

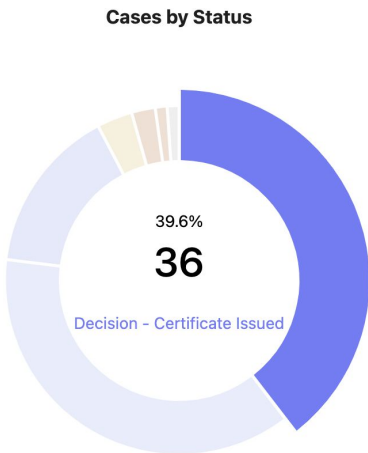


Portal Update

November 2023

Ex-Parte Reexam Portal

- Database of ex-parte reexam applications
- Docket pages for individual challenges
- Summarize search results with analytics



90019202 - Method And Apparatus For Visual Perception Encoding

Details

Application Number: 90019202

Filing Date: 2023-04-27

Status: Decision - Certificate issued

Patent: 6744818

Group Art Unit: 3992

Class: 375

Subclass: 240290

Examiner: Craver, Charles R

Law Firm: N/A

Patent Owner: DigiMedia Tech

Requester: Unified Patents LLC

Timeline



Transaction History

Date	Code	Transaction Description
2023-11-01	RXPUBS	Reexam Forwarded to Office of Publications
2023-10-10	MRNRC	RX - Mail Notice of Intent to Issue a Reexam Certificate
2023-09-26	IDSC	Information Disclosure Statement considered
2023-08-04	RXFWDX	Date Forwarded to Examiner

UPC Portal

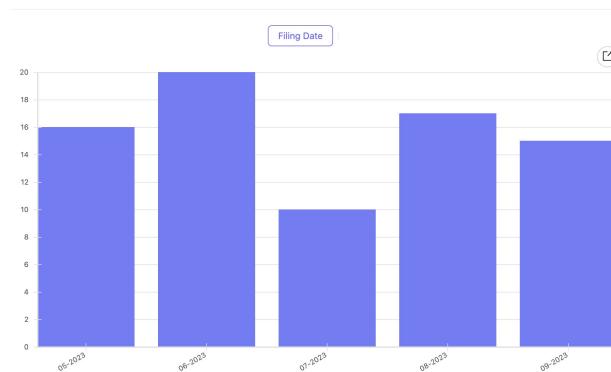
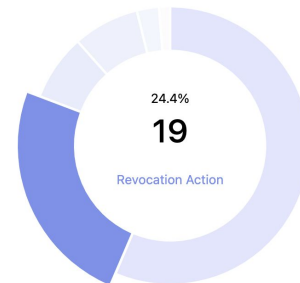
- Browse cases & decisions from Europe's new UPC system
- Relevant filters for patent number, claimant, attorneys, judges, dates
- Summarize search results with analytics

The screenshot shows the UPC Portal interface. On the left, there are several filter sections: Case (e.g. ACT_459505/2023), Patent (e.g. EP-3666797-B1), Proceeding (Proceeding), Action/App (e.g. Revocation Action), Respondent (e.g. Amgen, Inc.), Claimant (e.g. Sanofi-Aventis Deuts.v), Representatives (e.g. Daniel Wise), and Judges (e.g. Paolo Catalozzi). The main table displays the following data:

Case	Patent	Filing Date	Action/App	Respondent	Claimant
ACT_583273/2023	EP-2867997-B1	2023-10-27	Infringement Action	Belkin GmbH Belkin Limited	Koninklijke Philips N.V.
ACT_574253/2023	EP-3430921-A1	2023-10-24	Revocation Action	Juul Labs, Inc.	NJOY Netherlands B.V.
CC_581177/2023	EP-1838002-A3	2023-10-18	Counterclaim for revocation	Avago Technologies International Sales Pte. Limited	Tesla Germany GmbH
CC_581179/2023	EP-1838002-A3	2023-10-18	Counterclaim for revocation	Avago Technologies International Sales Pte. Limited	Tesla Manufacturing Brandenburg SE
ACT_580849/2023	EP-1793917-A1	2023-10-18	Infringement Action	Aarke AB	SodaStream Industries Ltd.
ACT_579338/2023	EP-3511174-B1	2023-10-17	Infringement Action	Kodak GmbH Kodak Graphic Communications GmbH Kodak Holding GmbH	Fujifilm Corporation
CC_576843/2023	EP-2359858-B1	2023-10-16	Counterclaim for revocation	N.V. Nutricia	Nestlé Health Science (Deutschland) GmbH
ACT_579244/2023	EP-3223320-B1	2023-10-13	Infringement Action	expert klein GmbH expert e-Commerce GmbH	Seoul Viosys Co., Ltd.

Action/App Type Proceeding Type

Cases by Type



100,000+ International Patents Challenges

Intl. Challenges Reset

Applied Filters: Jurisdiction: DE,GB,JP × Clear All

[CHALLENGES](#) [ANALYTICS](#) Select Table Columns Export All Pages

Case	Patent	Filing Date	Owner	Petitioner	Status
102022003161.2	DE-102022003161-B3	2022-08-30	Western Guns & More OHG		Pending
102022109860.5	DE-102022109860-B3	2022-04-25	RINGSPANN GmbH		Pending
102022107915.5	DE-102022107915-B3	2022-04-02	Doppel-Milfried		Pending
102022103042.3	DE-102022103042-B3	2022-02-09	DEKRA e.V.		Pending
102021133018.1	DE-102021133018-B3	2021-12-14	Strohmann Machines & Handling GmbH		Pending
102021123358.5	DE-102021123358-B3	2021-09-09	VOLKSWAGEN AKTIENGESELLSCHAFT		Pending
502021000247.7		2021-09-02	Hamm AG		Pending
102021122356.3	DE-102021122356-B3	2021-08-30	Stiftung für Lasertechnologien in der Medizin und Meßtechnik an der Universität Ulm ILM, Körperschaft des öffentlichen Rechts		Pending

- Browse individual patent challenges from Germany, UK, and Japan

- Korea, China to be added

Company Summaries

PORTAL

Quick Search ...

Pfizer Inc [Report Error](#)

Include 312 Subsidiaries

PTAB Cases: 116

Ex-Parte Reexams: 8

Litigation Cases: 582

Patents: 359,523

PTAB

Patent Cases (38)

Case #	Filing Date	Status	Industry	Patent Owner	Petitioner
IPR2023-01359	2023-06-28	Pending	Medical	ModernaTx Inc	Pfizer Inc Biontech SE
IPR2023-01358	2023-08-28	Pending	Medical	ModernaTx Inc	Pfizer Inc Biontech SE
IPR2021-00926	2021-05-11	Final Written Decision	Medical	Uniqure Biopharma BV	Pfizer Inc
IPR2021-00928	2021-05-11	Final Written Decision	Medical	Uniqure Biopharma BV	Pfizer Inc

- Dedicated URLs for individual companies
- Overview of PTAB challenges, litigations, and patent portfolios

Ask Patty - Unified Patents' AI ChatBot

US-9596688-B2 - Techniques for Group-based Spatial Stream Assignment Signaling in 60 Ghz Wireless Networks

Find Prior Art

Report Error

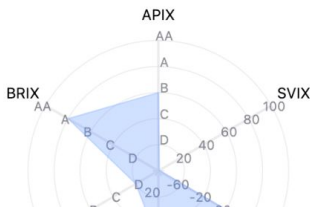
Details

Grant Number: US-9596688-B2
Publication Number: US-9596688-B2
Application Number: US-201514672121-A
CPC Class: H04

Priority Date: 2015-01-09
Application Date: 2015-03-28
Grant Date: 2017-03-14
Expiration Date: 2035-08-28
Lifetime Renewal Fees: \$11,000
Lifetime Family Renewal Fees: \$33,000

Inventors:
Ghosh Chittabrata
Cordeiro Carlos
Examiner:

Patent Ratings



Family Members (5)

US-20160205065-A1
Publication Date: 2016-07-14
US-20170347349-A1
Publication Date: 2017-11-30
US-20180199325-A1
Publication Date: 2018-07-12

Ask Patty Beta



related questions. How may I assist you today?

You can ask me any questions related to the content of the patent you're currently viewing. Whether it's about the inventor, claims, abstract, or any other specific section. Please note that I can only provide information and answer questions based on the content available on this page.

Just type your question below and I'll do my best to help.

Help me to summarize this patent.

What are some good keywords I can use to find prior art?



What is the novelty of this patent?

Scroll to end of chat

Type your question here



Have natural conversations with Patty

Ask Patty Beta  


Can you construct a search query for prior art using a combination of keywords and boolean operators?

To construct a search query for prior art using a combination of keywords and boolean operators, we'll need to isolate the essential concepts from the provided patent information and use synonyms or related technical terms where necessary. Remember that the aim is to be comprehensive yet specific enough to filter through irrelevant results, and that some adjustment of the query might be required after initial search results are reviewed.



Based on the technical summary provided, here is a suggested search query:

("wireless communication apparatus" OR "communication device") AND ("methodological acts") AND ("structural features" AND "methodological acts") NOT "limited to the specific features"

[↓ Scroll to end of chat](#)


Type your question here 

Regenerate individual responses
or
Reset the entire discussion

Ask Patty Beta  

- ("structural features" AND "methodological acts") NOT "limited to the specific features"
- ("USB memory" OR "SSD" OR "storage media") AND ("storing information")
- ("mobile device" OR "M2M device" OR "personal digital assistant") AND ("smart phone" OR "tablet computer" OR "server farm")
- ("removable or non-removable media" AND "erasable or non-erasable media") AND ("writeable or re-writeable media" OR "digital or analog media")
- ("source code" OR "compiled code" OR "executable code") AND "programming language"
- ("wireless communication apparatus" AND "logic") NOT "specific details"

[Regenerate](#)

Type your question here 

Patty has general world knowledge, including patent law

encoding information about the motion vector predictor of the current block, and encoding a difference vector between a motion vector of the current block and the motion vector predictor of the current block.

- Prompt example: claim interpretation via the "Canons of Claim Construction"

Claims

1. A method of decoding an image, the method comprising:

obtaining **prediction mode information** of a current block from a bitstream;

obtaining motion vector predictor candidates of the current block using a block co-located with the current block is inter-prediction;

obtaining a motion vector predictor of the current block among the obtained motion vector predictor candidates and current block; and

obtaining a motion vector of the current block based on the obtained motion vector predictor and a difference vector;

wherein the image is split into a plurality of maximum coding units according to information about a maximum coding unit;

the maximum coding unit is hierarchically split into one or more coding units of depths including at least one depth;

a current coding unit of the current depth is one of rectangular data units split from a coding unit of an upper depth.

[Find prior art](#)

> 2. The method of claim 1, wherein the obtaining the motion vector predictor comprises: scaling a motion vector predictor of a block co-located with the current block.

Ask Patty Beta

For claim #1, how would you interpret the term "prediction mode information" pursuant to the canons of claim construction in US patent law?

In the presented patent, the term "prediction mode information" seems to refer to the information about how a current block of an image or video is to be decoded, following a particular prediction mode. Different prediction modes can be employed, such as intra-mode, inter-mode, or skip mode, to compress and decompress image data efficiently.

According to the canons of claim construction in US patent law, claim terms are generally given their ordinary and

↓ Scroll to end of chat

Type your question here

Patty is fed patent metadata

- Example: Chatbot is aware of the patent's priority date

- Will not "hallucinate" important things like priority date

US-9560307-B2 - Image Projection Kit and Method and System of Distributing Image Content for Use with the Same [Report Error](#)

Find Prior Art

Grant Number: 9560307
Publication Number: US-9560307-B2
Application Number: US-201514793197-A
CPC Class: G03,G06,H04

Priority Date: 2004-08-18
Application Date: 2015-07-07
Grant Date: 2017-01-31
Expiration Date: 2025-08-19
Lifetime Renewal Fees: \$11,000
Lifetime Family Renewal Fees: \$60,400

Patent Ratings [?](#)

Family Members (14)

- US-20090091711-A1
Publication Date: 2009-04-09
- US-8066384-B2
Publication Date: 2011-11-29
- US-20120069150-A1
Publication Date: 2012-03-22

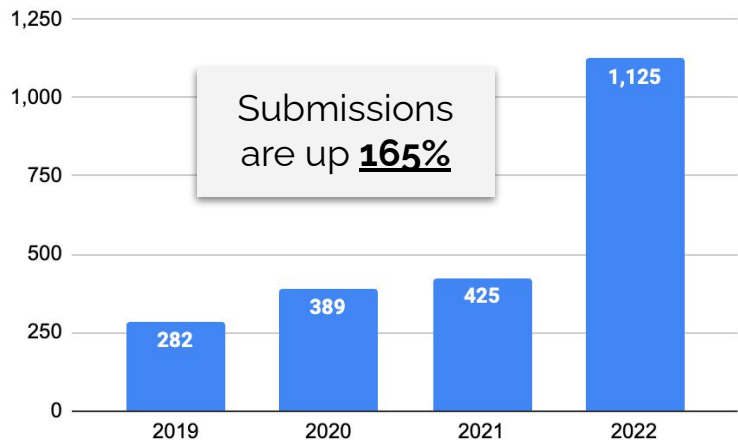
Ask Patty **Beta**

What was the state of the art around the time of this patent's priority date? And how did the disclosed invention improve over the then-existing prior art technology?

Around the time this patent's priority date, which is August 18, 2004, the state of the art technology pertaining to projecting images onto surfaces was limited in its capabilities. This technology was primarily designed to project images onto flat, plane surfaces and often required the projector to be positioned at a normal angle to the surface. If any attempt was made to project images onto complex surfaces such as those which are curved, angled, or non-coplanar, it typically resulted in substantial optical distortions.

Scroll to end of chat

PATROLL™ Crowdsourcing Prior Art Reimagined



Challenging & Disrupting Campaigns of Top LIEs and NPEs, such as IP Edge, WSOU, Atlantic IP, and others.

Dialect: US-8195468-B2 (Mobile Systems and Methods of Supporting Natural Language Human-machine Interactions) Active Prize: \$2000
 8195468 [↗](#) - Mobile Systems and Methods of Supporting Natural Language Human-machine Interactions Ends in 61 days

Five Settlements, Six Challenges, & \$200K Awarded in 2022



LIMESTONE REPORT

Powered by
techson
INTELLIGENCE PROPERTY

Validity Report

US10833908B2 – Channel probing signal for a broadband communication system

Priority Date: 2004-01-29, Publication Date: 2020-11-10, Current Assignee: Neo Wireless LLC

Results | Predictive Analytics | CPC Technology Profile

Results [Download all 1,570 Results](#)

Patent Id	Score	Title	Patent Type
EP0760564A2	1.240	Random access in multicarrier systems	GRANT
EP1130840A2	1.194	Spread-spectrum multicarrier modulation for cellular communication	GRANT
US7002934B2	1.192	OFDM multiple upstream receiver network	GRANT
EP1521415A2	1.171	Apparatus and method for transmitting / receiving an uplink pilot signal in a communication system using an orthogonal frequency division multiple access scheme	GRANT
EP0938193A1	1.152	Header structure for TDD systems	GRANT
US2005009939A1	1.141	Apparatus and method for transmitting/receiving pilot signals in an OFDM communication system	APPLICATION
US20050094450A1	1.122	Apparatus and method for transmitting/receiving pilot signals in an OFDM communication system	APPLICATION
US6967936B1	1.103	Uplink timing synchronization and access control for a multi-access wireless communication system	GRANT
US20040258014A1	1.098	Apparatus and method for assigning a dedicated pilot channel for identification of a base station in an OFDM communication system	APPLICATION
EP1039683B1	1.075	Frequency hopping multiple access with multicarrier signals	GRANT
US7962162B2	1.067	Simulcasting OFDM system having mobile station location identification	GRANT

Targeted Patent:		Charted Against:
<p>Patent: US10833908B2 Filed: 2004-01-29 Issued: 2020-11-10</p> <p>Patent Holder: (Original Assignee) Neo Wireless LLC (Current Assignee) Neo Wireless LLC Inventor(s): Xiaodong Li, Titus Lo, Kemn Li, Haiming Huang</p> <p>Title: Channel probing signal for a broadband communication system</p>	<p>Cross Reference / Shared Meaning between the Lines</p>	<p>Patent: US20030179776A1 Filed: 2001-06-29 Issued: 2003-09-25</p> <p>Patent Holder: (Original Assignee) Individual (Current Assignee) Panasonic Holdings Corp Inventor(s): Atsushi Sumasu, Hiroaki Sudo, Kenichi Miyoshi</p> <p>Title: Multicarrier transmitter, multicarrier receiver, and multicarrier wireless communication method</p>
[FEATURE ID: 1] mobile station, transmitter, base station, frequency band, frame format, guard period, receiver, mobile station identifier, cyclic prefix addition circuit	system, modem, transceiver, preamble, processor, radio, device	[FEATURE ID: 1] multicarrier transmission apparatus, transmission unit, frequency direction, multicarrier receiver apparatus
[TRANSITIVE ID: 2] comprising	of, including, using, with, containing, involving, describing	[TRANSITIVE ID: 2] comprising, having
[TRANSITIVE ID: 3] configured	disposed, connected, used, arranged	[TRANSITIVE ID: 3] sent
[FEATURE ID: 4] first uplink signal, timeslot, random access signal, portion, second uplink signal, transmission, spread spectrum signal, serial	symbol, sequence, code burst, channel, packet, pilot	[FEATURE ID: 4] pilot signal, pilot signal string, time sequence, predetermined range, data, multicarrier CDMA system, cell identification signal, pilot carrier, same pattern, signal, synchronization
[FEATURE ID: 5] signal	structure, sequence, configuration scheme, shape, format, code	[FEATURE ID: 5] pattern, way

The screenshot displays a patent analysis tool interface. On the left, a sidebar menu includes options like 'Back to My Search', 'New Search', 'History', 'Export', 'Watch', 'Settings', 'Support', and 'Log out'. The main area shows search results for 'US10833908B2'. A red box highlights the 'Details' section for this patent, which includes fields for 'Title', 'Inventor(s)', 'Applicant', 'Filing Date', 'Publication Date', and 'Patent Type'. The 'Details' section is numbered '2'. Below the details, there are several document thumbnails, each with a red box and a number. The first thumbnail is numbered '3' and shows a snippet of text with a diagram. The second thumbnail is numbered '4' and shows a snippet of text with a diagram. The third thumbnail is numbered '5' and shows a snippet of text with a diagram. The fourth thumbnail is numbered '6' and shows a snippet of text with a diagram. The fifth thumbnail is numbered '7' and shows a snippet of text with a diagram. The sixth thumbnail is numbered '8' and shows a snippet of text with a diagram. The seventh thumbnail is numbered '9' and shows a snippet of text with a diagram. The eighth thumbnail is numbered '10' and shows a snippet of text with a diagram. The ninth thumbnail is numbered '11' and shows a snippet of text with a diagram. The tenth thumbnail is numbered '12' and shows a snippet of text with a diagram. The eleventh thumbnail is numbered '13' and shows a snippet of text with a diagram. The twelfth thumbnail is numbered '14' and shows a snippet of text with a diagram. The thirteenth thumbnail is numbered '15' and shows a snippet of text with a diagram. The fourteenth thumbnail is numbered '16' and shows a snippet of text with a diagram. The fifteenth thumbnail is numbered '17' and shows a snippet of text with a diagram. The sixteenth thumbnail is numbered '18' and shows a snippet of text with a diagram. The seventeenth thumbnail is numbered '19' and shows a snippet of text with a diagram. The eighteenth thumbnail is numbered '20' and shows a snippet of text with a diagram. The nineteenth thumbnail is numbered '21' and shows a snippet of text with a diagram. The twentieth thumbnail is numbered '22' and shows a snippet of text with a diagram. The twenty-first thumbnail is numbered '23' and shows a snippet of text with a diagram. The twenty-second thumbnail is numbered '24' and shows a snippet of text with a diagram. The twenty-third thumbnail is numbered '25' and shows a snippet of text with a diagram. The twenty-fourth thumbnail is numbered '26' and shows a snippet of text with a diagram. The twenty-fifth thumbnail is numbered '27' and shows a snippet of text with a diagram. The twenty-sixth thumbnail is numbered '28' and shows a snippet of text with a diagram. The twenty-seventh thumbnail is numbered '29' and shows a snippet of text with a diagram. The twenty-eighth thumbnail is numbered '30' and shows a snippet of text with a diagram. The twenty-ninth thumbnail is numbered '31' and shows a snippet of text with a diagram. The thirtieth thumbnail is numbered '32' and shows a snippet of text with a diagram. The thirty-first thumbnail is numbered '33' and shows a snippet of text with a diagram. The thirty-second thumbnail is numbered '34' and shows a snippet of text with a diagram. The thirty-third thumbnail is numbered '35' and shows a snippet of text with a diagram. The thirty-fourth thumbnail is numbered '36' and shows a snippet of text with a diagram. The thirty-fifth thumbnail is numbered '37' and shows a snippet of text with a diagram. The thirty-sixth thumbnail is numbered '38' and shows a snippet of text with a diagram. The thirty-seventh thumbnail is numbered '39' and shows a snippet of text with a diagram. The thirty-eighth thumbnail is numbered '40' and shows a snippet of text with a diagram. The thirty-ninth thumbnail is numbered '41' and shows a snippet of text with a diagram. The fortieth thumbnail is numbered '42' and shows a snippet of text with a diagram. The forty-first thumbnail is numbered '43' and shows a snippet of text with a diagram. The forty-second thumbnail is numbered '44' and shows a snippet of text with a diagram. The forty-third thumbnail is numbered '45' and shows a snippet of text with a diagram. The forty-fourth thumbnail is numbered '46' and shows a snippet of text with a diagram. The forty-fifth thumbnail is numbered '47' and shows a snippet of text with a diagram. The forty-sixth thumbnail is numbered '48' and shows a snippet of text with a diagram. The forty-seventh thumbnail is numbered '49' and shows a snippet of text with a diagram. The fourty-eighth thumbnail is numbered '50' and shows a snippet of text with a diagram. The forty-ninth thumbnail is numbered '51' and shows a snippet of text with a diagram. The fiftieth thumbnail is numbered '52' and shows a snippet of text with a diagram. The fifty-first thumbnail is numbered '53' and shows a snippet of text with a diagram. The fifty-second thumbnail is numbered '54' and shows a snippet of text with a diagram. The fifty-third thumbnail is numbered '55' and shows a snippet of text with a diagram. The fifty-fourth thumbnail is numbered '56' and shows a snippet of text with a diagram. The fifty-fifth thumbnail is numbered '57' and shows a snippet of text with a diagram. The fifty-sixth thumbnail is numbered '58' and shows a snippet of text with a diagram. The fifty-seventh thumbnail is numbered '59' and shows a snippet of text with a diagram. The fifty-eighth thumbnail is numbered '60' and shows a snippet of text with a diagram. The fifty-ninth thumbnail is numbered '61' and shows a snippet of text with a diagram. The sixtieth thumbnail is numbered '62' and shows a snippet of text with a diagram. The sixty-first thumbnail is numbered '63' and shows a snippet of text with a diagram. The sixty-second thumbnail is numbered '64' and shows a snippet of text with a diagram. The sixty-third thumbnail is numbered '65' and shows a snippet of text with a diagram. The sixty-fourth thumbnail is numbered '66' and shows a snippet of text with a diagram. The sixty-fifth thumbnail is numbered '67' and shows a snippet of text with a diagram. The sixty-sixth thumbnail is numbered '68' and shows a snippet of text with a diagram. The sixty-seventh thumbnail is numbered '69' and shows a snippet of text with a diagram. The sixty-eighth thumbnail is numbered '70' and shows a snippet of text with a diagram. The sixty-ninth thumbnail is numbered '71' and shows a snippet of text with a diagram. The seventieth thumbnail is numbered '72' and shows a snippet of text with a diagram. The seventy-first thumbnail is numbered '73' and shows a snippet of text with a diagram. The seventy-second thumbnail is numbered '74' and shows a snippet of text with a diagram. The seventy-third thumbnail is numbered '75' and shows a snippet of text with a diagram. The seventy-fourth thumbnail is numbered '76' and shows a snippet of text with a diagram. The seventy-fifth thumbnail is numbered '77' and shows a snippet of text with a diagram. The seventy-sixth thumbnail is numbered '78' and shows a snippet of text with a diagram. The seventy-seventh thumbnail is numbered '79' and shows a snippet of text with a diagram. The seventy-eighth thumbnail is numbered '80' and shows a snippet of text with a diagram. The seventy-ninth thumbnail is numbered '81' and shows a snippet of text with a diagram. The eightieth thumbnail is numbered '82' and shows a snippet of text with a diagram. The eighty-first thumbnail is numbered '83' and shows a snippet of text with a diagram. The eighty-second thumbnail is numbered '84' and shows a snippet of text with a diagram. The eighty-third thumbnail is numbered '85' and shows a snippet of text with a diagram. The eighty-fourth thumbnail is numbered '86' and shows a snippet of text with a diagram. The eighty-fifth thumbnail is numbered '87' and shows a snippet of text with a diagram. The eighty-sixth thumbnail is numbered '88' and shows a snippet of text with a diagram. The eighty-seventh thumbnail is numbered '89' and shows a snippet of text with a diagram. The eighty-eighth thumbnail is numbered '90' and shows a snippet of text with a diagram. The eighty-ninth thumbnail is numbered '91' and shows a snippet of text with a diagram. The ninetieth thumbnail is numbered '92' and shows a snippet of text with a diagram. The ninety-first thumbnail is numbered '93' and shows a snippet of text with a diagram. The ninety-second thumbnail is numbered '94' and shows a snippet of text with a diagram. The ninety-third thumbnail is numbered '95' and shows a snippet of text with a diagram. The ninety-fourth thumbnail is numbered '96' and shows a snippet of text with a diagram. The ninety-fifth thumbnail is numbered '97' and shows a snippet of text with a diagram. The ninety-sixth thumbnail is numbered '98' and shows a snippet of text with a diagram. The ninety-seventh thumbnail is numbered '99' and shows a snippet of text with a diagram. The hundredth thumbnail is numbered '100' and shows a snippet of text with a diagram.



Prior Art Search Engine (PASE)

Contest: Icharts: US-8271892-B2 (Creation, Sharing and Embedding of Interactive Charts)

Patent 1

Score

Additional Info



Patent 1

Score

Additional Info



Patent 2

Score

Additional Info



Patent 3

Score

Additional Info



INCA - Invalidity Claim Charting Tool - Coming Soon!

- Will be incorporated into **PATROLL** to assist community in invalidating bad patents
- Goal is to increase the number of NPE targets
- Maps individual elements of the target patent to selected pieces of prior art (patents as well as NPL)

8674887 Export To

PDF CSV

U.S. Patent No. 8,674,887, which is a continuation of multiple earlier applications and ultimately claims priority to an international application filed on December 22, 2003, is an innovation related to multi-band monopole antennas, designed specifically for mobile communications devices such as Personal Digital Assistants (PDAs), cell phones, and pagers. The patent description provides various exemplary designs and configurations of monopole antennas that incorporate intricate structures, such as meandering or space-filling curves in their radiating arms to enhance performance. These designs address issues of electromagnetic interference within the mobile device by offering multiple geometries adapted for various device styles; for example, clamshell or candy-bar type cell phones and PDAs, with details about their mounting structures to the circuit boards. The detailed embodiments are intended to guide those skilled in the art in making and using the claimed invention while not limiting the claims to just these described examples. The patent emphasizes innovation in the field of antennas that are compact and efficient for use in increasingly multifunctional wireless communication devices.

U.S. Patent US-7023385-B2, filed on November 28, 2003, with a priority date of November 29, 2002, as claimed by TDK Corporation, is directed to a compact, high-efficiency chip antenna and chip antenna unit particularly suitable for portable wireless communication devices, such as mobile phones. This invention overcomes previous design challenges such as complex structures and reduced efficiency due to resistance elements like trap circuits, as well as the inefficiently large size resulting from conductive path patterns on substrates. The patent details a chip antenna with a base member layered with meander-shaped pattern antennas that can be modified in terms of reactance capacity and exhibit two resonances. Optimizations include altering the antenna's frequency characteristics by adjusting the area of fixing portions, rendering the device flexible for diverse frequency bands without compromising on size and performance efficiency. The detailed embodiments showcase variations in antenna patterns and methods for tuning resonant frequencies by altering the fixing portions' sizes, demonstrating the adaptability of the design to maintain desired frequency characteristics after mounting on substrates, making it practical for the stringent spatial requirements of modern portable communication devices.

8674887 (Fractus SA)	US-7023385-B2 (Tdk Corp)
1. A mobile communication device comprising: communications circuitry;	The present invention relates to a chip antenna for use, as an included antenna, and the like, in a portable telephone or a mobile terminal which is a wireless communication device. For example, a chip antenna and a chip antenna unit of the present invention can be used in various wireless communication devices, such as, a portable telephone, a mobile terminal, an included antenna of a wireless LAN card, and the like. A wireless communication device in which said chip antenna as claimed in claim 3 is used. A wireless communication device in which said chip antenna as claimed in claim 10 is used. A wireless communication device in which said chip antenna as claimed in claim 12 is used. A wireless communication device in which said chip antenna as claimed in claim 9 is used. A wireless communication device in which said chip antenna as claimed in claim 1 is used.
a circuit board comprising a ground plane and a feeding point, the feeding point being coupled to the communications circuitry;	As illustrated in FIG. 1, a chip antenna 10 is mounted on a mounting substrate 13. A ground electrode 14 is formed on the mounting substrate 13. Further, a feeding path 15 which supplies signals from a signal source (not shown) to the feeding terminal 12 by keeping matching with an impedance of the circuit... is also formed on the mounting substrate 13. Moreover, fixing portions 17a, 17b which are composed of conductors and connected to the fixed terminals 16a, 16b and which thereby fix the base member 11 on the mounting substrate 13 are also formed on the mounting substrate 13.