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(71) 申请人: 华为技术有限公司 (HUAWEI TECHNOLOGIES CO., LTD.) [CN/CN]; 中国广东省深圳市龙岗区坂田华为总部办公楼, Guangdong 518129 (CN)。

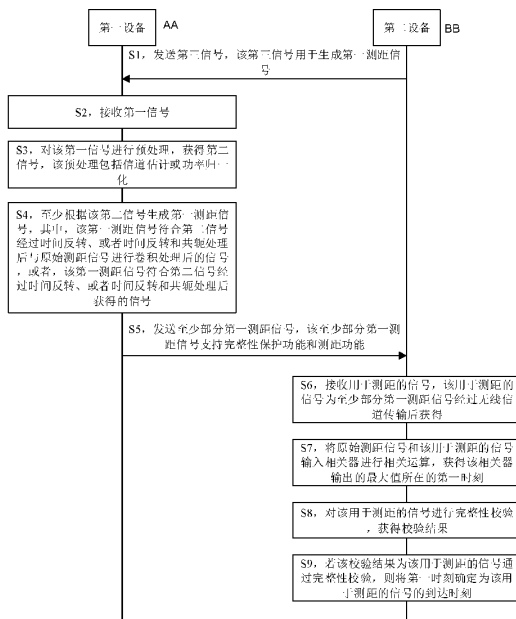
(72) 发明人: 孙黎(SUN, Li); 中国广东省深圳市龙岗区坂田华为总部办公楼, Guangdong 518129 (CN)。刘鹏(LIU, Peng); 中国广东省深圳市龙岗区坂田华为总部办公楼, Guangdong 518129 (CN)。王宇威(WANG, Yuwei); 中国广东省深圳市龙岗区坂田华为总部办公楼, Guangdong 518129 (CN)。

(74) 代理人: 广州三环专利商标代理有限公司 (SCIHEAD IP LAW FIRM); 中国广东省广州市越秀区先烈中路 80 号汇华商贸大厦 1508 室, Guangdong 510070 (CN)。

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(54) Title: METHOD AND APPARATUS FOR TRANSMITTING RANGING SIGNAL IN UWB, AND READABLE STORAGE MEDIUM

(54) 发明名称: UWB中的测距信号传输方法、装置及可读存储介质



- S1 Send a third signal, wherein the third signal is used for generating a first ranging signal
S2 Receive a first signal
S3 Preprocess the first signal to obtain a second signal, wherein the preprocessing comprises channel estimation or power normalization
S4 Generate the first ranging signal at least according to the second signal, wherein the first ranging signal conforms to a signal obtained by means of performing convolutional processing on the second signal and an original ranging signal after the second signal has been subjected to time reversal or time reversal and conjugate processing, or the first ranging signal conforms to a signal obtained after the second signal has been subjected to time reversal or time reversal and conjugate processing
S5 Send at least part of the first ranging signal, wherein the at least part of the first ranging signal supports an integrity protection function and a ranging function
S6 Receive a signal for ranging, wherein the signal for ranging is obtained after at least part of the first ranging signal has been subjected to wireless channel transmission
S7 Input the original ranging signal and the signal for ranging into a correlator and perform a related calculation thereon, so as to obtain a first time at which the maximum value output by the correlator is located
S8 Perform integrity checking on the signal for ranging, so as to obtain a check result
S9 If the check result is that the signal for ranging passes integrity checking, determine the first time to be a time of arrival of the signal for ranging
AA First device
BB Second device

图 3

(57) Abstract: The present application relates to the field of wireless communications, is applied to a wireless local area network which supports the 802.15.4z standard, and in particular relates to a method and apparatus for transmitting a ranging signal in a UWB, and a readable storage medium. The method comprises: a first device constructing a ranging signal waveform by means of time reversal and by using a channel impact response of a channel between the first device itself and a second device or a received signal, which is sent by the second device, so as to achieve matching between a ranging signal and the channel; and the second device completing

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ToF measurement on the basis of the received signal and by means of a related calculation, and determining, by means of sampling, determination and related operations, whether a ranging process is interfered with, so as to realize integrity protection of the ranging signal. By means of the embodiments of the present application, a receiving end can have the capability of detecting whether a ranging process is interfered with, thereby ensuring the integrity of a ranging signal without any loss of the ranging performance of a system.

(57) 摘要: 本申请涉及无线通信领域, 应用于支持802.15.4z标准的无线局域网中, 尤其涉及一种UWB中的测距信号传输方法、装置及可读存储介质, 该方法包括: 第一设备利用自身与第二设备之间信道的信道冲击响应或者接收到的第二设备发送的信号, 通过时间反转构造测距信号波形, 实现测距信号与信道的匹配; 第二设备基于接收信号, 通过相关运算完成ToF测量, 并通过采样、判决、相关操作对测距过程是否被干扰做出判断, 实现测距信号的完整性保护。采用本申请实施例, 可以使接收端具有检测测距过程是否受到干扰的能力, 保证测距信号的完整性, 并且不损失系统的测距性能。