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(71) Applicant: PULSE-LINK, INC. [US/US]; 1969 Kellogg Avenue, Carlsbad, CA 92008 (US).

(72) Inventors: SANTHOFF, John; 6434 Kinglet Way, Carlsbad, CA 92009 (US). MOORE, Steven, A.; 2250 Big Pine Road, Escondido, CA 92027 (US).

(74) Agent: MARTINEZ, Peter, R.; c/o Pulse-Link, Inc., 1969 Kellogg Avenue, Carlsbad, CA 92008 (US).

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### (54) Title: ULTRA-WIDEBAND COMMUNICATION SYSTEM AND METHOD

(57) Abstract: The present invention provides systems and methods for communication between ultrawideband (UWB) devices. In general, the UWB device may characterize the attenuation, and other characteristics of the communication environment. Using these characteristics the UWB device can adapt various communication parameters to improve the communication quality. The UWB device may use these characteristics to establish zones and sectors for communication with other UWB devices. Based on this zone and sector assignment the UWB device may select communication parameters for communication with other UWB devices. This Abstract is provided for the sole purpose of complying with the Abstract requirement rules that allow a reader to quickly ascertain the subject matter of the disclosure contained herein. This Abstract is submitted with the explicit understanding that it will not be used to interpret or to limit the scope or the meaning of the claims.

## INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H01L51/20 H01L51/30

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)  $IPC \ 7 \ H01L$ 

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, INSPEC, WPI Data, PAJ

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χ Further documents are listed in the continuation of box C.	χ Patent family members are listed in annex.
<ul> <li>Special categories of cited documents:</li> <li>"A" document defining the general state of the art which is not considered to be of particular relevance</li> <li>"E" earlier document but published on or after the international filing date</li> <li>"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)</li> <li>"O" document referring to an oral disclosure, use, exhibition or other means</li> <li>"P" document published prior to the international filing date but later than the priority date claimed</li> </ul>	"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 invention  "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone  "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.  "&" document member of the same patent family
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Name and mailing address of the ISA  European Patent Office, P.B. 5818 Patentlaan 2  NL – 2280 HV Rijswijk  Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Authorized officer Faou, M

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