

Title (en)  
METHODS FOR EFFICIENT BEAM TRAINING AND COMMUNICATIONS APPARATUS AND NETWORK CONTROL DEVICE UTILIZING THE SAME

Title (de)  
VERFAHREN FÜR EFFIZIENTES STRAHLUNGSTRaining SOWIE KOMMUNIKATIONSVORRICHTUNG UND NETZWERKSTEUERUNGSVORRICHTUNG DAMIT

Title (fr)  
PROCÉDÉS D'APPRENTISSAGE EFFICACE DE FAISCEAU, ET APPAREIL DE COMMUNICATION ET DISPOSITIF DE COMMANDE DE RÉSEAU L'UTILISANT

Publication  
**EP 3292639 A4 20180926 (EN)**

Application  
**EP 16795701 A 20160301**

Priority  
• US 201514717144 A 20150520  
• US 201514938103 A 20151111  
• CN 2016075105 W 20160301

Abstract (en)  
[origin: WO2016184214A1] A network control device includes a wireless communications module and a controller. The wireless communications module uses a preferred transmitting beam to communicate with a communications apparatus in one or more downlink opportunities corresponding to the preferred transmitting beam. The controller schedules signal or data to be transmitted in at least one downlink opportunity corresponding to the preferred transmitting beam. When scheduling signal or data to be transmitted, the controller further provides at least one training gap, in which the controller does not schedule any dedicated data to the communications apparatus, in the downlink opportunity corresponding to the preferred transmitting beam.

IPC 8 full level  
**H04B 7/06** (2006.01); **H04B 7/08** (2006.01); **H04W 72/04** (2009.01); **H04W 72/12** (2009.01); **H04W 74/00** (2009.01)

CPC (source: EP)  
**H04B 7/0617** (2013.01); **H04B 7/0695** (2013.01); **H04B 7/088** (2013.01); **H04W 72/23** (2023.01); **H04W 16/28** (2013.01); **H04W 72/046** (2013.01)

Citation (search report)  
• [XAYI] US 2014198696 A1 20140717 - LI YING [US], et al  
• [YPA] WO 2015156575 A1 20151015 - SAMSUNG ELECTRONICS CO LTD [KR] & EP 3131328 A1 20170215 - SAMSUNG ELECTRONICS CO LTD [KR]  
• [A] US 2013028186 A1 20130131 - KIM YUNG-SOO [KR]  
• [A] NITSCHKE THOMAS ET AL: "IEEE 802.11ad: directional 60 GHz communication for multi-Gigabit-per-second Wi-Fi [Invited Paper]", IEEE COMMUNICATIONS MAGAZINE, IEEE SERVICE CENTER, PISCATAWAY, US, vol. 52, no. 12, 1 December 2014 (2014-12-01), pages 132 - 141, XP011567636, ISSN: 0163-6804, [retrieved on 20141208], DOI: 10.1109/MCOM.2014.6979964  
• See references of WO 2016184214A1

Designated contracting state (EPC)  
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DOCDB simple family (publication)  
**WO 2016184214 A1 20161124**; BR 112017024740 A2 20181113; CN 107210802 A 20170926; EP 3292639 A1 20180314; EP 3292639 A4 20180926

DOCDB simple family (application)  
**CN 2016075105 W 20160301**; BR 112017024740 A 20160301; CN 201680009051 A 20160301; EP 16795701 A 20160301