



Quality Insights

Patentcloud Quality Insights Annotation Report

Bell Northern Research, LLC v. Apple Inc.

WDTX-6-21-cv-00833

Focus on: U.S. Pat. No. 8,204,554

Filing date: Aug. 11, 2021

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Map claims to specification and file wrapper

Map claims to specification - '554

Which claim terms are or are not in the specification?

Select Text

Highlight text from within the claim with your cursor and click on the tooltip "Select Terms" to find references in the Specification.

34 Terms Identified in This Claim Click to Select Terms

Claim# 1

The following claim terms are not literally supported by the specification, which may have rooms for different interpretations.
 "existence", "generate", "indicative", "signal", "microprocessor", "determine", "independent", "action", "initiate", "determination", "exists", "receive"

A mobile station comprising:

a display;

a proximity sensor adapted to generate a signal indicative of the existence of a first condition,

the first condition being that an external object is proximate;

and a microprocessor adapted to:

(a) determine, via proximity sensor

the existence of a second condition independent and different from the first condition,

Claim Analysis finds these terms in the spec:
 "mobile station", "external object", "proximity sensor", as well as other terms that are highlighted in red.

Source: Quality Insights

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4

Map claims to specification - '554

Which claim terms are or are not in the specification?

Select Text	Claim# 1
Highlight text from within the claim with your cursor and click on the tooltip "Select Terms" to find references in the Specification.	The following claim terms are not literally supported by the specification, which may have rooms for different interpretations. "existence", "generate", "indicative", "signal", "microprocessor", "determine", "independent", "action", "initiate", "determination", "exists", "receive"
	A mobile station, comprising:
	a display;
	a proximity sensor adapted to generate a signal indicative of the existence of a first condition,
	the first condition being that an external object is proximate;
	and a microprocessor adapted to:
	(a) determine, via

Review the selected claim element and see how it is defined in the patent specification and related figures.

Selected elements of '554 Claim 1

Selected elements of Claim '1 in Spec

Figures of '554

Select Text	Content	R	300
<p>proximity sensor</p> <p>The selected clause includes the following keywords:</p> <ul style="list-style-type: none"> sensor (23) proximity (19) 	<p>[0011] As an alternative or in addition, the triggering event for current saving purposes may also be selectable by the user, for example via a menu list. According to further preferred refinements, the proximity sensor is proposed to be a heat flow or temperature sensor, an optical or infrared sensor, or a load sensor. However, as a further advantage, basically any kind of proximity sensor which is capable of observing a close range or small distance may be used.</p> <p>[0024] Correspondingly, for an outgoing call, the proximity sensor 140 is activated by pressing a key on the keypad 160 to establish the outgoing call to a third party. As long as the outgoing call remains in effect and the proximity sensor 140 detects proximity to an external object, e.g., the ear of the user, the display 150 remains in a state of</p>		

Map claims to specification and Complaint - '554

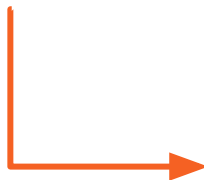
Does the allegedly infringing product element fall within or outside the patent's scope?

The screenshot shows a software interface for patent analysis. On the left, a 'Select Text' window displays search results for the keywords 'proximity' (23) and 'sensor' (19). The main 'Content' window shows two paragraphs of patent text with highlighted terms. Paragraph [0011] discusses triggering events for current saving purposes, mentioning 'proximity sensor' and 'sensor'. Paragraph [0024] describes an outgoing call process, mentioning 'proximity sensor' and 'sensor'. On the right, a flowchart (300) shows a decision diamond 'Is telephone call active? 302'. If 'no', it proceeds to a decision 'Is external object proximate?'. If 'yes', it proceeds to a process box 'Activate proximity sensor 303', which then leads to the 'Is external object proximate?' decision.

With the claim scope interpretation from **Claim Analysis**, verify your findings against the complaint.

Answer the question:

Does the alleged invention element fall within or outside the patent's scope?



109. The '554 Infringing Products also include a microprocessor that is adapted to determine, without using the proximity sensor, the existence of a second condition independent and different from the first condition, the second condition being that a user of the mobile station has performed an action to initiate an outgoing call or to answer an incoming call. For instance, the Apple iPhone X has a microprocessor that is adapted to determine whether a user has performed an action to initiate or receive a call. See, e.g., <https://macreports.com/iphone-proximity-sensor->

Map claims to the file wrapper - '554

Which claim terms are in the file wrapper(i.e. examiner's opinion) ?

Disclosure Rate by Prior Art

Claims	Disclosure by Single Reference		Disclosure by Multiple References	
	Prosecution History	Post-Grant	Prosecution History	Post-Grant
#1	100%	100%	100%	100%
#8	62%	43%	62%	43%
#14	87%	87%	87%	87%

[Confirm](#)

Claim# 1

A mobile station, comprising: a display; a proximity sensor adapted to generate a signal indicative of the existence of a first condition, the first condition being that an external object is proximate; and a microprocessor adapted to: (a) determine, without using the proximity sensor, the existence of a second condition independent and different from the first condition, the second condition being that a user of the mobile station has performed an action to initiate an outgoing call or to answer an incoming call; (b) in response to a determination in step (a) that the second condition exists, activate the proximity sensor; (c) receive the signal from the activated proximity sensor; and (d)

From **Claim Insights**, review how the asserted claims were disclosed by the prior art found by the examiner during prosecution and post-grant proceedings.

A higher percentage means more claim elements were disclosed by the prior art.

Claim Insights Summary Table > Claim Table (Claim# 1) | Select A Claim 1 2 3 4 5 6 7 8 9 10 [Next 10](#) switch between claims

How is each claim element disclosed by cited prior art? Click numbers to find detailed comparison.

The percentage "%" indicates how many keywords in an element being disclosed by a specific references. [Click](#) to find comprehensive explanation of calculation.

[All](#) [Prosecution History](#) [Post-Grant](#) Responded prior arts only

Claims	Prior Art Ref. (6)					
	US2004/0225904	US7113811	US7319889	JP2002111801	US5712911	OTHER REFERENCE
#1.01 (N/A)	N/A	N/A	N/A	N/A	N/A	N/A
#1.02 (N/A)	N/A	N/A	N/A	N/A	N/A	N/A
#1.03 A (100%)	66%	66%	66%	100%	0%	100%
#1.04 A (100%)	100%	0%	0%	100%	0%	100%

Disclosure Rate by Prior Art

Map claims terms to the file wrapper - '554

Why was this patent granted? Which claims were amended and how did the scope change?

Claims	Prior Art Ref. (s)					
	US2004/022904	US7113811	US7219889	JP200111801	US7122911	OTHER REFERENCE
#1.01 (N/A)	N/A	N/A	N/A	N/A	N/A	N/A
#1.02 (N/A)	N/A	N/A	N/A	N/A	N/A	N/A
#1.03 (100%)	66%	66%	66%	100%	0%	100%
#1.04 (100%)	100%	0%	0%	100%	0%	100%
#1.05 (N/A)	N/A	N/A	N/A	N/A	N/A	N/A
#1.06 (100%)	100%	100%	100%	100%	100%	100%
#1.07 (100%)	0%	0%	0%	100%	0%	100%

All of the limitations of this asserted claim element in '554 were 66% known by (US7319889).

Answer the questions:
Why was this patent granted?

Claim Insights Summary Table > Claim Table (Claim# 1) > Claim Element Page (Claim# 1.03) > US7319889 | Select A Claim 1 2 3 4 5 6 7 8 9 10 | Next 10

Side-by-side comparison; Claim terms not found may imply the reasons for patentability.

1.01 1.02 1.03 1.04 1.05 1.06 1.07 1.08 Find 2 Result(s) Filter Clear All

Rejection from Examiner

Prior Art Ref. [US7319889] 20100902-CTER Prosecution History 35 U.S.C. double patenting

4.

claims 1-14 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-13 of u.s. patent no.7,319,889 b2.

although the conflicting claims are not identical, they are not patentably distinct from each other because they both basically claim the same subject matter which includes:

1) a mobile station, 2) a display, 3) a power reducer configured to control power consumption of said display, 4) a **proximity sensor** adapted to generate a **signal indicative** of proximity of an external object, 5) a microprocessor adapted to: (a) determine whether a telephone call is active; (b) receive the signal from the **proximity sensor** and (c) reduce power to the display if (i) the microprocessor determines that a telephone call is active and (ii) the signal indicates the proximity of the external object. a later patent claim is not patentably distinct from an earlier patent claim if the later

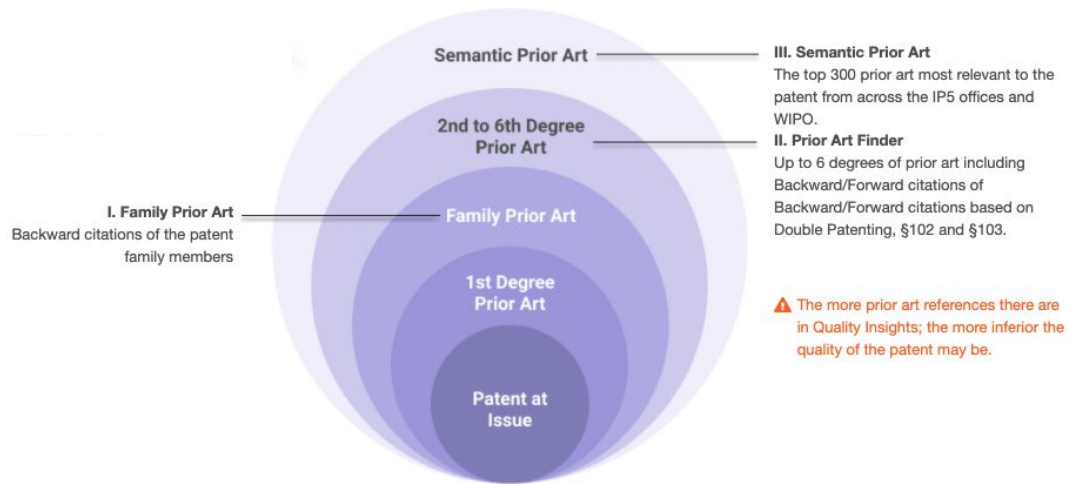
Remark from Applicant

Remarks 20101101-REM

in paragraph 3 of the office action, the examiner rejected claims 1-13 on the ground of nonstatutory obviousness - type double patenting as unpatentable over claims 1-20 of u.s. patent no.7,113,811. in paragraph 4 of the office action, the examiner rejected claims 1-13 on the ground of nonstatutory obviousness - type double patenting as unpatentable over claims 1-13 of u.s. patent no.7,319,889. in response, the applicant submits herewith a terminal disclaimer, which the applicant believes should overcome these double-patenting rejections.

[Show Less](#)

How does Quality Insights generate prior art?



Prior Art Finder

Prior Art Finder for '554

Review cited and citing patents of '554 from the first to the sixth degree

Filter by:

- Applicability
- Legal Basis (§102 or §103)
- Patent Office
- Legal Status

1st Degree Art
9

2nd Degree Art
26

N Degree Art
89

N Degree Art
Extend forward/backward citations from the Second Degree Art

[Discover prior art's similarity with claim chart format in seconds !](#)

KEEP Mode

Ranked By : Legal Basis (§102 first) |

🔍 📄 📄 📄 📄 📄 📄 📄 📄 📄

US8204554B2

1st Degree (9)

2nd Degree (20)

3rd Degree (20)

4th Degree (20)

5th Degree (20)

6th Degree

6th Degree List

	#	Patent No.	Title	Legal Status	Appl. Date	Pub./Issue Date	Assignee (Std)	Applicability
<input type="checkbox"/>	1	US7016705B2	Reducing power consumption in a network...	Lapsed	2002-04-17	2006-03-21	MICROSOFT CORP	(Pre-AIA) § 102(e)(1)
<input type="checkbox"/>	2	US6856807B1	Method to control the update frequency of ...	Active	2000-09-07	2005-02-15	TELEFONAKTIEBOLAGET L...	(Pre-AIA) § 102(e)(1)
<input type="checkbox"/>	3	US7068256B1	Entering and exiting power modes and acti...	Active	2001-11-20	2006-06-27	PALM INC	(Pre-AIA) § 102(e)(1)
<input type="checkbox"/>	4	US20020197954A1	System and method for providing an adapt...	PGPub - Granted	2001-12-31	2002-12-26	SCHMITT EDWARD D	(Pre-AIA) § 102(a) (Pre-AIA) § 102(e)(1)
<input checked="" type="checkbox"/>	5	US20010005454A1	Portable information terminal equipped wit...	PGPub - Granted	2000-12-11	2001-06-28	NEC CORP	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(1)

Up to 6th Degree
Prior Art List

Family Prior Art

Family Prior Art of '554

Review prior art cited by and cited against the family counterparts when available

Simple Family

6

Backward Citation: Patent

43

Backward Citation: Non-Patent Literature

26

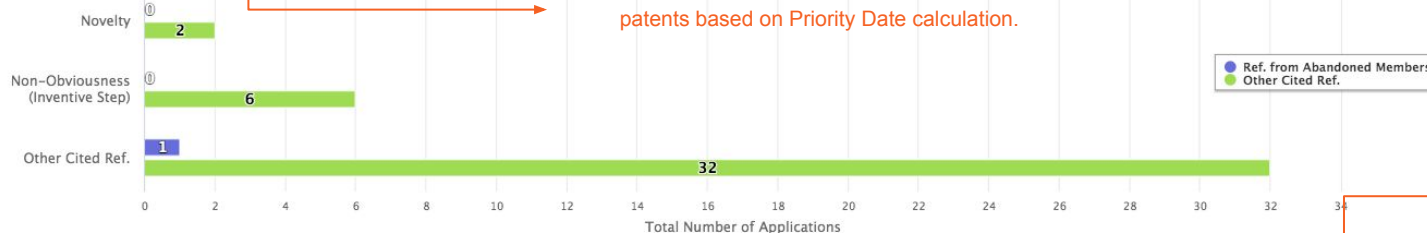
Backward Citation: Patent

[Click on Cited Patents for Potential Prior Art](#)

Categorized to indicate relevance; You can start from applicable references cited as novelty prior art

All References (43) **Applicable Only (39)**

Choose Applicable Only to find Applicable patents based on Priority Date calculation.



[Prior Art List](#)

KEEP Mode

Ranked By : Appl. Date |

<input type="checkbox"/>	<input type="checkbox"/>	#	Patent No.	Title	Legal Status	Appl. Date	Pub./Issue Date	Assignee (Std)	Applicability
<input type="checkbox"/>	1	US4712911A		Exposure mask for micro camera	Expired	1986-07-03	1987-12-15	FUJIFILM CORP	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(2)
<input type="checkbox"/>	2	US5224151A		Automatic handset-speakephone switching...	Lapsed	1992-04-01	1993-06-29	BELL TELEPHONE LABORA...	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(2)
<input type="checkbox"/>	3	US5586182A		Portable telephone set	Expired	1995-05-01	1996-12-17	NEC CORP	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(2)

Semantic Prior Art

Semantic Prior Art of '554

Review potential prior art ranked by concept similarity

Across IP5 and WIPO thanks to Patentcloud's proprietary algorithm

Semantic Prior Art

Most Relevant IP5 & WO 300 prior art references based on **Semantic Similarity** among the first claims and abstracts Change Scope → Select claim text or enter the desired text/keywords

Discover prior art's similarity with claim chart format in seconds !

KEEP Mode 0 are of high semantic similarity Ranked By : Relevance

<input type="checkbox"/>	<input type="checkbox"/>	Ranking	Patent No.	<input type="checkbox"/>	★ Title	Legal Status ?	Appl. Date	Pub./Issue Date	Assignee (Std)	Applicability
<input type="checkbox"/>		1	US5884156A	<input checked="" type="checkbox"/>	Portable communication device	Abandoned	1996-02-20	1999-03-16	GEOTEK COMMUNICATION...	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(2)
<input type="checkbox"/>		2	US5712911A	<input checked="" type="checkbox"/>	Method and system for automatically activ...	Expired	1995-09-13	1998-01-27	SAMSUNG ELECTRONICS C...	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(2)
<input type="checkbox"/>		3	US20030064761A1	<input checked="" type="checkbox"/>	System and method for reducing SAR values	PGPub - Granted	2001-09-28	2003-04-03	SIEMENS INFORMATION & ...	(Pre-AIA) § 102(a) (Pre-AIA) § 102(e)(1)
<input type="checkbox"/>		4	EP1298809A2	<input checked="" type="checkbox"/>	System and method for reducing SAR values	PGPub - Granted	2002-09-23	2003-04-02	SIEMENS INFORMATION & ...	(Pre-AIA) § 102(a)
<input type="checkbox"/>		5	US5943628A	<input checked="" type="checkbox"/>	Radiotelephone proximity detector	Expired	1997-10-22	1999-08-24	NOKIA CORP	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(2)
<input type="checkbox"/>		6	US7076675B2	<input checked="" type="checkbox"/>	Display power management of a portable c...	Active	2003-05-06	2006-07-11	MOTOROLA INC	(Pre-AIA) § 102(e)(2)
<input type="checkbox"/>		7	EP0838907A3	<input checked="" type="checkbox"/>	Radiotelephone proximity detector	Abandoned	1997-10-23	2000-02-23	NOKIA CORP	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b)

Semantic Prior Art of '554

Review potential prior art ranked by concept similarity

US8204554B2 [↗](#)

System and method for conserving battery power in a mobile station

[About Semantic Prior Art](#)

Overview
History
Claim Analysis
Claim Insights
Family Prior Art
Prior Art Finder
Semantic Prior Art
File Wrapper Search

Semantic Prior Art

Most Relevant IP5 & WO 300 prior art references based on [Semantic Similarity](#) within the scope below. [↻ Reset to Default](#)

+ Add text from claims
Submit

[🔍 Discover prior art's similarity with claim chart format in s](#)

Add text from claims ✕

Select A Claim 1 2 3 4 5 6 7 8 9 10 Next 10

A mobile station, comprising: a display; a proximity sensor adapted to generate a signal indicative of the existence of a first condition, the first condition being that an external object is proximate; and a microprocessor adapted to: (a) determine, without using the proximity sensor, the existence of a second condition independent and different from the first condition, the second condition being that a user of the mobile station has performed an action to initiate an outgoing call or to answer an incoming call; (b) in response to a determination in step (a) that the second condition exists, activate the

Add

adding text from claims to find more related Prior Art

Comparison tools

Prior Art Comparison (claim chart format)

What does this prior art say about the critical elements?

→ Disclosure Rate of Prior Art

1.01
1.02
1.03
1.04
1.05
1.06
1.07
1.08

Find **10** Result(s) | Disclosure Rate **100%**

Claim Element

#1.06 (a) determine, without using the proximity sensor.

Keyword List

- 👁
determine (10) FW PA
 - determining
 - determines
 - determined
- 👁
proximity sensor (4) FW PA

US7076675B2 Content

Claims

Claim# 19 The method of claim 17, wherein the step of detecting a talk condition is also includes a) detecting if a predetermined volume of acoustic sound is being received at a microphone indicative of a user talking on the portable communication device ; b) measuring at least one among a spectrum density and a spectrum energy of a bounced signal to determine the proximity of a user 's head to an earpiece of the portable communication device ; c) detecting an angle at which the portable communication device is positioned ; d) detecting a vibration of the portable communication device ; or e) detecting if the portable communication device is in a user 's hand .

Claim# 5 The portable communication device of claim 1 , further comprising a proximity sensor for detecting if a predetermined volume of acoustic sound is being received at a microphone indicative of a user talking on the portable communication device .

Claim# 6 The portable communication device of claim 1 , further comprising a second sensor that comprises an acoustic feedback algorithm that measures at least one among a spectrum density and a spectrum energy of a bounced signal to determine the proximity of a user 's head to an earpiece of the portable communication device .

Claim# 7 The portable communication device of claim 5 , wherein the proximity sensor further comprises a microphone placed adjacent to the earpiece .

Specification

[0009] The step of detecting a talk condition can be selected from the group of conditions consisting of a) detecting if a predetermined volume of acoustic sound is being received at a microphone indicative of a user talking on the portable communication device ; b) measuring at least one among a spectrum density and a spectrum energy of a bounced signal to determine the proximity of a user 's head to an earpiece of the portable communication device ; c) measuring a predetermined period after a phone call starts ; d) detecting an angle at which the portable communication device is positioned ; e) detecting a vibration of the portable communication device ; and f) detecting if the portable communication device is in a user 's hand .

Answer the question:

What does this prior art say about the Claim elements: "proximity sensor" ?

Discover prior art similarity with keywords (includes keyword stemming) mapped to the selected prior art reference Abstract, Claims, and Specification.

Source: Quality Insights

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Prior Art Comparison (sample output)

Easily generate a table like below

Claim		Claim-Term Interpretation	Semantic Prior Art - '675	3rd Degree Citation Prior Art - B
1	A mobile station, comprising: a display;	Refer to Claim Analysis results	N/A	.....
	a proximity sensor adapted to generate a signal indicative of the existence of a first condition,		33%	.....
	the first condition being that an external object is proximate; and a microprocessor adapted to:	.....	0%	.....
	(a) determine, without using the proximity sensor,	.....	100%	.....
	the existence of a second condition independent and different from the first condition, the second condition being that a user of the mobile station has performed an action to initiate an outgoing call or to answer an incoming call;	.....	0%	
	(b) in response to a determination in step (a) that the second condition exists, activate the proximity sensor;	.....	33%	.....
	(c) receive the signal from the activated proximity sensor;	.....	100%	
	and (d) reduce power to the display if the signal from the activated proximity sensor indicates that the first condition exists.	.....	80%	

System-identified keywords and key phrases
(highlighting of other keywords is available)

Results from claim to specification
and file wrapper mapping

Results from prior art comparison by
claim element

Prior Art downloads

Prior Art downloads

Select all

Export

US6928306B2 Active / Accessible Until 2020-0

Portable mobile unit

Overview Claim Analysis Claim Ins

#	Patent No.	Title
<input checked="" type="checkbox"/>	1 CN1247662A	Dual use spea
<input checked="" type="checkbox"/>	2 EP0998105B1	Mobile teleph
<input checked="" type="checkbox"/>	3 JPH09-036932A	EXTERNAL R
<input checked="" type="checkbox"/>	4 JPH11-055358A	MOBILE RAD
<input checked="" type="checkbox"/>	5 US5317622	Ringling circuit for use in a telephone set f... Abandoned 1994-05-31 1993-02-23 NEC CORP

Export

Export Type: Patent List (Excel) Patent List (CSV) Full Text (PDF) Front Page (PDF)

Export Items: Selected Patents

Export Fields: Customized All Fields Save as my default settings.

Patent Field:

<input checked="" type="checkbox"/> Patent Office	<input checked="" type="checkbox"/> Appl. No.	<input type="checkbox"/> Appl. No. (PTO)	<input checked="" type="checkbox"/> Appl. Date
<input type="checkbox"/> Earliest Appl.	<input checked="" type="checkbox"/> Title	<input type="checkbox"/> Title (English)	<input type="checkbox"/> Patent No.
<input type="checkbox"/> Patent No. (PTO)	<input type="checkbox"/> Pub./Issue Date	<input type="checkbox"/> Pub. No.	<input type="checkbox"/> Pub. Date

File Name: Patentlist-Patentcloud

Cancel Export



Download patent data in Excel or PDF format for Family Prior Art, Second Degree Prior Art, and/or Semantic Prior Art.

Prosecution and PTAB History

Key Events

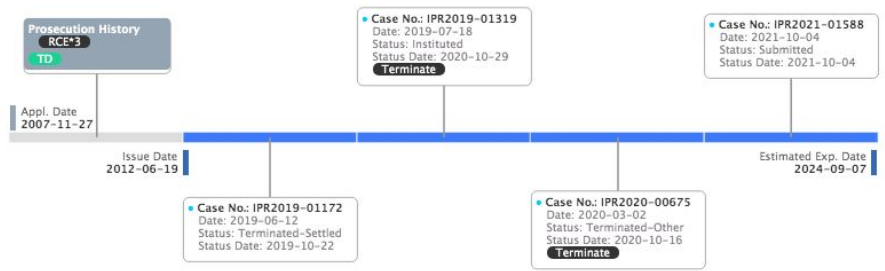
Key Events - '554

1 Prosecution & 4 Post-Grant

Event History 5	Family Status 6 Applications	Prior Art Status 412 Applications / 31 NPL References
----------------------------------	---	---

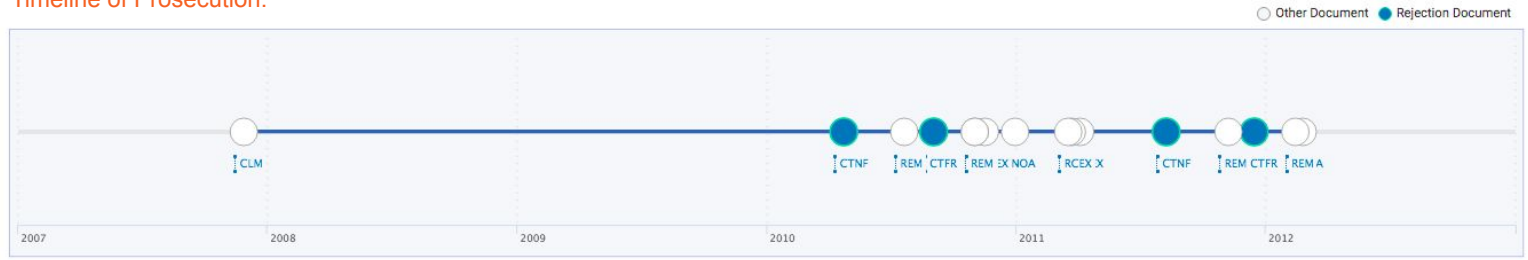
Event History | 1 Prosecution History / 4 Post-Grant
 # of Family Counterparts and Legal Status # of Highly Relevant Prior Art References

Validity challenges to a patent in its prosecution history and post-grant events



Legend	
Document Code	Document Description
CTFR	Final rejection
CTNF	Non-final rejection
CLM	Claims
REM	Remarks
RCEX	Request for Continued Examination

Timeline of Prosecution:



Key Events - '554

Prosecution History

11/945505 Prior Art Ref. | 6 Ref.

Check prior art cited and the legal basis of these challenges

Double Patenting | 2 Ref.

[US7319889](#) [US7113811](#)

§ 102 | 2 Ref.

[2002-111801](#) [US20040225904](#)
Motoki Katsumasa Perez

§ 103 | 5 Ref.

[2002-111801](#) [2002-111801](#) [US20040225904](#) [\(1st\)](#)
Katsumasa Motoki Katsumasa Perez
[other reference](#) [US5712911](#)
IDS Her

Summary of 11/945505 History | 16 Event(s)

Clickable events for original OAs and their OCR version when available.

Data Last Updated on: 2021-10-06

Descriptions (Code)	Date	Prior Art Ref.
Notice of Allowance (NOA)	2012-02-23	
Applicant Arguments/Remarks Made in an Amendment (REM)	2012-02-13	
Final Rejection (CTFR)	2011-12-14	Grounds 3 ^
Legal Basis	Claims	Prior Art Ref.
35 U.S.C. § 103	claim 1,2,4,5,6,7,8,9,11,12,13,14	Motoki Katsumasa 2002-111801 (1st) IDS (other reference)
35 U.S.C. § 103	claim 3,10	Katsumasa 2002-111801 (1st) Her US5712911

Direct links to Grounds,
Claims Highlighted and Prior Art Details

Key Events - '554

Post-Grant

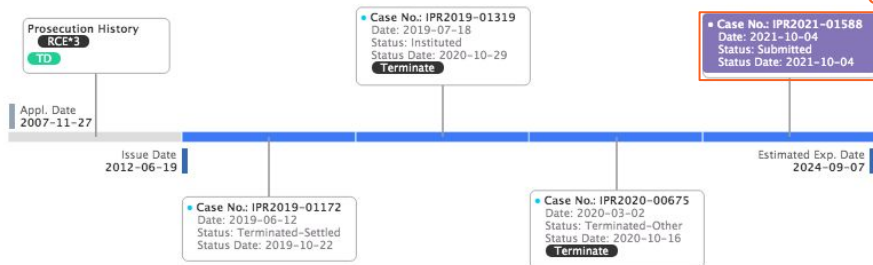
Event History 5	Family Status 6 Applications	Prior Art Status 412 Applications / 31 NPL References
----------------------------------	---	---

of Family Counterparts and Legal Status

of Highly Relevant Prior Art References

Event History | 1 Prosecution History / 4 Post-Grant

Validity challenges to a patent in its prosecution history and post-grant events



Click to view each event in summary and details of IPR

Timeline of IPR:

Other Document Rejection Document



Key Events - '554

Prosecution History

IPR2021-01588 Prior Art Ref. | 0 Ref.

Check prior art cited and the legal basis of these challenges

Double Patenting | 0 Ref.

§ 102 | 0 Ref.

§ 103 | 0 Ref.

Summary of IPR2021-01588 History | 1 Event(s)

Data Last Updated on: 2021-10-06

Descriptions (Code)	Date	Prior Art Ref.
Petition	2021-10-04	

Clickable events for original OAs and their OCR version when available.

Prosecution and PTAB History Search

Patent File Wrapper Search

Directly discover details in the prosecution history and post-grant proceeding across all documents via a keyword search.

Cross-Document Search

Enter keyword to find documents including specific legal basis or specific claim terms

▼

[① About File Wrapper Search](#)

Rejections, Remarks, and Notice of Allowance in Prosecution History | 13 Records [↓](#)

<input type="checkbox"/> Descriptions (Code) ?	Party	Date ?
<input type="checkbox"/> Notice of Allowance (NOA)	USPTO	2015-09-24
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2015-06-19
<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2015-03-19
<input type="checkbox"/> Request for Continued Examination (RCEX)	Applicant	2015-03-03
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2015-03-03
<input type="checkbox"/> Final Rejection (CTFR)	USPTO	2014-11-03
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-10-15
<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2014-07-15
<input type="checkbox"/> Request for Continued Examination (RCEX)	Applicant	2014-06-26
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-06-26
<input type="checkbox"/> Final Rejection (CTFR)	USPTO	2014-02-26
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<input type="checkbox"/> Notice of Allowance (NOA)	USPTO	2015-09-24
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<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2015-03-19
<input type="checkbox"/> Request for Continued Examination (RCEX)	Applicant	2015-03-03
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<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-10-15
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Keywords (2)

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13/284,674 6 / 18 - 90% + [Icons]

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Art Unit: 2867

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the touch panel taught by Grant by adding drive or sense electrodes made of flexible conductive material as taught by Hotelling since the sensor traces provide level shifting from a low voltage level to a higher voltage level, thus providing a better signal-to-noise ratio for improved noise reduction purposes while the drive traces provide shielding for the sense traces.

Neither Grant nor Hotelling specifically teach wherein the flexible conductive material of the drive or sense electrodes comprises first and second conductive lines that electrically contact one another at an intersection.

However, Gray does teach wherein the flexible conductive material of the drive or sense electrodes comprises first and second conductive lines that electrically contact one another at an intersection (Fig. 2; [0963]: **A number of conductors forming rows and columns of a conductive pattern (e.g., indium tin oxide (ITO)) may be deposited on a substrate composed of polyester or other material on one or more layers of the touchscreen... the row and column oriented conductors may be disposed on the same layer...**; See also Miller US 5,089,672; Col. 2, lines 11-16; Col. 5, lines 1-20; Col. 5, lines 61-68).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Grant and Hotelling by including the conductive lines (rows and columns) taught by Gray for the purpose of "providing paths for signals traveling through the touchscreen" (See Gray; Abstract).

103(a) as being unpatentable over Grant et al. US 2008/0303792 A1 (previously cited and ... PAGE 5 ...

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hereinafter Grant) in View of Hotelling et al. US 2008/0158183 A1 (previously cited and hereinafter Hotelling), in further View of Gray et al. US 2010/00451614 (previously cited and hereinafter Gray) and in further View of Frey et al. US 2009/0219257 (Newly cited and hereinafter Frey).

Regarding claim 1, Grant does teach an apparatus (Abstract) comprising:
a substantially flexible substrate (Abstract: flexible touch sensitive surface); and
a touch [0004] ([0005], [0005], [0006], [0022], [0023], [0027], and [0071], e.g., flexible surface, flexible circuit, and capacitive touch [0004] which must be conductive to receive user input) disposed on the substantially flexible substrate (see at least Figs. 1A-1C; [0009-0011]), configured to bend with the substantially flexible substrate (Figs. 1A-1C, 3 and the corresponding descriptions; [0003]).

Grant does not specifically teach the touch [0004] comprising drive or sense electrodes made of flexible conductive material.

However, Hotelling does teach a touch [0004] (Fig. 2a, 5 and the corresponding descriptions, and the Summary of the Invention, i.e., a touch [0004] comprises of row and column traces made of copper) comprising drive or sense electrodes (see at least Figs. 1 and 2a; [0008, 0030-0033]; claim 9; sense traces formed on a first side of a dielectric substrate; and drive traces formed on a second side of the substrate) made of flexible conductive material ([0008]; traces made of copper or other highly conductive metals running along the edge of the substrate).

... PAGE 6 ...

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the touch panel taught by Grant by adding drive or sense electrodes made of flexible conductive material as taught by Hotelling since the [0004] traces provide level shifting from a low voltage level to a higher voltage level, thus providing a better signal-to-noise ratio for improved noise reduction purposes while the drive traces provide shielding for the sense traces.

Neither Grant nor Hotelling specifically teach wherein the flexible conductive material of the drive or sense electrodes comprises first and second conductive lines that electrically contact one another at an intersection.

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