



US009565614B2

(12) **United States Patent**
Hong et al.(10) **Patent No.:** US 9,565,614 B2
(45) **Date of Patent:** Feb. 7, 2017(54) **METHOD FOR CONTROLLING HANDOFF OF IEEE 802.22 NETWORK-BASED MOBILE TERMINAL**(75) Inventors: **Choong Seon Hong**, Yongin-si (KR);
Sung Won Lee, Seongnam-si (KR);
Jun Lee, Jeonju-si (KR)(73) Assignee: **UNIVERSITY-INDUSTRY COOPERATION GROUP OF KYUNG-HEE UNIVERSITY**,
Yongin-Si, Gyeonggi-Do (KR)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 81 days.

(21) Appl. No.: **14/369,810**(22) PCT Filed: **Dec. 29, 2011**(86) PCT No.: **PCT/KR2011/010279**§ 371 (c)(1),
(2), (4) Date: **Oct. 20, 2014**(87) PCT Pub. No.: **WO2013/100226**PCT Pub. Date: **Jul. 4, 2013**(65) **Prior Publication Data**

US 2015/0036657 A1 Feb. 5, 2015

(30) **Foreign Application Priority Data**

Dec. 29, 2011 (KR) 10-2011-0145466

(51) **Int. Cl.**
H04W 36/32 (2009.01)
H04W 36/08 (2009.01)(52) **U.S. Cl.**
CPC **H04W 36/32** (2013.01); **H04W 36/08** (2013.01)(58) **Field of Classification Search**None
See application file for complete search history.(56) **References Cited**

U.S. PATENT DOCUMENTS

2006/0227744 A1* 10/2006 Metke H04W 36/32
370/331
2007/0025296 A1* 2/2007 Jung H04W 36/32
370/331

(Continued)

FOREIGN PATENT DOCUMENTS

KR 1020060032466 A 4/2006
KR 1020110129483 A 12/2011
KR 1020110135873 A 12/2011

OTHER PUBLICATIONS

English translation of Lee, Jun, et al., Design of Mechanism for Supporting Mobility of IEEE 802.22 WRAN System, 2011 Fall Conference of Korean Institute of Information Scientists and Engineers, vol. 38, Issue 2D, pp. 294-297, Nov. 2011 (citations based on attached English Translation).*

(Continued)

Primary Examiner — Benjamin Lamont

(74) Attorney, Agent, or Firm — Hauptman Ham, LLP

(57) **ABSTRACT**

The present invention relates to a method for controlling handoff of a mobile terminal, and more specifically, to a method for controlling handoff of a mobile terminal in an IEEE 802.22 wireless regional area network (WRAN) communication standard for defining communication of a fixed terminal which uses a frequency band that is not regionally used among television broadcasting frequency bands.

7 Claims, 10 Drawing Sheets