

| common problems of UHF RFID Reader development Q&A Updated: 2012-12-21 | | |
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| 1 | Q | what is DRM mean? |
| | A | DRM = Dense Reader Mode。 Generally speaking, each other interference sometimes big to unacceptable levels when more reader work at the same time, especially when antenna are close together, such as unable to read tags. If necessary, it need to open the DRM mode of the reader .So that reader can operating tags at the same time. But, the DRM can solve more reader at the same time, the expense is reduce to sensitivity of reader, , Generally , the sensitivity of reader go down 6-10 DB.(4-10 times) after open the DRM, |
| 2 | Q | “cmd_name_read”、 “cmd_name_write”、 “cmd_name_lock”、 “cmd_name_kill”, how to determine all finished return when these will return multi- commands? |
| | A | There are two ways: 1、 In each returned data, both with a TagCount parameters, that it are the total number of labels of the effective operation at this operation, How many labels, how many data is returned 2、 if return data error or leakage accident etc. accident, can also determine the interval of data. The interval of two data is certain, the default 10 ms. It is not belong to this operation data when exceed the time |
| 3 | Q | What are “cmd_name_set_access_epc_match” it used for? |
| | A | If known to the EPC number of read, write, lock, kill the label , you can use this command, so the operation for read, write, lock, the kill will only for to operate with matching the EPC tags. All tags will are processed at the same time after removal of matching. |
| 4 | Q | Whether is“cmd_name_set_access_epc_match”for“cmd_name_inventory” effective? |
| | A | This command does not apply to the INVENTORY. |
| 5 | Q | “cmd_name_get_inventory_buffer” How to determine the buffer data reader finished? |
| | A | By time interval judgment, the default upload interval of is 10 ms, for example, assume that waited 50 ms haven't upload data, the data is sent. Considering the communication process will produce error, so should not be used to the methods that receive data on the number of article and the total number contrast. |
| 6 | Q | What is the parameters Channel of "cmd_name_inventory" mean? |
| | A | A inventory operation is polling a label. Usually a polling is unable to read all labels,so the need to repeatedly polling, the Channel parameters have two functions: 1、 allows users to send one command for more inventory tag operation. 2、 the greater the Channel parameters, the more the number of frequency hopping in the spectral range .So, in the same command inventory, the greater the Channel parameters, the more time consumed and the number of read the label and the number of frequency hopping . |
| 7 | Q | How long does it take to inventory ? |
| | A | because anti-collision use dynamic Q random algorithm, and the number of inventory label does not necessarily, so a inventory time is not necessarily. Generally between |

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| | | 500-1300 ms. |
| 8 | Q | How can quickly switch antenna by four channels reader inventory tags ? |
| | A | There are two ways: 1、 will the INVENTORY command Channel parameters set to 255, time that INVENTORY tags consumed will be the minimum in this time. If only one or two labels in the area of RFID, once inventory the consumed time approximately 50 ms. 2、 use” cmd_name_fast_switch_ant_inventory” command. This command to save the user process of sending antenna switch command, more efficient. Specific operations ,please see the communication protocol manual. |
| 9 | Q | As for command of return multiple orders, how to deal with it, if you haven't returned after have sent a new order? Is don't respond to new commands or terminated without sending commands, deal with new order? |
| | A | Don't handle any new orders before all the data is not completely returned . |
| 10 | Q | Is there any way to recognize, if the module is not connect to antenna? |
| | A | Open measuring ability of antenna with “cmd_name_set_ant_connection_detector detection“, if antenna not connected, inventory or operation tag will return 0 x22 error ("antenna_missing_error" antenna not connected). |
| 11 | Q | Only one parameter indicates the length of the DADA in the Read command returns the data (PC + CRC + EPC + Read the label data) , but EPC length is different for different card, so how to distinguish between the part belongs to EPC, the part belongs to Read the label data? |
| | A | There is a ReadLen parameters in data packet of read command returned (Read data length) "Write, kill, lock" command does not need to return data, only return one state, Err_Code . |
| 12 | Q | Why sometimes can inventory to label, but can't write or read? |
| | A | The main cause of these two errors is the insufficient energy of label sensed. In the EPC agreement, all the ACCESS command (read, write, lock, kill) need to be more than twice as many as inventory (inventory) operation of energy, twice as much time of communication, in general, the ACCESS command distance of reading labels is inventory command of 60%-70%,the probability of mistakes is the inventory command of twice. If the operation increases the amount of data, also takes along with the increase of energy and time, also follow the errors increase risk .Therefore, when using the ACCESS command, please send label close to the antenna, to tags provide enough energy, so would have stable job. |
| 13 | Q | Why can read, write, the lock ,but could not kill tag? |
| | A | If label close to the antenna, but when using the KILL command always returns 0 x37, please check the KILL password. Kill password must not be 00 00 00 00, the kill password must be a initialization (can use write command initialization label RESERVE area). Can kill the tag if the code is no problem . |
| 14 | Q | Can be switched antenna in the process of inventory? |
| | A | Can't. If need to quickly switch antenna, please use" cmd_name_fast_switch_ant_inventory "command. |
| 15 | Q | why the TCP/IP can't communications after change the equipment serial port baud rate? |

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| | A | After change the baud rate of reader, TCP/IP module baud rate will also go to change to the same. |
| 16 | Q | Can modules work with not connect to heat sink? |
| | A | Long time continuous work must connect to the heat sink. |
| 17 | Q | what is problem make when module power supply more than 5 v ?how much is Reader power supply range ? |
| | A | Module power supply voltage does not allow more than 5 v, otherwise it will burn inside of the detonator. Reader power supply range between 12 v - 20 v. |
| 18 | Q | Why the speed of real-time model inventory tag no caching pattern fast? |
| | A | Real-time model inventory tags, it need to communicate once with PC when each read a label, so occupy the time of nventory tags. Caching pattern only communicate with PC at the end of the round of inventory. |
| 19 | Q | why is starting address 0 x02 when change EPC ? |
| | A | Front 4 bytes of EPC area stored are (PC) and the CRC, EPC number begins with 5th bytes. 1 word = 2 byte, so the starting address is 0 x02. |
| 20 | Q | Is there Inventory of 18000-6 b labels caching pattern? |
| | A | No. Read 18000-6 B labels immediately upload data. |
| 21 | Q | How much 18000-6 B labels most up to when inventory in the same time ? |
| | A | No more than 30 copies. |
| 22 | Q | Can "Cmd_name_iso18000_6b_lock" command only lock a byte at a time? How to unlock? |
| | A | Only operate a byte ion at a time. And it is a permanent lock, unlock. |
| 23 | Q | Why is the smallest output power in 20 dBm, can set up into smaller? |
| | A | Don't can set smaller, too small output power will affect module work, does not make sense. |
| 24 | Q | How much is GPIO light coupling response speed ? |
| | A | Input response speed is less than 150 us, the output response speed is less than 6 ms. |
| 25 | Q | Can support the FCC and ETSI at the same time? |
| | A | In principle is not recommended. If you need the the product that can support the two regions at the same time need to customize. Because the RFID performance is slightly bad that the product support the two regions at the same time, only support a region of products, better the optimization on the impedance matching. Can use the write command initialization label RESERVE area). |
| 26 | Q | Why frequently occurring words of "antenna not connected" message when connect the handset antenna? |
| | A | Because the area of hand-held antenna is small, its return loss is very big, impedance matching is very difficult to do. Please shut down testing function of connect the antenna. In addition, the antenna of connection quality poor is the same. |
| 27 | Q | Can the reader of four channe send inventory orders immediately after switching antenna? Or have to wait a little time? |
| | A | Don't need to wait for, it can send orders immediately. |
| 28 | Q | Can Buzzer interface be changed by high power LED? How much is maximum output current? |

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| | A | Buzzer driver interface of module can connect high power LED, the interface can output 50 mA current under 3.3 V voltage |
| 29 | Q | Why is it a big difference in the effect of indoor test and outdoor sometimes? |
| | A | Should not be test equipment in full of metal and large areas of glass etc. mall environment, large areas of the electromagnetic wave reflection can affect the reader work. Can not get effective test data and normal user experience in such conditions. |
| 30 | Q | Whether can the cables of module be repeatedly pull plug? |
| | A | The connector receptacle use the United States Molex 53261-1571, pull out plug number 30 times (please see the specification, Durability (mating cycles Max)). Terminal use common and homebred connector, its pull out plug number should be smaller. Customers purchase line can according to own actual need, is a standard specification product. |
| 31 | Q | How many labels reader cache can hold? Will mixed reading of different lengths of EPC number go wrong? Will go wrong when the cache is full still to inventory ? |
| | A | Cache can hold 800 to 96 - Bit EPC number, mixed reading won't go wrong for different length of EPC .Inventory to the new tags after the cache fully will not save the data, but not an error. |
| 32 | Q | What are the advantages of antenna configuration for transceiver separation mode? |
| | A | Transceiving separation modes of antenna will make improved sensitivity of reader more than 13dB, that it is receiving sensitivity improved more than 20 times. Users can feel is more stable and reliable when operate label in a complex environment. The cost is: because it need to use a pair of antenna, so the cost is higher. The put distance of a pair of antenna can't too close, so deploying antenna need space become increase significantly. |
| 33 | Q | Do four channel module and reader support separation mode of antenna sending and receiving ? |
| | A | Don't support , only standard module and custom products to support the model. |
| 34 | Q | Can use lithium batteries to supply power for modules? |
| | A | Can, module designed for lithium batteries is optimized, the power supply voltage range up to 3.7 V to 5 V, the peak current up to 1.2-1.3A. |
| 35 | Q | Do use mobile phones will influence the reader work performance near the antenna when reader is working? |
| | A | In theory, there will be impact. But due to the the carrier frequency of mobile phones and RFID are entirely verlap , meanwhile, the RFID reader carrier frequency in the random jumping frequency work state, so, in fact, its influence is limited. |
| 36 | Q | What's the there is a reader address parameter in each package data use for ,in the communication protoco? |
| | A | Reader address is mainly used for the reader that RS - 485 concatenated specified to operate .If without the address , it will not be able to realize the function of 485 concatenated. This parameter can be set broadcast address (0 XFF) when use the other connections, no practical effect. |
| 37 | Q | Why software response speed will be slow after open the serial port to monitor when use the DEMO inventory 18000-6 B or real-time inventory 6C label? |
| | A | The data that software need to deal with will be become more after open the serial port |

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| | | monitoring , and it can accumulate more and more, cause the software response become slow, so don't need to open the function in the test , only it is useful when debugging commands. |
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