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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/271,806	10/12/2011	Martino M. Freda	IDC-10801US02	7747
24374	7590	01/09/2013	EXAMINER	
VOLPE AND KOENIG, P.C. DEPT. ICC UNITED PLAZA 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			KARIKARI, KWASI	
			ART UNIT	PAPER NUMBER
			2641	
			NOTIFICATION DATE	DELIVERY MODE
			01/09/2013	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

eoffice@volpe-koenig.com

**Office Action Summary**

<b>Application No.</b> 13/271,806	<b>Applicant(s)</b> FREDA ET AL.	
<b>Examiner</b> KWASI KARIKARI	<b>Art Unit</b> 2641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 17 October 2012.
- 2a)  This action is **FINAL**.
- 2b)  This action is non-final.
- 3)  An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 5)  Claim(s) 1-5, 8, 9, 21 and 22 is/are pending in the application.  
5a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 6)  Claim(s) \_\_\_\_\_ is/are allowed.
- 7)  Claim(s) 1-5, 8, 9, 21 and 22 is/are rejected.
- 8)  Claim(s) \_\_\_\_\_ is/are objected to.
- 9)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

\* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).

**Application Papers**

- 10)  The specification is objected to by the Examiner.
- 11)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 3)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 4)  Other: \_\_\_\_\_.

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## DETAILED ACTION

### Response to Arguments

1. Applicant's arguments, filed on 06/22/2007 with respect to claims 1-5, 8, 9, 21 and 22 in the remarks, have been considered but are moot in view of the new ground(s) of rejection.

### Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1-4, 8, 9, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Junell et. al., (U.S 2011/0305206), (hereinafter, Junell) in view of Choi et al., (U.S 20110002314), (hereinafter, Choi).**

**Regarding claim 1, Junell discloses a method of managing channel selection in a dynamic spectrum management network (= method of requesting resource in TV white space type environment, see [0067 and 0070]), the method comprising:**

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receiving a spectrum allocation request from a base station (= **resource request by a network, see [0072 and 0075]**);

based on the spectrum allocation request, checking for available channels (= **a search is made for free resource, see [0072 and 0075]**); and

retrieving channel usage data for the available channels from a coexistence database (= **manager 102 accesses database 104 to obtain free/available secondary channel in TV white space, see [0015-16, 0067, 0102, 0117 and 0207]**);

providing the channel usage data to base station (= if there is free secondary channel then, a command is sent to coexistence enabler 100 to reallocate locally free channel, see [0102, 0144 and 0207]).

**Junell** explicitly fails to disclose the claimed limitations of: "selecting a channel by the base station based on the channel usage data."

However, **Choi**, which is an analogous art, equivalently discloses a HeNB that requests and registers with an EPC (see, [0135, 0125]); EPC identifies one or more unused spectral resources (see, [0136 and 0157]); EPC responses to the HeNB request with an assignment and operation parameters (see, [0142]); and with operational parameters, the HeNB selects a carrier frequency (see, [0143 and 0160]).

Such teachings from Choi meet the above claimed limitations.

Therefore, it would have been obvious at the time the invention was made for one of the ordinary skill in the art to have combined the teaching of Choi with Junell for the benefit of achieving a data management system that includes self-coordination

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operation thereby, minimizing signaling and management overhead between HeNB and EPC.

**Regarding claim 2**, as recited in claim 1, **Junell** further discloses the method, wherein the spectrum allocation request is received at a coexistence manager (CM) (see, [0015-16 and 0097]).

**Regarding claim 3**, as recited in claim 2, **Junell** further discloses the method, wherein the CM is allocated within a base station management system (see, CM 102 in Fig. 1A and 1B).

**Regarding claim 4**, as recited in claim 3, **Junell** further discloses the method, wherein the CM checks the coexistence database for a list of the available channels based on a geographical location (see, [0013, 0207 and 0209]).

**Regarding claim 8**, as recited in claim 2, **Junell** explicitly fails to disclose the method, wherein the base station informs the CM regarding the channel selected by the base station.

However, **Choi**, which is an analogous art, equivalently discloses the method, wherein the base station informs the CM regarding the channel selected by the base station (= HeNB returns a message indicating its selected carrier frequency, see [0143]; whereby the functionality of the EPC is being associated with the "CM").

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Therefore, it would have been obvious at the time the invention was made for one of the ordinary skill in the art to have combined the teaching of Choi with Junell for the benefit of achieving a data management system that includes self-coordination operation thereby, minimizing signaling and management overhead between HeNB and EPC.

**Regarding claim 9**, as recited in claim 1, **Junell** explicitly fails to disclose that the method, further comprising registering the base station to a database of spectrum users.

However, **Choi**, which is an analogous art, equivalently discloses a HeNB that requests and registers with an EPC (see, [0135, 0125]); and the EPC updates its internal table or other structure with new HeNB Cell ID (see, [0145, 0126 and 0135]).

Such teachings from Choi meet the above claimed limitations.

Therefore, it would have been obvious at the time the invention was made for one of the ordinary skill in the art to have combined the teaching of Choi with Junell for the benefit of achieving a data management system that includes self-coordination operation thereby, minimizing signaling and management overhead between HeNB and EPC.

**Regarding claim 21**, as recited in claim 1, **Junell** explicitly fails to disclose the method, wherein the base station is a home evolved Node-B (HeNB).

However, **Choi**, which is an analogous art, equivalently discloses the method, wherein the base station is a home evolved Node-B (HeNB) (see, [0135]).

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Therefore, it would have been obvious at the time the invention was made for one of the ordinary skill in the art to have combined the teaching of Choi with Junell for the benefit of achieving a data management system that includes self-coordination operation thereby, minimizing signaling and management overhead between HeNB and EPC.

**Regarding claim 22, Junell** discloses a multi-spectrum network that provides management of channel selection (**= method of requesting resource in TV white space type environment, see [0067 and 0070]**), the multi-spectrum network comprising:

a home Node-B configured to transmit a spectrum allocation request (**= resource request by a network, see [0072 and 0075]**);

a management system configured to receive the spectrum allocation request (**= resource request by a network, see [0072 and 0075]**); and

a coexistence database configured to check for available channels across multiple networks and retrieve channel usage data for the available channels across the multiple networks based on the spectrum allocation request (**= a search is made for free resource, see [0072 and 0075]**); and

wherein the management system is further configured to receive the channel usage data from the coexistence database and transmit the channel usage data to the home Node-B (**= manager 102 accesses database 104 to obtain free/available secondary channel in TV white space, see [0015-16, 0067, 0102, 0117 and 0207]**);

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**Junell** explicitly fails to disclose the claimed limitations of: “a home evolved Node-B (HeNB), an HeNB management system (HEMS); and wherein the home NodeB is further configured to select a channel based on the channel usage data.”

However, **Choi**, which is an analogous art, equivalently discloses a HeNB that requests and registers with an EPC (see, [0135, 0125]); EPC identifies one or more unused spectral resources (see, [0136 and 0157]); EPC responses to the HeNB request with an assignment and operation parameters (see, [0142]); and with operational parameters, the HeNB selects a carrier frequency (see, [0143 and 0160]).

Such teachings from Choi meet the above claimed limitations.

Therefore, it would have been obvious at the time the invention was made for one of the ordinary skill in the art to have combined the teaching of Choi with Junell for the benefit of achieving a data management system that includes self-coordination operation thereby, minimizing signaling and management overhead between HeNB and EPC.

**3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Junell in view of Choi and further in view of Chaudhri et al., (U.S 2010/0081449), (hereinafter, Chaudhri).**

**Regarding claim 5**, as recited in claim 1, the combination of **Junell** and **Choi** explicitly fails to disclose that the method further comprising providing a ranked channel candidate list to base station.

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However, **Chaudhri**, which is an analogous art, equivalently discloses that the method further comprising providing a ranked channel candidate list to the base station (see, [0045-46]).

Therefore, it would have been obvious at the time the invention was made for one of the ordinary skill in the art to have combined the teaching of Chaudhri with Junell and Choi for the benefit of achieving a data management system that includes cognitive radio for channel detection thereby, avoiding interference among cognitive network and incumbent system.

### **CONCLUSION**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwasi Karikari whose telephone number is 571-272-8566. The examiner can normally be reached on M-T (6:30am – 4:30pm).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on 571-272-7904.

**The fax phone number** for the organization where this application or proceeding is assigned is **571-273-8566**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

<p><b>/Kwasi Karikari/ Primary Examiner: Art Unit 2641.</b></p>
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