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(54) **Title:** PAIRWISE MEASUREMENTS FOR IMPROVED POSITION DETERMINATION

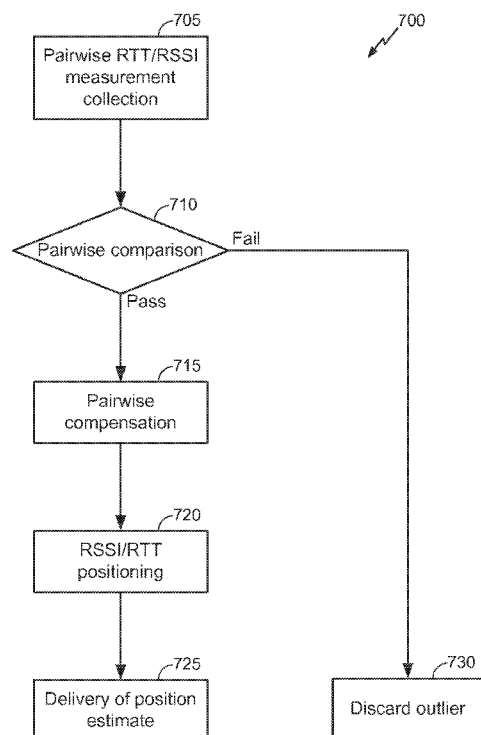


FIG. 7

(57) **Abstract:** Approaches for enhancing range-based position determination using pairwise error detection and compensation are provided. One method for enhancing a position estimate of a first node may include performing measurements at the first node using a signal received from a second node, and receiving measurements from the second node. The received measurements may be performed at the second node using a signal provided by the first node. The method may further include determining pairwise comparisons of the performed measurements and the received measurements, and compensating the measurements performed at the first node, based on the pairwise comparisons, for estimating the position of the first node. Systems and apparatuses for performing the various position determination methods are further presented.



MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,
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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G01S H04W

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2010/059934 A2 (QUALCOMM INC [US]; AGGARWAL ALOK [US]; NAGUIB AYMAN FAWZY [US]; SRIDHA) 27 May 2010 (2010-05-27) paragraph [0009] paragraph [0049] - paragraph [0051] paragraph [0064] - paragraph [0136] -----	1-30, 51-70
X	WO 2011/149496 A1 (QUALCOMM INC [US]; EKBAL AMAL [US]; JULIAN DAVID JONATHAN [US]; BUDIAN) 1 December 2011 (2011-12-01) paragraph [0002] paragraph [0008] paragraph [0011] - paragraph [0012] paragraph [0030] paragraph [0035] - paragraph [0037] paragraph [0039] paragraph [0043] paragraph [0060] - paragraph [0063] ----- -/-	1-30, 51-70



Further documents are listed in the continuation of Box C.



See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	IEEE: "IEEE standard for information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements", 20070831, 31 August 2007 (2007-08-31), pages I-XIV, XP002587647, ISBN: 978-0-7381-5583-8 Annex D1 Location topics -----	1-30, 51-70

INTERNATIONAL SEARCH REPORT

Information on patent family members

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