



Quality Insights

Patentcloud Quality Insights Annotation Report

Bell Northern Research, LLC v. Lenovo Group Ltd. et al

WDTX-6-21-cv-00847

Focus on: U.S. Pat. No. 7,039,435

Filing date: Aug. 13, 2021

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Claim Construction and § 112 Invalidity

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Map claims to specification and file wrapper

Map claims to specification - '435

Which claim terms are or are not in the specification?

Claim Analysis

Find relevant specification content as intrinsic evidence for claim term interpretation

24 Terms Identified in This Claim

[Click to Select Terms](#)

Claims ▾

#1

Claim# 1

A **portable cell phone**, comprising:


a **power circuit** that provides a **network adjusted transmit power level** as a function of a position to a communications tower;

and a **proximity regulation** system, including:

a **location sensing subsystem** that determines a location of said portable cell phone proximate a user;

and a **power governing subsystem** coupled to said location sensing subsystem, that determines a **proximity transmit power level** of said portable cell phone based on said location and determines a transmit power level for said portable cell phone based on said network adjusted transmit power level and said proximity transmit power level.

Select Terms

 **Claim Analysis finds these terms in the spec:**
"network adjusted transmit power level", "location sensing subsystem",
"power governing subsystem", "proximity transmit power level",
 as well as other terms that are highlighted in red.

Map claims to specification - '435

Which claim terms are or are not in the specification?

Claims ▾

#1

Claim# 1

A portable cell phone, comprising:

a power circuit that provides a network adjusted transmit power level as a function of a position to a communications tower;

and a proximity regulation system, including:

a location sensing subsystem that determines a location of said portable cell phone proximate a user;

and a power governing subsystem, coupled to said location sensing subsystem, that determines a proximity transmit power level of said portable cell phone based on said location and determines a transmit power level for said portable cell phone based on said network adjusted transmit power level and said proximity transmit power level.

Select Terms

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

Selected elements of '435 Claim 1

Selected elements of Claim '435 in Spec

Figures of '435

Select Text

proximity transmit power level

The selected clause includes the following keywords:

- level (27)
- proximity (28)
- power (35)
- transmit (27)

Content

[0043] In the illustrated embodiment, if it is determined that the portable cell phone is proximate the user, then the transmit power level is reduced as determined by a value of a proximity transmit power level, in a step 340. In one embodiment, the transmit power level may be reduced to one network adjusted transmit power level whenever the portable cell phone is within the vicinity of any part of the user's body. In another embodiment, the transmit power level may be reduced to various allowable proximity transmit power levels depending on the vicinity of the portable cell phone to different parts of the user's body.

[0031] The power governing subsystem 230 is coupled to the location sensing subsystem 220. The power governing subsystem 230 determines the proximity of the portable cell phone 200

```

graph TD
    START([START 305]) --> DETERMINE[DETERMINE LOCATION 310]
    DETERMINE --> PROVIDE[PROVIDE CONTROL SIGNAL 320]
    PROVIDE --> DECIDE{DOES THE CONTROL SIGNAL INDICATE CELL PHONE PROXIMATE THE USER?}
    DECIDE -- YES --> REDUCE[REDUCE MAX TRANSMIT POWER 340]
    DECIDE -- NO --> 330
    
```

Map claims to specification and Complaint - '435

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

Select Text

proximity, transmit, power, level

The selected clause includes the following keywords:

- level (27)
- proximity (28)
- power (35)
- transmit (27)

Content

[0043] In the illustrated embodiment, if it is determined that the portable cell phone is proximate the user, then the transmit power level is reduced as determined by a value of a proximity transmit power level, in a step 340. In one embodiment, the transmit power level may be reduced to one network adjusted transmit power level whenever the portable cell phone is within the vicinity of any part of the user's body. In another embodiment, the transmit power level may be reduced to various allowable proximity transmit power levels depending on the vicinity of the portable cell phone to different parts of the user's body.

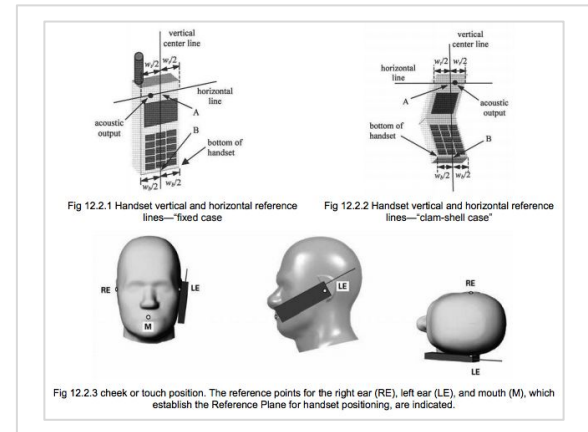
[0031] The power governing subsystem 230 is coupled to

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?

network adjusted transmit power level and said proximity transmit power level. **The SAR test results confirm that the '435 Accused Instrumentalities have a location sensing subsystem and a power governing subsystem, the latter of which determines a transmit power level based on a proximity transmit power level determined by the location of the mobile phone proximate to a user and the network adjusted transmit power level.** For instance, the SAR test results to the Moto Z3 include the following table, which indicates that power is adjusted based on proximity.



Map claims to the file wrapper - '435

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
<input checked="" type="checkbox"/> #1	62%	62%	62%	62%
<input checked="" type="checkbox"/> #2	50%	100%	50%	100%
<input type="checkbox"/> #3	50%	100%	50%	100%
<input type="checkbox"/> #4	50%	50%	50%	50%

Confirm

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 **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. (4)			
	US6498924	US6456856	US6195562	US6408187
#1.01 (N/A)	N/A	N/A	N/A	N/A
#1.02 (75%)	75%	75%	0%	0%
#1.03 (0%)	0%	0%	0%	0%
#1.04 (100%)	100%	100%	40%	60%
#1.05 (100%)	100%	100%	45%	0%

Disclosure Rate by Prior Art

Map claims terms to the file wrapper - '435

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

Claims	Prior Art Ref. (6)			
	US6498624	US6498656	US6195562	US6426167
#1.01 (N/A)	N/A	N/A	N/A	N/A
#1.02 (75%)	75%	75%	0%	0%
#1.03 (8%)	0%	0%	0%	0%
#1.04 (100%)	100%	100%	50%	60%
#1.05 (100%)	100%	100%	55%	0%

 All of the limitations of this asserted claim element in '435 were 100% known by Weriing (US6456856) and Vogel (US6498924).

Answer the questions:

Why was this patent granted?

Claim Insights Summary Table > Claim Table (Claim # 1) > Claim Element Page (Claim# 1.05) > US6456856

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

Select A Claim 1 2

1.01 1.02 1.03 1.04 1.05

Find 6 Result(s) Find More Result(s)

Rejection from Examiner

Filter Clear All

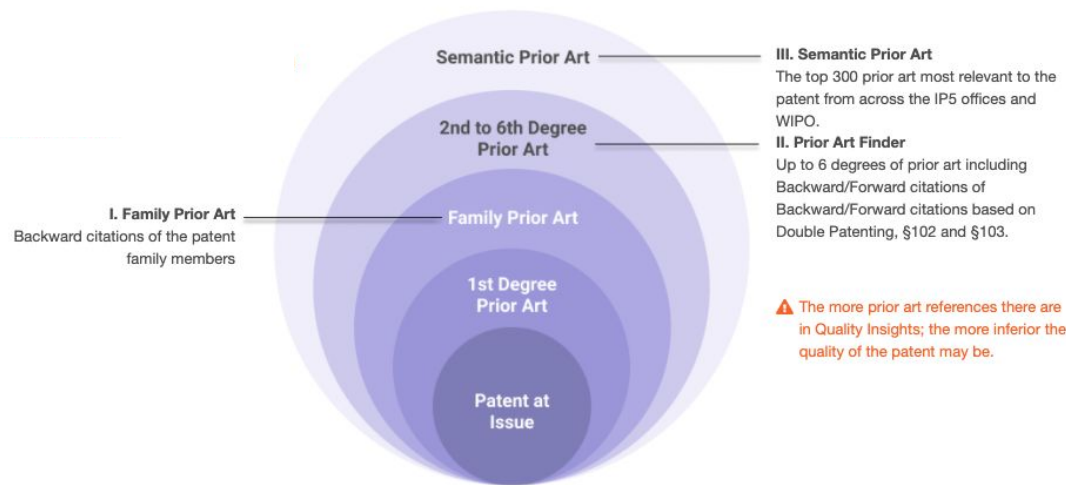
Claim Element

#1.05 and a power governing subsystem, coupled to said location sensing subsystem, that determines a proximity transmit power level of said portable cell phone based on said location and determines a transmit power level for said portable cell phone based on said network adjusted transmit power level and said proximity transmit power level.

Prior Art Ref.	Wering	[US6456856]	Vogel	[US6498924]
<div style="border: 1px solid red; padding: 2px; display: inline-block;">Rejection</div> 7.				20040813-CTNF Prosecution History 35 U.S.C. § 103
<p>claim 19—21, 24-25 and 27 are rejected under 35 u.s.c. 103(a)as being unpatentable over werling (us .. patent #6,456,856)in view of vogel et al.(us .. patent #6,498,924, hereinafter ' vogel ').</p> <p>regarding claim 19, werling teaches a portable cell phone (fig.2), comprising a power circuit (fig.1 block 16 column 2 lines 54-66)a proximity regulation system, including a location sensing subsystem that determines a location of said portable cell phone proximate a user(fig.1, block 18,column 3, lines 1- 14); and a power governing subsystem, coupled to said location sensing subsystem, that determines a proximity power level>transmit power level of said portable cell phone based on said location(fig.1, block 17;column 3, lines 15-18).</p>				

Prior Art Ref.	WERLing	[US6456856]	BAKER	[EP1091498]
<div style="border: 1px solid red; padding: 2px; display: inline-block;">Petition</div> vii.				20190611-Petition IPR2019-01186 35 U.S.C. § 103
<p>technique(e.g., use of a power ' circuit ' to provide a network adjusted transmit power to a known system(baiker ' s ' mobile telephone ' that includes an ' rf amplifier ' and ' control ' to provide a network adjusted transmit power ready for improvement to yield predictable results .. kar lnt'co co. v .. teleflex inc., 550 u.s. 398, 417(2007).. indeed, the ' 435 patent admits this technique was ' typical ' at the time .. ex1001, 3:31-34.[1,2]a proximity regulation system, including:baiker discloses this element .. supra, section vi, analysis of element[1.2]; ex1004, abstract :[0007]:[0021]; [0024]:[0028]:[0030]; fig.2;ex1003, ¶64.[1,3]a location sensing subsystem that determines a location of said portable cell phone proximate a userand baiker discloses this element .. supra, section vi, analysis of element[1.3]; ex1004,[0020],[0021],[0028],[0037], fig.3, cl.1, cl.7;ex1003, ¶65 .. attorney docket no.35548-0101p1 |pr of u.s. .. patent no.7,039,435[1,4]a power governing subsystem, coupled to said location sensing subsystem, that determines a proximity power level>transmit power level of said portable cell phone based on said location and determines a power level>transmit power level for said portable cell phone based on said network adjusted transmit power power level>level and said proximity power level>transmit power level .. baiker discloses this element .. supra, section vi, analysis of element[1.4]; ex1004,[0021]:[0028]:[0030]:[0032]; figs.2;ex1003, ¶66.[2]</p>				

How does Quality Insights generate prior art?



Prior Art Finder

Prior Art Finder for '435

Review cited and citing patents of '435 from the first to the sixth degree

Filter by:

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

1st Degree Art

8

2nd Degree Art

22

N Degree Art

88

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

US7039435B2

1st Degree (8)

US6456856B1

EP1091498A1

US5390338A

WO2002/005443A2

US20060154687A1

US20050075123A1

US20080051165A1

US20110294488A1

2nd Degree (20)

3rd Degree (20)

4th Degree (20)

5th Degree (20)

6th Degree

Up to 6th Degree Prior Art List

1st Degree List

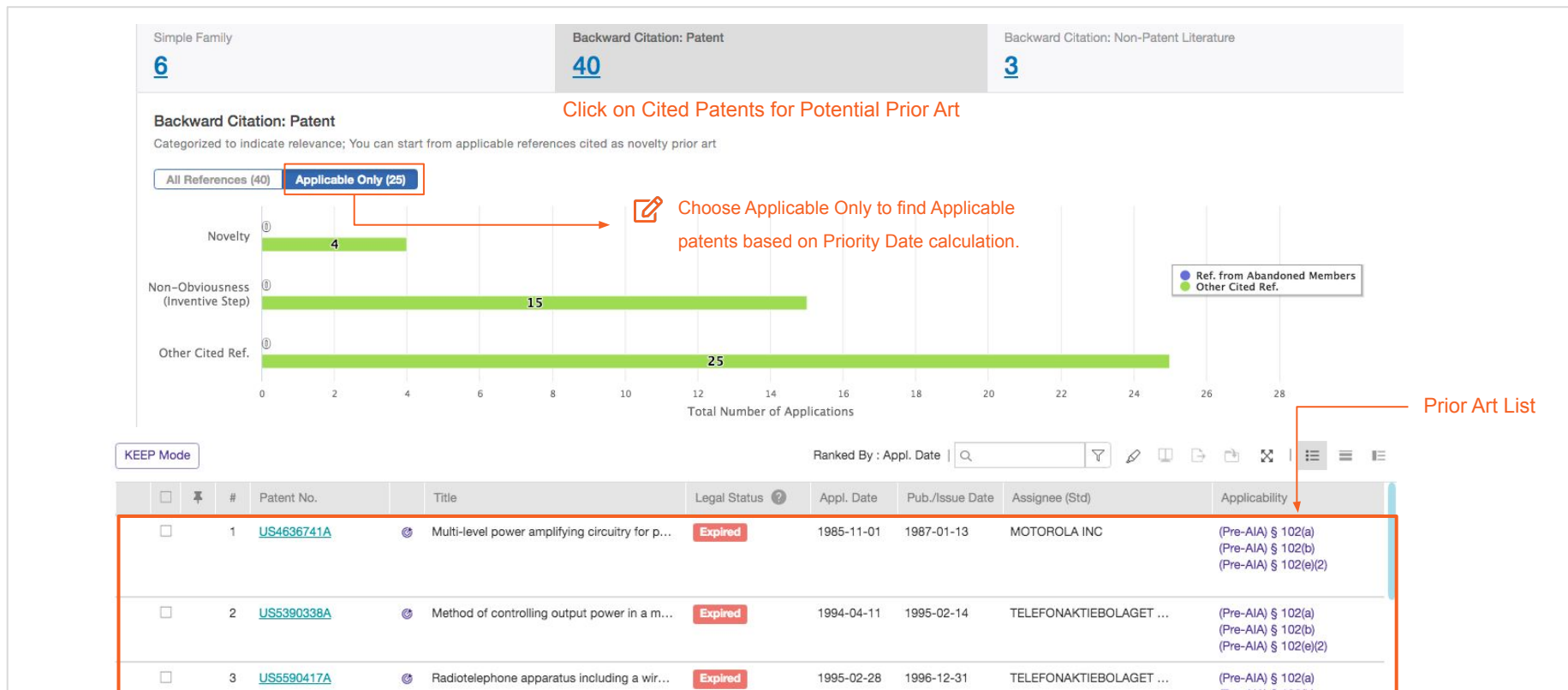
Selected 0/20 Patent(s) [Select top 20 patents in list](#) [Confirm](#)

	#	Patent No.	Title	Legal Status	Appl. Date	Pub./Issue Date	Assignee (Std)	Applicability
<input type="checkbox"/>	1	US6456856B1	Mobile radio equipment forming antenna ...	Lapsed	1999-07-26	2002-09-24	KONINKLIJKE PHILIPS NV	(Pre-AIA) § 102(e)(2)
<input type="checkbox"/>	2	EP1091498A1	Handheld telephone and operation metho...	Abandoned Appl.	1999-10-07	2001-04-11	ASCOM AG	(Pre-AIA) § 102(a)
<input type="checkbox"/>	3	US5390338A	Method of controlling output power in a m...	Expired	1994-04-11	1995-02-14	TELEFONAKTIEBOLAGET ...	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(2)
<input type="checkbox"/>	4	WO2002/005443A2	PORTABLE COMMUNICATION DEVICE W...	Abandoned Appl.	2001-06-20	2002-01-17	TELEFONAKTIEBOLAGET ...	(Pre-AIA) § 102(e)(1)
<input type="checkbox"/>	5	US20060154687A1	Proximity regulation system for use with a ...	PGPub - Granted	2006-03-07	2006-07-13	AGERE SYSTEMS INC	Not Applicable
<input type="checkbox"/>	6	US20050075123A1	System and method of controlling transmi...	PGPub - Granted	2003-10-06	2005-04-07	RESEARCH IN MOTION LTD	Not Applicable
<input type="checkbox"/>	7	US20080051165A1	RF POWER CONTROL USING PROXIMIT...	Abandoned Appl.	2006-08-28	2008-02-28	MOTOROLA INC	Not Applicable

Family Prior Art

Family Prior Art of '435

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



Semantic Prior Art

Semantic Prior Art of '435

Review potential prior art ranked by concept similarity

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"/>		Ranking	Patent No.		Title	Legal Status ?	Appl. Date	Pub./Issue Date	Assignee (Std)	Applicability
<input type="checkbox"/>		1	WQ1998/051108A2		HAND-HELD CELLULAR TELEPHONE WI...	PCT End - NP	1998-04-22	1998-11-12	TELEFONAKTIEBOLAGET ...	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b)
<input type="checkbox"/>		2	US20040185873A1		Location estimation in narrow bandwidth ...	Abandoned	2004-01-30	2004-09-23	GILKES ALAN M	+1 (Pre-AIA) § 102(e)(1)
<input type="checkbox"/>		3	US20020180640A1		Location estimation in narrow bandwidth ...	PGPub - Granted	2001-06-01	2002-12-05	GILKES ALAN M	+1 (Pre-AIA) § 102(e)(1)
<input type="checkbox"/>		4	US20020016189A1		Method and apparatus for providing reser...	PGPub - Granted	2001-08-02	2002-02-07	SNAPTRACK INC	(Pre-AIA) § 102(e)(1)
<input type="checkbox"/>		5	US6408196B2		Method and apparatus for providing reser...	Expired	2001-08-02	2002-06-18	SNAPTRACK INC	(Pre-AIA) § 102(e)(2)
<input type="checkbox"/>		6	US6314308B1		Method and apparatus for providing reser...	Expired	1998-07-02	2001-11-06	SNAPTRACK INC	(Pre-AIA) § 102(e)(2)
<input type="checkbox"/>		7	US5999832A		Method of and apparatus for controlling a ...	Expired	1997-07-31	1999-12-07	ALBERTH JR WILLIAM P	+1 (Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(2)
<input type="checkbox"/>		8	US20080096541A1		NOTIFICATION SYSTEM, AND METHOD ...	Abandoned	2007-12-06	2008-04-24	NEC CORP	(Pre-AIA) § 102(e)(1)
<input type="checkbox"/>		9	US20030050088A1		Self defense cell phone with projectiles	PGPub - Granted	2002-08-14	2003-03-13	KROLL MARK W	+1 (Pre-AIA) § 102(e)(1)
<input type="checkbox"/>		10	WO2000/031990A2		THERMAL TRANSMISSION CONTROL O...	PCT End - NP	1999-11-22	2000-06-02	TELEFONAKTIEBOLAGET ...	(Pre-AIA) § 102(a)

Semantic Prior Art of '435

Review potential prior art ranked by concept similarity

US7039435B2 [🔗](#)

Proximity regulation system for use with a portable cell phone and a method of operation thereof

[Overview](#)

[History](#)

[Claim Analysis](#)

[Claim Insights](#)

[Family Prior Art](#)

[Prior Art Finder](#)

[Semantic Prior Art](#)

[File Wrapper Search](#)

[About Semantic Prior Art](#)

Semantic Prior Art

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

Enter text to start searching for semantic prior art (English only)

[+ Add text from claims](#)

[Submit](#)

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

[Add text from claims](#)

[X](#)

Select A Claim

1

2

3

4

5

6

7

8

9

A portable cell phone, comprising: a power circuit that provides a network adjusted transmit power level as a function of a position to a communications tower; and a proximity regulation system, including: a location sensing subsystem that determines a location of said portable cell phone proximate a user; and a power governing subsystem, coupled to said location sensing subsystem, that determines a proximity transmit power level of said portable cell phone based on said location and determines a transmit power level for said portable cell phone based on said network adjusted transmit power level and said proximity transmit power level.

[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?

1.01

1.02

1.03

1.04

1.05

Find **76** Result(s) | Disclosure Rate **45%**

Claim Element

#1.05 and a power governing subsystem, coupled to said location sensing subsystem, that determines a proximity transmit power level of said portable cell phone based on said location and determines a transmit power level for said portable cell phone based on said network adjusted transmit power level and said proximity transmit power level.

Keyword List ⓘ

power

(262)

FW

PA

determines

(81)

FW

PA

US7324785B2 Content

Abstract

A method and apparatus for controlling transmit power of a wireless communication device includes processing that begins when a transmitting wireless communication device transmits a packet to a targeted wireless device via a wireless channel of a communication system at a 1st power level . The processing continues by having the targeted wireless device determining signal strength of the packet received via the wireless channel . The processing then continues when the targeted and/or transmitting device determines the adequacy of the 1st power level based on the determined signal strength . If the 1st power level is adequate , the transmitting wireless device continues to transmit information at the 1st power level . If , however , the 1st power level is not adequate , the transmitting communication device adjusts its transmit power up or down to provide an adequate power level.

Claims

Claim# 1 A method for transmit power control of transmitting wireless device , the method comprises : transmitting , by the transmitting wireless device , a packet to a targeted wireless device via a wireless channel at a first power level ; determining , by the targeted wireless device , signal strength and decoding error information of the packet received via the wireless channel ; determining , by the targeted wireless device , whether the signal strength is within an acceptable range of signals strengths ; determining , by the targeted wireless device , whether the decoding error information is within an acceptable range of error rate ; transmitting , by the targeted wireless device , a packet indicating the determined signal strength of the received packet to the transmitting wireless device via the wireless channel and a request for a transmitted power ; and transmitting , by the transmitting wireless device , an indication of the transmitted power level wherein the target wireless device generates a power request indication based upon the received signal carrying the indication of the transmitted power level for the previous transmission .

Answer the question:

What does this prior art say about the Claim elements: “transmitted power level” ?

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

Prior Art Comparison (sample output)

Easily generate a table like below

Claim		Claim-Term Interpretation	Semantic Prior Art - '785	3rd Degree Citation Prior Art - B
1	A portable cell phone, comprising:	Refer to Claim Analysis results	0%	.....
	a power circuit that provides a network adjusted transmit power level as a function of a position to a communications tower;	.....	50%	.....
	and a proximity regulation system, including:	.....	N/A	
	a location sensing subsystem that determines a location of said portable cell phone proximate a user;	.....	20%	.....
	and a power governing subsystem, coupled to said location sensing subsystem, that determines a proximity transmit power level of said portable cell phone based on said location and determines a transmit power level for said portable cell phone based on said network adjusted transmit power level and said proximity transmit power level.	.....	45%	.....

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

#	Patent No.	Title
1	CN1247662A	Dual use spe
2	EP0998105B1	Mobile teleph
3	JPH09-036932A	EXTERNAL R
4	JPH11-055358A	MOBILE RAD
5	US5317622	Ringin circuit for use in a telephone set f...



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 - '435

1 Prosecution & 5 Post-Grant

Event History
6

Family Status
6 Applications

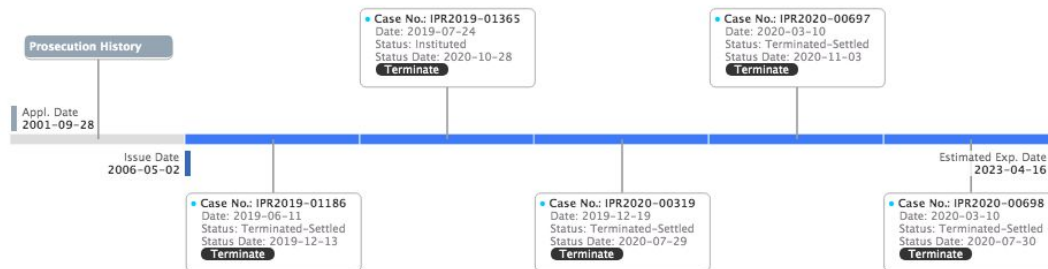
Prior Art Status
424 Applications / **9** NPL References

of Family Counterparts and Legal Status

of Highly Relevant Prior Art References

Event History | 1 Prosecution History / 5 Post-Grant

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

Timeline of Prosecution:



Key Events - '435

Prosecution History

09/967140 Prior Art Ref. | 8 Ref.

Check prior art cited and the legal basis of these challenges

Double Patenting | 0 Ref.

§ 102 | 1 Ref.

[US6456856](#)
Werling

§ 103 | 7 Ref.

[US6456856](#) (1st) [US6456856](#) (1st) [US6498924](#) [US24636741](#) [US4636741](#)
Werling Werling Vogel Mitzlaff Mitzlaff
[US6408187](#) [US6195562](#)
Merriam Pirhonen

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

Summary of 09/967140 History | 8 Event(s)

Direct links to Grounds,
Claims Highlighted and Prior Art Details

Data Last Updated on: 2021-02-03

Descriptions (Code)	Date ↓↑	Prior Art Ref.
Notice of Allowance (NOA)	2005-11-18	
Notice of Allowance (NOA)	2005-11-18	
Applicant Arguments/Remarks Made in an Amendment (REM) Claims (CLM)	2005-10-06	
Final Rejection (CTFR)	2005-08-08	Grounds 4 ▼
Applicant Arguments/Remarks Made in an Amendment (REM) Claims (CLM)	2004-11-18	
Non-Final Rejection (CTNF)	2004-08-13	Grounds 8 ▼
Claims (CLM)	2001-09-28	
Claims (CLM)	2001-09-28	

Key Events - '435

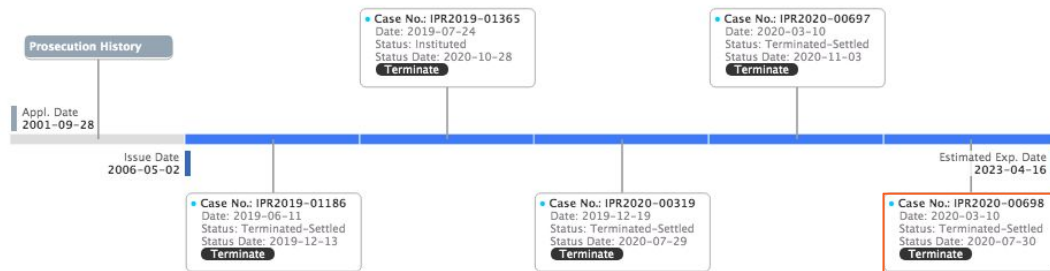
Post-Grant History

Event History 6	Family Status 6 Applications	Prior Art Status 424 Applications / 9 NPL References
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Event History | 1 Prosecution History / 5 Post-Grant
 Validity challenges to a patent in its prosecution history and post-grant events

of Family Counterparts and Legal Status

of Highly Relevant Prior Art References



Click to view each event in summary and details of IPR

Timeline of IPR:



Key Events - '435

Post-Grant History

IPR2020-00698 Prior Art Ref. | 5 Ref.

Check prior art cited and the legal basis of these challenges

Double Patenting

0 Ref.

§ 102

0 Ref.

§ 103

5 Ref.

W02002/05443 (1st)
IRVin

US5390338 (1st)
BODin

EP1091498 (1st)
BAIKER

US6456856
WERLinG

US6018646
MYLLYMAKI

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

Summary of IPR2020-00698 History | 2 Event(s)

Direct links to Grounds,
Claims Highlighted and Prior Art Details

Data Last Updated on: 2021-02-03

Descriptions (Code)	Date	Prior Art Ref.
Termination	2020-07-30	
Petition	2020-03-10	Grounds 3 ^
Legal Basis	Claims	Prior Art Ref.
35 U.S.C. § 103	claim 8	BAIKER EP1091498 (1st) WERLinG US6456856
35 U.S.C. § 103	claim 8	IRVin (W02002/05443) (1st) MYLLYMAKI US6018646
35 U.S.C. § 103	claim 8	BODin US5390338 (1st) IRVin (W02002/05443)

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](#)

touch sensor



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
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-02-07
<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2013-11-07

Data Last Updated on 2021-04-08

Prosecution and PTAB History PDF Downloads

PDF Downloads

Download the complete set or just part of the PDF files in the File Wrapper Search.

Cross-Document Search

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

[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
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-02-07
<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2013-11-07

Data Last Updated on 2021-04-08

Prosecution and PTAB History

Side-by-side PDF and OCR

Side by Side: PDF & OCR



Conduct a keyword search in a single document to identify the claim scope quickly and easily. You can even search additional claim terms within rejections.

Keywords (2)

Select a Keyword Set

☒ sensor (33)

☒ flexible substrate (1)

U9926311B2 - CTNF (2015-03-19)

13/284,674 6 / 18 90%

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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 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; [0063]: **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 2008/0303782 A1 (previously cited and hereinafter Hotelling). In further View of Gray et al. US 2010/0045814 (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 [0003], [0005], [0006], [0022], [0023], [0027], and [0071], e.g., flexible surface, flexible circuitry, and capacitance touch [0003] 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 [0003] comprising drive or sense electrodes made of flexible conductive material.

However, Hotelling does teach a touch [0003] (Fig. 2a, 5 and the corresponding descriptions, and the Summary of the Invention, i.e., a touch [0003] 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).

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 [0003] 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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