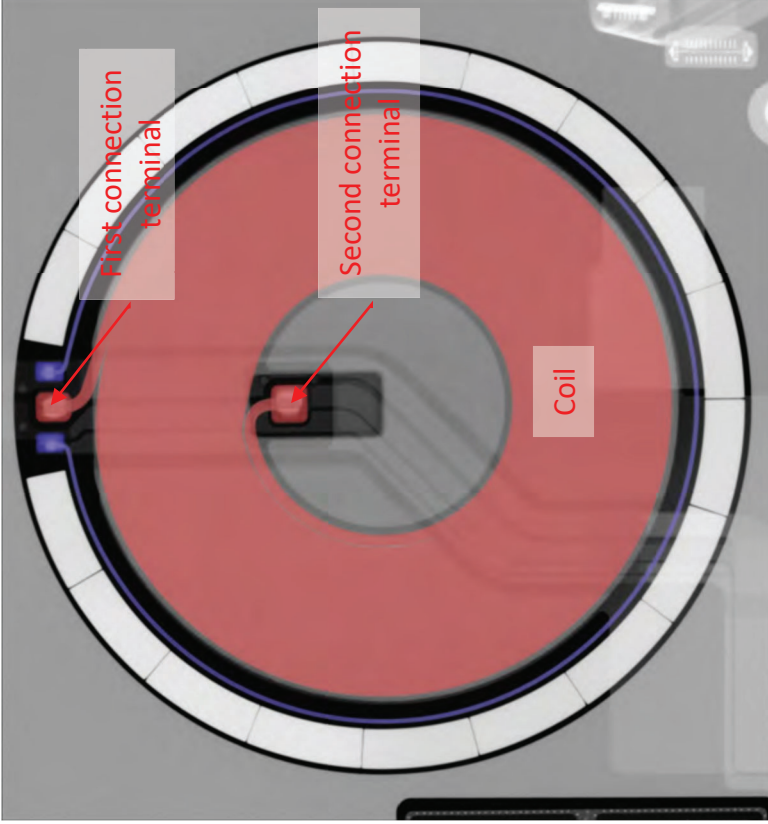
See, e.g.:

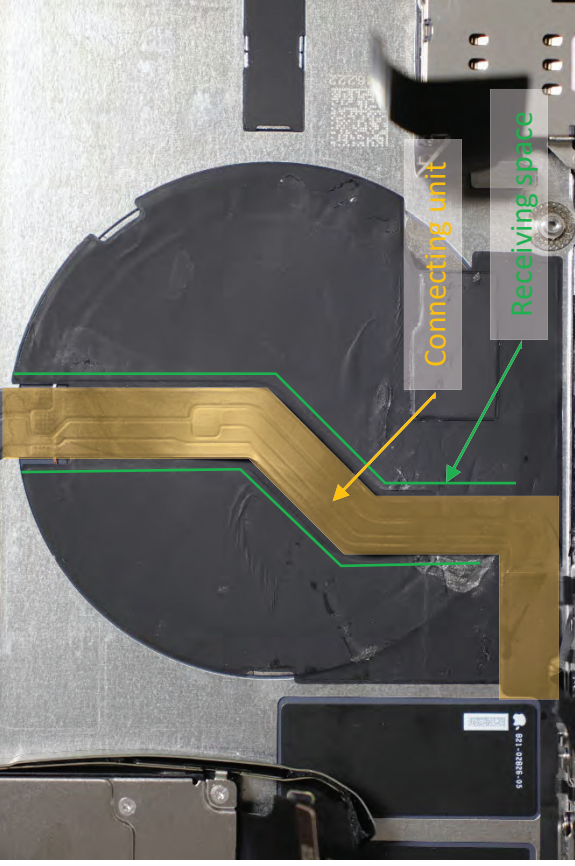


X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the coil (red).

| | |
|--|---|
| Claim 16 | Accused Products |
| |  <p data-bbox="841 325 909 1465">Optical cross section of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the coil on the adhesive layer.</p> |
| [[16c] a first connection terminal connected to one end of the coil; | In each Accused Product, the wireless power receiver comprises a first connection terminal connected to one end of the coil. |

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| Claim 16 | Accused Products |
| | <p>See, e.g.:</p>  <p>X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the first connection terminal connected to one end of the coil (red). In each Accused Product, the wireless power receiver comprises a second connection terminal connected to an other end of the coil.</p> |
| [16d] a second connection terminal connected to an other end of the coil; and | |

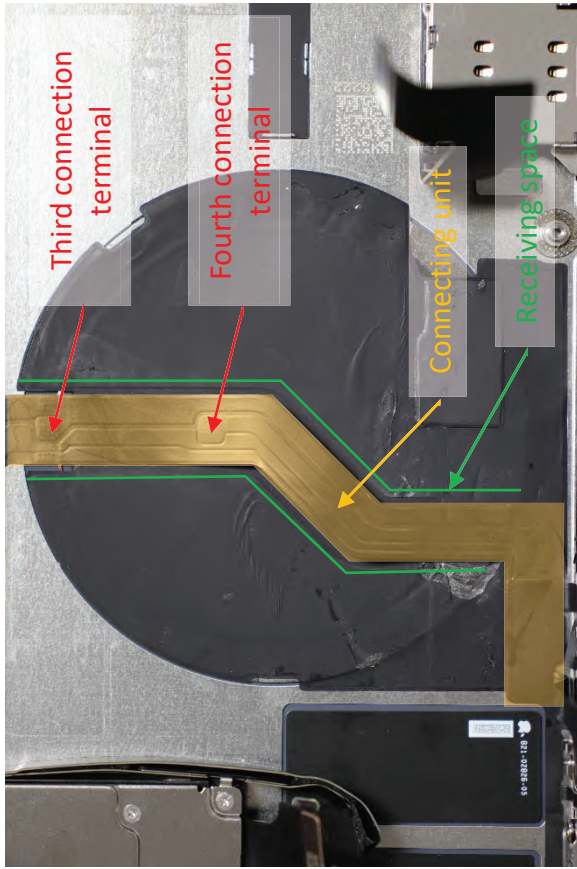
| | |
|---|--|
| <p>Claim 16</p> | <p>Accused Products</p> |
| <p>See, e.g.:</p>  <p>X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the second connection terminal connected to an other end of the coil (red).</p> | <p>In each Accused Product, the wireless power receiver comprises a connecting unit disposed corresponding to the receiving space.</p> |
| <p>[[16e] a connecting unit disposed corresponding to the receiving space,</p> | <p></p> |

| Claim 16 | Accused Products |
|--|---|
| <p>See, e.g.:</p>  <p>Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing the connecting unit (yellow) corresponding to the receiving space within green lines.</p> | <p>In each Accused Product, the wireless power receiver comprises a connecting unit.</p> <p>See <i>supra</i> claim element [16e].</p> <p>In each Accused Product, the connecting unit comprises a third connection terminal connected to the first connection terminal.</p> |
| <p>[16f] wherein the connecting unit comprises:</p> | <p>See <i>supra</i> claim element [16e].</p> |
| <p>[16g] a third connection terminal connected to the first connection terminal;</p> | <p>In each Accused Product, the connecting unit comprises a third connection terminal connected to the first connection terminal.</p> |

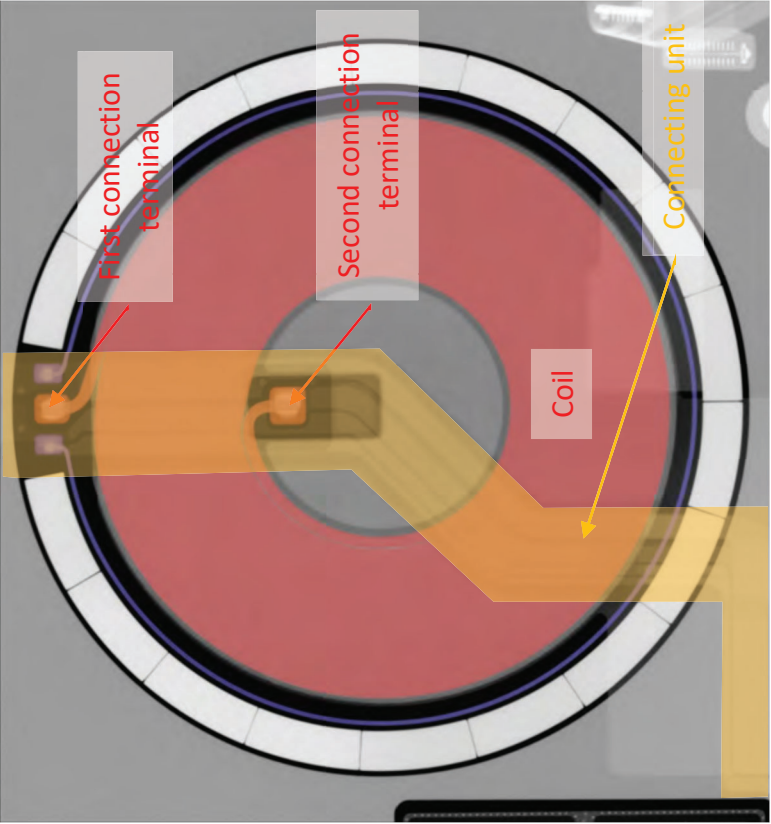
Claim 16

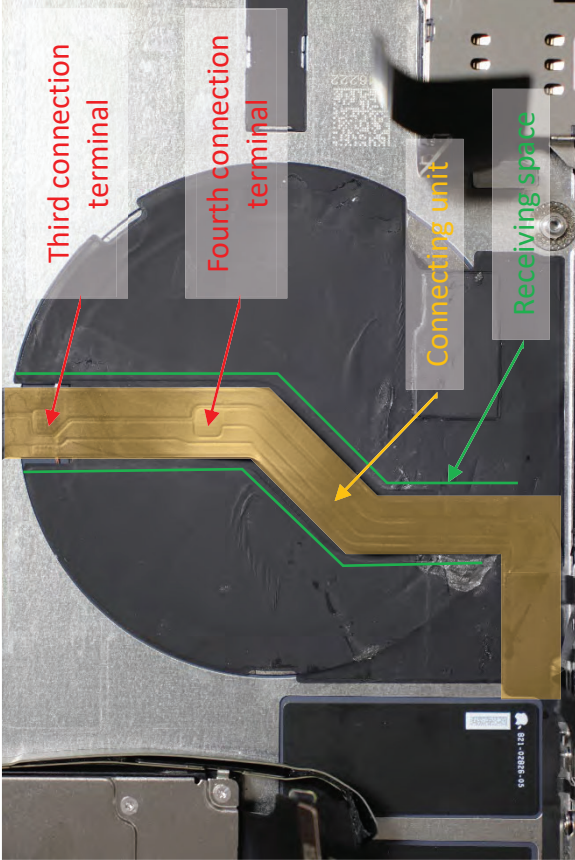
Accused Products

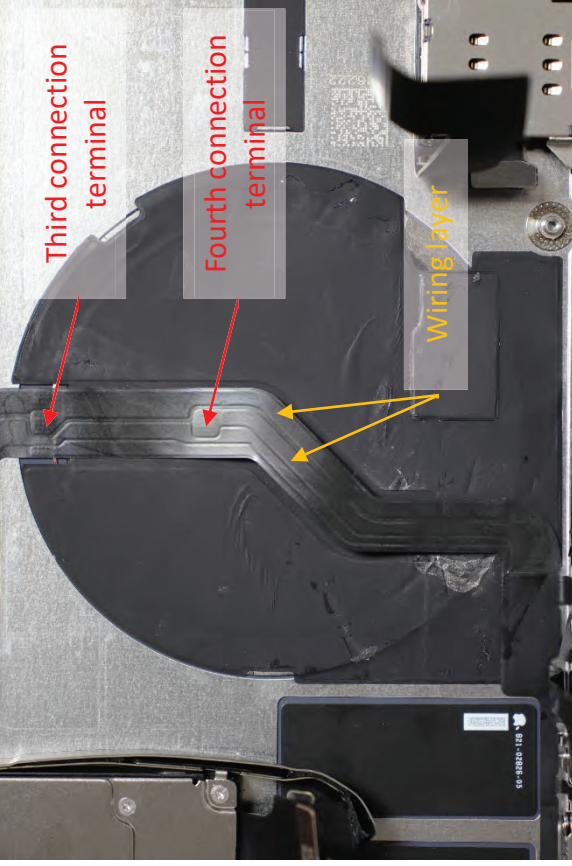
See, e.g.:



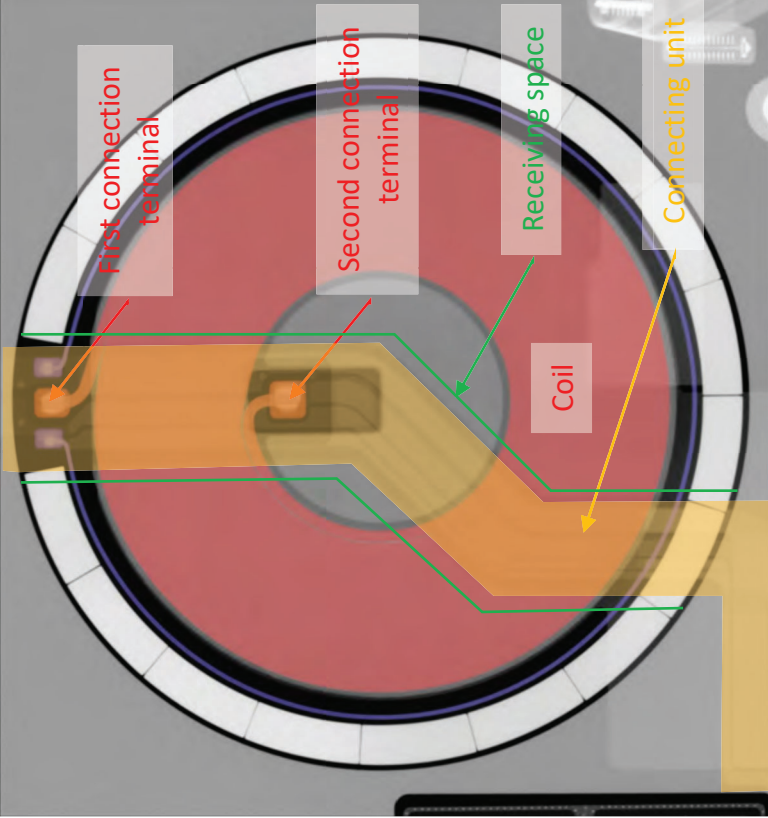
Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing a third connection terminal connected to the first connection terminal of the coil unit.

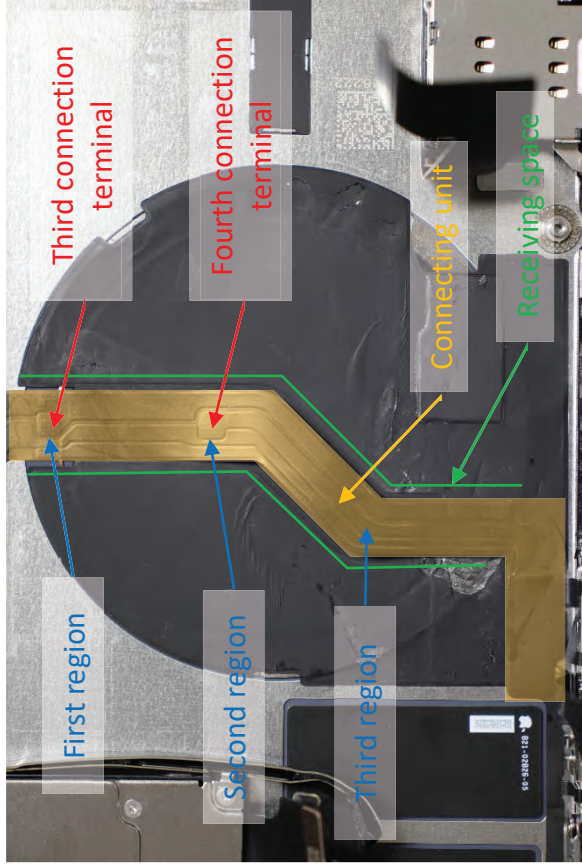
| | |
|--|--|
| <p>Claim 16</p> | <p>Accused Products</p> |
|  <p>X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the third terminal connected to the first terminal of the coil unit.</p> | <p>[16h] a fourth connection terminal connected to the second connection terminal; and</p> |
| <p>In each Accused Product, the connecting unit comprises a fourth connection terminal connected to the second connection terminal.</p> | |

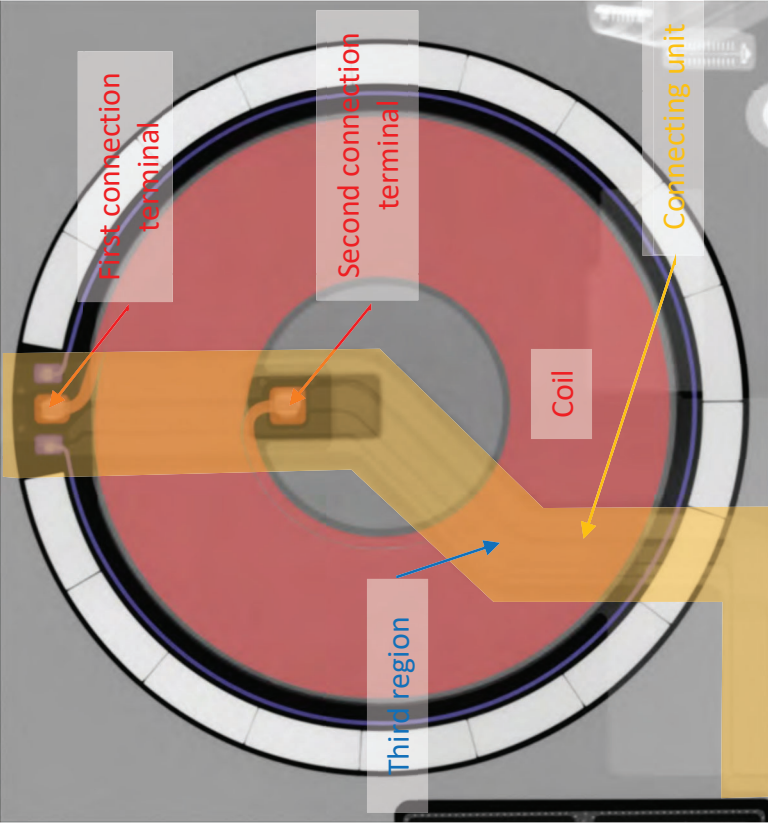
| | |
|--|--|
| <p>Claim 16</p> | <p>Accused Products</p> |
| <p>See, e.g.:</p>  <p>Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing a fourth connection terminal connected to the second connection terminal of the coil unit.</p> <p>X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the fourth terminal connected to the second terminal of the coil unit.</p> | <p>In each Accused Product, the connecting unit comprises a wiring layer connected to the third connection terminal and the fourth terminal.</p> <p>[16i] a wiring layer connected to the third connection terminal and the fourth terminal.</p> |

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| Claim 16 | <p data-bbox="207 716 240 953" style="text-align: center;">Accused Products</p> <p data-bbox="261 1350 293 1465"><i>See, e.g.:</i></p>  <p data-bbox="878 222 951 1465">Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing a raised wiring layer connected to the third connection terminal and the fourth terminal.</p> |
|----------|--|

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| <p data-bbox="1005 1782 1037 1906">Claim 17</p> <p data-bbox="1057 1633 1089 1757">Claim 17</p> <p data-bbox="1110 1493 1282 1906">The wireless power receiver of claim 16, wherein the receiving space extends from inside the coil to outside the coil.</p> | <p data-bbox="1057 716 1089 953" style="text-align: center;">Accused Products</p> <p data-bbox="1110 327 1183 1465">In each Accused Product, the wireless power receiver of claim 16 has the receiving space extending from inside the coil to outside the coil.</p> <p data-bbox="1203 1350 1235 1465"><i>See, e.g.:</i></p> |
|--|---|

| | |
|---|---|
| Claim 17 | Accused Products |
|  <p data-bbox="1063 325 1136 1470">X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating the receiving space within green lines extends from inside the coil to outside the coil.</p> | <p data-bbox="1185 1785 1226 1906">Claim 19</p> <p data-bbox="1242 1627 1274 1753">Claim 19</p> <p data-bbox="1291 1491 1404 1900">The wireless power receiver of claim 16, wherein the connecting unit comprises:</p> <p data-bbox="1242 714 1274 955">Accused Products</p> <p data-bbox="1291 241 1404 1470">In each Accused Product, the wireless power receiver of claim 16 has the connecting unit comprising a first region on which the third connection terminal is disposed, a second region on which the fourth connection terminal is disposed, and a third region on the coil.</p> |

| Claim 19 | Accused Products |
|--|--|
| <p>a first region on which the third connection terminal is disposed; a second region on which the fourth connection terminal is disposed; and a third region on the coil.</p> | <p>See, e.g.:</p>  <p>Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing a first region on which the third connection terminal is disposed, a second region on which the fourth connection terminal is disposed, and a third region on the coil.</p> |

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| Claim 19 | Accused Products |
|  <p data-bbox="1063 283 1128 1459">X-ray of the wireless power receiver from the exemplary Apple iPhone 12 illustrating a third region on the coil.</p> | |

| | |
|--|--|
| Claim 20 | Accused Products |
| <p data-bbox="1218 1627 1258 1753">Claim 20</p> <p data-bbox="1274 1491 1380 1890">The wireless power receiver of claim 19, wherein the connecting unit comprises:</p> | <p data-bbox="1218 714 1258 955">Accused Products</p> <p data-bbox="1274 325 1347 1459">In each Accused Product, the wireless power receiver of claim 19 has the connecting unit comprising fourth region which is not disposed on the adhesive layer.</p> |

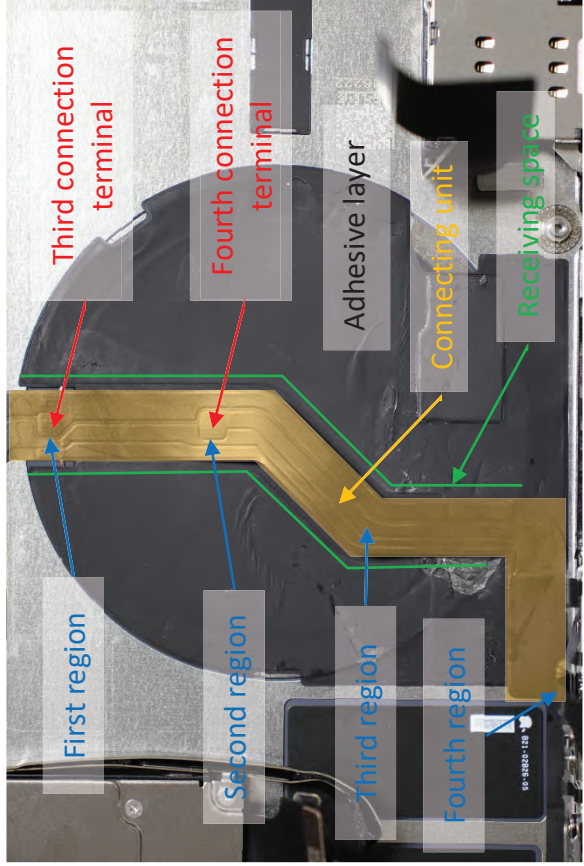
| Claim 20 | Accused Products |
|---|---|
| <p>a fourth region which is not disposed on the adhesive layer.</p> | <p>See, e.g.:</p>  <p>Photograph of the wireless power receiver from the exemplary Apple iPhone 12 showing a fourth region which is not disposed on the adhesive layer.</p> |

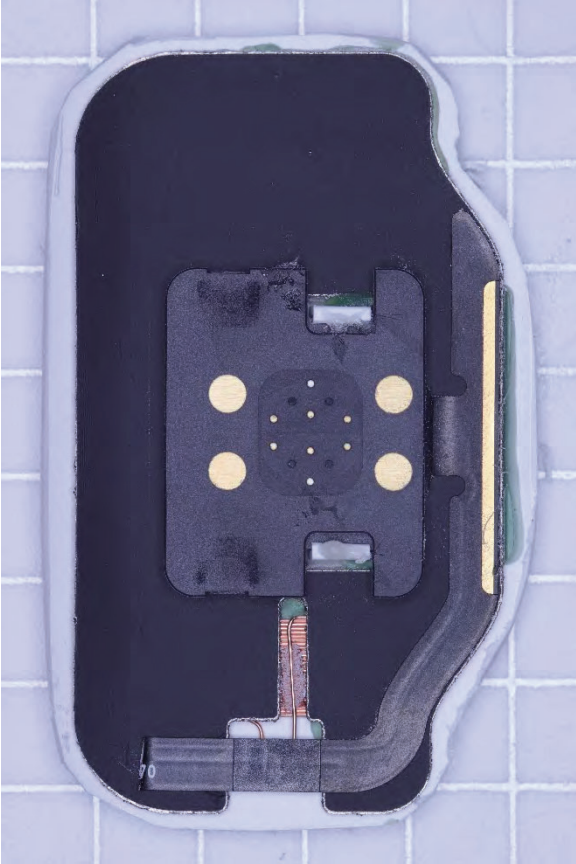
EXHIBIT E

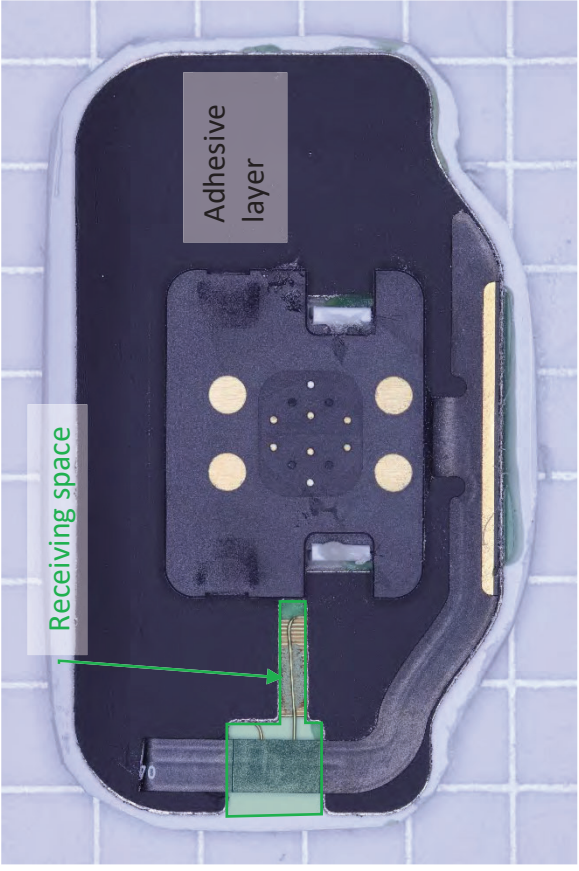
U.S. Patent No. 10,804,740 (“’740 Patent”)

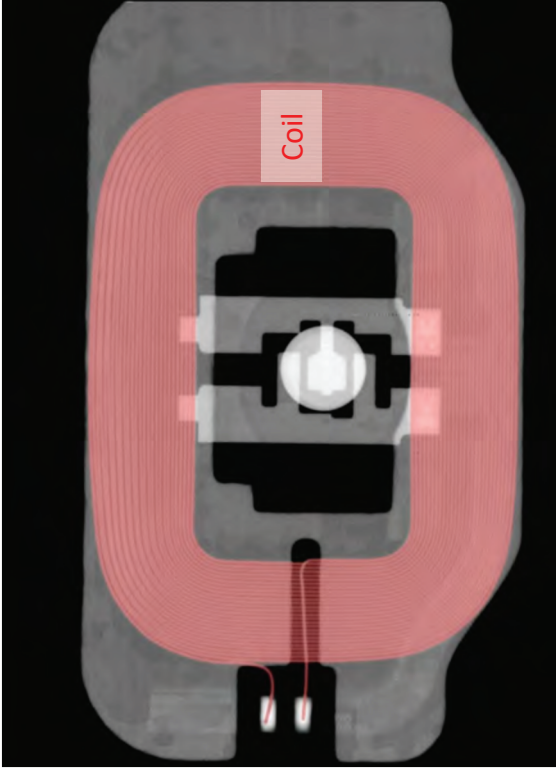
Accused Products

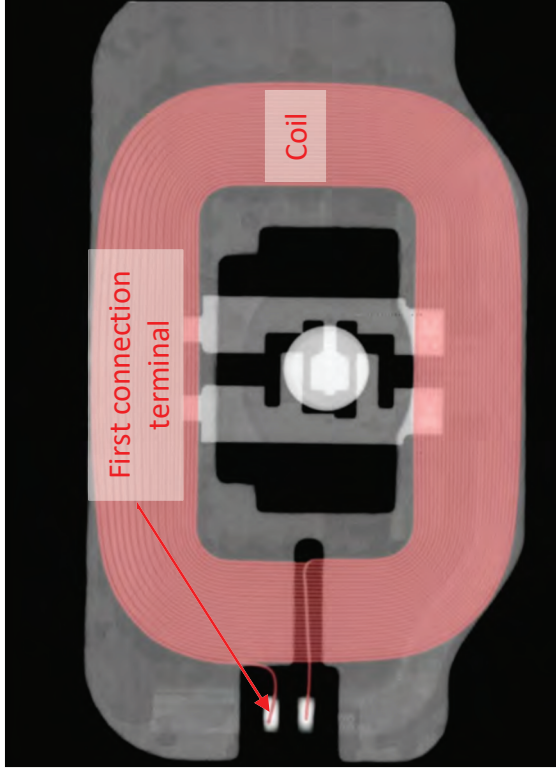
Apple products, including without limitation the Apple AirPods and AirPods Pro (“Accused Products”), infringe at least Claims 6 and 7 of the ’740 Patent.

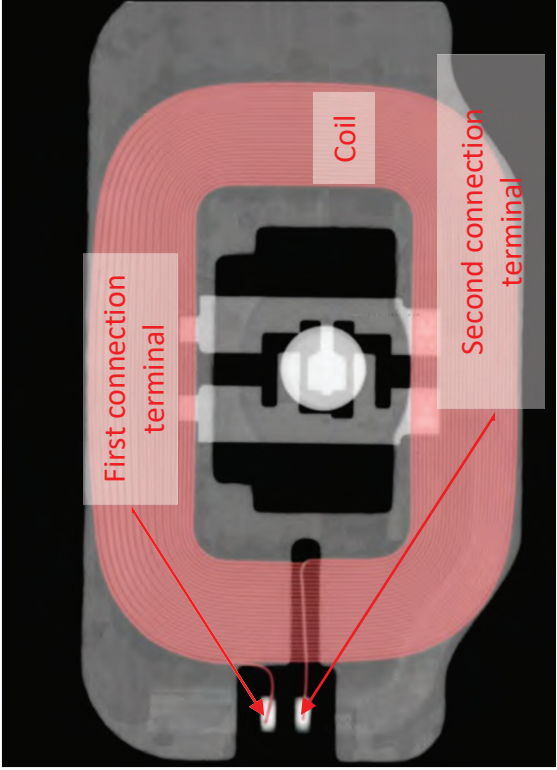
Claim 6

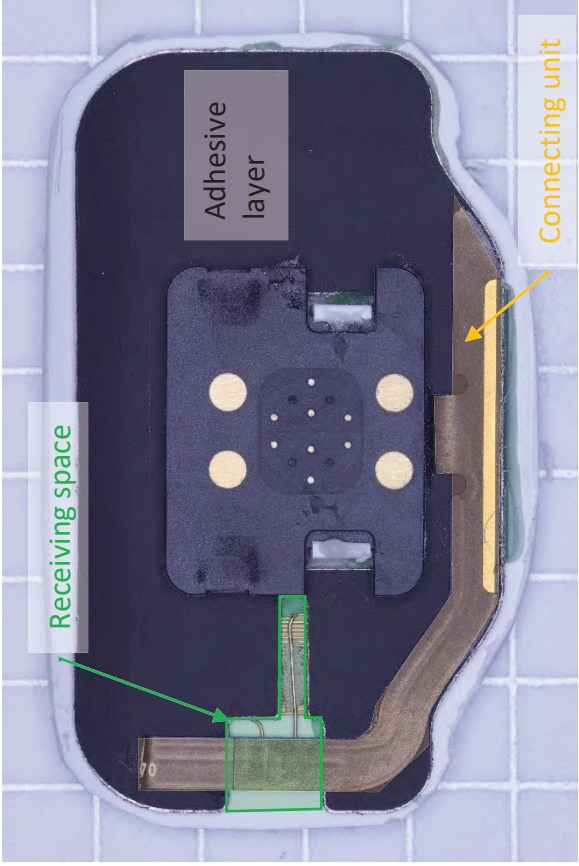
| Claim 6 | Accused Products |
|---|---|
| <p>[6pre] A wireless power receiver comprising:</p> | <p>To the extent the preamble is limiting, each Accused Product includes a wireless power receiver.</p> <p><i>See, e.g.:</i></p>  <p>Photograph of the wireless power receiver from the exemplary Apple AirPods Pro.</p> |
| <p>[6a] an adhesive layer comprising a receiving space;</p> | <p>In each Accused Product, the wireless power receiver comprises an adhesive layer comprising a receiving space.</p> <p><i>See, e.g.:</i></p> |

| | |
|------------------------------------|--|
| Claim 6 | Accused Products |
| |  <p data-bbox="292 1008 349 1260">Receiving space</p> <p data-bbox="446 672 552 840">Adhesive layer</p> |
| [6b] a coil on the adhesive layer; | <p data-bbox="841 252 912 1470">Photograph of the wireless power receiver from the exemplary Apple AirPods Pro showing the adhesive layer and the receiving space as the cut out region inside the green lines.</p> <p data-bbox="912 283 950 1470">In each Accused Product, the wireless power receiver comprises a coil on the adhesive layer.</p> |

| Claim 6 | Accused Products |
|--|---|
| <p>See, e.g.:</p>  <p>X-ray of the wireless power receiver from the exemplary Apple AirPods Pro illustrating the coil on the adhesive layer (red).</p> | <p>In each Accused Product, the wireless power receiver comprises a first connection terminal connected to one end of the coil.</p> <p>See, e.g.:</p> |
| <p>[6c] a first connection terminal connected to one end of the coil;</p> | <p>In each Accused Product, the wireless power receiver comprises a first connection terminal connected to one end of the coil.</p> <p>See, e.g.:</p> |

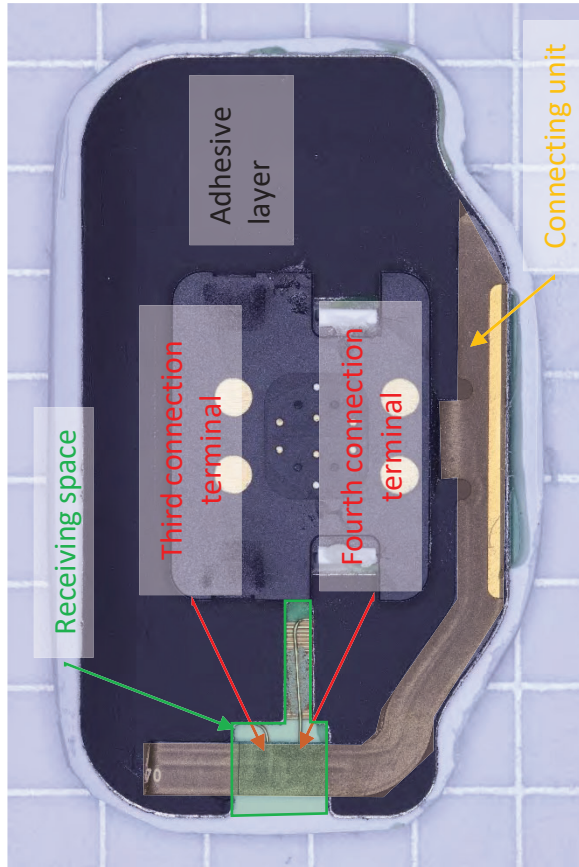
| Claim 6 | Accused Products |
|--|---|
| |  <p data-bbox="836 235 906 1472">X-ray of the wireless power receiver from the exemplary Apple AirPods Pro illustrating the first connection terminal connected to one end of the coil (red).</p> |
| <p data-bbox="933 1503 1036 1896">[6d] a second connection terminal connected to an other end of the coil; and</p> | <p data-bbox="933 264 998 1472">In each Accused Product, the wireless power receiver comprises a second connection terminal connected to an other end of the coil.</p> <p data-bbox="1027 1350 1057 1472"><i>See, e.g.:</i></p> |

| Claim 6 | Accused Products |
|---|---|
| |  <p data-bbox="828 294 901 1474">X-ray of the wireless power receiver from the exemplary Apple AirPods Pro illustrating the second connection terminal connected to an other end of the coil (red).</p> |
| <p data-bbox="925 1522 1088 1900">[6e] a connecting unit overlapping the receiving space in a vertical direction perpendicular to the adhesive layer,</p> | <p data-bbox="925 210 998 1470">In each Accused Product, the wireless power receiver comprises a connecting unit overlapping the receiving space in a vertical direction perpendicular to the adhesive layer.</p> <p data-bbox="1015 1344 1055 1470"><i>See, e.g.:</i></p> |

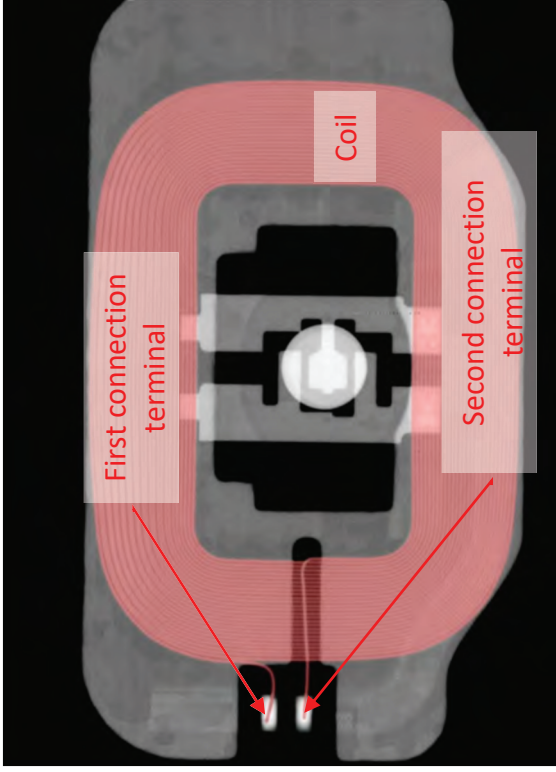
| Claim 6 | Accused Products |
|--|--|
| |  <p data-bbox="305 1024 337 1255">Receiving space</p> <p data-bbox="456 674 521 835">Adhesive layer</p> <p data-bbox="792 646 824 856">Connecting unit</p> <p data-bbox="841 254 911 1465">Photograph of the wireless power receiver from the exemplary Apple AirPods Pro showing the connecting unit (highlighted yellow) overlapping the receiving space within green lines.</p> |
| [6f] wherein the connecting unit comprises: | In each Accused Product, the wireless power receiver comprises a connecting unit. <i>See supra</i> claim element [6e]. |
| [6g] a third connection terminal connected to the first connection terminal; | In each Accused Product, the connecting unit comprises a third connection terminal connected to the first connection terminal. <i>See, e.g.:</i> |

Claim 6

Accused Products



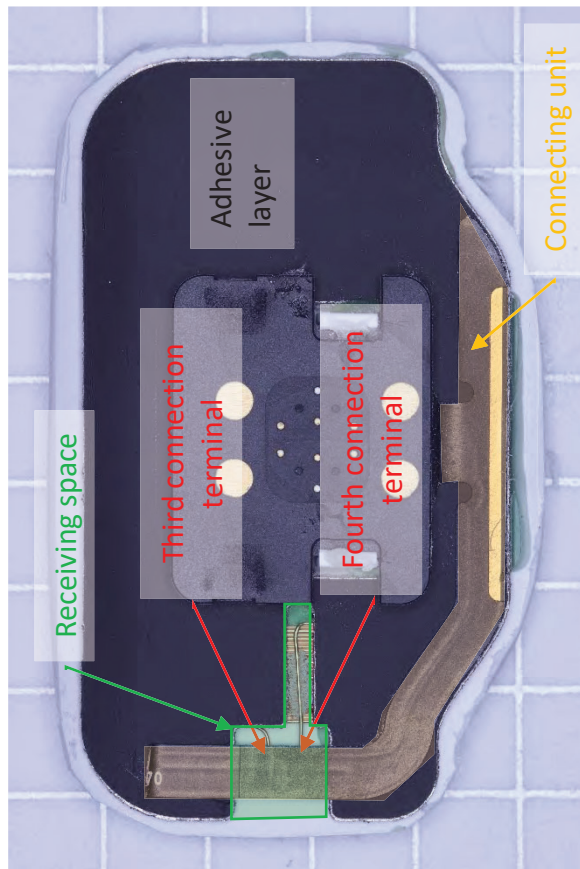
Photograph of the wireless power receiver from the exemplary Apple AirPods Pro showing a third connection terminal connected to the first connection terminal of the coil unit.

| Claim 6 | Accused Products |
|---|--|
| |  <p data-bbox="844 220 917 1470">X-ray of the wireless power receiver from the exemplary Apple AirPods Pro illustrating the third terminal connected to the first terminal of the coil unit.</p> |
| <p data-bbox="941 1533 1071 1900">[6h] a fourth connected terminal connected to the second connection terminal; and</p> | <p data-bbox="941 210 1015 1470">In each Accused Product, the connecting unit comprises a fourth connection terminal connected to the second connection terminal.</p> |

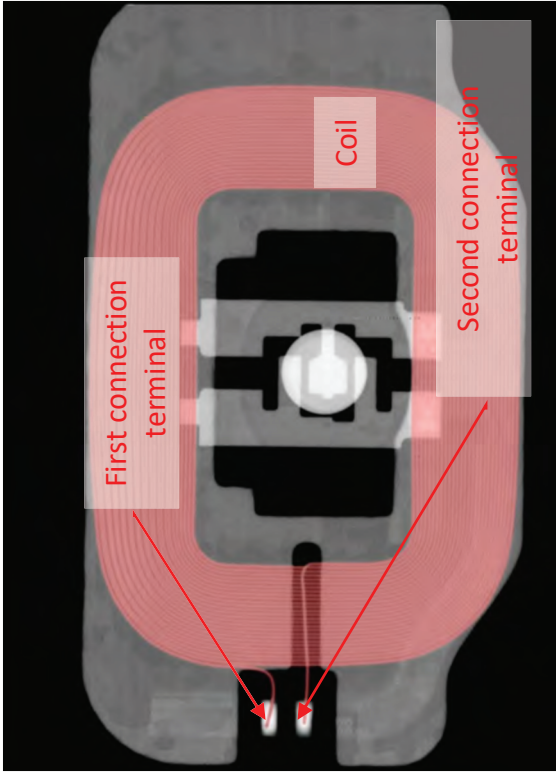
Claim 6

Accused Products

See, e.g.:

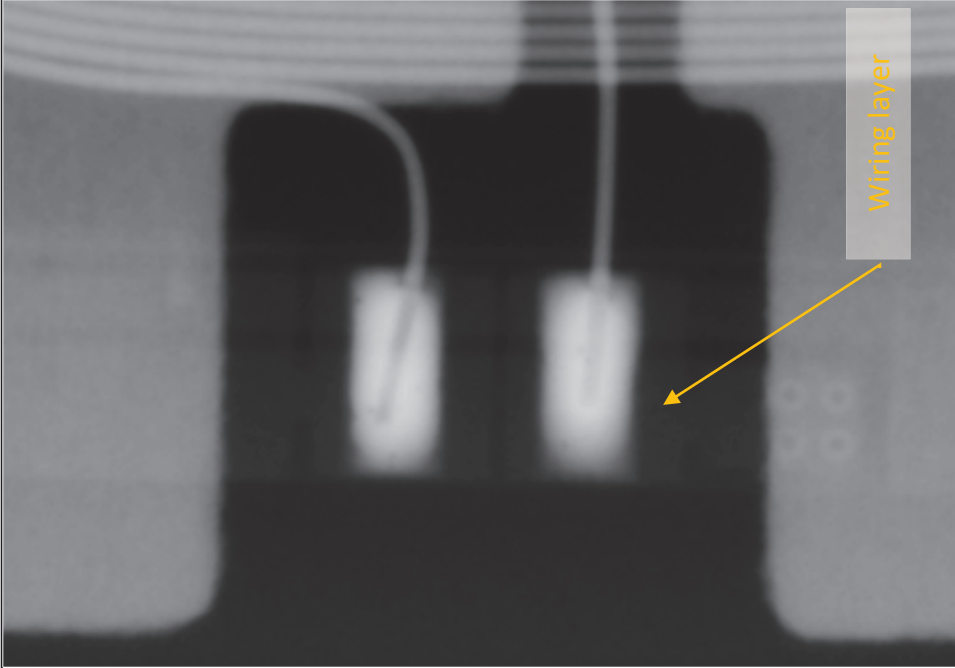


Photograph of the wireless power receiver from the exemplary Apple AirPods Pro showing a fourth connection terminal connected to the second connection terminal of the coil unit.

| Claim 6 | Accused Products |
|---|--|
| |  <p data-bbox="824 210 896 1470">X-ray of the wireless power receiver from the exemplary Apple AirPods Pro illustrating the fourth terminal connected to the second terminal of the coil unit.</p> |
| <p data-bbox="922 1522 1063 1900">[6i] a wiring layer connected to the third connection terminal and the fourth terminal.</p> | <p data-bbox="922 283 993 1470">In each Accused Product, the connecting unit comprises a wiring layer connected to the third connection terminal and the fourth terminal.</p> <p data-bbox="1015 1354 1047 1470"><i>See, e.g.:</i></p> |

Claim 6

Accused Products



X-ray of the wireless power receiver from the exemplary Apple AirPods Pro showing a wiring layer connected to the third connection terminal and the fourth terminal.

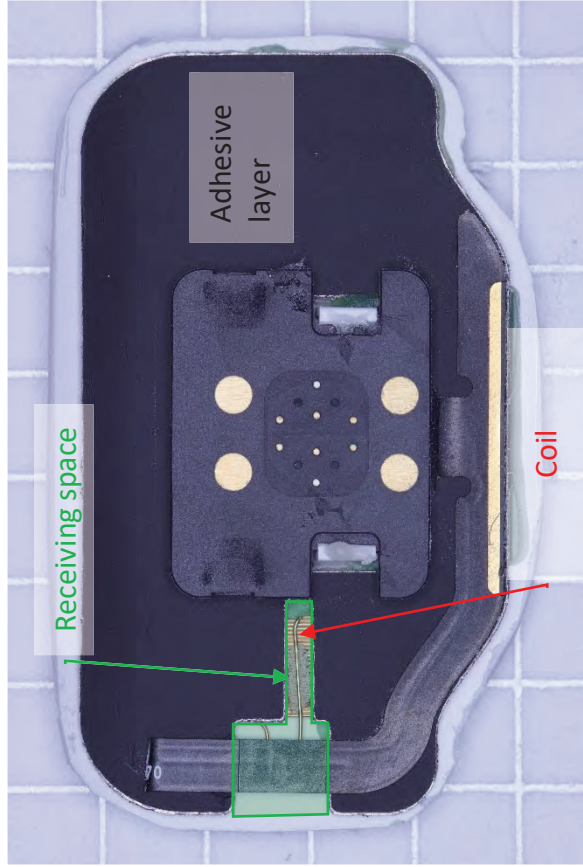
Claim 7

Claim 7
The wireless power receiver of claim 6, wherein the receiving space extends from inside the coil to outside the coil.

Accused Products

In each Accused Product, the wireless power receiver of claim 6 has the receiving space extending from inside the coil to outside the coil.

See, e.g.:



Photograph of the wireless power receiver from the exemplary Apple AirPods Pro illustrating that the receiving space extends from inside the coil to outside the coil.

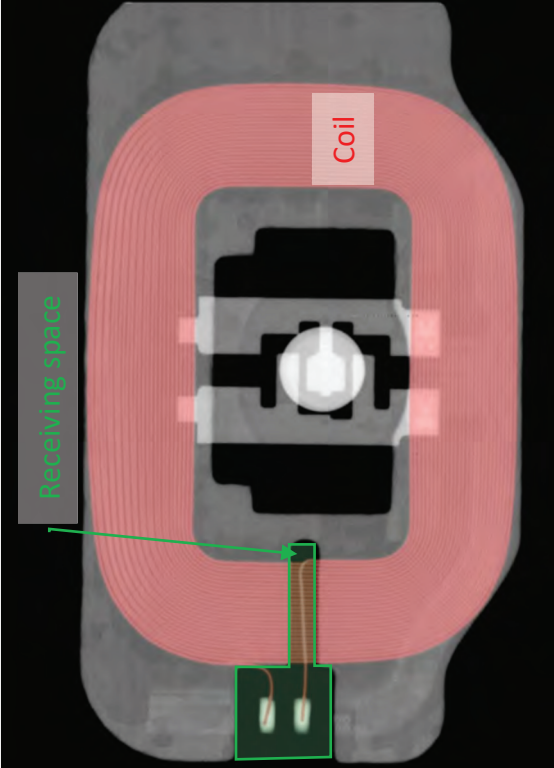
| | |
|---------|--|
| Claim 7 | Accused Products |
| |  <p data-bbox="824 239 899 1472">X-ray of the wireless power receiver from the exemplary Apple AirPods Pro illustrating that the receiving space (green) extends from inside the coil to outside the coil (red).</p> |

EXHIBIT F


U.S. Patent No. 9,843,215 (“’215 Patent”)

Accused Products

Apple products, including without limitation the Apple iPhone 8, iPhone 8 Plus, iPhone X, iPhone Xs, iPhone Xs Max, iPhone XR, iPhone 11, iPhone 11 Pro, iPhone 11 Pro Max, iPhone SE (second generation), iPhone 12, iPhone 12 Mini, iPhone 12 Pro, and iPhone 12 Pro Max (“Accused Products”), infringe at least Claim 1, 5, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 21, and 22 of the ’215 Patent.

Claim 1

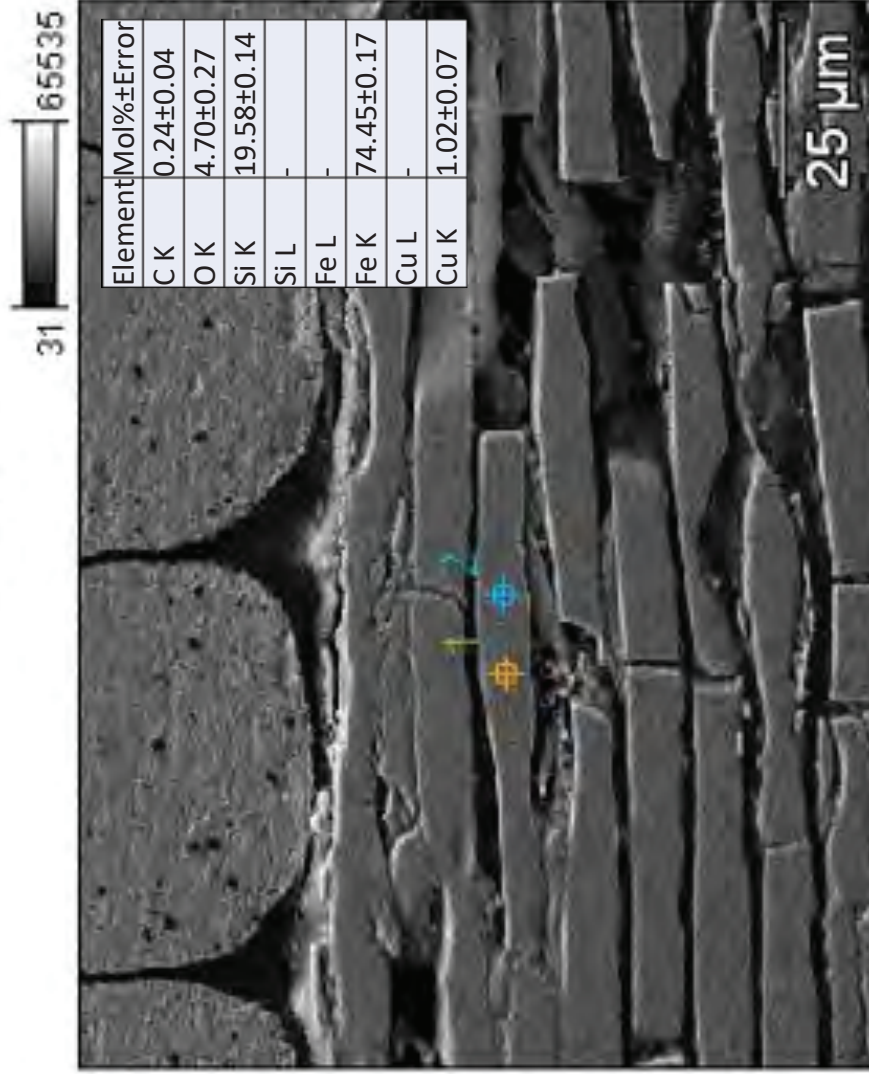
| Claim 1 | Accused Products |
|---|---|
| <p>[I]pre] A wireless charging and communication board, comprising:</p> | <p>To the extent the preamble is limiting, each Accused Product includes a wireless charging and communication board.</p> <p><i>See, e.g.:</i></p>  <p>Photograph of the wireless charging and communication board from the exemplary Apple iPhone 12.</p> |

| Claim 1 | Accused Products |
|--|--|
| <p>[1a] a plurality of soft magnetic layers comprising a first soft magnetic layer and a second soft magnetic layer;</p> | <p>Each Accused Product comprises a plurality of soft magnetic layers comprising a first soft magnetic layer and a second soft magnetic layer.</p> <p>For example, the soft magnetic layers in the Apple iPhone 12 have a high composition of iron and silicon, indicating a soft magnetic material.</p> <p>See, e.g.:</p>  <p>Optical cross section of the board from the exemplary Apple iPhone 12 illustrating the plurality of soft magnetic layers.</p> |

Claim 1


Accused Products

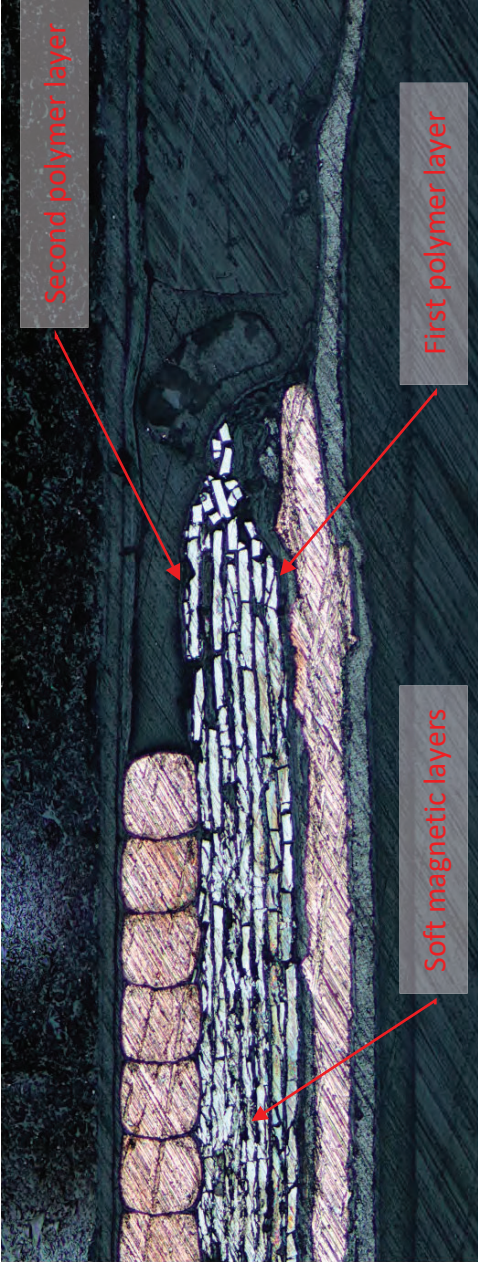
Base(9)

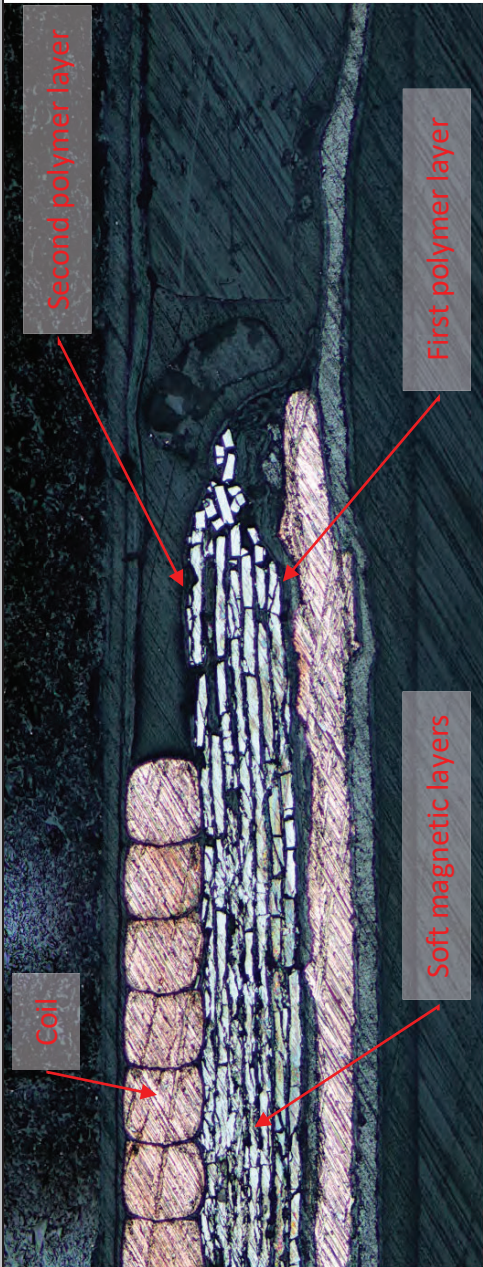


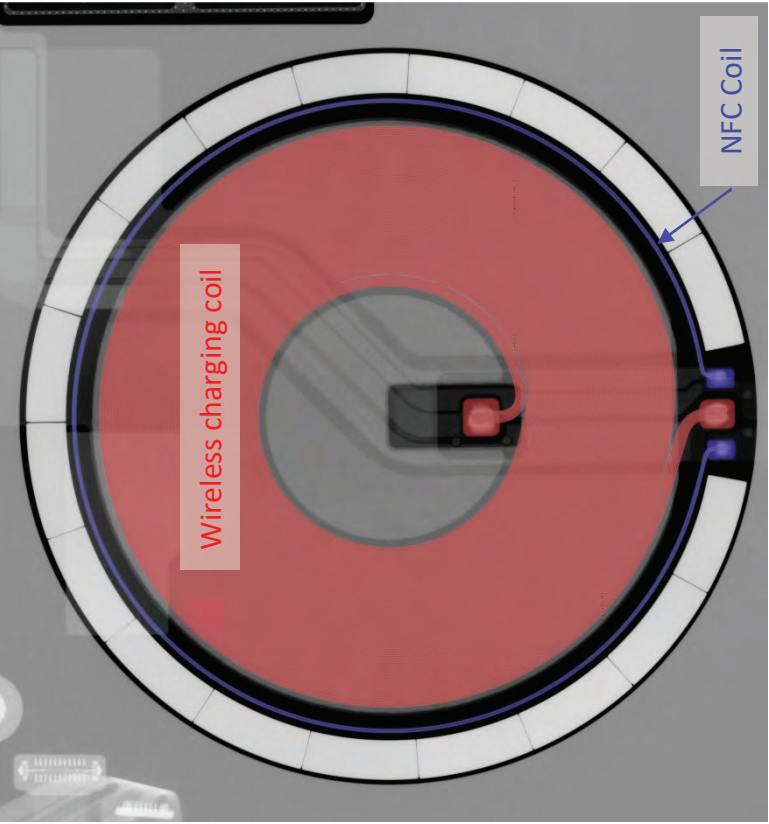
SEM image and EDS measurements of a soft magnetic layer, showing its elemental composition averaged over the orange and blue points.

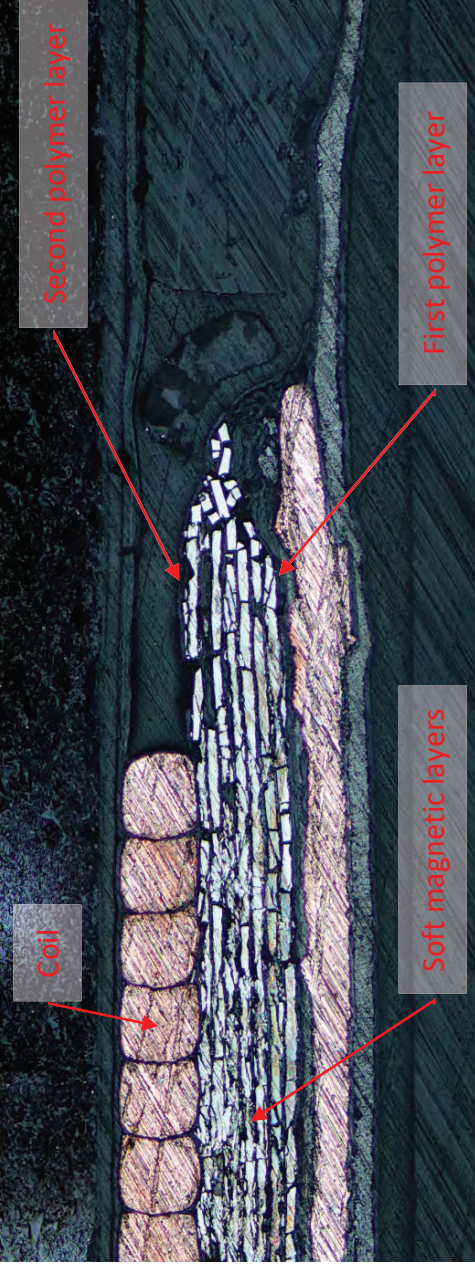
[1b] a first polymeric material layer arranged on a first plurality of soft magnetic layers.

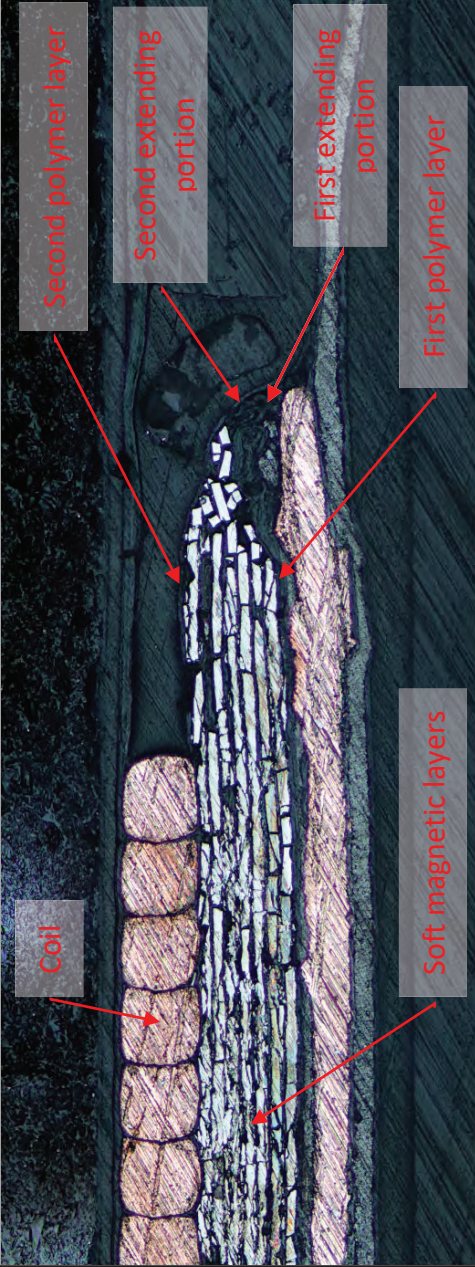
| Claim 1 | Accused Products |
|--|---|
| <p>surface of the plurality of soft magnetic layers;</p> | <p>See, e.g.:</p>  <p>Optical cross section of the board from the exemplary Apple iPhone 12 illustrating the first polymeric layer.</p> |
| <p>[1c] a second polymeric material layer arranged on a second surface of soft magnetic layers opposed to the first surface; and</p> | <p>Each Accused Product comprises a second polymeric material layer arranged on a second surface of the plurality of soft magnetic layers opposed to the first surface.</p> <p>See, e.g.:</p> |

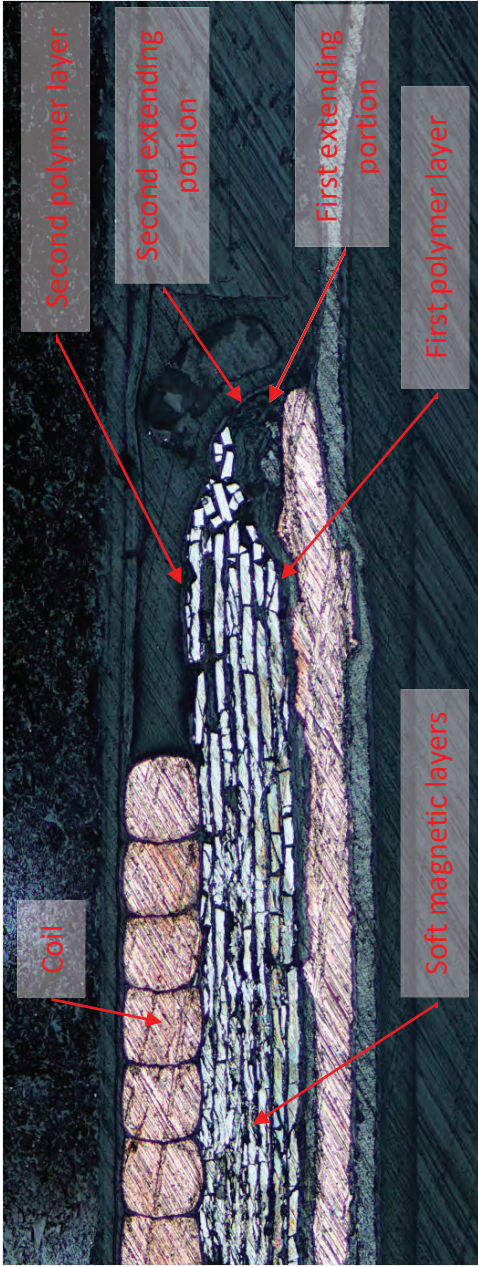
| | |
|--|---|
| Claim 1 | Accused Products |
| |  <p data-bbox="755 262 820 1470">Optical cross section of the board from the exemplary Apple iPhone 12 illustrating the second polymeric layer.</p> |
| [1d] a coil pattern arranged on the second polymeric material layer, | <p data-bbox="852 231 885 1470">Each Accused Product comprises a coil pattern arranged on the second polymeric material layer.</p> <p data-bbox="901 1344 933 1470"><i>See, e.g.:</i></p> |

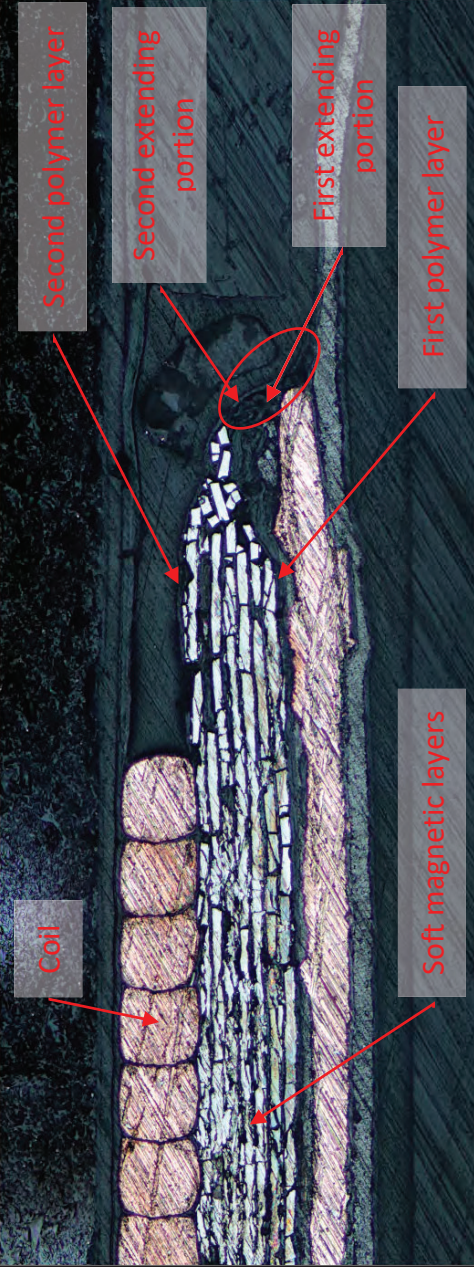
| | |
|---------|--|
| Claim 1 | <p data-bbox="207 716 240 953">Accused Products</p>  <p data-bbox="735 233 813 1465">Optical cross section of the board from the exemplary Apple iPhone 12 illustrating a coil unit on the second polymeric layer.</p> |
|---------|--|

| Claim 1 | Accused Products |
|--|--|
| <p>[1e] wherein the plurality of soft magnetic layers are positioned between the first polymeric material layer and the second polymeric material layer,</p> |  <p>X-ray of the board from the exemplary Apple iPhone 12 illustrating the coil pattern (red).</p> <p>In each Accused Product, the plurality of soft magnetic layers are positioned between the first polymeric material layer and the second polymeric material layer.</p> <p>See, e.g.:</p> |
| <p>[1e] wherein the plurality of soft magnetic layers are positioned between the first polymeric material layer and the second polymeric material layer,</p> | <p>X-ray of the board from the exemplary Apple iPhone 12 illustrating the coil pattern (red).</p> <p>In each Accused Product, the plurality of soft magnetic layers are positioned between the first polymeric material layer and the second polymeric material layer.</p> <p>See, e.g.:</p> |

| Claim 1 | Accused Products |
|--|--|
| <p>[1f] wherein the first polymeric material layer includes a first extending portion extending longer than the plurality of soft magnetic layers,</p> |  <p>Optical cross section of the board from the exemplary Apple iPhone 12 illustrating the soft magnetic layers between the first and second polymeric layers.</p> <p>In each Accused Product, the first polymeric material layer includes a first extending portion extending longer than the plurality of soft magnetic layers, <i>See, e.g.:</i></p> |

| Claim 1 | Accused Products |
|---|---|
| |  <p data-bbox="738 304 812 1470">Optical cross section of the board from the exemplary Apple iPhone 12 illustrating the first extending portion of the first polymeric layer.</p> |
| <p data-bbox="836 1522 1031 1900">[1g] wherein the second polymeric material layer includes a second extending portion extending longer than the plurality of soft magnetic layers,</p> | <p data-bbox="836 210 966 1470">In each Accused Product, the second polymeric material layer includes a second extending portion extending longer than the plurality of soft magnetic layers. See, e.g.:</p> |

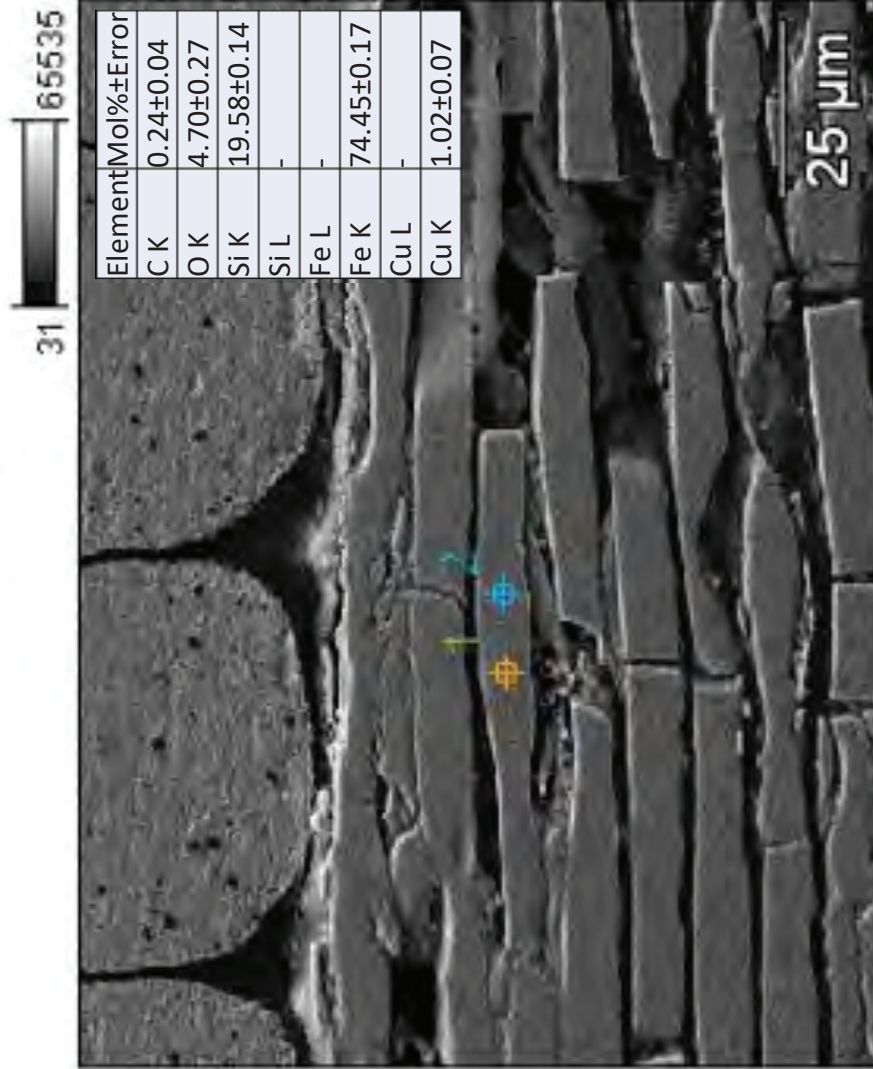
| Claim 1 | Accused Products |
|---|---|
| |  <p data-bbox="743 262 820 1470">Optical cross section of the board from the exemplary Apple iPhone 12 illustrating the second extending portion of the second polymeric layer.</p> |
| <p data-bbox="841 1522 977 1900">[1h] wherein the first extending portion and the second extending portion are connected to each other,</p> | <p data-bbox="841 315 971 1470">In each Accused Product, the first extending portion and the second extending portion are connected to each other, See, e.g.:</p> |

| Claim 1 | Accused Products |
|--|--|
| |  <p>The image is an optical cross-section of a printed circuit board (PCB) from an iPhone 12. It shows a central coil structure. To the left of the coil are several layers of material, with a label 'Coil' pointing to the central structure. To the right of the coil are more layers, with a label 'Soft magnetic layers' pointing to a specific region. Further to the right, there are two distinct regions labeled 'Second extending portion' and 'First extending portion'. On the far right, there are two layers labeled 'Second polymer layer' and 'First polymer layer'. Red arrows point from each label to its corresponding feature in the cross-section. A red circle highlights the area where the coil and the first extending portion meet.</p> |
| <p>[1] wherein at least one of the first soft magnetic layer or the second soft magnetic layer is made with one or more of an amorphous alloy, a crystalline alloy, an amorphous alloy ribbon, a nanocrystalline ribbon, or a silicon steel plate.</p> | <p>Optical cross section of the board from the exemplary Apple iPhone 12 illustrating the first extending portion connecting to the second extending portion in the circled area.</p> <p>In each Accused Product, at least one of the first soft magnetic layer or the second soft magnetic layer is made with one or more of an amorphous alloy, a crystalline alloy, an amorphous alloy ribbon, a nanocrystalline ribbon, or a silicon steel plate.</p> <p>For example, a soft magnetic layer has a composition close to 80% iron and 20% silicon, meeting a definition of an amorphous alloy.</p> <p>See, e.g.:</p> |

Claim 1

Accused Products

Base(9)



SEM image and EDS measurements of a soft magnetic layer, showing its elemental composition averaged over the orange and blue points.

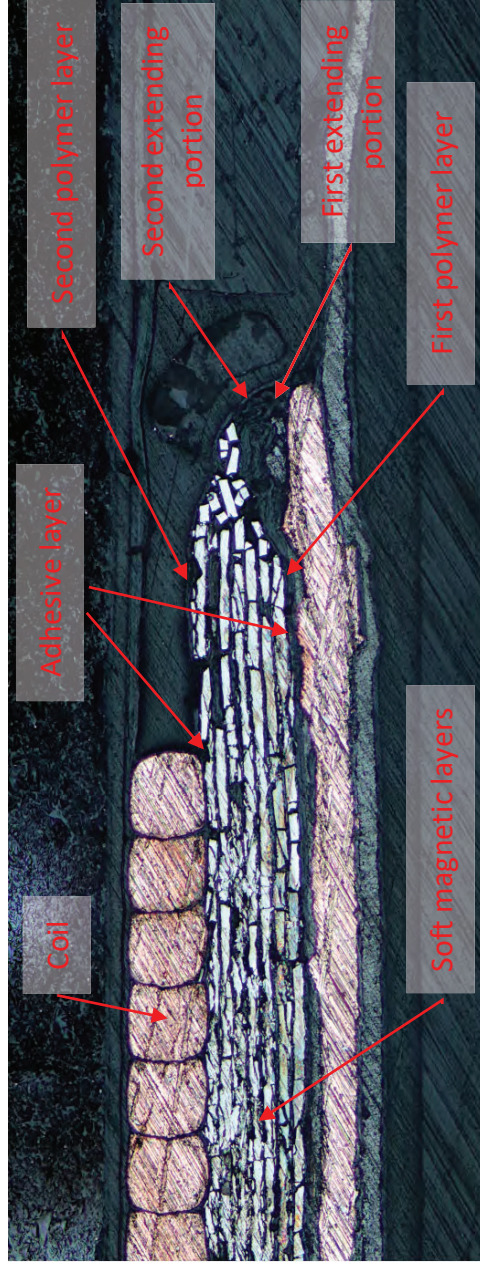
Claim 5

Claim 5
The wireless charging and communication board of claim 1, further comprising an adhesive layer that adheres the first polymeric material layer and the second polymeric material layer to the plurality of soft magnetic layers.

Accused Products

In each Accused Product, the wireless charging and communication board of claim 1 further comprises an adhesive layer that adheres the first polymeric material layer and the second polymeric material layer to the plurality of soft magnetic layers.

See, e.g.:



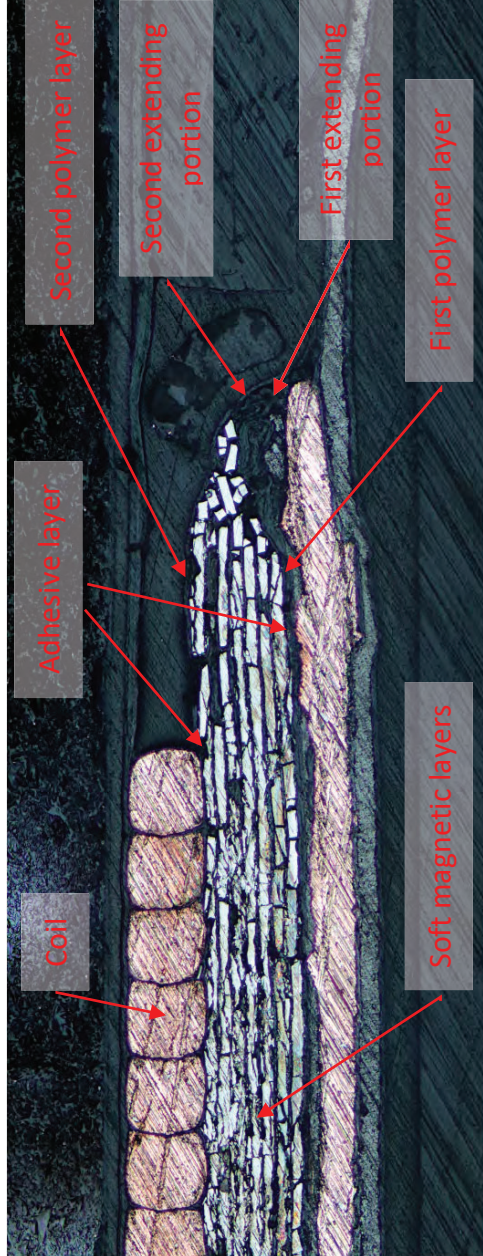
Optical cross section of the wireless charging and communication board from the exemplary Apple iPhone 12 showing the adhesive layer that adheres the first polymeric material layer and the second polymeric material layer to the plurality of soft magnetic layers.

Claim 8

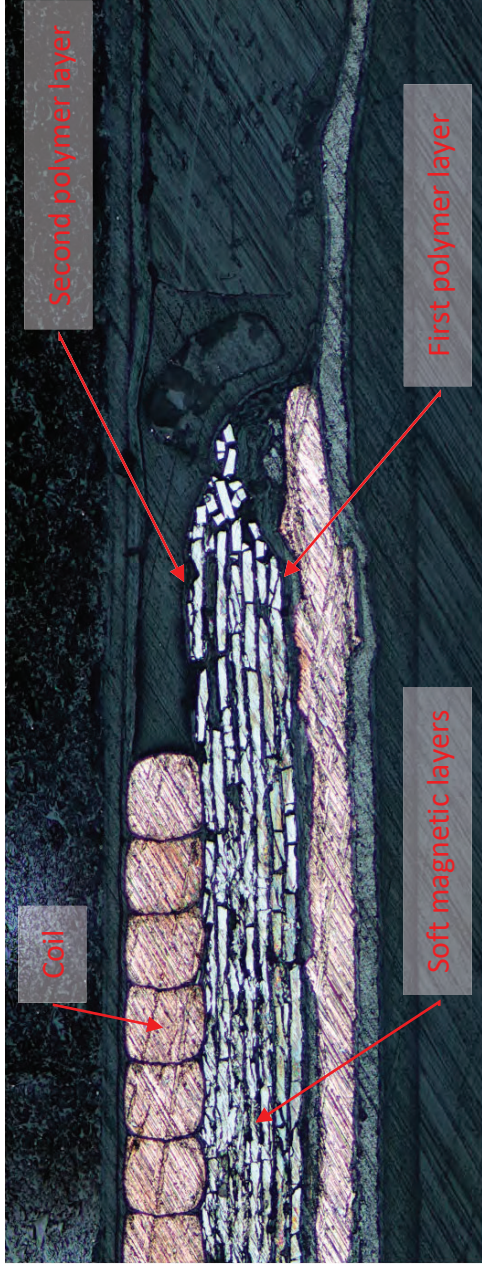
Claim 8
The wireless charging and communication board of claim 1, wherein the first polymeric material layer and the first

Accused Products

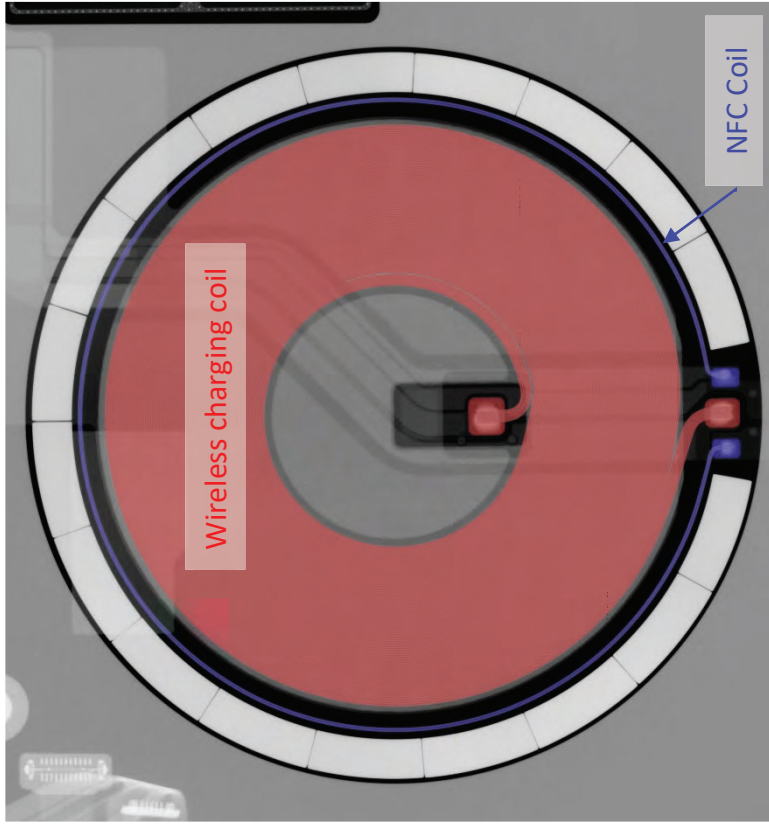
In each Accused Product, the wireless charging and communication board of claim 1 has the first polymeric material layer and the first extending portion made with a same material. For example, the first polymeric material layer and the first extending portion consist of the same continuous polymer layer and are thus made of the same material.

| | |
|--|-------------------------|
| <p>Claim 8</p> <p>extending portion are made with a same material.</p> | <p>Accused Products</p> |
| <p>See, e.g.:</p>  <p>Optical cross section of the wireless charging and communication board from the exemplary Apple iPhone 12 showing the first polymeric material layer and the first extending portion consist of the same continuous polymer layer.</p> | |

| | |
|--|-------------------------|
| <p>Claim 9</p> <p>The wireless charging and communication board of claim 1, wherein the second soft magnetic layer is arranged on the first soft magnetic layer.</p> | <p>Accused Products</p> |
| <p>In each Accused Product, the wireless charging and communication board of claim 1 has the second soft magnetic layer arranged on the first soft magnetic layer.</p> <p>See, e.g.:</p> | |

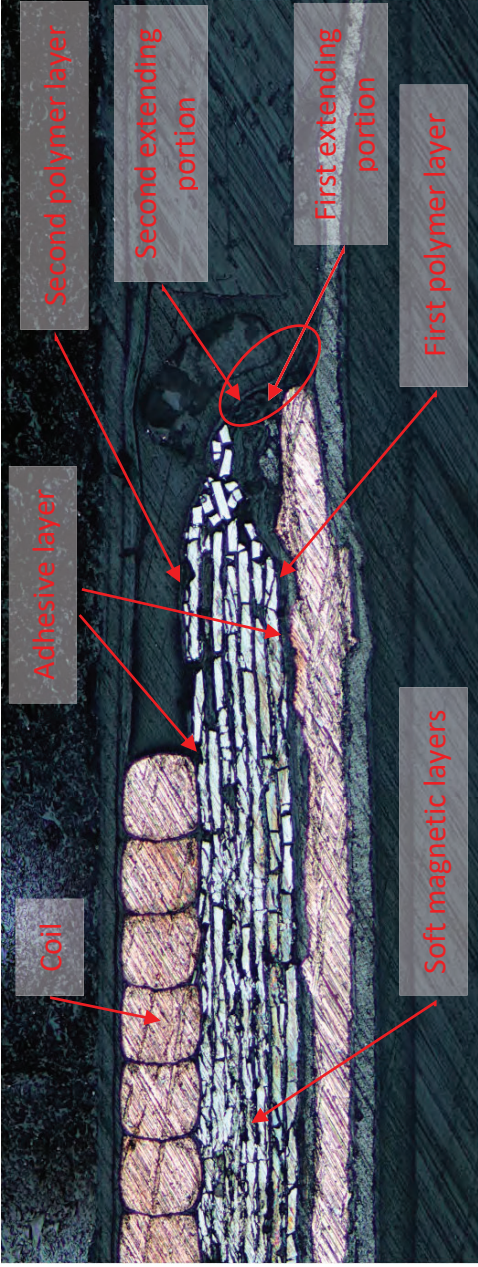
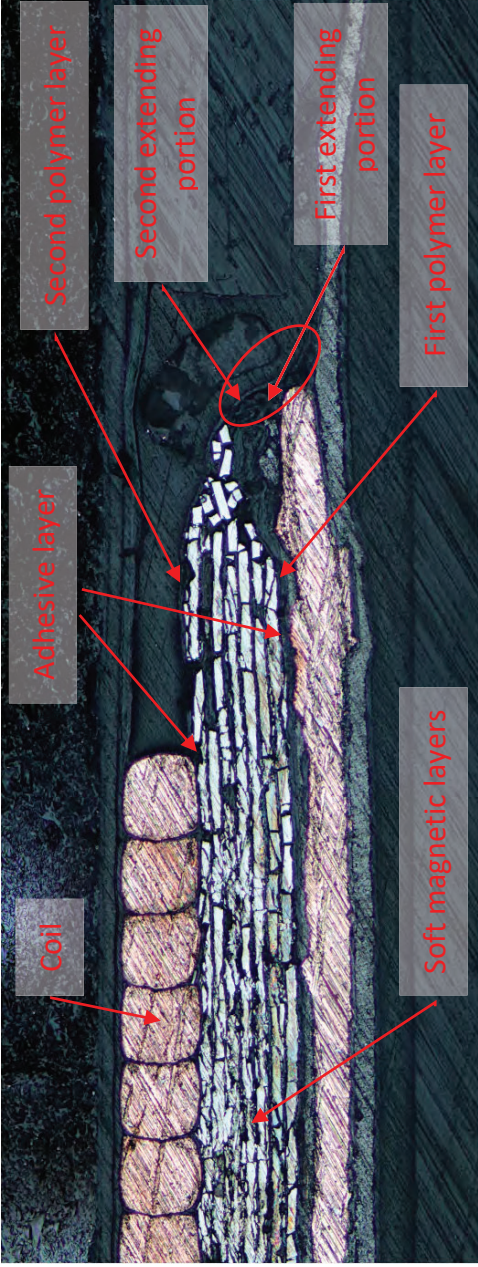
| | |
|---|------------------|
| Claim 9 | Accused Products |
|  <p data-bbox="755 262 868 1470">Optical cross section of the wireless charging and communication board from the exemplary Apple iPhone 12 showing the second soft magnetic layer is arranged on the first soft magnetic layer.</p> | |

| | |
|--|--|
| Claim 10 | Accused Products |
| <p data-bbox="1023 1501 1380 1890">The wireless charging and communication board of claim 1, wherein the coil pattern includes a first coil pattern and a second coil pattern which arranged to surround a side of the first coil pattern, wherein the first coil pattern includes a wireless charging antenna, and the second coil pattern includes a near field communication antenna.</p> | <p data-bbox="1023 231 1201 1470">In each iPhone 12 Accused Product, the wireless charging and communication board of claim 1 has a coil pattern that includes a first coil pattern and a second coil pattern which arranged to surround a side of the first coil pattern, wherein the first coil pattern includes a wireless charging antenna, and the second coil pattern includes a near field communication antenna. <i>See, e.g.:</i></p> |

| | |
|---|---|
| <p>Claim 10</p> | <p>Accused Products</p> |
| <p>pattern includes a near field communication antenna.</p> |  <p>X-ray of the wireless charging and communication board from the exemplary Apple iPhone 12 showing the first coil pattern for wireless charging in red and the second coil pattern, which is a near field communication (NFC) antenna, in blue. The second coil pattern surrounds a side of the first coil pattern.</p> |

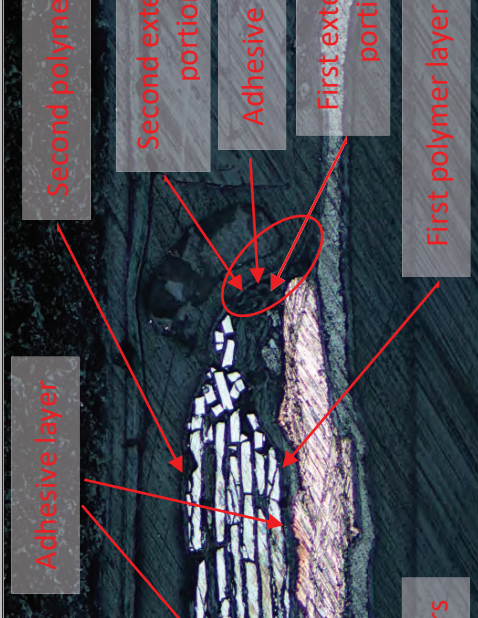
X-ray of the wireless charging and communication board from the exemplary Apple iPhone 12 showing the first coil pattern for wireless charging in red and the second coil pattern, which is a near field communication (NFC) antenna, in blue. The second coil pattern surrounds a side of the first coil pattern.

Claim 11

| | |
|--|--|
| <p>Claim 11</p> <p>The wireless charging and communication board of claim 1, wherein the first extending portion and the second extending portion contact each other.</p> | <p>Accused Products</p> |
| <p>In each Accused Product, the wireless charging and communication board of claim 1 has the first extending portion and the second extending portion contacting each other.</p> <p>See, e.g.:</p>  <p>Optical cross section of the wireless charging and communication board from the exemplary Apple iPhone 12 showing the first extending portion and the second extending portion contacting each other in the circled area.</p> | <p>See, e.g.:</p>  |

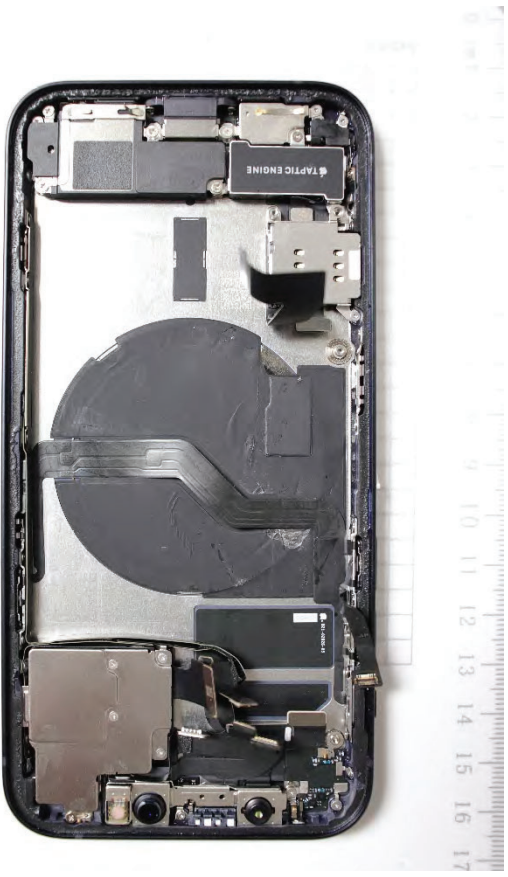
Claim 12


| | |
|--|--|
| <p>Claim 12</p> <p>The wireless charging and communication board of claim 1, further comprising an adhesive layer positioned between the first extending</p> | <p>Accused Products</p> |
| <p>and second extending portions.</p> <p>See, e.g.:</p> | <p>In each Accused Product, the wireless charging and communication board of claim 1 further comprises an adhesive layer positioned between the first extending portion and the second extending portion, wherein the first extending portion adheres to the second extending portion.</p> <p>See, e.g.:</p> |

| | |
|---|--|
| <p>Claim 12</p> <p>portion and the second extending portion, wherein the first extending portion adheres to the second extending portion.</p> | <p style="text-align: center;">Accused Products</p>  <p>Optical cross section of the wireless charging and communication board from the exemplary Apple iPhone 12 showing an adhesive layer positioned between the first extending portion and the second extending portion that adheres the first extending portion to the second extending portion.</p> |
|---|--|

| | |
|---|---|
| <p>Claim 13</p> <p>[13pre] A portable terminal, comprising:</p> | <p style="text-align: center;">Accused Products</p> <p>To the extent the preamble is limiting, each Accused Product includes a portable terminal. <i>See, e.g.:</i></p> |
|---|---|

| | |
|------------------|--|
| Claim 13 | Accused Products |
| |  <p data-bbox="852 514 885 1470">Photograph of the portable terminal from the exemplary Apple iPhone 12.</p> |
| [13a] a housing; | <p data-bbox="917 892 950 1470">Each Accused Product comprises a housing.</p> <p data-bbox="974 1344 1006 1470"><i>See, e.g.:</i></p> |

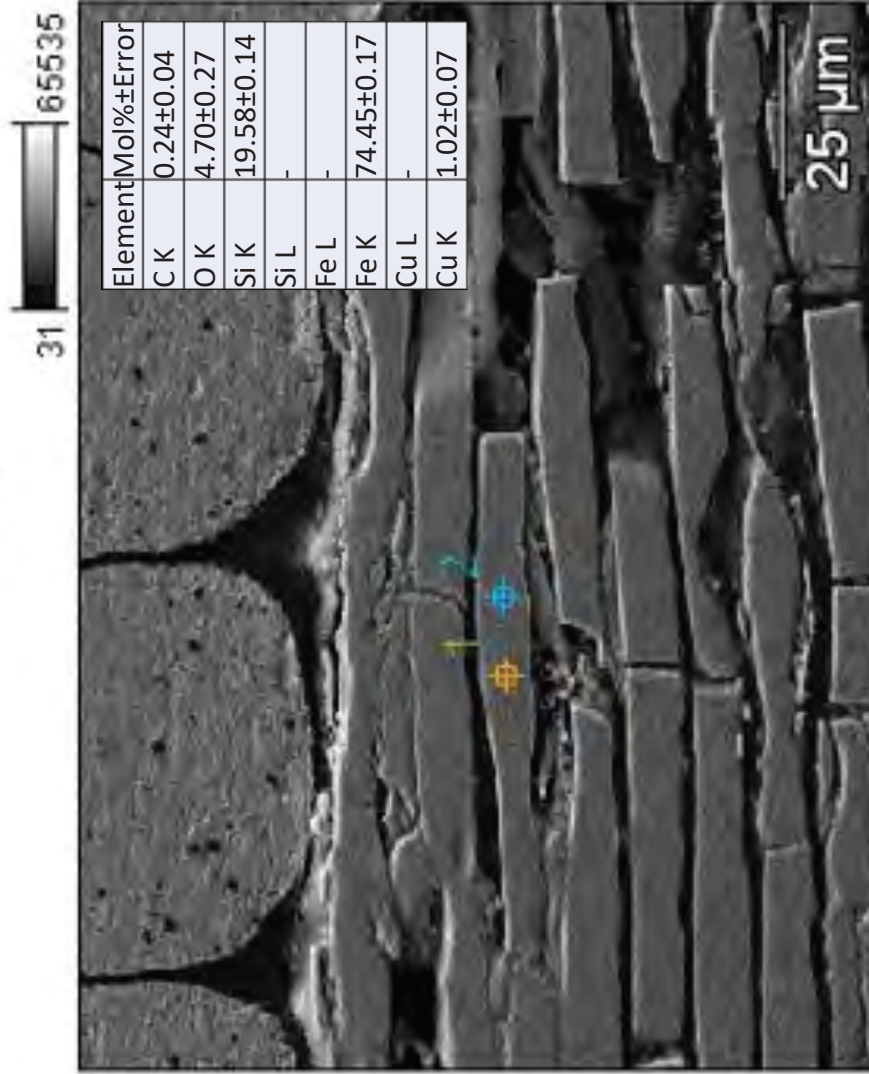
| Claim 13 | Accused Products |
|---|--|
| <p>[13b] a plurality of soft magnetic layers comprising a first soft magnetic layer and a second soft magnetic layer;</p> |  <p>Photograph of the housing from the exemplary Apple iPhone 12.</p> |
| <p>[13b] a plurality of soft magnetic layers comprising a first soft magnetic layer and a second soft magnetic layer;</p> | <p>Each Accused Product comprises a plurality of soft magnetic layers comprising a first soft magnetic layer and a second soft magnetic layer.</p> <p>For example, the soft magnetic layers in the Apple iPhone 12 have a high composition of iron and silicon, indicating a soft magnetic material.</p> |

| | |
|----------|---|
| Claim 13 | Accused Products |
| | <p data-bbox="261 1350 293 1465"><i>See, e.g.:</i></p>  <p data-bbox="797 205 867 1465">Optical cross section of the board from the exemplary Apple iPhone 12 illustrating the plurality of soft magnetic layers.</p> |

Claim 13

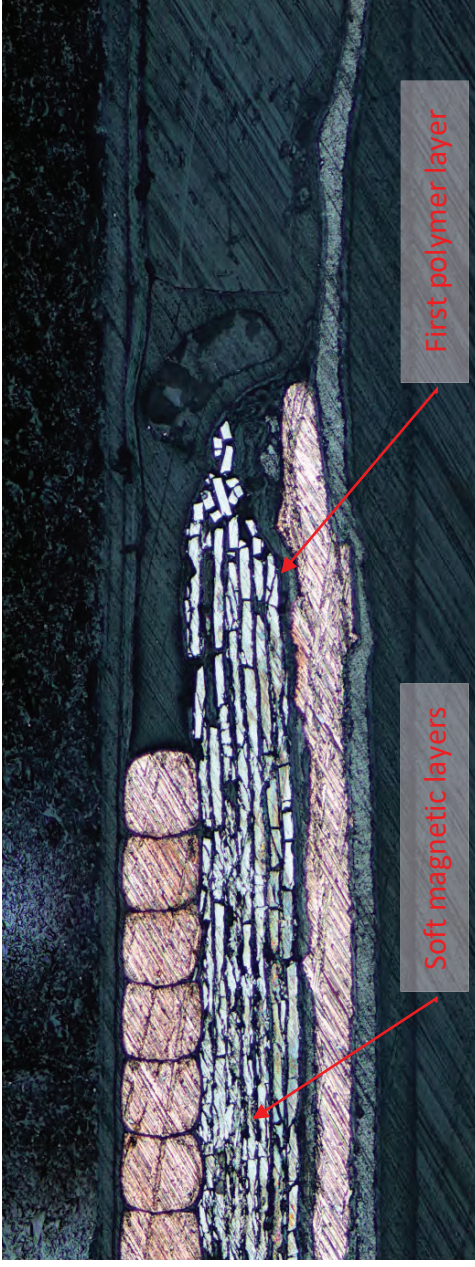
Accused Products

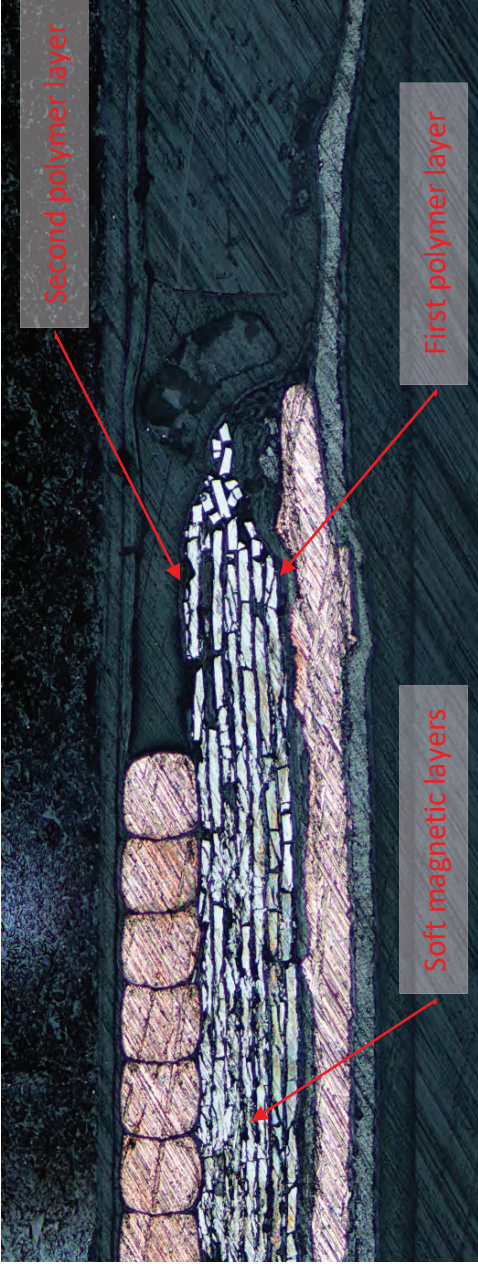
Base(9)

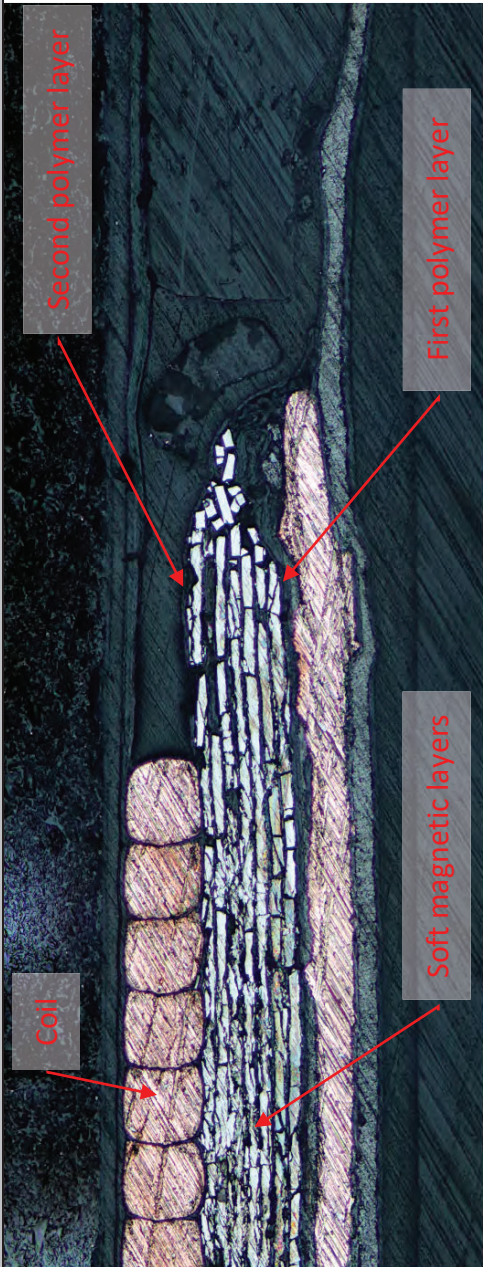


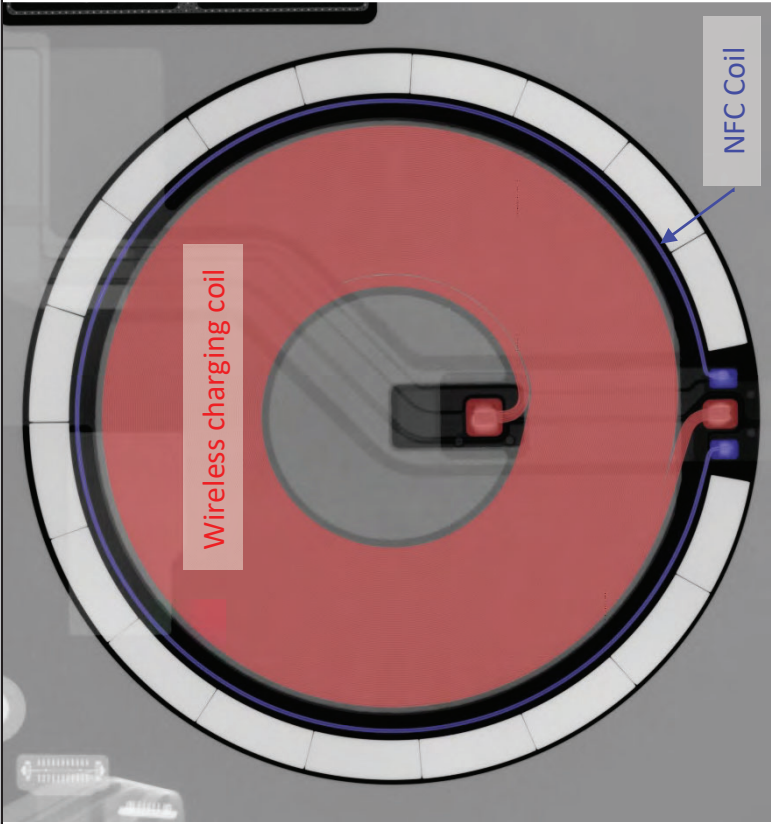
SEM image and EDS measurements of a soft magnetic layer, showing its elemental composition averaged over the orange and blue points.

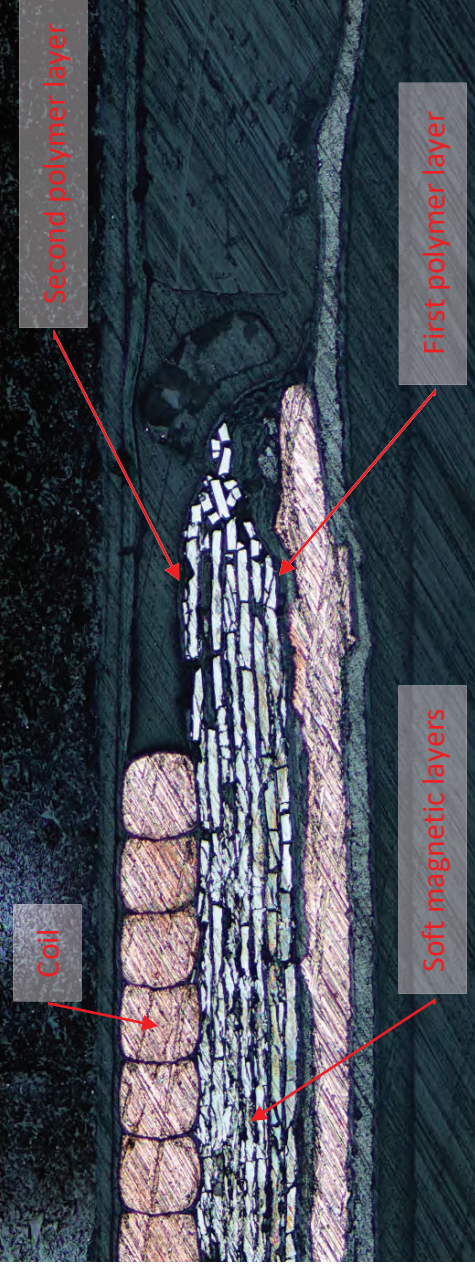
[13c] a first polymeric material layer arranged on a first plurality of soft magnetic layers.

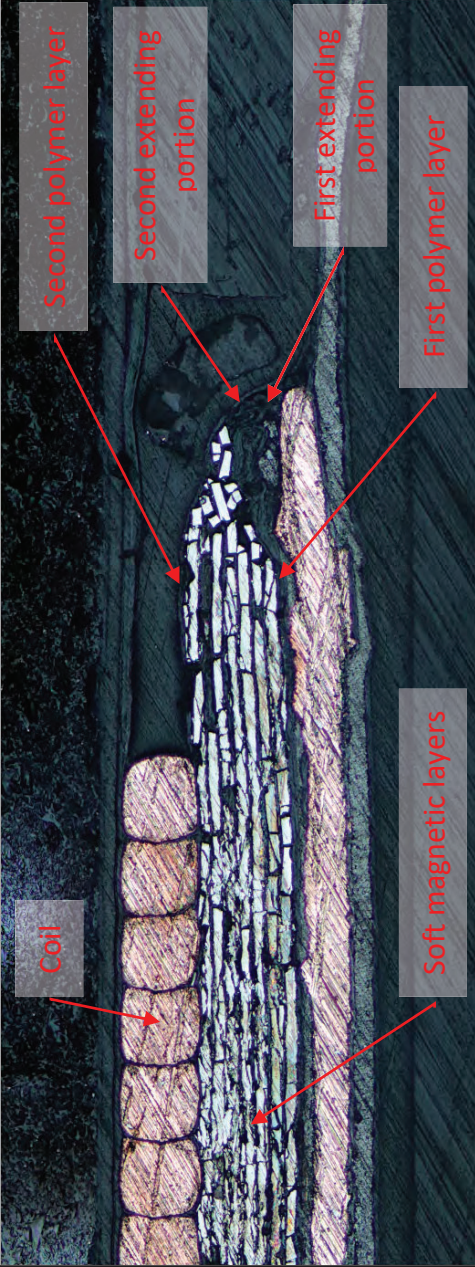
| Claim 13 | Accused Products |
|--|---|
| <p>surface of the plurality of soft magnetic layers;</p> | <p>See, e.g.:</p>  <p>Optical cross section of the board from the exemplary Apple iPhone 12 illustrating the first polymeric layer.</p> |
| <p>[13d] a second polymeric material layer arranged on a second surface of the plurality of soft magnetic layers opposed to the first surface; and</p> | <p>Each Accused Product comprises a second polymeric material layer arranged on a second surface of the plurality of soft magnetic layers opposed to the first surface.</p> <p>See, e.g.:</p> |

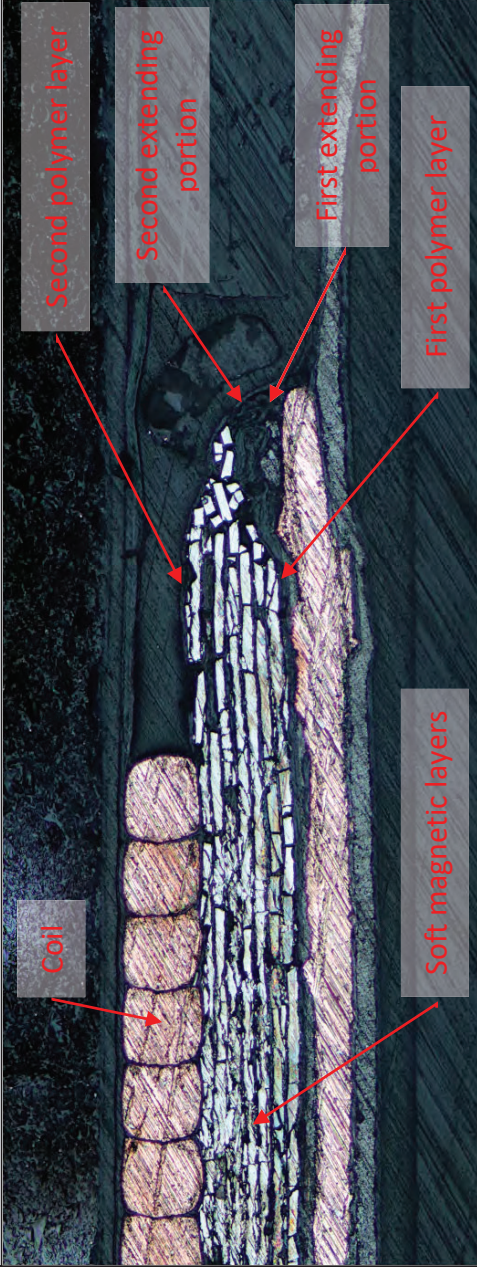
| | |
|---|---|
| Claim 13 | Accused Products |
| |  <p data-bbox="755 262 828 1470">Optical cross section of the board from the exemplary Apple iPhone 12 illustrating the second polymeric layer.</p> |
| [13e] a coil pattern arranged on the second polymeric material layer, | <p data-bbox="852 231 885 1470">Each Accused Product comprises a coil pattern arranged on the second polymeric material layer.</p> <p data-bbox="901 1344 941 1470"><i>See, e.g.:</i></p> |


| | |
|----------|--|
| Claim 13 | <p data-bbox="207 716 240 953">Accused Products</p>  <p data-bbox="737 233 812 1465">Optical cross section of the board from the exemplary Apple iPhone 12 illustrating a coil unit on the second polymeric layer.</p> |
|----------|--|

| | |
|---|--|
| <p>Claim 13</p> | <p>Accused Products</p> |
|  <p>The image is a cross-sectional X-ray of an iPhone 12 battery. It shows a large red circular area representing the battery. In the center, there is a grey circular component labeled 'Wireless charging coil'. On the right side of the battery, there is a blue circular component labeled 'NFC Coil'. The battery is surrounded by a grey ring, which is part of the device's housing.</p> | <p>X-ray of the board from the exemplary Apple iPhone 12 illustrating the coil pattern (red).</p> <p>In each Accused Product, the plurality of soft magnetic layers are positioned between the first polymeric material layer and the second polymeric material layer.</p> <p>See, e.g.:</p> |
| <p>[13f] wherein the plurality of soft magnetic layers are positioned between the first polymeric material layer and the second polymeric material layer,</p> | |

| | |
|---|--|
| <p>Claim 13</p> | <p>Accused Products</p> |
|  <p>Coil</p> <p>Soft magnetic layers</p> <p>First polymer layer</p> <p>Second polymer layer</p> | <p>Optical cross section of the board from the exemplary Apple iPhone 12 illustrating the soft magnetic layers between the first and second soft magnetic layers.</p> |
| <p>[13g] wherein the first polymeric material layer includes a first extending portion extending longer than the plurality of soft magnetic layers,</p> | <p>In each Accused Product, the first polymeric material layer includes a first extending portion extending longer than the plurality of soft magnetic layers, <i>See, e.g.:</i></p> |

| | |
|---|--|
| <p>Claim 13</p> | <p>Accused Products</p> |
| |  <p>Coil</p> <p>Soft magnetic layers</p> <p>Second polymer layer</p> <p>Second extending portion</p> <p>First extending portion</p> <p>First polymer layer</p> <p>Optical cross section of the board from the exemplary Apple iPhone 12 illustrating the first extending portion of the first polymeric layer.</p> |
| <p>[13h] wherein the second polymeric material layer includes a second extending portion extending longer than the plurality of soft magnetic layers,</p> | <p>In each Accused Product, the second polymeric material layer includes a second extending portion extending longer than the plurality of soft magnetic layers.</p> <p>See, e.g.:</p> |

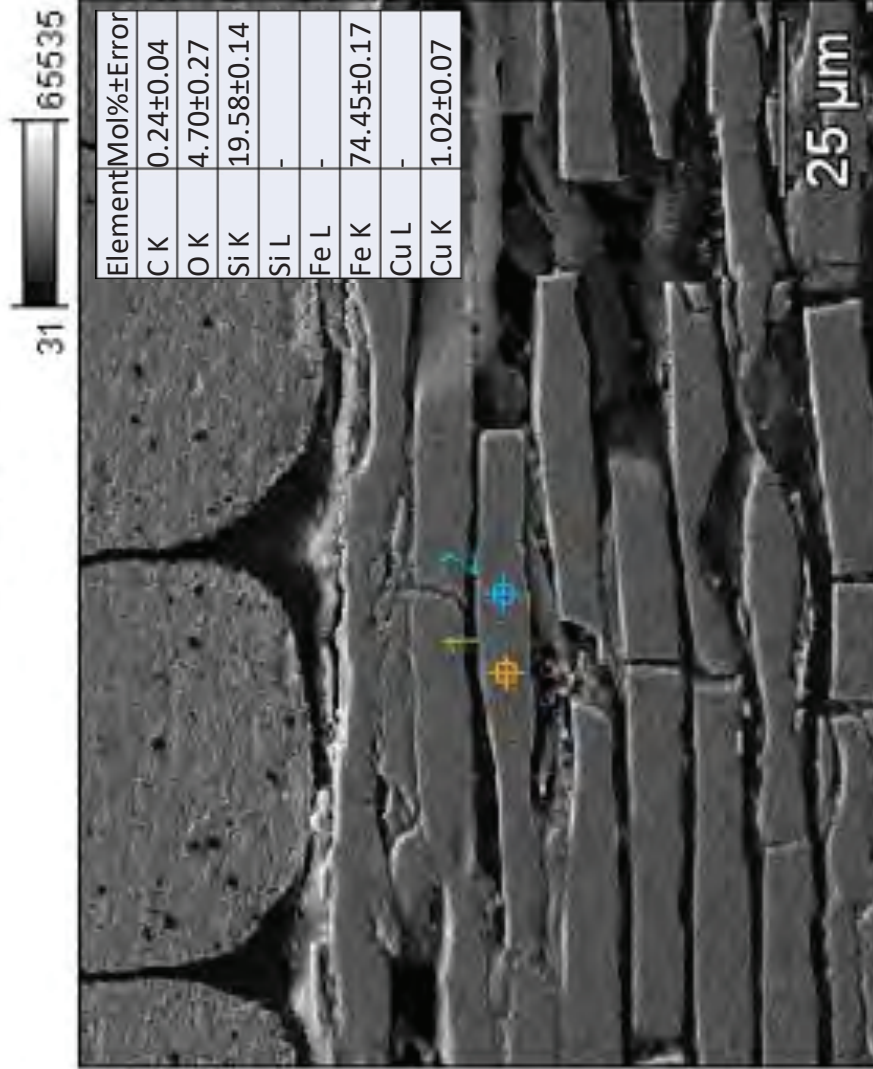
| | |
|--|---|
| Claim 13 | Accused Products |
|  <p>The image shows a cross-section of a board with several layers. From left to right: a dark outer layer, a coil of copper wire, a layer of soft magnetic layers, a first extending portion of a polymer layer, and a second extending portion of a polymer layer. Red arrows point from labels to these features.</p> | <p>Optical cross section of the board from the exemplary Apple iPhone 12 illustrating the second extending portion of the second polymeric layer.</p> |
| <p>[13i] wherein the first extending portion and the second extending portion are connected to each other,</p> | <p>In each Accused Product, the first extending portion and the second extending portion are connected to each other, See, e.g.:</p> |

| Claim 13 | Accused Products |
|--|--|
| |  <p>Optical cross section of the board from the exemplary Apple iPhone 12 illustrating the first extending portion connecting to the second extending portion (circled).</p> |
| <p>[13]] wherein at least one of the first soft magnetic layer or the second soft magnetic layer is made with one or more of an amorphous alloy, a crystalline alloy, an amorphous alloy ribbon, a nanocrystalline ribbon, or a silicon steel plate.</p> | <p>In each Accused Product, at least one of the first soft magnetic layer or the second soft magnetic layer is made with one or more of an amorphous alloy, a crystalline alloy, an amorphous alloy ribbon, a nanocrystalline ribbon, or a silicon steel plate.</p> <p>For example, a soft magnetic layer has a composition close to 80% iron and 20% silicon, meeting a definition of an amorphous alloy.</p> <p>See, e.g.:</p> |

Claim 13

Accused Products

Base(9)



SEM image and EDS measurements of a soft magnetic layer, showing its elemental composition averaged over the orange and blue points.

Claim 17

Claim 17

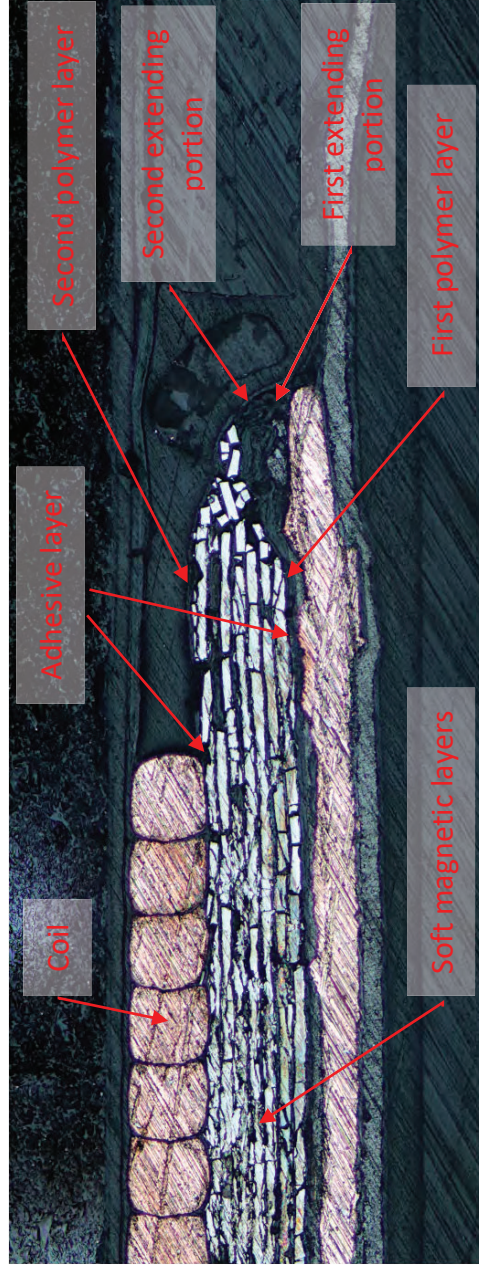
The portable terminal of claim 13, wherein the first polymeric material layer and the first extending portion are made of a same material.

Accused Products

In each Accused Product, portable terminal of claim 13 has the first polymeric material layer and the first extending portion made with a same material.

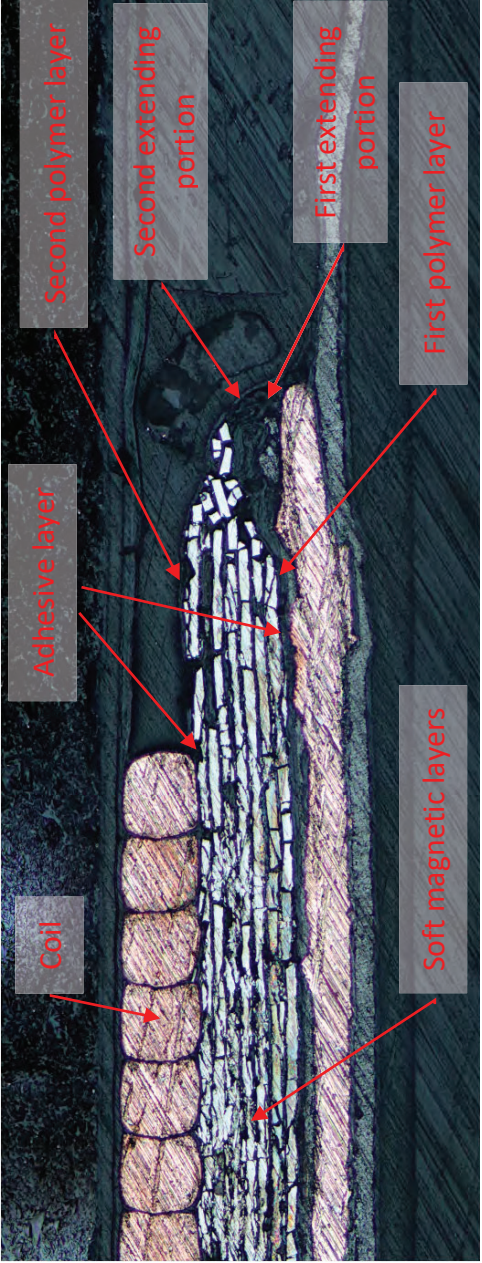
For example, the first polymeric material layer and the first extending portion consist of the same continuous polymer layer and are thus made of the same material.

See, e.g.:



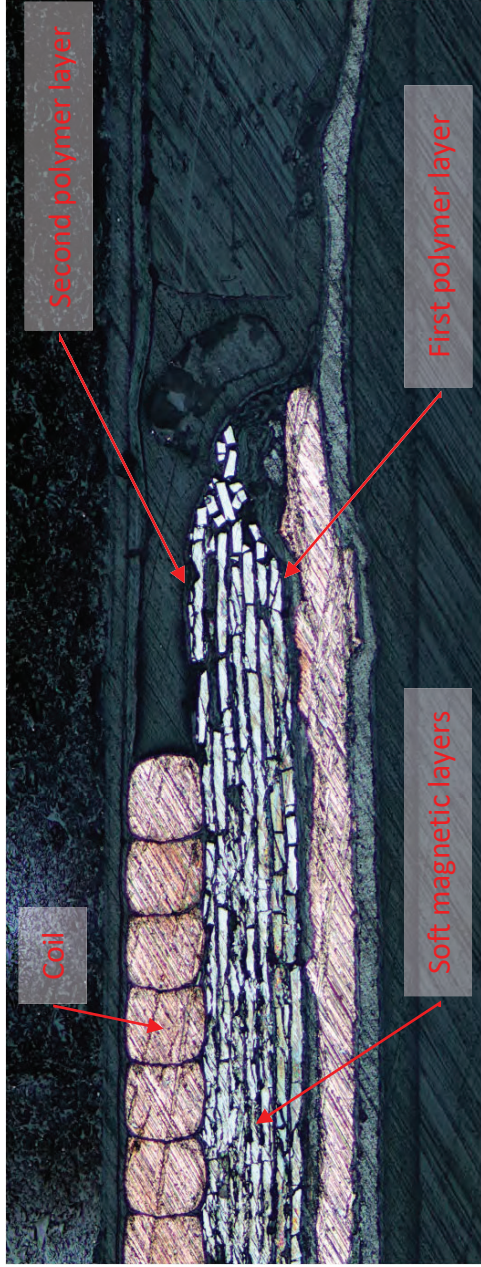
Optical cross section of the wireless charging and communication board from the exemplary Apple iPhone 12 showing the first polymeric material layer and the first extending portion consist of the same continuous polymer layer.

Claim 18

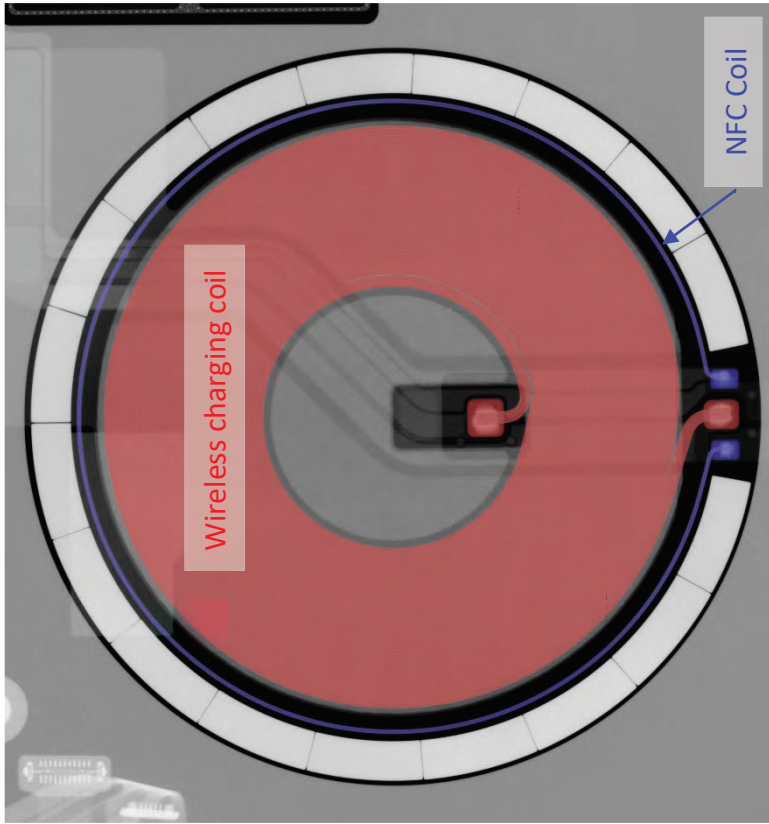
| | |
|---|--|
| <p>Claim 18</p> <p>The portable terminal of claim 13, further comprising an adhesive layer to adhere the first polymeric material layer and the second polymeric material layer to the plurality of soft magnetic layers.</p> | <p>Accused Products</p> <p>In each Accused Product, the portable terminal of claim 13 further comprises an adhesive layer that adheres the first polymeric material layer and the second polymeric material layer to the plurality of soft magnetic layers.</p> <p>See, e.g.:</p>  <p>Optical cross section of the wireless charging and communication board from the exemplary Apple iPhone 12 showing the adhesive layer that adheres the first polymeric material layer and the second polymeric material layer to the plurality of soft magnetic layers.</p> |
|---|--|

Claim 19

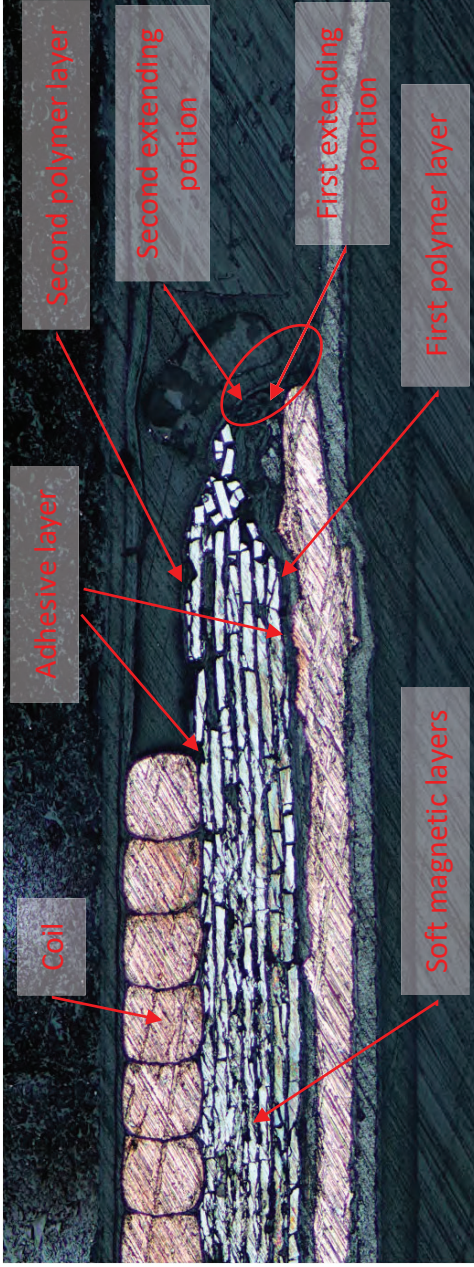
| | |
|--|---|
| <p>Claim 19</p> <p>The portable terminal of claim 13, wherein the second soft magnetic layer is provided on the first soft magnetic layer.</p> | <p>Accused Products</p> <p>In each Accused Product, the portable terminal of claim 13 has the second soft magnetic layer arranged on the first soft magnetic layer.</p> |
|--|---|

| | |
|--|--|
| Claim 19 | Accused Products |
| <p>See, e.g.:</p>  <p>Optical cross section of the wireless charging and communication board from the exemplary Apple iPhone 12 showing the second soft magnetic layer is arranged on the first soft magnetic layer.</p> | <p>Coil</p> <p>Soft magnetic layers</p> <p>Second polymer layer</p> <p>First polymer layer</p> |

| | |
|---|--|
| Claim 20 | Accused Products |
| <p>The portable terminal of claim 13, wherein the coil pattern includes a first coil pattern and a second coil pattern which arranged to surround a side of the first coil pattern, wherein the first coil pattern includes a wireless charging antenna, and the second coil pattern includes a near field communication antenna.</p> <p>See, e.g.:</p> | <p>In each iPhone 12 Accused Product, the portable terminal of claim 13 has a coil pattern that includes a first coil pattern and a second coil pattern which arranged to surround a side of the first coil pattern, wherein the first coil pattern includes a wireless charging antenna, and the second coil pattern includes a near field communication antenna.</p> |

| | |
|---|--|
| <p>Claim 20</p> | <p>Accused Products</p> |
| <p>pattern includes a near field communication antenna.</p> |  <p>The diagram is a top-down X-ray view of an iPhone 12. It shows two concentric circular coils. The inner coil is highlighted in red and labeled 'Wireless charging coil'. The outer coil is highlighted in blue and labeled 'NFC Coil'. A small black component, likely the communication board, is visible in the center of the device. The background is a light gray, and the coils are set against a darker gray circular area representing the device's internal structure.</p> <p>X-ray of the wireless charging and communication board from the exemplary Apple iPhone 12 showing the first coil pattern for wireless charging in red and the second coil pattern, which is a near field communication (NFC) antenna, in blue. The second coil pattern surrounds a side of the first coil pattern.</p> |

Claim 21

| | |
|--|---|
| <p>Claim 21</p> <p>The portable terminal of claim 13, wherein the first extending portion and the second extending portion contact each other.</p> | <p>Accused Products</p> <p>In each Accused Product, the portable terminal of claim 13 has the first extending portion and the second extending portion contacting each other.</p> <p>See, e.g.:</p>  <p>Optical cross section of the wireless charging and communication board from the exemplary Apple iPhone 12 showing the first extending portion and the second extending portion contacting each other in the circled area.</p> |
|--|---|

Claim 22

| | |
|--|---|
| <p>Claim 22</p> <p>The portable terminal of claim 13, further comprising an adhesive layer positioned between the first extending portion and the second extending portion, wherein the first extending portion adheres to the second extending portion.</p> | <p>Accused Products</p> <p>In each Accused Product, the portable terminal of claim 13 further comprises an adhesive layer positioned between the first extending portion and the second extending portion, wherein the first extending portion adheres to the second extending portion.</p> <p>See, e.g.:</p> |
|--|---|

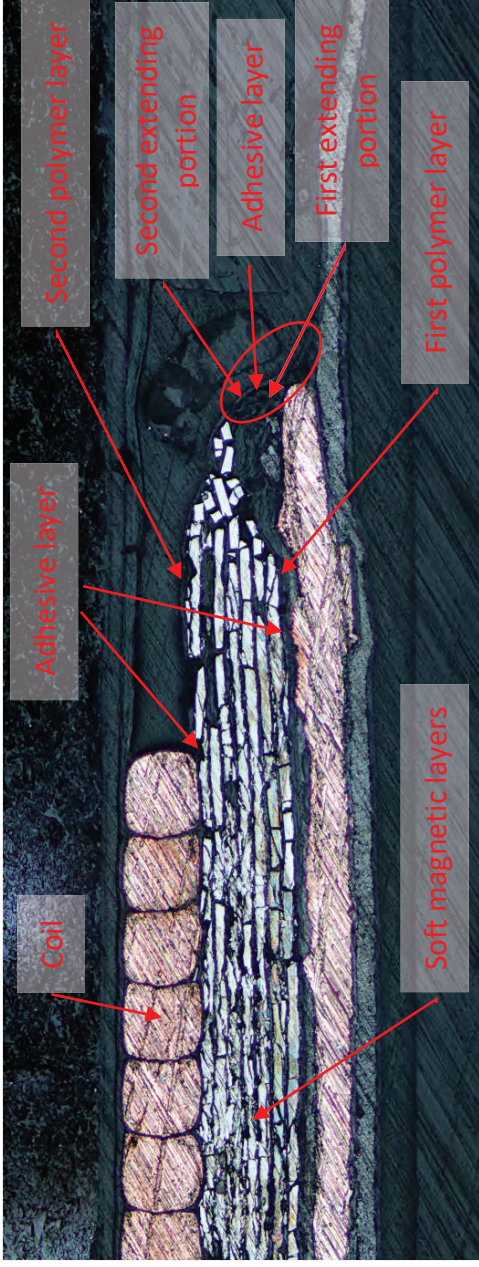
| | |
|---|-------------------------|
| <p>Claim 22</p> <p>wherein the first extending portion adheres to the second extending portion.</p> | <p>Accused Products</p> |
|  <p>Optical cross section of the wireless charging and communication board from the exemplary Apple iPhone 12 showing an adhesive layer positioned between the first extending portion and the second extending portion that adheres the first extending portion to the second extending portion.</p> | |

EXHIBIT G

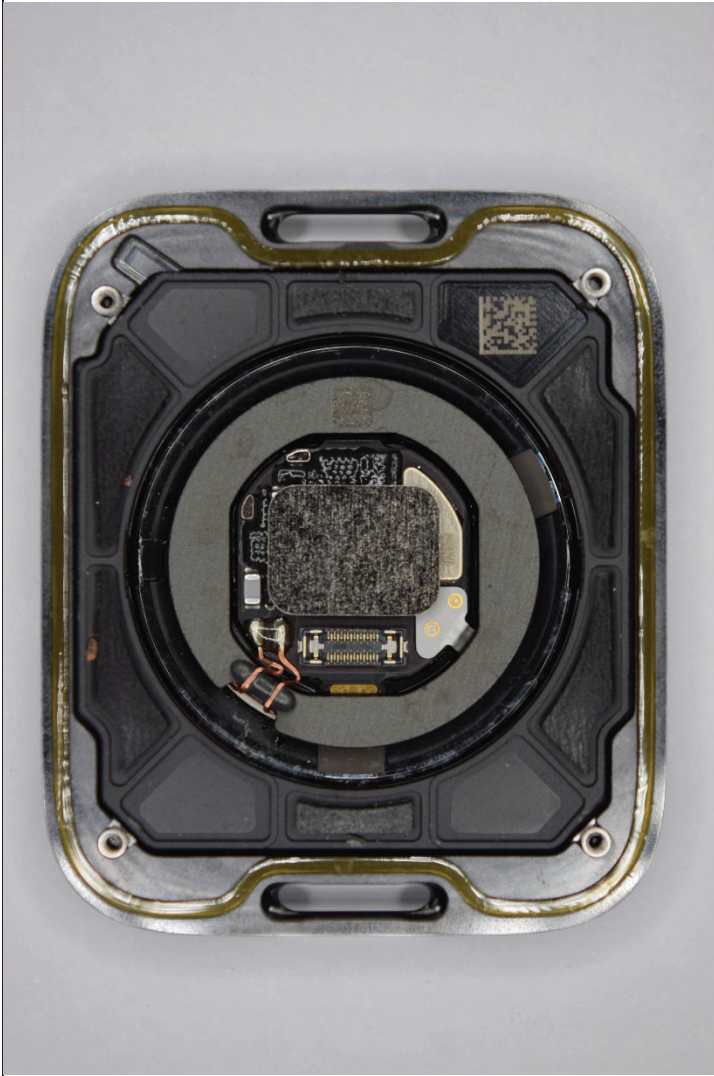
U.S. Patent No. 10,424,941 (“’941 Patent”)

Accused Products


Apple products, including without limitation the Apple Watch Series 1, Series 2, Series 3, Series 4, Series 5, Series 6, and SE (“Accused Products”), infringe at least Claims 1, 2, 3, 4, 6 and 7 of the ’941 Patent.

Claim 1

| Claim 1 | Accused Products |
|---|--|
| [Ipre] A wireless power receiving apparatus for wirelessly receiving power from a wireless power transmitting apparatus, the wireless power receiving apparatus comprising: | To the extent the preamble is limiting, each Accused Product includes a wireless power receiving apparatus to receive power from a wireless power transmitting apparatus. <i>See, e.g.:</i> |



Photograph of the wireless power receiving apparatus from the exemplary Apple Watch Series 6.

| Claim 1 | Accused Products |
|---|--|
| |  <p data-bbox="1063 220 1128 1465">Photograph of the wireless transmitting apparatus for the wireless charger for the exemplary Apple Watch Series 6.</p> |
| <p data-bbox="1161 1585 1226 1900">[1a] a receiving coil for receiving the power;</p> | <p data-bbox="1161 525 1193 1465">Each Accused Product comprises a receiving coil for receiving the power</p> <p data-bbox="1209 220 1291 1465">For example, the exemplary Apple Watch Series 6 has a receiving coil that receives power from a wireless power charger.</p> <p data-bbox="1307 1344 1347 1465"><i>See, e.g.:</i></p> |

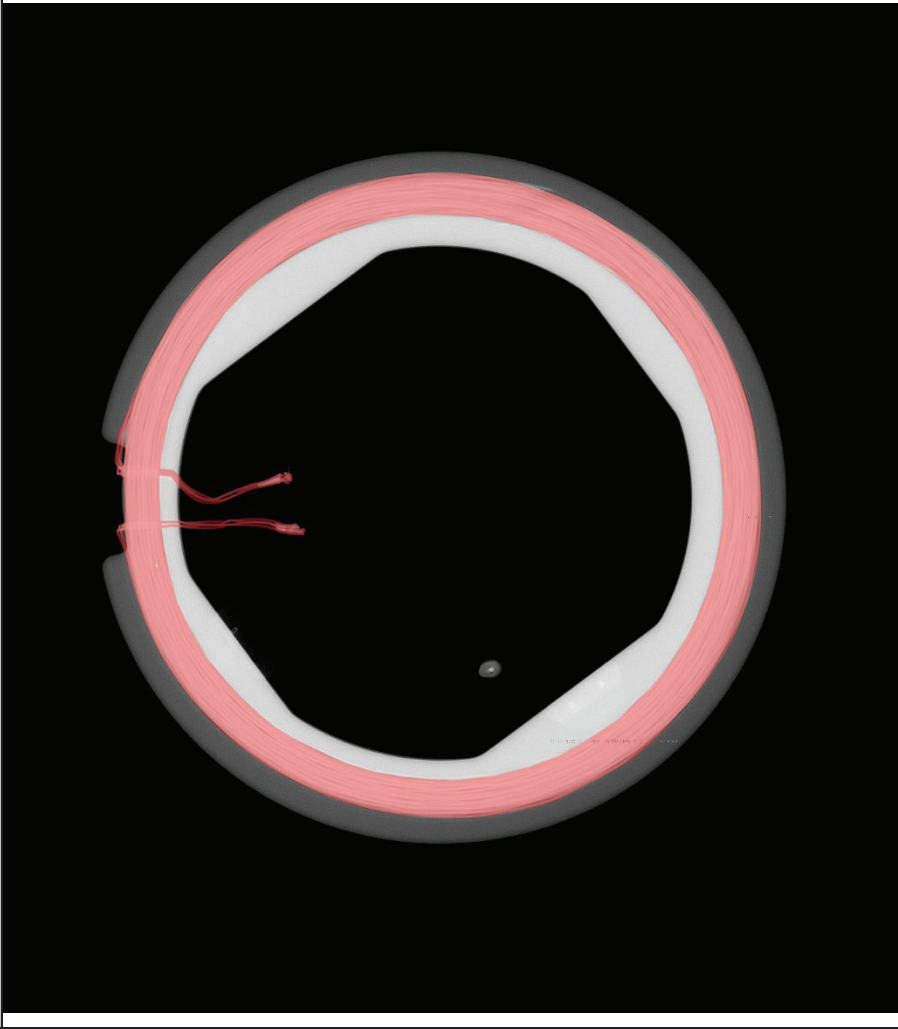
Claim 1

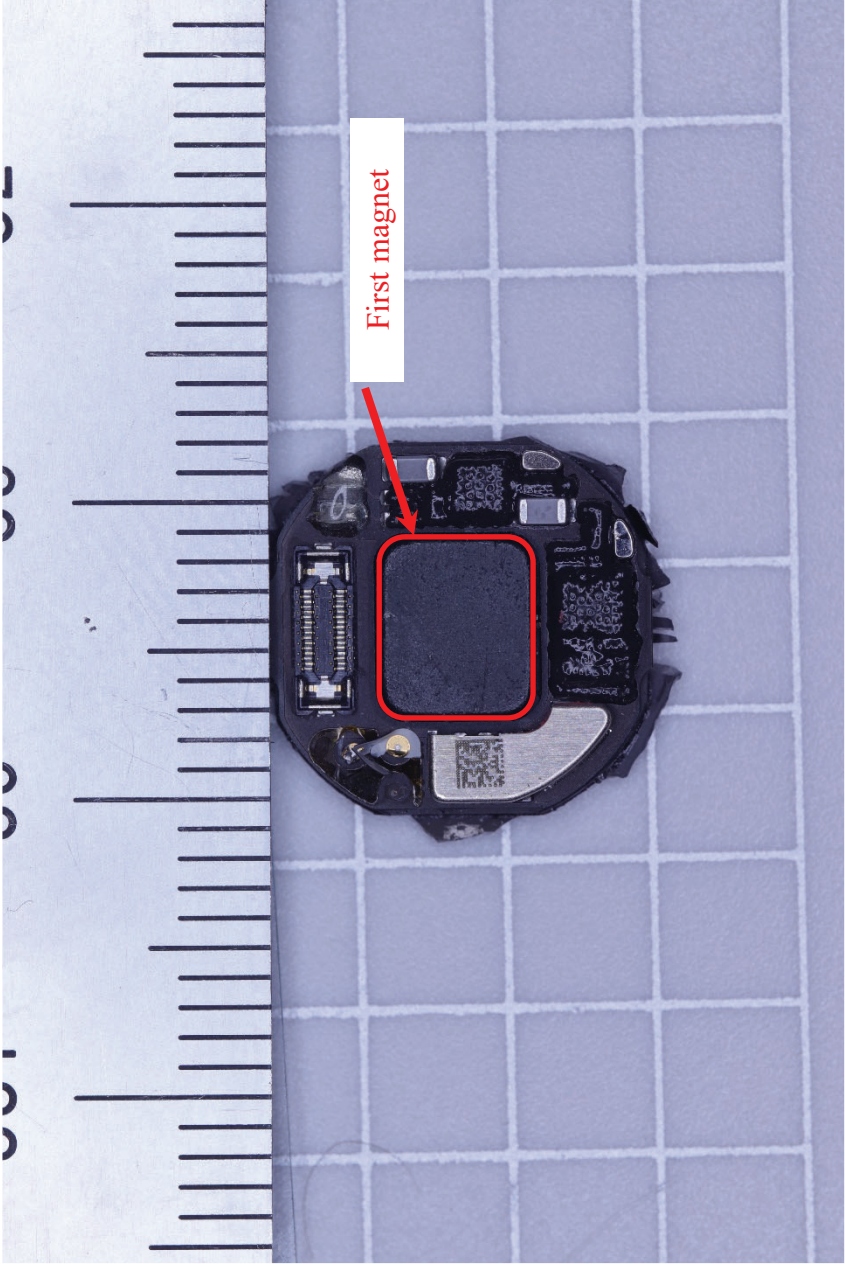
Accused Products




Receiving Coil

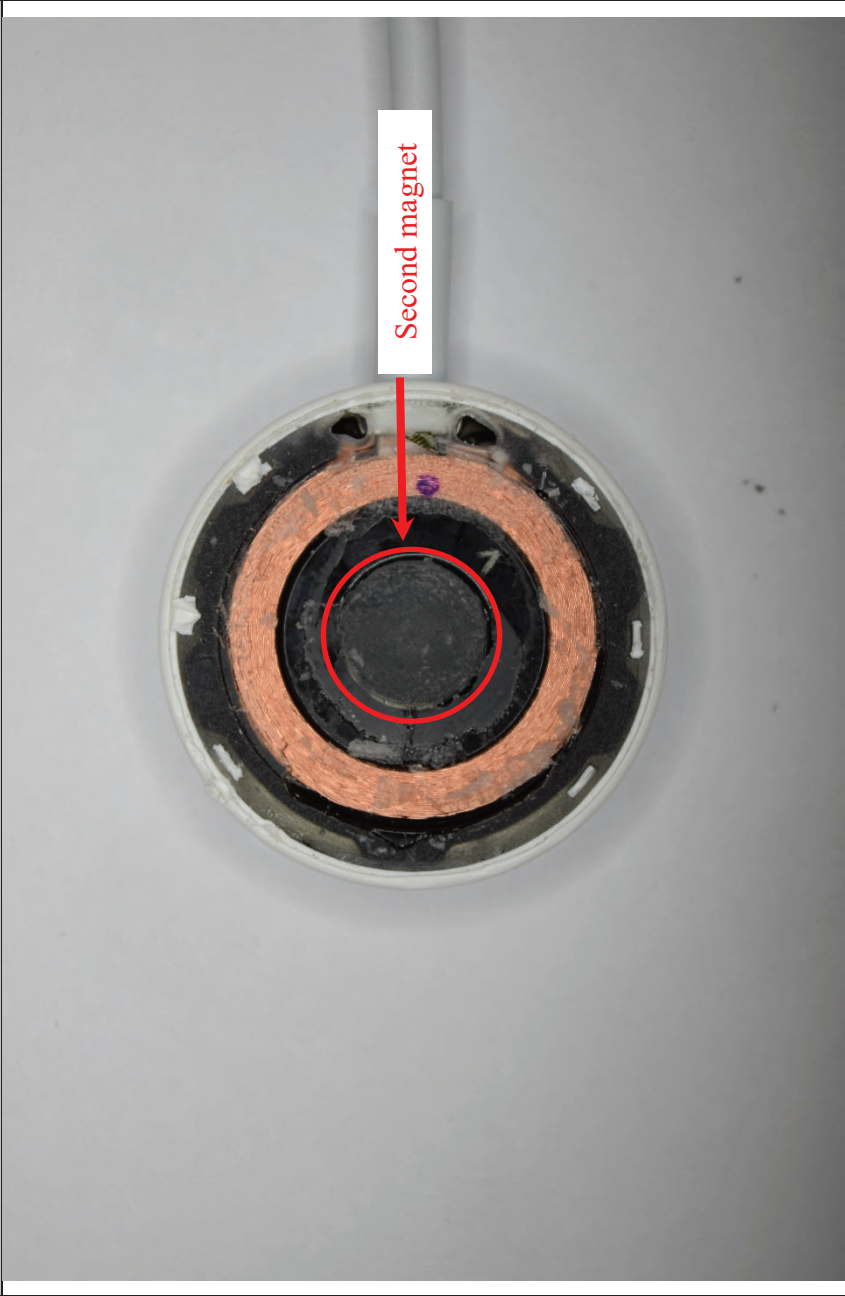
Optical image of the wireless receiving coil from the exemplary Apple Watch Series 6.

| Claim 1 | Accused Products |
|---|---|
| |  <p data-bbox="1169 231 1209 1470">X-ray image of the receiving coil (highlighted in red) from the exemplary Apple Watch Series 6.</p> |
| <p data-bbox="1226 1501 1372 1900">[1b] a first magnet for generating flux density having a predetermined intensity at one side of a face thereof</p> | <p data-bbox="1226 241 1307 1470">Each Accused Product comprises a first magnet generating flux density having a predetermined intensity at one side of a face thereof opposite to the wireless power transmitting apparatus.</p> |

| | |
|---|--|
| <p>Claim 1</p> | <p>Accused Products</p> |
| <p>opposite to the wireless power transmitting apparatus,</p> | <p>For example, the Apple Watch Series 6 has a first magnet generating a magnetic flux density, and its north pole faces out of the bottom of the watch face.</p> <p>See e.g.:</p>  <p>Optical image of the first magnet on the exemplary Apple Watch Series 6.</p> |

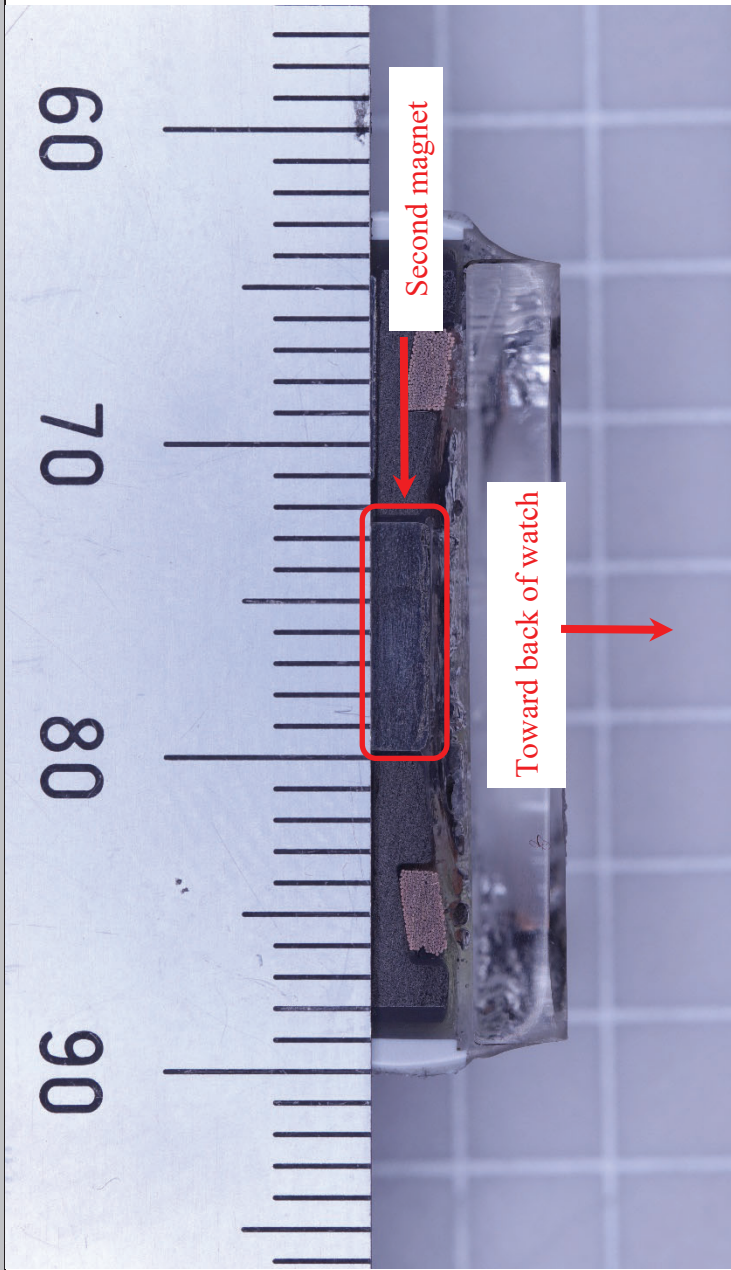
| | |
|--|--|
| Claim 1 | Accused Products |
| |  <p>Image of the bottom face of the exemplary Apple Watch Series 6 with the first magnet. The magnitude of the magnetic flux density for the first magnet was 730G as measured by the AlphaLab, Inc GM-1-HS Gaussmeter. The positive sign on the reading indicates the north pole of the magnet faces outward from the bottom of the watch.</p> |
| [1c] wherein a second magnet provided in the wireless power transmitting apparatus and the | A second magnet provided in the wireless power transmitting apparatus and the first magnet are disposed such that polarities of the magnets are different from each other at opposite faces thereof. |

| Claim 1 | Accused Products |
|--|---|
| <p>first magnet are disposed such that polarities of the magnets are different from each other at opposite faces thereof</p> | <p>For example, the wireless power transmitting apparatus of the exemplary Apple Watch Series 6 includes a second magnet. That magnet has a south pole facing the bottom face of the watch. As the wireless power receiving apparatus of the watch has a first magnet with the north pole facing outward from the back face of the watch, the first and second magnets are disposed such that the polarities of both magnets are opposite.</p> <p><i>See, e.g.:</i></p> |

| | |
|---------|---|
| Claim 1 | <p data-bbox="207 716 240 951">Accused Products</p>  <p data-bbox="1117 239 1190 1465">Image of the the wireless power transmitting apparatus (charger) of the exemplary Apple Watch Series 6 showing a second magnet provided in the wireless power transmitting apparatus.</p> |
|---------|---|

Claim 1

Accused Products



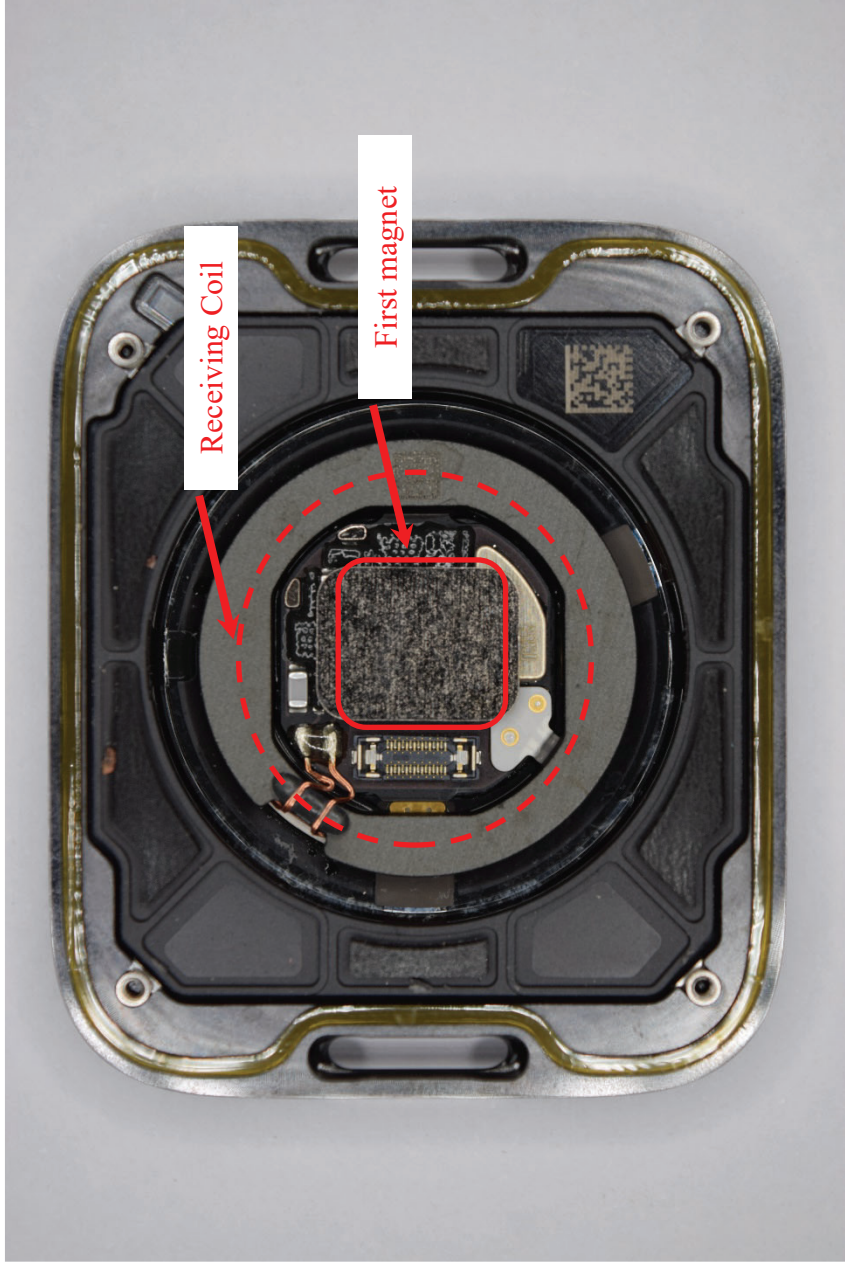
Optical cross section of the wireless power transmitting apparatus (charger) of the exemplary Apple Watch Series 6 showing a second magnet provided in the wireless power transmitting apparatus.

Claim 1

Accused Products



Optical image of the wireless power transmitting apparatus of the exemplary Apple Watch Series 6. The magnitude of the magnetic flux density of the second magnet is 100G as measured on the side that comes into contact with the back of the watch. The negative sign on the reading indicates the south pole of the second magnet faces the back of the watch. As the first magnet has a north pole facing outward from the back of the watch, and the charger has a south pole facing the back of the watch, the two magnets have different polarities at the opposite faces.

| | |
|--|--|
| <p>Claim 1</p> | <p>Accused Products</p> |
| <p>[1d] and wherein the receiving coil is disposed to surround the first magnet.</p> | <p>Each Accused Product has a receiving coil disposed to surround the first magnet. See, e.g.:</p>  <p>Image of the exemplary Apple Watch Series 6 showing the receiving coil surrounding the first magnet.</p> |

Claim 2

Claim 2
The wireless power receiving apparatus according to claim 1, wherein the receiving coil and the first magnet are disposed on the same plane.

Accused Products

Each Accused Product includes a wireless power receiving apparatus according to claim 1, wherein the receiving coil and the first magnet are disposed on the same plane.

See, e.g.:

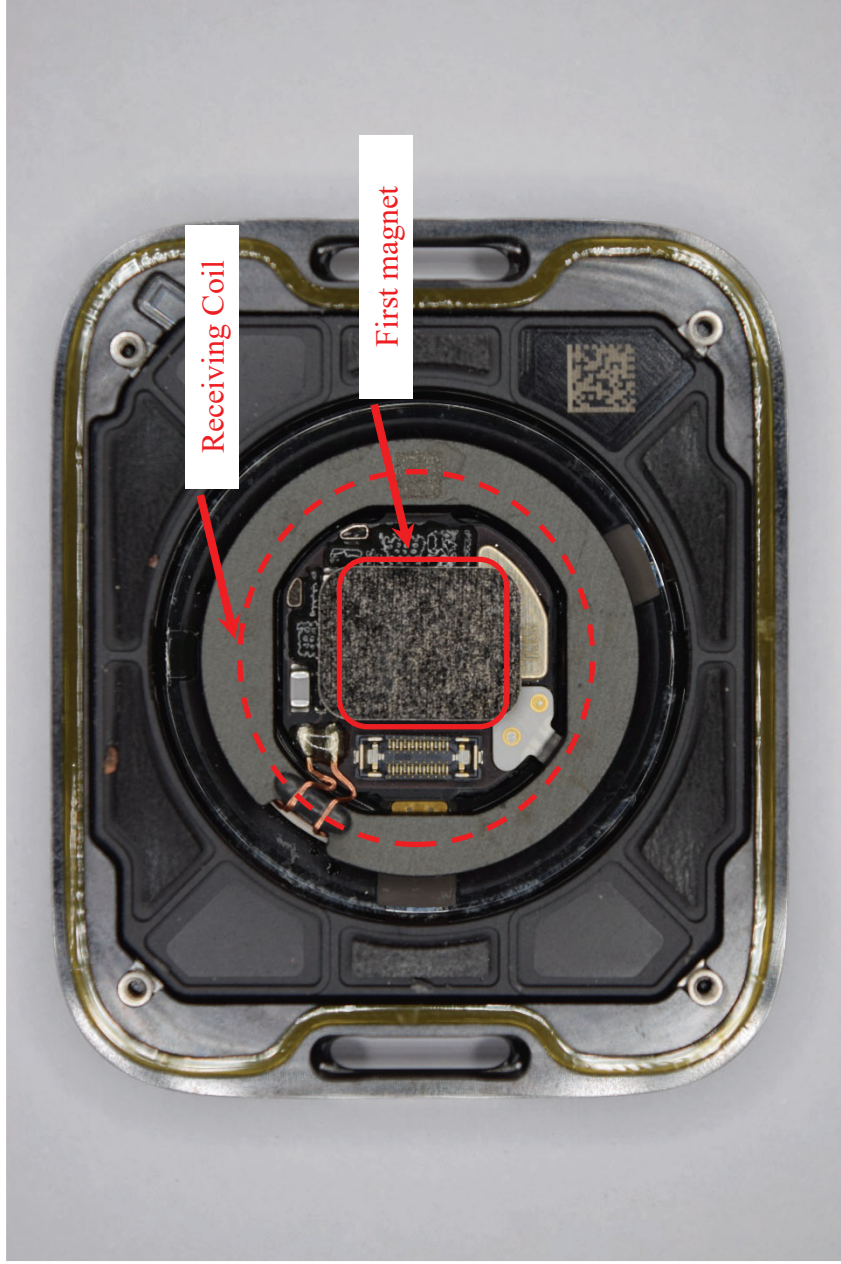


Image of the exemplary Apple Watch Series 6 showing the receiving coil and the first magnet disposed on the same plane.

Claim 3

Claim 3

The wireless power receiving apparatus according to claim 1, wherein the first magnet is disposed in a central region of the receiving coil.

Accused Products

Each Accused Product includes a wireless power receiving apparatus according to claim 1, wherein the first magnet is disposed in a central region of the receiving coil.

See, e.g.:

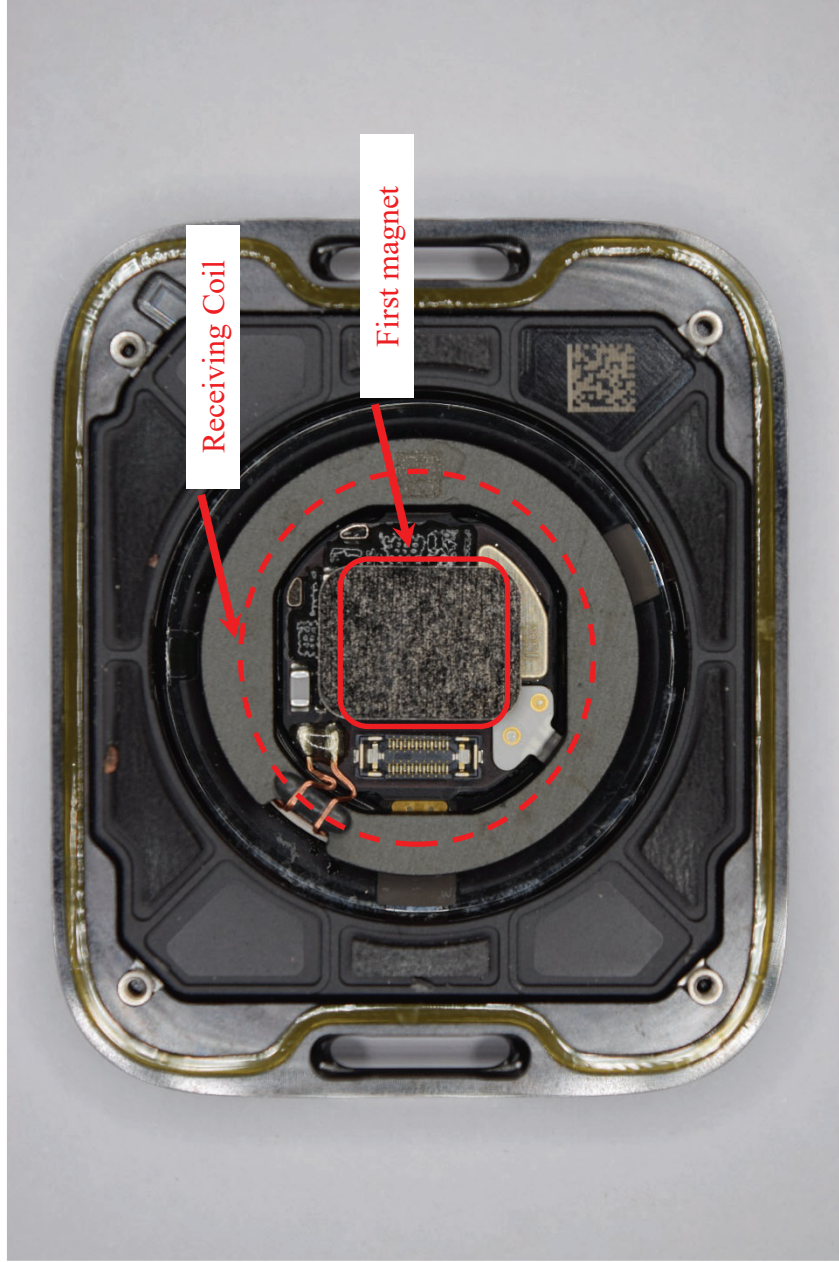


Image of the exemplary Apple Watch Series 6 showing that the first magnet is disposed in a central region of the receiving coil.

Claim 4

| Claim 4 | Accused Products |
|---|--|
| <p>The wireless power receiving apparatus according to claim 1, wherein the first magnet has a flux density of 32G or more.</p> | <p>Each Accused Product includes a wireless power receiving apparatus according to claim 1, wherein the first magnet has a flux density of 32G or more.</p> <p>For example, the exemplary Apple Watch Series 6 has a wireless power receiving apparatus according to claim 1, and the first magnet has a flux density of 730G when measured from the back face of the exemplary Apple Watch Series 6.</p> <p><i>See, e.g.:</i></p> |

Claim 4

Accused Products



Measurement of the magnetic flux density from first magnet of the exemplary Apple Watch Series 6. The AlphaLab, Inc Model GM-1-HS Gaussmeter measured the magnitude of the magnetic flux density to be 730G.

Claim 6

| Claim 6 | Accused Products |
|---|---|
| <p>The wireless power receiving apparatus according to claim 1, wherein the first magnet is a permanent magnet magnetized only at a face thereof opposite to the wireless power transmitting apparatus.</p> | <p>Each Accused Product includes a wireless power receiving apparatus according to claim 1, wherein the first magnet is a permanent magnet magnetized only at a face thereof opposite to the wireless power transmitting apparatus. <i>See, e.g.:</i></p> |

Claim 6

Accused Products



Image of the first magnet in the bottom face of the exemplary Apple Watch Series 6 that faces a wireless power transmitting apparatus. A magnetic field was measured by the the AlphaLab, Inc GM-1-HS Gaussmeter pointing inwards towards the face of the first magnet, which shows it is magnetized only at a face thereof opposite to the wireless power transmitting apparatus.

Claim 7

| Claim 7 | Accused Products |
|--|--|
| <p>The wireless power receiving apparatus according to claim 1, wherein the first magnet is a permanent magnet magnetized using any one selected from among a top and bottom magnetization method, an outer circumferential magnetization method, a sectional multi-pole magnetization method, and an outer circumferential multi-pole magnetization method.</p> | <p>Each Accused Product includes a wireless power receiving apparatus according to claim 1, wherein the first magnet is a permanent magnet magnetized using any one selected from among a top and bottom magnetization method, an outer circumferential magnetization method, a sectional multi-pole magnetization method, and an outer circumferential multi-pole magnetization method.</p> <p>For example, the first magnet has a magnetic field pointing outward from its top side facing the wireless power transmitter and a magnetic field pointing inward towards its bottom side facing away from the wireless power transmitter, which suggests a top and bottom magnetization method.</p> <p><i>See, e.g.:</i></p> |

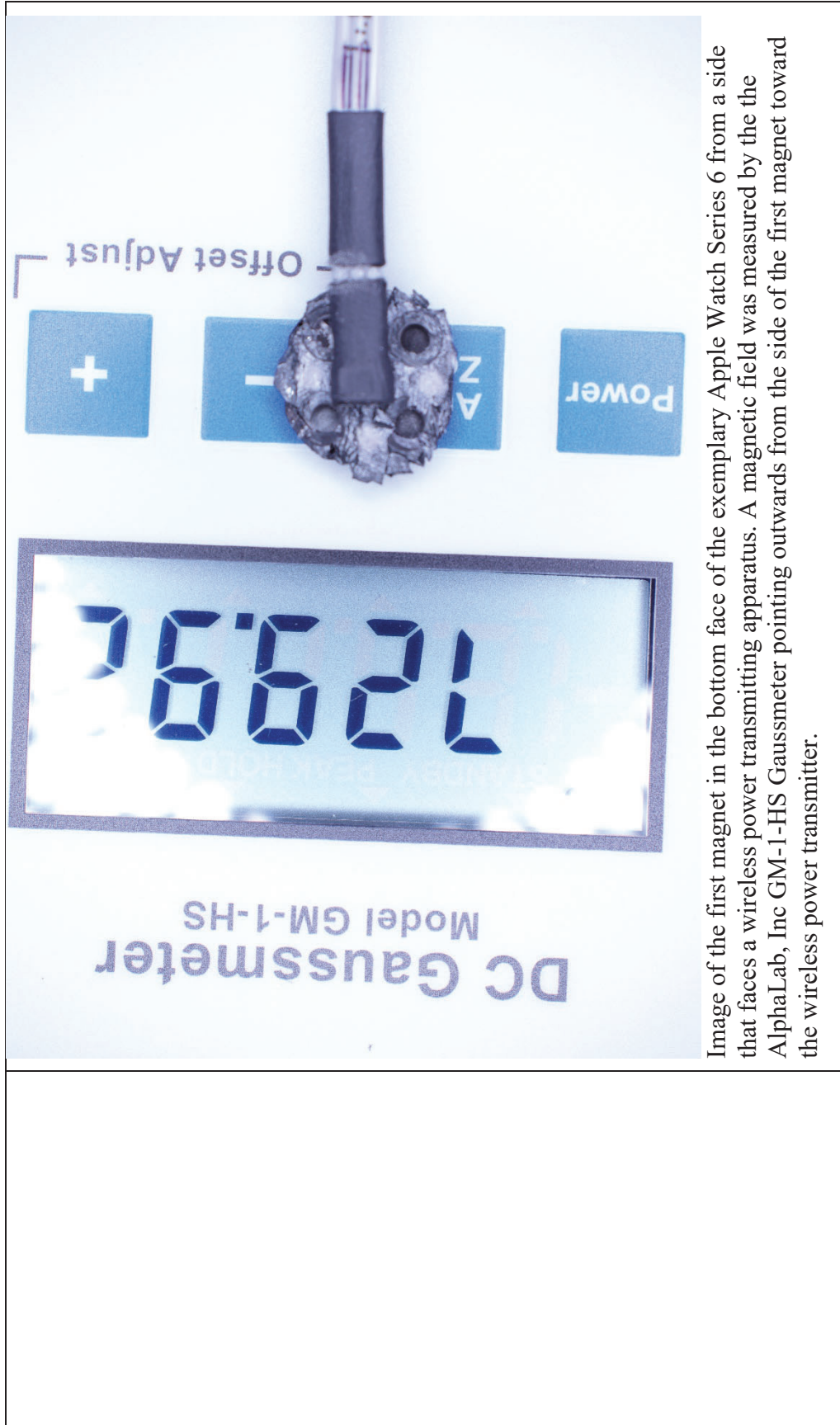


Image of the first magnet in the bottom face of the exemplary Apple Watch Series 6 from a side that faces a wireless power transmitting apparatus. A magnetic field was measured by the AlphaLab, Inc GM-1-HS Gaussmeter pointing outwards from the side of the first magnet toward the wireless power transmitter.

Claim 7

Accused Products



Image of the first magnet in the bottom face of the exemplary Apple Watch Series 6 from a side that faces away a wireless power transmitting apparatus. A magnetic field was measured by the the AlphaLab, Inc GM-1-HS Gaussmeter pointing inwards from the side of the first magnet that is opposite the wireless power transmitter.

Exhibit H

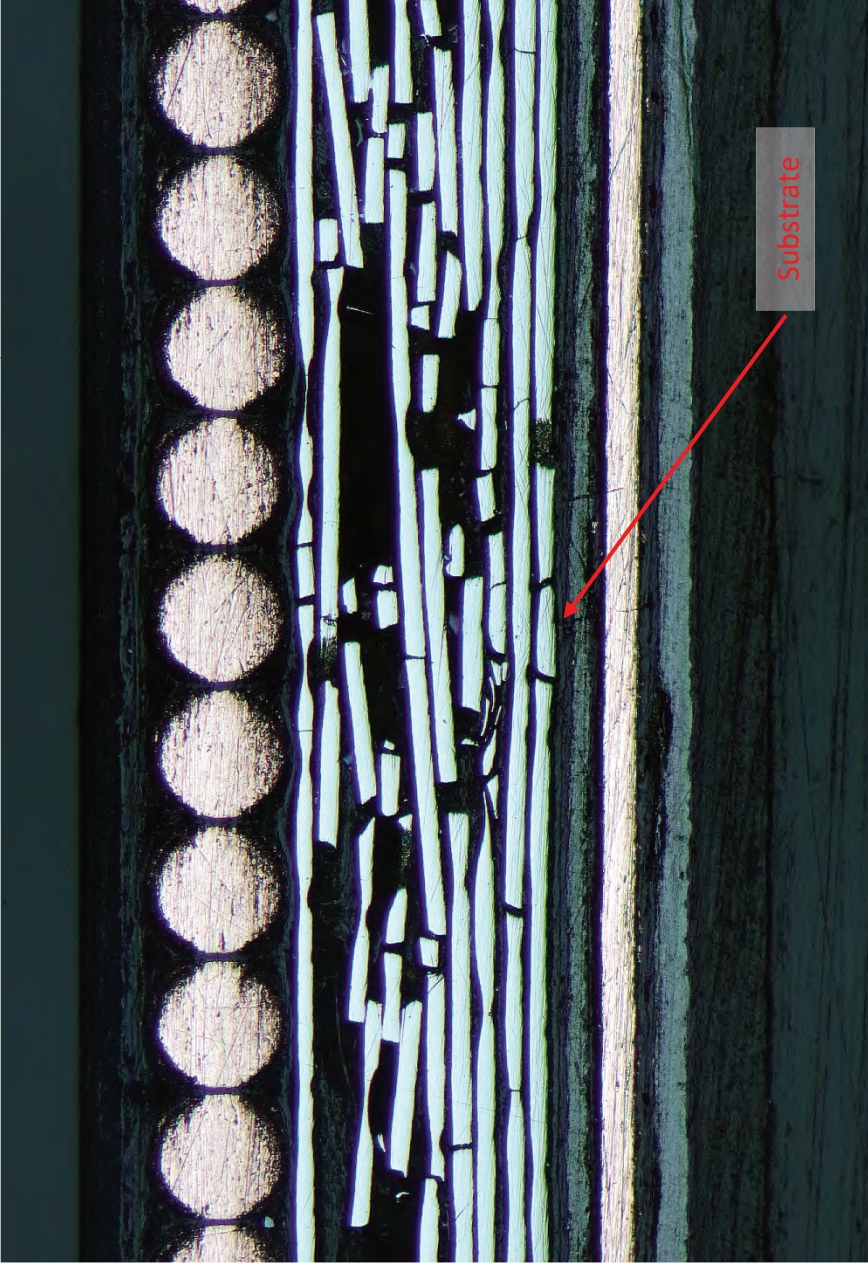
U.S. Patent No. 9,997,962 (“’962 Patent”)

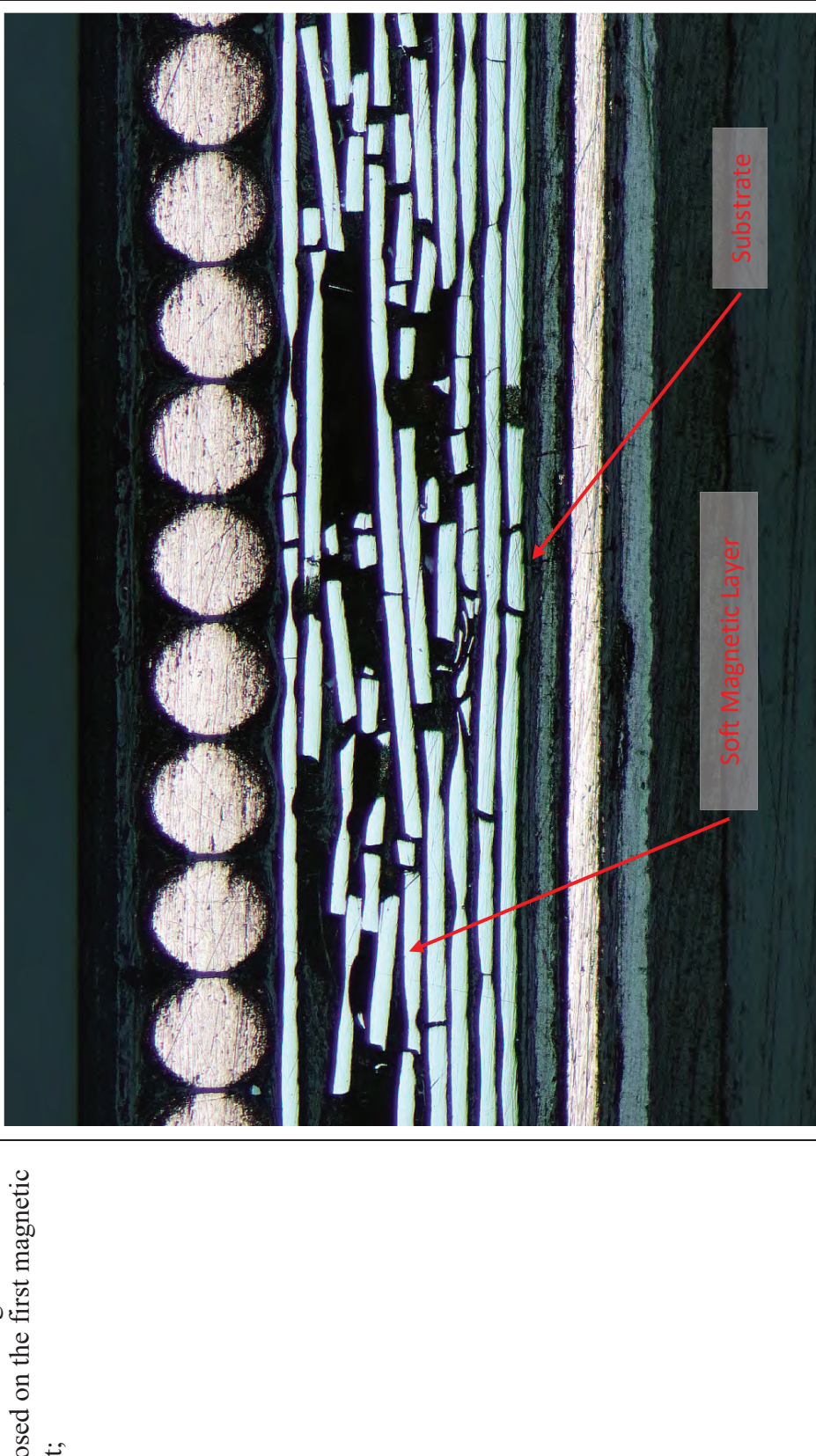
Accused Products

Apple products, including without limitation the Apple iPhone 8, iPhone 8 Plus, iPhone X, iPhone Xs, iPhone Xs Max, iPhone XR, iPhone 11, iPhone 11 Pro, iPhone 11 Pro Max, iPhone SE (second generation), iPhone 12, iPhone 12 Mini, iPhone 12 Pro, and iPhone 12 Pro Max (“Accused Products”), infringe at least Claims 1, 2, 3, 4, 7, 8, 18 and 19 of the ’962 Patent.

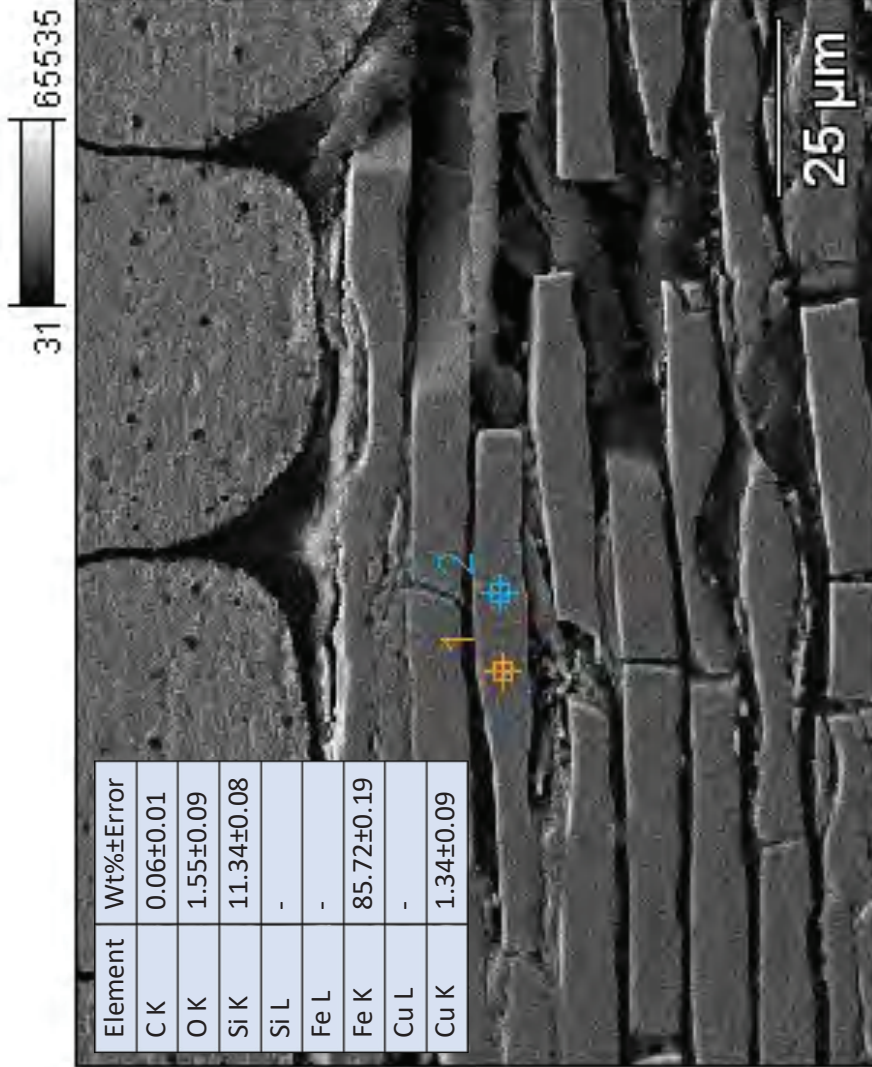
Claim 1

| Claim 1 | Accused Products |
|--|---|
| [pre] A wireless power receiving antenna comprising: | <p>To the extent the preamble is limiting, each Accused Product includes a wireless power receiving antenna.</p> <p><i>See, e.g.:</i></p>  <p>Photograph of the wireless power receiving antenna from the exemplary Apple iPhone 12.</p> |

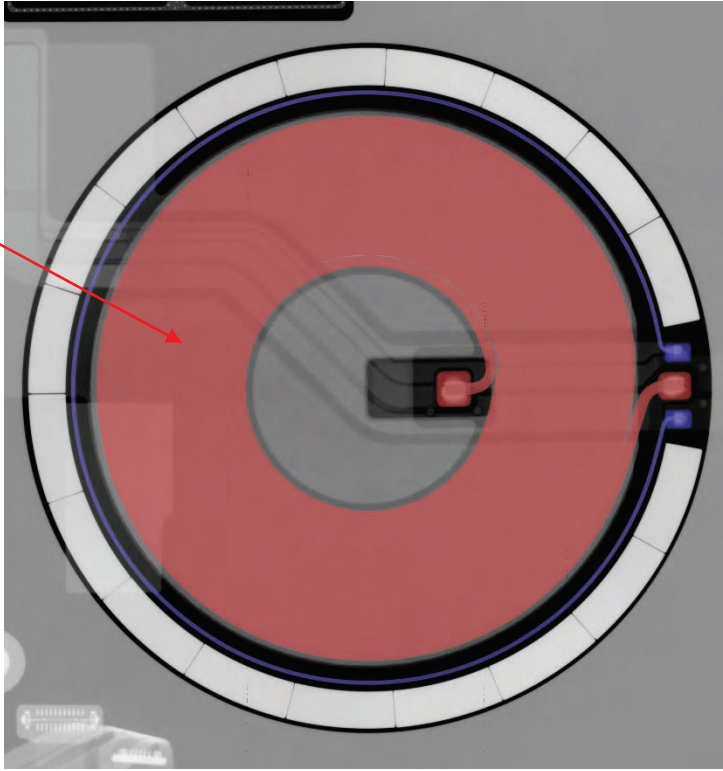
| | |
|--------------------------|---|
| <p>Claim 1</p> | <p>Accused Products</p> |
| <p>[1a] a substrate;</p> | <p>Each Accused Product comprises a substrate. <i>See, e.g.:</i></p>  <p>Optical cross section of the wireless power receiving antenna from the Apple iPhone 12 illustrating the substrate.</p> |

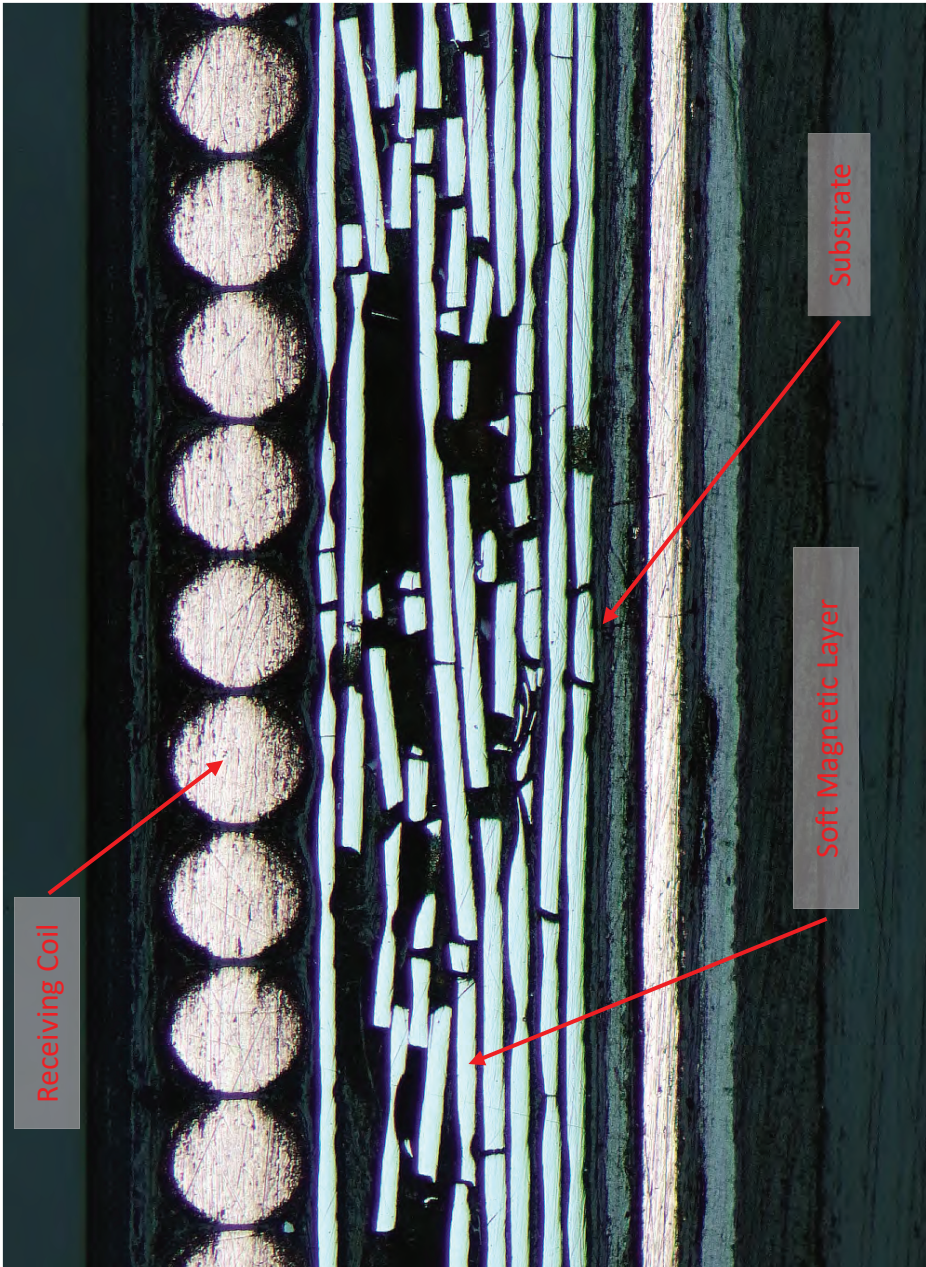
| Claim 1 | Accused Products |
|---|--|
| <p>[1b] a soft magnetic layer comprising a first magnetic sheet disposed on the substrate and a second magnetic sheet disposed on the first magnetic sheet;</p> | <p>Each Accused Product comprises a soft magnetic layer comprising a first magnetic sheet disposed on the substrate and a second magnetic sheet disposed on the first magnetic sheet.</p> <p>See, e.g.:</p>  <p>Optical cross section of the wireless power receiving antenna from the exemplary Apple iPhone 12 illustrating the soft magnetic layer, first magnetic sheet, and second magnetic sheet.</p> |

Base(9)



SEM image and EDS measurements of the soft magnetic layer, showing the elemental composition averaged over the points labeled 1 and 2. The large iron and silicon content indicates the layer is a soft magnetic material.

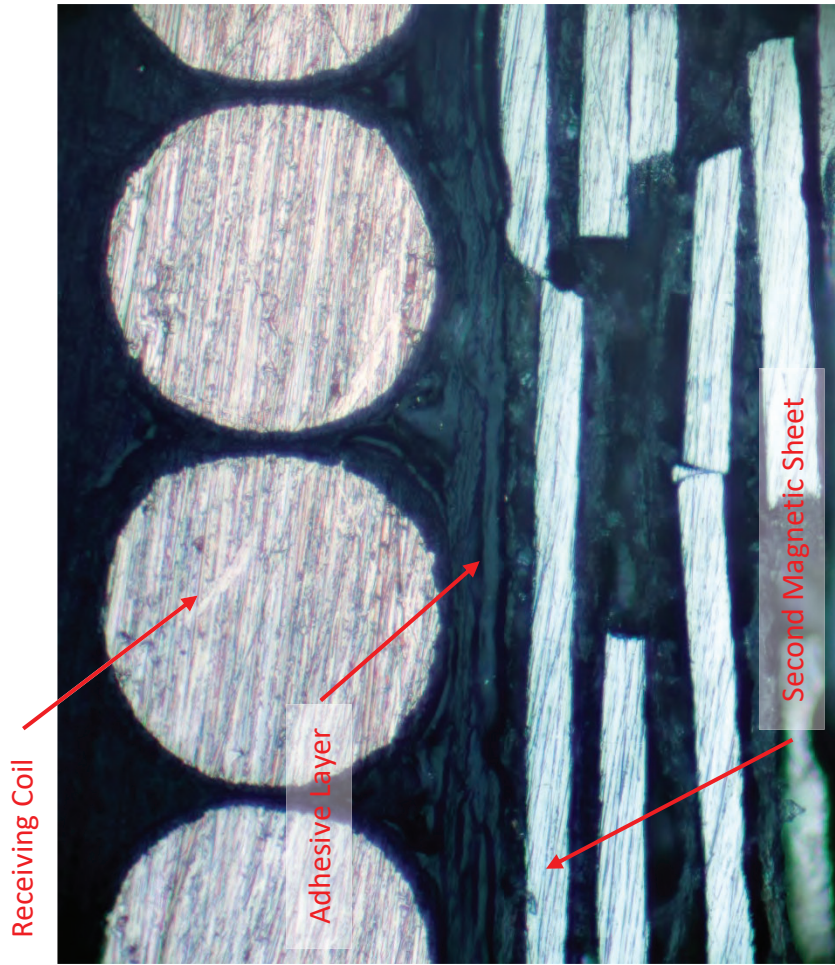
| Claim 1 | Accused Products |
|---|---|
| <p>[1c] a receiving coil disposed on the second magnetic sheet; and</p> | <p>Each Accused Product comprises a receiving coil disposed on the second magnetic sheet.</p> <p>See, e.g.:</p>  <p>X-ray of the wireless power receiving antenna from the exemplary Apple iPhone 12 illustrating the pattern of the receiving coil (red).</p> |

| | |
|---|--|
| <p>Claim 1</p> | <p>Accused Products</p> |
|  | <p>Optical cross section of the wireless power receiving antenna from the exemplary Apple iPhone 12 illustrating the receiving coil on the second magnetic sheet.</p> <p>Each Accused Product comprises an adhesive layer formed between the second magnetic sheet and the receiving coil.</p> |

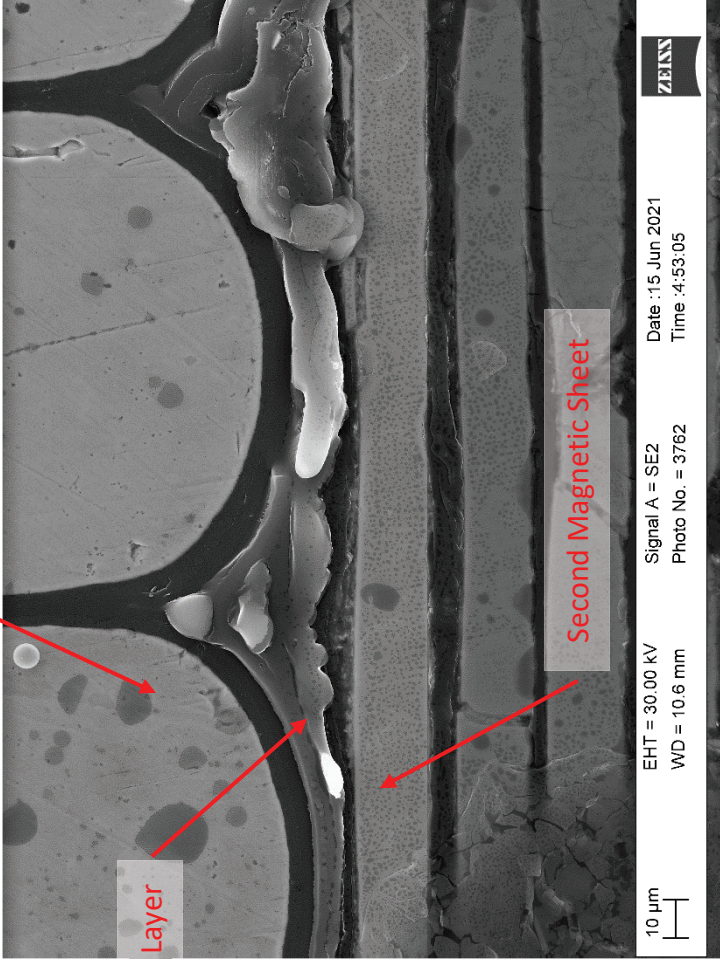
Claim 1

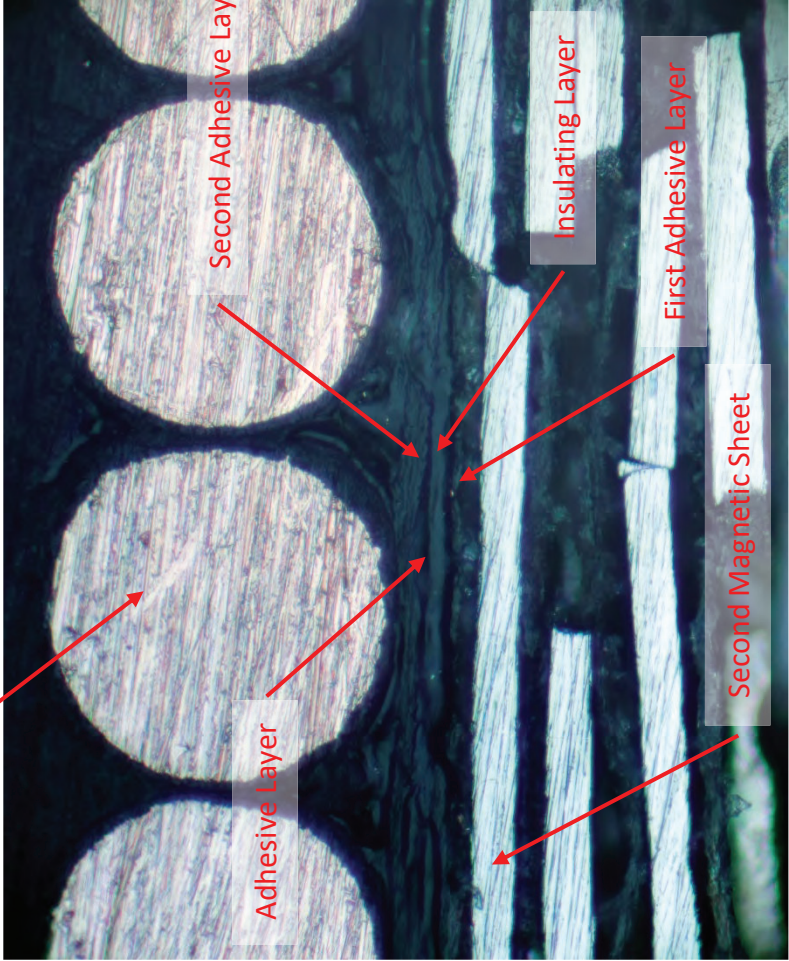
Accused Products

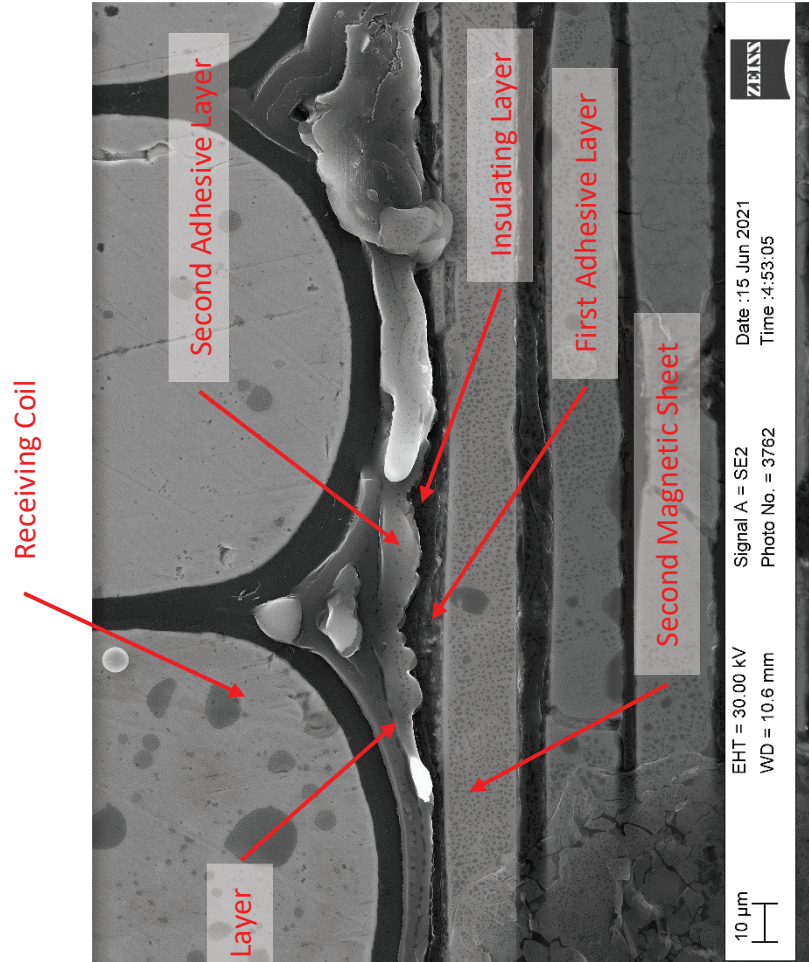
See, e.g.:

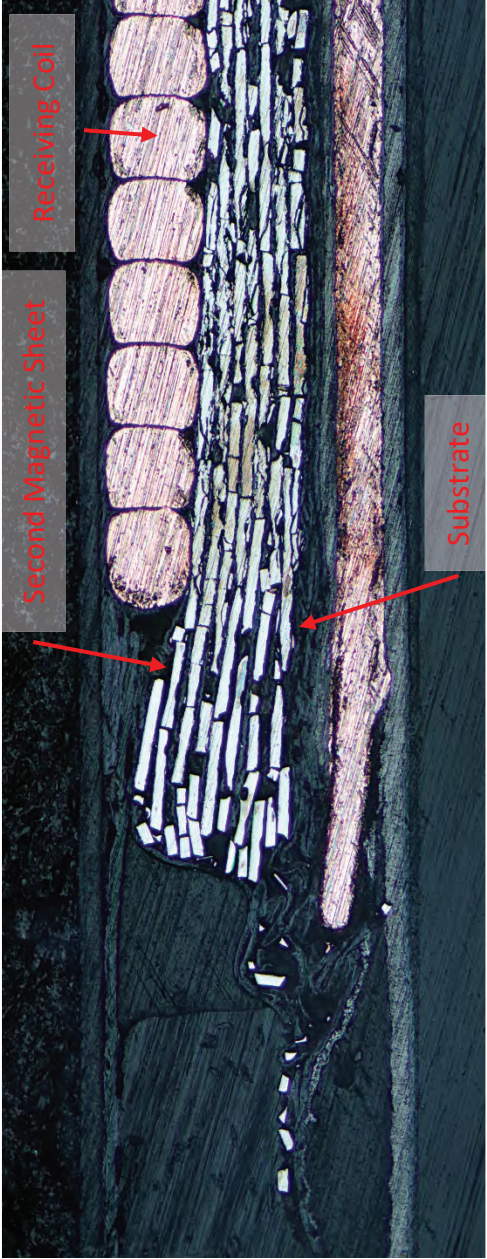


Optical cross section of the wireless power receiving antenna from the exemplary Apple iPhone 12 showing the adhesive layer between the second magnetic sheet and the receiving coil.

| Claim 1 | Accused Products |
|--|---|
| |  <p data-bbox="284 1417 1177 1480">SEM cross section of the wireless power receiving antenna from the exemplary Apple iPhone 12 showing the adhesive layer between the second magnetic sheet and the receiving coil.</p> |
| <p data-bbox="1201 1501 1461 1900">[1e] wherein the adhesive layer includes a first adhesive layer in contact with the second magnetic sheet, a second adhesive layer in contact with the receiving coil, and an insulating layer disposed between the first adhesive layer and the second adhesive layer. <i>See, e.g.:</i></p> | <p data-bbox="1201 262 1307 1470">In each Accused Product, the adhesive layer includes a first adhesive layer in contact with the second magnetic sheet, a second adhesive layer in contact with the receiving coil, and an insulating layer disposed between the first adhesive layer and the second adhesive layer. <i>See, e.g.:</i></p> |

| | |
|--|---|
| <p style="text-align: center;">Accused Products</p> |  <p>Receiving Coil</p> <p>Adhesive Layer</p> <p>Second Adhesive Layer</p> <p>Insulating Layer</p> <p>First Adhesive Layer</p> <p>Second Magnetic Sheet</p> <p>Optical cross section of the wireless power receiving antenna from the exemplary Apple iPhone 12 showing the first adhesive layer in contact with the second magnetic sheet, the second adhesive layer in contact with the receiving coil, and the insulating layer disposed between the first adhesive layer and the second adhesive layer.</p> |
| <p>Claim 1</p> <p>and an insulating layer disposed between the first adhesive layer and the second adhesive layer, and</p> | |

| Claim 1 | Accused Products |
|--|--|
| |  <p data-bbox="1096 231 1242 1470">SEM cross section of the wireless power receiving antenna from the exemplary Apple iPhone 12 showing the first adhesive layer in contact with the second magnetic sheet, the second adhesive layer in contact with the receiving coil, and the insulating layer disposed between the first adhesive layer and the second adhesive layer.</p> |
| [1f] wherein a height of a highest position of the second magnetic sheet from the substrate is higher than a | In each Accused Product, a height of a highest position of the second magnetic sheet from the substrate is higher than a height of a lowest position of the receiving coil from the substrate. |

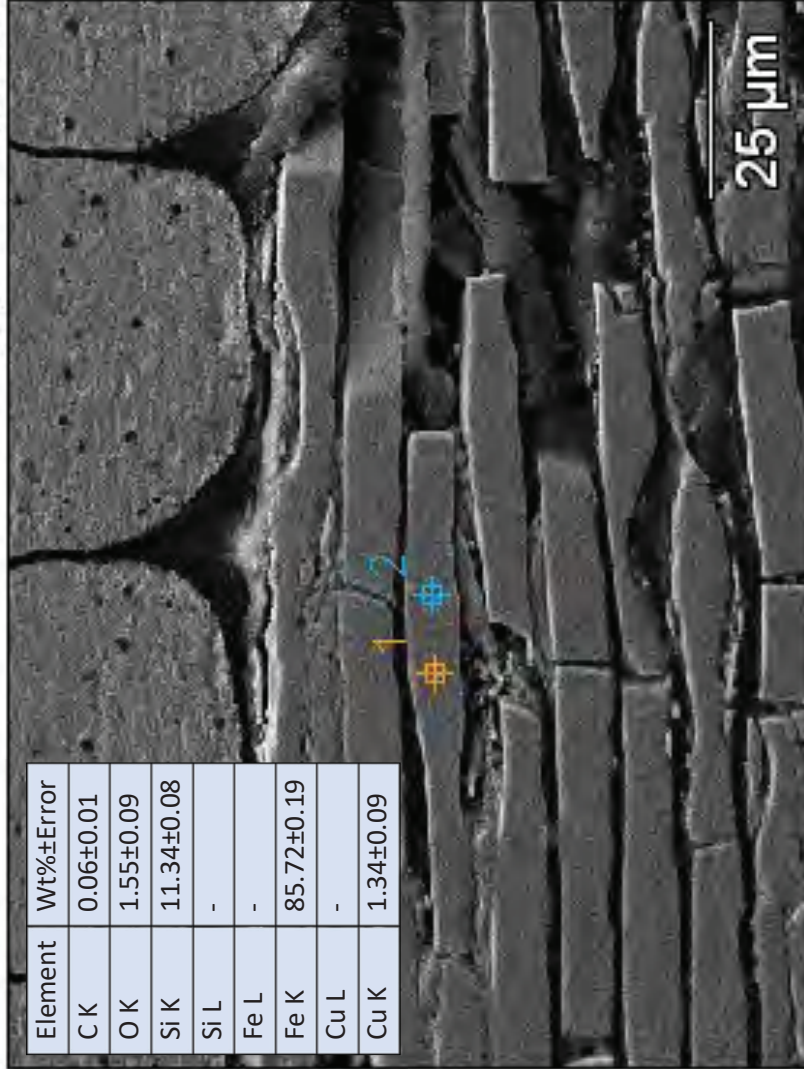
| | |
|--|-------------------------|
| <p>Claim 1</p> <p>height of a lowest position of the receiving coil from the substrate.</p> | <p>Accused Products</p> |
| <p>See, e.g.:</p>  <p>Optical cross section of the wireless power receiving antenna from the exemplary Apple iPhone 12 showing a height of the highest position of the second magnetic sheet from the substrate is higher than a height of the lowest position of the receiving coil from the substrate.</p> | <p>See, e.g.:</p> |

| | |
|---|---|
| <p>Claim 2</p> <p>The wireless power receiving antenna of claim 1, wherein the soft magnetic layer includes an Fe—Si based alloy.</p> | <p>Accused Products</p> <p>In each Accused Product, the wireless power receiving antenna of claim 1 has a soft magnetic layer that includes an Fe—Si based alloy.</p> <p>See, e.g.:</p> |
|---|---|

Base(9)



| Element | Wt%±Error |
|---------|------------|
| CK | 0.06±0.01 |
| OK | 1.55±0.09 |
| Si K | 11.34±0.08 |
| Si L | - |
| Fe L | - |
| Fe K | 85.72±0.19 |
| Cu L | - |
| Cu K | 1.34±0.09 |



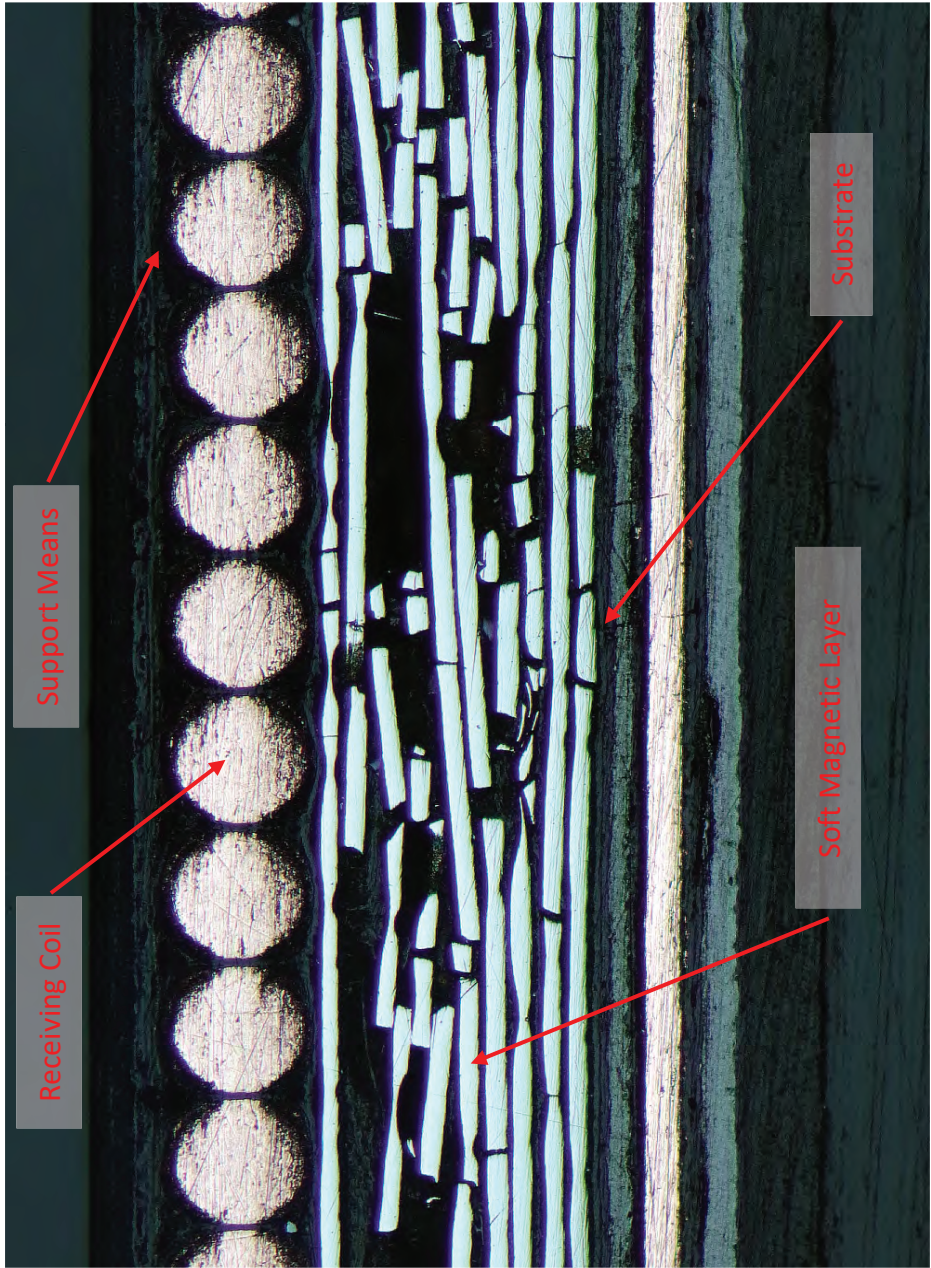
SEM image and EDS measurements of the soft magnetic layer. The elemental composition averaged over the points labeled 1 and 2 indicates the soft magnetic layer is a Fe—Si based alloy.

Claim 3

| Claim 3 | Accused Products |
|--|--|
| The wireless power receiving antenna of claim 2, further comprising a support means stacked on the receiving coil. | In each Accused Product, the wireless power receiving antenna of claim 2 further comprises a support means stacked on the receiving coil. <i>See, e.g.:</i> |

Claim 3

Accused Products



Optical cross section image of the wireless power receiving antenna from the exemplary Apple iPhone 12 showing the film that acts as a support means stacked on the receiving coil.

Claim 4

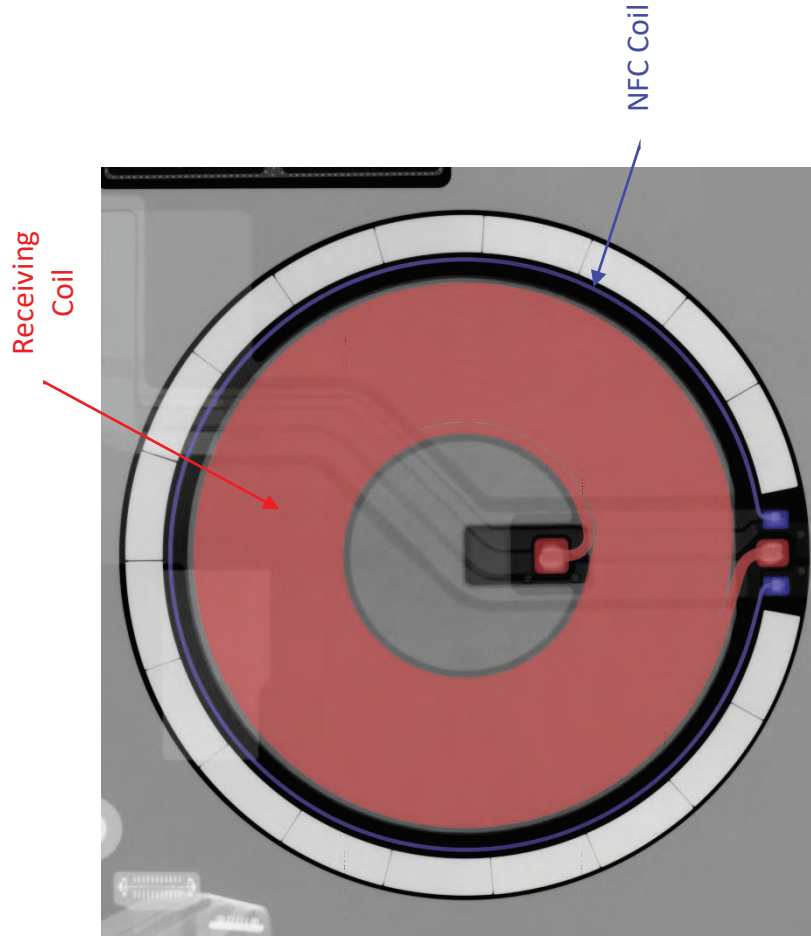
Claim 4

The wireless power receiving antenna of claim 3, further comprising an NFC coil disposed so as to surround a side portion of the receiving coil.

Accused Products

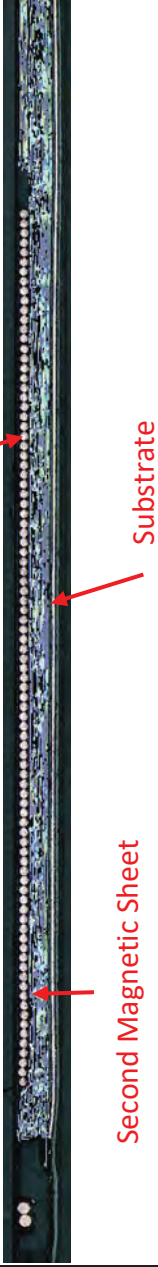
In each iPhone 12 Accused Product, the wireless power receiving antenna of claim 3 further comprises an NFC coil disposed so as to surround a side portion of the receiving coil.

See, e.g.:




X-ray of the wireless power receiving antenna from the exemplary Apple iPhone 12 illustrating the pattern of the receiving coil (red) and the pattern of the NFC coil (blue) surrounding a side portion of the receiving coil.

Claim 7

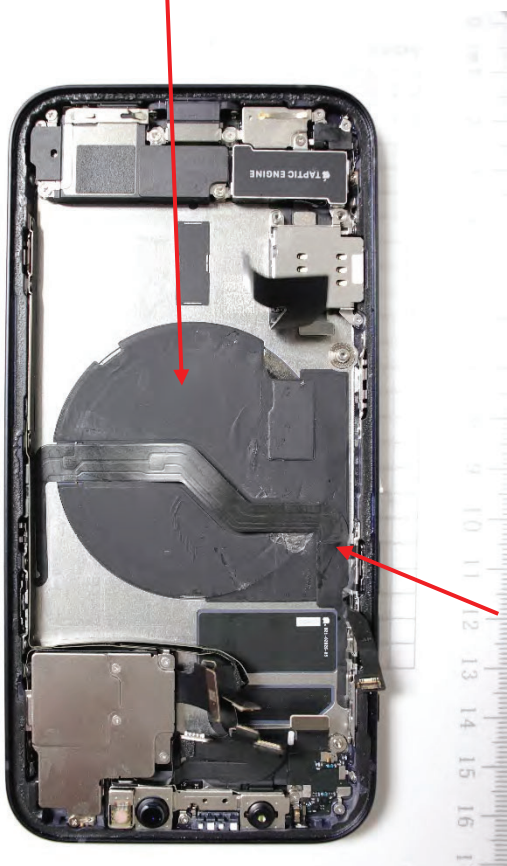
| Claim 7 | Accused Products |
|--|--|
| <p>The wireless power receiving antenna of claim 4, wherein a portion of the receiving coil is embedded in a portion of the second magnetic sheet.</p> | <p>In each iPhone 12 Accused Product, the wireless power receiving antenna of claim 4 has a portion of the receiving coil embedded in a portion of the second magnetic sheet.</p> <p><i>See, e.g.:</i></p>  <p>Optical cross section image of the wireless power receiving antenna from the exemplary Apple iPhone 12 showing a portion of the receiving coil is embedded in a portion of the second magnetic sheet.</p> |

Claim 8

| Claim 8 | Accused Products |
|--|---|
| <p>The wireless power receiving antenna of claim 4, wherein a portion of a side of the soft magnetic layer on which the NFC coil is disposed is removed.</p> | <p>In each iPhone 12 Accused Product, the wireless power receiving antenna of claim 4 has a portion of a side of the soft magnetic layer on which the NFC coil is disposed removed.</p> |

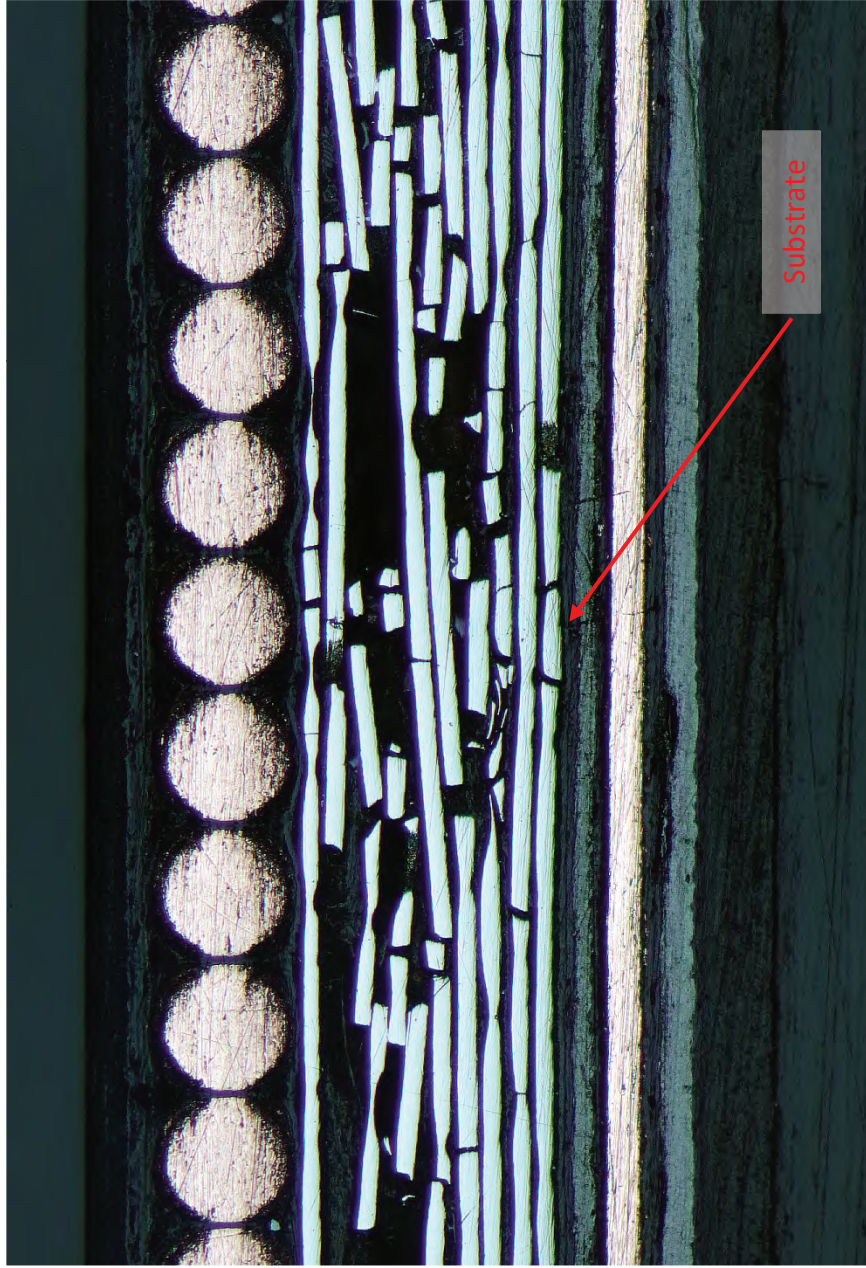
| | |
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| Claim 8 | <p data-bbox="207 716 240 951">Accused Products</p> <p data-bbox="261 1346 293 1465"><i>See, e.g.:</i></p>  <p data-bbox="732 249 834 1465">Optical cross section image of the wireless power receiving antenna from the exemplary Apple iPhone 12 showing a portion of the soft magnetic layer on which the NFC coil is disposed is removed.</p> |
|---------|---|

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|----------|--|
| Claim 18 | <p data-bbox="946 716 979 951">Accused Products</p> <p data-bbox="1000 222 1068 1465">To the extent the preamble is limiting, each Accused Product includes a wireless power receiving apparatus comprising a receiving circuit and a wireless power receiving antenna.</p> <p data-bbox="1094 1346 1127 1465"><i>See, e.g.:</i></p> |
|----------|--|

| | |
|--------------------|---|
| Claim 18 | Accused Products |
| |  <p data-bbox="422 420 568 567">Wireless Power Receiving Antenna</p> <p data-bbox="860 1155 941 1302">Receiving Circuit</p> <p data-bbox="958 273 1031 1470">Photograph of the wireless power receiving antenna and receiving circuit from the exemplary Apple iPhone 12.</p> |
| [18a] a substrate; | <p data-bbox="1055 882 1088 1470">Each Accused Product comprises a substrate.</p> <p data-bbox="1112 1344 1144 1470"><i>See, e.g.:</i></p> |

Claim 18

Accused Products



Optical cross section of the wireless power receiving antenna from the Apple iPhone 12 illustrating the substrate.

[18b] a soft magnetic layer comprising a first magnetic sheet disposed on the substrate and a second magnetic sheet disposed on the first magnetic sheet.

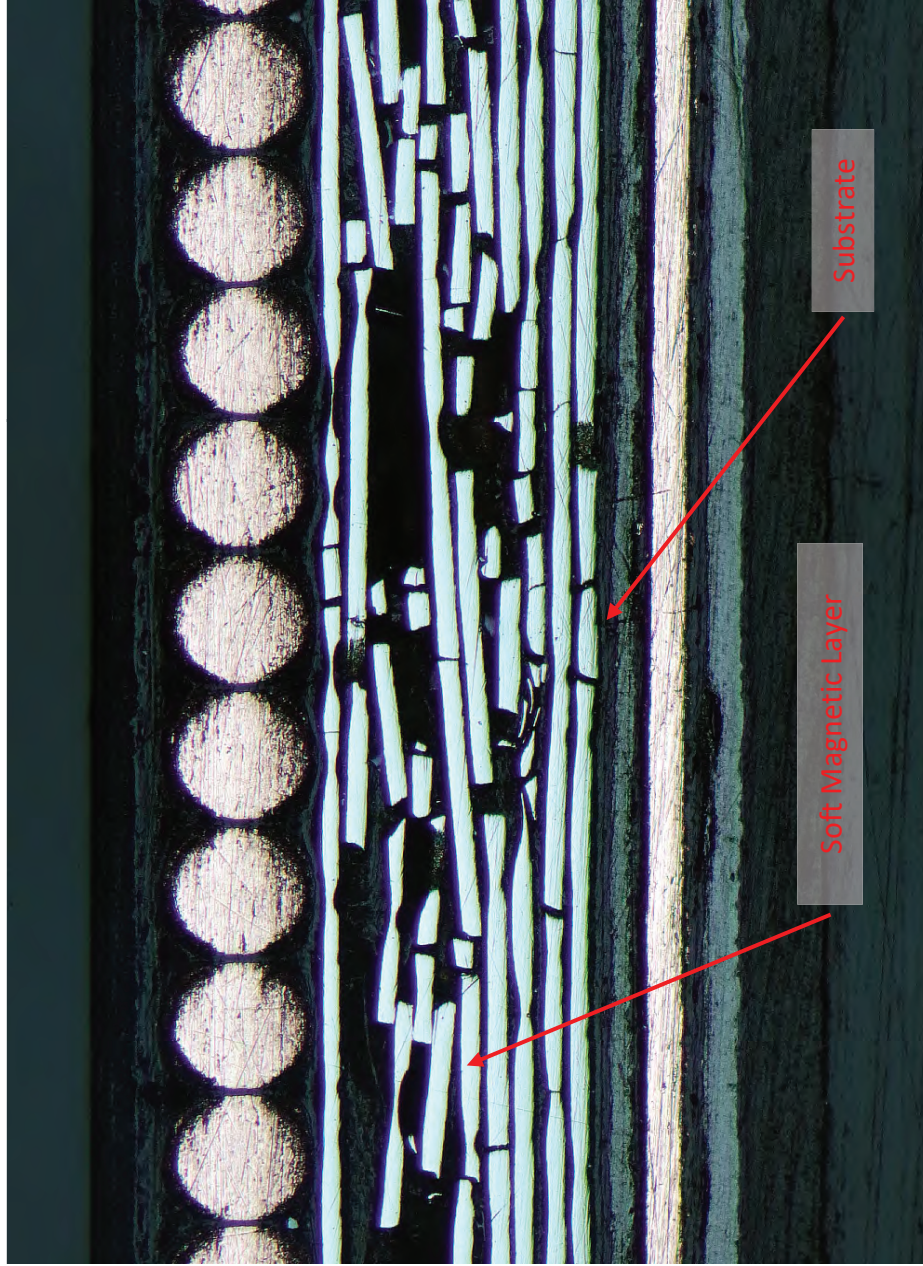
Each Accused Product comprises a soft magnetic layer comprising a first magnetic sheet disposed on the substrate and a second magnetic sheet disposed on the first magnetic sheet.

Claim 18

and a second magnetic sheet disposed on the first magnetic sheet;

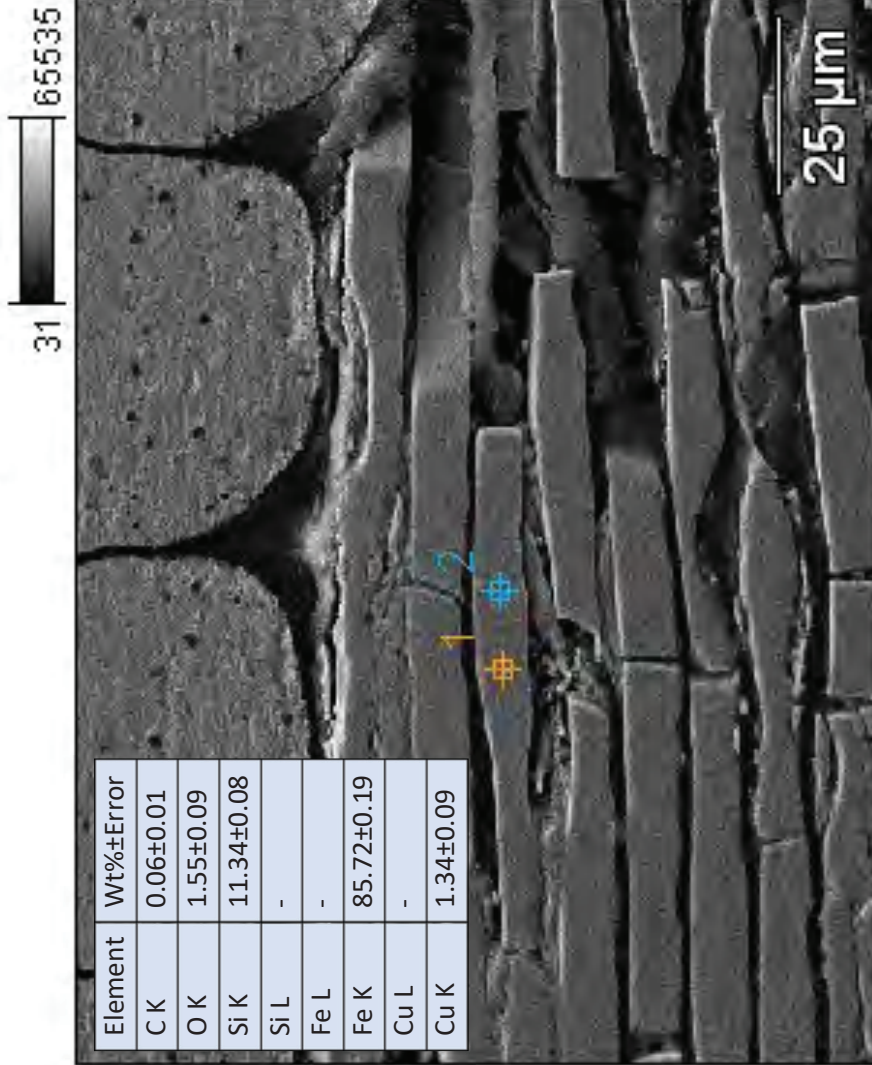
Accused Products

See, e.g.:

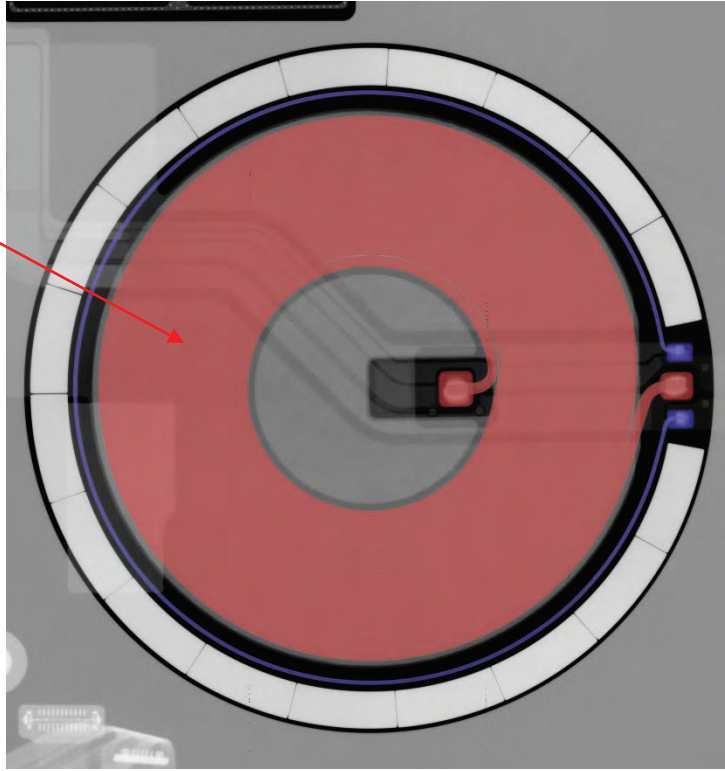


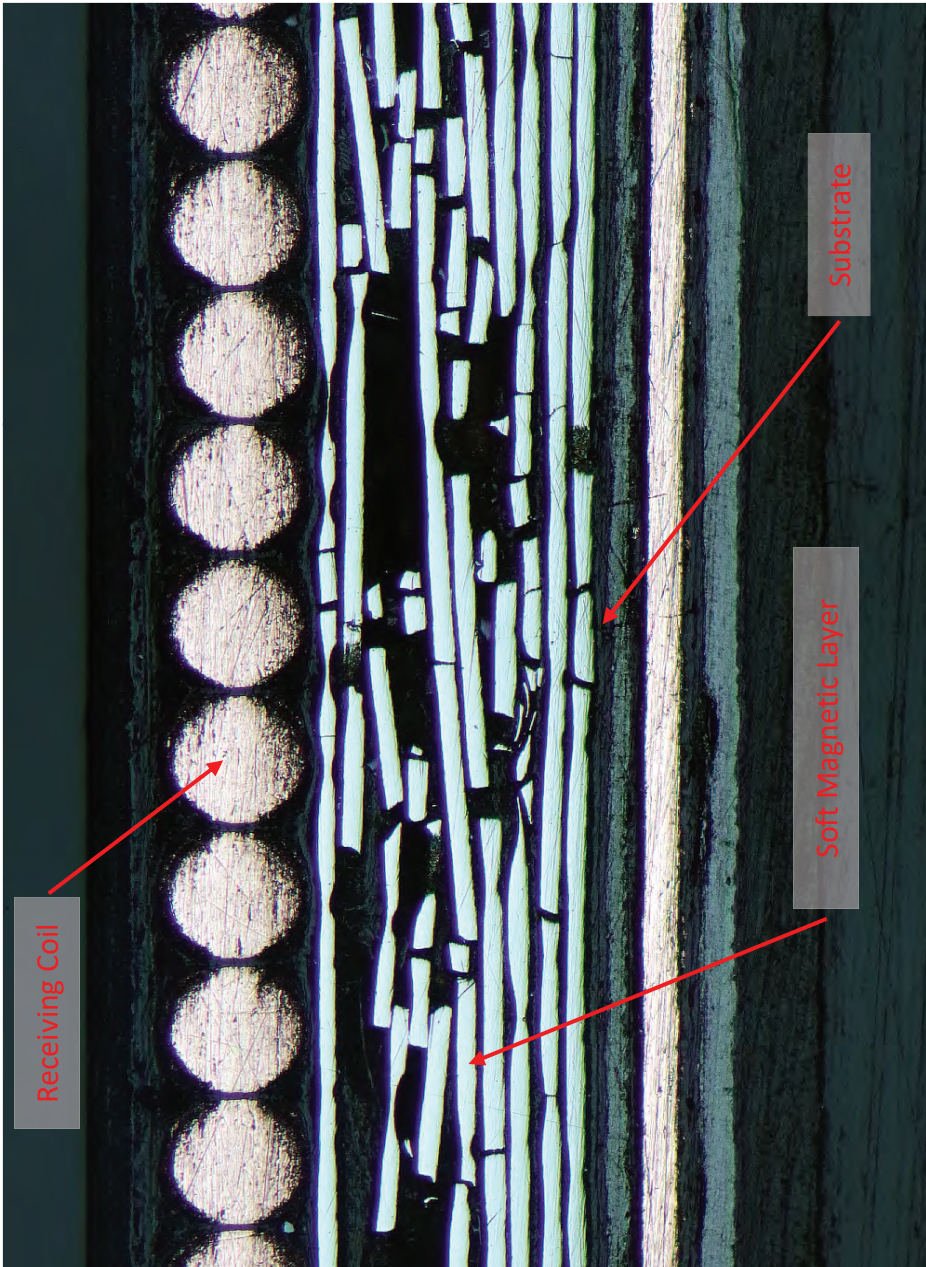
Optical cross section of the wireless power receiving antenna from the exemplary Apple iPhone 12 illustrating the soft magnetic layer, first magnetic sheet, and second magnetic sheet.

Base(9)



SEM image and EDS measurements of the soft magnetic layer, showing the elemental composition averaged over the points labeled 1 and 2. The large iron and silicon content indicates the layer is a soft magnetic material.

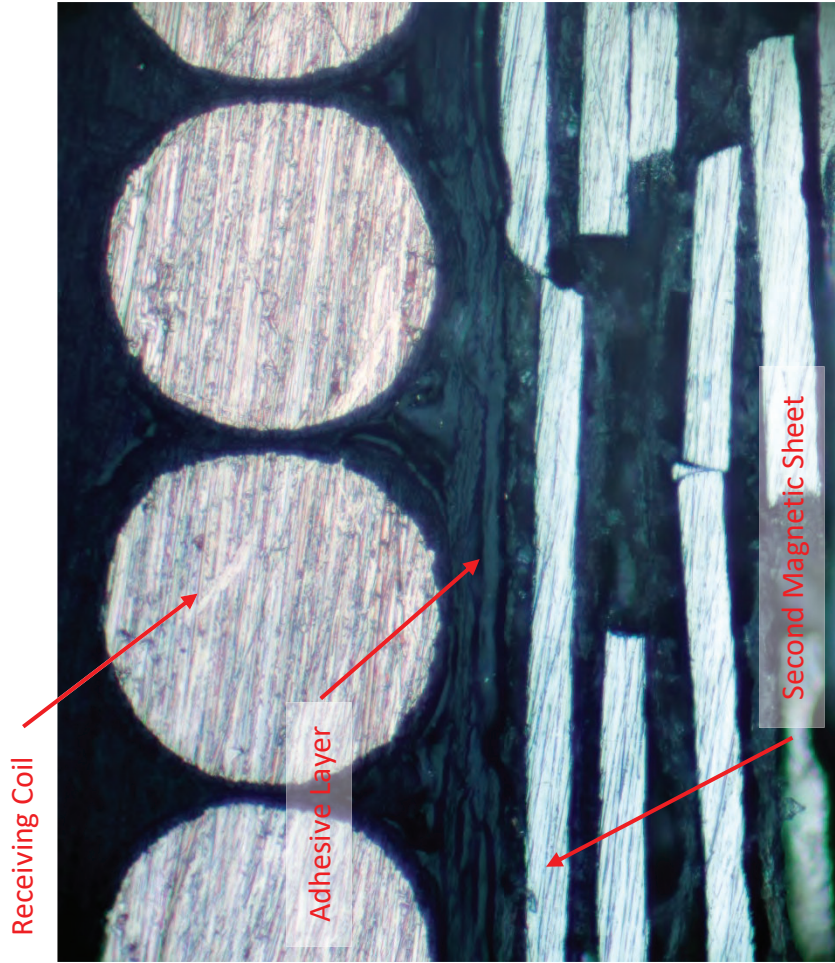
| Claim 18 | Accused Products |
|--|---|
| <p>[18c] a receiving coil disposed on the second magnetic sheet, and</p> | <p>Each Accused Product comprises a receiving coil disposed on the second magnetic sheet.</p> <p>See, e.g.:</p>  <p>X-ray of the wireless power receiving antenna from the exemplary Apple iPhone 12 illustrating the pattern of the receiving coil (red).</p> |

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|---|--|
| <p>Claim 18</p> | <p>Accused Products</p> |
|  | <p>Optical cross section of the wireless power receiving antenna from the exemplary Apple iPhone 12 illustrating the receiving coil on the second magnetic sheet.</p> <p>Each Accused Product comprises an adhesive layer formed between the second magnetic sheet and the receiving coil.</p> |

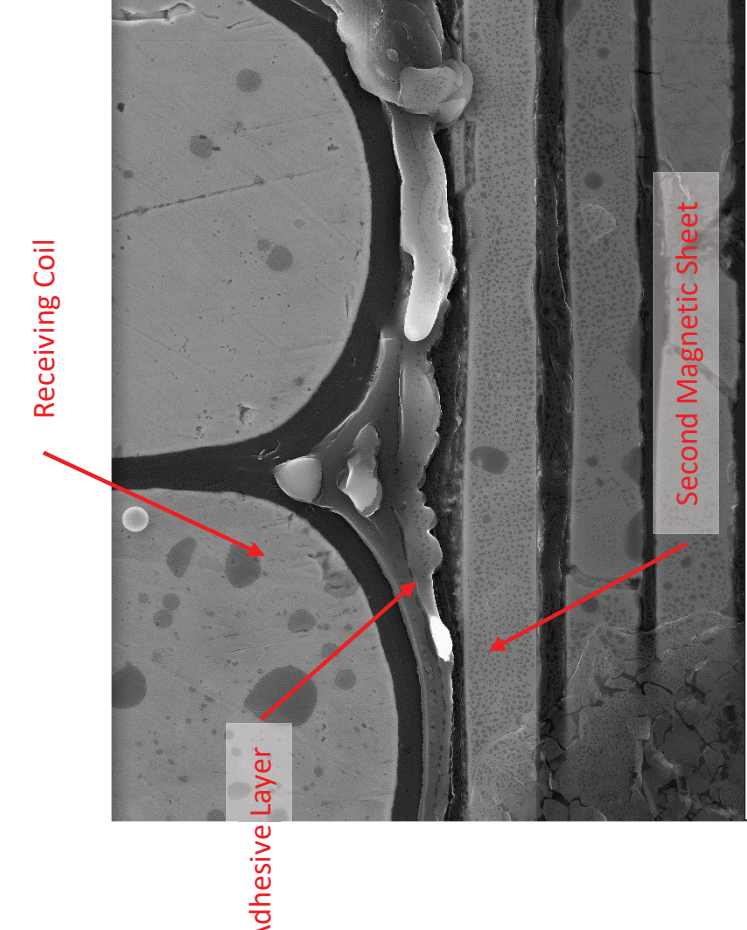
Claim 18

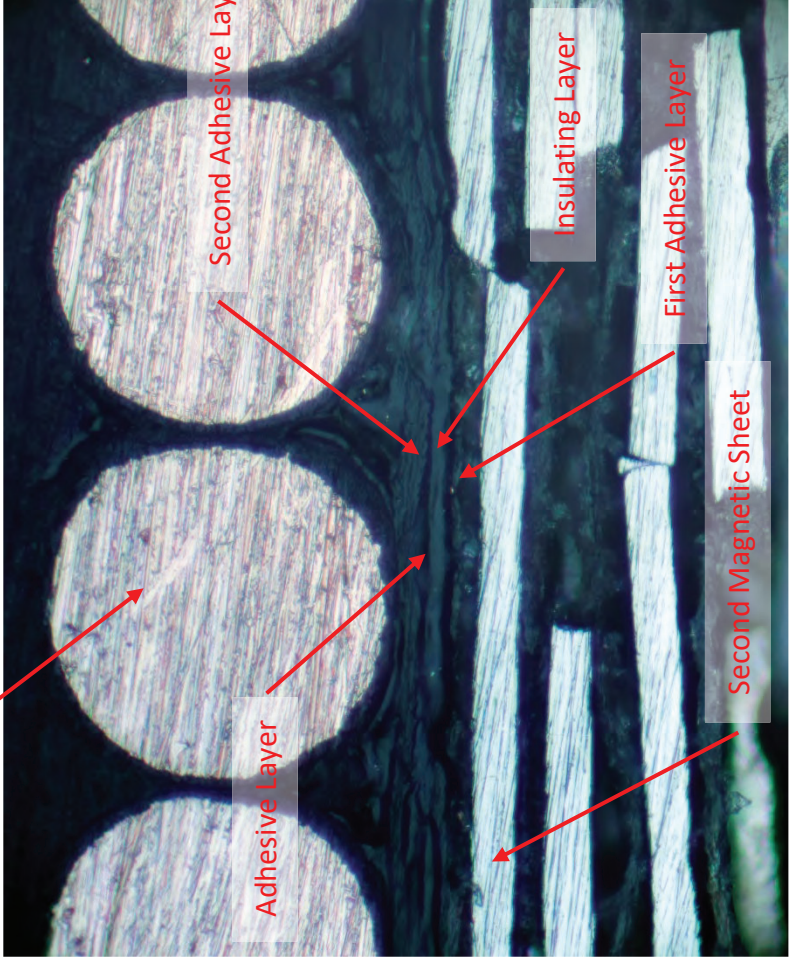
Accused Products

See, e.g.:



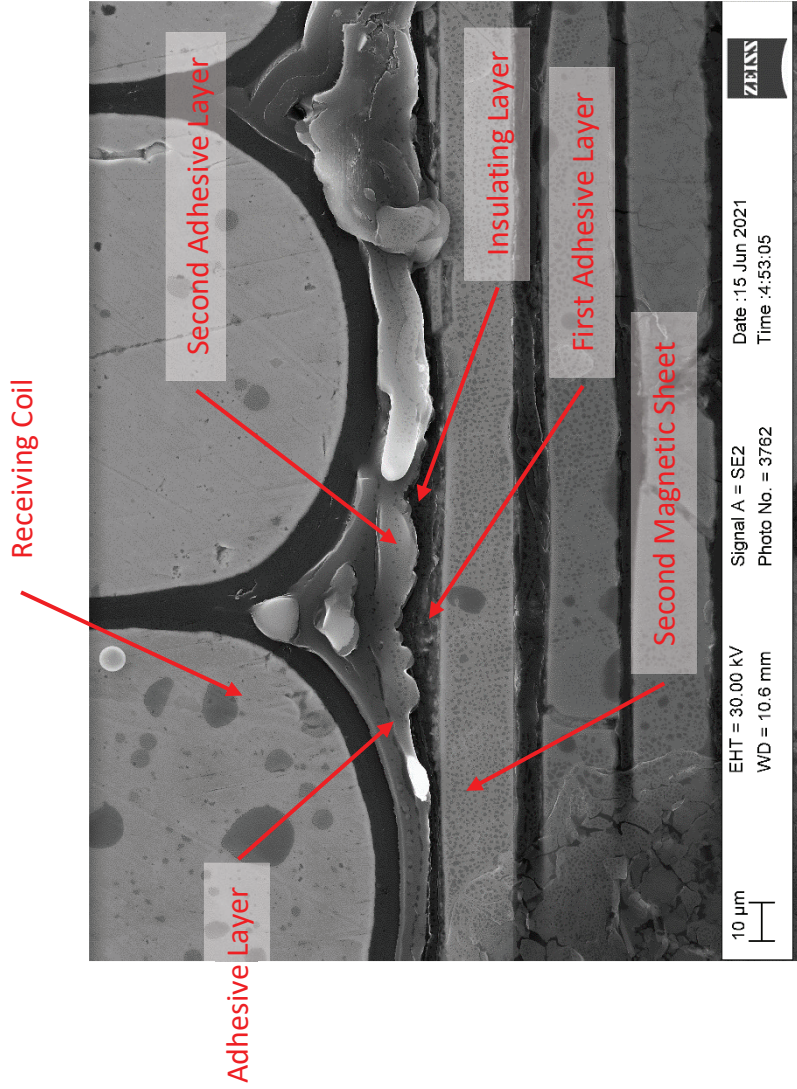
Optical cross section of the wireless power receiving antenna from the exemplary Apple iPhone 12 showing the adhesive layer between the second magnetic sheet and the receiving coil.

| Claim 18 | Accused Products |
|---|--|
| |  <p data-bbox="284 1417 1177 1522">SEM cross section of the wireless power receiving antenna from the exemplary Apple iPhone 12 showing the adhesive layer between the second magnetic sheet and the receiving coil.</p> |
| <p data-bbox="1193 1543 1469 1827">[18e] wherein the adhesive layer includes a first adhesive layer in contact with the second magnetic sheet, a second adhesive layer in contact with the receiving coil, and an insulating layer disposed between the first adhesive layer and the second adhesive layer. <i>See, e.g.:</i></p> | <p data-bbox="1193 1543 1307 1827">In each Accused Product, the adhesive layer includes a first adhesive layer in contact with the second magnetic sheet, a second adhesive layer in contact with the receiving coil, and an insulating layer disposed between the first adhesive layer and the second adhesive layer. <i>See, e.g.:</i></p> |

| | |
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| <p>Claim 18</p> <p>and an insulating layer disposed between the first adhesive layer and the second adhesive layer, and</p> | <p>Accused Products</p> |
|  <p>Optical cross section of the wireless power receiving antenna from the exemplary Apple iPhone 12 showing the first adhesive layer in contact with the second magnetic sheet, the second adhesive layer in contact with the receiving coil, and the insulating layer disposed between the first adhesive layer and the second adhesive layer.</p> | |

Claim 18

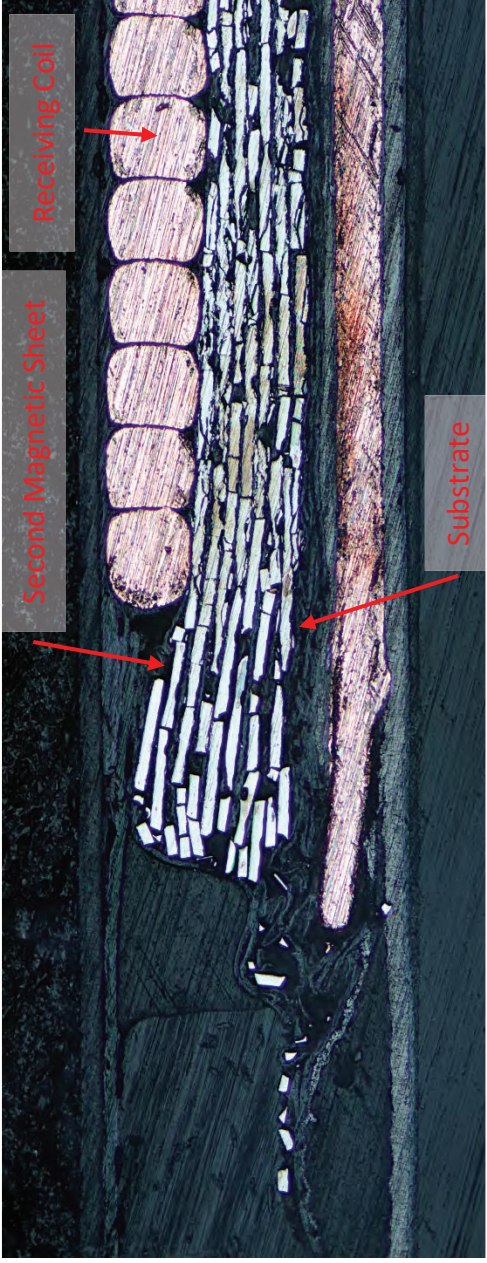
Accused Products



SEM cross section of the wireless power receiving antenna from the exemplary Apple iPhone 12 showing the first adhesive layer in contact with the second magnetic sheet, the second adhesive layer in contact with the receiving coil, and the insulating layer disposed between the first adhesive layer and the second adhesive layer.

[18f] wherein a height of a highest position of the second magnetic sheet from the substrate is higher than a

height of a highest position of the second magnetic sheet from the substrate is higher than a height of a lowest position of the receiving coil from the substrate.

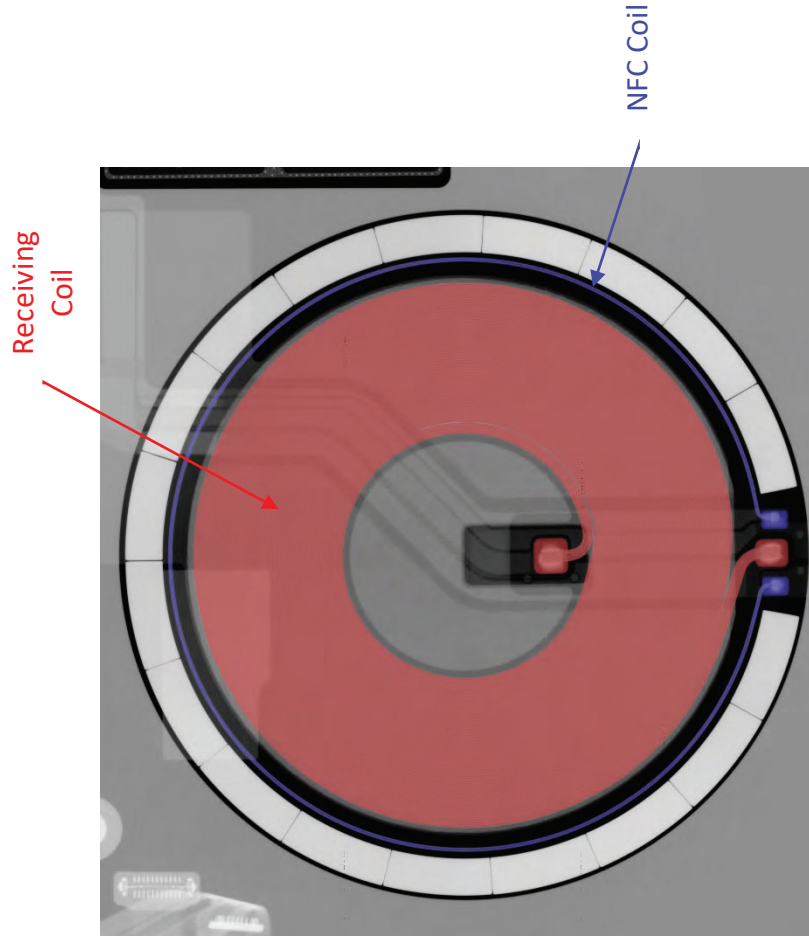
| | |
|--|-------------------------|
| <p>Claim 18</p> <p>height of a lowest position of the receiving coil from the substrate.</p> | <p>Accused Products</p> |
| <p>See, e.g.:</p>  <p>Optical cross section of the wireless power receiving antenna from the exemplary Apple iPhone 12 showing a height of the highest position of the second magnetic sheet from the substrate is higher than a height of the lowest position of the receiving coil from the substrate.</p> | <p>Accused Products</p> |

| | |
|---|--|
| <p>Claim 19</p> <p>The wireless power receiving apparatus of claim 18, further comprising a NFC coil disposed to surround a side portion of the receiving coil.</p> | <p>Accused Products</p> <p>In each iPhone 12 Accused Product, the wireless power receiving antenna of claim 18 further comprises a NFC coil disposed to surround a side portion of the receiving coil.</p> |
|---|--|

Claim 19

Accused Products

See, e.g.:



X-ray of the wireless power receiving antenna from the exemplary Apple iPhone 12 illustrating the pattern of the receiving coil (red) and the pattern of the NFC coil (blue) surrounding a side portion of the receiving coil.