

Title (en)  
BACKHAUL LINK WITH REFERENCE SIGNAL FOR DISTRIBUTED ANTENNA SYSTEM

Title (de)  
BACKHAUL-VERBINDUNG MIT REFERENZSIGNAL FÜR VERTEILTES ANTENNENSYSTEM

Title (fr)  
LIAISON TERRESTRE AVEC SIGNAL DE RÉFÉRENCE POUR SYSTÈME D'ANTENNE DISTRIBUÉE

Publication  
**EP 3469717 A1 20190417 (EN)**

Application  
**EP 17732654 A 20170606**

Priority  
• US 201615179204 A 20160610  
• US 2017036172 W 20170606

Abstract (en)  
[origin: WO2017214162A1] A distributed antenna and backhaul system provide network connectivity for a small cell deployment. Rather than building new structures, and installing additional fiber and cable, embodiments described herein disclose using high-bandwidth, millimeter-wave communications. An overhead millimeter-wave system can be used to provide backhaul connectivity. Modules can be placed onto existing infrastructure, such as streetlights and utility poles, and the modules can contain base stations and antennas to transmit the millimeter-waves to and from other modules. Uplink and downlink signals (i.e., signals directed to/from a base station from/to a communication node) can be spectrally divided into control channels, uplink/downlink spectral segments each including modulated signals which can be frequency converted to their original/native frequency band for enabling the communication nodes to communicate with one or more mobile or stationary devices, and pilot signals which can be supplied with some or all of the spectral segments for mitigating distortion created between the communication nodes. The pilot signals can be processed by transceivers of up- and downstream communication nodes to remove distortion from a receive signal (e.g., phase distortion).

IPC 8 full level  
**H01P 3/10** (2006.01); **H04B 1/04** (2006.01); **H04B 1/40** (2015.01); **H04B 3/52** (2006.01); **H04B 3/54** (2006.01); **H04B 7/155** (2006.01); **H04W 88/08** (2009.01)

CPC (source: EP KR)  
**H04B 1/40** (2013.01 - EP); **H04B 3/542** (2013.01 - KR); **H04B 7/15507** (2013.01 - EP); **H04B 10/25753** (2013.01 - KR); **H04B 10/25759** (2013.01 - KR); **H04W 16/26** (2013.01 - KR); **H04W 88/085** (2013.01 - KR); **H01Q 1/246** (2013.01 - EP); **H04B 1/0475** (2013.01 - EP); **H04B 3/52** (2013.01 - EP); **H04B 3/54** (2013.01 - EP); **H04B 2203/5441** (2013.01 - KR); **H04B 2203/5479** (2013.01 - KR)

Citation (search report)  
See references of WO 2017214162A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**WO 2017214162 A1 20171214**; AU 2017278371 A1 20190124; BR 112018075432 A2 20190319; CA 3026385 A1 20171214; CN 109565299 A 20190402; EP 3469717 A1 20190417; JP 2019522924 A 20190815; KR 20190017919 A 20190220; MX 2018015356 A 20190923

DOCDB simple family (application)  
**US 2017036172 W 20170606**; AU 2017278371 A 20170606; BR 112018075432 A 20170606; CA 3026385 A 20170606; CN 201780048318 A 20170606; EP 17732654 A 20170606; JP 2018564851 A 20170606; KR 20197000686 A 20170606; MX 2018015356 A 20170606