

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMAZON.COM, INC., AMAZON.COM SERVICES LLC,

Petitioner,

v.

NOKIA TECHNOLOGIES OY,

Patent Owner.

IPR2024-00798

U.S. Patent No. 9,473,602

PETITION FOR *INTER PARTES* REVIEW

OF U.S. PATENT NO. 9,473,602

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EXHIBIT LIST

Exhibit No.	Description
1001	U.S. Patent No. 9,473,602 to Jorgensen (“the ’602 patent”)
1002	Prosecution File History for the ’602 patent (“Prosecution History”)
1003	Declaration of Steven Visser (“Visser”)
1004	U.S. Patent Application Publication No. 2012/0194997 (“McClure-997”)
1005	U.S. Patent Application Publication No. 2012/0194998 (“McClure-998”)
1006	U.S. Patent Application Publication No. 2004/0214619 (“Chiang”)
1007	International Design Magazine, August 2002
1008	Motorola Razr v3 Repair Manual, April 2005
1009	U.S. Patent No. 7,787,618 (“the ’618 patent”)
1010	Prosecution File History for the ’618 patent (“the ’618 patent FH”)
1011	Prosecution File History for U.S. Patent No. 8,953,780
1012	Prosecution File History for U.S. Patent No. 8,615,077
1013	Complaint, <i>Electronic Devices, Including Mobile Phones, Tablet Computers, and Components Thereof</i> , ITC 337-TA-1038
1014	ITC 337-TA-1038 Apple's Claim Construction Response Brief
1015	ITC 337-TA-1038 Nokia's Claim Construction Reply Brief
1016	ITC 337-TA-1038 Nokia's Infringement Contentions - iPhone 6s
1017	ITC 337-TA-1038 Nokia's Infringement Contentions - iPhone 7
1018	ITC 337-TA-1038 Nokia's Infringement Contentions - Galaxy Tab A
1019	ITC 337-TA-1038 Nokia's Infringement Contentions - Surface Pro 4
1020	Complaint, <i>Nokia Techs. Oy v. Apple Inc.</i> , 2:16-cv-1441 (E.D. Tex. Dec. 21, 2016), ECF No. 1
1021	First Amended Complaint, <i>Nokia Corp. v. Amazon.com, Inc.</i> , No. 1:23-cv-01232 (D. Del. Oct. 31, 2023), ECF No. 5
1022	<i>Nokia Corp. v. Amazon.com, Inc.</i> , No. 1:23-cv-01232 (D. Del.) Nokia’s Infringement Contentions – Fire HD 8
1023	ITC 337-TA-885 Nokia's Reply Claim Construction Brief
1024	Excerpts from Chris Lefteri, <i>Metals Materials for Inspirational Design</i>

The original application in the '602 patent family was filed in 2006 as Nokia's answer to the Motorola RAZR phone. The common specification in the patent family describes alleged improvements to the RAZR form factor. The following year, in 2007, Apple announced the iPhone, which relegated Nokia and RAZR feature phones to an outdated and declining market segment.

In 2013, Nokia filed a continuation that cited the original 2006 application but copied features of Apple's form factor into its claims. This line of applications eventually issued as the '602 patent, which Nokia then asserted against Apple, alleging infringement by Apple iPhones and iPads. The cases against Apple terminated before any substantive decision.

However, the '602 specification provides no support for Apple's form factor, and therefore the '602 patent is not entitled to a 2006 priority date. Instead, the priority date for the '602 patent is, at best, 2013, meaning the '602 patent post-dates and is invalidated by the very iPad/iPhone prior art that Nokia accused of infringing. *See* Ex-1016; Ex-1017; Ex-1020; Visser, ¶14.

I. THE '602 PATENT

A. Overview

In the mid-2000s, flip phones, such as the Motorola RAZR, were popular. Visser, ¶4.

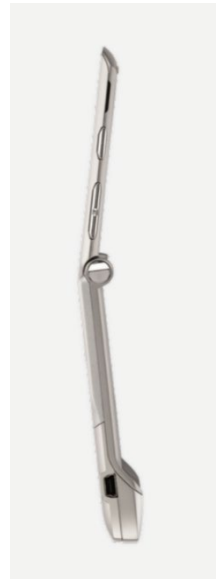
Motorola RAZR Flip Phone¹



The '602 patent is part of a continuation chain that cites and shares the same specification as an original application filed March 2006 (the “Original Application”). That Original Application described Nokia’s attempt, in 2006, to purportedly improve on the RAZR form factor, which it admits was prior art. Ex-1001, 1:23-35; Visser, ¶5. According to the Original Application, there was a “desire” for “ultrathin” flip-phones, which it sought to improve with balanced proportions between the two halves of the flip phone that avoided the “squeezed” appearance of the RAZR. Ex-1001, 1:35-39; Ex-1008; Visser, ¶6.

¹ https://www.gsmarena.com/motorola_razr_v3-pictures-853.php

Motorola RAZR:



To achieve balanced proportions, the embodiments feature “a substantially uniform thickness lower section 12 and a substantially uniform thickness upper section 14 along their entire lengths except for at the hinge 16.” Ex-1001, 3:4-20; Visser, ¶7.

'602 Patent:

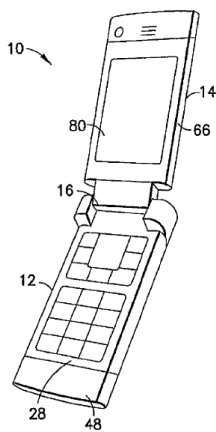


FIG.1

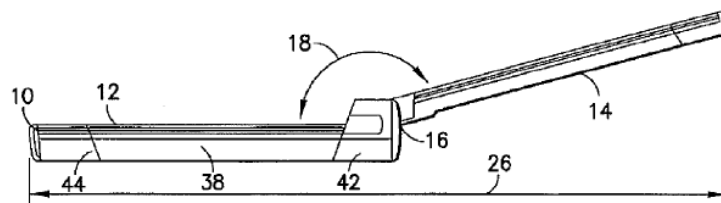


FIG.3

In January 2007, Apple announced the iPhone, which changed the landscape for mobile phone form factors. The iPhone form factor did not have a physical keypad and instead featured a large touchscreen on the front of the phone. In contrast to flip-phones, the iPhone had a one-piece housing design with all internal components in the same housing.² Visser, ¶10.



In 2010, Apple announced the iPad, which was similar to the iPhone but larger. By 2011, the iPad 2, like the iPhone, had a backwards-facing camera. Visser, ¶11.

In 2013, Nokia filed a continuation of the Original Application with new claims modeled after the iPhone/iPad form factor, with a one-piece housing design and a camera in the same housing as the user input, battery, and internal components. A subsequent application followed this approach and issued as the '602 patent. Visser, ¶¶12-13.

² Images from https://www.gsmarena.com/apple_iphone_3gs-pictures-2826.php.

However, as explained below, the specification of the '602 patent does not support the claims of the '602 patent. This is, of course, expected since the '602 patent shares the same specification as the Original Application, which was directed to an alleged improvement on the Motorola RAZR form factor. Visser, ¶14.

The '602 patent also recites conventional manufacturing steps, including extrusion. The specification contains minimal disclosure of how those manufacturing steps operate and therefore relies on the pre-existing knowledge of a person of ordinary skill in the art (“POSITA”) for those steps. Ex-1001, 3:30-36, 4:57-60, 6:8-11; *infra* §IV; Visser, ¶15.

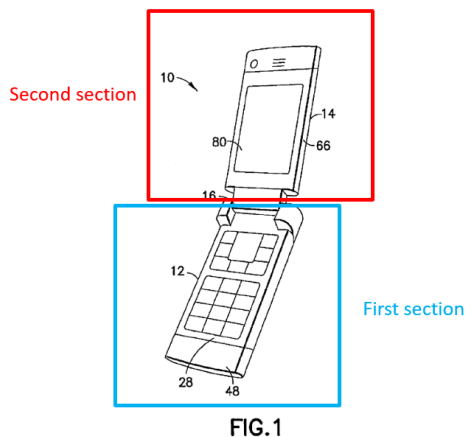
B. Priority Date

This Petition demonstrates invalidity as of October 30, 2013. Visser, ¶¶16-28. The '602 patent is in a continuation chain that shares a common specification with an Original Application filed March 29, 2006. Visser, ¶¶19-20. The shared specification does not provide written description for any claims of the '602 patent, which are therefore not entitled to a 2006 priority date. Visser, ¶20.

The specification describes 2006-era feature phones—notably, a phone with two sections, where the camera is located in the top section and the battery,

engine,³ and user input are located in the bottom section. Ex-1001, 1:43-64, 3:24-65, 4:52-5:25, Fig. 1; Visser, ¶21.⁴ The claims of Nokia’s Original Application, filed in 2006, recited a form factor with two sections, consistent with the specification. Ex-1010, 000020-25 (claims 1, 7, 21); Visser, ¶9. In contrast, the claims of the ’602 patent (filed 2015), are directed to an iPhone or iPad-like form factor with a one-piece housing for the camera, battery, engine, and user input—a configuration that has no written description in the ’602 patent specification and was not contemplated by Nokia in 2006 before the iPhone was announced. Visser, ¶21.

’602 Patent Specification



iPhone



³ The “engine section” comprises a PCB with a processor, memory, and transceiver (e.g., limitation [1d]).

⁴ All annotations and emphasis added unless stated otherwise.

More specifically, the shared specification is directed to a flip-phone comprising two sections connected by a hinge. Ex-1001, 1:43-50; *see also* Ex-1009, 1:32-39. The first (bottom) section comprises, e.g., a first housing member, engine section, battery, and user input section. Ex-1001, 3:24-44; *see also* Ex-1009, 3:11-31. The second (top) section comprises a second housing member, display, and camera. Ex-1001, 4:52-5:6, 5:15-25; *see also* Ex-1009, 4:36-57, 4:66-5:9. The claims of the Original Application were directed to a flip-phone configuration comprising two sections. *See* Ex-1009, 6:6-8:35, Figs. 1-7; Ex-1010, 000020-25, 000166-172, 000200-205, 000237-242; Visser, ¶22.

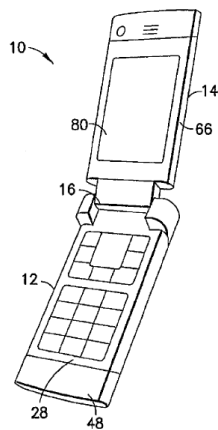


FIG. 1

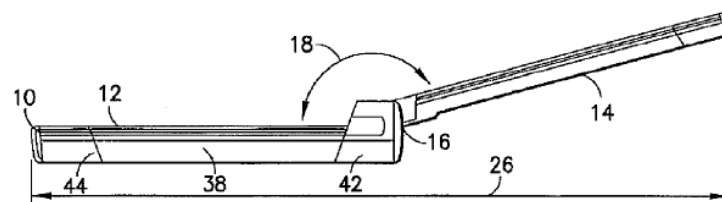
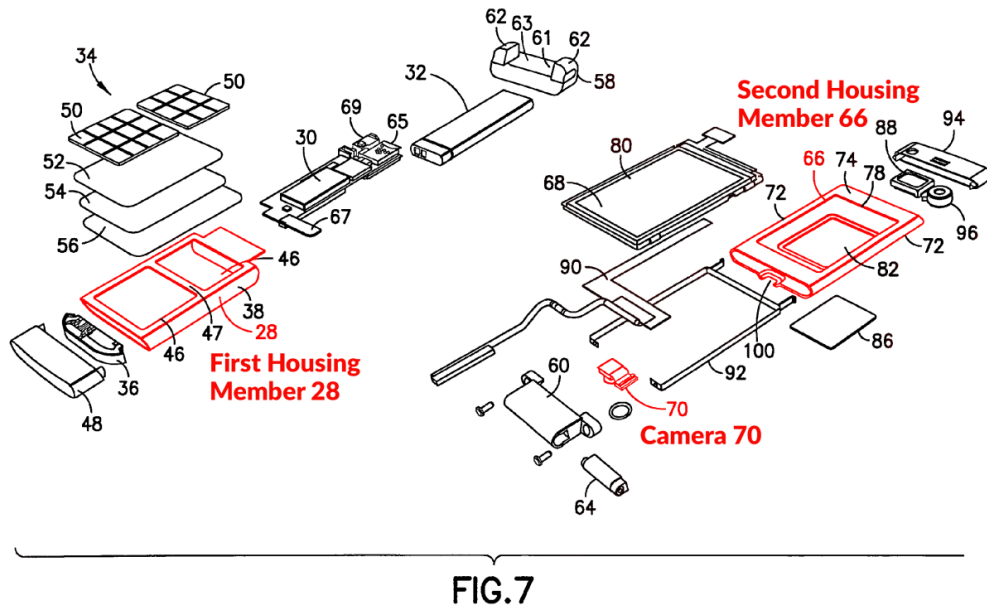


FIG. 3



Since the specification is directed to a flip-phone where the camera is in the second (*top*) section, the specification does not contain written description for a camera located in the same section or housing as the battery, engine, and user input section, which are described as being in the first (*bottom*) section. Likewise, since the camera is in a different housing, there is no disclosure of (i) a camera that extends to a cutout of the housing that also includes the battery and engine section, or (ii) the user input being located in an opening between lateral sides of a housing with a camera—both of which are required by the Challenged Claims. *See generally* Ex-1001, Ex-1009; Visser, ¶23.

However, that is precisely what the '602 patent claims. All independent claims recite a one-piece housing (limitations [1a]/[15a]/[22a]) that houses the battery and engine section ([1f]/[15c]/[22f]), with a cutout in the housing and a

camera extending to the cutout ([1b]-[1c], [22b]-[22c]). Similarly, limitation [15c] recites “a cut out in the rear side of said housing, said cut out configured to receive at least part of a camera[.]” Therefore, the independent claims of the ’602 patent require the camera, engine section, and battery to be housed in the same one-piece housing. Claims 1 and 22 require that the user input is located in an opening in this same housing (limitations [1f] and [22f]). Visser, ¶24.

This configuration is not disclosed in the specification; there is no written description for a camera in the same housing as the battery, engine, or user input. The specification discloses the camera in a separate (top) housing. E.g., Ex-1001,

Fig. 7:

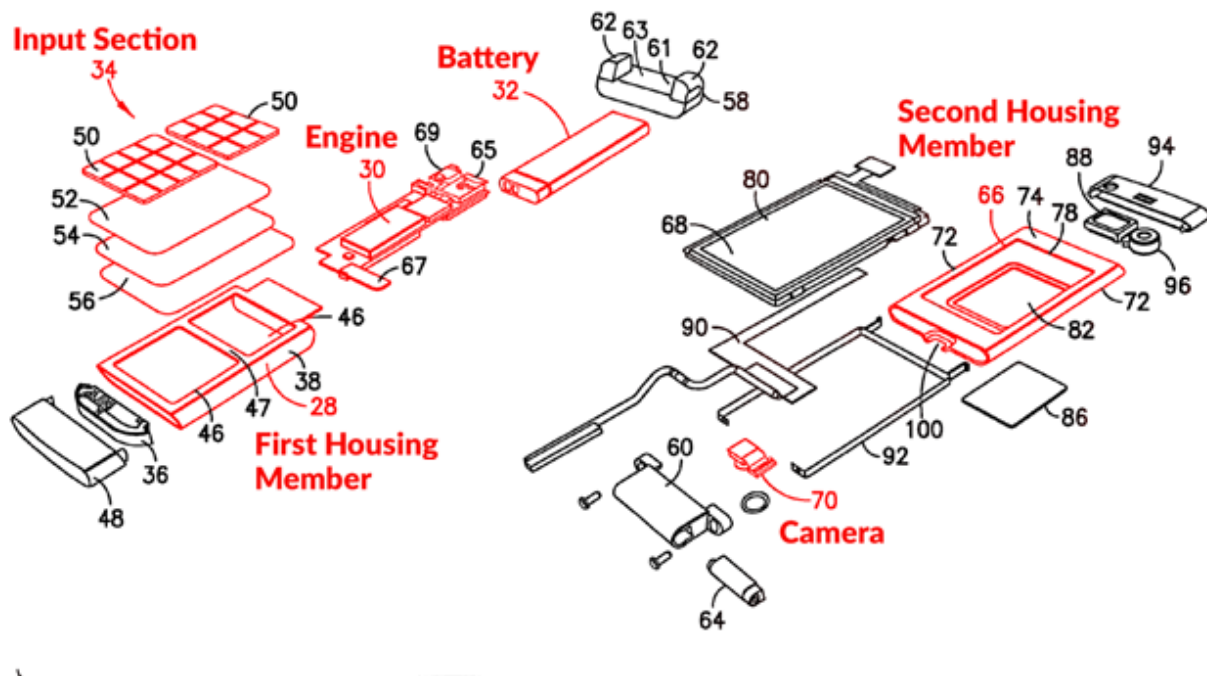


FIG.7

Given this lack of written description, a POSITA would not conclude that the inventor had possession of the invention claimed by the '602 patent when the applicant filed the Original Application in 2006. Visser, ¶25.

Years after the iPhone and iPad were introduced, Nokia filed continuation applications with new claims aimed at the iPhone/iPad form factor, which featured a camera in the same housing as the battery, engine, and touchscreen user input, unlike the flip-phone design described by the '602 patent specification.

Specifically, the application for U.S. Patent No. 8,953,780, filed October 2013, was the first in the continuation chain to recite limitations for “a cut out in the rear side of said housing” and “a camera located in said housing and extending to said cut out at said rear side[.]” Ex-1011 (the '780 Patent FH), 000039. In preliminary amendments that the applicant made at the time of filing, newly-added claim 25 and other independent claims recite that a camera is located in the same one-piece housing as the user input, engine, and battery, and it extends to a cutout in the rear side of the housing. *Id.*; Visser, ¶26. Therefore, even if Nokia argues that the claims somehow provide written description for themselves, the earliest such claims were in the preliminary amendment filed October 30, 2013. Visser, ¶¶27-28.

C. Prior Litigation

In District Court and the International Trade Commission, Nokia alleged that the iPhone/iPad form factors infringed the '602 patent. Ex-1020, 000039-44; Ex-1020, 000039-44; *see also* Ex-1016, Ex-1017. Both cases terminated before any substantive decision. *See* No. 2:16-cv-1441 (E.D. Tex.); Inv. No. 337-TA-1038 (ITC); Visser, ¶¶32-33.

Nokia further contended, for domestic industry, that the Microsoft Surface Pro and Samsung Galaxy Tab, which had form factors similar to the iPad, satisfied the limitations of the '602 patent. Ex-1013, 000055-56, 000062; Visser, ¶¶34-35; Ex-1018; Ex-1019.

Samsung Galaxy Tab



Ex-1018, 000008.

Microsoft Surface Pro

Ex. 1019, 000009.

II. FIELD AND LEVEL OF SKILL

The field of '602 patent is the form factor design of portable electronic devices. Ex-1001, 1:19-21; Visser, ¶37. A POSITA at the time of alleged invention of the '602 patent would have had (1) a bachelor's degree in industrial design, fine arts, or a similar field, and (2) at least two years of practical experience in industrial design. Additional experience can substitute for the level of education, and vice-versa. Visser, ¶¶36-40.

III. CLAIM CONSTRUCTION

Claims should be construed according to the ordinary and customary meaning as understood by a POSITA.

A. “housing [...] forming enclosed exterior lateral sides and a rear side” (claims 1, 15, 22)

In a prior ITC investigation (Inv. No. 337-TA-1038), Nokia briefed that a “housing” means “member that houses” and therefore this term requires a “member that houses forming enclosed exterior lateral sides and a rear side.” Ex-1015, 000064-70; Visser, ¶¶43-44. Nokia disputed Apple’s proposed construction of “tubular housing” as being “much too narrow, particularly if it requires that the housing have a ‘front side.’” Ex-1015, 000064. Nokia argued that “housing” does not require an enclosed front side and does not require open top and bottom ends. Ex-1015, 000065-68; Visser, ¶45.

The Petition shows how Nokia’s proposed construction is satisfied by the prior art, which invalidates the Challenged Claims regardless of whether the construction is adopted. Visser, ¶46.

IV. MANUFACTURING BACKGROUND

By 2013, portable electronic devices, including the iPhone and iPad, were well-known in the art and widespread in the market. Visser, ¶47. Several techniques were known for manufacturing housings for portable electronic devices, including extruding a hollow tubular shape and subsequently machining or punching desired openings and holes. One-piece housings manufactured in such manner were featured in various products, including for example Apple’s iPod

minis released in 2004 and Samsung's personal MP3 player. See Ex-1014, 000069; Ex-1007; Visser, ¶¶48-49.

iPod Mini



Samsung's Personal MP3 Player



V. INVALIDITY GROUNDS

Petitioner requests *inter partes* review and cancelation of the challenged claims on the following grounds:

Grounds	Claims	Statutory Basis	Prior Art
1	1-8, 11-29, 32-36	§ 103	McClure-997
2	1-8, 11-29, 32-36	§ 103	McClure-997 and McClure-998
3	1-36	§ 103	McClure-997 and McClure-998 in view of Chiang

Visser, ¶31, ¶¶50-51.

The Grounds render the challenged claims obvious because any differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to POSITA to which the subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007).

A. Grounds 1 and 2

McClure-997 teaches the iPad form factor, which satisfies all limitations of the challenged claims. McClure-997 incorporates a related patent, McClure-998 by reference. McClure-998 reinforces McClure-997 with additional details regarding the form factor and further teaches various dependent claims and later independent claims regarding mobile phones and the shape of the front of the

housing. *E.g.*, Ex-1005, ¶33, ¶¶39-42, ¶45, ¶¶58-59, ¶61, ¶68, ¶¶70-72, ¶89, ¶105, ¶111, ¶119, Figs. 1A-B, 3A-B, 5A, 11; *see* §V.A.2; Visser, ¶52.

McClure-997 and McClure-998 incorporate each other by reference. Ex-1004, ¶1, ¶3; Ex-1005, ¶1. When one reference is incorporated into another, it is considered to be part of the other reference. *Finjan LLC v. ESET, LLC*, 51 F.4th 1377, 1382 (Fed. Cir. 2022) (“Incorporation by reference of a patent renders the entire contents of that patent's disclosure a part of the host patent.”) (internal quotations omitted). To the extent Nokia argues these are separate references, incorporation by reference provides express motivation to combine. Ex-1004, ¶1, ¶3; Ex-1005, ¶1; *see Cisco Sys., Inc. v. NetFuel, Inc.*, IPR2019-00992, Paper 41 at 87-90 (Nov. 5, 2020) (finding a motivation to combine references that were incorporated into each other).

A POSITA would have been motivated to combine McClure-997 and McClure-998. Both are Apple patent application publications filed the same day, sharing common inventors. Both are directed to aspects of the iPad form factor. *Infra* §§V.A.1-2; Ex-1004, Abstract, ¶¶14-15, Figs. 1-8; Ex-1005, ¶¶10-11, ¶¶40-43, Figs. 1A-B, 2, 3A-B; Visser, ¶¶53-54.

McClure-997

McClure-998

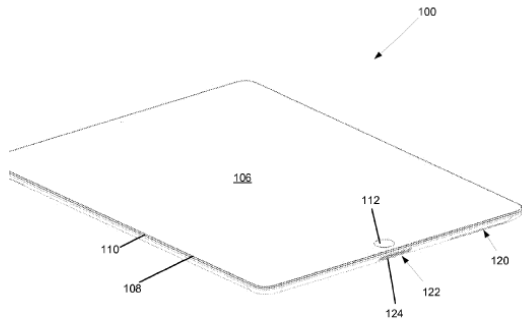
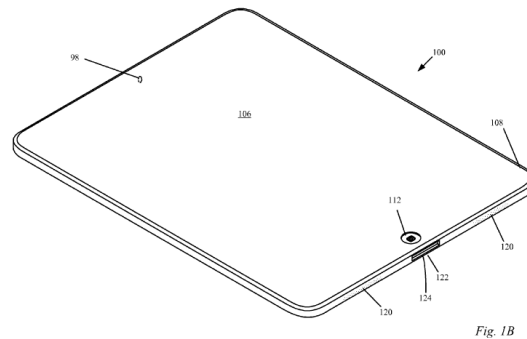


Fig. 2



Ex-1004, Fig. 2

Ex-1005, Fig. 1B

A POSITA would have had ample motivation to combine by applying teachings from McClure-997 and McClure-998 to the iPad form factor, such as those teachings described below (*infra* §§V.A.1-2), including a full-sized tablet and mobile phones (which had scaled-down dimensions compared to tablets) because McClure-997 and McClure-998 apply their teachings to both. *See* Ex-1004, Abstract, ¶¶6-9, ¶38, ¶45; Ex-1005, ¶5, ¶¶45-46, ¶56; Visser, ¶55.

McClure-997 and McClure-998 teach complementary aspects of the iPad form factor and were meant to be used together. *See* Ex-1004, ¶1, ¶3; Ex-1005, ¶1. For example, McClure-997 teaches a one-piece housing with a front opening through which internal components are assembled, with detailed figures regarding

the precise location of internal components. *E.g.*, Ex-1004, ¶¶38-39, ¶44, ¶61, Figs. 1-8. McClure-998 includes similar, though less detailed, figures showing the general location of internal components (Ex-1005, Fig. 3A) with additional details, for example, regarding the ledges around the front of the iPad (*e.g.*, Ex-1005, ¶¶58-59, ¶68, ¶70, ¶72, ¶89, ¶105, Figs. 3A-B, 5A). McClure-998 also teaches the use of the iPad for wireless data network, such as a cellular data network, as was widely known and used in the art. Ex-1005, ¶45, ¶¶56-57, ¶109. Therefore, a POSITA would have been motivated to combine McClure-997 and McClure-998 because it was a combination of prior art elements according to known methods to yield predictable results, *e.g.*, the iPad form factor and usage model taught by the McClure references. Visser, ¶56.

McClure-997 and McClure-998 teach various features and details of the iPad form factor, which they sometimes refer to as “embodiments.” These embodiments are intended to be used together to describe related, complementary aspects of the iPad form factor and operation, including the structure of the external housing (*e.g.*, Ex-1004, ¶¶39-40; Ex-1005, ¶¶52-53) and arrangement of internal components disposed within the housing (*e.g.*, Ex-1004, ¶61; Ex-1005, ¶61). Indeed, the McClure references provide interrelated figures that depict different portions of an iPad. *See* Ex-1004, Figs. 1-8; Ex-1005, Figs. 1A-B, 2, 3A-B. A POSITA would have been motivated to combine the McClure references’

teachings together, with a reasonable expectation of success, because that is how the McClure references present them. *See* Ex-1004, Figs. 4-6; Ex-1005, Figs. 3A-B (showing the combined design of exterior housing and internal components). Moreover, by the relevant timeframe in 2013, the iPad was well-known in the art, which would have motivated a POSITA to apply teachings from the McClure references (an Apple patent application) to the iPad form factor. Visser, ¶57.

A POSITA would have had a reasonable expectation of success in combining McClure-997 and McClure-998 because Ground 2 applies their teachings to an iPad form factor, which was the intended purpose of each reference. *E.g.*, Ex-1004, ¶¶39-44, Figs. 1-8; Ex-1005, ¶¶38-45, Figs. 1A-B, 2, 3A-B. Therefore, combining McClure-997 and McClure-998 would not have changed the principle of operation of either reference. Visser, ¶58.

A POSITA with two years of industrial design experience would have been able to apply teachings from McClure-997 and McClure-998 to a tablet or mobile phone form factor. This would have been well within the level of ordinary skill (*see* §II) because iPads and iPhones were well-known in the art, and the application of these teachings would have been simple changes to the design and appearance of a tablet and/or mobile phone. Visser, ¶59.

1. McClure-997 (Ex-1004)

U.S. Patent Application Publication 2012/0194997 was filed on January 31, 2011 from Apple Inc., published on August 2, 2012, and is prior art under AIA §§102(a)(1) and (2). Visser, ¶¶60-61.

McClure-997 teaches the iPad form factor, which includes one-piece housing enclosing various internal components with a front opening for a touchscreen user input. Ex-1004, Abstract, ¶¶14-15, Figs. 1-8. To reduce thickness, internal components are “substantially in the same plane” (*id.*, ¶59, ¶66) with a touchscreen display above (*Id.*, Figs. 1-8). Visser, ¶62.

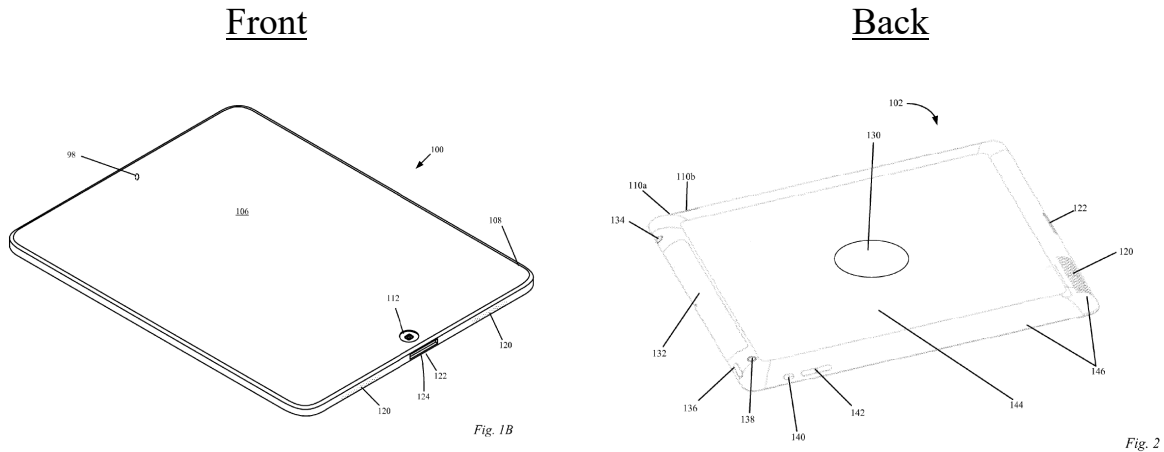
McClure-997 is analogous art in the same field as the '602 patent (*supra* §II) because it teaches the form factor configuration of a portable electronic device, including the shape, structure, and components. *See* Ex-1004, ¶¶14-15; Visser, ¶63.

2. McClure-998 (Ex-1005)

U.S. Patent Application Publication No. 2012/0194998 was filed on January 31, 2011 from Apple Inc., published on August 2, 2012, and is a prior art under AIA §§102(a)(1) and (2). Visser, ¶¶64-65.

McClure-998 also teaches the iPad form factor, which includes a touchscreen, one-piece housing, internal components, and a camera in a cut out in

the back side. Ex-1005, ¶¶10-11, ¶¶39-44, ¶62, ¶54, ¶119, Figs. 1A-3B; Visser, ¶66.



McClure-998 teaches additional details regarding the front of the housing (e.g., Ex-1005, ¶33, ¶¶40-42, ¶¶58-59, ¶¶68-72, ¶89, ¶105, Figs. 1A-5A) and mobile phones on wireless networks (*id.*, e.g., ¶45, ¶119). Visser, ¶67.

McClure-998 is analogous art in the same field as the '602 patent (*supra* §II) because it teaches the form factor configuration of a portable electronic device, including the shape, structure, and components. Ex-1005, ¶10; Visser, ¶68.

3. Independent Claims 1, 22

[1pre] A portable electronic device comprising:

[22pre] A mobile phone comprising:

Grounds 1 and 2 teach [1pre]/[22pre]. Visser, ¶¶69-71. McClure-997 and McClure-998 both teach **a portable electronic device**, including **a mobile phone**. For example, both apply their teachings to “portable computing devices” including

laptop computers, tablet computers, PDAs, media players, and cellular phones.

Ex-1004, Abstract, ¶¶6-9, ¶38; Ex-1005, ¶5, ¶45; Visser, ¶70.

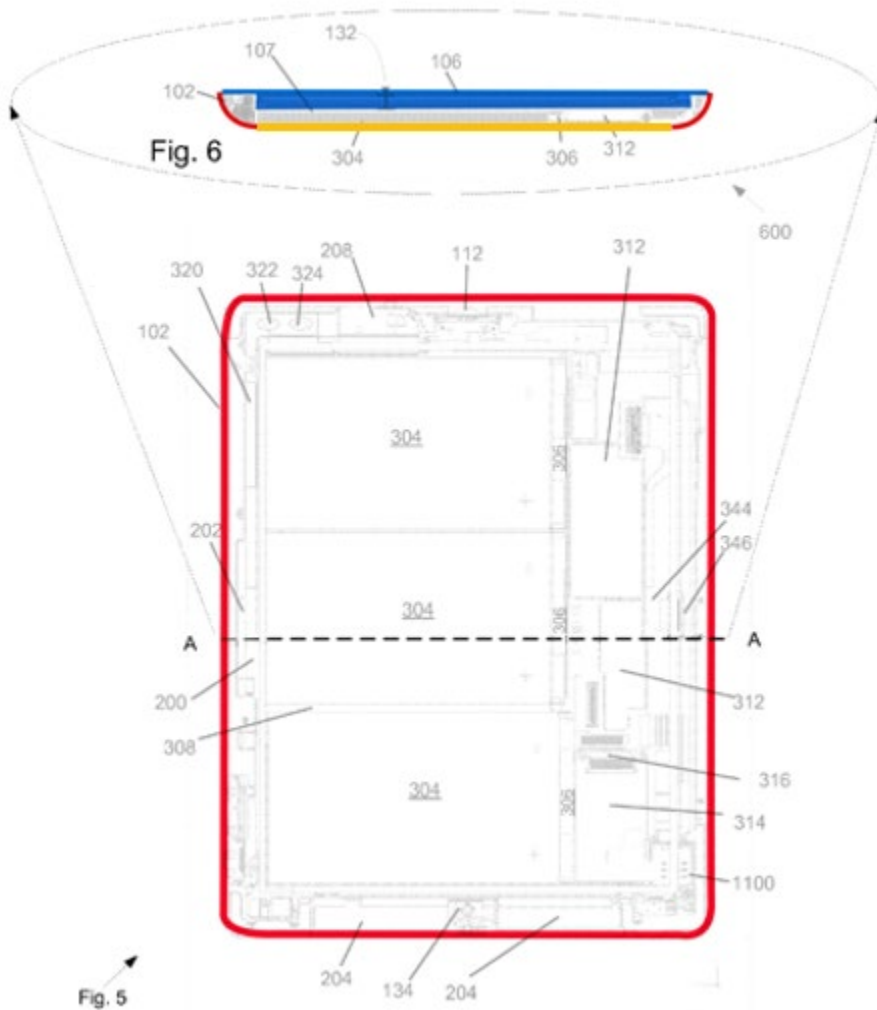
To the extent Nokia argues the iPad form factor does not teach a mobile phone, it would have been obvious to a POSITA. For example, iPhones, which are mobile phone devices, had similar form factors as that of iPads, having one-piece housing with a large touchscreen display in front, cameras both on the front and back sides of the housing. The compatibility was touted as a selling point for those Apple devices. The iPad form factor was a larger (scaled up) iPhone, and a POSITA would have found mobile phones obvious based on the teachings of the McClure references. Visser, ¶71.

[1a] a one piece housing forming enclosed exterior lateral sides and a rear side;

[22a] a one piece housing of the mobile phone forming enclosed exterior lateral sides and a rear side of the mobile phone;

Grounds 1 and 2 teach [1a]/[22a]. Visser, ¶¶72-80. Ground 1 teaches [1a]/[22a] because McClure-997 teaches **a one piece housing forming enclosed exterior lateral sides and a rear side**. For example, McClure-997 teaches “a single piece housing” that includes a front opening and “an integral bottom and side walls that cooperate to form a cavity.” Ex-1004, Abstract, ¶¶14-15, ¶39, ¶50, Figs. 1-8. As can be seen from annotated Figs. 5 and 6 below, the housing forms enclosed exterior lateral sides (highlighted in red) and a rear side (highlighted in

yellow) such that various internal components are located within the enclosed interior cavity. *Id.*; Visser, ¶72.



That is, McClure-997 teaches a one-piece housing member that forms enclosed exterior lateral sides and a rear side. McClure-997 further teaches that the one-piece housing is formed of a single sheet or block of metal. Ex-1004, ¶¶35-36; Visser, ¶73.

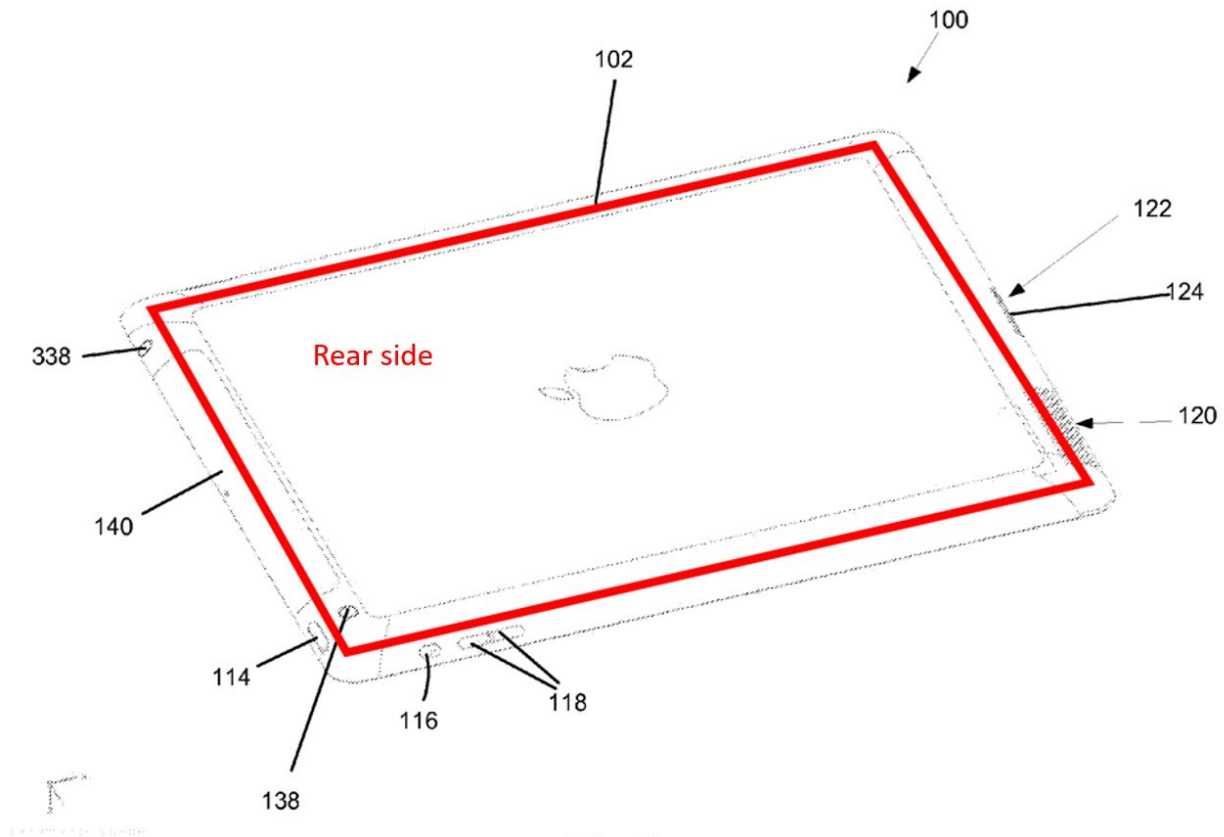


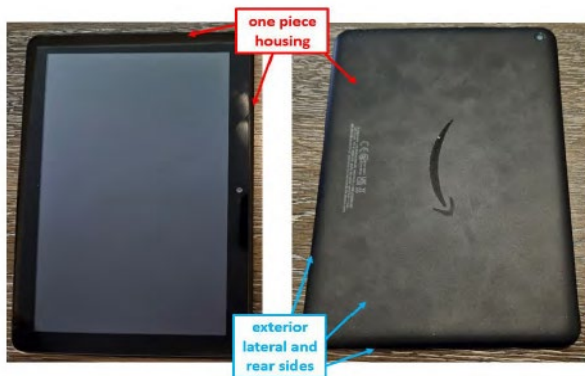
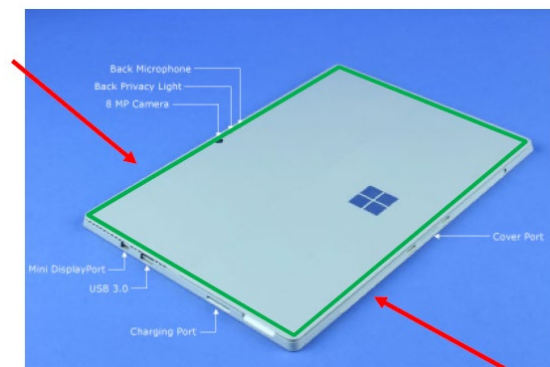
Fig. 3

In the above figure, the red rectangle shows the rear side of the housing before the steeper portion of the curvature and the lateral sides, which enclose and surround the rear side of the housing. *See infra* §V.A.3[1b/22b]; Visser, ¶74.

McClure-997 satisfies the Nokia's construction. Ex-1015, 000064-70; *supra* §III.A. McClure-997's one-piece housing is a member that houses internal components of the iPad and forms enclosed exterior lateral sides and a rear side. *See, e.g.*, Ex-1004, ¶¶14-15, ¶39, ¶47, ¶50, Figs. 1-8. McClure-997 teaches a one-

piece housing of the mobile phone forming enclosed exterior lateral sides and a rear side of the mobile phone. *Supra* §V.A.3[22pre]. Visser, ¶¶75-76.

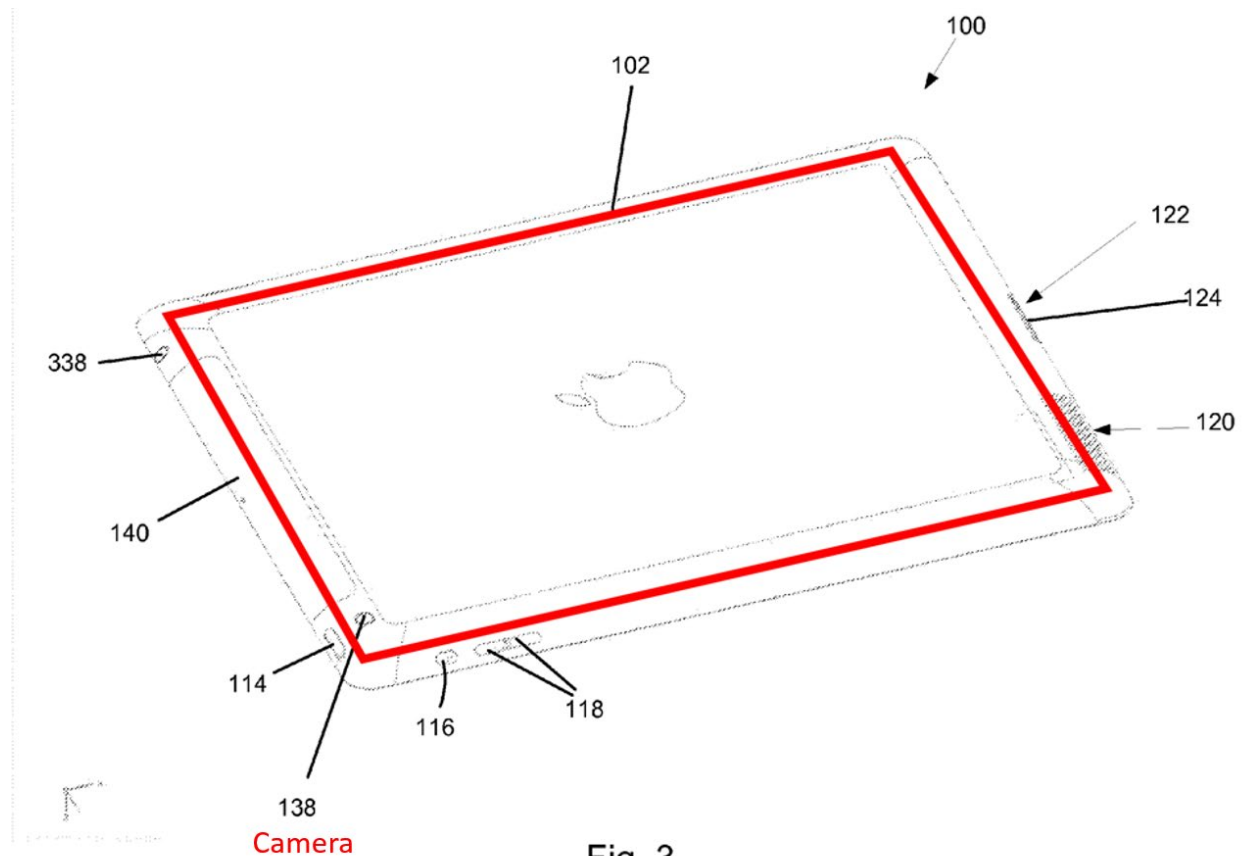
Moreover, McClure-997 teaches a tablet form factor applied more generally to portable electronic devices. *See* Ex-1004, Figs. 1-8. In prior and current litigation, Nokia accused general tablet form factors of satisfying limitation [1a]. Ex-1019, 000003; Ex-1022, 000003; *see also* Ex-1018, 000003. Nokia also accused the iPhone form factor. Ex-1016, 000003; Ex-1017, 000003. The iPad form factor is, in many respects, a large (scaled up) iPhone. Therefore, Ground 1 teaches [1a]/[22a]. Visser, ¶¶77-79.

Ex-1022**Ex-1019**

Ground 2 teaches [1a]/[22a] because McClure-998 provides similar teachings. *See, e.g.*, Ex-1005, Abstract, ¶¶10-11, ¶33, ¶¶51-53, Figs. 1A-B, 2; §V.A.; Visser, ¶80.

[1b/22b] a cut out in the rear side of said housing;

Grounds 1 and 2 teach [1b/22b]. Visser, ¶¶81-86. Ground 1 teaches [1b/22b] because McClure-997 teaches **a cut out in the rear side of the housing**. McClure-997 teaches that the metal housing of the iPad includes a cut out in the rear side, which is referred to as a camera window. Ex-1004, ¶77, Fig. 3 (showing the rear camera window 138); Visser, ¶81.



As shown by the annotated Figure 3 above, the red rectangle shows the rear side before the steeper portion of the curvature and the lateral sides. The portion within the red rectangle is shown as relatively flat. The camera window 138 is located within this flatter portion and is depicted as being roughly parallel and in the same plane as the Apple logo on the rear side, as compared with power switch 114 or buttons 116 and 118, which are depicted at a roughly perpendicular angle relative to the logo. This is consistent with popular Apple products, which a POSITA would have been familiar with. Additionally, it would have been obvious to have camera on a rear facing surface, as opposed to angled or curved surface, because it makes it easier for the user to face and point the iPad at a target and take a picture of it while viewing that target on the screen. Visser, ¶82.

In prior and current litigation, Nokia accused general tablet form factors of satisfying limitation [1b]. Ex-1019, 000003-4; Ex-1022, 000004; *see also* Ex-1018, 000003-4. Nokia also accused the iPhone form factor. Ex-1016, 000003-4; Ex-1017, 000003-4. The iPad form factor is, in many respects, a large (scaled up) iPhone. Therefore, Ground 1 teaches [1b/22b]. Visser, ¶¶83-85.

Ex-1022



Ex-1019



Ground 2 teaches [1b/22b] because McClure-998 provides similar teachings as those explained above for McClure-997. *See, e.g.*, Ex-1005, ¶43, ¶54, Fig. 2. McClure-998 teaches that “[c]loser to the substantially flat portion of the housing 144, opening 138 is provided for a rear facing image capture device.” Therefore, Ground 2 teaches [1b/22b]. *See* §V.A.; Visser, ¶86.

[1c/22c] a camera located in said housing and extending to said cut out at said rear side;

Grounds 1 and 2 teach [1c/22c]. Visser, ¶¶87-93. Ground 1 teaches because McClure-997 teaches a camera located in the housing, extending to the back (rear-side) of the housing. Ex-1004, ¶77, Fig. 3; Visser, ¶87.

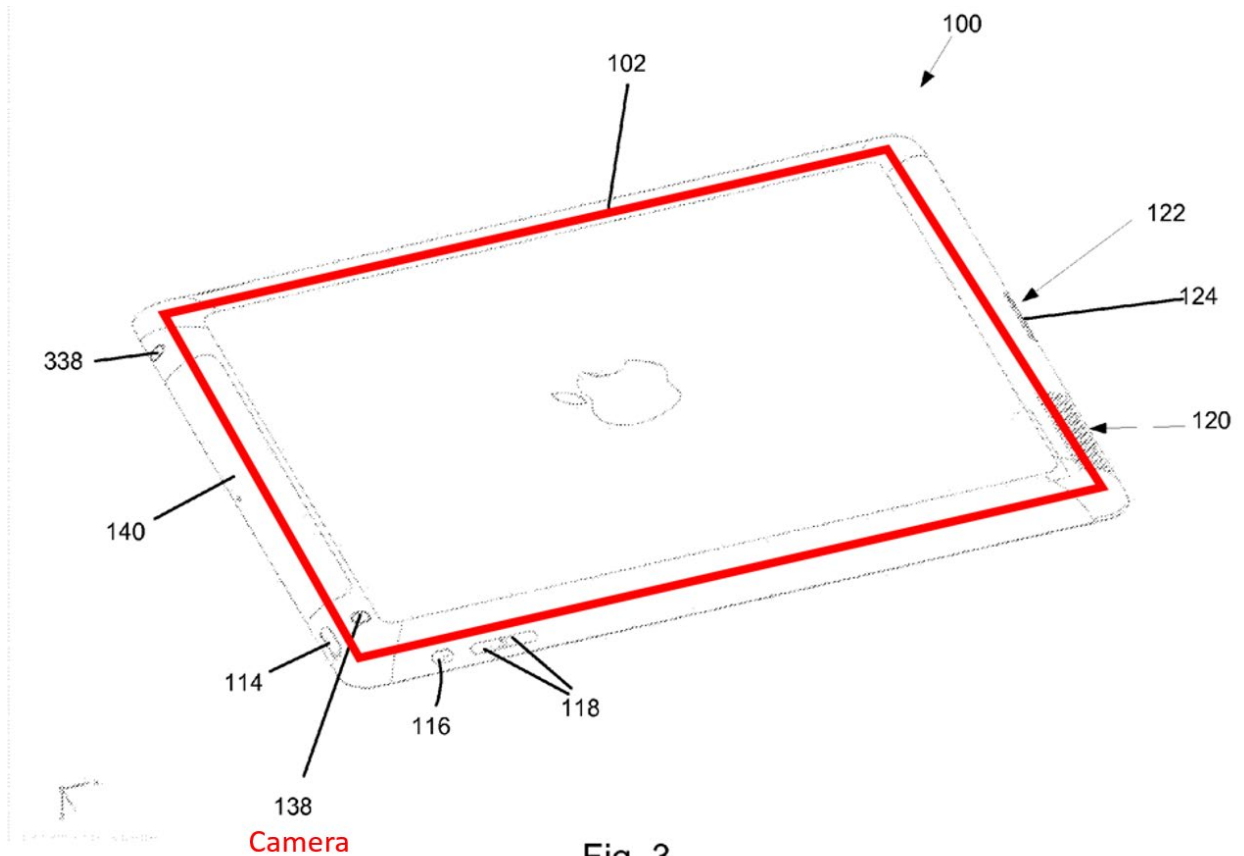


Figure 3 shows the rear surface of the housing. Ex-1004, Fig. 3. McClure-997 teaches a backwards-facing camera located inside the housing, pointing through an opening in the rear surface of the housing. Ex-1004, ¶77. Therefore, the camera extends to the cutout at said rear side of the housing. *Id.*; *supra* §V.A.3[1a/22a]; Visser, ¶88.

A POSITA would have been motivated to apply McClure-997's teachings for including a camera to iPad/iPhone form factors because, by the 2013 timeframe, cameras had become a standard feature of portable electronic devices.

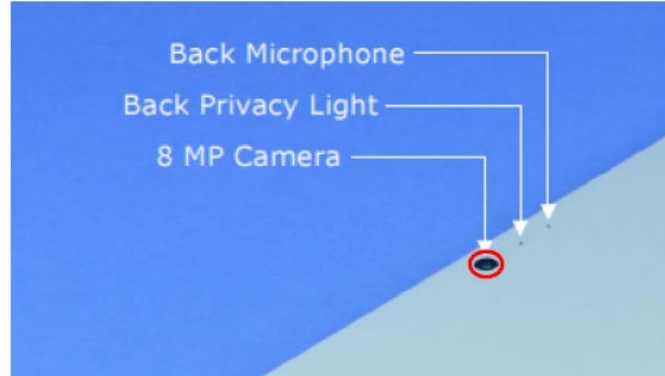
Ex-1004, ¶77. By 2013, most tablets and smart phones included a backwards-facing camera for taking pictures in that direction. Visser, ¶89.

In prior and current litigation, Nokia accused general tablet form factors of satisfying limitation [1c]. According to Nokia's contentions, limitations [1c] and [22c] are satisfied by a camera that points through an opening in the rear side of the housing. Ex-1019, 000004-5; Ex-1022, 000004; *see also* Ex-1018, 000004-5. Nokia also accused the iPhone form factor. Ex-1016, 000004-6; Ex-1017; 000004-6. The iPad form factor is, in many respects, a large (scaled up) iPhone. Therefore, Ground 1 teaches [1c/22c]. Visser, ¶¶90-92.

Ex-1022



Ex-1019



Ground 2 teaches [1c/22c] because McClure-998 provides similar teachings as those explained above for McClure-997. Ex-1005, ¶54, ¶43, Fig. 2; *supra* §V.A.; Visser, ¶93.

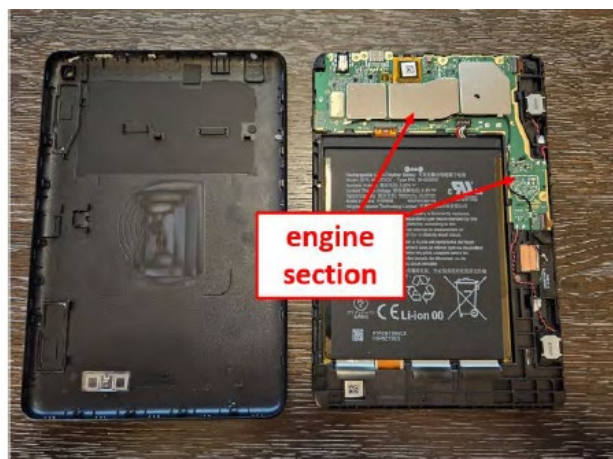
[1d/22d] an engine section comprising a printed circuit board, a transceiver, a processor and a memory;
--

Grounds 1 and 2 teach [1d/22d]. Visser, ¶¶94-101. Ground 1 teaches **an engine section comprising a printed circuit board, a transceiver, a processor and a memory**. For example, McClure-997 teaches a “main logic board (MLB)” with integrated circuits mounted on the board. Ex-1004, ¶¶38-39, ¶61. A POSITA would have known that the main logic board would include a **printed circuit board**. The integrated circuits mounted on the board include at least **a processor and a memory**. Ex-1004, ¶39 (“For example, a main logic board (MLB) can have integrated circuits mounted thereon that can include at least a microprocessor, semi-conductor (such as FLASH) memory, various support circuits and so on.”); Visser, ¶94.

McClure-997 further teaches that the portable computing device includes a wireless **transceiver**. Ex-1004, ¶44 (“Portable computing device 100 can include a mechanism for *wireless communications*, as either a *transceiver* type device or receiver only, such as a radio.”). Moreover, in the 2013 timeframe, it was typical for tablet devices to have electrical components such as processor, memory and

transceiver mounted on the printed circuit board to perform the basic operation of a tablet. Visser, ¶95.

In prior and current litigation, Nokia accused general tablet form factors of satisfying limitation [1d]. Ex-1019, 000005-8; Ex-1022, 000005; *see also* Ex-1018, 000005-8. Nokia also accused the iPhone form factor. Ex-1016, 000007-10; Ex-1017, 000007-9. The iPad form factor is, in many respects, a large (scaled up) iPhone. Therefore, Ground 1 teaches [1d/22d]. Visser, ¶¶96-98.

Ex-1022**Ex-1019**

Ground 2 teaches [1d/22d] because McClure-998 provides similar teachings as those explained above for McClure-997. Ex-1005, ¶39, ¶¶103-104, ¶114, ¶44. McClure-998 further teaches that various integrated circuit chips and other circuitry are mounted on a printed circuit board. Ex-1005, ¶39. McClure-998 also teaches circuitry including a processor, memory, and an interface. Ex-1005, ¶30,

¶111, Fig. 11. The interface includes a wireless transceiver. Ex-1005, ¶119 (“The electronic device 950 can include an interface 961 that couples to a data link 962. ...The data link 962 can be provided over a wired connection or a wireless connection. In the case of a wireless connection, the interface 961 can include a wireless transceiver.”). Therefore, Ground 2 teaches [1d/22d]. *Supra* §V.A.; Visser, ¶¶99-100.

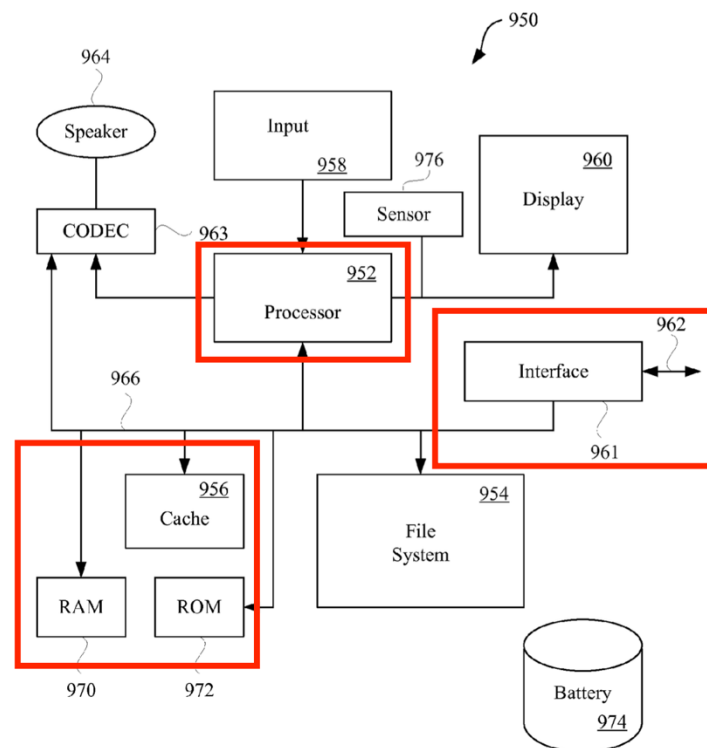


Fig. 11

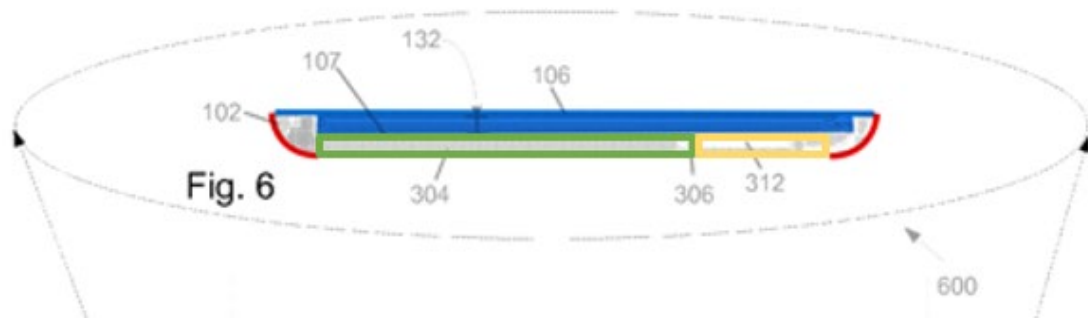
A POSITA would have been motivated to combine McClure-998’s teachings regarding integrated circuit chips and other circuitry are mounted on a printed

circuit board with McClure-997's teachings because McClure-998 merely provides additional details. Therefore, Ground 2 teaches limitations [1d]/[22d]. *See* §V.A.; Visser, ¶101.

[1e/22e] a user input section located above the engine section and a battery, wherein the user input section is located adjacent the battery and the engine section;

Grounds 1 and 2 teach [1e/22e]. Visser, ¶¶102-109. Ground 1 teaches a **user input section located above and adjacent the engine section and a battery.** For example, McClure-997 teaches “user input section” such as a “display system” with touch sensitive capabilities. Ex-1004, ¶40, ¶¶67-68, ¶38. A POSITA would have been motivated to apply McClure's teachings of a touch-sensitive display system because, by 2013, such display system was regarded as a basic feature for tablets. Visser, ¶102.

The display system (annotated in blue) of McClure-997 is located above the engine section (annotated in green) and a battery (annotated in yellow). Ex-1004, ¶¶66-67 (“As shown in FIGS. 6 and 7, the components, including the battery cells 304 and the MLB 312, under the display 132 are substantially in the same plane.”), ¶¶40-41, ¶47, ¶¶14-15, Figs. 1-2, 4-8; Visser, ¶103.



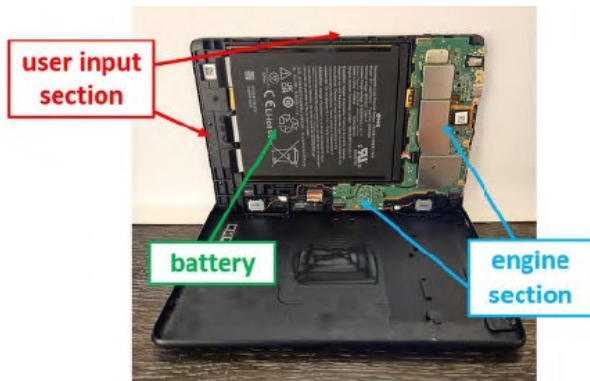
The battery and the engine section of McClure-997 are located side-by-side in the housing underneath the touchscreen display. Ex-1004, ¶¶58-59 (“The operational components are organized substantially in a single layer to minimize the Z stack height of the portable computing device 100.”), ¶47, ¶¶53-54, ¶56, ¶¶66-68, ¶¶14-15, ¶38, ¶¶40-41, ¶61, ¶64, Figs. 1-2, 4-8. McClure-997 teaches that the display assembly is directly above the battery, which is in the same plane as the engine section, with nothing in-between: McClure-997 leaves a swell gap in the space above the battery (between the top surfaces of the battery and the bottom surface of the display assembly) to allow for potential battery swelling. Ex-1004, ¶55. The display assembly is therefore adjacent to the battery and the engine section. *See id.*; Visser, ¶104.

To the extent Nokia argues that this limitation requires that the user input section is located “next to”⁵ the battery and the engine section, McClure-997 teaches this because its display assembly is located directly above the battery and the engine section. The display assembly is therefore next to the battery and engine section, with nothing in between. Visser, ¶105.

In prior and current litigation, Nokia accused general tablet form factors of satisfying limitation [1e], by pointing to a touchscreen above a battery, which is in the same plane as the alleged engine section. Ex-1019, 000008-10; Ex-1022, 000006; *see also* Ex-1018, 000008-9. Nokia also accused the iPhone form factor. Ex-1016, 000010-11; Ex-1017, 000008-9. The iPad form factor is, in many respects, a large (scaled up) iPhone. Therefore, Ground 1 teaches [1e/22e]. Visser, ¶¶106-108.

⁵ Nokia proposed a construction along these lines in prior litigation of the parent ’824 patent for the term “adjacent” in different claims. Ex-1023, 000100-103.

Ex-1022



Ex-1019



Ground 2 teaches [1e/22e] because McClure-998 provides similar teachings as those explained above for McClure-997. *See, e.g.*, Ex-1005, ¶¶114-115, ¶61, ¶40, Figs. 1A-B, 3A-B; *supra* §V.A.; Visser, ¶109.

[1f]/[22f] wherein the battery and engine section are housed in the housing and the user input is located in an opening between said exterior lateral sides of said one piece housing of the [portable electronic device/mobile phone.]

Grounds 1 and 2 teach [1f]/[22f]. Visser, ¶¶110-119. Ground 1 teaches [1f]/[22f] because McClure-997 teaches a portable electronic device in which **the**

battery (annotated in green) and engine section (annotated in yellow) are housed in the housing. *Supra* §§V.A.3[1d]-[1e]; Ex-1004, ¶47, ¶50, ¶¶53-56, ¶¶58-61, ¶¶14-15, ¶¶66-67, Figs. 1-2, 4-8; Visser, ¶111.

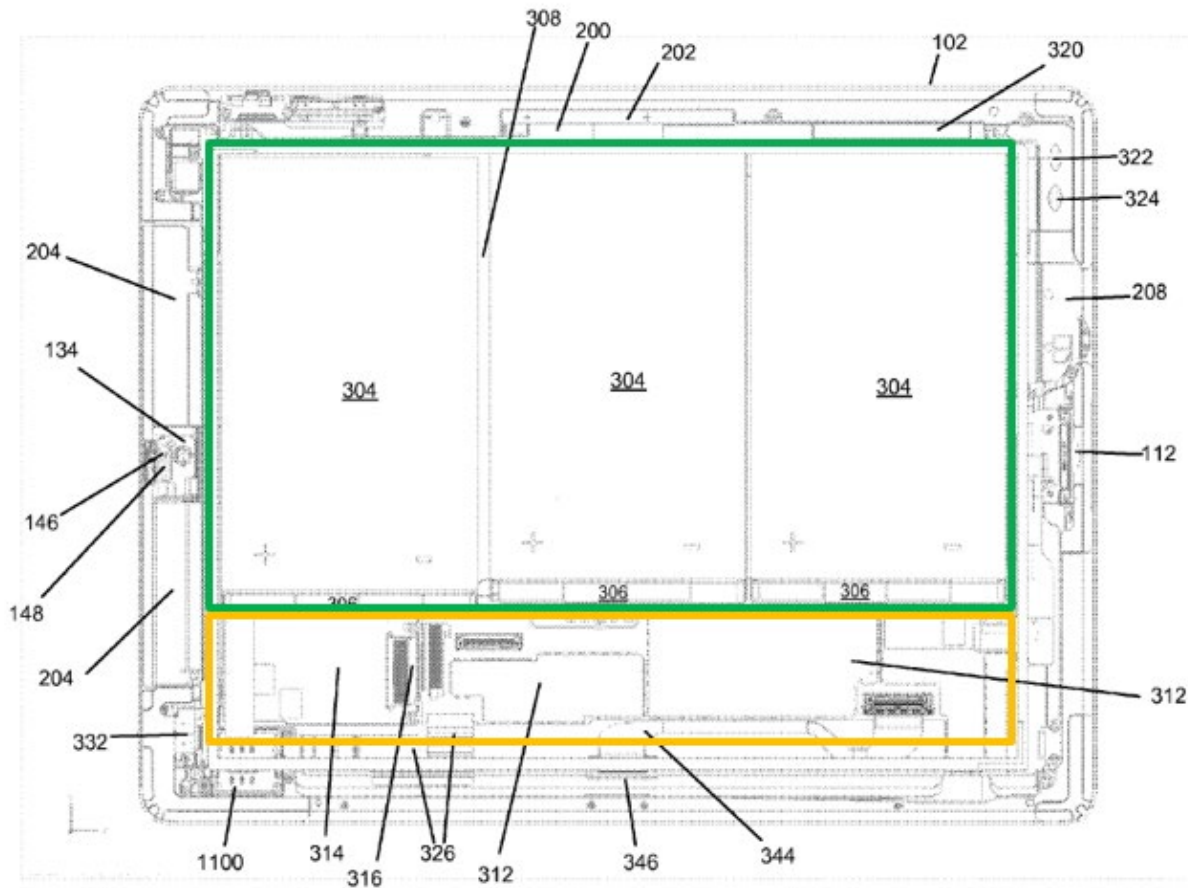


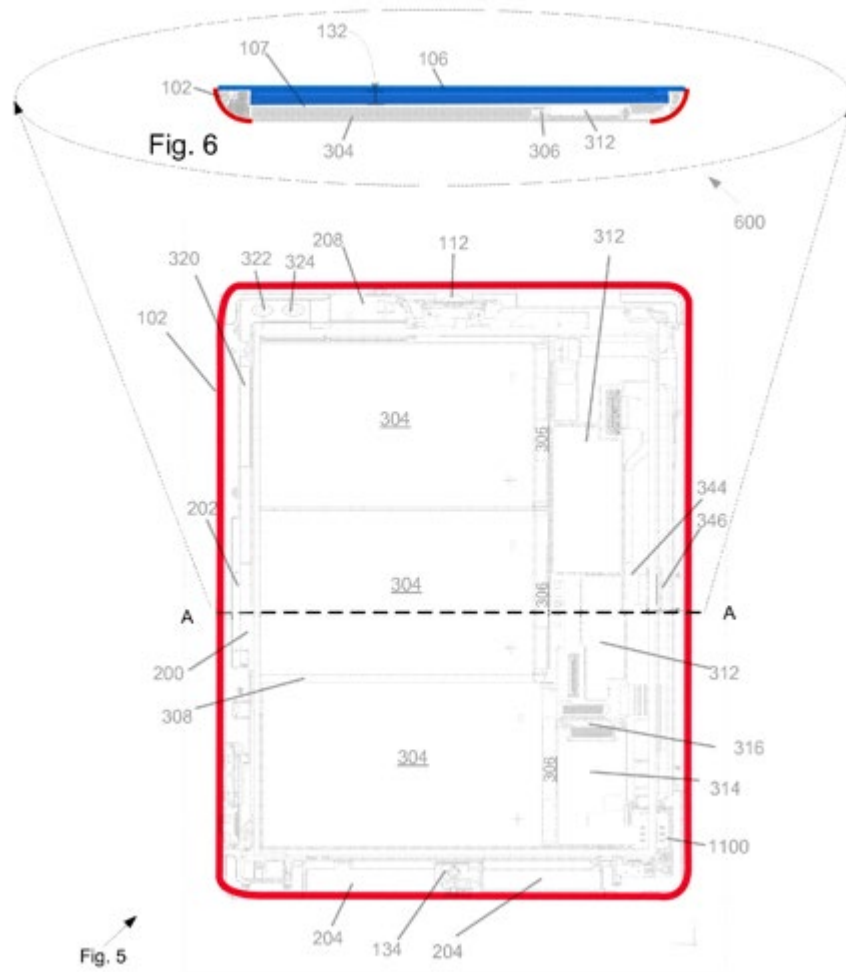
Fig. 5

McClure-997 further teaches that the user input (e.g., a touchscreen display assembly) is located in an opening between exterior lateral sides of the one piece housing of the portable electronic device. *See* §V.A.3[1e/22e]; Ex-1004, ¶40 (“Housing 102 can include opening 104 for placing internal components therein and may be sized to accommodate a display assembly or system suitable for

providing a user with at least visual content, such as, for example, via a display.”),

¶47, ¶50, ¶¶53-56, ¶¶58-61, ¶¶66-67, ¶¶14-15, Figs. 1-2, 4-8. McClure’s user input (annotated in blue) is located in an opening in the housing between the exterior lateral sides of the housing (highlighted in red). *Id.*, Figs. 4-8; Visser, ¶112.

Below Fig. 5 and 6 show the battery 304 and the engine 312 housed in the housing and the touchscreen display (annotated in blue) located in an opening and between the exterior lateral sides (annotated in red) of the one-piece housing. The housing of the portable electronic device or mobile phone is a one-piece housing, as explained above. *Supra* §V.A.3[1a/22a]; Visser, ¶¶113-114.



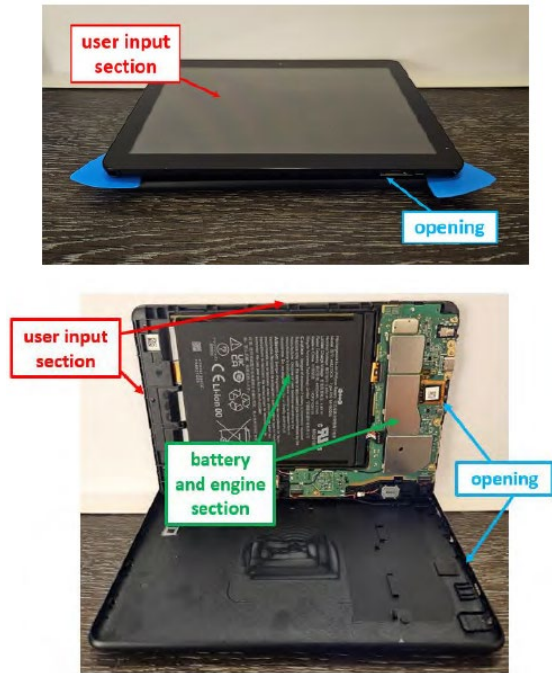
To the extent Nokia argues that this limitation requires that the “user input is located in a hollow place in the housing,”⁶ McClure-997 teaches this. For example, McClure-997 explains that “[t]he display system 132 can be formed of a number of layers. A separate transparent protective layer 106 formed of

⁶ Nokia proposed a construction along these lines in prior litigation of the parent ’824 patent for the term “user input is located in a hole” in different claims. Ex-1023, 000095-100.

polycarbonate or other appropriate plastic or highly polished glass can be positioned over the display system 132. Using highly polished glass, protective layer 106 substantially filling opening 104.” Ex-1004, ¶41, Figs. 5-6 (showing the user input 132 located in the hollow opening in the housing such that it forms a continuous top surface with the protective layer 106 of the display assembly). The opening 104 is in the one-piece housing 102. Visser, ¶115.

In prior and current litigation, Nokia accused general tablet form factors of satisfying limitation [1f]. Ex-1019, 000010-13; Ex-1022, 000007-8; *see also* Ex-1018, 000009-13. Nokia also accused the iPhone form factor. Ex-1016, 000011-14; Ex-1017, 000010-12. The iPad form factor is, in many respects, a large (scaled up) iPhone. Therefore, Ground 1 teaches [1f]/[22f]. Visser, ¶¶116-118.

Ex-1022



Ex-1019



Ground 2 teaches [1f]/[22f] because McClure-998 provides similar teachings as those explained above for McClure-997. *See, e.g.,* Ex-1005, Figs. 1A-B, 3A-B, ¶¶39-40, ¶¶61-62, ¶¶103-104, ¶114; *supra* §V.A.; Visser, ¶119.

4. Dependent Claims 2, 23

- [2] **A portable electronic device according to claim 1**
- [23] **A mobile phone according to claim 22**
wherein said one piece housing has a front side extending from and between the lateral sides.

Grounds 1 and 2 teach claims 2 and 23. *Supra* §V.A.3; Visser, ¶¶120-128.

Ground 1 teaches claims 2 and 23 because McClure-997 teaches that **one piece housing has a front side extending from and between the lateral sides**. For example, the iPad form factor taught by McClure-997 includes a racetrack that defines the uppermost portion of the housing and surrounds the cover glass layer of the display assembly. Ex-1004, ¶42. That is, racetrack 110 of McClure-997 forms the lip of the one-piece housing. When viewed from the front, the lip of the housing forms a front side of the housing that extends from and between the lateral sides. Ex-1004, Figs. 1-2 (showing the racetrack 110 annotated in yellow surrounding the front and extending from and between the lateral sides). Visser, ¶122.

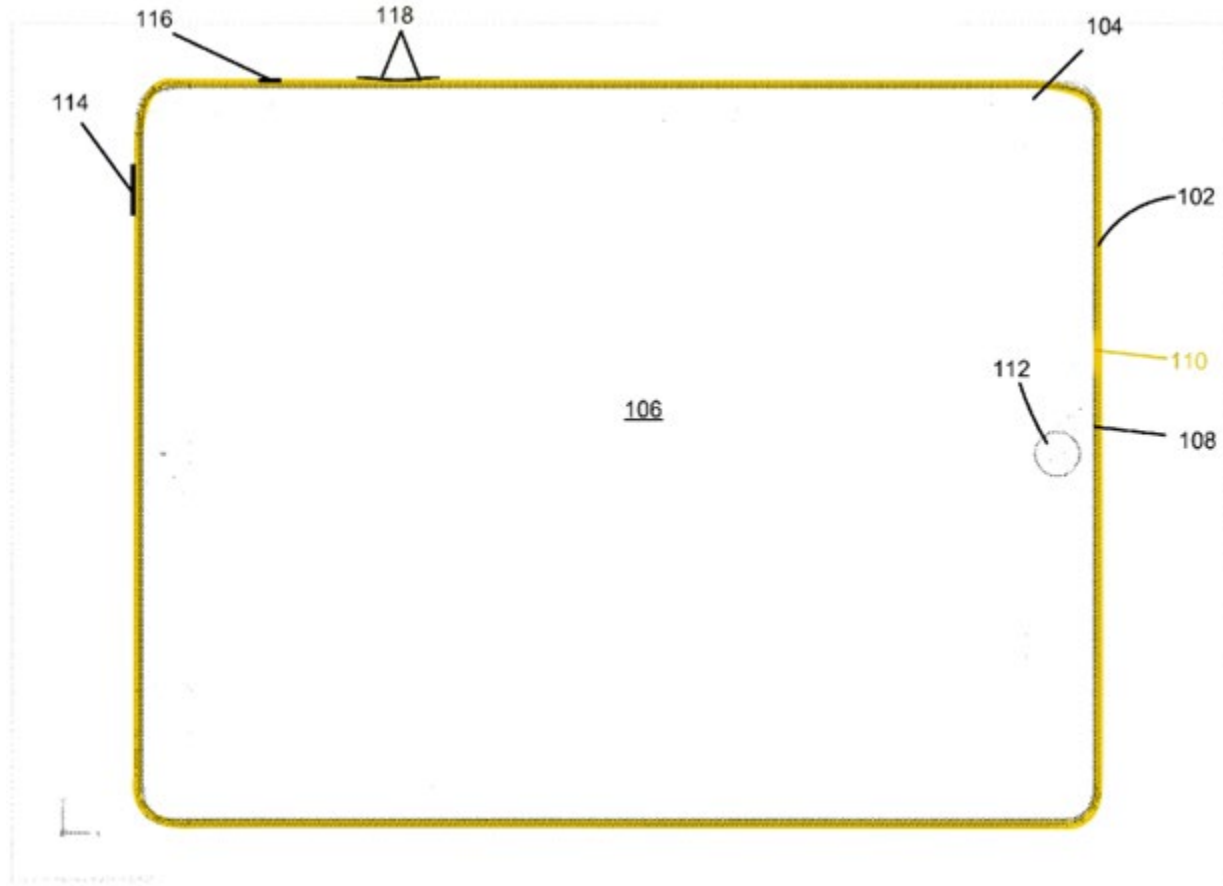


Fig. 1

McClure-997 further teaches ledges 156. Ex-1004, ¶¶47, ¶67, Fig. 4. As shown in Fig. 4 (reproduced below), ledge 156 forms front side of the one-piece housing. Visser, ¶¶123-124.

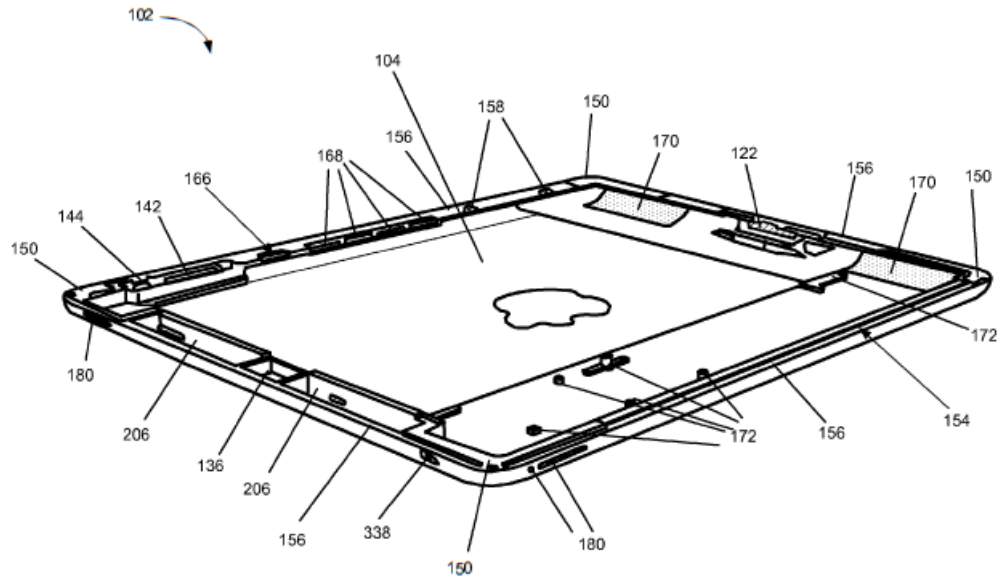
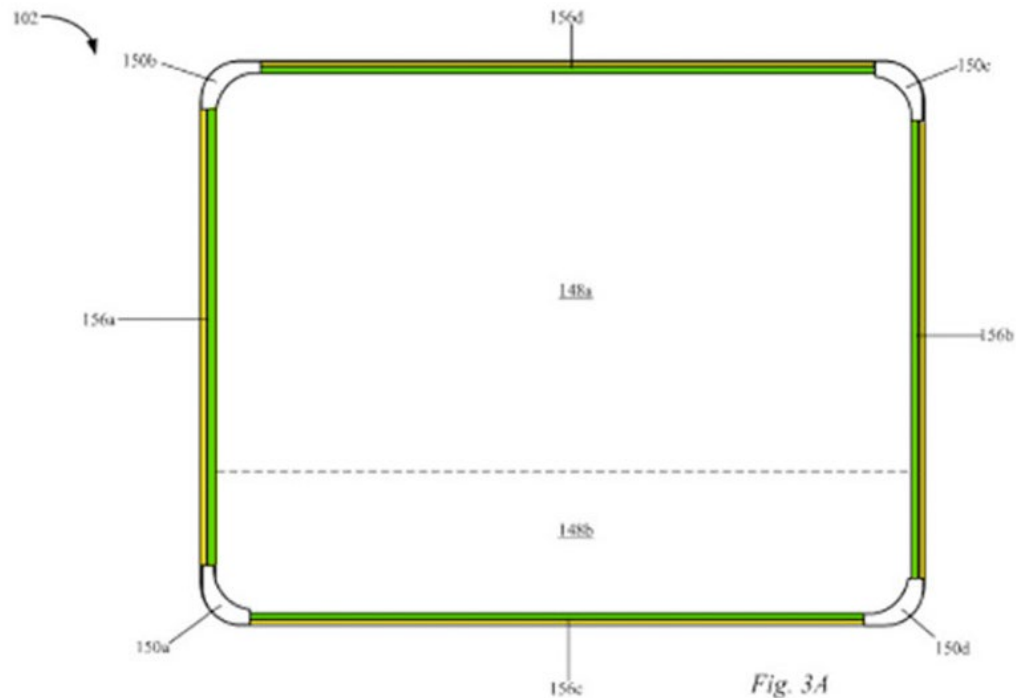


Fig. 4

Ground 2 teaches claims 2 and 23 because McClure-998 provides similar teachings. *See, e.g.*, Ex-1005, Figs. 1A-B. McClure-998 further teaches sidewalls that extend from the lateral sides, forming ledges that extend into the center of the cavity of the sidewalls. Ex-1005, ¶¶58-59, ¶68, ¶70, ¶72, ¶89, ¶105, Figs. 3A-B, 5A. The ledges 156a-d of McClure-998 has a width such that when viewed from the front, the ledges (annotated in green) form a surface that extends inwardly toward the center of the cavity from the sidewalls (annotated in yellow). *Id.* The surface formed of width of ledges 156a-d teaches a front surface that extends from

and between the lateral sides. Therefore, Ground 2 teaches claims 2 and 23. *Id.*;

Visser, ¶¶125-127.



Additionally, the size, shape and inclusion of a front face is a design choice made for primarily aesthetic, non-functional purposes. With or without a larger front face, the portable electronic device taught by McClure-997 and McClure-998 operates in substantially the same way, for substantially the same purpose, to produce substantially the same result and the dimensions of the front face are merely a choice of design. *Ethicon Endo-Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312, 1332 (Fed. Cir. 2015); *General Elec. Co. v. United States*, 654 F.2d 55, 58-

59 (Fed. Cir. 1981). Thus, Ground 2 teaches claims 2 and 23. *Supra* §V.A.;

Visser, ¶128.

5. Dependent Claims 3, 24

[3] A portable electronic device according to claim 2

[24] A mobile phone according to claim [23]⁷

wherein the front side extends parallel to the lateral edges.

Grounds 1 and 2 teach claims 3 and 24. *Supra* §V.A.4; Visser, ¶¶129-134.

The phrase “lateral edges” does not have any antecedent basis. To the extent this claim can be understood, the term “lateral edges” is interpreted to mean the edges of the lateral sides recited in claims 1 and 22. Visser, ¶130.

Ground 1 teaches claims 3 and 24 because McClure-997 teaches that the front side (racetrack 110) extends parallel to the edges of the lateral sides. Ex-1004, ¶42, Figs. 1-2 (showing the racetrack 110 extending parallel to the edges of the lateral sides). Visser, ¶¶131-132.

⁷ Claim 24 contains a typographical error that omits the claim number. It depends from claim 23. *See* Ex-1002, 000696, 000733.

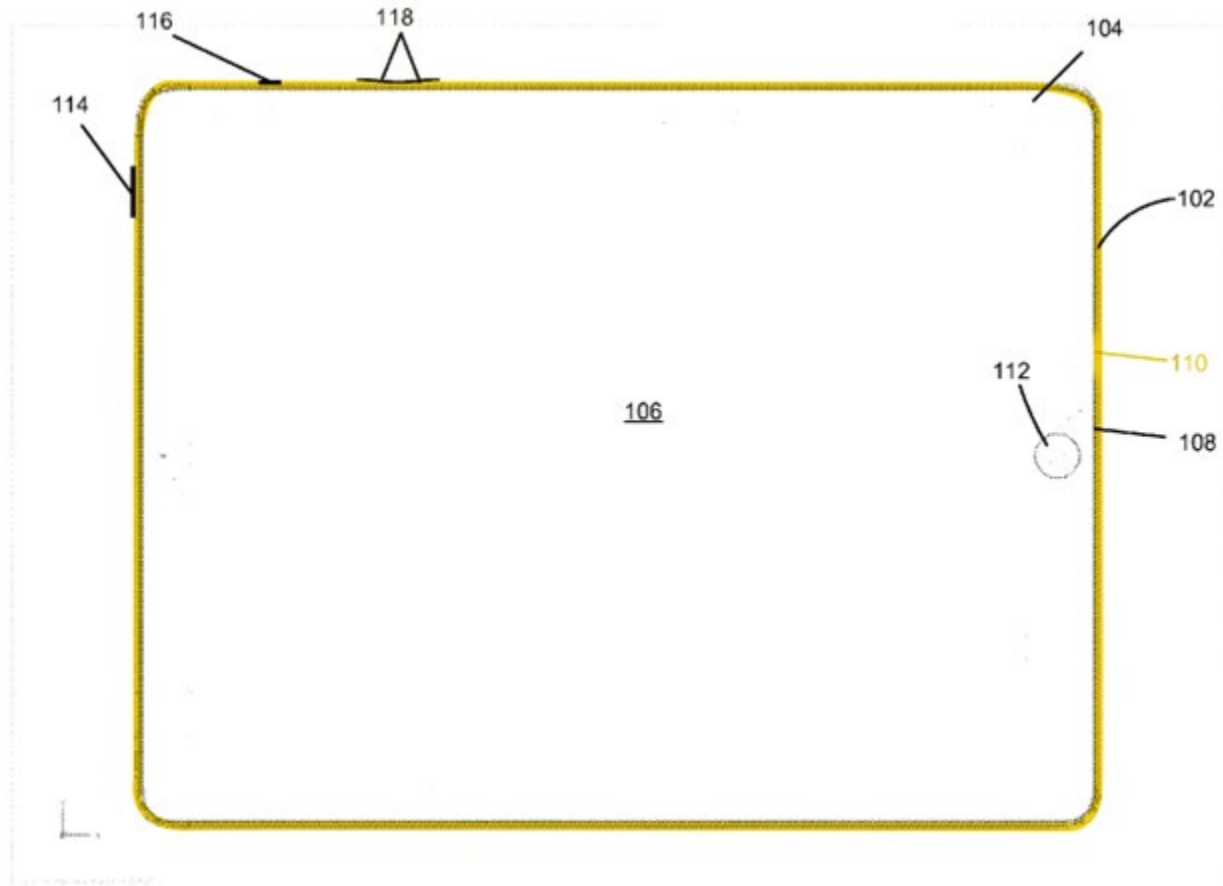


Fig. 1

Ground 2 teaches claims 3 and 24 because McClure-998 provides similar teachings as those explained above for McClure-997. *See, e.g.*, Ex-1005, Figs. 1A-B. In addition, McClure-998 provides additional teachings of ledges that extend from the lateral sides and surround the touch screen display, as previously explained. *Supra* §V.A.4; Ex-1005, ¶¶58-59, ¶68, ¶70, ¶72, ¶89, ¶105, Figs. 3A-B, 5A. Therefore, since the ledges extend from the lateral sides along the edges to the display, they extend parallel to the lateral edges of the housing. *Supra* §V.A.; Visser, ¶¶133-134.

6. Dependent Claims 4, 25

- [4] **A portable electronic device according to claim 3**
- [25] **A mobile phone according to claim 24**
wherein the front side forms at least a side of the opening through which the input device is located.

Grounds 1 and 2 teach claims 4 and 25. *Supra* §V.A.5; Visser, ¶¶135-140.

The phrase “the input device” does not have any antecedent basis. To the extent that this claim can be understood, the phrase is interpreted to mean “the user input section” of claims 1 and 22. Visser, ¶137.

Ground 1 teaches claims 4 and 25 because McClure-997 teaches that **the front side forms at least a side of the opening through which the input device is located**. For example, McClure-997 teaches a racetrack that defines the uppermost portion of the housing and surrounds the cover glass layer of the display assembly. Ex-1004, ¶¶40-42, ¶47. When viewed from the front, the racetrack 110 forms at least a side of the opening through which the touchscreen display (input device) is located. Ex-1004, Figs. 1-2 (showing racetrack 110 surrounding the front, forming at least a side of the opening through which the touchscreen display is located). Visser, ¶¶138-139.

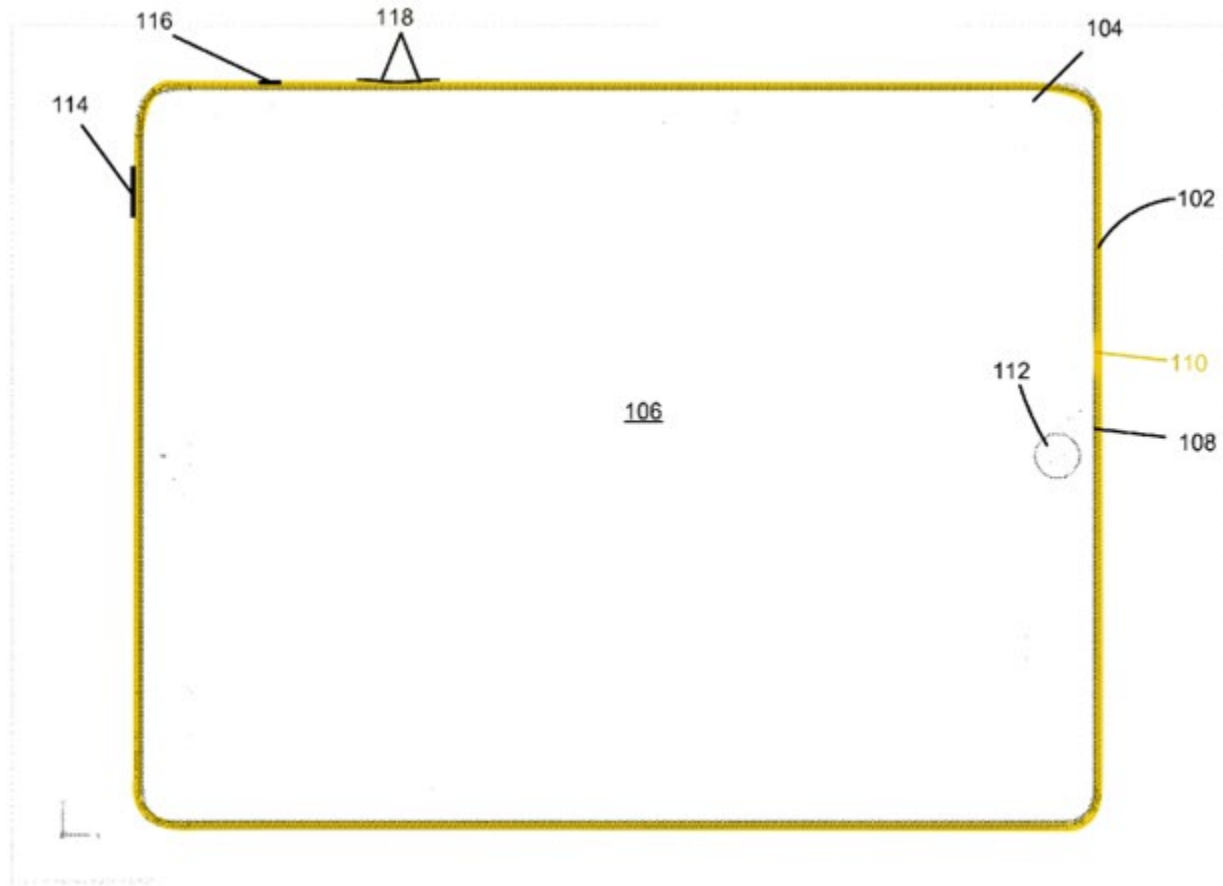


Fig. 1

Ground 2 teaches claims 4 and 25 because McClure-998 provides similar teachings as those explained above for McClure-997. *See, e.g.*, Ex-1005, Figs. 1A-B. In addition, McClure-998 provides additional teachings of ledges that extend from the lateral sides and surround the touchscreen display, as explained above for claims 2 and 23 and limitation [1e/22e]. *Supra* §§V.A.3[1e/22e], V.A.4-5, V.A.; Ex-1005, ¶33, ¶40, ¶42, ¶58, ¶¶114-115, ¶61, Fig. 1A-B, 3A-B; Visser, ¶140.

7. Dependent Claims 5, 26

- [5] **A portable electronic device according to claim 1**
- [26] **A mobile phone according to claim 22**
- wherein the user input and a front side of the housing lie in a side by side arrangement.**

Grounds 1 and 2 teach claims 5 and 26. *Supra* §V.A.3; Visser, ¶¶141-146.

The phrase “the user input” does not have any antecedent basis. To the extent that this claim can be understood, the phrase is interpreted to mean “the user input section” of claims 1 and 22. Visser, ¶143.

Ground 1 teaches claims 5 and 26 because McClure-997 teaches that **the user input and a front side of the housing lie in a side by side arrangement.** For example, McClure-997 teaches that the front side forms at least a side of the opening through which the input device is located. *Supra* §§V.A.3[1e/22e], V.A.6; Ex-1004, ¶¶41-42. The user input (106, annotated in blue) and the front side (110, annotated in yellow) lie in a side-by-side arrangement in the same plane. *See, e.g.*, Ex-1005, Figs. 1-2, 4-6; Visser, ¶¶144-145.

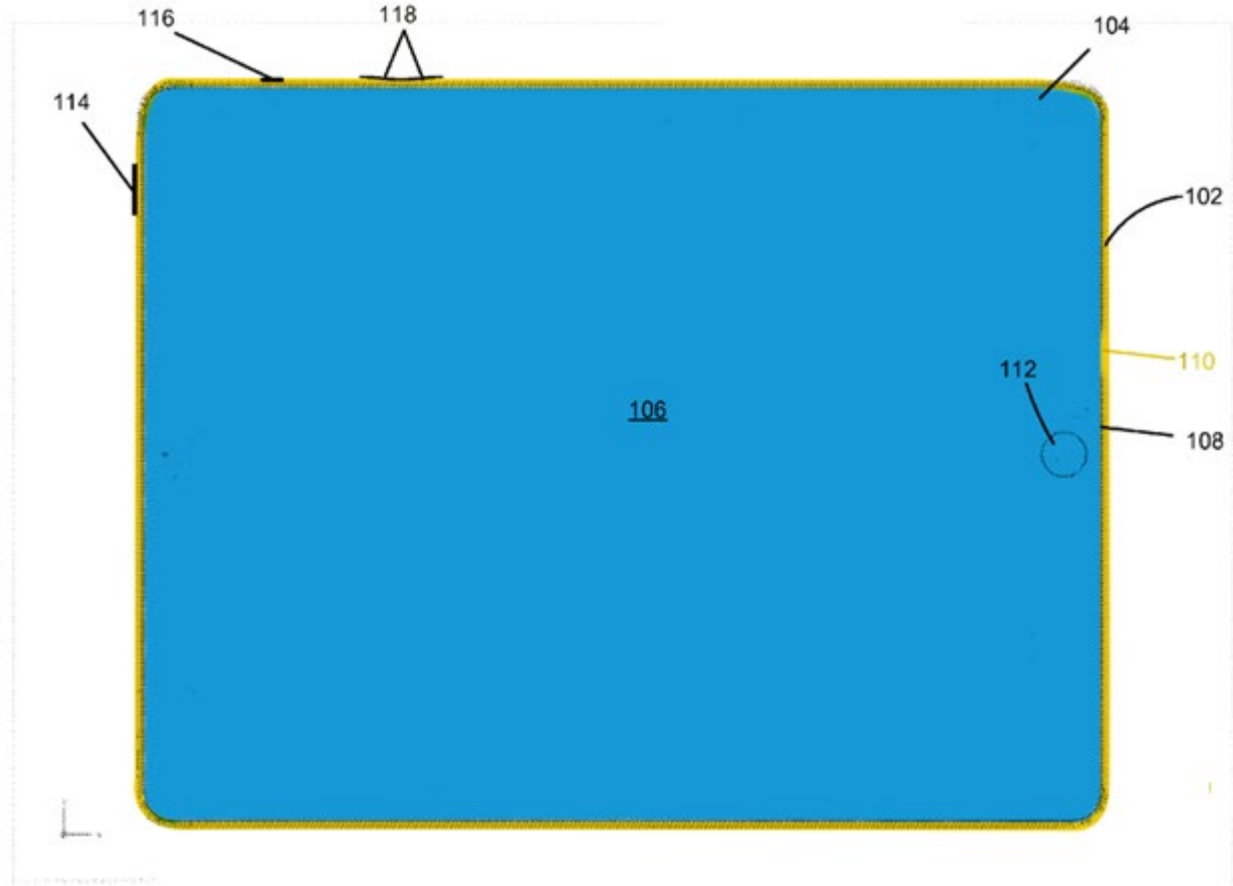


Fig. 1

Ground 2 teaches claims 5 and 26 because McClure-998 provides similar teachings as those explained above for McClure-997. *See, e.g.*, Ex-1005, Figs. 1A-B. *Supra* §V.A.; Visser, ¶146.

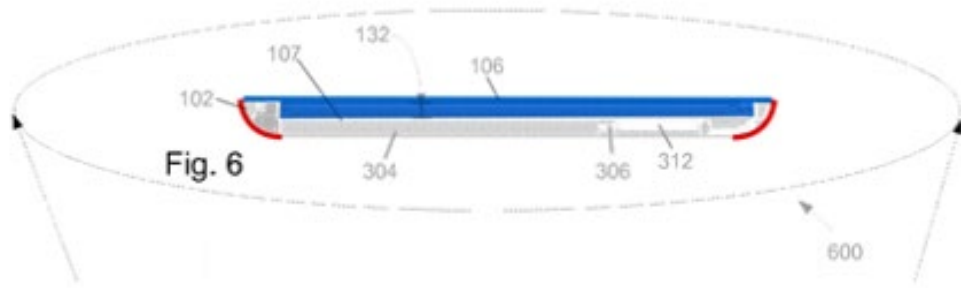
8. Dependent Claims 6, 27

- [6] **A portable electronic device according to claim 1 wherein the one piece housing and the user input form a continuous surface of the portable electronic device.**
- [27] **A mobile phone according to claim 22 wherein the one piece housing and the user input form a continuous surface of the mobile phone.**

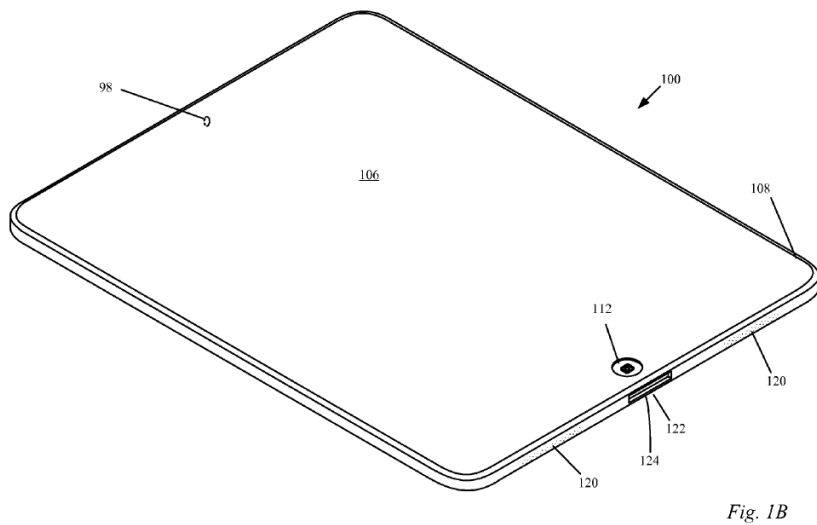
Grounds 1 and 2 teach claims 6 and 27. *Supra* §V.A.3; Visser, ¶¶147-154.

The phrase “the user input” does not have any antecedent basis. To the extent that this claim can be understood, the phrase is interpreted to mean “the user input section” of claims 1 and 22. Visser, ¶149.

Ground 1 teaches claims 6 and 27 because McClure-997 teaches that **the one piece housing and the user input form a continuous surface of the portable electronic device**. As discussed above, McClure-997 teaches that the user input is located in an opening between the lateral sides of the housing. *See* §V.A.3[1f/22f]; Ex-1004, ¶¶66-67, ¶¶70-75, ¶¶14-15, ¶40, ¶42, ¶47, ¶50, ¶¶53-56, ¶¶58-61, Figs. 1-2, 4-8. McClure-997 teaches when assembled, the housing and user input (display system, annotated in blue) forms a continuous surface of the device. Ex-1004, Figs. 1-2, 6-7 (showing a continuous front surface). McClure-997 further teaches the portable electronic device as a mobile phone, as explained above. *See* §V.A.3 [1pre/22pre]; Visser, ¶¶150-152.



Ground 2 teaches claims 6 and 27 because McClure-998 provides additional teachings that the touchscreen display and cover glass are provided as an integrated unit for installation into the housing. Ex-1005, ¶41. The integrated unit of display and cover glass is installed into the front opening of the housing, forming a continuous surface. Ex-1005, ¶33, ¶¶40-42, ¶58, Figs. 1A-B; *supra* §§V.A.3[1e/22e], V.A.; Visser, ¶¶153-154.



9. Dependent Claims 7, 28

- [7] **A portable electronic device according to claim 6**
- [28] **A mobile phone according to claim 27**
- further comprising a bracket wherein the user input section and the one piece housing define an interior volume and the bracket is configured to support said user input section.**

Grounds 1 and 2 teach claims 7 and 28. *Supra* §V.A.8; Visser, ¶¶155-162.

Ground 1 teaches claims 7 and 28 because McClure-997 teaches **a bracket wherein the user input section and the one piece housing define an interior volume and the bracket is configured to support said user input section**. As discussed previously, McClure-997 teaches the user input section and the one piece housing defining an interior volume such that the battery and the engine section are housed in the housing. *Supra* §V.A.3. McClure-997 further teaches a trim bead that forms a seal between the cover glass of the display assembly and the housing. The trim bead of McClure-997 is positioned between the housing and the user input section (i.e., the display assembly) such that the trim bead supports the user input section within the housing. Ex-1004, ¶41, Figs. 1-2 (showing the trim bead 108 located at inner side of the lateral sides, configured to support the user input section that is assembled to be located in the front opening). That is, trim bead of McClure-997 teaches the bracket configured to support the user input section. Visser, ¶¶157-158.

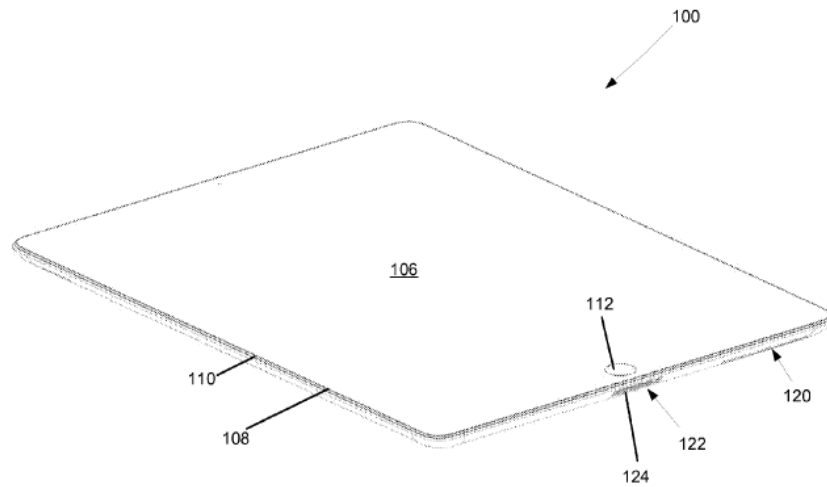


Fig. 2

Ground 2 teaches claims 7 and 28 because, similarly to McClure-997, McClure-998 teaches a touchscreen display assembly integrated to a cover glass (the user input section). *See* §V.A.3[1e/22e]; Ex-1005, ¶¶40-41. McClure-998 further teaches the user input section and the housing defining an interior volume and the trim bead supporting the user input section. Ex-1005, ¶67, ¶¶88-89, Figs. 7A-B (showing trim bead 108 supporting the cover 106 that includes the user input section, interior volume defined between cover 106 and housing 102, and internal components 234 disposed in the interior volume). That is, McClure-998 teaches

the one-piece housing and user input section defining an interior volume, and the trim bead (i.e., bracket) configured to support the user input section. Visser, ¶159.

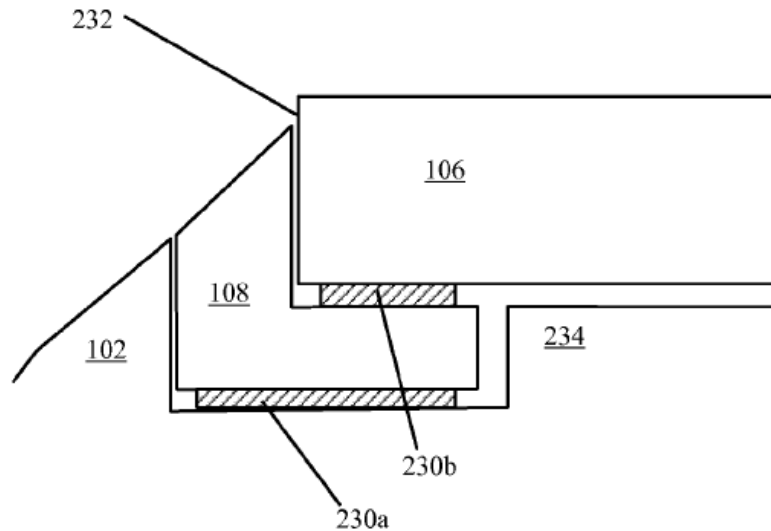


Fig. 7A

McClure-998 further teaches that the trim bead is formed of a resilient material such as a plastic to provide protection against environmental contaminants from entering the interior of the device. *E.g.*, Ex-1005, ¶39. McClure-998's teaching that the trim bead is formed of a resilient material further teaches that the bracket (i.e., the trim bead) is configured to support the user input device. A POSITA would have been motivated to apply McClure-998's trim bead teachings to McClure-997's teachings because McClure-998 merely provides additional details. *Supra* §V.A.; Visser, ¶160.

McClure-998 further teaches a corner bracket configured to support the user input section. Ex-1005, ¶12, ¶60, ¶70, ¶¶72-73, ¶108. For example, McClure-998 teaches that corner brackets “include a surface for receiving the trim bead 108 that aligns with the surface for receiving the trim bead formed in the side ledges.” Ex-1005, ¶70. As discussed above, the trim bead of McClure-998 is configured to support the user input section, and thus the corner brackets, which support the trim bead, also supports the user input section. A POSITA would have been motivated to combine McClure-998’s corner bracket teachings with McClure-997 because McClure-998 merely provides additional. *See* Ex-1004, ¶48; §V.A.; Visser, ¶¶161-162.

10. Dependent Claims 8, 29

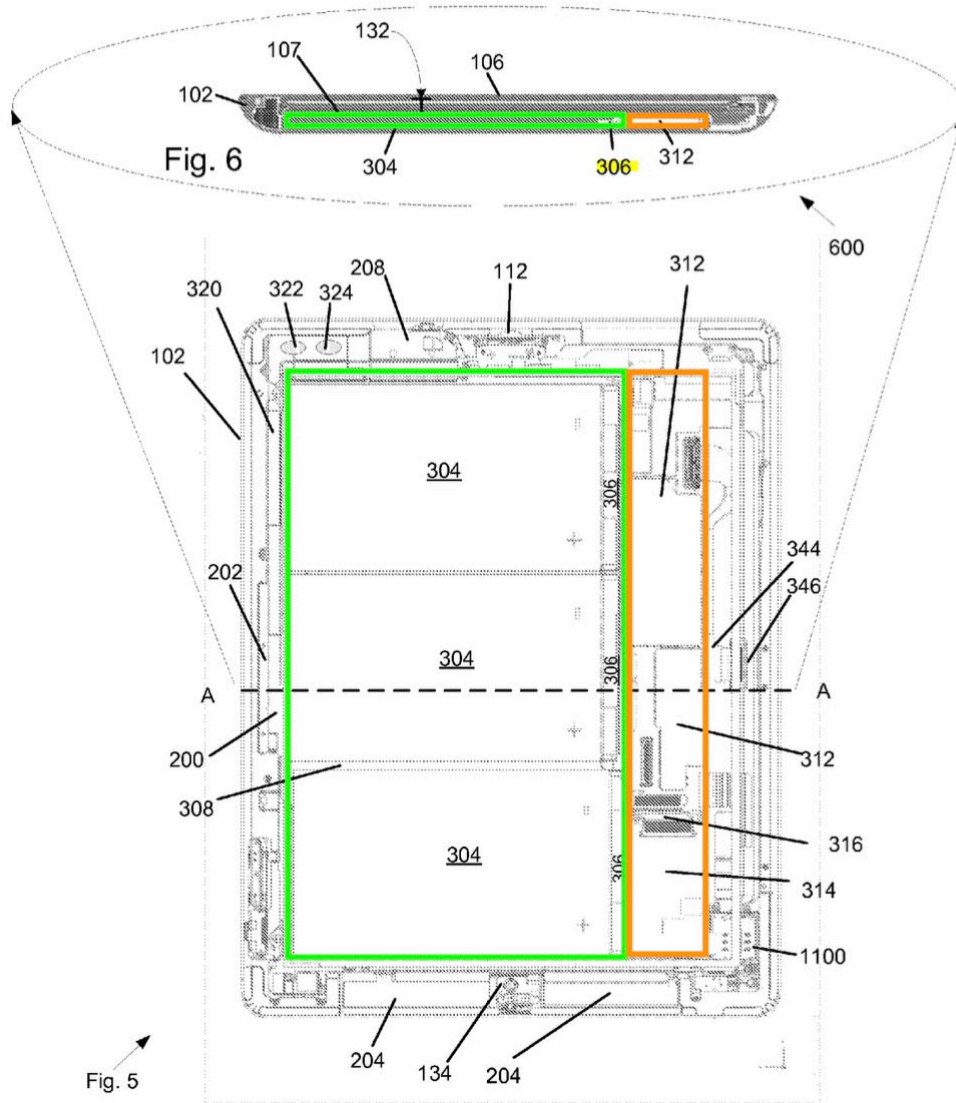
[8] **A portable electronic device to claim 1**

[29] **A mobile phone according to claim 22**

wherein the battery is located adjacent the engine section in a side by side arrangement.

Grounds 1 and 2 teach claims 8 and 29. *Supra* §V.A.3; Visser, ¶¶163-167. Ground 1 teaches claims 8 and 29 because McClure-997 teaches that **the battery** (annotated in green) **is located adjacent the engine section** (annotated in orange) **in a side by side arrangement**. *Supra* §V.A.3[1e/22e]; Ex-1004, ¶¶14-15, ¶38, ¶¶40-41, ¶47, ¶¶53-54, ¶56, ¶¶58-¶61, ¶64, ¶¶66-68, Figs. 1-2, 4-8. As can be seen

in the annotated figure below, the battery (in green) is located side-by-side to the engine section (in orange). Visser, ¶¶165-166.



Ground 2 teaches claims 8 and 29 because McClure-998 provides similar teachings as those explained above for McClure-997. *See, e.g.*, Ex-1005, Fig. 3A, ¶¶61, ¶¶58; *supra* §V.A.; Visser, ¶167.

11. Dependent Claims 11, 33

- [11] A portable electronic device according to claim 1
- [33] A mobile phone according to claim [22]⁸
further comprising a door configured to support an electronic module.

Grounds 1 and 2 teach claims 11 and 33. *Supra* §V.A.3; Visser, ¶¶168-173.

Ground 1 teaches claims 11 and 33 because McClure-997 teaches **a door configured to support an electronic module**. For example, McClure-997 teaches a SIM card tray (door, annotated in red) that supports a SIM card (electronic module) that is inserted into the door. Ex-1004, ¶44, ¶64, ¶69, Fig. 5; Visser, ¶¶169-171.

⁸ Claim 33 contains a typographical error that omits the claim number. It depends from claim 22. *See* Ex-1002, 000697, 000733.

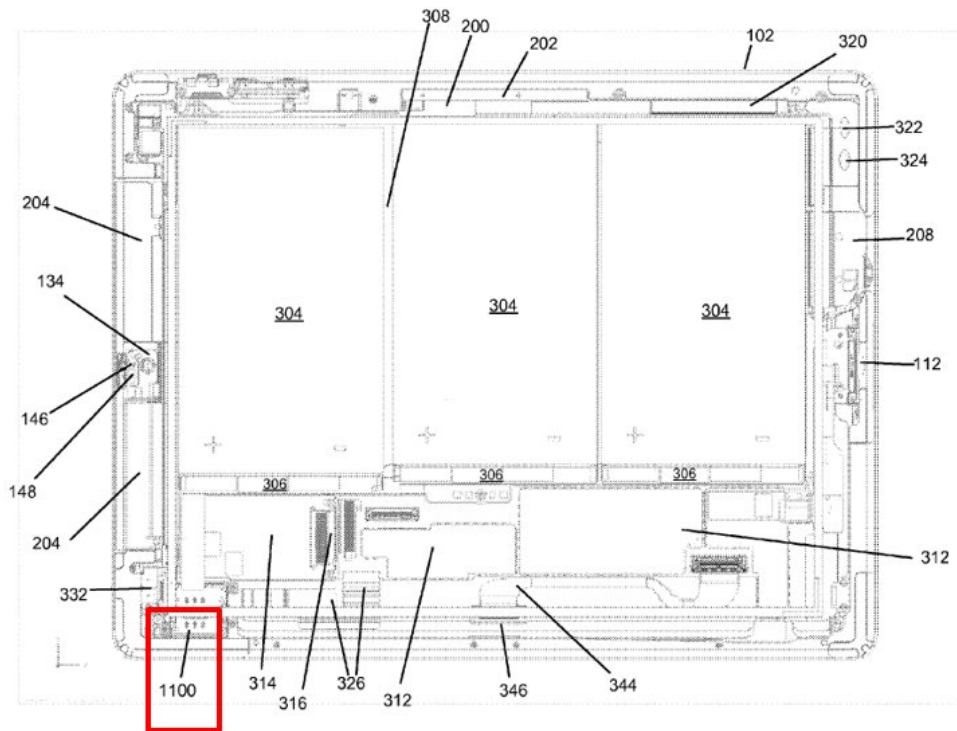


Fig. 5

Ground 2 teaches claims 11 and 33 because McClure-998 further teaches an opening in the housing that allows a SIM tray (door) for supporting a SIM card (an electronic module). Ex-1005, ¶13 (“In yet other embodiments... a first opening in the single piece housing can be formed to allow a SIM tray for supporting a SIM card....”), ¶45 (“In one embodiment, the device 100 can include an opening 110b that allows a SIM card to [*sic*] inserted or removed.”), ¶65, ¶105, Fig. 3B, Claim 4. *Supra* §V.A.3. A POSITA would have been motivated to combine McClure-998’s SIM card and SIM card tray teachings with McClure-997 because McClure-998 merely provides additional details. Visser, ¶¶172-173.

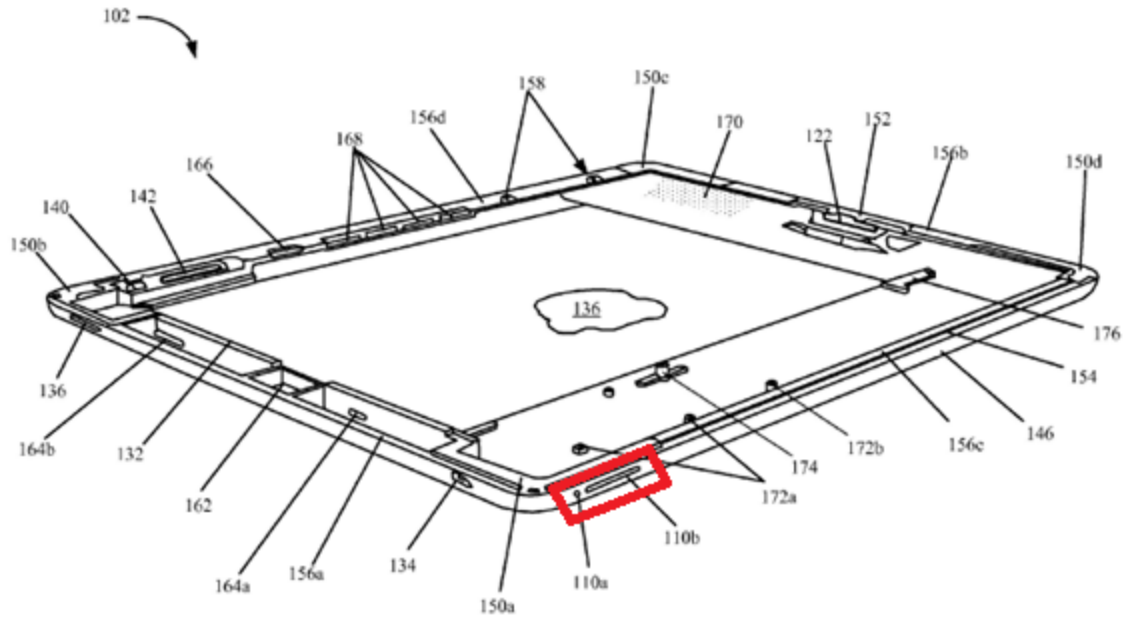


Fig. 3B

12. Dependent Claims 12, 34

[12] A portable electronic device according to claim 11

[34] A mobile phone according to claim 33

wherein the electronic module is configured to interface to the engine section.

Ground 2 teaches claims 12 and 34. *Supra* §V.A.11; Visser, ¶¶174-178.

McClure-teaches **the electronic module configured to interface to the engine section**. For example, McClure-998 teaches, “The portable computing device can be used on a wireless data network, such as a cellular data network. Access to the cellular data network can require the use of a Subscriber Identity Module (SIM) or SIM card.” Ex-1005, ¶44, ¶45, ¶65, ¶71, ¶13. Therefore, McClure-998 teaches

that the purpose of the SIM card is to interface with the engine section, which comprises the processor, memory, and wireless transceiver, so that the device can access a wireless data network. Additionally, this would have been obvious to a POSITA because that is the purpose of a SIM card. Visser, ¶176.

McClure-998 further teaches the SIM card tray located near the engine section. See Ex-1005, ¶61 (teaching that PCBs to be placed in region 148b), ¶71, Figs. 3A-B. It would have been obvious to a POSITA that when the SIM card tray 110b holding the SIM card is closed, the SIM card interfaces with the engine section located in region 148b. Therefore, Ground 2 teaches these claims. *Supra* §V.A.; Visser, ¶¶177-178.

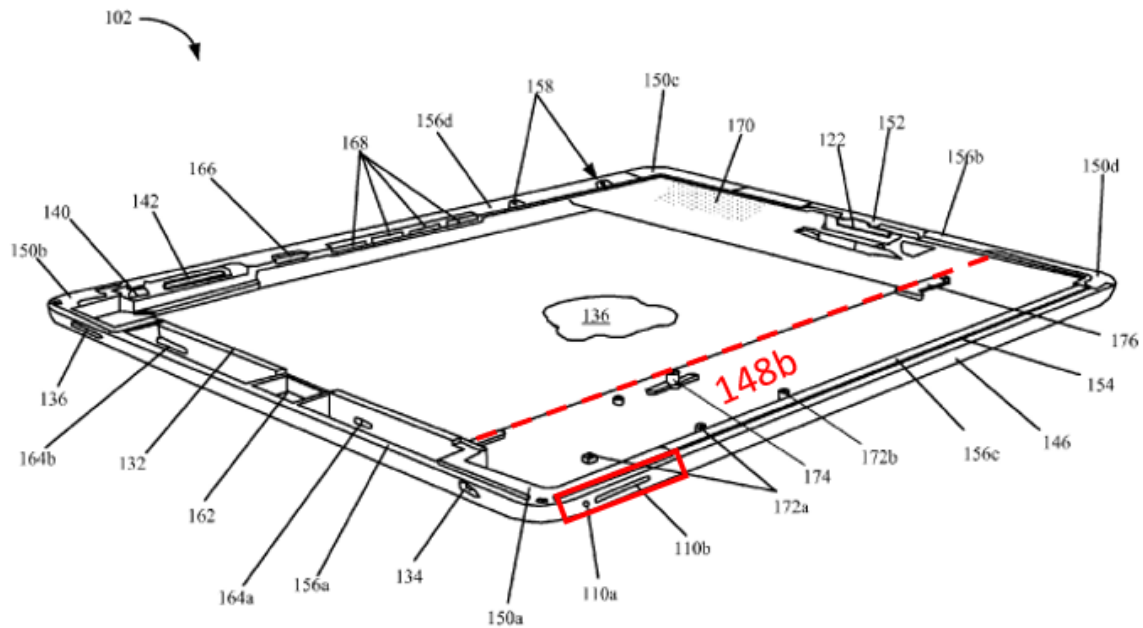


Fig. 3B

13. Dependent Claims 13, 32

- [13] **A portable electronic device according to claim 1 further comprising a second camera located on a front side of the portable electronic device.**
- [32] **A mobile phone according to claim 22 further comprising a second camera on a front side of the mobile phone.**

Grounds 1 and 2 teach claims 13 and 32. *Supra* §V.A.3; Visser, ¶¶179-185.

Ground 1 teaches claims 13 and 32 because McClure-997 teaches **a second camera located on a front side of the portable electronic device**. For example, McClure-997 teaches a camera module 134 that is placed through the camera window 139 on the front side of the device. Ex-1004, ¶77 (“A front camera window 139 (FIG. 13) can also be provided for a front-facing camera through the display window.”), ¶¶78-82, Figs. 12-13. McClure-997 further teaches a camera module aligned with the display on the front side of the device by using alignment pins 130. *Id.* McClure-997 further teaches the portable electronic device as a mobile phone, as explained above. *Supra* §V.A.3[1pre/22pre]; Visser, ¶¶181-183.



Fig. 12

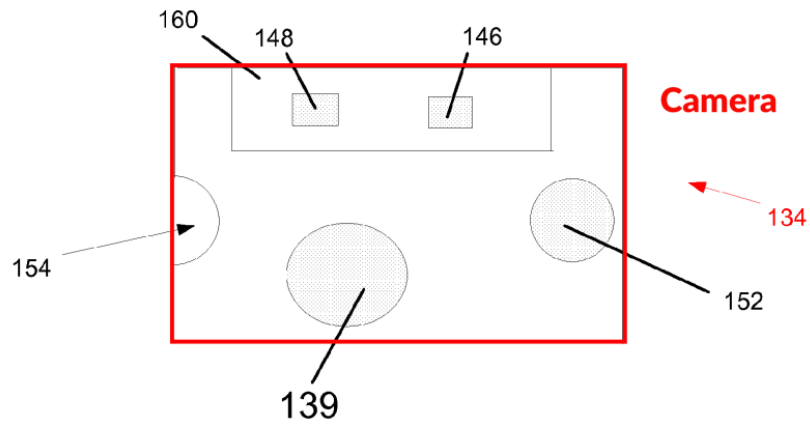
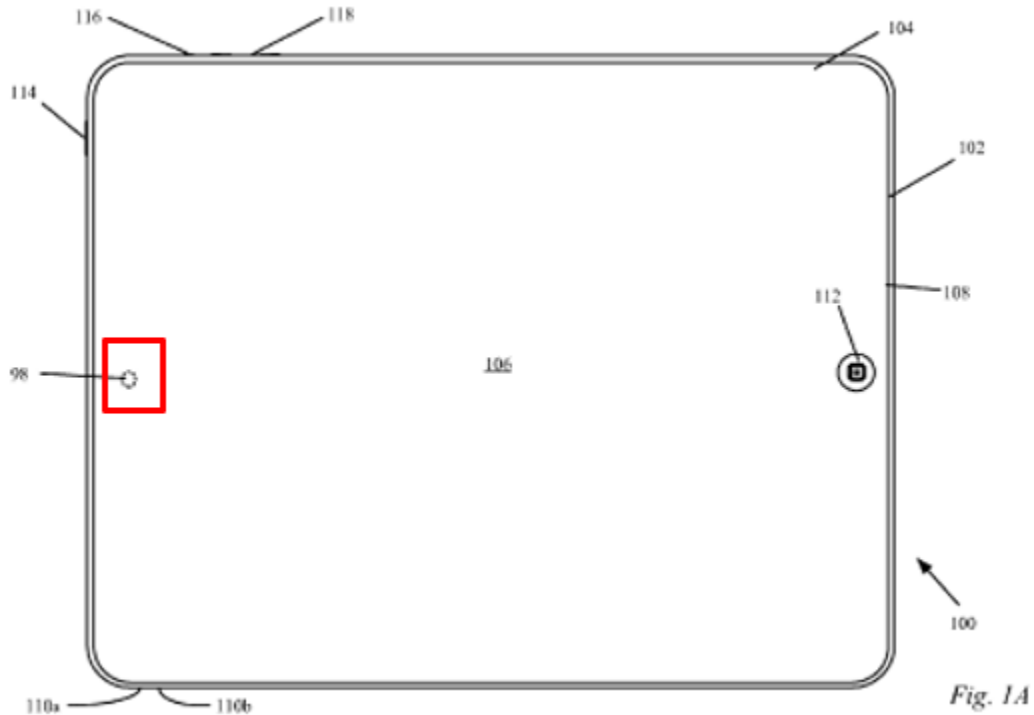


Fig. 13

Ground 2 teaches these claims because McClure-998 provides similar teachings. *See, e.g.*, Ex-1005, ¶43, Figs. 1A-B, 2 (showing an image capture module 98); *supra* §V.A.; Visser, ¶¶184-185.



14. Dependent Claims 14, 35

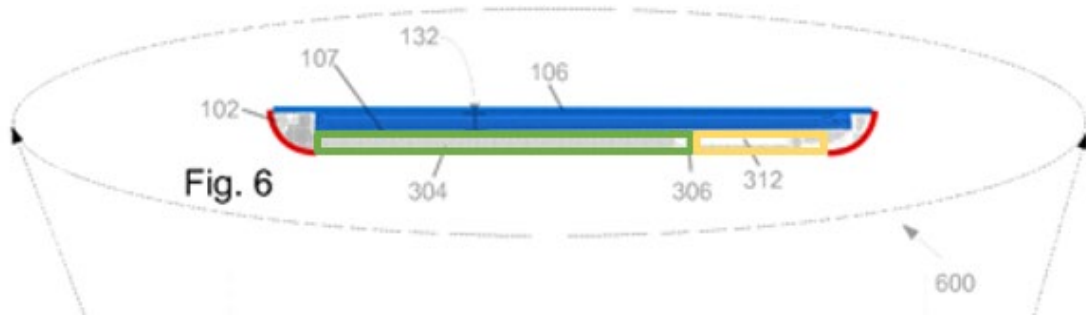
[14] A portable electronic device according to claim 1

[35] A mobile phone according to claim 22

wherein the user input section is located directly adjacent the battery and the engine section.

Grounds 1 and 2 teach claims 14 and 35. *Supra* §V.A.3; Visser, ¶¶186-190.

Ground 1 teaches claims 14 and 35 because McClure-997 teaches **the user input section** (annotated in blue) **located adjacent the battery** (annotated in green) **and the engine section** (annotated in yellow). *See* §V.A.3[1e/22e]; Ex-1004, ¶¶53-54, ¶56, ¶¶58-59, ¶61, ¶¶66-68, ¶38, ¶¶40-41, ¶47, ¶¶14-15, Figs. 1-2, 4-8; Visser, ¶188.



McClure-997 teaches the display assembly that is directly above the battery, which is in the same plane as the engine section. *See* §V.A.3[1e/22e]. When the display assembly is directly above the battery and the engine section, the display assembly is directly adjacent to the battery and the engine section. Visser, ¶189.

Ground 2 teaches claims 14 and 35 because McClure-998 provides similar teachings. *See, e.g.*, Ex-1005, ¶15, ¶37, ¶40, ¶61, Figs. 1A-1B, 3A-B, 2 (showing portions 148a and 148b); *supra* §V.A.; Visser, ¶190.

15.Independent Claim 15

[15pre] A housing for a portable electronic device comprising:

Limitation [15pre] is analogous to limitation [1pre]. Thus, the analysis from limitations [1pre] and [1a] applies. *See* §§V.A.3[1pre]-[1a], V.A.; Visser, ¶192.

[15a] a one piece housing forming enclosed exterior lateral sides and a rear side;

Limitation [15a] is analogous to limitation [1a]. The analysis from limitation [1a] applies. *See* §§V.A.3[1a], V.A.; Visser, ¶193.

[15b] a cut out in the rear side of said housing, said cut out configured to receive at least part of a camera;

Grounds 1 and 2 teach [15b]. Visser, ¶¶194-98. The language “**a cut out in the rear side of said housing**” of [15b] is identical to limitation [1b]. Therefore, analysis from limitation [1b] applies. *See* §V.A.3[1b]; Visser, ¶194.

Ground 1 further teaches **the cut out configured to receive at least part of a camera**. *See* §V.A.3[1c]; Ex-1004, ¶38, ¶40, ¶¶67-68. McClure-997 teaches a display system located above the engine section and a battery. Ex-1004, ¶¶14-15, ¶¶40-41, ¶47, ¶¶66-67, ¶77 (teaching camera module 134 has a rear camera window 138 through the housing 10), Figs. 1-8. Cameras have optics, and the rear camera window 138 is part of the camera optics. Visser, ¶195.

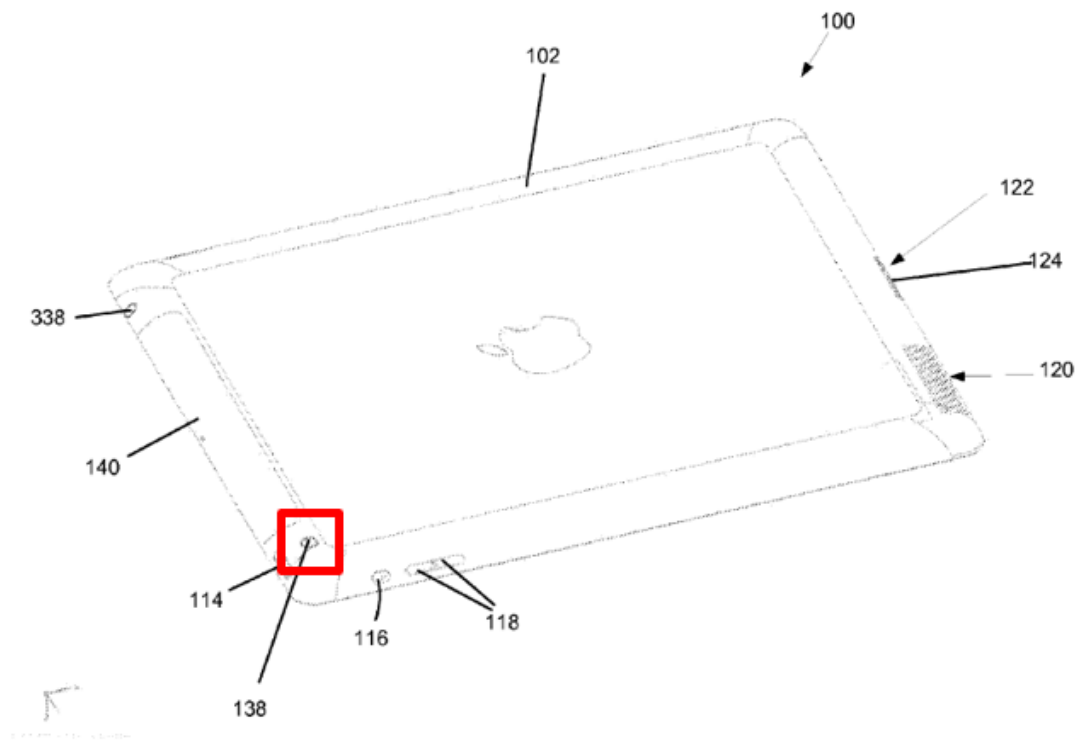


Fig. 3

In previous litigation, Nokia alleged that when a device is configured such that a camera extends to a cutout, the cutout is configured to receive at least a part of the camera, and therefore the analysis from [1b] and [1c] satisfy [15b]. Ex-1016, 000015; Ex-1017, 000013. McClure-997 teaches [1b]-[1c], as explained above. *Supra* §§V.A.3[1b]-[1c]. Therefore, Ground 1 teaches [15b]. Visser, ¶¶196-197.

Ground 2 teaches [15b] because McClure-998 provides similar teachings as those explained above for McClure-997. *See, e.g.*, Ex-1005, ¶54, Fig. 2; *supra* §V.A.; Visser, ¶198.

[15c] wherein the housing is configured to receive a battery and an engine section, wherein a user input is located in an opening between said exterior lateral sides of said one piece housing of the portable electronic device, wherein the battery and engine section are configured to be housed in the housing such that the user input section is located above the engine section and the battery, and wherein the user input section is located adjacent the battery and the engine section.

Ground 1 teaches [15c] because McClure-997 teaches that **the housing is configured to receive a battery and an engine section**. *See* §§V.A.3[1d]-[1f]; Ex-1004, ¶38, ¶40, ¶¶67-68, ¶¶14-15, ¶¶40-41, ¶47, ¶¶66-67, Figs. 1-2, 4-8. McClure-997 illustrates this with the housing (102) being configured to receive a battery (304) and an engine section (312). *See* §§V.A.3[1a], [1d]; Visser, ¶¶199-200.

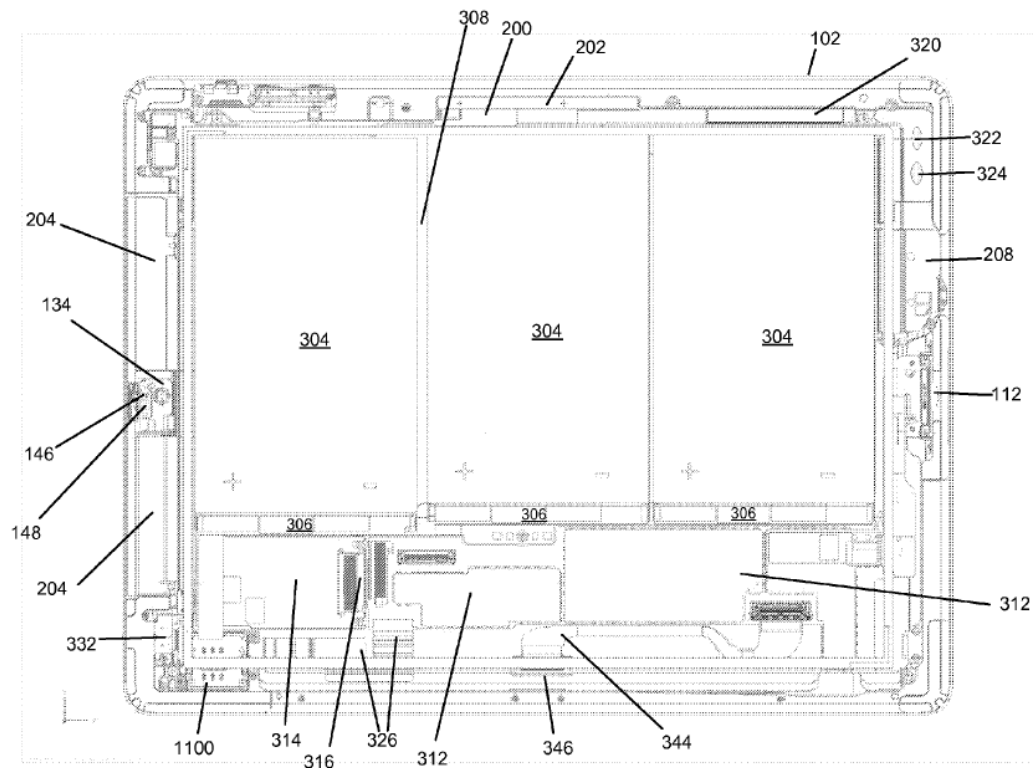


Fig. 5

The language “**wherein a user input is located in an opening between said exterior lateral sides of said one piece housing of the portable electronic device**” is identical to the language from [1f]. Therefore, the analysis from [1f] applies. *Supra* §V.A.3[1f]. The language “**wherein the battery and engine section are configured to be housed in the housing**” is analogous to the language from [1f]. Since McClure-997 teaches that the battery and engine section are housed in the housing, they are also configured to be housed in the housing. The

language “**the user input section is located above the engine section and the battery**” is analogous to the language from [1e] reciting “a user input section located above the engine section and a battery[.]” Therefore, the analysis from [1e]-[1f] applies. *Supra* §§V.A.3[1e]-[1f]. The language “**wherein the user input section is located adjacent the battery and the engine section**” is identical to the language from [1e]. Therefore, the analysis from [1e] applies. *Supra* §V.A.3[1e]; Visser, ¶¶201-203.

In previous litigation, Nokia alleged that when a battery and an engine section are housed in the housing, the housing is configured to receive a battery and an engine section, and therefore the analysis from [1d]-[1f] is sufficient to satisfy [15c]. Ex-1016, 000015; Ex-1017, 000013. McClure-997 teaches [1d]-[1f], as explained above. *Supra* §§V.A.3[1d]-[1f]. Therefore, McClure-997 teaches limitation [15c]. Visser, ¶204.

Ground 2 teaches 15[c] because McClure-998 provides similar teachings as those explained above for McClure-997. *See* Ex-1005, ¶¶39-40, ¶¶103-104, ¶114, Fig. 3B; *supra* §V.A.; Visser, ¶205.

16. Dependent Claim 16

[16] A housing for a portable electronic device according to claim 15 further comprising: a front side extending between the lateral edges, said lateral sides and front side forming an aperture configured to receive the user input wherein the user input and the front side of the housing form a continuous front surface of the portable electronic device.

Grounds 1 and 2 teach claim 16. *Supra* §V.A.15; Visser, ¶¶206-212.

Ground 1 teaches claim 16 because McClure-997 teaches a **front side extending between the lateral edges**. Ex-1004, ¶42, Figs. 1-2 (showing racetrack 110 surrounding the front); *see* §V.A.3; Visser, ¶¶208-209.

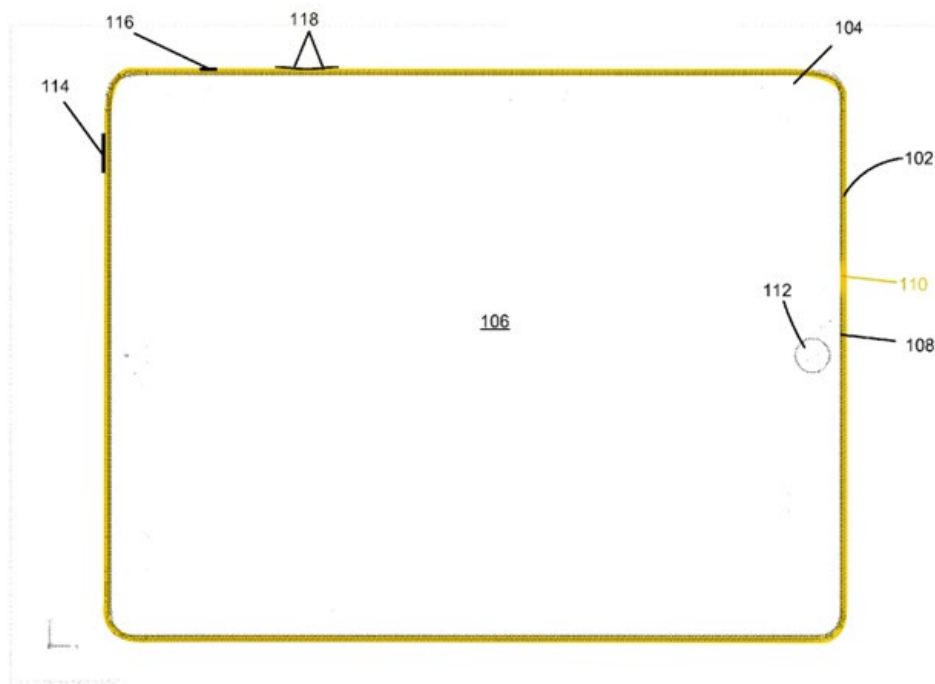
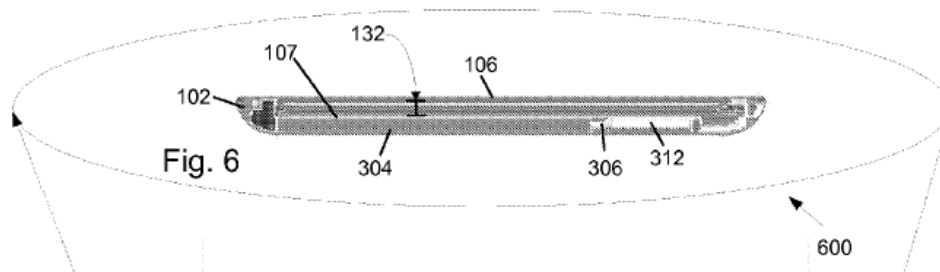


Fig. 1

McClure-997 further teaches **the lateral sides and front side forming an aperture configured to receive the user input**. For example, as can be seen in

Fig. 1 above, the lateral sides and front side (racetrack 110) forms an aperture configured to receive the user input. Ex-1004, ¶¶41-42, Figs. 1-2; *see* §V.A.6; Visser, ¶209.

McClure-997 further teaches that **the user input and the front side of the housing form a continuous front surface of the portable electronic device**. For example, as shown in Fig. 1 above, the user input and the front side of the housing forms a continuous front surface. Ex-1004, ¶¶66-67, ¶¶70-75, ¶¶14-15, ¶40, ¶42, ¶47, ¶50, ¶¶53-56, ¶¶58-61, Figs. 1-2, 4-8; *see* §V.A.8. Therefore, Ground 1 teaches claim 16. Visser, ¶¶210-211.



Ground 2 teaches claim 16 because McClure-998 provides similar teachings as those explained above for McClure-997. Ex-1005, ¶33, ¶¶40-42, ¶¶58-59, ¶61, ¶68, ¶70, ¶72, ¶89, ¶105, ¶¶114-115, Figs. 1A-B, 3A-B, 5A; *supra* §V.A.; Visser, ¶212.

17. Dependent Claim 17

[17] **A housing according to claim 15 wherein the one piece housing has been extruded.**

Grounds 1 and 2 teach claim 17. *Supra* §V.A.15; Visser, ¶¶213-219.

Ground 1 teaches claim 17 because McClure-997 teaches that **the one piece housing has been extruded**. For example, McClure-997 teaches that “an extrusion process” was a known and “preferred” method of manufacturing housings. Ex-1004, ¶87. McClure-997 further explains that any suitable manufacturing process can be used to manufacture its one-piece housing into the desired shape: “[t]he single piece housing can be machined, forged, molded, or otherwise processed into a desired shape.” Ex-1004, ¶36, ¶39; Visser, ¶215.

The use of an extruded block is consistent with McClure-997’s teachings of forming the housing from an extruded metal and then further machining it. *See* Ex-1004, ¶50. Extrusion processes were known to form the housing from a single block of metal into an appropriate shape, and extrusion was one of the core metal-forming techniques known in the art. Moreover, extrusion was typically used to process metal close to the desired shape, which was then machined to further refine the housing. Ex-1004, ¶36 (machining metal to form the housing to form various openings in the housing), ¶87, ¶76. Collectively, these teachings would have informed a POSITA, or at least suggested, that the housing has been extruded to

form a single block of metal into an appropriate shape and then further refined with machining. Visser, ¶216.

This would have been further obvious to a POSITA because, as known in the art, a housing formed from a single sheet or block of metal was typically produced by cutting flat bar stock or by cutting from a larger sheet of aluminum. Using extrusion would have been obvious because it was one of the well-known ways to manufacture housings, and a POSITA would have had good reason to pursue the known options within a finite number of identified, predictable solutions. Bar stock in aluminum was typically extruded, and this was widely known in the art. *See* Ex-1024. A POSITA would have understood that the “block” discussed in McClure-997 would have been cut from an extruded aluminum bar because that was one of the commonly known methods of manufacturing for implementing McClure-997’s teachings. Therefore, a POSITA would have found it obvious, based on McClure-997’s teachings, for the one piece housing to have been extruded. Visser, ¶¶217-218.

Ground 2 teaches claim 17 because McClure-998 provides similar teachings as those explained above for McClure-997. Ex-1005, ¶33, ¶51, ¶123. Ground 2 teaches, or at least suggests, that the housing has been extruded and it would have been obvious for reasons explained above for McClure-997. *See* §V.A.; Visser, ¶219.

18. Dependent Claim 18

[18] A housing according to claim 15 wherein the one piece housing comprises a metal.

Grounds 1 and 2 teach claim 18. *Supra* §V.A.15; Visser, ¶¶220-223.

Ground 1 teaches claim 18 because McClure-997 teaches that **the one piece housing comprises a metal**. Ex-1004, ¶39 (“Portable computing device 100 can include single piece housing 102 that can be formed of any number of materials, such as plastic or metal....”), ¶¶49-50 (“[S]ingle piece housing 102 can be formed from a single sheet or block of metal (such as aluminum)....”). Visser, ¶¶222-223.

Ground 2 teaches claim 18 because McClure-998 provides similar teachings as those explained above for McClure-997. Ex-1005, Abstract ¶33, ¶38, ¶55; *Supra* §V.A.; Visser, ¶224.

19. Dependent Claim 19

[19] A housing according to claim 15 wherein the housing has substantially at least one of an open top or bottom aperture.

Grounds 1 and 2 teach claim 19. *Supra* §V.A.15; Visser, ¶¶224-230.

Ground 1 teaches claim 19 because McClure-997 teaches that **the housing has substantially at least one of an open top or bottom aperture**. For example, McClure-997 teaches the top of the housing having the antenna window 140 over recess 206 to receive an RF antenna 204. Ex-1004, ¶¶44-45, ¶47, ¶¶50-51, ¶63,

¶66, Figs. 3-5. Prior to the assembly of the antenna window 140, the top of the housing has a substantially open top aperture 206. Visser, ¶226.

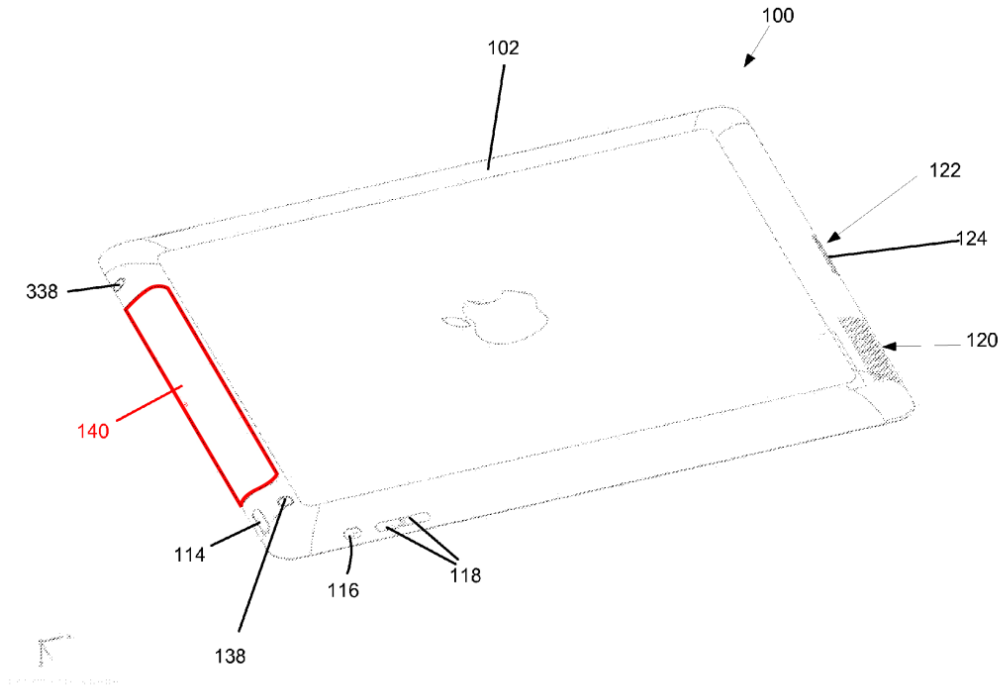


Fig. 3

As another example, McClure-997 teaches a plurality of openings and holes for buttons, switches, and speakers. Ex-1004, ¶48, Fig. 4. McClure-997 also teaches that a data port opening 122 is located at the bottom side of the one-piece housing. Ex-1004, ¶45, Fig. 4. That is, McClure-997 teaches a plurality of openings located at the bottom side, which forms substantially at least one of an open top or bottom aperture. Therefore, Ground 1 teaches claim 19. Visser, ¶¶227-228.

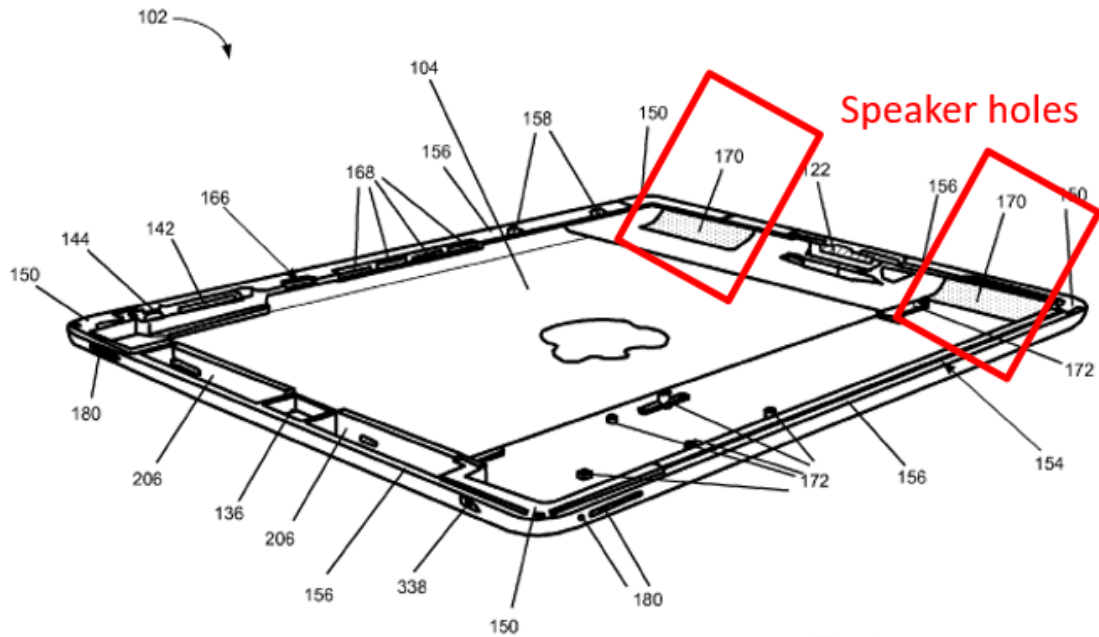


Fig. 4

Ground 2 teaches claim 19 because McClure-998 teaches that “a number of openings can be machined into the single piece housing to provide access to the interior cavity from the exterior of the housing.” Ex-1005, ¶13. Similar to McClure-997, McClure-998 teaches a number of openings in the sidewall for speaker holes, switches, and external connectors. *Id.*, ¶13, ¶¶64-65, Fig. 2, ¶¶53-54. As shown below, openings 134 and 136, located on the top for a power control switch and an audio port. Ex-1005, ¶¶55-57. McClure-998 further teaches having a cutout in the housing for receiving antenna window 132, which is shown at the top end of the device. The plurality of such openings of the top and/or bottom

sidewalls forms substantially at least one of an open top or bottom aperture. *Supra* §V.A.; Visser, ¶¶229-230.

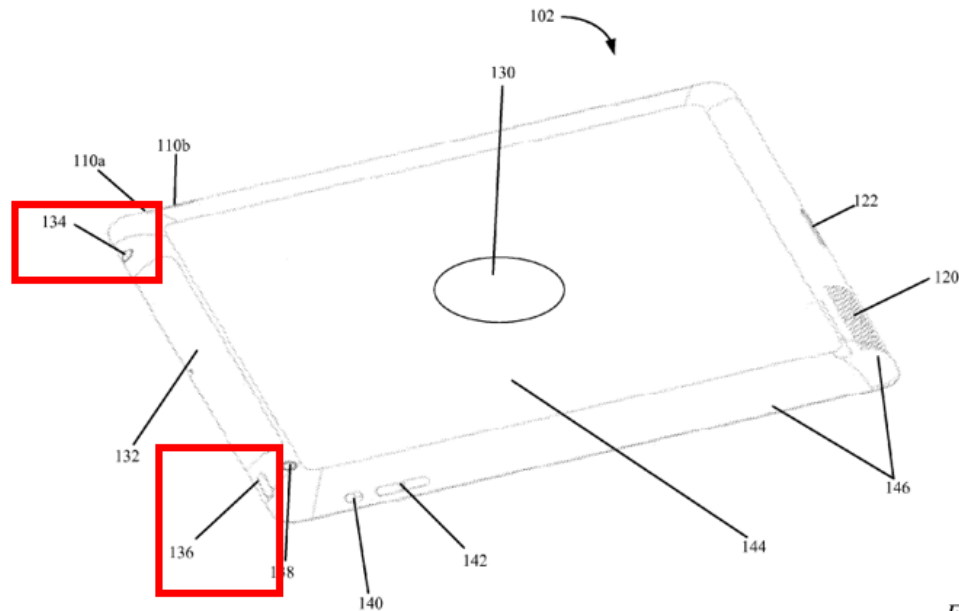


Fig. 2

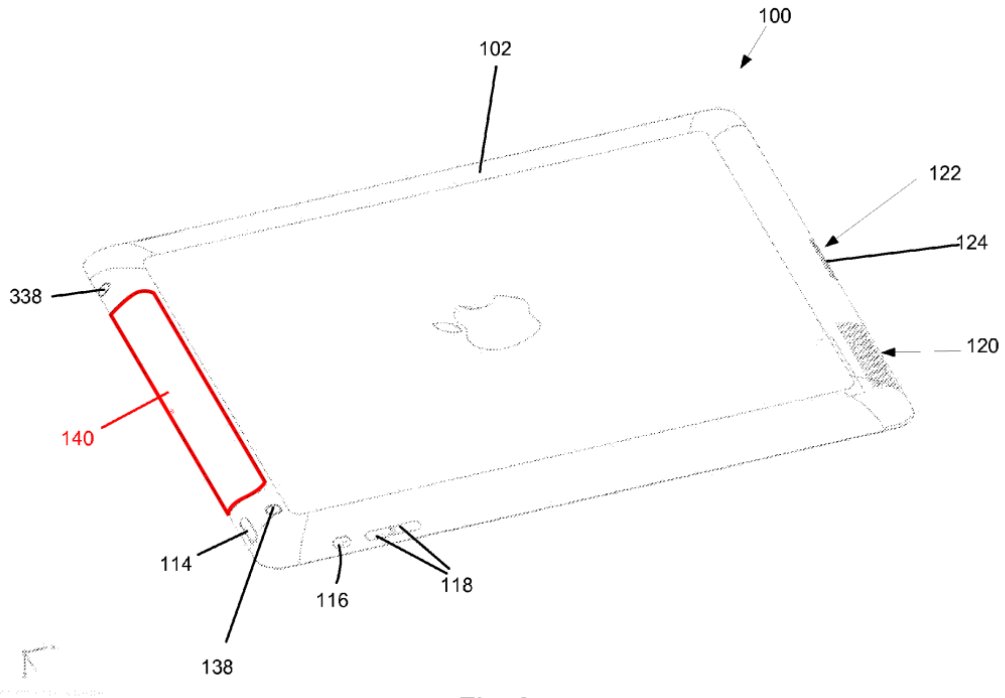
20. Dependent Claim 20

[20] A housing according to claim 19 wherein an antenna module is located at an aperture in the housing.

Grounds 1 and 2 teach claim 20. *Supra* §V.A.19; Visser, ¶¶231-236.

Ground 1 teaches claim 20 because McClure-997 teaches **an antenna located at an aperture in the housing**. For example, McClure-997 teaches the top of the housing having the antenna window 140 over recess 206 to receive an RF antenna 204, as seen below. Ex-1004, ¶¶44-45, ¶47 (“For example, an RF antenna 204 is positioned in an RF antenna recess 206[.]”), ¶¶50-51, ¶63 (“Portable computing device 100 can also include a number of antennae used for both transmission and

reception of RF energy. For example, at least one RF antenna 204 can be incorporated into recess 206 in the housing 102.”), ¶¶66, Figs. 3-5; Visser, ¶¶233-234.



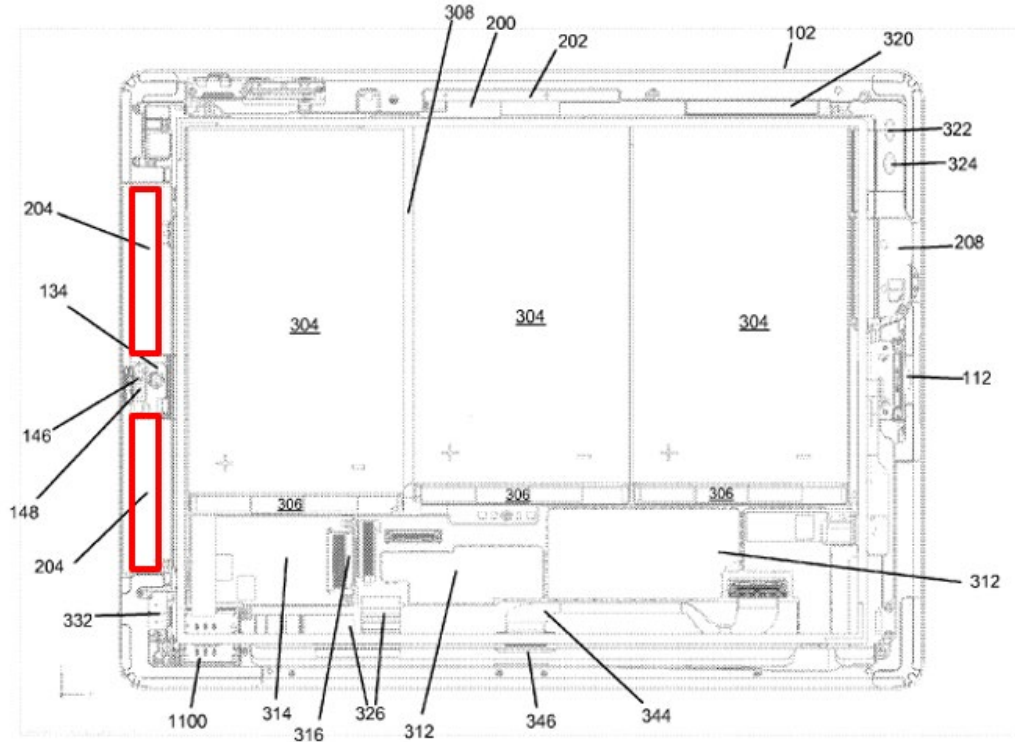


Fig. 5

Ground 2 teaches claim 20 because McClure-998 teaches an antenna window 132 that supports the antenna within cavities of the window. Ex-1005, ¶55 (“In a particular embodiment, the housing can include a cut-out portion for placement [*sic*] an RF antenna window to support one or more antennas.”), ¶¶84-86, ¶34, ¶38, ¶¶56-57, ¶109, Fig. 3B; *supra* §V.A.; Visser, ¶¶235-236.

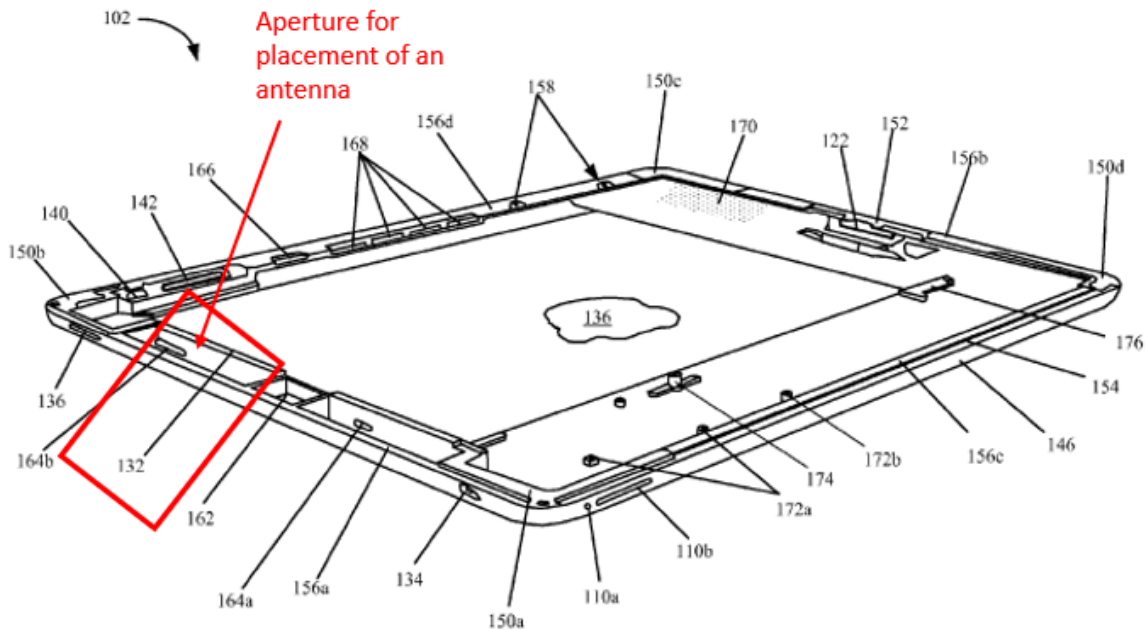


Fig. 3B

21. Dependent Claim 21

[21] A housing according to claim 20 wherein the antenna module is enclosed by an antenna cover.

Grounds 1 and 2 teach claim 21. *Supra* §V.A.20; Visser, ¶¶237-240.

Ground 1 teaches **the antenna module enclosed by an antenna cover** because McClure-997 teaches an antenna enclosed by an antenna window. Ex-1004, ¶44, ¶47, ¶51, ¶63, ¶66; Visser, ¶¶238-239.

Ground 2 teaches claim 21 because McClure-998 provides additional teachings that an antenna is enclosed by an antenna window. *Supra* §V.A.20; Ex-1005, Fig. 3B (showing antenna window 132, enclosing the aperture in which antenna may be located), ¶34 (“[I]f an RF antenna is present within the housing,

then at least a portion of the housing (if metal) is given over a radio transparent portion.”), ¶44, ¶55, ¶38; *supra* §V.A.; Visser, ¶240.

22. Dependent Claim 36

<p>[36] A mobile phone according to claim 22 wherein the transceiver is a mobile phone transceiver.</p>
--

Grounds 1 and 2 teach claim 36. *Supra* §V.A.3; Visser, ¶¶241-246. Ground 1 teaches claim 36 because McClure-997 teaches that **the transceiver is a mobile phone transceiver**. For example, McClure-997 teaches a portable electronic device, including a mobile phone (Ex-1004, Abstract, ¶¶6-9, ¶38; *see* §V.A.3[1pre]/[22pre]) and that a “[p]ortable computing device 100 can include a mechanism for wireless communications, as either a transceiver type device or receiver only, such as a radio.” Ex-1004, ¶44; *see also* §V.A.3[1d/22d]; Visser, ¶243.

Ground 2 teaches claim 36 because McClure-998 provides similar teachings as those explained above for McClure-997. Ex-1005, ¶5, ¶¶44-45. McClure-998 provides additional teachings that “[t]he portable computing device can be used on a wireless data network, such as a cellular data network.” Ex-1005, ¶45. A POSITA would know that a “cellular” is another name for “mobile.” *Supra* §V.A.; Visser, ¶¶244-246.

B. Ground 3: McClure-997 and McClure-998 in View of Chiang

The motivation to combine McClure-997 and McClure-998 was explained above. *Supra* §V.A. Chiang provides additional details regarding a cut-out portion around the camera that projects outward from the housing. Ex-1006, ¶¶17-20, Figs. 1, 3. A POSITA would have been motivated to combine Chiang's teachings regarding the form factor, placement, and appearance of a camera in a portable electronic device (*infra* §V.B.1) with the iPad form factor taught by McClure-997/998, so that the camera is situated in a cutout portion that projects outward from the housing. The motivation to combine and reasonable expectation of success is explained below. *Infra* §V.B.2 (claim 9); Visser, ¶¶247-248.

1. Chiang (Ex-1006)

U.S. Patent Application Publication No. 2004/0214619 was filed on October 9, 2003, published on October 28, 2004, and is a prior art under AIA §§102(a) and (b). Visser, ¶¶249-250.

Chiang teaches aspects of mobile phones with cameras, including details regarding the form factor, placement, and appearance of the camera such as a cut-out portion around the camera that projects outward from the rear side of the housing. Ex-1006, Abstract, ¶¶1-2, ¶16, ¶¶19-20, Figs. 1, 3; Visser, ¶251.

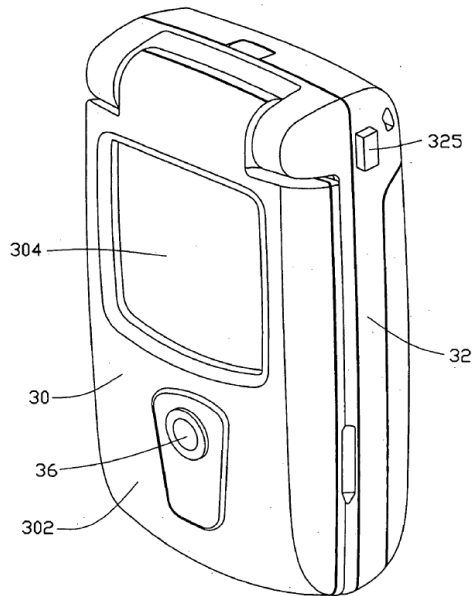


FIG. 1

Chiang is an analogous art in the same field as the '602 patent (*supra* §II) because it is directed to the form factor configuration of a portable electronic device, including the shape, structure, and components of an electronic device such as a mobile phone. Ex-1006, ¶¶1-2, ¶¶8-10; Visser, ¶252.

2. Dependent Claims 9, 30

[9] A portable electronic device according to claim 1

[30] A mobile phone according to claim 22

further comprising a cut out portion wherein the cut out portion projects from the rear side of the housing.

Ground 3 teaches claims 9 and 30. Visser, ¶¶253-263. Chiang teaches a camera 36, which included a lens portion that extended to a cutout in the rear side of the housing and the cut out portion projected from the rear side of the housing.

Ex-1006, ¶¶18-20, Figs. 1, 3. This was a common arrangement for mobile devices.

Visser, ¶¶254-255.

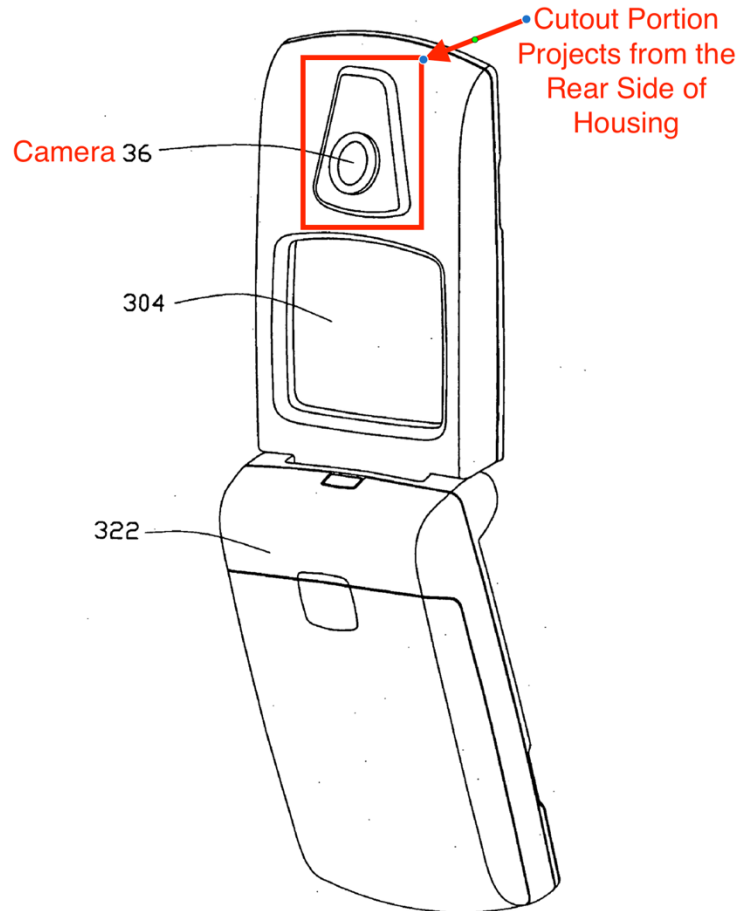


FIG. 3

As can be seen in annotated Figure 3, the cutout portion in which a camera is located projects outwardly from the rear side of the housing. The camera of Chiang is located on the rear side of the housing because the camera located on the rear side when the phone is open to capture an image. When positioning a camera within a portable electronic device, it was common to arrange the camera such that it protrudes through an opening in the housing and occupies less space within the

device housing, which had limited space. Chiang teaches this arrangement. Ex-1006, ¶¶18-20, Figs. 1, 3; Visser ¶256.

Since the protruding camera was known to be vulnerable to damage, it was common to include a projecting portion of the housing, as shown in Figure 3 above, that surrounds the protruding portion of the camera to provide additional protection. Beyond its physical utility, this configuration was a known design detail to draw users' attention to the camera. In the 2013 timeframe, camera lens of a portable electronic device was located at inconsistent locations, which made it difficult for subjects to locate and users to position the camera without accidentally blocking the image. Including the projecting portion allowed the subjects to recognize the location of the camera lens and users to position the camera more easily without blocking the image. Visser, ¶256.

As discussed previously, it would have been obvious to a POSITA to position a cutout and camera on the rear side of the device housing because it makes it easier for the user to face a target and point the device at a target to take a picture of it while viewing that target on the screen. *See* §V.B. For the same reasons, it would have been obvious to a POSITA to position Chiang's cutout within a projecting portion, as taught by Chiang, on the rear side of the housing taught by McClure 997 and/or McClure-998. Visser, ¶¶257-258.

Motivation to Combine. A POSITA would have been motivated to combine Chiang's teachings with McClure-997 and McClure-998. This would have been a combination of known elements according to known methods to yield predictable results because it simply combines the prior art iPad form factor taught by the McClure references with the prior art camera details taught by Chiang, as further explained below, yielding the predictable result of an iPad form factor having a camera located in a cutout portion that projects outward. Ex-1006, ¶¶18-20, Figs. 1, 3; Visser, ¶248.

The combination would have yielded several advantages. For example, having the cutout portion project outward would have allowed the housing to be thinner while still fitting a larger camera. The projecting portion would have allowed the person being photographed to quickly see where the camera was located on the device, and also would have allowed the user to tactilely find the location of the camera lens and avoid accidentally blocking part of the image. The projecting portion would have also allowed the designer to emphasize the camera as a selling feature. Visser, ¶248, ¶259.

The combination would not have changed the principle of operation of any of the references. Instead, the combination of Chiang with the McClure references would simply have changed the appearance and physical characteristics of the form factor near the camera. Visser, ¶248, ¶260.

A POSITA would have had a reasonable expectation of success when combining the teachings of McClure-997, McClure-998, and Chiang. The references are all directed to the shape, structure, layout, and components of portable electronic devices, and their combination would not have changed the operational details. The teachings are compatible and complementary because McClure-997 and McClure-998 both teach a backwards-facing camera, while Chiang teaches additional details applicable to the backwards-facing camera and housing. *E.g.*, Ex-1004, ¶77, Fig. 3; Ex-1005, ¶54, ¶43, Fig. 2; Ex-1006, ¶¶18-20, Figs. 1, 3. These teachings naturally fit together and would have given a POSITA a motivation and reasonable expectation of success in combining the references. Visser, ¶248, ¶261.

Furthermore, the McClure references and Chiang do not limit themselves to the disclosed embodiments. The McClure references explain that “there are many alternative ways of implementing” its teachings, including various “alterations, permutations, and equivalents[.]” Ex-1004, ¶87; Ex-1005, ¶123. Chiang claims that “various changes may be made” to its teachings. Ex-1006, ¶22. Therefore, the references provide motivation to combine their teachings with a reasonable expectation of success. Visser, ¶259, ¶262.

A POSITA would have been able to combine teachings from McClure-997/998 and Chiang to either an iPad or iPhone form factor, which differ primarily

in size. This would have been well within the level of ordinary skill (*see* §II) because iPads with cameras were well-known in the art, and the application of these teachings would have been simple changes to the design and appearance of an iPad. A POSITA would have had industrial design experience in the designing the appearance of portable electronic devices such as iPads. Visser, ¶263.

3. Dependent Claims 10, 31

[10] A portable electronic device according to claim 9

[31] A mobile phone according to claim [30]⁹

where the camera is partially located in the cut out portion.

Ground 3 teaches claims 10 and 31. Visser, ¶¶264-269. Chiang provides additional teachings that supplement Ground 2. Chiang teaches a camera with one portion located within the housing (including the sensor and other electronic components) and an optics portion (including the lens portion) that projects outward from the housing. The camera includes an optical portion that is located in the cutout portion, and the cutout is in the projecting portion of the rear surface that was explained for claims 9 and 30. Ex-1006, ¶¶18-20, Figs. 1, 3; Visser, ¶¶265-266.

⁹ Claim 31 contains a typographical error that omits the claim number. It depends from claim 30. Ex-1002, 000697, 000733.

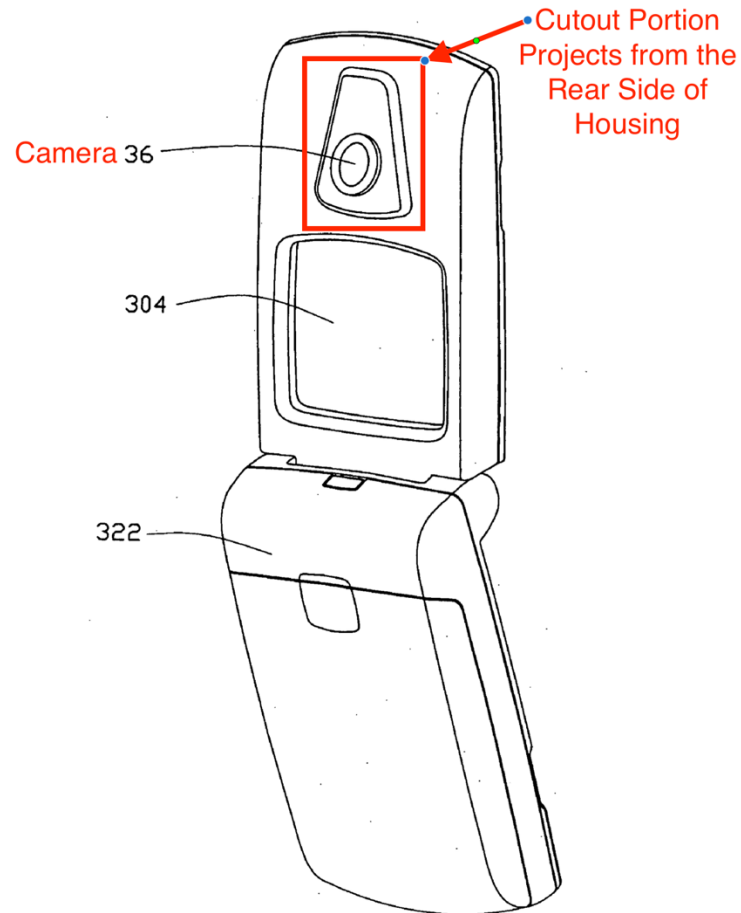


FIG. 3

As can be seen in Figure 3, the camera 36 protrudes through the cutout portion annotated in red and therefore is at least partially located in the cutout portion. Therefore, Ground 3 teaches claims 10 and 31. Visser, ¶¶267-268.

The motivation to combine and reasonable expectation of success in combining Chiang's teachings with McClure-997 and McClure-998 were explained above in the section for claims 9 and 30. Visser, ¶269.

4. Claims 1-8, 11-29, 32-36

Ground 3 teaches these claims as explained above in Sections V.A. and V.B.

See §§V.A., V.B.; Visser, ¶270.

VI. DISCRETIONARY ANALYSIS FOR REVIEW

This Petition’s merits are compelling, which “alone demonstrates that the PTAB should not discretionarily deny institution under *Fintiv*.” June 21, 2022 Director’s Memorandum, 3-5.

Fintiv. No denial is warranted under *Fintiv*. The relevant *Fintiv* factors weigh heavily against denial because the lone concurrent district court proceeding was initiated late 2023. No schedule has been entered. Any trial would therefore be expected well after the FWD deadline (likely November 2025). It is unclear whether any overlap exists between this Petition and future issues in district court.

Advanced Bionics. Denial under §325(d) is likewise unwarranted. McClure-997, McClure-998, and Chiang were not cited or considered during prosecution. No previous IPRs were filed against the Challenged Claims. *General Plastic* factors do not weigh against institution.

VII. STANDING

Petitioner certifies that Petitioner is not barred or estopped from requesting this *inter partes* review and the ’602 patent is IPR-eligible.

VIII. MANDATORY NOTICES AND FEES

1. **Real Party In Interest**: The real parties-in-interest here are Amazon.com, Inc. and Amazon.com Services LLC. No other parties directed, controlled, or funded this Inter Partes Review proceeding (IPR).
2. **Related Matters**: Nokia Corporation and Nokia Technologies Oy v. Amazon.com, Inc. and Amazon.com Services, LLC., 1-23-cv-01232 (D. Del.).
3. **Lead and Backup Counsel**: Pursuant to 37 C.F.R. §42.8(b)(3) and 42.10(a), Petitioner designates Harper Batts (Reg. No. 56,160) as lead counsel and Chris Ponder (Reg. No. 77,167) and Jeffrey Liang (Reg. No. 69,043) as back-up counsel, each of Sheppard, Mullin, Richter & Hampton LLP.
4. **Service Information**: Petitioner consents to service by electronic mail addressed to:

HBatts@sheppardmullin.com;
CPonder@sheppardmullin.com;
JLiang@sheppardmullin.com; and
LegalTM-Amazon-Nokia-IPRs@sheppardmullin.com
5. Petitioner's counsel may also be served by mail or hand delivery at Sheppard, Mullin, Richter & Hampton LLP, 1540 El Camino Real Suite 120, Menlo Park, CA 94025. Petitioner's counsel may be reached by telephone at (650) 815-2673 and by facsimile at (650) 815-4668.
6. **Fees**: The Office is authorized to charge fees for this Petition to Deposit Account 50-4561, Ref. 19AG-382973.

Respectfully submitted,

SHEPPARD, MULLIN,
RICHTER & HAMPTON LLP

/Harper Batts/
Harper Batts (Reg. No. 56,160)
Attorneys for Petitioner

CLAIM APPENDIX

[1pre] A portable electronic device comprising:

[1a] a one piece housing forming enclosed exterior lateral sides and a rear side;

[1b] a cut out in the rear side of said housing;

[1c] a camera located in said housing and extending to said cut out at said rear side;

[1d] an engine section comprising a printed circuit board, a transceiver, a processor and a memory;

[1e] a user input section located above the engine section and a battery, wherein the user input section is located adjacent the battery and the engine section;

[1f] wherein the battery and engine section are housed in the housing and the user input is located in an opening between said exterior lateral sides of said one piece housing of the portable electronic device.

2. A portable electronic device according to claim 1 wherein said one piece housing has a front side extending from and between the lateral sides.

3. A portable electronic device according to claim 2 wherein the front side extends parallel to the lateral edges.

4. A portable electronic device according to claim 3 wherein the front side forms at least a side of the opening through which the input device is located.
5. A portable electronic device according to claim 1 wherein the user input and a front side of the housing lie in a side by side arrangement.
6. A portable electronic device according to claim 1 wherein the one piece housing and the user input form a continuous surface of the portable electronic device.
7. A portable electronic device according to claim 6 further comprising a bracket wherein the user input section and the one piece housing define an interior volume and the bracket is configured to support said user input section.
8. A portable electronic device to claim 1 wherein the battery is located adjacent the engine section in a side by side arrangement.
9. A portable electronic device according to claim 1 further comprising a cut out portion wherein the cut out portion projects from the rear side of the housing.
10. A portable electronic device according to claim 9 where the camera is partially located in the cut out portion.
11. A portable electronic device according to claim 1 further comprising a door configured to support an electronic module.
12. A portable electronic device according to claim 11 wherein the electronic module is configured to interface to the engine section.

13. A portable electronic device according to claim 1 further comprising a second camera located on a front side of the portable electronic device.

14. A portable electronic device according to claim 1 wherein the user input section is located directly adjacent the battery and the engine section.

[15pre] A housing for a portable electronic device comprising:

[15a] a one piece housing forming enclosed exterior lateral sides and a rear side;

[15b] a cut out in the rear side of said housing, said cut out configured to receive at least part of a camera;

[15c] wherein the housing is configured to receive a battery and an engine section, wherein a user input is located in an opening between said exterior lateral sides of said one piece housing of the portable electronic device, wherein the battery and engine section are configured to be housed in the housing such that the user input section is located above the engine section and the battery, and wherein the user input section is located adjacent the battery and the engine section.

[16pre] A housing for a portable electronic device according to claim 15 further comprising:

[16a] a front side extending between the lateral edges, said lateral sides and front side forming a aperture configured to receive the user input wherein the user

input and the front side of the housing form a continuous front surface of the portable electronic device.

17. A housing according to claim 15 wherein the one piece housing has been extruded.

18. A housing according to claim 15 wherein the one piece housing comprises a metal.

19. A housing according to claim 15 wherein the housing has substantially at least one of an open top or bottom aperture.

20. A housing according to claim 19 wherein a antenna module is located at a aperture in the housing.

21. A housing according to claim 20 wherein the antenna module is enclosed by a antenna cover.

[22pre] A mobile phone comprising:

[22a] a one piece housing of the mobile phone forming enclosed exterior lateral sides and a rear side of the mobile phone;

[22b] a cut out in the rear side of said housing;

[22c] a camera located in said housing and extending to said cut out at said rear side;

[22d] an engine section comprising a printed circuit board, a transceiver, a processor and a memory;

[22e] a user input section located above the engine section and a battery, wherein the user input section is located adjacent the battery and the engine section;

[22f] wherein the battery and engine section are housed in the housing and the user input is located in an opening between said exterior lateral sides of said one piece housing of the mobile phone.

23. A mobile phone according to claim 22 wherein said one piece housing has a front side extending from and between the lateral sides.

24. A mobile phone according to claim wherein the front side extends parallel to the lateral edges.

25. A mobile phone according to claim 24 wherein the front side forms at least a side of the opening through which the input device is located.

26. A mobile phone according to claim 22 wherein the user input and a front side of the housing lie in a side by side arrangement.

27. A mobile phone according to claim 22 wherein the one piece housing and the user input form a continuous surface of the mobile phone.

28. A mobile phone according to claim 27 further comprising a bracket wherein the user input section and the one piece housing define an interior volume and the bracket is configured to support said user input section.

29. A mobile phone according to claim 22 wherein the battery is located adjacent the engine section in a side by side arrangement.
30. A mobile phone according to claim 22 further comprising a cut out portion wherein the cut out portion projects from the rear side of the housing.
31. A mobile phone according to claim where the camera is partially located in the cut out portion.
32. A mobile phone according to claim 22 further comprising a second camera on a front side of the mobile phone.
33. A mobile phone according to claim further comprising a door configured to support an electronic module.
34. A mobile phone according to claim 33 wherein the electronic module is configured to interface to the engine section.
35. A mobile phone according to claim 22 wherein the user input section is located directly adjacent the battery and the engine section.
36. A mobile phone according to claim 22 wherein the transceiver is a mobile phone transceiver.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on July 1, 2024, true and correct copies of the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 9,473,602 and Exhibits 1001-1024 were served in entirety on the Patent Owner at the following addresses of record as listed on PAIR, via Priority Mail Express®:

Nokia Corporation and Alston & Bird LLP
 Vantage South End
 1120 South Tryon Street, Suite 300
 Charlotte, NC 28203-6818
Official Correspondence Address

The undersigned certifies that true and correct copies of the Petition for *Inter Partes* Review of U.S. Patent No. 9,473,602 and Exhibits 1001-1024 were also sent via electronic mail to the attorneys of record for Plaintiff in the concurrent litigation matter(s):

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**CERTIFICATE OF COMPLIANCE WITH
TYPE-VOLUME LIMITATION, TYPEFACE REQUIREMENTS,
AND TYPE STYLE REQUIREMENTS**

1. This Petition complies with the type-volume limitation of 14,000 words, comprising 12,334 words, as counted using the Microsoft Word software that was used to prepare this paper, excluding the parts exempted by 37 C.F.R. § 42.24(a).

2. This Petition complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft® Word in 14-point Times New Roman.

Respectfully submitted,

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