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(71) Applicant (for all designated States except US): QUAL-COMM INCORPORATED [US/US]; Attn: International Ip Administration, 5775 Morehouse Drive, San Diego, California 92121 (US).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): LEE, Chong, U. [US/US]; 11710 Alderidge Lane, San Diego, California 92131 (US). STEIN, Jeremy, M. [IL/IL]; Na'amat Street 19, 34670 Haifa (IL). SHEYNBLAT, Leonid [US/US]; 110 Reservoir Road, Hillsborough, California 94010 (US).
- (74) Agents: OGROD, Gregory D. et al.; Attn: International Ip Administration, 5775 Morehouse Drive, San Diego, Califonia 92121 (US).

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- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

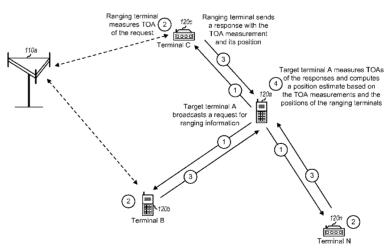
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#### (54) Title: POSITION DETERMINATION WITH PEER-TO-PEER COMMUNICATION

#### Position Determination with Two-Way Peer-to-Peer Communication



(57) Abstract: For position determination with peer-to-peer communication, a target terminal (120a) broadcasts a request for assistance in determining its position (1). At least one ranging terminal (120b, 120c, 120n) receives the request. Each ranging terminal (120b, 120c, 120n) sends a response with a time of arrival (TOA) measurement for the request and the position of the ranging terminal (3). For two-way peer-to-peer, the target terminal receives at least one response from the at least one ranging terminal, obtains a TOA measurement for each response, estimates the distance to each ranging terminal based on the TOA measurement for the request and/or the TOA measurement for the response, and computes a position estimate for itself based on the estimated distance and the position for each ranging terminal (4). For one-way peer-to-peer, a network entity receives at least one response from the at least one ranging terminal, computes a position estimate for the target terminal.





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 before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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A. CLASSIFICATION OF SUBJECT MATTER INV. H04Q7/38 G01S5/14 G01S5/02 ADD. G01S5/00 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 H040 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 practical, search terms used) EPO-Internal, WPI Data C. DOCUMENTS CONSIDERED TO BE RELEVANT Category\* Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. X WO 02/49379 A (PULSE LINK INC [US]) 1 - 3120 June 2002 (2002-06-20) abstract page 1, lines 18-32 page 2, lines 22-25 page 4, line 5 - page 5, line 33 page 6, line 33 - page 8, line 3 page 8, line 20 - page 9, line 2 page 9, lines 25-30 page 10, line 29 - page 11, line 5 figure 1 X US 2005/049821 A1 (SAHINOGLU ZAFER [US]) 1,17,20, 3 March 2005 (2005-03-03) 23,28, 30.32 - 40abstract paragraphs [0017], [0029] - [0054] Further documents are listed in the continuation of Box C. See patent family annex. Special categories of cited documents: \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance invention \*E\* earlier document but published on or after the international \*X\* document of particular relevance; the claimed invention filing date cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the "O" document referring to an oral disclosure, use, exhibition or document is combined with one or more other such docu-ments, such combination being obvious to a person skilled other means in the art. document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 30/08/2007 22 August 2007 Name and mailing address of the ISA/ Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Englund, Terese Fax: (+31-70) 340-3016

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