



Quality Insights

Quality Insights Annotation Report

XR Communications LLC v. Microsoft Corporation

WDTX-6-21-cv-00695

Focus on: U.S. Pat. No. 10,715,235

Filing date: July 01, 2021

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Click on a page number to read

Claim Construction and § 112 Invalidity

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Map claims to specification and file wrapper

Map claims to specification - '235

Which claim terms are or are not in the specification?

Claim Analysis > Claim# 8

Find relevant specification content as intrinsic evidence for claim term interpretation

25 Terms Identified in This Claim [Click to Select Terms](#)

Select Text

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

Claim# 8

A method in a **wireless communications** system,

the method comprising:

receiving a first **signal transmission** from a remote station via a first **antenna element** of an antenna and a second **signal transmission** from the remote station via a second **antenna element** of the antenna simultaneously, wherein

the first **signal transmission** and the second **signal transmission** comprise **Select Terms** c signals comprising one or more **transmission peaks** and one or more **transmission nulls**;

determining first **signal information** for the first **signal transmission**;

determining second **signal information** for the second **signal transmission**, wherein



Claim Analysis finds these terms in the spec:
"wireless communications", "signal transmission", "antenna element", as well as other terms that are highlighted in red.

Map claims to specification - '235

Which claim terms are or are not in the specification?

Select Text	Claim# 8
Highlight text from within the claim with your cursor and click on the tooltip "Select Terms" to find references in the Specification.	A method in a wireless communications system ,
	the method comprising:
	receiving a first signal transmission from a remote station via a first antenna element of an antenna and a second signal transmission from the remote station via a second antenna element of the antenna simultaneously, wherein
	the first signal transmission and the second signal transmission comprise Select Terms signals comprising one or more transmission peaks and one or more transmission nulls ;
	determining first signal information for the first signal transmission ;
	determining second signal information for the second signal transmission , wherein

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

Selected elements of '235 claim 8

Selected elements of claim 8 in Spec

Figures of '235

Select Text	Content	Figures
<p>antenna element</p> <p>The selected clause includes the following keywords:</p> <ul style="list-style-type: none"> antenna (77) element (29) 	<p>[0036] The antenna assembly 208 can be implemented as two or more antennas, and optionally as a phased array of antenna elements, to emanate multiple directed communication beams 214(1), 214(2), . . . , 214(N). The antenna assembly 208 is an unobtrusive indoor or outdoor Wi-Fi antenna panel that can include various operability components such as RF devices and components, a central processing unit, a power supply, and other logic components. The antenna assembly can be implemented as a lightweight and thin structure that can be mounted on a wall or in a corner of a room to provide wireless communication over a broad coverage area, such as throughout a building and surrounding area, or over an expanded region, such as a college campus or an entire corporate or manufacturing complex. While the</p>	

Map claims to specification and Complaint - '235

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

Select Text

antenna element

The selected clause includes the following keywords:

antenna (77)

element (20)

Content

[0036] The **antenna** assembly 208 can be implemented as two or more **antenna**s, and optionally as a phased array or **antenna element**s, to emanate multiple directed communication beams 214(1), 214(2), . . . , 214(N). The **antenna** assembly 208 is an unobtrusive indoor or outdoor Wi-Fi **antenna** panel that can include various operability components such as RF devices and components, a central processing unit, a power supply, and other logic components. The **antenna** assembly can be implemented as a lightweight and thin structure that can be mounted on a wall or in a corner of a room to provide wireless communication over a broad coverage area, such as throughout a building and surrounding area, or over an expanded region, such as a college campus or an entire corporate or manufacturing complex. While the



- 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?

or more transmission peaks and one or more transmission nulls. For example, as with each '235 Accused Product, the Surface Go 2 receives a first signal transmission from a remote station, such as a Wi-Fi Access Point, **via a first antenna element of an antenna and a second signal transmission from the remote station via a second antenna element of the antenna simultaneously**, such as when the Surface Go 2 receives first and second signals with its first and second antenna elements that contain training fields of a null data packet used for MU-MIMO sounding and channel estimation procedures. For example, the Surface Go 2 includes "IEEE 802.11a/b/g/n/ac/ax" WiFi, *see* Surface Go 2 Webpage, with "MU-MIMO" support. *See* Surface Go 2 FAQ. *See, e.g.*, IEEE 802.11ax

Map claims to the file wrapper - '235

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 type="checkbox"/> #1	83%	0%	83%	0%
<input type="checkbox"/> #6	86%	0%	86%	0%
<input checked="" type="checkbox"/> #8	72%	0%	72%	0%
<input type="checkbox"/> #15	83%	0%	83%	0%

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.

Disclosure Rate by Prior Art

Claim Insights Summary Table > Claim Table (Claim# 8) Select A Claim 1 8 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.

☒ Responded prior arts only

Claims	Prior Art Ref. (s)		
	US6611231	US6714584	US2002/0137538
#8.01 (0%)	0%	0%	0%
#8.02 (N/A)	N/A	N/A	N/A
#8.03 (100%)	100%	100%	100%
#8.04 (80%)	80%	80%	80%
#8.05 (100%)	100%	100%	100%

Map claims terms to the file wrapper - '235

How was this patent challenged during Prosecution?

Claims	Prior Art Ref. s		
	US6611231	US6714584	US2002/015703A1
#8.01 (0%)	0%	0%	0%
#8.02 (N/A)	N/A	N/A	N/A
#8.03 (100%)	100%	100%	100%
#8.04 (80%)	80%	80%	80%
#8.05 (100%)	100%	100%	100%
#8.06 (100%)	100%	100%	100%

All of the limitations of this asserted claim element in '235 were 100% known by Crilly (US6611231).

Answer the questions:

How was this patent challenged during Prosecution?

Claim Insights Summary Table > Claim Table (Claim# 8) > Claim Element Page (Claim# 8.03) > US6611231 | Select A Claim 1 8

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

Find 2 Result(s) Filter Clear All

Rejection from Examiner

Claim Element

#8.03 receiving a first **signal transmission** from a **remote station** via a first **antenna element** of an **antenna** and a second **signal transmission** from the **remote station** via a second **antenna element** of the **antenna** **simultaneously**, wherein

Prior Art Ref. Crilly [US6611231] Ishii [US6714584]

Rejection 20170705-CTNF Prosecution History 35 U.S.C. § 103

4.

claims 1-20 is/are rejected under pre-aia 35 u.s.c. 103(a)as being unpatentable over crilly, jr. et al.(us 2002/0158801 a1)in view of ishii et al.(us 6,714,584).

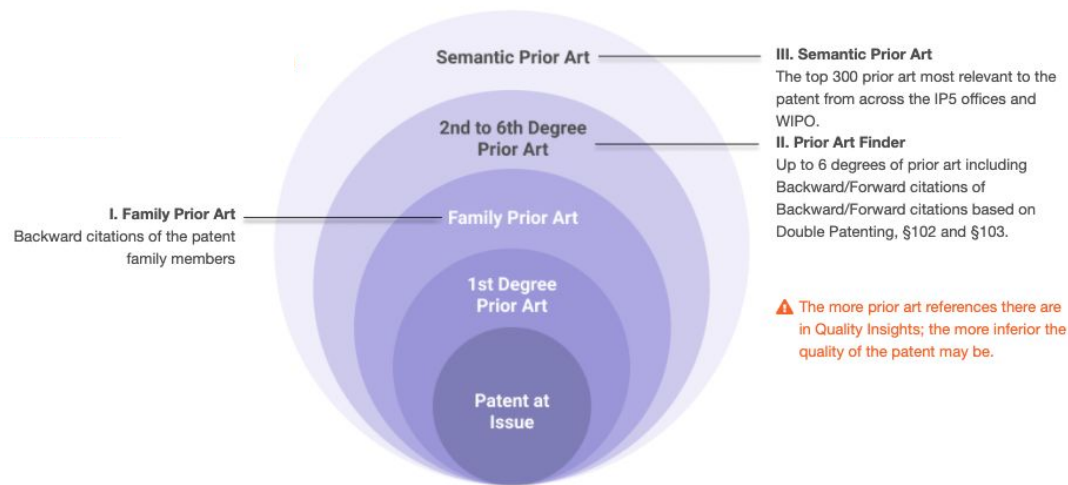
regarding claim 1, as shown in figs.1-24, crilly discloses a receiver for use in a wireless communications system, the receiver comprising:an **antenna**(see crilly, fig.4, **antenna** array 110); a transceiver operatively coupled to the **antenna** and configured to transmit and receive electromagnetic signals using the **antenna**(see crilly, fig.2, transmitter/receiver 114); and a processor operatively coupled to the transceiver,(see crilly, fig.4, control logic 112)the processor configured to:receive a first **signal transmission** from a **remote station** via the **antenna**, and a second **signal transmission** via the **antenna**(see crilly fig.4, paragraph[0091]; these signals, both desired and undesired, are collected by receiving elements within **antenna** array 110 and are eventually provided to control logic 110.;determine first signal information for the first **signal transmission**(see crilly, paragraph[0092]; here, control logic 112 includes a search receiver 164 that is configured to update routing information 120 with regard to the received signals.);determine second signal information for the second **signal transmission**, wherein the second signal

Remarks from Applicant 20171005-REM

Remarks

independent claim 9 recites, among other limitations, 'receiving a first **signal transmission** from a **remote station** via a first **antenna element** of an **antenna** and a second signal 9 transmission from the **remote station**,' independent claim 17 recites, among other limitations, ' receive a first **signal transmission** from a **remote station** via the **antenna** ' and ' receive a second **signal transmission** from the **remote station** via the **antenna**.' at least for the foregoing reasons, applicant respectfully submits that crilly in combination with ishii does not disclose or suggest claims 9 and 17 and respectfully requests withdrawal of the rejection.in addition each of the dependent claims depends from a patentable independent claim and also recites limitations that represent additional patentable distinctions over the cited references.acordingly, applicant respectfully submits that the dependent claims are patentable and requests withdrawal of the rejections for the foregoing reasons. applicant respectfully submits that the application is in condition for allowance should any issues remain which may be addressed in a phone call. the examiner is invited to call the undersigned at 949-721-5308.although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, applicant is not conceding in this application that previously pending claims are not patentable over the cited references.rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this

How does Quality Insights generate prior art?



Semantic Prior Art

Semantic Prior Art of '235

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!

Prior art references found (within the designated scope) that are

deemed as having high semantic similarity will be starred with a ★

KEEP mode 3 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	US20030176169A1		★	Interference cancellation method in radio ...	PGPub - Granted	2002-12-18	2003-09-18	PAJUKOSKI KARI	+2 (Pre-AIA) § 102(e)(1)
<input type="checkbox"/>		2	US7450671B2		★	Interference cancellation method in radio ...	Active	2002-12-18	2008-11-11	NOKIA CORP	(Pre-AIA) § 102(e)(2)
<input type="checkbox"/>		3	US20030002594A1		★	Communication device with smart antenn...	PGPub - Granted	2002-05-09	2003-01-02	HAREL HAIM	+2 (Pre-AIA) § 102(e)(1)
<input type="checkbox"/>		4	US5754950A			Method and apparatus for combining sign...	Abandoned	1995-12-08	1998-05-19	TELEFONAKTIEBOLAGET ...	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(2)
<input type="checkbox"/>		5	US7321636B2			Communication device with smart antenn...	Active	2002-05-09	2008-01-22	MAGNOLIA BROADBAND ...	(Pre-AIA) § 102(e)(2)
<input type="checkbox"/>		6	US20040102203A1			Parameter estimation for adaptive antenn...	PGPub - Granted	2003-11-24	2004-05-27	TIIROLA ESA	+3 (Pre-AIA) § 102(e)(1)
<input type="checkbox"/>		7	WO2002/054618A1			PARAMETER ESTIMATION FOR ADAPTIV...	Abandoned	2001-12-20	2002-07-11	NOKIA CORP	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(1)
<input type="checkbox"/>		8	US20040242156A1			Adaptive ofdm transmitter	Abandoned	2004-07-28	2004-12-02	TIIROLA ESA	+1 (Pre-AIA) § 102(e)(1)
<input type="checkbox"/>		9	US6826236B2			Maximum ratio transmission	Expired	2002-06-19	2004-11-30	AT&T WIRELESS	(Pre-AIA) § 102(e)(2)

Semantic Prior Art of '235

Review potential prior art ranked by concept similarity

The screenshot displays the InQuartik Semantic Prior Art interface. At the top, a notification states: "This patent has been involved in a US litigation case within 60 days". The patent details for **US10715235B2** are shown, including the title "Directed wireless communication" and tabs for Overview, History, Claim Analysis, and Claim. A modal window titled "Add text from claims" is open, showing a selection of claim 8: "A method in a wireless communications system, the method comprising: receiving a first signal transmission from a remote station via a first antenna element of an antenna and a second signal transmission from the remote station via a second antenna element of the antenna simultaneously, wherein the first signal transmission and the second signal transmission comprise electromagnetic signals comprising one or more transmission peaks and one or more transmission nulls; determining first signal information for the first signal transmission; determining second signal". An orange arrow points from the "Add" button in the modal to the "+ Add text from claims" button in the main interface. Below the modal, there is a search bar with the placeholder "Enter text to start searching for semantic prior art (English only)" and a "Submit" button. A footer note says: "Discover prior art's similarity with claim chart format in seconds !".

Semantic Prior Art
Most Relevant IP5 & WO 300 prior art references based on Semantic

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 seconds !

adding text from claims to find more related Prior Art

Prior Art Finder

Prior Art Finder for '235

Review cited and citing patents of '235 from the first to the sixth degree

Filter by:
 Applicability
 Legal Basis (102 or 103)
 Patent Office
 Legal Status

1st Degree Art
2

2nd Degree Art
31

N Degree Art
82

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) |

US10715235B2

1st Degree (2)
US6611231B2
US20020137538A1

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	US20120147987A1	METHOD AND APPARATUS FOR DATA T...	PGPub - Granted	2011-12-08	2012-06-14	CALDERBANK ARTHUR R...	(Pre-AIA) § 102(e)
<input type="checkbox"/>	2	US7085223B2	Communication device for receiving and tr...	Active	2001-08-23	2006-08-01	SONY INTERNATIONAL E...	(Pre-AIA) § 102(e)
<input type="checkbox"/>	3	US8682171B1	Optical/radio local access network	Active	2009-06-16	2014-03-25	AT&T INTELLECTUAL PRO...	(Pre-AIA) § 102(e)
<input type="checkbox"/>	4	US7633848B2	Communication device for receiving and tr...	Active	2005-10-12	2009-12-15	SONY DEUTSCHLAND G...	(Pre-AIA) § 102(e)
<input type="checkbox"/>	5	US5960039A	Methods and apparatus for high data rate ...	Expired	1996-04-10	1999-09-28	ALCATEL LUCENT	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)
<input type="checkbox"/>	6	US8396154B2	Minimum mean squared error approach to...	Lapsed	2009-09-29	2013-03-12	AT&T INTELLECTUAL PRO...	(Pre-AIA) § 102(e)

Up to the 6th
Degree List

Family Prior Art

Family Prior Art of '235

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

Simple Family

6

Backward Citation: Patent

139

Backward Citation: Non-Patent Literature

8

Backward Citation: Patent

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

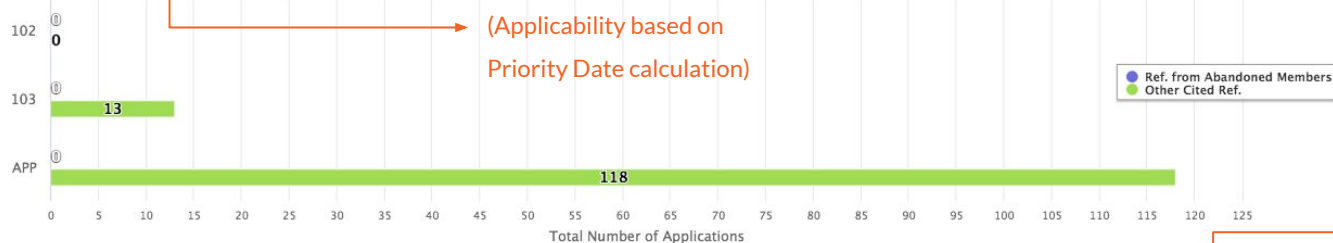
All References (139)

Applicable Only (131)

Click on Cited Patents for Potential Prior Art

Choose Applicable Only

(Applicability based on
Priority Date calculation)



Prior Art List

KEEP mode

Ranked By : Appl. Date

<input type="checkbox"/>	#	Patent No.	Title	Legal Status ?	Appl. Date	Pub./Issue Date	Assignee (Std)	Applicability
<input type="checkbox"/>	1	US4231040A	Simultaneous multiple beam antenna arra...	Expired	1978-12-11	1980-10-28	MOTOROLA INC	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(2)
<input type="checkbox"/>	2	US4750147A	Method for estimating signal source locati...	Expired	1985-11-06	1988-06-07	THE BOARD OF TRUSTEE...	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(2)
<input type="checkbox"/>	3	US4910794A	Mobile radio data communication system ...	Expired	1988-08-04	1990-03-20	NORAND CORP	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b)

Comparison tools

Prior Art Comparison (claim chart format)

What does this prior art say about the critical elements?

Disclosure Rate of Prior Art



Find 100 Result(s) Disclosure Rate : 60%



Claim Element

#8.03 receiving a first **signal transmission** from a **remote station** via a first **antenna element** of an **antenna** and a second **signal transmission** from the **remote station** via a second **antenna element** of the **antenna** **simultaneously**, wherein

Keyword List

- antenna element (302) FW PA
- antenna elements
- antenna (80) FW PA
- Antenna
- antenna“smart
- antennas
- simultaneously (5) FW PA

US7321636B2 Content

Specification

- [0001] This application claims priority to now abandoned U.S. Provisional Patent Application No. 60/294,290, entitled & # x201c;Smart Antennae : Using Standard Power Control Signaling On Cellular Systems For Smart **Antenna** Control within Cell Phone," ; filed on May 31, 2001, the entirety of which is incorporated herein by reference .
- [0002] This application is also related to co - pending U.S. patent application Ser . No . 10/082,351, entitled & # x201c;Smart **Antenna** Based Spectrum Multiplexing Using a Pilot Signal," ; filed on Feb. 26, 2002, the entirety of which is incorporated herein by reference .
- [0003] The invention relates generally to communications and more particularly to a system and method for using a quality - indication signal added to a transmitted signal in a communication system , and used by the receiving end , in conjunction with multiple **antenna elements** . The receiver can use a separation process known as spatial filtering , or also referred to herein as smart **antenna** .
- [0004] Broadband networks having multiple information channels are subject to certain types of typical problems such as inter - channel interference , a limited bandwidth per information channel , inter - cell interference that limit the maximum number of serviceable users , and other interference . The usage of smart **antenna** techniques (e.g. , using multiple **antenna elements** for a separation process known as spatial filtering) , at both ends of the wireless communications channels , can enhance spectral efficiency , allowing for more users to be served **simultaneously** over a given frequency band
- [0006] The known uses of power - control signaling have been limited only to adjusting the total power of the signal transmitted from the communication device . Next generation communication devices , however , can use multiple **antenna elements** (also referred to herein as a & # x201c;smart **antenna**" ;) for a separation process known as spatial filtering . Thus , a need exists for an improved system and method that can combine the advantages of power - control signaling with the advantages of smart **antennas** .
- [0007] Communication is performed for a first communication device having a set of **antenna elements** . A quality - indication signal is received from a second

Answer the question:
What does this prior art say about the Claim elements: "antenna element"?

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 - '636	3rd Degree Citation Prior Art - B
8	A method in a wireless communications system, the method comprising:	Refer to Claim Analysis results	0%	.....
	receiving a first signal transmission from a remote station via a first antenna element of an antenna and a second signal transmission from the remote station via a second antenna element of the antenna simultaneously, wherein	.....	60%	.....
	the first signal transmission and the second signal transmission comprise electromagnetic signals comprising one or more transmission peaks and one or more transmission nulls;	.....	20%	
	determining first signal information for the first signal transmission; determining second signal information for the second signal transmission, wherein the second signal information is different than the first signal information; determining a set of weighting values based on the first signal information and the second signal information, wherein	.....	0%	.....
	the set of weighting values is configured to be used by the remote station to construct one or more beam-formed transmission signals;	.....	20%	.....
	and transmitting to the remote station a third signal comprising content based on the set of weighting values.	.....	33%	.....

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

→ Select all



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 - '235

1 Prosecution & 0 Post-Grant

Event History

1

Family Status

8 Applications

Prior Art Status

393 Applications / **214** NPL References

Event History | **1** Prosecution History / **0** 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

Prosecution History

RCE*2

Appl. Date
2017-04-24

Issue Date
2020-07-14

Estimated Exp. Date
2023-11-03

No Data



Legend

Document Code	Document Description
CTFR	Final rejection
CTNF	Non-final rejection
CLM	Claims
REM	Remarks

Timeline of Prosecution:

○ Other Document ● Rejection Document



Key Events - '235

Prosecution History

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

15/495539 Prior Art Ref. | 4 Ref.

Check prior art cited and the legal basis of these challenges

Double Patenting

0 Ref.

§ 102

0 Ref.

§ 103

4 Ref.

[US6611231](#) (1st)
Crilly

[US20020137538](#) (1st)
Chen

[US6714584](#)
Ishii

[US6714584](#)
Ishii

Summary of 15/495539 History | 15 Event(s)

Direct links to Grounds,

Claims Highlighted and Prior Art Details

Data Last Updated on: 2021-01-30

Descriptions (Code)	Date	Prior Art Ref.
Notice of Allowance (NOA)	2020-06-17	
Notice of Allowance (NOA)	2020-03-05	
Request for Continued Examination (RCEX)	2020-01-07	
Applicant Arguments/Remarks Made in an Amendment (REM)	2020-01-07	
Claims (CLM)		
Final Rejection (CTFR)	2019-07-05	
Legal Basis	Claims	
35 U.S.C. § 103	claim 1,3,4,9,10,12,17	
35 U.S.C. § 112	claim 19	
Applicant Arguments/Remarks Made in an Amendment (REM)	2019-03-27	

Grounds 2



Prior Art Ref.

Chen US20020137538 (1st)
Ishii US6714584

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
<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



Rejections, Remarks, and Notice of Allowance in Prosecution History | 13 Records 

[About File Wrapper Search](#)

<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) Clear All

☒ flexible substrate (1)

+ Add new keyword

U9926631182 - 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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