

In The United States Patent & Trademark Office

Control No. : 90/013,023
Filing Date : October 9, 2013
Patent Under Reexamination : 7,397,431
Issue Date : July 8, 2008
TC/A.U. : Central Reexamination Unit 3992
Examiner : Linh M. Nguyen
Confirmation No. : 7843
Customer No. : 27896
Docket No. : 0690.0004L1
Title: : Multilevel Antennae

Mail Stop Ex Parte Reexam

Attn: Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Patent Owner's Response to First Office Action
Under 37 C.F.R. § 1.530

Sir:

In response to the first Office Action mailed on October 17, 2014 (“the Office Action”), the Patent Owner Fractus, S.A. (hereinafter referred to as “Owner”), presents the following amendments and remarks in the above-identified reexamination proceeding of U.S. Patent No. 7,397,431 (hereinafter “the ‘431 patent”).

No fees are believed to be due in order for the timely consideration of this Response. In the event that the Commissioner determines that an additional fee is required for consideration of the present submission, the U.S. Patent and Trademark Office is hereby authorized to charge any LARGE ENTITY fee deficiency, or credit any overpayment, to Deposit Account No. 05-0460 referencing docket number 0690.0004L1.

Table of Contents

LISTING OF THE CLAIMS..... 3

REMARKS..... 6

I. CLAIM STATUS..... 6

II. SUPPORT FOR NEW CLAIMS..... 8

III. EXECUTIVE SUMMARY 9

IV. CLAIM CONSTRUCTION AND DISCLAIMERS..... 10

V. SUMMARY OF THE CLAIMED SUBJECT MATTER..... 10

VI. REJECTIONS OVER MISRA 11

VII. REJECTIONS OVER GUO 12

VIII. REJECTIONS OVER YANAGISAWA 12

IX. REJECTIONS OVER JOHNSON..... 16

A. The Teachings of Johnson Would Not Have Rendered the Claims Obvious..... 16

B. The Requester has Proposed an Interpretation of Johnson that is Contrary to the Teachings of the Reference..... 19

C. The Requesters Interpretation of the Johnson Reference is Not Enabled 20

X. PATENTABILITY OF NEW CLAIMS 21

XI. CONCLUSION..... 21

LISTING OF THE CLAIMS

Owner requests that the Office amend the claims and enter new claims 38-43, as shown in the following listing of claims, which replace all prior versions, and listings, of claims.

1. (Canceled) A multi-band antenna comprising:
a conductive radiating element including at least one multilevel structure,
said at least one multilevel structure comprising a plurality of electromagnetically coupled geometric elements,
said plurality of geometric elements including at least two portions, a first portion being associated with a first selected frequency band and a second portion being associated with a second selected frequency band, said second portion being located substantially within the first portion, said first and second portions defining empty spaces in an overall structure of the conductive radiating element to provide a circuitous current path within the first portion and within the second portion, and
the current within said first portion providing said first selected frequency band with radio electric behavior substantially similar to the radio electric behavior of said second selected frequency band and the current within the second portion providing said second selected frequency band with radio electric behavior substantially similar to the radio electric behavior of said first selected frequency band.

12. (Canceled) The multi-band antenna set forth in claim 1, wherein said antenna is included in a portable communications device.

13. (Canceled) The multi-band antenna set forth in claim 12, wherein said portable communication device is a handset.

14. (Amended) The multi-band antenna set forth in claim 13, wherein said antenna operates at multiple frequency bands, and wherein at least one of said frequency bands is operating within the 800 MHz-3600 MHz frequency range[[]], wherein:

the first portion is a first level of structural detail comprising the overall structure and having a first geometry configured to operate at the first selected frequency band;

the second portion is a second level of structural detail within the first level of structural detail, the second portion being smaller than the first portion and having a second geometry configured to operate at the second selected frequency band; and

the perimeter of the multilevel structure has a different number of sides than each of the geometric elements that compose the multilevel structure.

30. (Amended) A multi-band antenna according to claim 1, wherein the antenna operates at three or more frequency bands and the antenna is shared by three or more cellular services[[]], wherein:

the first portion is a first level of structural detail comprising the overall structure and having a first geometry configured to operate at the first selected frequency band;

the second portion is a second level of structural detail within the first level of structural detail, the second portion being smaller than the first portion and having a second geometry configured to operate at the second selected frequency band; and

the perimeter of the multilevel structure has a different number of sides than each of the geometric elements that compose the multilevel structure.

38. (New) The multiband antenna of claim 14, wherein the perimeter of the multilevel structure has a greater number of sides than each of the geometric elements that compose the multilevel structure.

39. (New) The multiband antenna of claim 38, wherein the geometry of the first portion shapes the circuitous current path within the first portion to cause the first portion to operate at the first selected frequency band.

40. (New) The multiband antenna of claim 38, wherein the geometry of the second portion shapes the circuitous current path within the second portion to cause the second portion to operate at the second selected frequency band.

41. (New) The multiband antenna of claim 30, wherein the perimeter of the multilevel structure has a greater number of sides than each of the geometric elements that compose the multilevel structure.

42. (New) The multiband antenna of claim 41 wherein the geometry of the first portion shapes the circuitous current path within the first portion to cause the first portion to operate at the first selected frequency band.

43. (New) The multiband antenna of claim 41, wherein the geometry of the second portion shapes the circuitous current path within the second portion to cause the second portion to operate at the second selected frequency band.

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.