United States Patent and Trademark Office
Before the Patent Trial and Appeal Board

Samsung Electronics Co., Ltd. and
Samsung Electronics America, Inc.
(Petitioners)
v.
Maxell, Ltd.,
(Patent Owner)

Inter Partes Review

IPR2024-00906 | **U.S. Patent No. 11,445,241**
IPR2024-00907 | **U.S. Patent No. 10,129,590**

Petitioners' Presentation
Prepared for Oral Hearing: September 25, 2025

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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Instituted Grounds

906 IPR (’241 patent)

Ground: Claims	35 U.S.C. §	References
1: 1, 4-6, 8-27	103(a)[2]	N93, Dua, Herle
2: 1, 4-6, 8-27	103(a)	N93, Dua, Herle, Rooyen, Desai, BT-Spec, 3GPP-Spec, Kao
3: 1, 4-6, 8-27	103(a)	Dua, Herle
4: 1, 4-6, 8-27	103(a)	Dua, Herle, N93
5: 1, 4-6, 8-27	103(a)	Dua, Herle, N93, Rooyen, Desai, BT-Spec, 3GPP-Spec, Kao

906-Paper 11 (D.I.) at 11, 70

907 IPR (’590 patent)

Ground: Claims	35 U.S.C. §	References
1: 1, 4, 5, 8-12, 14-25	103(a)[3]	N93, Dua, Herle
2: 1, 4, 5, 8-12, 14-25	103(a)	N93, Dua, Herle, Rooyen, Desai, BT-Spec, 3GPP-Spec, Kao
3: 1, 4, 5, 8-12, 14-25	103(a)	Dua, Herle
4: 1, 4, 5, 8-12, 14-25	103(a)	Dua, Herle, N93
5: 1, 4, 5, 8-12, 14-25	103(a)	Dua, Herle, N93, Rooyen, Desai, BT-Spec, 3GPP-Spec, Kao

907-Paper 11 (D.I.) at 11, 67-68

[2,3] Pre-AIA §§102 and 103 apply throughout this petition.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

N93, BT-Spec, 3GPP-Spec Are Publications

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

The References Were Publicly Available/Accessible

- **Internet Archive Declaration** (EX 1007)
  - N93 (EX1010)
  - BT-Spec (EX1014)
  - 3GPP-Spec (EX1015)

- **Additional Internet Archive Declarations** (906-EX1031-1032; 907-EX1032-1033)
  - Archived Web Pages (EX1059-1063)

- **Wikipedia History** (EX1071-1072)

N93 Was Publicly Available and Accessible



Frank-White

DECLARATION OF NATHANIEL E FRANK-WHITE

1. I am a Records Request Processor at the Internet Archive. I make this declaration of my own personal knowledge.

* * *

7. Attached hereto as Exhibit B are true and accurate copies of the Internet Archive's records of the archived files for the URLs and the dates specified in the following table.

Folder	URL
001	https://web.archive.org/web/20070423000010/http://nds1.nokia.com/phones/files/guides/Nokia_N93-1_UG_en.pdf

EX1007 at 1-2.; 906-Pet. at 6; 906-Reply at 2-3; 907-Pet. at 5; 907-Reply at 2-3

The Affidavit Addresses the URL of the .PDF Itself on Nokia.com

Frank-White

seconds (1997/01/26 at 04:58:28). The date indicated by an extended URL applies to a preserved instance of a file for a given URL, but not necessarily to any other files linked therein. Thus, in the case of a page constituted by a primary HTML file and other separate files (e.g., files with images, audio, multimedia, design elements, or other embedded content) linked within that primary HTML file, the primary HTML file and the other files will each have their own respective extended URLs and may not have been archived on the same dates.

EX1007 at 1; 906-Pet. at 6; 906-Reply at 2-3; 907-Pet. at 5; 907-Reply at 2-3

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Folder	URL
001	https://web.archive.org/web/20070423000010/http://nds1.nokia.com/phones/files/guides/Nokia_N93-1_UG_en.pdf

EX1007 at 2; 906-Pet. at 6; 906-Reply at 2-3; 907-Pet. at 5; 907-Reply at 2-3

POR

EX1007 ¶5 (emphasis added). Thus, the Affidavit itself calls into question whether the ".pdf" user manual that was embedded within the HTML file was archived on April 23, 2007. At most, nds1.nokia.com is the HTML file and may have been indexed on April 23, 2007, but the .pdf file would fall into "embedded content" and may not have been archived on the same dates, as the declaration itself states. This is further strengthened by the fact that there is no evidence of this URL

906-POR at 6

N93 Was Publicly Accessible

INTERNET ARCHIVE

archive.org

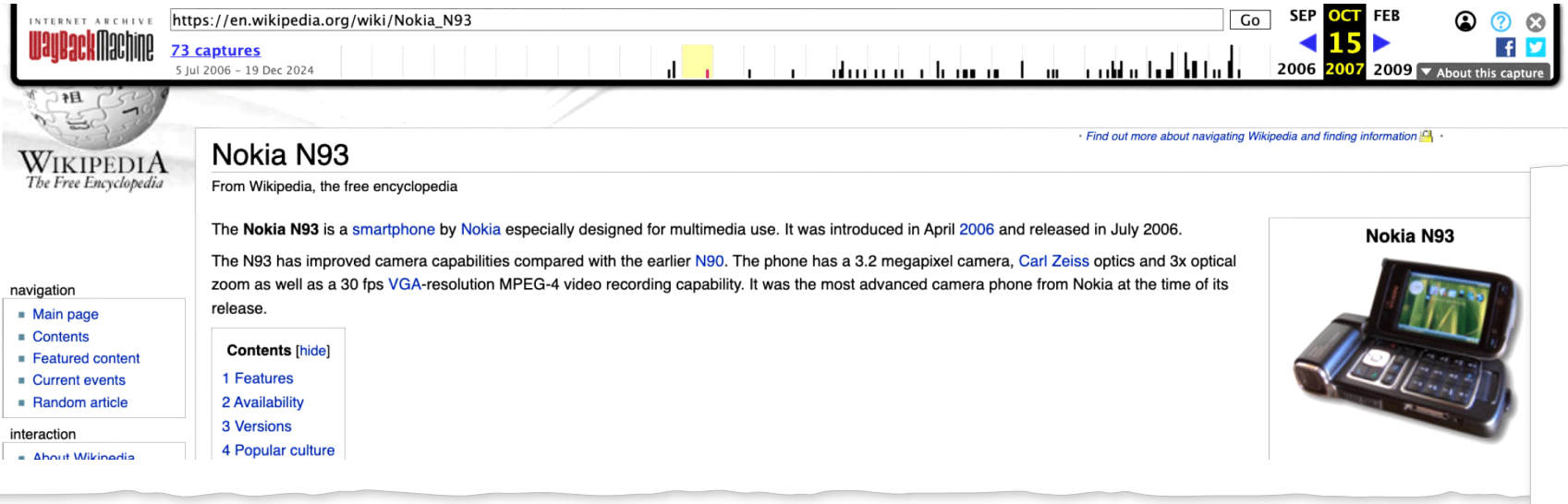
AFFIDAVIT OF TANYA ZEIF

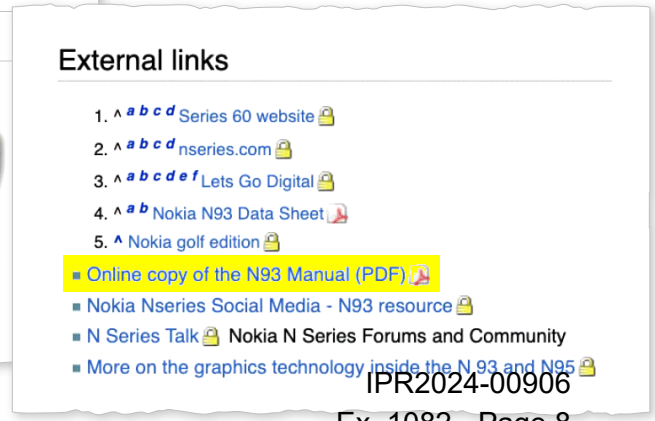
1. I am a Records Request Processor at the Internet Archive. I make this declaration of my own personal knowledge.

* * *

6. Attached hereto as Exhibit A are true and accurate copies of browser screenshots of the Internet Archive's records of the archived files for the URLs and the dates specified in the attached coversheet of each screenshot.

906-EX1032 at 1-2; 907-EX1033 at 1-2; 906-Reply at 2; 907-Reply at 2





906-EX1032 at 5; 907-EX1033 at 5; 906-Reply at 2; 907-Reply at 2

N93 URL on Nokia.com Was Accessible Via The N93 Wikipedia Page

12 October 2007

WIKIPEDIA
The Free Encyclopedia

Nokia N93

This is an old revision of this page, as edited by Ausis (talk | contribs) at 19:40, 12 October 2007 *(picture + template)*. The present address (URL) is a permanent link to this revision, which may differ significantly from the current revision.

The **Nokia N93** is a smartphone by Nokia especially designed for multimedia use. It was introduced in April 2006 and released in July 2006.

The N93 has improved camera capabilities compared with the earlier N90. The phone has a 3.2 megapixel camera, Carl Zeiss optics and 3x optical zoom as well as a 30 fps VGA-resolution MPEG-4 video recording capability. It was the most advanced camera phone from Nokia at the time of its release.

Nokia N93



* * *

External links

1. Series 60 website (http://www.s60.com/devices?dm_id=883)
2. nseries.com (http://www.nseries.com/nseries/v2/media/product/tech_specs/en-US/tech_specs_n93_en_US.html?lang=en&country=US)
3. Lets Go Digital (http://www.letsgodigital.org/en/news/articles/story_7512.html)
4. Nokia N93 Data Sheet (http://www.nokia.com/NOKIA_COM_1/Press/Press_Events/Nokia_Open_Studio/N93%20DataSheet.pdf)
5. Nokia golf edition (http://direct.nokia.com/N93/GB/main.html?cmp=BAC-Q264X6046505&ad_id=nokia_GB_small)

- Online copy of the N93 Manual (PDF) (http://nds1.nokia.com/phones/files/guides/Nokia_N93-1_UG_en.pdf)

- Online copy of the N93 Manual (PDF) (http://nds1.nokia.com/phones/files/guides/Nokia_N93-1_UG_en.pdf)

EX1071 at 1, 3; 906-Reply at 2; 907-Reply at 2

18 August 2007

WIKIPEDIA
The Free Encyclopedia

Nokia N93

This is an old revision of this page, as edited by Cabe6403 (talk | contribs) at 14:32, 18 August 2007 (→*External links: added link to manual*). The present address (URL) is a permanent link to this revision, which may differ significantly from the current revision.

The **Nokia N93** is a smartphone by Nokia especially designed for multimedia use. It was introduced in April 2006 and released in July 2006.

The N93 has improved camera capabilities compared with the earlier N90. The phone has a 3.2 megapixel camera, Carl Zeiss optics and 3x optical zoom as well as a 30 fps VGA-resolution MPEG-4 video recording capability. It was the most advanced camera phone from Nokia at the time of its release.



Nokia N93 (black and silver versions)

* * *

External links

1. Series 60 website (http://www.s60.com/devices?dm_id=883)
2. nseries.com (http://www.nseries.com/nseries/v2/media/product/tech_specs/en-US/tech_specs_n93_en_US.html?lang=en&country=US)
3. Lets Go Digital (http://www.letsgodigital.org/en/news/articles/story_7512.html)
4. Nokia N93 Data Sheet (http://www.nokia.com/NOKIA_COM_1/Press/Press_Events/Nokia_Open_Studio/N93%20DataSheet.pdf)
5. Nokia golf edition (http://direct.nokia.com/N93/GB/main.html?cmp=BAC-Q264X6046505&ad_id=nokia_GB_small)

- Online copy of the N93 Manual (PDF) (http://nds1.nokia.com/phones/files/guides/Nokia_N93-1_UG_en.pdf)

- Online copy of the N93 Manual (PDF) (http://nds1.nokia.com/phones/files/guides/Nokia_N93-1_UG_en.pdf)

EX1072 at 1, 3; 906-Reply at 2; 907-Reply at 2

Dr. Creusere Confirmed Accessibility Using Both Paths to N93

Dr. Creusere Declaration

9. In the first method, I used the archived Wikipedia page of the N93 phone. Specifically, the N93 Wikipedia page archived on October 15, 2007 included an "External links" section with the N93 URL (http://nds1.nokia.com/phones/files/guides/Nokia_N93-1_UG_en.pdf) as "Online copy of the N93 Manual (PDF)". *Id.*; EX1032, 4-6; EX1007, 2, 9-139; EX1033 (Bhattarai Decl.), ¶2.

10. In the second method, I used the historical versions of the Wikipedia page of the N93 phone. The same N93 URL is hyperlinked on the "Online copy of the N93 Manual (PDF)" in two different historical versions. EX1071, 1 (October 12, 2007 version), 3 (N93 URL); EX1072, 1 (August 18, 2007 version), 3 (N93 URL).

EX1058 (Creusere Decl.) at ¶¶ 9-10; 906-Reply at 2; 907-Reply at 2

PO's Expert Verified Public Accessibility on the Internet Archive

McNair

Q. Okay. So you're looking at the October 15th, 2007 web archive capture of the N93 Wikipedia page, right?

A. That's correct.

Q. Okay. And if you roll your cursor over the link to the N93 manual, can you very slowly read out the URL for that link. The URL should pop up if you put your cursor on top of it.

A. Right.

Q. Okay.

A. So it's the external link to the online copy of the N93 Manual PDF, and the web link is HTTP://NDS1.nokia.com/phones/files/guides/Nokia_N93-1_UG_EN PDF.

EX1057 (McNair Dep. Tr.) at 64:20-65:9; 906-Reply at 2-3; 907-Reply at 2-3

PO's Expert Verified Public Accessibility on the Internet Archive

McNair

Q. Okay. So right now, we're on April 23rd, 2007, and this is the Nokia User Guide that's labeled 9245183, Issue 2EN, correct?

A. Correct.

Q. And this is the version that's been marked in these proceedings as Exhibit 1010, correct?

A. Correct.

Q. All right. Now, if you click on the blue arrow to the right for July 2011. Let me know when it's moved to that date.

A. Okay.

Q. Okay. Can you describe what you're looking at now?

A. It appears to be the same, if I remember the number correctly, 9245183, Issue 2EN. It appears to be the same document. I haven't compared line by line, but at least the first page is the same.

Q. This is the version that was captured by the archive on July 14th, 2011 at the same NDS-1 URL, correct?

A. That's correct.

EX1057 (McNair Dep. Tr.) at 68:22-69:17; 906-Reply at 2-3; 907-Reply at 2-3

BT-Spec Was Publicly Available and Accessible

INTERNET ARCHIVE
archive.org

Frank-White

DECLARATION OF NATHANIEL E FRANK-WHITE

1. I am a Records Request Processor at the Internet Archive. I make this declaration of my own personal knowledge.

* * *

7. Attached hereto as Exhibit B are true and accurate copies of the Internet Archive's records of the archived files for the URLs and the dates specified in the following table.

Folder	URL
001	https://web.archive.org/web/20070423000010/http://nds1.nokia.com/phones/files/guides/Nokia_N93-1_UG_en.pdf
002	https://web.archive.org/web/20070107180542/http://www.3gpp.org/ftp/specs/latest-drafts/36211-021.zip
003	https://web.archive.org/web/20060224231851/http://www.bluetooth.com/NR/rdonlyres/1F6469BA-6AE7-42B6-B5A1-65148B9DB238/840/Core_v210_EDR.zip

EX1007 at 1-2; 906-Pet. at 6; 906-Reply at 4; 907-Pet. at 5; 907-Reply at 4

The Affidavit Addresses the Zip file Itself

Frank-White

7. Attached hereto as Exhibit B are true and accurate copies of the Internet Archive's records of the archived files for the URLs and the dates specified in the following table.

* * *

003	https://web.archive.org/web/20060224231851/http://www.bluetooth.com/NR/rdonlyres/1F6469BA-6AE7-42B6-B5A1-65148B9DB238/840/Core_v210_EDR.zip

EX1007 at 2; 906-Pet. at 6; 906-Reply at 4; 907-Pet. at 5; 907-Reply at 4

seconds (1997/01/26 at 04:58:28). The date indicated by an extended URL applies to a preserved instance of a file for a given URL, but not necessarily to any other files linked therein. Thus, in the case of a page constituted by a primary HTML file and other separate files (e.g., files with images, audio, multimedia, design elements, or other embedded content) linked within that primary HTML file, the primary HTML file and the other files will each have their own respective extended URLs and may not have been archived on the same dates.

EX1007 at 1; 906-Pet. at 6; 906-Reply at 4; 907-Pet. at 5; 907-Reply at 4

PO's Motion to Exclude Evidence

accessibility of Exhibits 1014 ("BT-Spec") and 1015 ("3GPP-Spec"). Regarding BT-Spec, Petitioner presents archived links to the Bluetooth web site, *but not to BT-Spec* utilized in the Petition. EX1032, 19-26.

906-Paper 32 (PO's Motion to Exclude Evidence) at 3; 907-Paper 32 (same) at 3

BT-Spec Was Publicly Accessible



AFFIDAVIT OF TANYA ZEIF

1. I am a Records Request Processor at the Internet Archive. I make this declaration of my own personal knowledge.

* * *

6. Attached hereto as Exhibit A are true and accurate copies of browser screenshots of the Internet Archive's records of the archived files for the URLs and the dates specified in the attached coversheet of each screenshot.

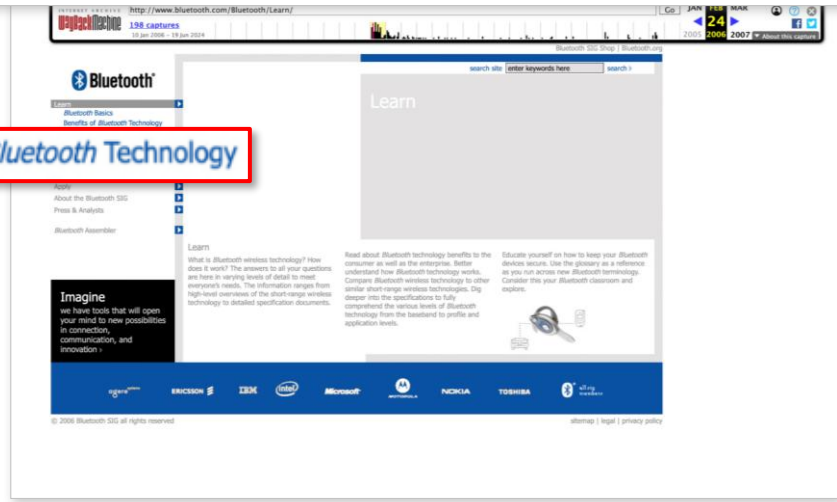
906-EX1032 at 1-2; 907-EX1033 at 1-2; 906-Reply at 3-4; 907-Reply at 3-4

BT-Spec Was Publicly Accessible

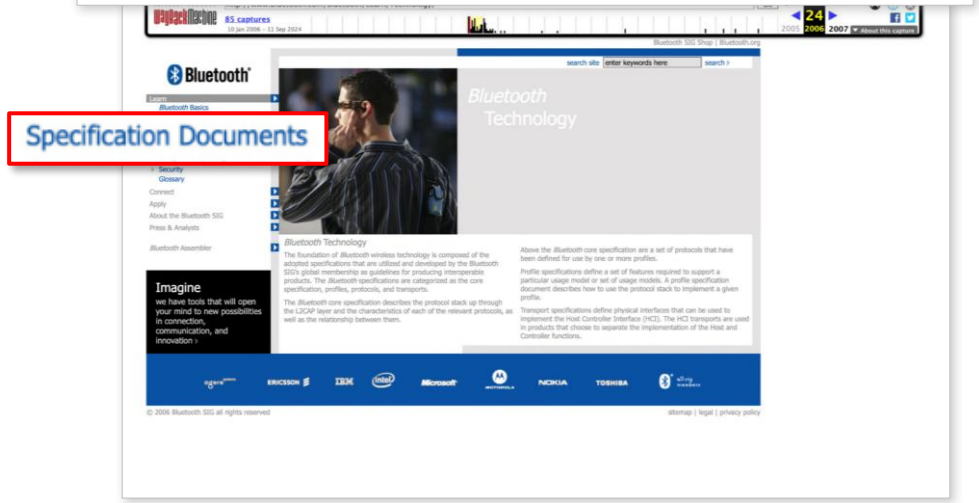
https://web.archive.org/web/20060224023701/http://www.bluetooth.com/bluetooth/



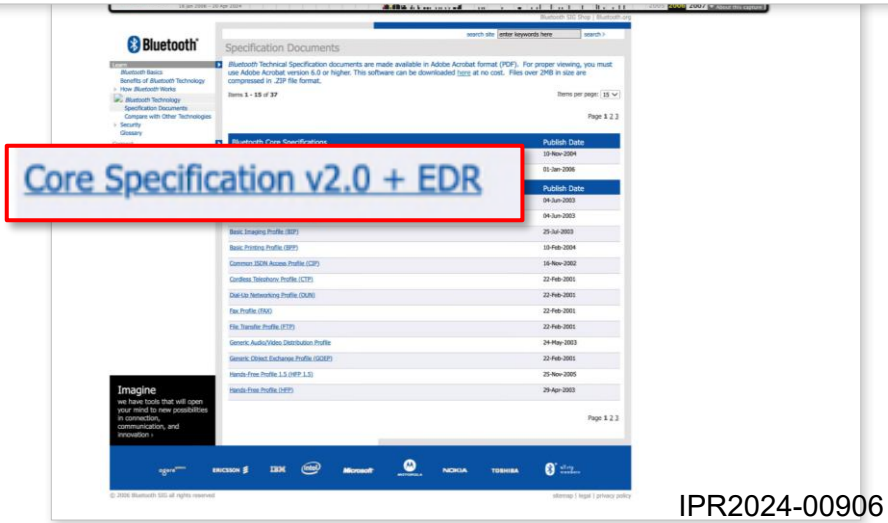
https://web.archive.org/web/20060224231618/http://www.bluetooth.com/Bluetooth/Learn/



https://web.archive.org/web/20060224231808/http://www.bluetooth.com/Bluetooth/Learn/Technology/



https://web.archive.org/web/20060224231821/http://www.bluetooth.com/Bluetooth/Learn/Technology/Specifications/



Dr. Creusere Navigated to BT-Spec Using the Archived Webpages

Dr. Creusere Declaration

(1) At the homepage http://www.bluetooth.com/bluetooth/ (EX1032, 19-20), I clicked on "Learn" on the top left panel to navigate to http://www.bluetooth.com/Bluetooth/Learn/. *Id.*, 21-22.

(2) I clicked on "Bluetooth Technology" on the top left panel to navigate to http://www.bluetooth.com/Bluetooth/Learn/Technology/. *Id.*, 23-24.

(3) I clicked on "Specification Documents" to navigate to http://www.bluetooth.com/Bluetooth/Learn/Technology/Specifications/. *Id.*, 25-26.

(4) I clicked on "Core Specification v2.0+EDR" to download BT-Spec. *Id.*, 27; EX1007, 2, 194-1423

906-EX1058 at ¶ 11; 907-EX1058 at ¶ 11; 906-Reply at 4; 907-Reply at 4

PO's Expert Verified Public Accessibility of BT-Spec

McNair

Q. Okay. All right. Now, if you could open up or go back to Exhibit 1007, that's the other declaration from Mr. Frank White, and go to pate 2. All right?

* * *

Q. Okay. If you could compare the URL that's in row 3, and that's folder 003, compare that URL to the link that's displayed, if you roll your cursor over the Core Specification V2.0 plus EDR link, and take your time.

A. I won't read the entire URL into the record, but they do appear to be the same.

Q. All right. And if you could click on that link, and it will download a ZIP file, and open the document, please.

* * *

Q. Is that the same document that we've marked as Exhibit 1014 in these proceedings?

A. It appears to be.

EX1057 (McNair Dep.) at 84:5-85:3; 906-Reply at 4; 907-Reply at 4

PO's Expert Verified Public Accessibility

McNair

Q. Okay. If you could open that Favorite and compare it to the URL that's on page 19 of the Zeif declaration, please.

A. Well, the website appears to be the same, but the web link is spinning. It's -- oh, there it is. Okay. All right. This is opened.

EX1057 at 82:11-16; 906-Reply at 2-4; 907-Reply at 3-4

Q. Okay. Now, if you click on the link Bluetooth Technology on the left.

A. Okay.

Q. All right. And can you compare the URL and the content of that page to what's in the Zeif declaration at page 23 and 24.

A. The URL is the same. The content appears to be the same.

EX1057 at 83:14-21; 906-Reply at 2-4; 907-Reply at 3-4

Q. Over on the left, do you see the first item in the list is labeled Learn?

* * *

Q. Okay. Can you compare what you're looking at now to the Zeif declaration at the URL on page 21 and the content on page 22 to see if it's the same.

A. The page is the same. The content is different. The Zeif declaration doesn't have -- at least the image that's on the web archive page.

EX1057 at 82:24-83:10; 906-Reply at 2-4; 907-Reply at 3-4

Q. If you click on the left there at the link Specification Documents, please.

A. Okay.

Q. All right. And can you compare what you're looking at now to the URL and content on page 25 and 26 of he Zeif declaration.

A. The URL is the same, and the contents appear to be the same.

EX1057 at 83:22-84:4; 906-Reply at 2-4; 907-Reply at 3-4

3GPP-Spec Was Publicly Available and Accessible

INTERNET ARCHIVE
archive.org

Frank-White

DECLARATION OF NATHANIEL E FRANK-WHITE

1. I am a Records Request Processor at the Internet Archive. I make this declaration of my own personal knowledge.

* * *

7. Attached hereto as Exhibit B are true and accurate copies of the Internet Archive's records of the archived files for the URLs and the dates specified in the following table.

Folder	URL
001	https://web.archive.org/web/20070423000010/http://nds1.nokia.com/phones/files/guides/Nokia_N93-1_UG_en.pdf
002	https://web.archive.org/web/20070107180542/http://www.3gpp.org/ftp/specs/latest-drafts/36211-021.zip
003	https://web.archive.org/web/20060224231851/http://www.bluetooth.com/NR/rdonlyres/1F6469BA-6AE7-42B6-B5A1-65148B9DB238/840/Core_v210_EDR.zip

EX1007 at 1-2; 906-Pet. at 6; 907-Pet. at 5-6

PO's Expert Verified EX1015 is the "Clean" Excerpt from EX1007

Mr. McNair Rebuts PO's Arguments re: EX1007 v EX1015

906-POR at 6; 907-POR at 7

A. All right. So 1007, the Declaration of 23 Nathaniel Frank White.

* * *

Q. So staying in Exhibit 1007, beginning at page 141 and extending through 164, this is the clean version of the document that we've referred to as the 3GPP spec that has been excerpted as Exhibit 1015, correct?

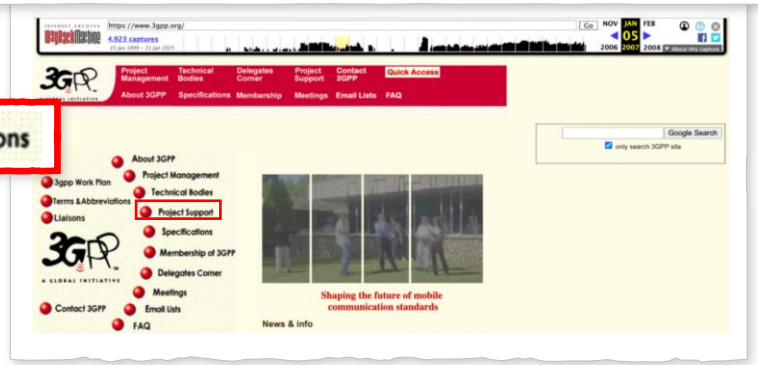
A. That's correct.

EX1057 (McNair Dep. Tr.) at 80:22-23, 81:4-9; 906-Reply at 5; 907-Reply at 5

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

3GPP-Spec Was Publicly Accessible

https://web.archive.org/web/20070105070832/https://www.3gpp.org/



https://web.archive.org/web/20070107095708/http://www.3gpp.org/ftp/Specs/



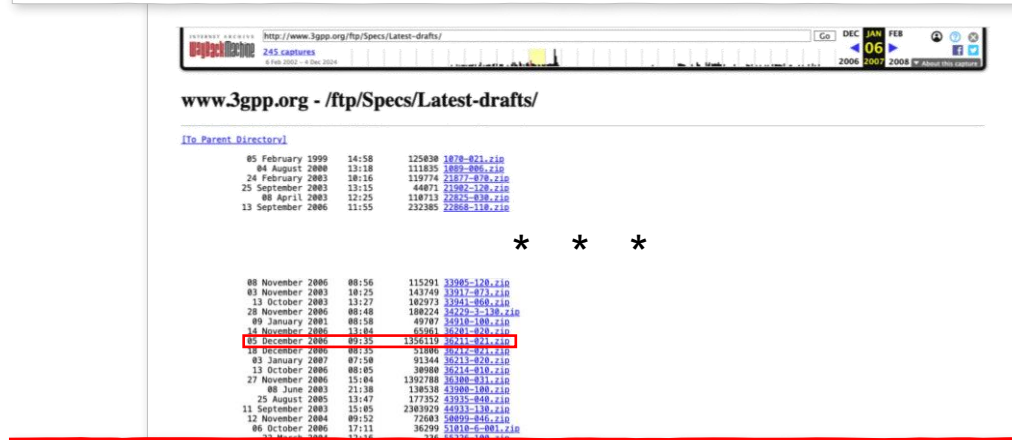
04 January 2007 17:01 <dir> Latest-drafts

https://web.archive.org/web/20070107095943/http://www.3gpp.org/specs/specs.htm



specifications file server area

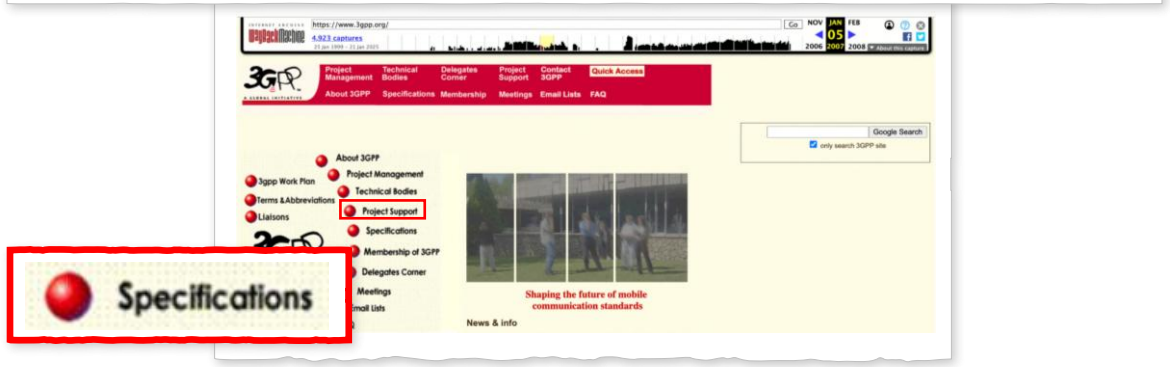
https://web.archive.org/web/20070106094131/http://www.3gpp.org/ftp/Specs/Latest-drafts/



05 December 2006 09:35 1356119 36211-021.zip

3GPP-Spec Was Publicly Accessible Through Additional Route

https://web.archive.org/web/20070105070832/https://www.3gpp.org/



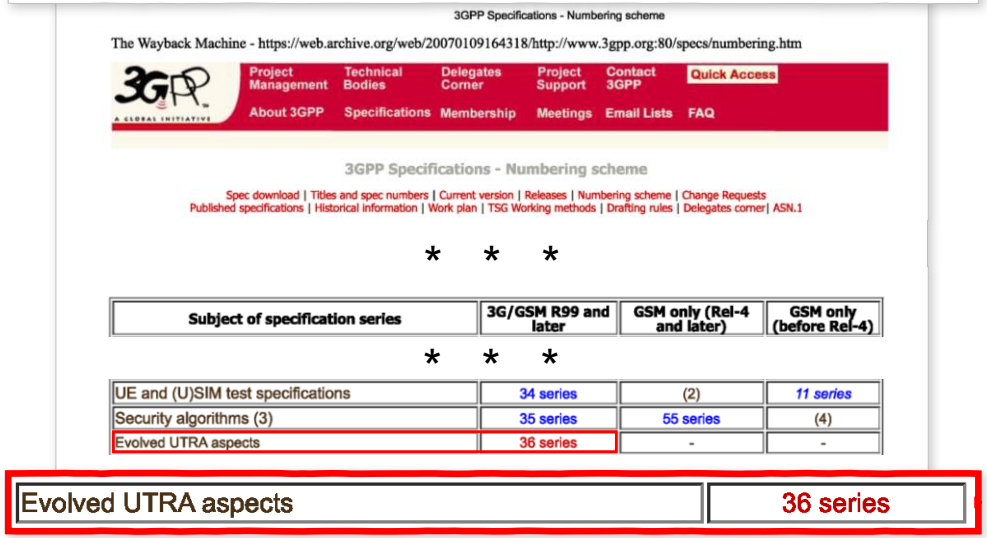
EX1032 at 7-8 906-Reply at 5; 907-Reply at 5

https://web.archive.org/web/20070107095943/http:/www.3gpp.org/specs/specs.htm

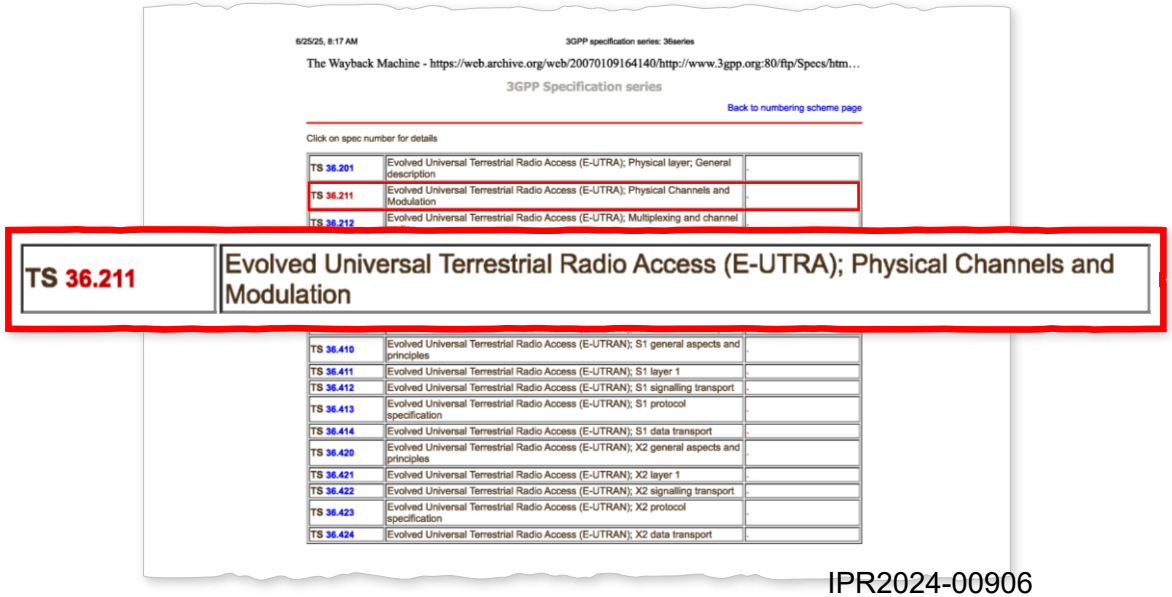


EX1032 at 9-10; 906-Reply at 5; 907-Reply at 5

https://web.archive.org/web/20070107095708/http://www.3gpp.org/ftp/Specs/



EX1059; 906-Reply at 5; 907-Reply at 5



EX1060; 906-Reply at 5; 907-Reply at 5

3GPP-Spec Was Publicly Accessible Through an Alternate Route

The Wayback Machine - https://web.archive.org/web/20061213070121/http://www.3gpp.org:80/ftp/Specs/htm…

3GPP Specification detail

Back to numbering scheme page

Back to series index

3GPP TS 36.211 (click spec number to see fileserver directory for this spec)

Evolved Universal Terrestrial Radio Access (E-UTRA); Physical Channels and Modulation

TSG / WG responsible: **R1** (click TSG/WG to see its home page)

Work item which gave rise to this spec: **LTE-Phys** (click WI code to see Work Item details in the Work Plan)

Joint editor: Sadayuki Abeta.

Rapporteur: **PARKVALL, Stefan**

Specification required for: UTRAN-based systems

In the table below ...

... click meeting number for meeting details;

... click spec version number to download that version;

... click SDO publication reference to download SDO transposed document.

Release	Freeze meeting	Freeze date	remarks	SDO publications
Rel-8		-	. .	ETSI
	event	version	available	remarks	click ref to download
	draft	0.0.0	2006-10-10		-
	draft	0.0.1	2006-10-10	R1-062947, history box still shows v0.0.0	-
	R1-46b	0.1.0	2006-10-16	R1-063001	-
	R1-47	0.1.1	2006-11-08	R1-063540	-
	draft	0.1.2	2006-11-24		-
	draft	0.2.0	2006-11-24		-
	post R1-47	0.2.1	2006-12-11	R1-063626	-

EX1061; 906-Reply at 5; 907-Reply at 5

The Wayback Machine - https://web.archive.org/web/20061214212359/http://www.3gpp.org:80/ftp/Specs/archiv…

https://web.archive.org/web/20061214212359/http://www.3gpp.org/ftp/Specs/archive/36_series/36.211/36211-021.zip

Samsung - IPR2024-00906
Ex. 1062 - Page 1

1/1

EX1062; 906-Reply at 5; 907-Reply at 5

Dr. Creusere Navigated to 3GPP-Spec Using the Archived Webpages

Dr. Creusere Declaration

(1) At the homepage https://www.3gpp.org/ (EX1032, 7-8), I clicked on "Specifications" to navigate to http:/www.3gpp.org/specs/specs.htm. *Id.*, 9-13.

(2) I clicked on "specifications file server area" to navigate to http://www.3gpp.org/ftp/Specs/. *Id.*,14-15.

(3) I clicked on "Latest-drafts" to navigate to http://www.3gpp.org/ftp/Specs/Latest-drafts/. *Id.*,16-18.

(4) I clicked on December 5, 2006 version of "36211-021.zip" to download the zip file at http://www.3gpp.org/ftp/specs/latest-drafts/36211-021.zip with clean and redlines version of the 3GPP-Spec. EX1007, 2, 141-164 (clean), 165-192 (redlines). As shown in the web pages, there are a

906-EX1058 at ¶ 13; 907-EX1058 at ¶ 13; 906-Reply at 4-5; 907-Reply at 4

(1) At the homepage https://www.3gpp.org/ (EX1032,7-8), I clicked on "Specifications" to navigate to http:/www.3gpp.org/specs/specs.htm. *Id.*, 9-13.

(2) I clicked on "To find a particular spec quickly, go here…." to navigate to http://www.3gpp.org/specs/numbering.htm. EX1059. Note that this option labelled for members of the public that are not familiar, like a POSITA would have been, with 3GPP in general.

(3) I clicked on "36 series" under "Evolved UTRA aspects" to navigate to http://www.3gpp.org/ftp/Specs/html-info/36-series.htm. EX1060.

(4) I clicked on "TS 36.211" for " Evolved Universal Terrestrial Radio Access (E-UTRA); Physical Channels and Modulation" to navigate to http://www.3gpp.org/ftp/Specs/html-info/36211.htm. EX1061.

(5) I clicked on the version "0.2.1" to download the zip file at http://www.3gpp.org/ftp/Specs/archive/36_series/36.211/36211-021.zip with clean and redlines version of the 3GPP-Spec. EX1062.

(6) I confirmed the clean versions of 3GPP-Spec EX1062 and EX1015 are the same.

906-EX1058 at ¶ 14; 907-EX1058 at ¶ 14; 906-Reply at 4; 907-Reply at 4

PO's Expert Verified Public Accessibility

McNair

Q. And if we go back to the Zeif declaration, and go to page 7, you'll see a URL for the 3GPP.org.

Do you see that URL?

A. Yes.

* * *

Q. Okay. Can you confirm that what you're looking at now has the same URL as what's on page 7 of the Zeif declaration.

A. Yeah. I confirmed that when I opened it. It's the same.

EX1057 at 69:19-23, 70:8-12; 906-Reply at 5; 907-Reply at 4

Q. Okay. If you click on the highlighted text Specifications File Server Area, and let me know when the page is loaded.

* * *

Q. Okay. Can you compare the URL to the URL that's on page 14 of the Zeif declaration, Exhibit 1033.

A. It appears to be the same.

Q. Okay. And can you look at the content of the page, and compare it to the content of the page that's on page 15 of the Zeif declaration, and confirm they're the same.

A. Again, with a cursory comparison, it looks like they're the same.

EX1057 at 71:11-13, 25-72:9 906-Reply at 5; 907-Reply at 4

Q. Well, can you click on -- see up at the top it says Specifications?

A. Yes.

Q. Can you click on that, please.

A. Okay.

Q. Now, can you compare the URL you're looking at there to the URL on page 9 of the Zeif declaration.

A. It appears to be the same.

Q. And can you just compare the actual web page itself to the web page that follows it in the Zeif declaration at pages -- the next couple of pages after that link, just to see if they appear to be the same.

A. Well, a cursory glance, they look like they're probably the same.

EX1057 at 70:14-71:4 906-Reply at 5; 907-Reply at 4

PO's Expert Verified Public Accessibility

McNair

Q. If you scroll down to the last entry in the list that's labeled Latest Drafts, and click on that, please.

A. Okay.

Q. Can you compare the URL of the screen you're looking at now with the URL that's on page 16 of the Zeif declaration.

A. It seems to be the same.

Q. Okay. And again, if you could look at the content of the page with what's on page 17 and 18 of the Zeif declaration to confirm those are the same.

A. Again, a cursory comparison, they seem to be the same.

Q. And then if you could click on the link 36211-021. That download a ZIP file?

A. Yes.

Q. Can you click Open File, please. And do you see two Word documents?

A. Yes.

Q. And is the first one 36.211V0.2.1clean.doc?

A. Oh, that's the second there. The first is just the name without clean.

EX1057 (McNair Dep. Tr.) at 72:10-73:8; 906-Reply at 5; 907-Reply at 4

PO's Expert Verified Public Accessibility Through Additional Route

McNair

Q. Okay. Underneath that, there's a line that says To find a particular spec quickly, go here and click on the links in the spec series in the table or use the links in the further information section. Do you see that sentence?

A. Yes.

Q. Can you click on the Go Here highlighted words, please.

A. Yes. Got it.

* * *

Q. Okay. All right. And you see under the subject of Specific Series heading in the table, there's an Evolved UTRA Aspects. Do you see that row down at the very bottom?

A. Yes.

Q. And if you follow it to the right under the second column, there's a link that says 36 Series. Do you see that?

A. Yes.

Q. Okay. Can you click that link, please.

A. Okay.

EX1057 at 74:6-12, 75:2-15; 906-Reply at 5; 907-Reply at 5

Q. All right. Do you see the second row that states in the first column of the table, TS36.211?

A. Yes.

Q. Okay. Can you click on that link, please.

A. Okay.

EX1057 at 75:20-76:1; 906-Reply at 5; 907-Reply at 5

Q. All right. Now, in this table, do you see the last row of the -- in the table is Post R1-47, and Version 0.2.1? Do you see that?

A. Yes.

Q. Can you click on that 0.1.2, please.

A. And it's downloading a ZIP file.

Q. Yeah.

A. All right.

Q. Is the ZIP file 3621-0.2.1?

A. Yes.

EX1057 at 76:6-16; 906-Reply at 5; 907-Reply at 5

The References Were Available/Accessible

Samsung Elecs. Co. v. Infobridge Pte. Ltd.

[A] work is not publicly accessible if the only people who know how to find it are the ones who created it.

Samsung Elecs.Co. v. Infobridge Pte. Ltd., 929 F.3d 1363, 1372 (Fed. Cir. 2019); 906-POR at 5; 907-POR at 5

First Solar, Inc. v. Rovshan Sade

Here, we question whether the record contains sufficient evidence that "a person of ordinary skill could have reasonably found the website and then found the reference on that website."

First Solar, Inc. v. Rovshan Sade, IPR2023-00881, Paper 13 at 19 (PTAB Nov. 16, 2023) (emphasis in the original); 906-POR at 5; 907-POR at 5

Acceleration Bay, LLC v. Activision Blizzard Inc.

[A]lthough Lin was indexed by author and year, it was not meaningfully indexed such that an interested artisan exercising reasonable diligence would have found it….

Acceleration Bay, LLC v. Activision Blizzard Inc., 908 F.3d 765, 774 (Fed. Cir. 2018); 906-POR at 5-6; 907-POR at 5-6

Voter Verified, Inc. v. Premiere Election Solutions

[T]he ultimate question is whether the reference was "available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it."

Voter Verified, Inc. v. Premiere Election Solutions, 689 F.3d 1374, 1380 (Fed. Cir. 2012); 906-POR at 4; 907-POR at 4

Internet Archive Records are Trustworthy

Johns Manville Corp. v. Knauf Insulation, Inc.

Knauf has provided no persuasive evidence that either the March 2002 date, or the 2006 URL dates in…Mr. Butler's [Internet Archive] declarations are untrustworthy.

Johns Manville Corp. v. Knauf Insulation, Inc., IPR2015-01453, Paper 49 at 13-14; 906-Paper 33 at 2; 907-Paper 33 at 2

Valve Corp. v. Ironburg Inventions Ltd.

Examiners use The Wayback Machine as a source of information to determine when a Web reference was first made available to the public…. District courts have taken judicial notice of the contents of webpages available through the Wayback Machine as facts that can be accurately and readily determined from sources whose accuracy cannot reasonably be questioned.

Valve Corp. v. Ironburg Inventions Ltd., 8 F.4th 1364, 1374 (Fed. Cir. 2021); 906-Paper 33 at 2; 907-Paper 33 at 2

PO's Motion To Exclude: Every Case Cited in PO's Motion Considered the Evidence on the Merits

Acceleration Bay, LLC v. Activision Blizzard Inc.

We will not disturb the Board's weighing of the evidence. Substantial evidence supports the Board's finding that there is insufficient evidence of record to support a finding that a person of ordinary skill in the art in 1999 could have located Lin using the CSE Library website's search function.

Acceleration Bay, LLC v. Activision Blizzard Inc., 908 F.3d 765, 772-773 (Fed. Cir. 2018); 906-Paper 33 at 3; 907-Paper 33 at 3

Nobel Biocare Servs. AG v. Instradent USA, Inc.

Substantial evidence supports the Board's public accessibility finding.

Nobel Biocare Servs. AG v. Instradent USA, Inc., 903 F.3d 1365, 1375-76 (Fed. Cir. 2018); 906-Paper 33 at 3; 907-Paper 33 at 3

In re Cronyn

Considering all the facts of this case, we hold that the three student theses were not printed publications under 35 U.S.C. § 102(b).

In re Cronyn, 890 F.2d 1158, 1160-61 (Fed. Cir. 1989); 906-Paper 33 at 3-4; 907-Paper 33 at 3-4

Blue Calypso, LLC v. Groupon, Inc.

For these reasons, we agree with the Board that Groupon failed to carry its burden of proving public accessibility….

Blue Calypso, LLC v. Groupon, Inc., 815 F.3d 1331, 1347-50 (Fed. Cir. 2016); 906-Paper 33 at 4; 907-Paper 33 at 4

Jazz Pharms., Inc. v. Amneal Pharms., LLC

In sum, after considering the relevant factors identified in our public accessibility cases, the record here demonstrates that the ACA materials were widely disseminated to persons of ordinary skill for a substantial time with no reasonable expectation of confidentiality.

Jazz Pharms., Inc. v. Amneal Pharms., LLC, 895 F.3d 1347, 1357–59 (Fed. Cir. 2018); 906-Paper 33 at 4; 907-Paper 33 at 4

Samsung Elecs. Co. v. Infobridge Pte. Ltd.

[T]he Board's conclusion that a person of ordinary skill in the art would not have been able to find the WD4 reference on the MPEG website, even after exercising reasonable diligence, is supported by substantial evidence.

Samsung Elecs. Co. v. Infobridge Pte. Ltd., [illegible] 1368-74 (Fed. Cir. 2019); 906-Paper 33 at 4; 907-Paper 33 at 4

Grounds 1-5

906 IPR (’241 patent)

Ground: Claims	35 U.S.C. §	References
1: 1, 4-6, 8-27	103(a)[2]	N93, Dua, Herle
2: 1, 4-6, 8-27	103(a)	N93, Dua, Herle, Rooyen, Desai, BT-Spec, 3GPP-Spec, Kao
3: 1, 4-6, 8-27	103(a)	Dua, Herle
4: 1, 4-6, 8-27	103(a)	Dua, Herle, N93
5: 1, 4-6, 8-27	103(a)	Dua, Herle, N93, Rooyen, Desai, BT-Spec, 3GPP-Spec, Kao

906-Paper 11 (D.I.) at 11, 70

907 IPR (’590 patent)

Ground: Claims	35 U.S.C. §	References
1: 1, 4, 5, 8-12, 14-25	103(a)[3]	N93, Dua, Herle
2: 1, 4, 5, 8-12, 14-25	103(a)	N93, Dua, Herle, Rooyen, Desai, BT-Spec, 3GPP-Spec, Kao
3: 1, 4, 5, 8-12, 14-25	103(a)	Dua, Herle
4: 1, 4, 5, 8-12, 14-25	103(a)	Dua, Herle, N93
5: 1, 4, 5, 8-12, 14-25	103(a)	Dua, Herle, N93, Rooyen, Desai, BT-Spec, 3GPP-Spec, Kao

907-Paper 11 (D.I.) at 11, 67-68

[2,3] Pre-AIA §§102 and 103 apply throughout this petition.

Overview of Grounds 1-5

Ground 1: N93, Dua and Herle

- Dua: additional hardware implementation details, additional while/simultaneous, NFC
- Herle: operating system updates

Ground 2: N93, Dua, Herle, Rooyen, Desai BT-Spec, 3GPP-Spec, Kao

- Rooyen: 2G/3G separate or combined circuits
- Desai: Bluetooth/Wi-Fi separate or combined circuits
- BT-Spec: transmission schemes (e.g., GFSK)
- 3GPP-Spec: transmission schemes (e.g., QPSK, QAM, OFDM)
- Kao: transmission schemes (e.g., 5GHz, OFDM)

Ground 3: Dua and Herle

Ground 4: Dua, Herle and N93

- N93: additional details of Dua's "normal" user indications

Ground 5: See Ground 2

906-Pet. at 8, 21, 23, 25, 51-54; 907-Pet. at 7, 20, 22, 24, 53-56

Radio Mappings

Petition

Mappings	1st circuit	2nd circuit	3rd circuit	4th circuit*
A: Claims 1, 4-6, 8-14, 17-23, 25-27	Bluetooth	UMTS	GSM	NFC
B: Claims 1, 4-5, 8-27	Bluetooth	UMTS	Wi-Fi	NFC or GSM

*Only Challenged Claims 5, 18, 25-27 require a fourth radio circuit.

906-Pet. at 9

Mappings	1st circuit	2nd circuit	3rd circuit	4th circuit*
A: Claims 1, 4-5, 8-12, 14-20, 23-25	Bluetooth	UMTS	GSM	NFC
B: Claims 1, 4-5, 8-11, 14-25	Bluetooth	UMTS	Wi-Fi	NFC or GSM

*Only required by claims 11, 23-25.

907-Pet. at 8

First Radio (906, 907-limitation [1a])

’241 Patent

a first radio communication circuit implementing a first transmission scheme having a first modulation scheme and a first transmission frequency band, the first radio communication circuit capable of transmitting video information by radio or receiving information by radio using the first transmission frequency band;

EX1001 at 20

’590 Patent

a first radio communication circuit *implementing a first transmission scheme having a first modulation scheme and a first transmission frequency band, the first radio communication circuit* capable of transmitting video information by radio or receiving information by radio *using the first transmission frequency band*;

EX1004 at 2

[1a] N93 and Dua Disclose the First Radio – Bluetooth

Nokia N93

Bluetooth connectivity

You can connect wirelessly to other compatible devices with wireless Bluetooth technology. Compatible devices may include mobile phones, computers, and enhancements such as headsets and car kits. You can use Bluetooth connectivity to send images, video clips, music and sound clips, and notes; connect wirelessly to your compatible PC (for example, to transfer files); and connect

EX1010 (N93) at 83; 906-Pet. at 20; 907-Pet. at 18-19

Dua

[0062] A short-range transceiver **108** and antenna **117** provide wireless connectivity with external devices or access points using supported communications protocols (e.g., Bluetooth, 802.11 a/b/g/n, Ultra Wideband, Wireless USB, 802.15.3/WiMedia, Wireless 1394, Wireless FireWire, WiMa

[0063] The short-range transceiver **108** and antenna system **117** are specifically designed to support the widest array of communication protocols and broadcast standards in order to allow the media player **100** to establish communication with a multiplicity of devices now available or which later become available. The short-range transceiver **108**,

Exhibit 1008 (Dua), ¶¶ 62-63; 906-Pet. at 19-21; 907-Pet. at 18-20

BT-Spec (Grounds 2, 5)

3.1.1 Modulation Characteristics

The Modulation is GFSK (Gaussian Frequency Shift Keying) with a bandwidth-bit period product BT=0.5. The Modulation index shall be between 0.28 and 0.35. A binary one shall be represented by a positive frequency deviation, and a binary zero shall be represented by a negative frequency deviation. The symbol timing shall be less than ±20 ppm.

3.2.1.1 Modulation Method Overview

The PSK modulation format defined for the 2 Mbps transmission shall be π/4 rotated differential encoded quaternary phase shift keying (π/4-DQPSK).

The PSK modulation format defined for the 3 Mbps transmission shall be differential encoded 8-ary phase shift keying (8DPSK).

2 FREQUENCY BANDS AND CHANNEL ARRANGEMENT

The Bluetooth system operates in the 2.4 GHz ISM band. This frequency band is 2400 - 2483.5 MHz.

Regulatory Range	RF Channels
2.400-2.4835 GHz	f=2402+k MHz, k=0,...,78

Table 2.1: Operating frequency bands

EX1014 (BT-Spec) at 195, 198, 200; 906-Pet. at 21; 907-Pet. at 20

[1a] First Radio - PO Does Not Dispute Bluetooth Includes GFSK

McNair

Q. All right. In paragraph 3.2, or I guess Section 3.2 on page 200 of Exhibit 1014, it discusses the basic rate of 1 megabit per second GFSK modulation scheme. Do you see that?

A. Yes.

Q. That modulation scheme is in all versions of Bluetooth -- let me strike that. Bluetooth 2.0 without EDR includes the basic rate 1 megabit per second GFSK modulation scheme, correct?

A. That's correct.

EX1057 (McNair Dep.) at 70:14-71:4; 906-Repy at 5; 907-Reply at 5

Second Radio (906, 907-limitation [1b])

’241 Patent

a second radio communication circuit implementing a second transmission scheme having a second modulation scheme different from the first modulation scheme and a second transmission frequency band different from the first transmission frequency band, the second radio communication circuit capable of connecting by radio to an internet or a home network to transmit and receive information using the second transmission frequency band;

EX1001 at 24

’590 Patent

a second radio communication circuit *implementing a second transmission scheme having a second modulation scheme different from the first modulation scheme and a second transmission frequency band different from the first transmission frequency band, the second radio communication circuit* capable of connecting by radio to an internet or a home network to transmit and receive information *using the second transmission frequency band*;

EX1004 at 2

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

[1b] N93 and Dua Disclose the Second Radio – 3G/UMTS

Nokia N93

The wireless device described in this guide is approved for use on the EGSM 900, 1800, 1900, and UMTS 2100 networks. Contact your service provider for more information about networks.

3G The device is being used in a UMTS network (network service).

EX1010 (N93) at 8, 15; 906-Pet. at 22-24; 907-Pet. at 20-22

Dua

[0069] In accordance with a preferred embodiment of the invention, media player **100** is fully compliant with 3GPP and 3GPP2 standards. 3GPP and 3GPP2 are worldwide standards for the creation, delivery and playback of multimedia over 3rd generation, high-speed wireless networks. Defined by the 3rd Generation Partnership Project and 3rd Generation Partnership Project 2 respectively, these standards seek to provide uniform delivery of rich multimedia over newly evolved, broadband mobile networks (3rd generation networks) to the latest multimedia-enabled devices, such as media player **100**.

EX1008 (Dua) at ¶ 69; 906-Pet. at 22-24; 907-Pet. at 20-22

3GPP-Spec (Grounds 2, 5)

7.1 QPSK

In case of QPSK modulation, pairs of bits, $b(n), b(n+1)$, are mapped to complex-valued modulation symbols $x=I+jQ$ according to Table 11.

7.2 16QAM

In case of 16QAM modulation, quadruplets of bits, $b(n), b(n+1), b(n+2), b(n+3)$, are mapped to complex-valued modulation symbols $x=I+jQ$ according to Table 12.

7.3 64QAM

In case of 64QAM modulation, hextuplets of bits, $b(n), b(n+1), b(n+2), b(n+3), b(n+4), b(n+5)$, are mapped to complex-valued modulation symbols $x=I+jQ$ according to Table 13.

5.8 OFDM signal generation

The OFDM symbols in a slot shall be transmitted in increasing order of l. The time-continuous signal $s_l^{(p)}(t)$ on layer p in OFDM symbol l in a downlink slot is defined by

EX1015 (3GPP-Spec) at 15, 21-22; 906-Pet. at 23-24; 907-Pet. at 22

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

[1b] Second Radio- PO Does Not Dispute 3G/UMTS Includes QPSK

McNair

Q. Okay. So UMTS as shown in Exhibit 2036 includes both QPSK and QAM modulation, correct?

A. Correct.

EX1057 (McNair Dep.) at 59:19-21; 906-Reply at 6; 907-Reply at 5-6

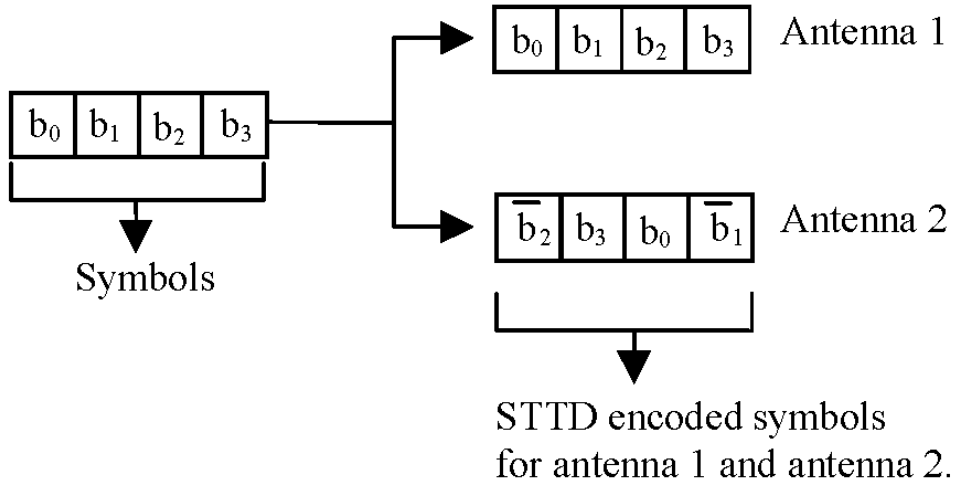


Figure 8: Generic block diagram of the STTD encoder for QPSK

EX2036 at 20, 906-Reply at 20;907-Reply at 20

Third Radio (906, 907-limitation [1c])

’241 Patent

a third radio communication circuit capable of transmitting information using a third transmission frequency band;

EX1001 at 24

’590 Patent

a third radio communication circuit capable of transmitting information and using a third transmission frequency band;

EX1004 at 2

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

[1c] N93 and Dua Disclose the Third Radio - Mapping B: Wi-Fi

N93 and Dua Disclose Wi-Fi 2.4GHz and 5GHz as Third Radio

Nokia N93

Your device supports the following wireless LAN features:

- IEEE 802.11b/g standard
- Operation at a frequency of 2.4 GHz

EX1010 (N93) at 18; 906-Pet. at 25-26; 907-Pet. at 23-24

Dua

[0062] A short-range transceiver **108** and antenna **117** provide wireless connectivity with external devices or access points using supported communications protocols (e.g., Bluetooth, 802.11 a/b/g/n, Ultra Wideband, Wireless USB, 802.15.3/WiMedia, Wireless 1394, Wireless FireWire, WiMax, and 802.1 5.4/ZigBee). The short-range transceiver **108** and antenna **117** system also support broadcast standards such as AM, FM, UHF, VHF, and HDTV. Support for these broadcast standards allows the media player **100** to receive and broadcast radio and television signals over a short-range.

EX1008 (Dua) at ¶ 62; 906-Pet. at 25-26; 907-Pet. at 23-24

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

[1c] N93 and Dua Disclose the Third Radio - Mapping B: Wi-Fi

N93 and Dua Disclose Wi-Fi 2.4GHz and 5GHz as Third Radio

PO's assertion that Dua is not enabled is not credible

Dr. Creusere Declaration

the 2007 timeframe to implement the claimed invention. Dua's disclosure is more enabling than the patent at issue because, for example, it discloses industry standard radios. The patent at issue provides much less detail on how to implement its radios. Mr. McNair relies on a single passage in the '590 patent that relates to

906-EX1058 at ¶ 20; 907-EX1058 at ¶ 20;
906-Reply at 19; 907-Reply at 19

Dua

[0062] A short-range transceiver **108** and antenna **117** provide wireless connectivity with external devices or access points using supported communications protocols (e.g., Bluetooth, 802.11 a/b/g/n, Ultra Wideband, Wireless USB, 802.15.3/WiMedia, Wireless 1394, Wireless FireWire, WiMax, and 802.1 5.4/ZigBee). The short-range transceiver **108** and antenna **117** system also support broadcast standards such as AM, FM, UHF, VHF, and HDTV. Support for these broadcast standards allows the media player **100** to receive and broadcast radio and television signals over a short-range.

EX1008 (Dua) at ¶ 62; 906-Pet. at 25-26; 907-Pet. at 23-24

[1c] N93, Dua Kao Disclose the Third Radio - Mapping B: Wi-Fi

Grounds 2, 5 With Kao, Disclose Wi-Fi 2.4GHz and 5GHz as Third Radio

PO's assertion that Wi-Fi 5GHz is not enabled is not credible

Dr. Creusere Declaration

the 2007 timeframe to implement the claimed invention. Dua's disclosure is more enabling than the patent at issue because, for example, it discloses industry standard radios. The patent at issue provides much less detail on how to implement its radios. Mr. McNair relies on a single passage in the '590 patent that relates to

906-EX1058 at ¶ 20; 907-EX1058 at ¶ 20;
906-Reply at 19; 907-Reply at 19

Kao

Mode	Provided data rate(Mbps)	Sample rate(Mbps)	Carrier frequency (GHz)	Modulation
IEEE 802.11a	6, 9, 12, 18, 24, 36, 48, 54	20	5	OFDM
IEEE 802.11b		22	2.4	CCK/DSSS
IEEE 802.11g	6, 9, 12, 18, 24, 36, 48, 54	20, 22	2.4, 5	OFDM, CCK/DSSS

Fig. 1 Prior Art

EX1013 (Kao) at Fig. 1; 906-Pet. at 10, 25-26; 907-Pet. at 9, 24.

[1c] Combination of N93 and Dua with Desai (Grounds 2, 5)

Desai teaches "separate" and "combined" BT/Wi-Fi radios

Separate Radios

[0008] When operating a Bluetooth radio and a WLAN radio in, for example, a wireless device, at least two different types of interference effects may occur. First, when an interfering signal is present in a transmission medium along with the signal-of-interest, a low signal-to-noise-plus-interference ratio (SINR) may result. In this instance, for example, a Bluetooth signal may interfere with a WLAN signal or a WLAN signal may interfere with a Bluetooth signal. The second effect may occur when the Bluetooth and WLAN radio devices are collocated, that is, when they are located in close proximity to each other so that there is a small radio frequency (RF) path loss between their corresponding radio front-end receivers. In this instance, the

Combined Radios (claims '241/16, '590/22)

[0048] In accordance with various embodiments of the invention, various portions of the operations supported by the WLAN radio portion **304** and various portions of the operations supported by the Bluetooth radio portion **306** may be performed by common logic, circuitry, and/or code. Exemplary common logic, circuitry, and/or code may comprise front-end radio receivers, packet processing blocks, packet scheduling blocks, and/or priority level processing, for example. This approach may be utilized to, for example, reduce power consumption and/or reduce the die size of the single chip WLAN/BT radio device **300**.

[0028] Certain embodiments of the invention may be found in a method and apparatus for collaborative coexistence between Bluetooth and IEEE 802.11 g wireless local area network (WLAN) when both technologies are combined onto a system-on-a-chip (SOC) device. In a single integrated circuit (IC) that handles Bluetooth and WLAN

EX1012 (Desai) at ¶¶ 8, 48, 28; 906-Pet. at 52-55, 57, 64-65

[1c] N93 and Dua Disclose the Third Radio - Mapping A: GSM

Nokia N93

About your device

The wireless device described in this guide is approved for use on the EGSM 900, 1800, 1900, and UMTS 2100 networks. Contact your service provider for more information about networks.

EX1010 (N93) at 8; 906-Pet. at 24-25; 907-Pet. at 22-23

The device is being used in a GSM network.

EX1010 (N93) at 15; 906-Pet. at 24-25; 907-Pet. at 22-23

Dua

[0066] Short-range transceiver **108** interacts with a CPU **109** for implementing short-range communications protocols and processing messages exchanged between other electronic devices and the media player **100**. CPU **109** is linked to a volatile or dynamic random access memory (DRAM) **106**. CPU **109** executes programs stored in a non-volatile or read only memory **106** and provides instructions for managing and controlling the operating of media player **100**. CPU **109** is also connected to network transceiver **105** for interacting with a cellular network, such as a Global System Mobile (GSM) network and the like via antenna **117**. Media player **100** is able to access the Internet through the cellular network, or through a wireless access point using short range transceiver **108** and a supported communications protocol (e.g., WiFi).

EX1008 (Dua) at ¶ 66; 906-Pet. at 24-25; 907-Pet. at 22-23

[1c] N93 and Dua Disclose the Third Radio - Mapping A: GSM

PO's "separate" UMTS/GSM radio argument fails

Petition

A claimed circuit need not be separate from another claimed circuit. In fact, some dependent claims require multiple claimed circuits to be implemented as a "combined circuit." EX1001, claim 16.

906-Pet. at 3; *see also* 907-Pet. at 3

'241 Patent

16. The video processing apparatus of claim **1**, wherein at least the first radio communication circuit and the third radio communication circuit are implemented as a combined circuit.

EX1001 at claim 16; EX1004 ('590 patent) at claim 22

[1c] Combination of N93 and Dua with Rooyen (Grounds 2, 5)

PO's "separate" UMTS/GSM radio argument fails

Mobile Handset Design (2012)

the handset can "fall back" to a 2G mode of operation. Early 3G handsets contained two discrete radio chipsets – one for 2G and another for 3G, which was one factor in the high cost of early 3G handsets. Contemporary 3G handsets contain a radio chipset that

EX2026 (Mobile Handset Design) at 99; 906-Reply at 7; 907-Reply at 7

McNair

Q. Okay. Is it true that initially in the early -- that early 3G handsets, some contained two discrete radio chip sets, one for 2G and one for 3G?

A. Are you asking me if it's true?

Q. Do you believe that that statement we read out of the book is true?

A. For early 3G handsets, yes.

EX1057 (McNair Dep.) at 55:22-56:4; 906-Reply at 7; 907-Reply at 7

[1c] Combination of N93 and Dua with Rooyen (Grounds 2, 5)

Rooyen teaches "separate" and "combined" 2G/3G radios

Dr. Creusere Declaration

199. It would have been obvious to combine the combination of Ground 1 with the further implementation details of Rooyen and Desai related to radio frequency integrated circuits. Dua and N93 disclose Bluetooth, Wi-Fi, GSM, and UMTS radios and Dua further discloses the radios are implemented as a short-range transceiver 108 and a network transceiver 105. But neither reference explicitly discloses the lower-level implementation details regarding how those radios would be implemented. Thus, a POSITA would have been motivated to look for known implementations in the art and been led to Rooyen and Desai.

200. A POSITA would have been motivated to use the implementation details provided by Rooyen related to UMTS and GSM radio circuits in the combination. Rooyen explains how UMTS and GSM radio frequency integrated circuits (RFICs) can be implemented as separate or combined RFICs as the radio frequency front end (RFFE) of a transceiver like the network transceiver 105. Rooyen even explains how to design the device to additionally support broadcast radios at the same time, like the broadcast radios disclosed in Dua. Thus, a POSITA would have been motivated to use Rooyen's implementations to support the functions that Dua teaches are desirable.

906-EX1002 at ¶¶ 199-200; 907-EX1002 at ¶¶ 219-220; 906-Pet. at 51-52; 907-Pet. at 54; *see also* 906-EX1002 at ¶¶ 201-204; 906-Pet. at 52-54

[1c] Combination of N93 and Dua with Rooyen (Grounds 2, 5)

Rooyen teaches "separate" and "combined" 2G/3G radios

Dr. Creusere Declaration

202. A POSITA would have had a reasonable expectation of success in making the combinations. Rooyen and Desai teach the implementation details to a POSITA, which are a matter of routine skill. These are standards-compliant radios, which were and remain well known to a POSITA, and widely implemented in the industry.

906-EX1002 at ¶ 202; 907-EX1002 at ¶ 222; 906-Pet. at 53; 907-Pet. at 55

[1c] Combination of N93 and Dua with Rooyen (Grounds 2, 5)

Rooyen

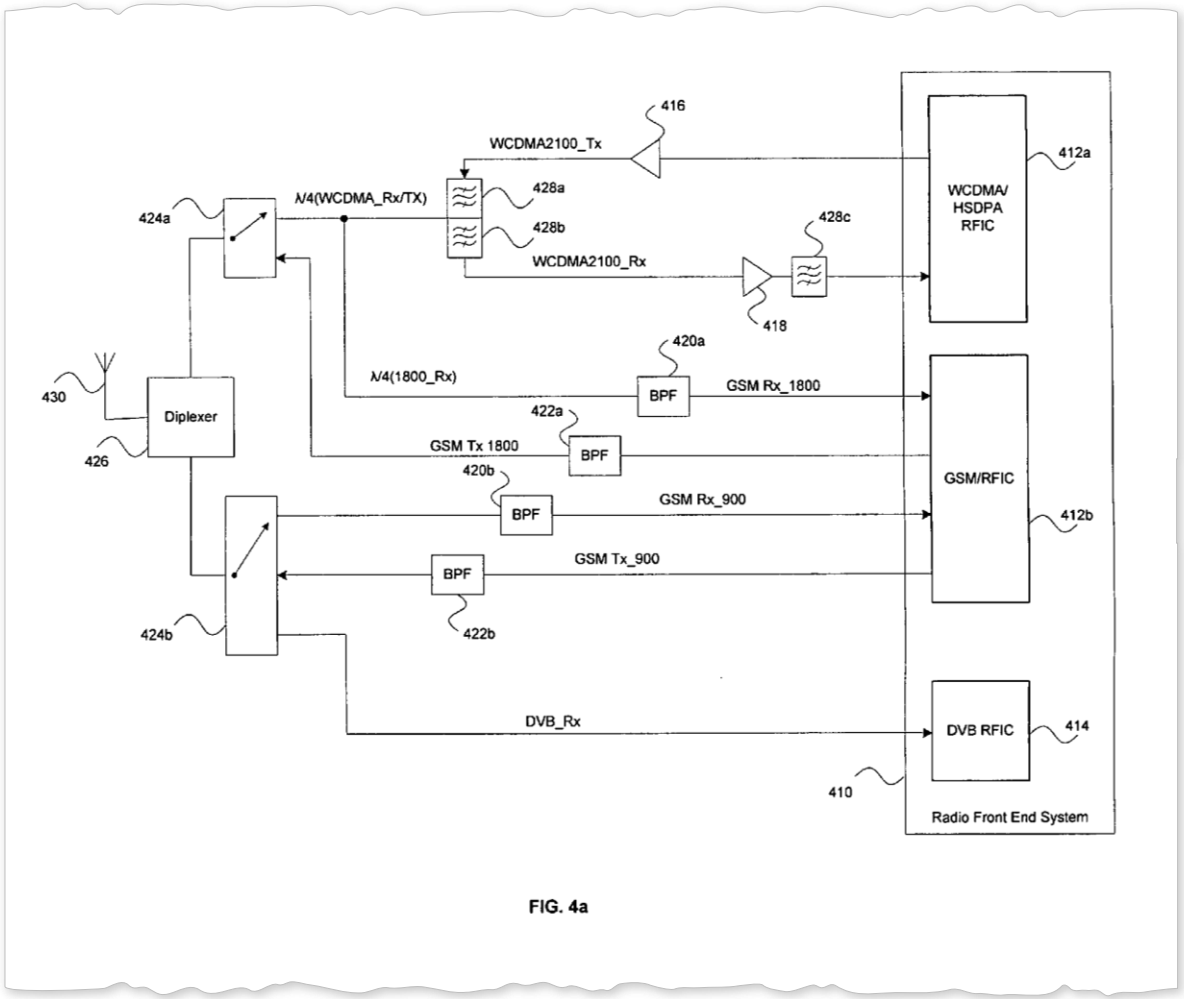


FIG. 4a

EX1011 (Rooyen) at Fig. 4a; 906-Pet. at 25, 55-56; 906-Reply at 7; 906-Pet. at 23, 58; 907-Reply at 6-7

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

[1c] Combination of N93 and Dua with Rooyen (Grounds 2, 5)

PO's "separate" UMTS/GSM radio argument fails

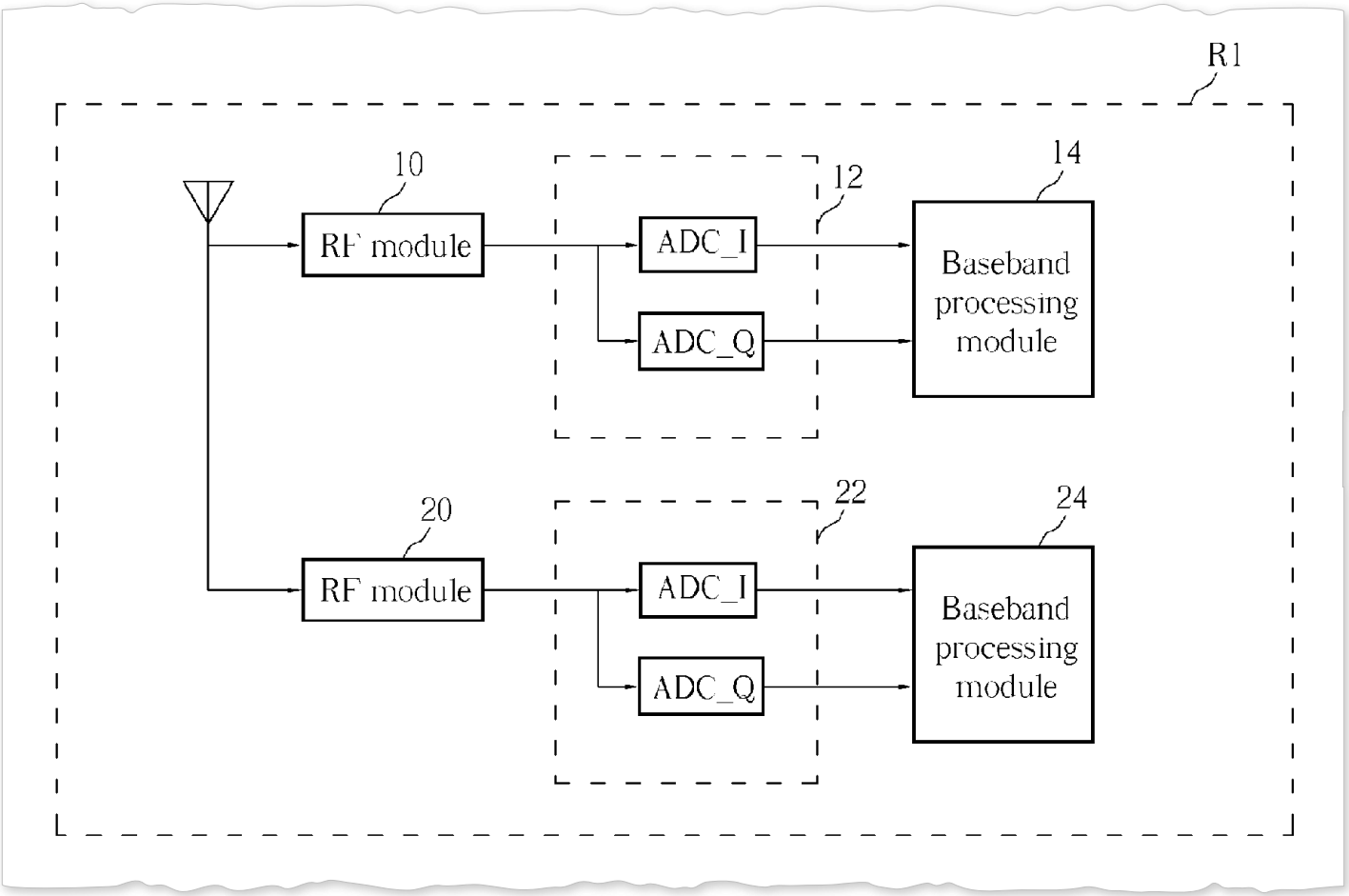
Dr. Creusere Declaration

38. Neither Kao nor Rooyen have a baseband circuit that chooses between and assigns one of the distinct 2G and 3G radios in response to a user indication. Therefore, in the context of the combination, the radios will have to be controlled by an external controller, and the only such external controller in the combination is Dua's CPU, which is already disclosed by Dua as controlling assignment of radios.

EX1058 at ¶ 38; 906-Reply at 25-26; 907-Reply at 25

[1c] Combination of N93 and Dua with Rooyen (Grounds 2, 5)

Kao



EX1013 (Kao) at Fig. 2; 906-Reply at 6; 907-Reply at 6

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Fourth Radio - 906-241 Claim 5 and 907-590 Claim 11

’241 Patent

5. The video processing apparatus of claim **1**, further comprising a fourth radio communication circuit capable of transmitting information and using a fourth transmission frequency band that is different from the first, second, and third transmission frequency bands, wherein the controller controls assignment of connection of each of the first, second, third, and fourth radio communication circuits.

EX1001 at 23

’590 Patent

11. The video processing apparatus of claim 1, further comprising a fourth radio communication circuit capable of transmitting information and using a fourth transmission frequency band that is different from the first, second, and third transmission frequency bands, wherein the controller controls assignment of connection of each of the first, second, third, and fourth radio communication circuits.

EX1004 at 3

Cls. 5/11 Fourth Radio – Mapping A: NFC, Mapping B: NFC or GSM

Dua

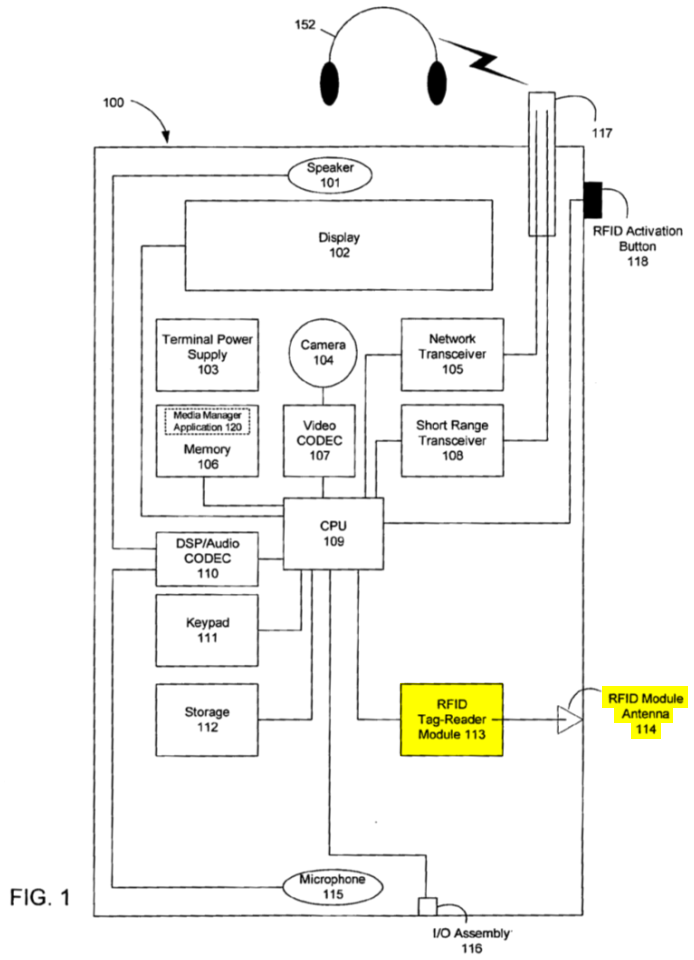


FIG. 1

EX1008 (Dua) at Fig. 1; 906-Pet. at 42; 907-Pet. at 47-48

[0070] In accordance with the invention, an RFID Tag-Reader Module **113** is integrated into media player **100**. RFID Tag-Reader Module **113** is provided so that, among other things, media player **100** can rapidly exchange information with an electronic device that is in close proximity and which also has integrated RFID technology. Information exchanged between media player **100** and a target device via RFID can allow for the fast and automatic set-up of wireless connectivity between media player **100** and various target devices. As previously stated, RFID Tag-Reader Module **113** can also be used in connection with other applications available through media player **100** such as electronic payments at the point-of-sale and secure key access to buildings, cars, etc.

[0071] RFID Tag-Reader Module **113** is connected to CPU **109**. RFID Tag-Reader Module **113** comprises a radio frequency ID transponder which conforms to the principals of RFID technology and known standards. The RFID Tag-Reader Module **113** also includes a reader component used for transmitting interrogation signals via its antenna to an external electronic device's RFID tag when in close proximity, and receiving a response signal from the external device's RFID tag. RFID Tag-Reader Module **113** uses media player's **100** internal power supply **103** as a power source for transmitting interrogation signals to a target device.

EX1008 (Dua) at ¶¶ 70-71; 906-Pet. at 42; 907-Pet. at 47-48

EX1008 at [0052] (13.56 MHz), [0052]-[0053] (Near Field Communication standard ECMA-340); 906-Pet. at 42; 907-Pet. at 48

Grounds 1-2: N93 and Dua, Ground 3: Dua, Grounds 4-5: Dua and N93

Dua teaches a standard NFC radio should be included

NFC

78. It would have been obvious for a POSITA to combine N93's teachings related to a cellular phone with Dua's teaching that the cellular phone should include an NFC radio circuit. A POSITA would have been motivated to do so based on Dua's explicit teachings that it would enable Dua's "improved" user indication in any other similarly equipped devices (in addition to the "normal" user indications taught by N93 for other devices). A POSITA also would have been further motivated to add an NFC radio to support the functions of electronic wallets and keys. EX1008, [0054], [0089].

EX1002 at ¶ 78; 906-Pet. at 12; 907-Pet. at 11; *see also* EX1002 at ¶ 72; 906-Pet. at 12-13; 590-Pet. at 11-12)

Cls. 5/11 Fourth Radio – NFC or GSM

PO's non-enablement argument is not credible

Dr. Creusere Declaration

the 2007 timeframe to implement the claimed invention. Dua's disclosure is more enabling than the patent at issue because, for example, it discloses industry standard radios. The patent at issue provides much less detail on how to implement its radios. Mr. McNair relies on a single passage in the '590 patent that relates to

906-EX1058 at ¶ 20; 907-EX1058 at ¶ 20;
906-Reply at 19; 907-Reply at 19

Dua

[0053] One such standard was established by European Computer Manufacturers Association (ECMA) International based in Geneva, Switzerland, and is known as the Near Field Communication standard (ECMA-340). The Standard defines communication modes for Near Field Communication Interface and Protocol (NFCIP-1) for use with RFID tags and readers. It also defines both the Active and the Passive communication modes of Near Field Communication Interface and Protocol (NFCIP-1) to realize a communication network using Near Field Communication devices for networked products and also for consumer equipment.

[0054] This Standard specifies, in particular, modulation schemes, codings, transfer speeds, and frame format of the RF interface, as well as initialization schemes and conditions required for data collision control during initialization. Furthermore, this Standard defines a transport protocol including protocol activation and data exchange methods. NFC is also compatible with the broadly established contactless smart card infrastructure based on ISO 14443 A, as well as the Sony FeliCa™ protocol. This allows electronic devices with integrated NFC technology to perform multiple functions such as acting as an electronic key or wallet.

EX1008 (Dua) at ¶¶ 53-54; 906-Reply at 19; 907-Reply at 19

EX1006 at 436; 906-Reply at 19; EX1058 at ¶ 20 (Dua enabled and leverages industry standard radios)

Cls. 5/11 Fourth Radio – NFC or GSM

PO's non-enablement argument is not credible

McNair Declaration

This is reflected by the development history of mobile devices--it was not until 2011 when Samsung had a product with four radio communication circuits that included NFC support. *Id.* If a mobile device did include NFC capability, it did not include

906-EX2017 at ¶¶ 300-301; 907-EX2017 at ¶¶327-328;
906-POR at 42; 907-POR at 47-48

Honkanen (Nokia) US2006/0135076

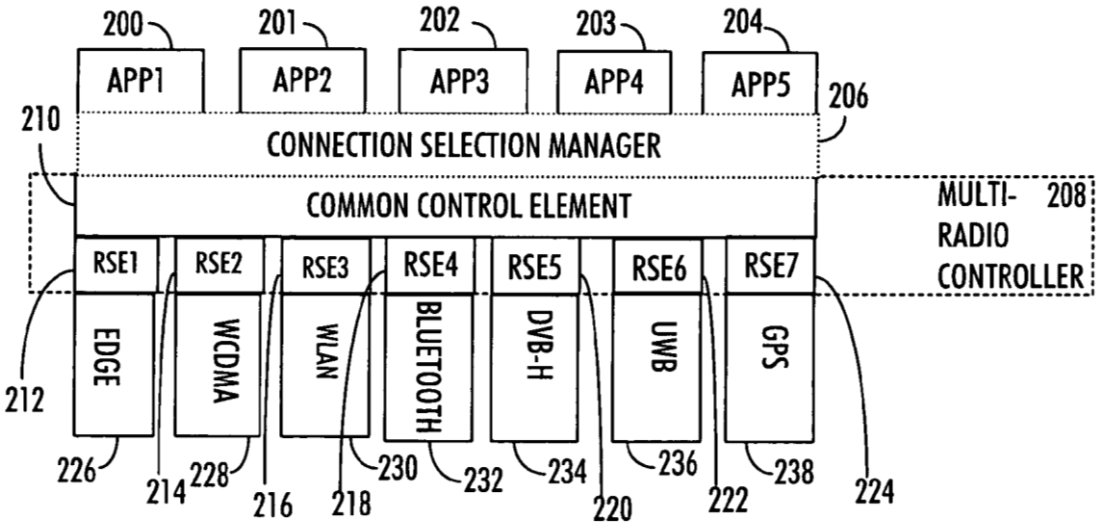


Fig. 2

EX1006, 436 (Honkanen Fig. 2); 906-Reply, 19; 907-Reply. 19

EX1006 at 436; 906-Reply at 19; EX1058 at ¶ 20 (Dua enabled and leverages industry standard radios)

No Dispute (906-limitation [1d]; 907-limitation [1d])

’241 Patent

an imaging circuit capable of receiving video information and still picture information via an optical system;

EX1001 at 22

’590 Patent

an imaging circuit capable of receiving video information *and still picture information* via an optical system;

EX1004 at 2

No Dispute (906-limitation [1e]; 907-limitation [1e])

’241 Patent

a compression circuit compressing the still picture information using a first type of compression method and the video information using a second type of compression method;

EX1001 at 24

’590 Patent

a compression circuit compressing the still picture information using a first type of compression method and the video information using a second type of compression method;

EX1004 at 2

No Dispute (907-limitation [1f])

’590 Patent

an input device capable of receiving a user indication;

EX1004 at 2

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Dispute (906-limitation [1f]; 907-limitation [1g])

’241 Patent

an accumulation circuit capable of accumulating video information received by the imaging circuit; and a controller controlling assignment of connection of each of the first, second, and third radio communication circuits,

EX1001 at 24

’590 Patent

an accumulation circuit capable of accumulating video information received by the imaging circuit *after the video information is compressed by the compression circuit*; and

EX1004 at 2

No Dispute (906-limitation [1h]; 907-limitation [1i])

’241 Patent

wherein the first radio communication circuit can transmit video information accumulated in the accumulation circuit to an external device by radio,

EX1001 at 24

’590 Patent

wherein the first radio communication circuit can transmit video information accumulated in the accumulation circuit to an external device by radio,

EX1004 at 2

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Controller (906-limitation [1g]; 907-limitation [1h])

’241 Patent

information received by the imaging circuit; and a controller controlling assignment of connection of each of the first, second, and third radio communication circuits,

EX906-1001 at 21

’590 Patent

a controller *controlling assignment of connection of each of the first, second, and third radio communication circuits*,

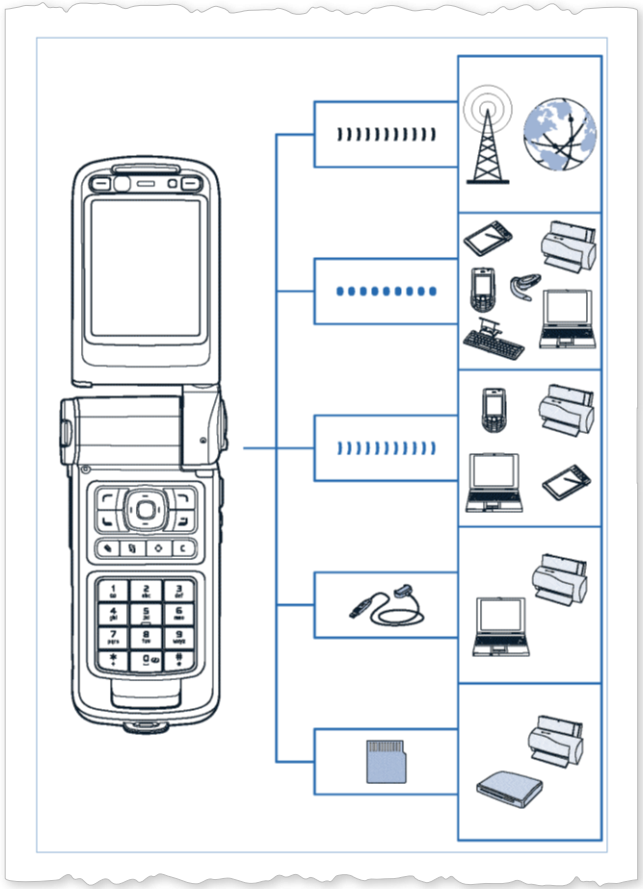
EX1004 at 1

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Grounds 1-2: The Combination of N93 and Dua

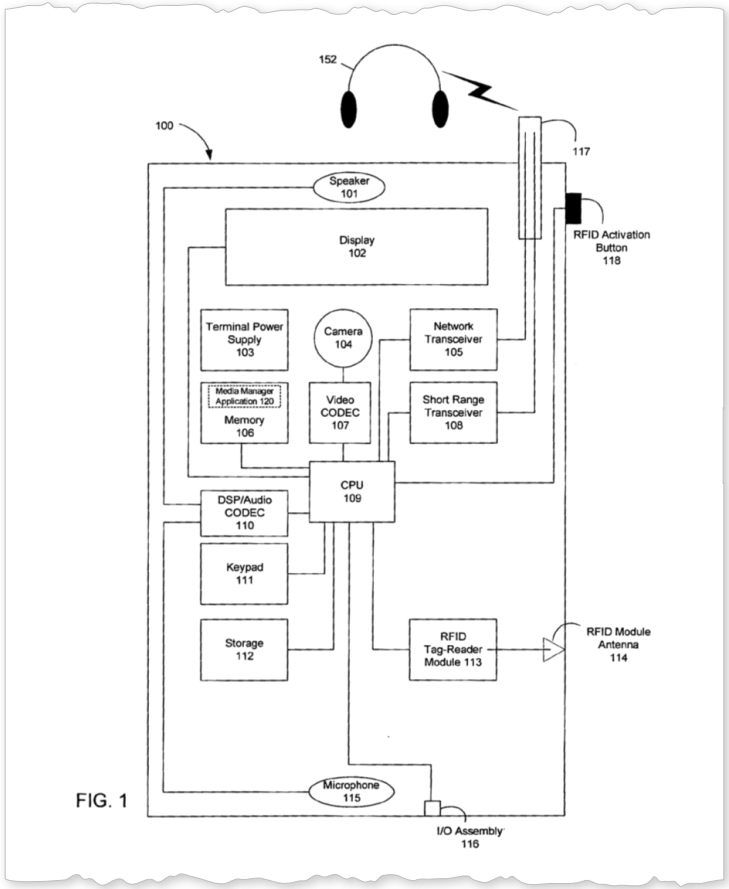
N93 and Dua Both Disclose Multi-Radio Multimedia Smartphones

N93



EX1010 at 10, 906-Pet. at 19; 907-Pet. at 18; 906-Paper 11, D.I. at 35; 907-Paper 11, D.I. at 33

Dua



EX1008 at Fig. 1, ¶¶ 0059, 0066; 906-EX1002 at ¶ 109; 906-Pet. at 29-30; 906-Reply at 8-9

Grounds 1-2: The Combination of N93 and Dua

Dua teaches details of a smartphone like N93

Dr. Creusere Declaration

71. It would have been obvious for a POSITA to combine N93's teachings related to a cellular phone with Dua's teachings of the internal hardware implementation details of such a phone. N93is a user manual that states the phone includes integrated circuits but not describe them in detail. A POSITA would have been motivated to find such implementation details in the art and been led to Dua.

906-EX1002 at ¶ 71; 907-EX1002 at ¶71; 906-Pet. at 12; 907-Pet. at 11;
see also 906-EX1002 at ¶ 72; 907-EX1002 at ¶72; 906-Pet. at 12-13;
907-Pet. at 11-12

Dua Teaches a Controller Controlling Assignment of Radios

Dua

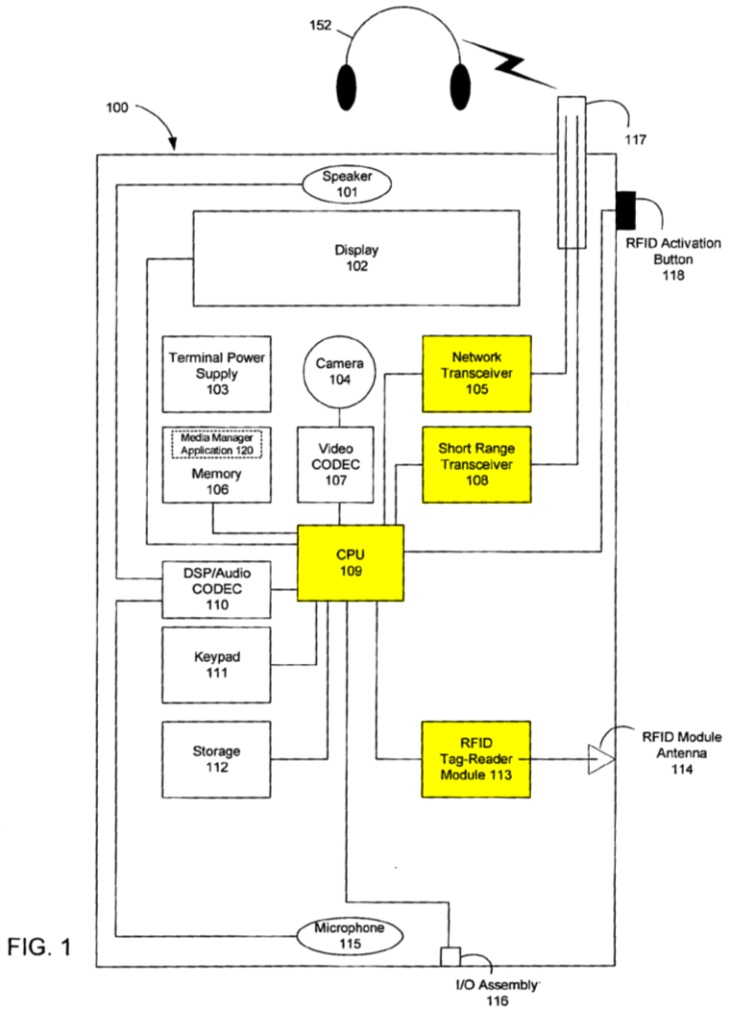


FIG. 1

EX1008 (Dua) at Fig. 1; 906-Pet. at 31-32; 907-Pet. at 31-32

[0066] Short-range transceiver **108** interacts with a CPU **109** for implementing short-range communications protocols and processing messages exchanged between other electronic devices and the media player **100**. CPU **109** is linked to a volatile or dynamic random access memory (DRAM) **106**. CPU **109** executes programs stored in a non-volatile or read only memory **106** and provides instructions for managing and controlling the operating of media player **100**. CPU **109** is also connected to network transceiver **105** for interacting with a cellular network, such as a Global System Mobile (GSM) network and the like via antenna **117**. Media player **100** is able to access the Internet through the cellular network, or through a wireless access point using short range transceiver **108** and a supported communications protocol (e.g., WiFi).

EX1008 (Dua) at ¶ 66; 906-Pet. at 31-32; 907-Pet. at 31-32

Dua Teaches a Controller Controlling Assignment of Radios

Dua

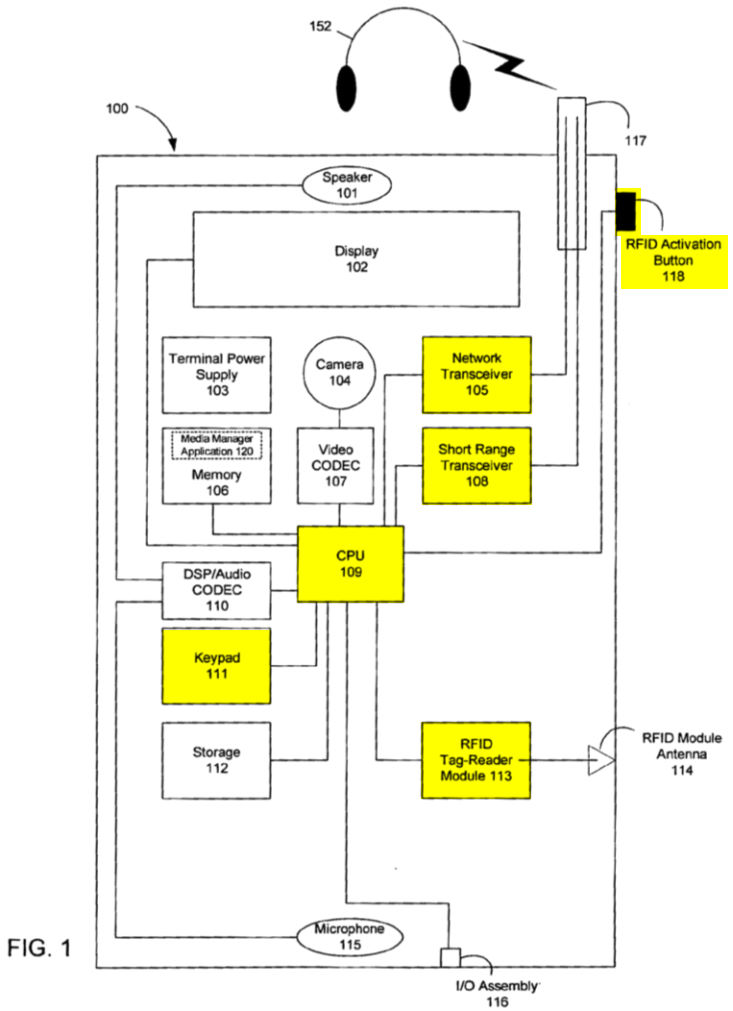


FIG. 1

EX1008 (Dua) at Fig. 1; 906-Pet. at 31-32; 907-Pet. at 31-32

[0160] Following block **502** in **FIG. 8A**, the operator of media player **100** presses the RFID activation button **118** on the media player **100**. As previously outlined, this activates the RFID reader functionality and makes the RFID tag functionality inoperable in the RFID Tag-Reader Module **113** (block **503**). The media player's RFID antenna **114** begins transmitting interrogation signals. Per block **504**, the operator brings the media player's "hot spot"**221** in range of the stereo's RFID "hot spot". In block **505**, the stereo's RFID tag transmits its RFID transmission information **450** to the media player's RFID antenna **114** in response to a received interrogation signal. In an alternate embodiment, the media player **100** first transmits its RFID transmission information **450** to the stereo's RFID tag as part of the interrogation signal, and receives back the stereo's RFID transmission information **450**. In both embodiments, the receiving device uses the received RFID transmission information **450** to process the opposite device's communication, media processing, and other capabilities.

EX1008 (Dua) at ¶ 160; 906-Pet. at 32, 58-59; 907-Pet. at 31-32, 61

Dua Teaches a Controller Controlling Assignment of Radios

Dua

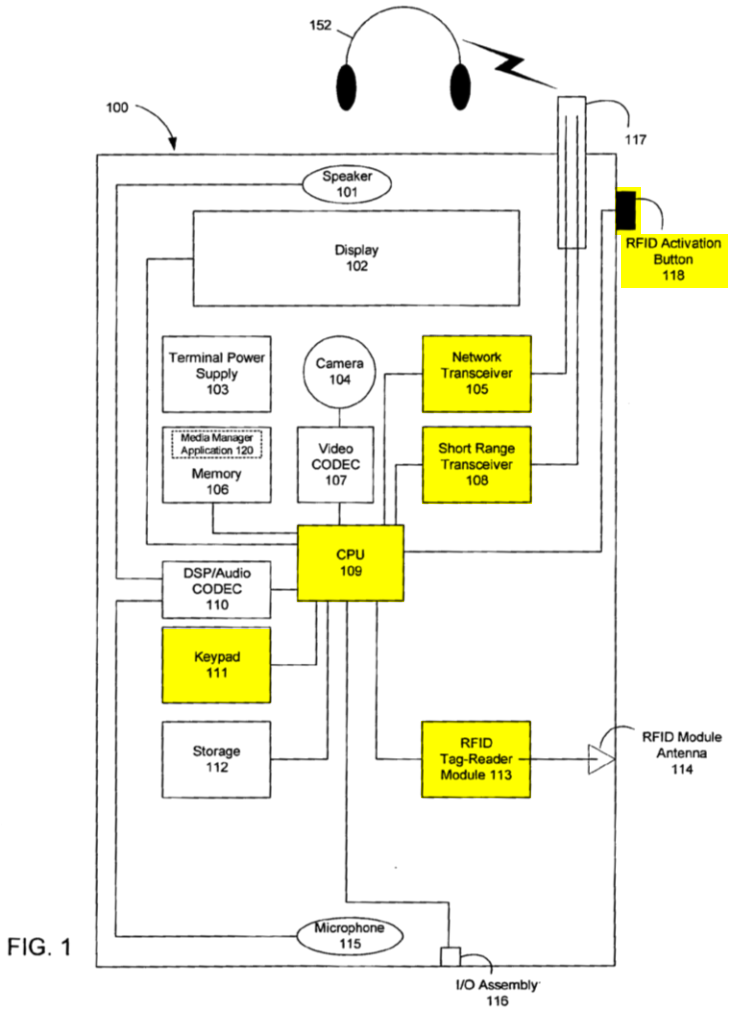


FIG. 1

EX1008 (Dua) at Fig. 1; 906-Pet. at 31-32; 907-Pet. at 31-32

[0215] **FIG. 13** is an illustration of an exemplary user interface screen **610** depicting a specific device profile category in accordance with one embodiment of the present invention. This screen **610** shows the "television" category with two example device profile entries **611** and **612**. Both device profile entries show an icon to represent the device, the device type (e.g., TV), manufacturer name (e.g., XYZ Elect.), device model (e.g., Plasma TV-123), and a description of the device which may have been set by the user in the device (e.g., Family Room). Device profile **612** differs from **611** in that an auto-detection setting **613** is represented; this setting is currently turned "on" as illustrated. The setting indicates that the user has specified that he wants the media player **100** to automatically detect and establish a connection with the TV in **612** whenever it is within signal range. This particular example assumes that the television in **612** has, for example, a transceiver (e.g., Ultra Wideband) for high-bandwidth communication with other devices (such as the media player **100**).

EX1008 (Dua) at ¶ 215; 906-Pet. at 32, 59; 907-Pet. at 31-32, 61-62

Dua Teaches a Controller Controlling Assignment of Radios

Dua

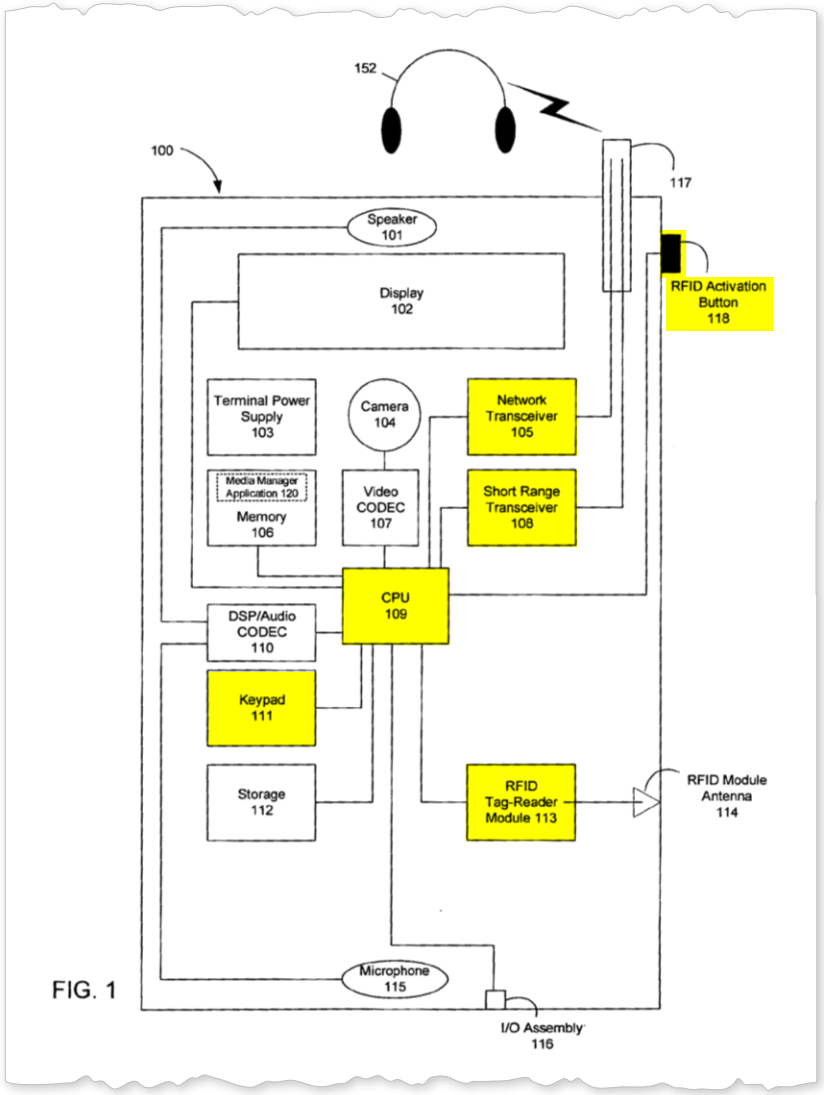


FIG. 1

EX1008 (Dua) at Fig. 1; 906-Pet. at 31-32; 907-Pet. at 31-32

[0123] After the media player's RFID tag-reader module **113** receives the Bluetooth serial number and other parameters, the data is transferred to CPU **109**. Media player **100** instantly sends a Bluetooth paging message using the received information via its short range transceiver **108**. In response to the page, the headphone **152** performs a connection setup with media player **100** using normal Bluetooth session set-up procedure. Upon completion, media player **100** can stream all audio output via wireless signal **353** to the headphone unit **152**.

EX1008 (Dua) at ¶ 123; 906-Pet. at 32, 61; 907-Pet. at 31-32, 63

Dua Teaches a Controller Controlling Assignment of Radios

Dua

[0123] After the media player's RFID tag-reader module **113** receives the Bluetooth serial number and other parameters, the data is transferred to CPU **109**. Media player **100** instantly sends a Bluetooth paging message using the received information via its short range transceiver **108**. In response to the page, the headphone **152** performs a connection setup with media player **100** using normal Bluetooth session set-up procedure. Upon completion, media player **100** can stream all audio output via wireless signal **353** to the headphone unit **152**.

EX1008 (Dua) at ¶ 123; 906-Pet. at 31-32; 907-Pet. at 31-32

[0068] In accordance with the invention, media player **100** includes a Session Initiation Protocol (SIP) application stack for multimedia communication over the Internet. Media player **100** preferably also supports other application layer protocols such as H.323, Real-time Transport Protocol (RTP), HTTP, SMTP, FTP, DNS, and DHCP.

EX1008 (Dua) at ¶ 68; 906-Pet. at 31-32; 907-Pet. at 31-32

The Combination of N93 and Dua

PO's arguments for [1g] are conclusory and unsupported:

POR

Dua cannot provide internal hardware implementation details of N93 because it does not address N93's capabilities and is non-enabling of the claimed features. EX2017 ¶¶128-36, 163-165, 220.

906-POR at 21 (addressing [1g]); 907-POR at 22

Dr. Creusere Declaration

B. Dua is enabling for the claimed features.

16. The PO and Mr. McNair contends that Dua is not enabling for several features. I disagree. In my opinion, Dua enables all the features I discussed in my initial declaration EX1002. I note that for the most part, Mr. McNair does not cite any evidence to back up his opinions, because they are not correct.

17. Mr. McNair asserts that N93 is non-enabling of certain limitations (paragraphs 158-162), but the combination of N93 and Dua enables those limitations.

906-EX1058 at ¶¶ 16-17; 907-EX1058 at ¶¶ 16-17; 906-Reply at 9; 907-Reply at 9-10; *see also* 906-EX1058, ¶¶ 19-26; 907-EX1058, ¶¶ 19-26 906-Reply at 9; 907-Reply at 9-10

The Combination of N93 and Dua

PO's argument ignores Dua's disclosure

Dr. Creusere Declaration

18. Dua discloses and enables a CPU that controls all its radio communication circuits. EX1008, Fig. 1 (CPU 109, network transceiver 105, short range transceiver 108). Dua implements a well-known architecture where a CPU is designed to control the overall system. That is, Dua's CPU 109 is designed to control the phone 100, including controlling the assignment of the transceivers 105 and 108. A simple use case of such assignment is for the CPU 109 to receive and interpret a user's manual assignment of a radio communication circuit or any other I/O interface circuit. Additionally, Dua does not show a dedicated radio controller, and therefore the CPU has to control all the different types of radios, such as the ones shown in Fig. 7.

906-EX1058 at ¶ 18; 907-EX1058 at ¶ 18 906-Reply at 9; 907-Reply at 9-10; *see also* 906-EX1058 at ¶ 26; 907-EX1058 at ¶ 26 906-Reply at 9; 907-Reply at 9-10

N93 Teaches Controlling Assignment of Bluetooth Radio

Nokia N93

Settings

Press , and select **Connect.** > **Bluetooth**. When you open the application for the first time, you are asked to define a name for your device. After you set Bluetooth connectivity on and change **My phone's visibility** to **Shown to all**, your device and this name can be seen by other users with devices using Bluetooth technology.

Select from the following:

Bluetooth—Select **On** or **Off**. To connect wirelessly to another compatible device, first set Bluetooth connectivity **On**, then establish a connection.

EX1010 (N93) at 84; 906-Pet. at 33-35; 907-Pet. at 33-35

1 Open the application where the item you want to send is stored. For example, to send an image to another compatible device, open **Gallery**.

2 Select the item and **Options** > **Send** > **Via Bluetooth**.

EX1010 (N93) at 85-86; 906-Pet. at 33-35; 907-Pet. at 33-35

N93 Teaches Controlling Assignment of Wi-Fi Radio

Nokia N93

Your device supports the following wireless LAN features:

- IEEE 802.11b/g standard
- Operation at a frequency of 2.4 GHz

EX1010 (N93) at 18; 906-Pet. at 31; 907-Pet. at 31

Wireless LAN connections

To use wireless LAN, you must create an internet access point (IAP) in a wireless LAN. Use the access point for applications that need to connect to the internet. See

EX1010 (N93) at 18; 906-Pet. at 31; 907-Pet. at 31

To share media files saved in **Gallery** with other compatible UPnP devices through wireless LAN, you must first create and configure your wireless LAN home Internet access point, and then configure the **Home net.** application. See 'Wireless LAN', p. 17.

EX1010 (N93) at 30; 906-Pet. at 31; 907-Pet. at 31

Controller Controls Assignment of UMTS and GSM Radios

Nokia N93

Network

Your device can automatically switch between the GSM and UMTS networks. The GSM network is indicated with in the standby mode. The UMTS network is indicated with 3G.

Network mode (shown only if supported by the wireless service provider)—Select which network to use. If you select **Dual mode**, the device uses the GSM or UMTS network automatically, according to the network parameters and the roaming agreements between the wireless service providers. Contact your service provider for more details.

EX1010 at 113, 101 (on/off), 107 (define AP), 108-109 (connect "when available" or "when needed" or on application use); 906-Pet. at 30; 906-Reply at 8-9

Dua

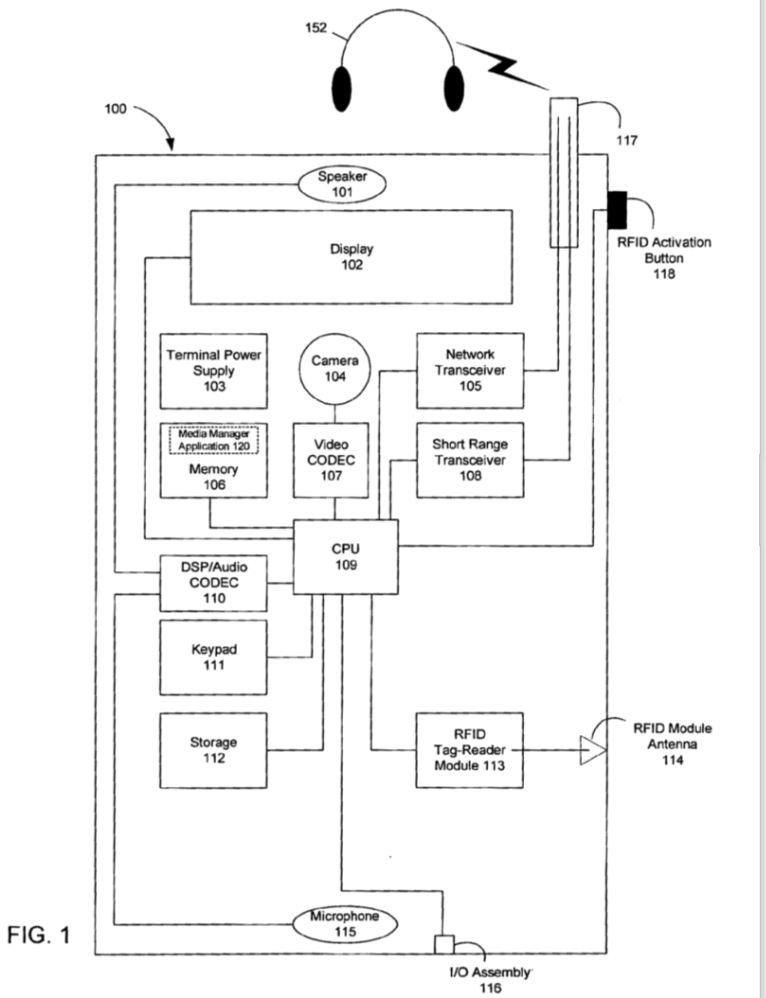


FIG. 1

EX1008 at Fig. 1, ¶¶ 0059, 0066; 906-EX1002 at ¶ 109; 906-Pet. at 29-30; 906-Reply at 8-9

N93 Teaches a Controller Controlling Assignment of UMTS and GSM Radios

Nokia N93

1 Press , and select **Tools** > **Settings** > **Connection** > **Access points**, and define the settings for a multimedia messaging access point. See 'Connection', p. 106.

2 Press , and select **Messaging** > **Options** > **Settings** > **Multim. msg.** > **Access point in use** and the access point you created as the preferred connection. See also 'Multimedia messages', p. 53.

EX1010 (N93) at 48; 906-Pet. at 30-31; 907-Pet. at 29-30

Data connections and access points

Your device supports packet data connections, such as GPRS in the GSM network. When you use your device in GSM and UMTS networks, multiple data connections can be active at the same time, and access points can share a data connection.

EX1010 (N93) at 106; 906-Pet. at 30-31; 907-Pet. at 29-30

To establish a data connection, an access point is required. You can define different kinds of access points as follows:

- MMS access point to send and receive multimedia messages
- Access point for the web application to view WML or XHTML pages
- IAP to send and receive e-mail and connect to the internet

EX1010 (N93) at 106; 906-Pet. at 30-31; 907-Pet. at 29-30

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

N93 Teaches a Controller Controlling Assignment of UMTS and GSM Radios

Nokia N93

To exit the offline profile, press (I), and select another profile. The device reenables wireless transmissions (providing there is sufficient signal strength). If a

EX1010 (N93) at 101; 906-Pet. at 30; 907-Pet. at 29-30

Operator selection—Select **Automatic** to set the device to search for and select one of the available networks, or **Manual** to manually select the network from a list of networks. If the connection to the manually selected network is lost, the device sounds an error tone and asks you to reselect a network. The selected network must have

EX1010 (N93) at 113; 906-Pet. at 30; 907-Pet. at 29-30

Packet data conn.—If you select **When available** and you are in a network that supports packet data, the device registers to the packet data network. Starting an active

EX1010 (N93) at 108; 906-Pet. at 30; 907-Pet. at 29-30

connection. If you select **When needed**, the device uses a packet data connection only if you start an application or action that needs it.

EX1010 (N93) at 108-109; 906-Pet. at 30; 907-Pet. at 29-30

N93 Teaches a Controller Controlling Assignment of UMTS and GSM Radios

Nokia N93

To send the video, select Send > Via multimedia, Via e-mail, Via Bluetooth, or Via infrared. Contact you service provider for details of the maximum multimedia message size that you can send.

EX1010 (N93) at 33; 906-Pet. at 30-31; 907-Pet. at 29-30

To receive share invitations, you must be registered to the service, have an active UMTS connection, and be within the UMTS network coverage.

Live video

1 When a voice call is active, select Options > Share video > Live.

EX1010 (N93) at 61; 906-Pet. at 30-31; 907-Pet. at 29-30

If someone sends you a share invitation and you are not within UMTS network coverage, you will not know that you received an invitation.

When you receive an invitation, you can select:

Accept—to begin the sharing session. If the sender wants to share live video, activate the view mode.

EX1010 (N93) at 62; 906-Pet. at 30-31; 907-Pet. at 29-30

[1g]/[1h] N93 Teaches a Controller

Nokia N93

symbian This product includes software licensed from Symbian Software Ltd (c) 1998-2006. Symbian and Symbian OS are trademarks of Symbian Ltd.

EX1010 (N93) at 2; 906-Pet. at 29-30; 907-Pet. at 29

- Keep the device dry. Precipitation, humidity, and all types of liquids or moisture can contain minerals that will corrode electronic circuits. If your device does get wet, remove the battery, and allow the device to dry completely before replacing it.

* * *

- Do not store the device in cold areas. When the device returns to its normal temperature, moisture can form inside the device and damage electronic circuit boards.

EX1010 (N93) at 125, 906-Pet. at 20; 907-Pet. at 18

Controller-The Board Rejected PO's Same Arguments

Institution Decision

We disagree with Patent Owner. Patent Owner appears to be arguing that claim 1 precludes any user input with respect to the assignment of connection of each of the first, second and third radio communication circuits, including precluding a user from providing an indication to the apparatus as to which assignment of connection the user would prefer the controller to assign. Instead, we agree with Petitioner that N93 and Dua provide sufficient teaching showing user input indicating a preference to the apparatus wherein the controller then controls assignment of connection of each of the first, second, and third radio communication circuits.

906-Paper 11 (D.I) at 59-60; 907-Paper 11 at 57-58

User Indication (906-limitation [1i]; 907-limitation [1j])

’241 Patent

wherein when an indication from the user indicates to transmit video information using the first radio communication circuit, the means for controlling assigns a connection to the first radio communication circuit for transmitting the video,

EX1001 at 26

’590 Patent

wherein the controller controls assignment of connection for each of the first and second radio communication circuit in response to receiving an indication from a user such that when an indication from the user indicates to transmit video information using the first radio communication circuit, the controller assigns a connection to the first radio communication circuit for transmitting the video information,

EX1004 at 6

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

[1i]/[1j] N93 Teaches User Indications (Grounds 1-2, 4-5)

Nokia N93

Press , and select **Connect.** > **Bluetooth**. When you open the application for the first time, you are asked to define a name for your device. After you set Bluetooth connectivity on and change **My phone's visibility** to **Shown to all**, your device and this name can be seen by other users with devices using Bluetooth technology.

Select from the following:

Bluetooth—Select **On** or **Off**. To connect wirelessly to another compatible device, first set Bluetooth connectivity **On**, then establish a connection.

My phone's visibility—To allow your device to be found by other devices with Bluetooth technology, select **Shown to all**. To hide it from other devices, select **Hidden**.

EX1010 (N93) at 84; 906-Pet. at 33-35; 907-Pet. at 33-35

1 Open the application where the item you want to send is stored. For example, to send an image to another compatible device, open **Gallery**.

2 Select the item and **Options** > **Send** > **Via Bluetooth**. Devices with Bluetooth technology within range start to appear on the display.
Device icons are: computer, phone, audio or video device, and other device.
To interrupt the search, select **Stop**.

3 Select the device with which you want to connect.

4 If the other device requires pairing before data can be transmitted, a tone sounds, and you are asked to enter a passcode. See 'Pair devices', p. 86.

5 When the connection has been established, **Sending data** is shown.

EX1010 (N93) at 85-86; 906-Pet. at 33-35; 907-Pet. at 33-35

[1i]/[1j] Dua Teaches "Normal" User Indications (Grounds 1-5)

Dua

[0123] After the media player's RFID tag-reader module **113** receives the Bluetooth serial number and other parameters, the data is transferred to CPU **109**. Media player **100** instantly sends a Bluetooth paging message using the received information via its short range transceiver **108**. In response to the page, the headphone **152** performs a connection setup with media player **100** using normal Bluetooth session set-up procedure. Upon completion, media player **100** can stream all audio output via wireless signal **353** to the headphone unit **152**.

[0124] The RFID discovery/paging process shortens the session setup time as compared to normal Bluetooth terminal discovery process for establishing a session. The RFID discovery methodology and system described herein can also be used in communication between two or more media player devices **100**, if the devices are respectively equipped with RFID tags and RFID readers.

EX1008 (Dua) at ¶¶ 123-124; 906-Pet. at 35; 907-Pet. at 35

Grounds 4-5: The Combination of Dua and N93

Motivation to Implement Dua's "Normal" User Indications

Dr. Creusere Declaration

While Dua teaches its "improved" NFC method is preferred, a POSITA would have understood that not every target device would have an NFC chip or support Dua's improved method. Thus, a POSITA would have been motivated to retain support for the "normal" user indications as well. To the extent a POSITA did not already know of those "normal" indications, a POSITA would have been motivated to search in the art to find known implementations of such a normal process and been led to the N93.

906-EX1002 at ¶ 244; 907-EX1002 at ¶ 268; 906-Pet. at 64; 907-Pet. at 67

Grounds 4-5: The Combination of Dua and N93

N93 Provides Additional Motivations

Dr. Creusere Declaration

246. N93 expressly teaches several additional motivations to implement the "normal" user configuration process in the combination. N93 teaches that power can be conserved if you allow the user to turn radios on/off or at least stop scanning for new networks. *Id.*, 85 (Bluetooth power savings), 121 (Wi-Fi power savings). N93 teaches these features are also desirable to prevent discovery by undesirable third party devices. EX1010, 85 ("Security tips"). N93 teaches that

* * *

(e.g., power and/or select only UMTS or GSM to avoid roaming onto the wrong operator, or use "Offline profile" to limit to Wi-Fi). While Dua's improved connection teachings can be more efficient, a POSITA would have understood and been motivated to also support the functionality to "ask first" before assigning a particular radio connection.

250. Additionally, it would have been obvious to a POSITA to combine Dua with the Bluetooth video transfer and reception functionalities of N93. Dua discloses streaming video between devices (e.g., SIP over cellular, UPnP over Wi-Fi) and transferring video to a device for storage and later playback. EX1008, [0205]-[0206] (describing automatic storage of received videos for later playback). N93 also discloses streaming (e.g., SIP over cellular, UPnP over Wi-Fi) and transferring video to a device for storage and later playback (e.g., Bluetooth video transfer, MMS, e-mail). These are standard transfer protocols based, e.g., on Bluetooth Generic Object Exchange Profile, Object Push Profile, File Transfer Profile. EX1010, 84. Given that Dua explicitly supports Bluetooth and transfer for later playback, it would have been obvious to support standard types of video transfers disclosed in N93 as well.

906-EX1002 at ¶¶ 246, 250; 906-Pet. at 65, 66; *see also* 907-EX1002 at ¶¶ 270, 272; 907-Pet. at 68-69

Grounds 4-5: The Combination of Dua and N93

Reasonable Expectation of Success

Dr. Creusere Declaration

247. A POSITA would have had a reasonable expectation of success in modifying Dua to support the "normal" prior art configuration process discussed in Dua and shown in detail in N93. N93 teaches the "normal" indications. Dua itself discloses this as the "normal" process, so by definition, it is well within the skill and knowledge of a POSITA.

906-EX1002 at ¶ 247; 907-EX1002 at ¶ 271; 906-Pet. at 65-66; 907-Pet. at 68

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Grounds 4-5: The Combination of Dua and N93

PO's argument that Dua prefers "improved" user indications fails

POR: Grounds 4-5: N93 and Dua

Also, a POSITA would not be motivated to combine N93 and Dua to include "normal user indications." Dua explicitly teaches against such "user configuration"

906-POR at 22-23 (addressing 1[i]); *see also* 907-POR at 63 (addressing limitation [1j] for Dua+Herle combination with similar arguments)

[0124] The RFID discovery/paging process shortens the session setup time as compared to normal Bluetooth terminal discovery process for establishing a session. The RFID discovery methodology and system described herein can also be used in communication between two or more media player devices **100**, if the devices are respectively equipped with RFID tags and RFID readers.

EX1008 (Dua) at ¶ 124; 906-Pet. at 35; 907-Pet. at 35

While/Simultaneous (906-limitation [1j]; 907-limitation [1k])

’241 Patent

wherein the controller controls each of the first and second radio communication circuit so that the first radio communication circuit transmits video information while the second radio communication circuit connects to the internet or the home network, and

906-EX1001 at 23

’590 Patent

wherein the controller controls each of the first and second radio communication circuit**[**,**]** so that the first radio communication circuit transmits video information and the second radio communication circuit connects to the internet or the home network simultaneously, *and*

907-EX1004 at 2

[1j]/[1k] N93 Teaches While/Simultaneous

Nokia N93



Connectivity

PC connections

You need to connect your device to a compatible PC to do the following:

- Transfer information between Nokia PC Suite applications and your device. For example, to synchronize calendar appointments or transfer images.
- Use your device as a modem to connect to network services such as the internet.

You can connect your device and a compatible PC via a compatible USB or serial cable, Infrared, or Bluetooth wireless technology.

EX1010 (N93) at 83; 906-Pet. at 35-36; 907-Pet. at 36

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

[1j]/[1k] N93 Teaches While/Simultaneous

POSITA would have understood N93's disclosures to encompass video

Dr. Creusere Declaration

73. Some Challenged Claims require video transmissions/receipt over one radio and a "simultaneous" connection of a second radio to an internet or home network. N93 teaches simultaneous data packet connections over its UMTS and GSM radios on the one hand, and its WiFi and Bluetooth radios on the other. For example, N93 teaches the phone can be used as a modem for a PC to connect it to the Internet by simultaneously using a Bluetooth connection to the PC and a UMTS or GSM connection to the Internet. EX1010, 83. And N93 explicitly teaches there can be a UMTS or GSM data packet connection and a simultaneous Wi-Fi connection. *Id.*, 18. N93 does state that the UI does not support certain options during a "voice call." *Id.*, 24. N93 does not disclose any similar limitation related to simultaneous video transfers over Bluetooth and data connections over UMTS. Thus, a POSITA would have understood N93 to disclose simultaneous Bluetooth video transfers and data packet connections over UMTS.

906-EX1002 at ¶ 73,
906-Pet. at 13-14;
see also 907-EX1002 at ¶ 73,
907-Pet. at 12-13

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

[1j]/[1k] N93 Teaches While/Simultaneous

PO's Time-Division Multiplexing Argument Fails

Dr. Creusere Declaration

34. Simultaneous communication processes like transmitting videos and connecting to a network that are interleaved using time division multiplexing (TDM) are still considered simultaneous processes under the ordinary meaning of simultaneous in the art. For example, EX1075 discloses using time division multiple-access for simultaneous communication. EX1075, 1:38-42. And EX1012, [0051] discloses using TDM is still considered "simultaneous." Simultaneous communications do not require an exact instant in time when two individual packets of the overall process are emitted by a radio. The claimed processes consist of many, many packets separated over time, such that the packets from two simultaneous communication streams may be interleaved and the processes still be considered simultaneous.

906-EX1058 (Creusere Decl.) at ¶ 34;
907-EX1058 (Creusere Decl.) at ¶ 34 (241-[1j] limitation and 590 [1k] limitation);
906-Reply at 11; 907-Reply at 11

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

[1j]/[1k] The Combination of Dua and N93

Obvious to support while/simultaneous transfers

Dr. Creusere Declaration

74. To address any potential argument by PO that N93 does not sufficiently disclose or render obvious the "simultaneous" limitation, Dua explicitly teaches video transfers over a short-range (Bluetooth) radio and "simultaneous" connection to the Internet over a long-range radio (UMTS) to transfer video. For example, Dua teaches simultaneously transmitting video over the short-range transceiver while connected via 3G (UMTS) radio to the internet to receive that same video via a SIP connection. EX1008, FIG. 10, [0190]-[0197]. And Dua teaches receiving video over the short-range transceiver while simultaneously transmitting it over the network transceiver to a remote device. *Id.*, Fig. 1 (network transceiver 105, short-range transceiver 108, antenna 117), Fig. 10, [0190]-[0197] (simultaneous receiving and transmitting). A POSITA would have been motivated to support simultaneous video transfers to support the use cases disclosed by Dua.

906-EX1002 at ¶ 74,
906-Pet. at 14;
see also 907-EX1002 at ¶ 74,
907-Pet. at 13.

[1j]/[1k] The Combination of Dua and N93

Obvious to support while/simultaneous transfers

Dr. Creusere Declaration

75. A POSITA would have had a reasonable expectation of success in supporting "simultaneous" communications over Bluetooth and UMTS radios in the combination. A POSITA would have known Bluetooth could stream video.

* * *

76. Supporting simultaneous transfers would simply involve applying a known technique (simultaneous video transfers) to a known device ready for improvement (multi-radio cellular phone) to yield predictable results as taught by Dua. During reexamination 90/014,651, the examiner found—and PO did not

906-EX1002 at ¶¶ 75-76, 906-Pet. at 14-15; *see also* 907-EX1002 at ¶¶ 75-76, 907-Pet. at 13-14

[1j]/[1k] Dua Teaches While/Simultaneous

Dua

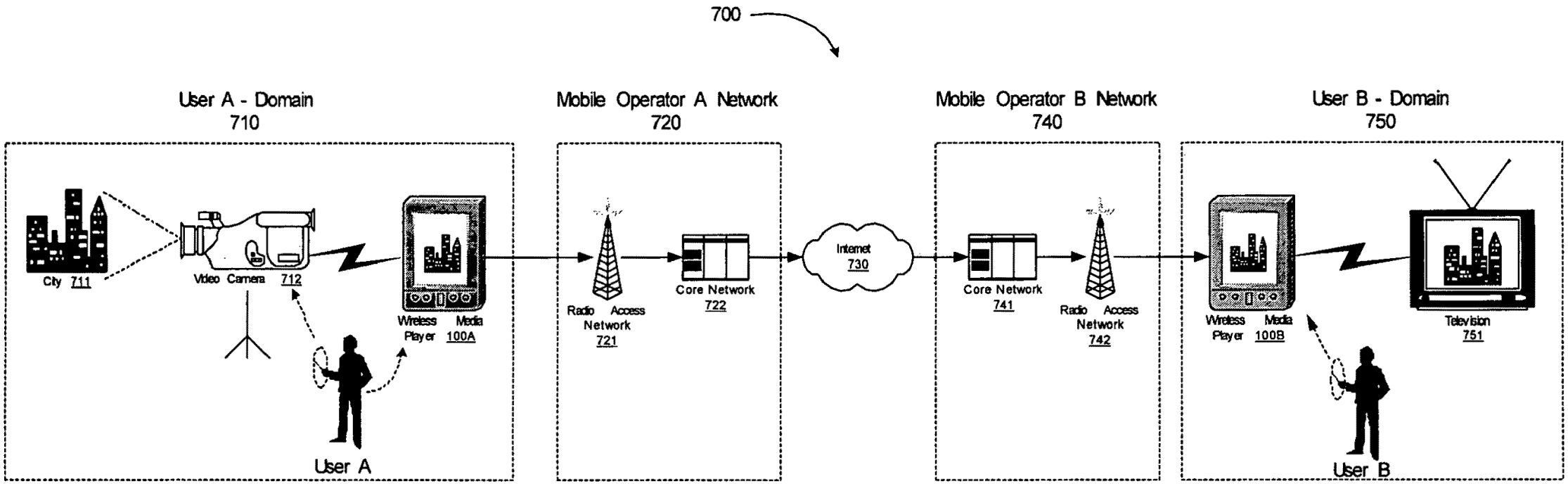


FIG. 10

EX1008 (Dua) at Fig. 10; 906-Pet. at 36-37, 907-Pet. at 36-38

[1j]/[1k] Dua Teaches While/Simultaneous

Dua

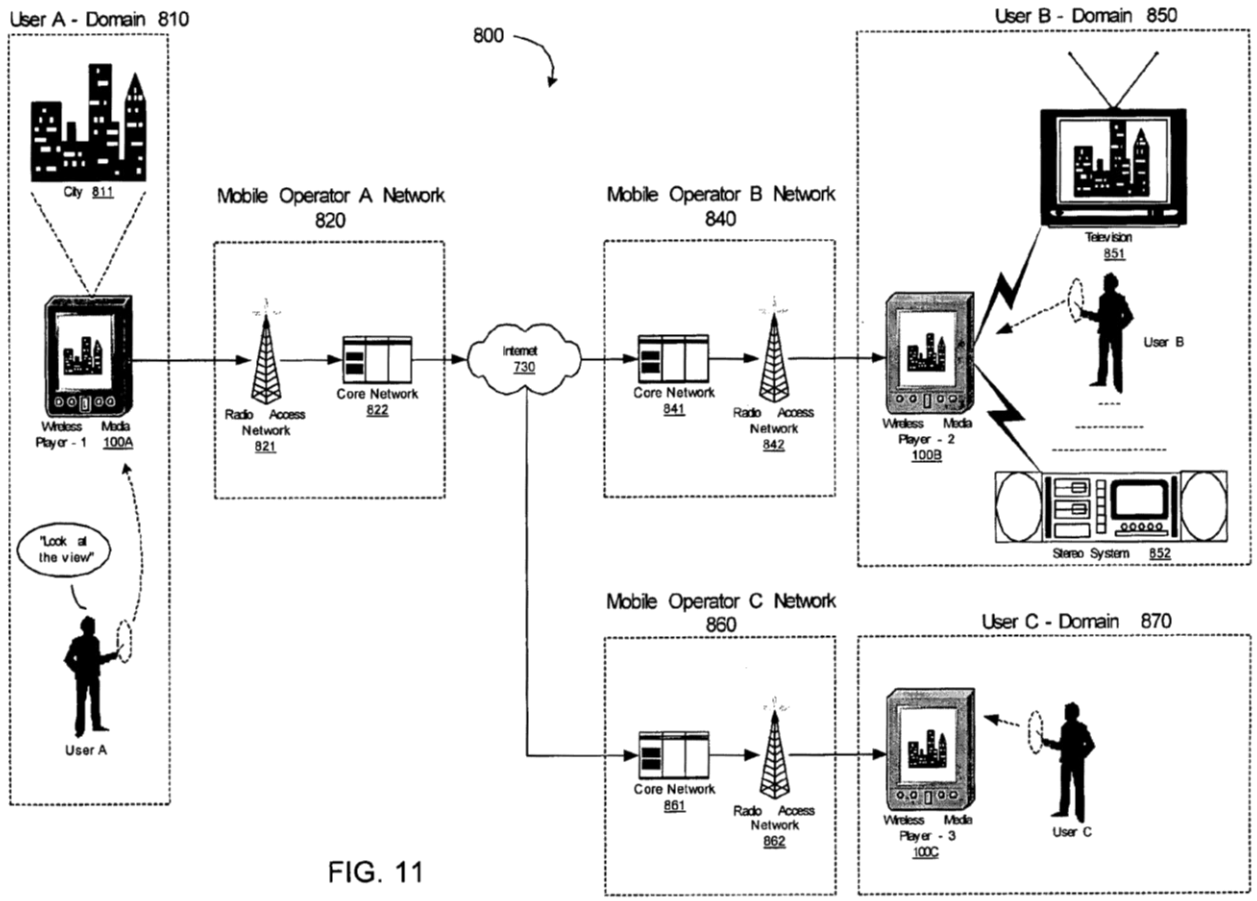


FIG. 11

EX1008 (Dua) at Fig. 11; 906-Pet. at 36-37; 907-Pet. at 36-38

[1j]/[1k] Dua Teaches While/Simultaneous

Dua

devices (target devices). In one embodiment, the media player is able to simultaneously communicate with multiple target devices in close proximity using one or more supported short-range wireless protocols. In another embodi-

later become available. The short-range transceiver **108**, antenna system **117**, and other components within media player **100**, are also designed to allow for the simultaneous communication with multiple devices, and using multiple communication standards and broadcast standards.

functionality in the media player **100** is activated. This allows media to be captured, stored on the device, and simultaneously transmitted to one or more target devices.

network. The media player's SIP application framework allows media player **100**, in conjunction with SIP infrastructure at the mobile operator, to simultaneously transmit content from media player **100** to multiple devices over the Internet.

[0192] The video camera **712** is recording a city landscape **711** and simultaneously transmitting the video feed to the wireless media player **100**A in User A's domain **710**. Using

The digital video recording functionality allows the media player **100** to record multiple pieces of incoming media simultaneously. The digital video recording functionality

EX1008 (Dua) at ¶¶ 14, 63, 176, 184, 192, 206; 906-Pet. at 37; 907-Pet. at 37

[1j]/[1k] The Combination of Dua and N93

Dua discloses streaming over all radios in Figure 7, including Bluetooth

[0137] The next message component is "RF capability"**458**. This parameter specifies the supported wireless communications protocols (e.g., 802.11a/b/g/n, UWB, 802.15.4/ZigBee, Wireless USB, 802.15.3/WiMedia, Wireless 1394, Wireless FireWire, Bluetooth) and RF frequency bands for broadcast transmission/reception (e.g., UHF/VHF, AM/FM) available through the device. In the event that the device supports multiple communications protocols and frequency bands, they can be listed in the RFID transmission data **450** in order of preference. This information also enables connecting devices to try an alternate communications protocol, in the event that connectivity cannot be first established with a preferred one.

EX1008 (Dua) at ¶ 137, 906-Pet. at 21; 907-Pet. at 20

Dua – Fig. 7

450

Message Component 451	Example Content 452
Device Type 453	• TV • Digital Video Recorder (DVR) • VCR/DVD Player • Cellular Phone • Stereo • MP3 Player • Headset/Earphones • Digital Camera • Telephone • Automobile - Integrated Computer
Device Manufacturer 454	• XYZ Electronics
Device Model 455	• WaveRadio TH-190
Device/User Identifier 456	• Location of Device: "Kitchen" • Device owner's name: "Anthony" • Device owner's calling card (e.g., name, address, tel. #, e-mail)
Profile Settings 457	• Allow Create Profile: "On" or "Off" • Allow Auto-Detect & Connect: "On" or "Off"
RF Capability 458	• Bluetooth • 802.11 a/b/g/n • Ultra Wideband (UWB) • AM/FM • UHF/VHF • ZigBee/802.15.4 • Wireless USB • 802.15.3/ WiMedia • Wireless 1394 • Wireless FireWire
Communication Settings 459	• RF configuration settings • Standardized communication profiles (e.g., Bluetooth - handsfree, headset, etc.) • Supported network protocols (IANA) • Security settings - Challenge/response information, Encryption keys, PINs/ passwords - Device Addresses: e.g., BD_ADDR, MAC
Hardware/Software Parameters 460	• Hardware capabilities (e.g., display, audio, input) • Operating System version & capabilities • Software capabilities
Media Capability 461	• Audio: MP3, WMA, WAV, AAC, HE-AAC, FLAC, Ogg Vorbis • Video: MPEG 1, MPEG 2, MPEG 4, MPEG 7, AVI, XviD • Image: JPEG, JPEG2000, TIFF, GIF, BMP, PNG • Presentation: PPS, PPT • Internet Content: HTML, XHTML, DHTML, JavaScript

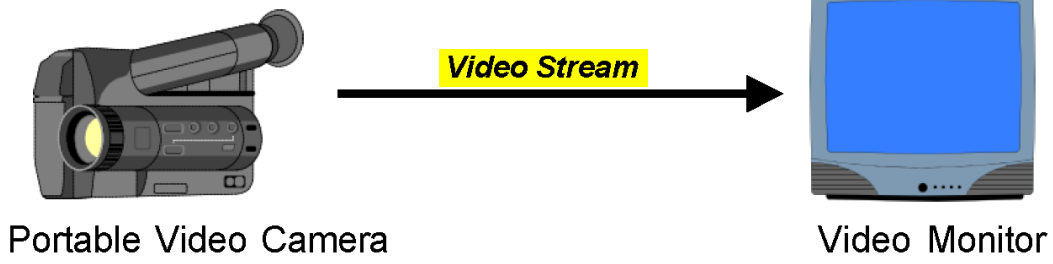
FIG. 7

EX1008 at Fig. 7, 906-Pet. at 21; 907-Pet. at 20

[1j]/[1k] Bluetooth Could Stream Video

BT VDP

The Video Distribution Profile (VDP) defines the protocols and procedures that realize distribution of video content, using ACL channels. A typical usage case is streaming of video content from an observation camera to a monitor. The Video data is compressed in a specific format for efficient use of the limited bandwidth.



EX1022 (BT VDP) at 8, 12; 906-Pet. at 15; 907-Pet. at 13

Terai

[0008] The Bluetooth communication can also be used for communication of a stream signal such as an audio signal, a video signal, etc. Therefore, if a portable audio player is connected to a Bluetooth communication unit and headphones are provided with a Bluetooth communication unit, for example, an audio stream signal reproduced in the portable audio player can be transferred to the headphones in a wireless manner by the Bluetooth communication to allow sound based on the audio stream signal to be outputted via the headphones.

[0014] The stream line is, for example, a communication line that uses a profile for transferring the stream signal, such as A2DP (Advanced Audio Distribution Profile) or VDP (Video Distribution Profile) in Bluetooth communication. A control line is, for example, a communication line for transferring a control command, such as AVDTP (Audio/Video Distribution Transport Protocol) used in conjunction with the A2DP or the VDP.

EX1023 (Terai) at ¶¶ 8, 14; 906-Pet. at 15; 907-Pet. at 13

[1j]/[1k] Bluetooth Could Stream Video

L2CAP-based prototype media streaming *via* Bluetooth technology

There are many important applications require media streaming over Bluetooth that have been developed and enhanced over the time. The quality of services has been enhanced by the integration of MPEG-4 codec video transmission over Bluetooth for mobile applications (Scheiter et al., 2003). MPEG-4 is an ideal compression technique that meets the requirements of the Bluetooth data bandwidth by providing a very low bit-rates and high compression (Smith, 2012). A link layer approach improves the quality of MPEG streaming over a wireless link by reducing time varying nature that causes video frames to be dropped/delayed (Kapoor et al., 2003). While others suggested a solution to solve net connection for video applications in built-in cell phone camera *via* overlaid Bluetooth piconets and its simplified version (Jung et al., 2006). For that reason,

EX2010 at 6; 906-Reply at 13; 907-Reply at 13

A SYSTEM FOR QOS-ENABLED MPEG-4 VIDEO TRANSMISSION OVER BLUETOOTH FOR MOBILE APPLICATIONS

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EX1073 (2003) at 1; 906-Reply at 13; 907-Reply at 13

Efficient Packetization for Bluetooth Video Transmission

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EX1074 (2006) at 1; 906-Reply at 13; 907-Reply at 13

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Software Update (906-limitation [1k]; 907-limitation [1l])

’241 Patent

wherein one of the first, second, or third radio communication circuits receives a signal from the internet indicating that an update for an operating system of the video processing apparatus is available, and the video processing apparatus executes an update process such that an updated operating system of the video processing apparatus is stored in the video processing apparatus after execution of the update process.

906-EX1001 at 23

’590 Patent

wherein the second or third radio communication circuits receive a signal from the internet indicating that an update for an operating system of the video processing apparatus is available, and the video processing apparatus executes an update process such that an updated operating system of the video processing apparatus is stored in the video processing apparatus after execution of the update process.

907-EX1004 at 2

[1k]/[1l] Undisputed: Herle Teaches The Claimed Software Update

Herle

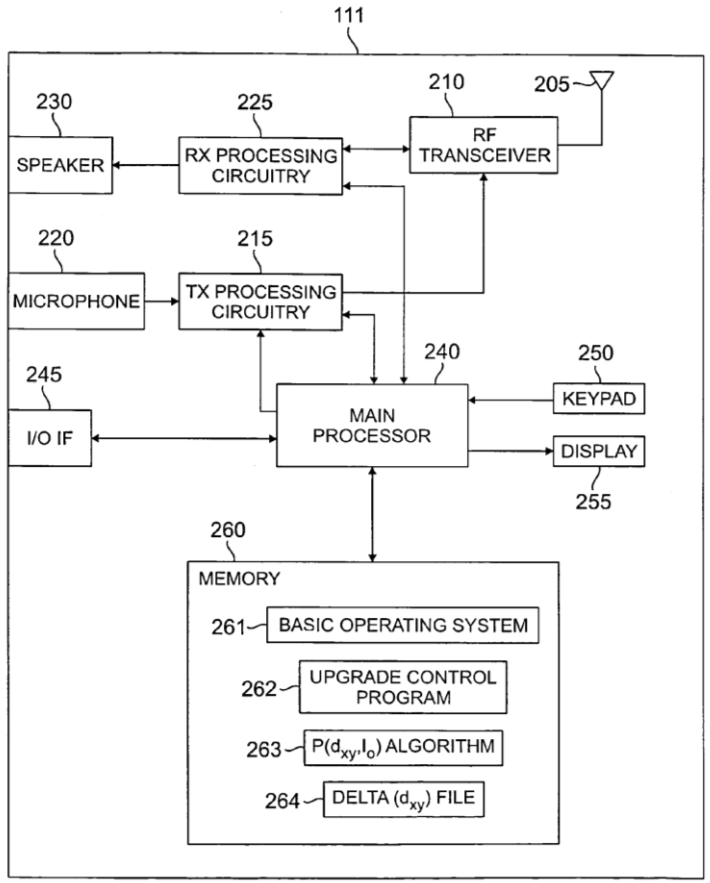


FIG. 2

EX1009 (Herle) at Fig. 2; 906-Pet. at 39-40; 907-Pet. at 39-40

The objective of invention is to do Internet protocol (IP)-based over-the-air (OTA) software download (i.e., IOTA-SD) using a minimum sized delta file-based software upgrade. The present invention comprises two parts: 1) a utility application that generates the smallest possible binary difference ("delta file") between two versions of mobile station executable firmware; and 2) a software algorithm running on the mobile station that receives the binary delta file as input and applies it to the existing image file on the mobile station to transform the existing image file into a new image file.

EX1009 (Herle) at 2:32-42; 906-Pet. at 39-40; 907-Pet. at 39-40

Herle Combinations - N93 and Dua Software Was Updatable

Nokia N93

Installation files may be transferred to your device from a compatible computer, downloaded during browsing, or sent to you in a multimedia message, as an e-mail attachment, or using Bluetooth connectivity or infrared.

Before installation, note the following:

- To view the application type, version number, and the supplier or manufacturer of the application, select **Options** > **View details**.
- To display the security certificate details of the application, select **Options** > **View certificate**. See 'Certificate management', p. 110.
- If you install a file that contains an update or repair to an existing application, you can only restore the

EX1010 at 115; 906-Pet. at 17; 906-Reply at 14; 907-Pet. at 15-16; 907-Reply at 14

Dua

[0151] In one embodiment of the invention, the RFID transmission information **450** for the media player **100** is stored in the RFID tag memory unit **322** of the RFID Tag-Reader Module **113**. Software and other changes which may be executed on the media player **100** may cause the RFID transmission information **450** to be dynamically updated in the RFID Tag-Reader Module **113**. For example, if software operating on the media player **100** is updated to handle new audio and video formats, the software can automatically update the RFID transmission information **450** stored in the RFID tag memory unit **322** with the latest information on the device's media capabilities. This in turn allows a communicating device to ascertain the media player's most current capabilities and only deliver content to it which the media player **100** is capable of processing.

EX1008 at ¶ 0151; 906-Pet. at 17; 906-Reply at 14; 907-Pet. at 15-16; 907-Reply at 14

The Combinations of N93, Dua and Herle

Herle is a perfect fit for N93 and Dua

Dr. Creusere Declaration

80. It would have been obvious to combine each of N93 and Dua's teachings with Herle's teaching of an over-the-air ("OTA") update for software (operating system and applications) in a cellular phone. N93 discloses running a Symbian operating system and installed applications. EX1010, 2, 72, 98, 111, 114-116. Dua discloses its cellular phone runs an operating system and applications. EX1008, [0060] (operating system and applications), [0078] (same). N93 discloses updating or repairing an existing application. EX 1010, 115. Dua also teaches that software on its devices may be "updated" with new capabilities. EX1008, [0151], [0154]. But N93 and Dua do not explicitly describe the update process. Thus, a POSITA would have been motivated by N93 and Dua to find known software update processes for similar devices and would have been led to Herle.

81. Herle provides the express motivation to incorporate its OTA update process into cellular phones like N93 and Dua's to provide upgraded software, bug fixes, and newer versions. EX1009, 1:39-45. Herle explains OTA is an "important aspect" to remove the need for a customer to visit a service center. *Id.*, 1:24-38.

* * *

82. Adding Herle's update process would simply involve applying a known technique (OTA updates for cellular phones as taught by Herle) to a known device ready for improvement (cellular phone) to yield predictable results (cellular phone with OTA update capability). *KSR*, 550 U.S. at 416.

906-EX1002 at ¶¶ 80-82; 906-Pet. at 17-18;
see also 907-EX1002 at ¶¶ 80-82, 907-Pet. at 16-17

The Combinations of N93, Dua and Herle

PO's concerns are address by Herle's teachings

271. In addition, there are many complexities with implementing OTA operating system updates with a device that is complex and includes advanced features (such as the claimed features). For example, the N93 itself, because it included many advanced features, was known to be an inherently instable device, and there were many difficulties in implementing updating capabilities in the N93. EX2035 at 1. Because of the inherent instability of such a handset, a POSITA would not be motivated to implement over-the-air operating system updates in such a device because of the various disadvantages.

279. There was no motivation to change the updating process on devices such as the device in N93 or Dua. Nokia already discusses a methodology using the Nokia PC Suite to install files. EX1010 at 115. While delta-based updates had been

275. Dua also fails to disclose [1k] and Petitioners and Dr. Creusere fail to provide any evidence or arguments to the contrary. Petitioners and Dr. Creusere

* * *

and data stored in "device profile." EX1008 ¶¶[0143], [0151], [0154]. Dua is silent regarding receiving any indication that an update for an operating system is available over the internet or updating the **operating system** at all. Furthermore, Dua even discloses that "[k]nown over-the-air techniques for configuration between two devices have also proven to be generally **insecure**." *Id.* ¶[0009]. Therefore, Dua teaches against using over-the-air techniques for transferring information, such as transferring information for operating system updates.

906-EX2017 at ¶¶ 271, 275, 279, 906-POR at 35-36;
see also 907-EX2017 at 279, 283, 287; 907-POR at 34-35

The Combinations of N93, Dua and Herle

Herle provides solutions for PO's purported difficulties

Dr. Creusere Declaration

36. I have reviewed the '241 patent specification. The disclosure for OS update is minimal and mentioned in only two sentences. There is no discussion of the supposed complications raised by Mr. McNair or how to overcome them. In contrast, Herle addresses the issues Mr. McNair raises with respect to memory, bandwidth, efficiency, security, stability, etc., associated with the update process. EX1009, 1:61-2:28, 2:57-3:4. Over the air updates were a known solution in the art in 2007 as exemplified by Herle (EX1009) and Skan (EX1064). The fact that reference like Herle and Skan had already disclosed sufficient detail to a POSITA to enable OTA updates to an operating system is what allows the patent at issue to casually mention this known solution.

906-EX1058 at ¶ 36; 907-EX1058 at ¶ 36; 906-Reply at 18; 907-Reply at 17;
see also 906-EX1058 at ¶ 35; 907-EX1058 at ¶ 35; 906-Reply at 16-17; 907-Reply at 16

Herle's Solutions to PO's Purported Problems

Herle

However, a wireless mobile station (e.g., a cell phone) typically has far fewer resources available than a PC.

EX1009 (Herle) at 1:61-62; 906-Reply at 17; 906-Reply at 16

Since the size of delta file **264** generally is very small compared to the size of either the I_O image file or the IN image file, this does not present a memory problem.

EX1009 at 8:36-38; 906-Reply at 15; 907-Reply at 14

1) A cryptographic secure checksum of the new image I_N, which is verified after $P(d_{xy}, I_O)$ algorithm program **263** completes its operation;

EX1009 at 8:52-54; 906-Reply at 15; 907-Reply at 14

PO's N93 Product Arguments are Both Irrelevant and Incorrect

Nokia Update Servers

Nokia Software Updater is online and ready for download!

Apart from the downloading and upgrading firmware via PC and mentioned soft there are another method known as FOTA. Firmware upgrade Over The Air (FOTA) technology enables cost effective mobile phone firmware updates. By using OTA methods to update mobile phone firmware and to patch flaws in the firmware originally installed on the handset, users no longer need to bring the handset to a service facility to update the firmware on their mobile phone.



Click Here
To Have Your Say On This Story

Nokia N80 is the only and first Series 60 phone that **supports FOTA** at the moment.

EX1063 at 2; 906-Reply at 16; 907-Reply at 15

Skan US2006/0075284

[0001] The present invention relates generally to the field of computer systems, and more specifically methods for updating a binary image stored in a non-volatile memory device, such as a NAND flash memory. In particular, but not exclusively, the present invention pertains to the remote update of one or more operating system components or application programs stored in a read only file system held in NAND flash memory of a mobile device.

EX1064 at ¶ 0001; 906-Reply at 16-17; 907-Reply at 16

device. Additionally, the download agent **140** component accesses functionality provided by the resident operating system (e.g. Symbian OS) to store the update package in NAND flash memory hardware **150**. Depiction of the oper-

EX1064 at ¶ 0042; 906-Reply at 16-17;
907-Reply at 16; 906-EX1058 at ¶ 35; 907-EX1058 at ¶ 35

The Combinations of Dua, N93 and Herle

PO's "warranty" argument fails as "bodily incorporation"

Institution Decision

McNair's testimony, however, is that "it is not necessary that the inventions of the references be physically combinable to render obvious the invention under review." *In re Sneed*, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983). "Combining the *teachings* of references does not involve an ability to combine their specific structures." *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973).

906-Paper 11 (D.I.) at 46; 907-Paper 11 (D.I.) at 44
906-Reply at 18; 907-Reply at 17

We disagree with Patent Owner. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (citations omitted). "[O]ne cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references." *Id.* at 426.

906-Paper 11 (D.I.) at 67; 907-Paper 11 (D.I.) at 64
906-Reply at 18; 907-Reply at 17

N93, Dua and Herle Combinations

Herle is a perfect fit and addresses PO's purported issues

- Initial pull v. push is irrelevant as eventually claimed information is received
- N93 teaches installing updates and cleaning up remaining install files
- OTA and tethered updates taught by both N93 and Herle
- Network bandwidth, computing resources, memory issues addressed by Herle delta files
- Security issues addressed by Herle's cryptographic checks
- Symbian and N93 purported "instability" and number of Nokia customers are improper product-based attacks
- Historical launch date of a company is irrelevant to whether the technology was obvious to a POSITA

906-Reply at 14-17; [illegible]

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

’241/’590 Patents (2007) v. Herle (2003)

’241/’590 Patents

by the audio output device **161**. If the information from the network is an update program of an application program or an Operating System (OS), the microprocessor **115** executes addition and storage processing for new software or executes update processing for the associated program.

EX1001 at 6:54-58, 11:48-51 (same); 906-Reply at 18; 907-Reply at 17; 906-EX1058 at ¶ 36; 907-EX1058 at ¶ 36

Ex Parte Reisner, 2013 WL 6217754 at *3 (PTAB Nov. 14, 2013)

Ex Parte Lang, 2023 Pat. App. LEXIS 3989 at *29 (PTAB Appeal 2023-000575)

Obviousness of Operating System Updates in Light of Disclosure

Ex Parte Reisner

The fact that Appellant did not deem it necessary to furnish a more detailed teaching disclosure on “how to” configure an electromagnetic loop to function as a transmitter undermines Appellant's argument that Allen and Schmidt lack such a detailed disclosure and supports the Examiner's position that it would have been obvious to use “established infrastructure” to achieve the claimed invention.

Ex Parte Reisner, 2013 WL 6217754 at *3 (PTAB Nov. 14, 2013); 906-Reply at 18; 907-Reply at 17

Ex Parte Lang

In the absence of Appellant providing a specific description, it is appropriate to assume that anyone desiring to perform the claimed function would know how to do so.

Ex Parte Lang, 2023 Pat. App. LEXIS 3989 *21 (PTAB Appeal 2023-000575); 906-Reply at 18; 907-Reply at 17

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PO Does Not Dispute N93 Discloses Similar "Application" Update

'241 Patent, [1k]

wherein one of the first, second, or third radio communication circuits receives a signal from the internet indicating that an update for an operating system of the video processing apparatus is available, and the video processing apparatus executes an update process such that an updated operating system of the video processing apparatus is stored in the video processing apparatus after execution of the update process.

EX1001 (Kurita) at 21

'241 Patent, claim 10

10. The video processing apparatus of claim **1**, wherein one of the first, second, or third radio communication circuits receive a signal from the internet indicating that an update for an application of the video processing apparatus is available, and the video processing apparatus executes an application update process such that an updated application of the video processing apparatus is stored in the video processing apparatus after execution of the application update process.

EX1001 (Kurita) at 22

QAM - 906-241 Claim 12 and 907-590 Claim 18

’241 Patent

12. The video processing apparatus of claim **1**, wherein the second modulation scheme comprises quadrature amplitude modulation (QAM).

EX1001 at 23

’590 Patent

18. The video processing apparatus of claim 1, wherein the second modulation scheme comprises quadrature amplitude modulation (QAM).

EX1004 at 5

Grounds 2, 5

EX1015, 7 (TDD). In the alternative, the UMTS modulation schemes and frequencies would have been obvious based on the knowledge of a POSITA, as evidenced by those same references. EX1002, ¶93.

906-Pet. at 24; 907-Pet. at 22

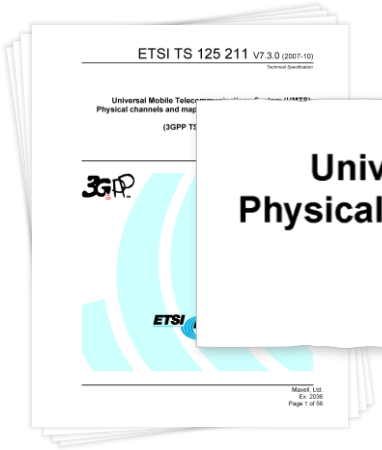
Cls. 12/18 - QAM - UMTS Includes QAM

McNair

Q. Okay. So UMTS as shown in Exhibit 2036 includes both QPSK and QAM modulation, correct?

A. Correct.

EX1057 (McNair Dep.) at 59:19-21



EX2036 at 1

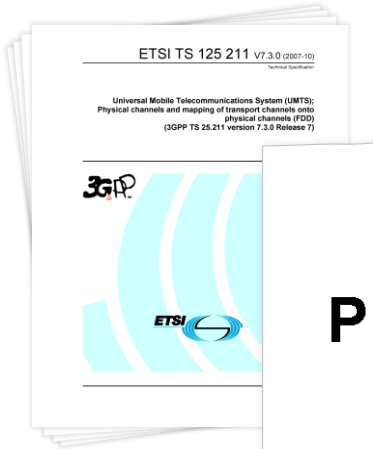
For 16QAM, STTD operates on blocks of 8 consecutive symbols b_0, b_1, b_2, b_3, b_4, b_5, b_6, b_7 as shown in figure 8A below.

For 64QAM, STTD operates on blocks of 12 consecutive symbols b_0, b_1, b_2, b_3, b_4, b_5, b_6, b_7, b_8, b_9, b_{10}, b_{11} as shown in figure 8B below.

EX2036 at 20

906-Pet. at 23-24; 906-Reply at 20-22; 907-Pet. at 22; 907-Reply at 20-21

Cls. 12/18 - QAM - UMTS Includes HSDPA



**Universal Mobile Telecommunications System (UMTS);
Physical channels and mapping of transport channels onto physical channels (FDD)
(3GPP TS 25.211 version 7.3.0 Release 7)**

EX2036 at 1

07/06/02	RAN_16	RP-020437	147	4	Specification of TX diversity for HSDPA	5.0.0	5.1.0
07/06/02	RAN_16	RP-020316	155	-	HSDPA subframe definition	5.0.0	5.1.0

EX2036 at 54

906-Reply at 21; 907-Reply at 21

[1b] QAM - PO's Expert Agreed 3G/UMTS Includes QAM

McNair

Q. Okay. So UMTS as shown in Exhibit 2036 includes both QPSK and QAM modulation, correct?

A. Correct.

EX1057 (McNair Dep.) at 59:19-21; 906-Reply at 6; 907-Reply at 5-6

OFDM: 906-241 Claim 15 and 907-590 Claim 21

’241 Patent

15. The video processing apparatus of claim **1**, wherein the second and third radio communication circuits conduct demodulation through Orthogonal Frequency Division Multiplexing (OFDM).

906-EX1001 at 23

’590 Patent

21. The video processing apparatus of claim 1, wherein the second and third radio communication circuits conduct demodulation through Orthogonal Frequency Division Multiplexing (OFDM).

EX1004 at 4

Grounds 2, 5

EX1015, 7 (TDD). In the alternative, the UMTS modulation schemes and frequencies would have been obvious based on the knowledge of a POSITA, as evidenced by those same references. EX1002, ¶93.

906-Pet. at 24; 907-Pet. at 22

Cls. 15/21 3GPP-Spec: Teaches UMTS with OFDM

Keywords

UMTS, radio, layer 1

EX1015 at 2

5.8 OFDM signal generation

The OFDM symbols in a slot shall be transmitted in increasing order of l. The time-continuous signal $s_l^{(p)}(t)$ on layer p in OFDM symbol l in a downlink slot is defined by

$$s_l^{(p)}(t) = \sum_{k=-\lfloor N_{\mathrm{BW}}^{\mathrm{DL}}/2 \rfloor}^{-1} a_{k^{(-)},l}^{(p)} \cdot e^{j\frac{2\pi k}{NT_s}\left(t - N_{\mathrm{CP},l}T_s\right)} + \sum_{k=1}^{\lceil N_{\mathrm{BW}}^{\mathrm{DL}}/2 \rceil} a_{k^{(+)},l}^{(p)} \cdot e^{j\frac{2\pi k}{NT_s}\left(t - N_{\mathrm{CP},l}T_s\right)}$$

for $0 \le t < (N_{\mathrm{CP},l} + N) \times T_s$ where $k^{(-)} = k + \lfloor N_{BW}^{DL}/2 \rfloor$ and $k^{(+)} = k + \lfloor N_{BW}^{DL}/2 \rfloor - 1$.

EX1015 at 15

906-Pet. at 23; 907-Pet. at 22

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Cls. 15/21 UMTS Includes UTRAN and EUTRAN

UTRAN UMTS Terrestrial Radio Access Network

EX2036 at 9

1 Scope

The present document describes the physical channels for evolved UTRA.

EX1015 at 5

Subject of specification series	3G/GSM R99 and later	GSM only (Rel-4 and later)	GSM only (before Rel-4)
* * *			
Evolved UTRA aspects	36 series	-	-

EX1059 at 1

906-Reply at 21-24; 907-Reply at 21-24

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Cls. 15/21 3G and UMTS

Dr. Creusere

Q. When you refer to GSM and UMTS, you're referring to 2G and 3G capabilities respectively. Is that correct?

A. That is approximately correct. There were many variations as the standard progressed from, say, GSM, which is often thought of as 2G to UMTS, which is thought of as 3G. There were -- there was EDGE, for example, which was an enhancement of GSM partway between, but -- but essentially I think that's a reasonable characterization.

EX2030 at 13:7-16; 906-Reply at 22; 907-Reply at 21

Cls. 15/21 PO's Expert Admits That a POSITA (or Someone Less-Skilled) Could Have Implemented OFDM

McNair

Q. Was OFDM known in the art at the time the '241 patent was filed?

A. Yes.

Q. All right. And a POSITA would know what OFDM is?

A. Yes.

EX1057 (McNair Dep. Tr.) at 6:2-7; 906-Reply at 24; 907-Reply at 23

Q. Okay. Is it fair to say that the '241 patent simply states that the modems perform OFDM without describing the details to a person of ordinary skill and how to implement OFDM?

A. Well, the patent describes the use of OFDM and would rely on the skill of a person of ordinary skill in the art to do the research to find references that would enable them to see how to go about doing that.

EX1057 (McNair Dep. Tr.) at 8:25-9:8; 906-Reply at 24; 907-Reply at 23-24

A. They were advanced undergraduates, and they were able to implement a prototype of an OFDM system. So you know, to me, that's an existence proof.

EX1057 (McNair Dep. Tr.) at 12:11-14; 906-Reply at 24; 907-Reply at 24

Features in Standards are Obvious Long Before Commercialization

Dua

[0062] A short-range transceiver **108** and antenna **117** provide wireless connectivity with external devices or access points using supported communications protocols (e.g., Bluetooth, 802.11 a/b/g/n, Ultra Wideband, Wireless USB, 802.15.3/WiMedia, Wireless 1394, Wireless FireWire, WiMax, and 802.1 5.4/ZigBee). The short-range transceiver **108** and antenna **117** system also support broadcast standards such as AM, FM, UHF, VHF, and HDTV. Support for these broadcast standards allows the media player **100** to receive and broadcast radio and television signals over a short-range.

EX1008 (Dua) at ¶ 62; 906-Reply at 24; 907-Reply at 24

[0069] In accordance with a preferred embodiment of the invention, media player **100** is fully compliant with 3GPP and 3GPP2 standards. 3GPP and 3GPP2 are worldwide standards for the creation, delivery and playback of multimedia over 3rd generation, high-speed wireless networks. Defined by the 3rd Generation Partnership Project and 3rd Generation Partnership Project 2 respectively, these standards seek to provide uniform delivery of rich multimedia over newly evolved, broadband mobile networks (3rd generation networks) to the latest multimedia-enabled devices, such as media player **100**.

EX1008 (Dua) at ¶ 69; 906-Reply at 23-24; 907-Reply at 23-24

Tee

[0020] Mobile terminal **110** is capable of communicating with one or more types of wireless wide-area networks (WANs), including conventional cellular networks and wireless local area networks (WLANs). By way of example, mobile terminal **110** may communicate with base station (BS) **120**, which may be associated with a CDMA2000/1xEV-DO/1xEV-DV network, a GSM/GPRS/EDGE network, an IEEE-802.16x network, or the like. In other embodiments, base station **120** may communicate according to such wireless interface standards, or their evolutions, as 1xEV-DO, 1xEV-DV, GSM/GPRS/EDGE, 3GPP UTRAN, HSDPA/HSUPA, 3GPP EUTRAN, TD-CDMA, WiBro, WiMAX, IEEE-802.20, or IEEE-802.11x, among others. Base station **120** provides mobile terminal **110** with access to voice networks, such as the public switched telephone network (PSTN), and to data networks, including, for example, the Internet or proprietary Internet protocol (IP) networks. In the illustrated embodiment, BS **120** provides mobile terminal **110** with access to server **150** via IP network **140**.

EX1006 at 429 (Tee at ¶ 20); 906-Reply at 24; 907-Reply at 24

PO's Expert Does Not Opine on Dua's Relevant Teaching to Use 3GPP

McNair

Q. And Dua states that it will be fully compliant with 3GPP standards, correct?

A. Yes.

Q. And so by November 2007, this teaching in Dua to be fully compliant with 3GPP standards would include 3GPP UTRAN, HSDPA, HSUPA, and 3GPP EUTRAN, correct?

A. Again, I haven't expressed any opinion about that, and the standards that are described in Tee -- well, I guess Tee is prior art to the '590 patent. So I suspect if Tee is describing particular standards and they would have been known to Tee as prior art to the '590 patent, but I haven't specifically analyzed those.

EX1057 (McNair Dep. Tr.) at 41:22-42:11; 906-Reply at 21; 907-Reply at 21

3GPP

Nokia N93

3G The device is being used in a UMTS network (network service).

EX1010 (N93) at 15 906-Pet. at 22; 907-Pet. at 22

EX2036

Universal Mobile Telecommunications System (UMTS);
Physical channels and mapping of transport channels onto physical channels (FDD)
(3GPP TS 25.211 version 7.3.0 Release 7)

EX2036 at 1, 906-Reply at 21; 907-Reply at 21

3GPP-Spec

Release 8 **2** **3GPP TS 36.211 V0.2.1 (2006-11)**

Keywords

UMTS, radio, layer 1

EX1015 (3GPP-Spec) at 2; 906-Pet. at 23; 907-Pet. at 22

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

’907 – ’590 Patent, Claim 5 – Receiving and Compressing

Limitation [5d]

a compression circuit capable of implementing a plurality of compression schemes including a first compression scheme, the compression circuit compressing the video information received by the first radio communication circuit using the first compression scheme;

EX1004 at 2

Limitation [5h]

wherein the controller controls each of the first and second radio communication circuits[,] so that the first radio communication circuit receives video information and the second radio communication circuit connects to the internet or the home network simultaneously, *and*

EX1004 at 2

907-[5d] - Dua Discloses Receiving and Compressing (Grounds 1-5)

Dua

[0172] Upon selecting content from any of the content source options, media player **100** begins wirelessly transmitting the media asset that was selected to the target device along with information about the media asset if available (e.g., file name, song name, artist, album, source, copyright, etc). The target device can display the media information on its display screen if one is available. The media player **100** transmits the media asset to the target device in a supported format as ascertained in step **505**. As previously mentioned, the media player **100** can convert the media asset into a format that is supported by the target device if necessary and if the applicable conversion utilities are present. Steps **512-515** that deal with terminating a wireless connection and establishing a profile for the target device on the media player **100** are the same as described earlier during discussion of methods illustrated in **FIG. 8A**.

EX1008 (Dua) at ¶ 172

McNair

Q. So would the same file being compressed with MPEG 2, would it be smaller if compressed with MPEG 4?

A. The same file? I believe so.

EX1057 (McNair Dep.) at 34:11-14

450

Message Component 451	Example Content 452
Device Type 453	• TV • Digital Video Recorder (DVR) • VCR/DVD Player • Cellular Phone • Stereo • MP3 Player • Headset/Earphones • Digital Camera • Telephone • Automobile - Integrated Computer
Device Manufacturer 454	• XYZ Electronics
Device Model 455	• WaveRadio TH-190
Device/User Identifier 456	• Location of Device: "Kitchen" • Device owner's name: "Anthony" • Device owner's calling card (e.g., name, address, tel. #, e-mail)
Profile Settings 457	• Allow Create Profile: "On" or "Off" • Allow Auto-Detect & Connect: "On" or "Off"
RF Capability 458	• Bluetooth • 802.11 a/b/g/n • Ultra Wideband (UWB) • AM/FM • UHF/VHF • ZigBee/802.15.4 • Wireless USB • 802.15.3/ WiMedia • Wireless 1394 • Wireless FireWire
Communication Settings 459	• RF configuration settings • Standardized communication profiles (e.g., Bluetooth - handsfree, headset, etc.) • Supported network protocols (IANA) • Security settings - Challenge/response information, Encryption keys, PINs/ passwords - Device Addresses: e.g., BD_ADDR, MAC
Hardware/Software Parameters 460	• Hardware capabilities (e.g., display, audio, input) • Operating System version & capabilities • Software capabilities
Media Capability 461	• Audio: MP3, WMA, WAV, AAC, HE-AAC, FLAC, Ogg Vorbis • Video: MPEG 1, MPEG 2, MPEG 4, MPEG 7, AVI, XviD • Image: JPEG, JPEG2000, TIFF, GIF, BMP, PNG • Presentation: PPS, PPT • Internet Content: HTML, XHTML, DHTML, JavaScript

FIG. 7

EX1008 (Dua) at Fig. 7

907-Pet. at 43; 907-Reply at 18; 907-Ex. 1002 (Creusere Decl.) at ¶ 151; Ex. 1008 (Dua), [0168] (forwarding Internet movie), [0197]-[0198] (dynamically converting AD/DA for forwarding), [0205] (DVR)

907-[5d] - N93 Discloses Receiving and Compressing (Grounds 1-2, 3-4)

Nokia N93

You may need to convert the video clip into a suitable format to be able to share it. **Clip must be converted for sharing. Continue?** appears. Select **OK**.

EX1010 (N93) at 62

file format. To send the video clip through MMS, select **Sharing** (QCIF resolution, .3gp file format). The size of the video clip recorded with **Sharing** is limited to 300 KB (about 20 seconds in duration) so that it can be conveniently sent as a multimedia message to a compatible device.

EX1010 (N93) at 25

907-Pet. at 42-43; 907-Reply at 18; 907-EX1002 (Creusere Decl.) at ¶ 150

907-[5h] - Dua Discloses Simultaneous (Grounds 1-5)

Dua

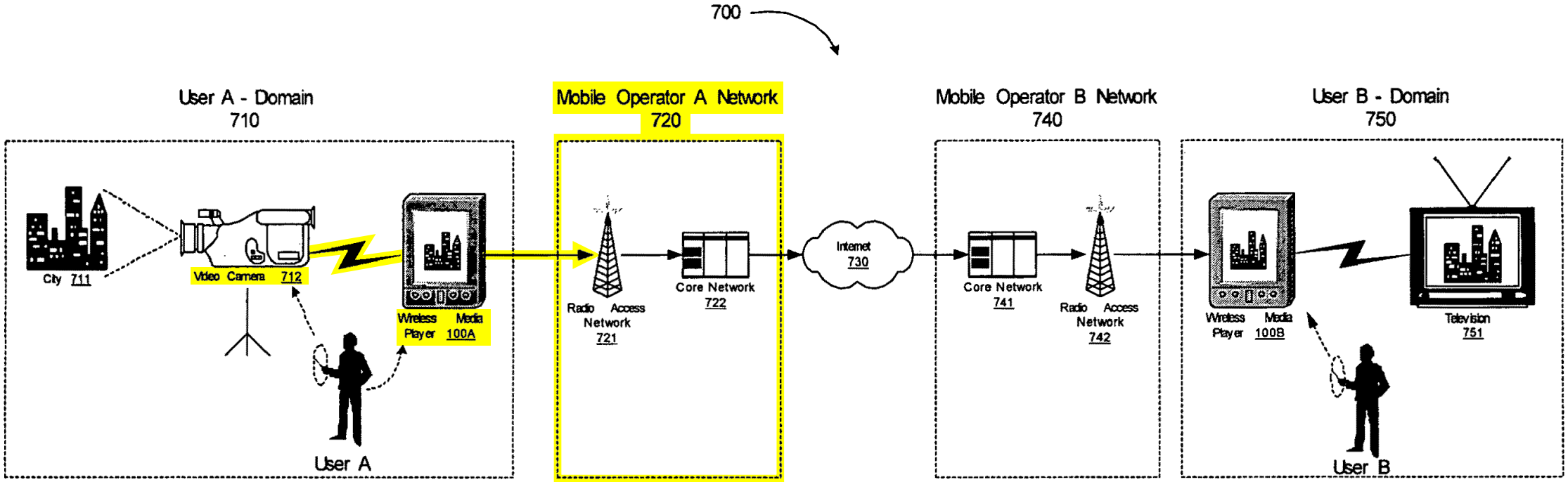


FIG. 10

EX1008 (Dua) at Fig. 10; 907-Pet. at 12-14, 36-38; 907-Reply at 18; 907-EX1002 (Creusere Decl.) at ¶ 134

907-[5h] - N93 Discloses Simultaneous (Grounds 1-2, 4-5)

Nokia N93

PC connections

You need to connect your device to a compatible PC to do the following:

- Transfer information between Nokia PC Suite applications and your device. For example, to synchronize calendar appointments or transfer images.
- Use your device as a modem to connect to network services such as the internet.

You can connect your device and a compatible PC via a compatible USB or serial cable, Infrared, or Bluetooth wireless technology.

EX1010 (N93) at 83; 907-Pet. at 10, 12, 36, 45;
907-Reply at 18; 907-EX1002 (Creusere Decl.) at ¶ 133

PO's Motion for Supplemental Information Should be Denied

PO's request as to EX2037 (Hearing Tr.) was waived and is untimely

- February 4, 2025 – Petitioner's Opposition to *Sotera* MSJ filed
- February 18, 2025 – Petitioner's Sur-Reply to *Sotera* MSJ filed
- March 26, 2025 – Patent Owner Response filed
- April 24, 2025 – Hearing
- June 5, 2025 – Patent Owner Request to file supplemental information

Paper 39 (Opp.) at 2-3

PO's Motion for Supplemental Information Should be Denied

PO's request as to EX2038 was waived and is untimely

- January 14, 2025 – Petitioner's MSJ of Noninfringement
- February 18, 2025 – Petitioner's Reply in Support of MSJ
- March 26, 2025 – Patent Owner Response
- May 8, 2025 – Petitioner's Opposition to Motion for Reconsideration
- September 15, 2025 – Patent Owner files <u>without</u> authorization

Paper 39 (Opp.) at 2-3

PO's Motion for Supplemental Information Should be Denied

Petitioner's N93 "video" arguments are consistent

N93 User Manual

PC connections

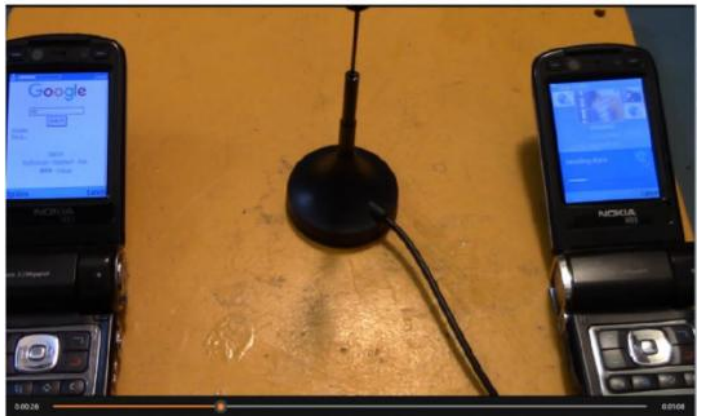
You need to connect your device to a compatible PC to do the following:

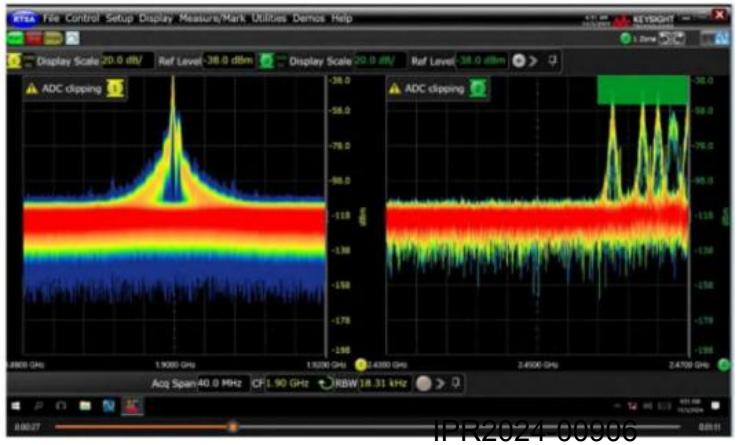
- Transfer information between Nokia PC Suite applications and your device. For example, to synchronize calendar appointments or transfer images.
- Use your device as a modem to connect to network services such as the internet.

You can connect your device and a compatible PC via a compatible USB or serial cable, Infrared, or Bluetooth wireless technology.

EX1010 (N93) at 83; 907-Pet. at 10, 12, 36, 45; 907-Reply at 18; 907-EX1002 (Creusere Decl.) at ¶ 133

N93 Product Test Results





EX1077 at 18-19; Paper 39 (Opp.) at 6-7

PO's Motion for Supplemental Information Should be Denied

Petitioner's N93 operation system arguments are consistent

N93 Product Could Update its Operating System

applications and not its operating system.") (emphasis in original). In contrast, the N93 Product itself discloses updating the operating system as required by limitation [1l]. Ex. 13, (Buehrer Op. Rpt.), ¶¶ 332-349. Indeed, this is a material distinction between Samsung's district court theory that the N93 Product anticipates the claims and Samsung's IPR theory that the N93 Product in combination with Herle renders the claims obvious. *See, e.g.*, Ex. H (POPR), 53 ("There is no evidence regarding whether the operating systems in N93 … could be updated at all. In this case, 'it is unclear why a POSITA would look to Herle to incorporate delta-based over-the-air updates for operating system for two devices that *do not support updates for operating systems*.'") (emphasis in original), 53-58 (same). The fact that the N93 Product shows its operating system can be updated is by itself a material difference between the two. Thus, the N93 Product is not

EX1078 at 8 (internal 5); Paper 39 (Opp.) at 7-9

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PO's Motion for Supplemental Information Should be Denied

Petitioner's Bluetooth arguments are consistent

Dua/N93 (2006) "Bluetooth"

1 Open the application where the item you want to send is stored. For example, to send an image to another compatible device, open **Gallery**.

2 Select the item and **Options** > **Send** > **Via Bluetooth**. Devices with Bluetooth technology within range start to appear on the display.
Device icons are: computer, phone, audio or video device, and other device.
To interrupt the search, select **Stop**.

3 Select the device with which you want to connect.

4 If the other device requires pairing before data can be transmitted, a tone sounds, and you are asked to enter a passcode. See 'Pair devices', p. 86.

5 When the connection has been established, **Sending data** is shown.

EX1010 (N93) at 85-86; 906-Pet. at 33-35; 907-Pet. at 33-35

S22 (2022) "Bluetooth"

UMF7: For the accused Bluetooth file share function, the assignment of a connection to the first radio communication circuit, *i.e.*, the assignment of either a Bluetooth or Wi-Fi radio for the transmission of video information, is not made either *when* or *in response* to an indication from the user indicat[ing] to transmit video information using the first communication circuit, but rather the controller waits to assign either Bluetooth or Wi-Fi to transmit the video information until it receives an "Accept" response code from the target phone, which response code determines which type of radio will be assigned. Ex. C [Buehrer Rpt.] at ¶¶ 67-90; Ex. E [McNair Tr.] at 68:23-69:17.

EX2038 at 6; Paper 39 (Opp.) at 9-10

Correspondence of Common Exhibits

’906	’907
EX1003-EX1023	EX1003-EX1023
EX1024-EX1050	EX1025-EX1051 (’907 Exhibits lag by one because of EX1024 - 590 infringement contentions)
EX1057-EX1075	EX1057-EX1075

’241 Patent – Claim 1

[1pre] A video processing apparatus, comprising:
[1a] a first radio communication circuit implementing a first transmission scheme having a first modulation scheme and a first transmission frequency band, the first radio communication circuit capable of transmitting video information by radio or receiving information by radio using the first transmission frequency band;
[1b] a second radio communication circuit implementing a second transmission scheme having a second modulation scheme different from the first modulation scheme and a second transmission frequency band different from the first transmission frequency band, the second radio communication circuit capable of connecting by radio to an internet or a home network to transmit and receive information using the second transmission frequency band;
[1c] a third radio communication circuit capable of transmitting information and using a third transmission frequency band;
[1d] an imaging circuit capable of receiving video information and still picture information via an optical system;
[1e] a compression circuit compressing the still picture information using a first type of compression method and the video information using a second type of compression method;

[1f] an accumulation circuit capable of accumulating video information received by the imaging circuit; and
[1g] a controller controlling assignment of connection of each of the first, second, and third radio communication circuits,
[1h] wherein the first radio communication circuit can transmit video information accumulated in the accumulation circuit to an external device by radio,
[1i] wherein when an indication from a user indicates to transmit video information using the first radio communication circuit, the controller assigns a connection to the first radio communication circuit for transmitting the video,
[1j] wherein the controller controls each of the first and second radio communication circuit so that the first radio communication circuit transmits video information while the second radio communication circuit connects to the internet or the home network, and
[1k] wherein one of the first, second, or third radio communication circuits receives a signal from the internet indicating that an update for an operating system of the video processing apparatus is available, and the video processing apparatus executes an update process such that an updated operating system of the video processing apparatus is stored in the video processing apparatus after execution of the update process.

906-Pet at viii-xiii

’241 Patent – Claims 4, 5, 6, 8, 9, 10, 11, 12, 13

[4pre] The video processing apparatus according to claim 1, further comprising a radio interface capable of receiving video information by radio,
[4a] wherein the accumulation circuit accumulates the video information received via the radio interface, and
[4b] the first radio communication circuit is further capable of transmitting the accumulated video information.
5 The video processing apparatus of claim 1, further comprising a fourth radio communication circuit capable of transmitting information and using a fourth transmission frequency band that is different from the first, second, and third transmission frequency bands, wherein the controller controls assignment of connection of each of the first, second, third, and fourth radio communication circuits.
6 The video processing apparatus of claim 1, wherein the third transmission frequency band is different from the first and second transmission frequency bands.
8 The video processing apparatus of claim 1, wherein transmitting of the information by the third radio communication circuit comprises connecting to the internet.
9 The video processing apparatus of claim 1, further comprising an input device capable of receiving a user's selection of content to be displayed on the video processing apparatus.

10 The video processing apparatus of claim 1, wherein one of the first, second, or third radio communication circuits receive a signal from the internet indicating that an update for an application of the video processing apparatus is available, and the video processing apparatus executes an application update process such that an updated application of the video processing apparatus is stored in the video processing apparatus after execution of the application update process.
11 The video processing apparatus of claim 1, further comprising: a display for displaying a screen requesting user input, wherein the displayed screen prompts the user for a user input that indicates whether the user allows a connection between the first radio communication circuit and the external device to be established, wherein in response to receiving the user input indicating allowance of the connection, the first radio communication circuit transmits the accumulated video information to the external device.
12 The video processing apparatus of claim 1, wherein the second modulation scheme comprises quadrature amplitude modulation (QAM).
13 The video processing apparatus of claim 1, wherein the second radio communication circuit is controllable to change from the second modulation scheme to a different modulation scheme.

906-Pet at viii-xiii

’241 Patent – Claims 14, 15, 16, 17

14 The video processing apparatus of claim 1, wherein the video processing apparatus comprises a cellular phone.
15 The video processing apparatus of claim 1, wherein the second and third radio communication circuits conduct demodulation through Orthogonal Frequency Division Multiplexing (OFDM).
16 The video processing apparatus of claim 1, wherein at least the first radio communication circuit and the third radio communication circuit are implemented as a combined circuit.
[17pre] A method for video processing, comprising:
[17a] receiving video information and still picture information via an optical system by an imaging circuit of a video processing apparatus;
[17b] compressing the still picture information using a first type of compression method and the video information using a second type of compression method;
[17c] accumulating video information received by the imaging circuit;
[17d] implementing a first transmission scheme having a first modulation scheme and a first transmission frequency band;
[17e] transmitting, using the first transmission frequency band, the video information to an external device by radio, via a first radio communication circuit;

[17f] implementing a second transmission scheme having a second modulation scheme different from the first modulation scheme and a second transmission frequency band different from the first transmission frequency band;
[17g] connecting, by radio, to an internet or a home network to transmit and receive information using the second transmission frequency band, via a second radio communication circuit;
[17h] transmitting, via a third radio communication circuit, information using a third transmission frequency band;
[17i] controlling, via a controller, assignment of connection of each of the first, second, and third radio communication circuits,
[17j] wherein when an indication from a user indicates to transmit video information using the first radio communication circuit, a connection is assigned to the first radio communication circuit for transmitting the video,
[17k] wherein the transmitting and connecting is controlled so that the first radio communication circuit transmits video information while the second radio communication circuit connects to the internet or the home network;
[17l] receiving, via one of the first, second, or third radio communication circuits a signal from the internet indicating that an update for an operating system is available; executing the update process; and storing an updated operating system after execution of the update process.

906-Pet at viii-xiii

’241 Patent – Claims 18, 19, 20, 21, 22, 23, 24

18 The method of claim 17, further comprising transmitting, via a fourth radio communication circuit, information using a fourth transmission frequency band that is different from the first, second, and third transmission frequency bands.
19 The method of claim 17, wherein transmitting of the information by the third radio communication circuit comprises connecting to the internet.
20 The method of claim 17, further comprising: receiving, via one of the first, second, or third radio communication circuits a signal from the internet indicating that an update for an application is available; executing the application update process; and storing an updated application after execution of the application update process.
21 The method of claim 17, further comprising: displaying a screen requesting user input, the displayed screen prompting the user for a user input that indicates whether the user allows a connection between the first radio communication circuit and the external device to be established; receiving a user input indicating allowance of the connection; transmitting, via the first radio communication circuit, the accumulated video information to the external device in response to receiving the user input indicating allowance.
22 The method of claim 17, wherein the second modulation scheme comprises quadrature amplitude modulation (QAM).
23 The method of claim 17, further comprising controlling the second radio communication circuit to change modulation scheme from the second modulation scheme to a different modulation scheme.
24 The method of claim 17, further comprising conducting demodulation through Orthogonal Frequency Division Multiplexing (OFDM) via the second and third radio communication circuits.

906-Pet at viii-xiii

’241 Patent – Claim 25

[25pre] A cellular phone, comprising:
[25a] a first radio communication circuit implementing a first transmission scheme having a first modulation scheme and first transmission frequency band, the first radio communication circuit capable of transmitting video information by radio or receiving information by radio using the first transmission frequency band;
[25b] a second radio communication circuit implementing a second transmission scheme having a second modulation scheme different from the first modulation scheme and a second transmission frequency band different from the first transmission frequency band, the second radio communication circuit capable of connecting by radio to an internet or a home network to transmit and receive information using the second transmission frequency band;
[25c] a third radio communication circuit capable of transmitting information using a third transmission frequency band;
[25d] a fourth radio communication circuit capable of transmitting information using a fourth transmission frequency band;
[25e] an imaging circuit capable of receiving video information and still picture information via an optical system;
[25f] a compression circuit compressing the still picture information using a first type of compression method and the video information using a second type of compression method;
[25g] a microphone receiving audio information corresponding to the video information received via the imaging circuit;

[25h] an accumulation circuit capable of accumulating video information received by the imaging circuit and audio information received by the microphone, wherein the first radio communication circuit can transmit video information accumulated in the accumulation circuit to an external device by radio;
[25i] a display displaying the video information received by the first radio communication circuit and displaying information received by the second radio communication circuit via the internet or home network;
[25j] a controller controlling assignment of connection of each of the first, second, third, and fourth radio communication circuits,
[25k] wherein when an indication from a user indicates to transmit video information using the first radio communication circuit, the controller assigns a connection to the first radio communication circuit for transmitting the video information,
[25l] wherein the controller controls each of the first and second radio communication circuit so that the first radio communication circuit transmits video information and the second radio communication circuit connects to the internet or the home network, and
[25m] wherein one of the first, second, or third radio communication circuits receives a signal from the internet indicating that an update for an operating system of the cellular phone is available, and the cellular phone executes an update process such that an updated operating system of the cellular phone is stored in the cellular phone after execution of the update process.

906-Pet at viii-xiii

’241 Patent – Claims 26, 27

26 The cellular phone of claim 25, wherein one of the first, second, or third radio communication circuits receive a signal from the internet indicating that an update for an application of the cellular phone is available, and the cellular phone executes an application update process such that an updated application of the cellular phone is stored in the cellular phone after execution of the application update process.
27 The cellular phone of claim 25, wherein the first modulation scheme comprises shift keying modulation and the second modulation scheme comprises quadrature amplitude modulation (QAM).

906-Pet at viii-xiii

’590 Patent – Claim 1

[1pre] A video processing apparatus, comprising:
[1a] a first radio communication circuit implementing a first transmission scheme having a first modulation scheme and a first transmission frequency band, the first radio communication circuit capable of transmitting video information by radio or receiving information by radio using the first transmission frequency band;
[1b] a second radio communication circuit implementing a second transmission scheme having a second modulation scheme different from the first modulation scheme and a second transmission frequency band different from the first transmission frequency band, the second radio communication circuit capable of connecting by radio to an internet or a home network to transmit and receive information using the second transmission frequency band;
[1c] a third radio communication circuit capable of transmitting information and using a third transmission frequency band;
[1d] an imaging circuit capable of receiving video information and still picture information via an optical system;
[1e] a compression circuit compressing the still picture information using a first type of compression method and the video information using a second type of compression method;
[1f] an input device capable of receiving a user indication;
[1g] an accumulation circuit capable of accumulating video information received by the imaging circuit after the video information is compressed by the compression circuit; and

[1h] a controller controlling assignment of connection of each of the first, second, and third radio communication circuits,
[1i] wherein the first radio communication circuit can transmit video information accumulated in the accumulation circuit to an external device by radio,
[1j] wherein the controller controls assignment of connection for each of the first and second radio communication circuit in response to receiving an indication from a user such that when an indication from the user indicates to transmit video information using the first radio communication circuit, the controller assigns a connection to the first radio communication circuit for transmitting the video information,
[1k] wherein the controller controls each of the first and second radio communication circuit so that the first radio communication circuit transmits video information and the second radio communication circuit connects to the internet or the home network simultaneously, and
[1l] wherein the second or third radio communication circuits receive a signal from the internet indicating that an update for an operating system of the video processing apparatus is available, and the video processing apparatus executes an update process such that an updated operating system of the video processing apparatus is stored in the video processing apparatus after execution of the update process.

907-Pet at vi-xii

’590 Patent – Claims 4, 5

[4pre] The video processing apparatus according to claim 1, further comprising a radio interface capable of receiving video information by radio
[4a] wherein the accumulation circuit accumulates the video information received via the radio interface, and
[4b] the first radio communication circuit is further capable of transmitting the accumulated video information
[5pre] A display apparatus, comprising:
[5a] a first radio communication circuit implementing a first transmission scheme having a first modulation scheme and a first transmission frequency band, the first radio communication circuit capable of receiving video information by radio or transmitting information by radio using the first transmission frequency band;
[5b] a second radio communication circuit implementing a second transmission scheme having a second modulation scheme different from the first modulation scheme and a second transmission frequency band different from the first transmission frequency band, the second radio communication circuit capable of connecting by radio to an internet or a home network to transmit and receive information using the second transmission frequency band;
[5c] a third radio communication circuit capable of transmitting information and using a third transmission frequency band;
[5d] a compression circuit capable of implementing a plurality of compression schemes including a first compression scheme, the compression circuit compressing the video information received by the first radio communication circuit using the first compression scheme;

[5e] a display capable of displaying the information received by the first radio communication circuit or the second radio communication circuit; and
[5f] a controller controlling assignment of connection of each of the first, second, and third radio communication circuits,
[5g] wherein the controller controls assignment of connection for each of the first and second radio communication circuits in response to receiving an indication from a user such that when an indication from the user indicates to use the first radio communication circuit, the controller assigns a connection to the first radio communication circuit for receiving the video information or transmitting the information by radio,
[5h] wherein the controller controls each of the first and second radio communication circuits so that the first radio communication circuit receives video information and the second radio communication circuit connects to the internet or the home network simultaneously, and
[5i] wherein the second or third radio communication circuits receive a signal from the internet indicating that an update for an operating system of the display apparatus is available, and the display apparatus executes an update process such that an updated operating system of the display apparatus is stored in the display apparatus after execution of the update process.

907-Pet at vi-xii

’590 Patent – Claims 8, 9

[8pre] The display apparatus according to claim 5, further comprising a radio interface capable of receiving video information by radio,
[8a] wherein the display device is further capable of displaying the video information received via the radio interface.
[9pre] A method for video processing, comprising:
[9a] receiving video information and still picture information via an optical system by an imaging circuit of a video processing apparatus;
[9b] compressing the still picture information using a first type of compression method and the video information using a second type of compression method;
[9c] accumulating video information received by the imaging circuit after the video information is compressed by the compression circuit;
[9d] implementing a first transmission scheme having a first modulation scheme and a first transmission frequency band;
[9e] transmitting using the first transmission frequency band, the video information to an external device by radio, via a first radio communication circuit;
[9f] implementing a second transmission scheme having a second modulation scheme different from the first modulation scheme and a second transmission frequency band different from the first transmission frequency band;

[9g] connecting, by radio, to an internet or a home network to transmit and receive information using the second transmission frequency band, via a second radio communication circuit;
[9h] transmitting, via a third radio communication circuit, information using a third transmission frequency band;
[9i] controlling, via a controller, assignment of connection of each of the first, second, and third radio communication circuits,
[9j] wherein assignment of connection for each of the first and second radio communication circuit is controlled in response to receiving an indication from a user such that when an indication from the user indicates to transmit video information using the first radio communication circuit, a connection is assigned to the first radio communication circuit for transmitting the video information,
[9k] wherein the transmitting and connecting is controlled so that the first radio communication circuit is configured to transmit video information and the second radio communication circuit is configured to connect to the internet or the home network simultaneously;
[9l] receiving, via the second or third radio communication circuits a signal from the internet indicating that an update for an operating system is available; executing the update process; and storing an updated operating system after execution of the update process.

907-Pet at vi-xii

’590 Patent – Claims 10, 11

[10pre] A method, comprising:
[10a] implementing a first transmission scheme having a first modulation scheme and a first transmission frequency band;
[10b] implementing a second transmission scheme having a second modulation scheme different from the first modulation scheme and a second transmission frequency band different from the first transmission frequency band;
[10c] receiving video information by radio using the first transmission frequency band, via a first radio communication circuit and connecting by radio to an internet or a home network to transmit and receive information using the second transmission frequency band, via a second radio communication circuit;
[10d] compressing the video information received by the first radio communication circuit using a first compression scheme;
[10e] transmitting, via a third radio communication circuit, information using a third transmission frequency band;
[10f] displaying, via a display circuit, information received by the first radio communication circuit or the second radio communication circuit;
[10g] controlling, via a controller, assignment of connection of each of the first, second, and third radio communication circuits,

[10h] wherein assignment of connection for each of the first and second radio communication circuit is controlled in response to receiving an indication from a user such that when an indication from the user indicates to use the first radio communication circuit, the controller assigns a connection to the first radio communication circuit for receiving the video information,
[10i] wherein the receiving and connecting is controlled so that the first radio communication circuit is configured to receive video information and the second radio communication circuit is configured to connect to the internet or the home network simultaneously;
[10j] receiving, via the second or third radio communication circuits, a signal from the internet indicating that an update for an operating system is available; executing the update process; and storing an updated operating system after execution of the update process.
[11] The video processing apparatus of claim 1, further comprising a fourth radio communication circuit capable of transmitting information and using a fourth transmission frequency band that is different from the first, second, and third transmission frequency bands, wherein the controller controls assignment of connection of each of the first, second, third, and fourth radio communication circuits.

907-Pet at vi-xii

’590 Patent – Claims 12, 14, 15, 16, 17, 18, 19, 20, 21, 22

[12] The video processing apparatus of claim 1, wherein the third transmission frequency band is different from the first and second transmission frequency bands.
[14] The video processing apparatus of claim 1, wherein transmitting of the information by the third radio communication circuit comprises connecting to the internet.
[15] The video processing apparatus of claim 1, wherein the input device is capable of receiving a user's selection of content to be displayed on the video processing apparatus.
[16] The video processing apparatus of claim 1, wherein the second or third radio communication circuits receive a signal from the internet indicating that an update for an application of the video processing apparatus is available, and the video processing apparatus executes an application update process such that an updated application of the video processing apparatus is stored in the video processing apparatus after execution of the application update process.
[17] The video processing apparatus of claim 1, further comprising: a display for displaying a screen requesting user input, wherein the displayed screen prompts the user for a user input that indicates whether the user allows a connection between the first radio communication circuit and the external device to be established, wherein in response to receiving the user input indicating allowance of the connection, the first radio communication circuit transmits the accumulated video information to the external device.

[18] The video processing apparatus of claim 1, wherein the second modulation scheme comprises quadrature amplitude modulation (QAM).
[19] The video processing apparatus of claim 1, wherein the second radio communication circuit is controllable to change from the second modulation scheme to a different modulation scheme.
[20] The video processing apparatus of claim 1, wherein the video processing apparatus comprises a cellular phone.
[21] The video processing apparatus of claim 1, wherein the second and third radio communication circuits conduct demodulation through Orthogonal Frequency Division Multiplexing (OFDM).
[22] The video processing apparatus of claim 1, wherein at least the first radio communication circuit and the third radio communication circuit are implemented as a combined circuit.

907-Pet at vi-xii

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

’590 Patent – Claim 23

[23pre] A cellular phone, comprising:
[23a] a first radio communication circuit implementing a first transmission scheme having a first modulation scheme and first transmission frequency band, the first radio communication circuit capable of transmitting video information by radio or receiving information by radio using the first transmission frequency band;
[23b] a second radio communication circuit implementing a second transmission scheme having a second modulation scheme different from the first modulation scheme and a second transmission frequency band different from the first transmission frequency band, the second radio communication circuit capable of connecting by radio to an internet or a home network to transmit and receive information using the second transmission frequency band;
[23c] a third radio communication circuit capable of transmitting information using a third transmission frequency band;
[23d] a fourth radio communication circuit capable of transmitting information using a fourth transmission frequency band;
[23e] an imaging circuit capable of receiving video information and still picture information via an optical system;
[23f] a compression circuit compressing the still picture information using a first type of compression method and the video information using a second type of compression method;
[23g] a microphone receiving audio information corresponding to the video information received via the imaging circuit;

[23h] an accumulation circuit capable of accumulating video information received by the imaging circuit and audio information received by the microphone, wherein the first radio communication circuit can transmit video information accumulated in the accumulation circuit to an external device by radio;
[23i] a display displaying the video information received by the first radio communication circuit and displaying information received by the second radio communication circuit via the internet or home network;
[23j] a controller controlling assignment of connection of each of the first, second, third, and fourth radio communication circuits,
[23k] wherein the controller controls assignment of connection for each of the first and second radio communication circuit in response to receiving an indication from a user such that when an indication from the user indicates to transmit video information using the first radio communication circuit, the controller assigns a connection to the first radio communication circuit for transmitting the video information,
[23l] wherein the controller controls each of the first and second radio communication circuit so that the first radio communication circuit transmits video information and the second radio communication circuit connects to the internet or the home network simultaneously, and
[23m] wherein the second or third radio communication circuits receive a signal from the internet indicating that an update for an operating system of the cellular phone is available, and the cellular phone executes an update process such that an updated operating system of the cellular phone is stored in the cellular phone after execution of the update process.

’590 Patent – Claims 24, 25

[24] The cellular phone of claim 23, wherein the second or third radio communication circuits receive a signal from the internet indicating that an update for an application of the cellular phone is available, and the cellular phone executes an application update process such that an updated application of the cellular phone is stored in the cellular phone after execution of the application update process.
[25] The cellular phone of claim 23, wherein the first modulation scheme comprises shift keying modulation and the second modulation scheme comprises quadrature amplitude modulation (QAM).

907-Pet at vi-xii