

Title (en)
SYSTEMS AND METHODS FOR PRECISE RADIO FREQUENCY LOCALIZATION USING TIME SWEEP TIME DIFFERENCE OF ARRIVAL

Title (de)
SYSTEME UND VERFAHREN ZUR GENAUEN RADIOFREQUENZLOKALISIERUNG UNTER VERWENDUNG VON TIME SWEEP TIME DIFFERENCE OF ARRIVAL

Title (fr)
SYSTÈMES ET PROCÉDÉS DE LOCALISATION PRÉCISE DE FRÉQUENCE RADIO FAISANT APPEL À LA DIFFÉRENCE TEMPORELLE DE BALAYAGE TEMPOREL D'ARRIVÉE

Publication
EP 3928118 A4 20221116 (EN)

Application
EP 20759578 A 20200212

Priority
• US 201916283780 A 20190224
• US 2020017857 W 20200212

Abstract (en)
[origin: WO2020172014A1] Systems and apparatuses for determining locations of wireless nodes in a network architecture are disclosed herein. In one example, an asynchronous system includes first and second wireless nodes each having a wireless device with one or more processing units and RF circuitry for transmitting and receiving communications in the wireless network architecture. The system also includes a third wireless node having an unknown location and a wireless device with a transmitter and a receiver to enable communications with the first and second wireless nodes in the wireless network architecture. The one or more processing units of the first wireless node are configured to transmit instructions to a cloud based entity or execute instructions to determine a location coordinate hypothesis and a transmit time hypothesis for a transmitted communication of the third wireless node, determine an error function associated with the transmit time hypothesis for each received path j of the receiving first and second wireless nodes at the location coordinate hypothesis, and determine a probability function of the error function for each received path j of the first and second wireless nodes using statistical properties of path measurement accuracy.

IPC 8 full level
G01S 5/02 (2010.01)

CPC (source: EP)
G01S 5/0278 (2013.01); **G01S 5/0289** (2013.01)

Citation (search report)
• [X] US 2015375083 A1 20151231 - STELFOX JILL [US], et al
• [A] WO 2007031844 A2 20070322 - IWICS INC [US], et al
• See also references of WO 2020172014A1

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

DOCDB simple family (publication)
WO 2020172014 A1 20200827; CN 113474671 A 20211001; EP 3928118 A1 20211229; EP 3928118 A4 20221116; JP 2022521018 A 20220404; JP 7503563 B2 20240620

DOCDB simple family (application)
US 2020017857 W 20200212; CN 202080016484 A 20200212; EP 20759578 A 20200212; JP 2021549456 A 20200212