RD05 Bluetooth communication data protocol v1.0

1.Bluetooth data transmission format

The scan mode is a single broadcast universal device mode

```
{
"from": "ble",
"to":"server",
"cmd": "general_scan_data",
"td_mac": "12:34:56:76:54:03",
"send_time":"2020-08-19 16:15:28",
"temperature": 0,
"humidity": 0,
"scan_type": 1,
"device_num": 2,//Number of scanned Bluetooth device
"devices": [{
"bs_mac": "123456",//Mac of Bluetooth Device
"bs_rssi": -45,
"bs_name": "skylab_bt1",
"Broadcast_data": "123456765434567u543456yt543"//one Bluetooth device's broadcast data
}, {
"bs_mac": "654321",
"bs_rssi": -47,
"bs_name": "skylab_bt2",
"Broadcast_data": "123456765434567u543456yt543"
}]
}
```

2 Set filter information

2.1 Set/cancel the scanned and filtered signal strength RSSI value

```
{
"from": "server",
"to":"ble",
"td_mac": "11:22:aa:cc:dd:ee",
"msg_id": 0,
```

//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for downlink sending configuration on the web page

"cmd": "filter_rssi",

"active": 0/1, //0:Cancel [other values is 0 by default], 1:Set up

"rssi": -78

//Range[-127,0]，when active is 0, do not detect this value

}

Response message

{

"to": "server",

"from":"ble",

"td_mac": "11:22:aa:cc:dd:ee",

"msg_id": 0,

//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for downlink sending configuration on the web page

"cmd": "filter_rssi",

"result":"success" /"failcode:{errno}" //"success"success，"failcode"fail, {errno} standards for failed codes

}

2.2 Set/cancel the scanned and filtered name of the device

{

"from": "server",

"to":"ble",

"td_mac": "11:22:aa:cc:dd:ee",

"msg_id": 0,

//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for downlink sending configuration on the web page

"cmd": "filter_devname",

"active": 0/1, //0:Cancel [other values default is 0], 1:Set up

"devname": "DEV*" //You can set the name of the ending of the name*, such as: set "DEV*" means If the device name starts with "DEV", data is reported, and the value is not detected when the Active is 0

}

Return

{

"to": "server",

"from":"ble",

"td_mac": "11:22:aa:cc:dd:ee",

"msg_id": 0,

//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for downlink sending configuration on the web page

"cmd": "filter_devname",

"result":"success" /"failcode:{errno}" //"success"success，"failcode"fail,{errno} standards for failed codes
}

2.3 Set multiple/cancel the scanned and filtered name of the device

{
"from": "server",
"to":"ble",
"td_mac": "11:22:aa:cc:dd:ee",
"msg_id": 0,
//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for downlink sending configuration on the web page
"cmd": "filter_mul_devname",
"active": 0/1, //0:Cancel [other values default is 0], 1:Set up
"devnames": [
//The number of device is 1 ~ 5,> 5, only get the first five
"95power*",
"skylab*"
]
//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for downlink sending configuration on the web page
}
Return
{
"to": "server",
"from":"ble",
"td_mac": "11:22:aa:cc:dd:ee",
"msg_id": 0,
//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for downlink sending configuration on the web page
"cmd": "filter_mul_devname",
"result":"success" /"failcode:{errno}" //"success"success，"failcode"fail,{errno} standards for failed codes
}

2.4 Set/cancel the scanned and filtered Bluetooth data logger

{
"from": "server",
"to":"ble",
"td_mac": "11:22:aa:cc:dd:ee",
"msg_id": 0,

//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for downlink sending configuration on the web page

"cmd": "filter_buuid",//If you find that you have connected, then use a new UUID communication.

"active": 0/1, //0:Cancel [other values default is 0], 1:Set up

"buuid": "1234567890abcdef1234567890abcdef",

//Fixed 32 -byte UUID matching

// 【

a-fA-F0-9】 , when active is 0, do not detect this value

"buuid2": "1234567890abcdef1234567890abcdef"

//Fixed 32 -byte UUID matching

// 【

a-fA-F0-9】 ,when active is 0, do not detect this value,If you only filter one,don't send this type

}

Return

{

"to": "server",

"from":"ble",

"td_mac": "11:22:aa:cc:dd:ee",

"msg_id": 0,

//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for downlink sending configuration on the web page

"cmd": "filter_buuid",

"result":"success" /"failcode:{errno}" //"success"success， "failcode"fail,{errno} standards for failed codes

}

2.5 Set/cancel the scanned and filtered CompanyID

{

"from": "server",

"to":"ble",

"td_mac": "11:22:aa:cc:dd:ee",

"msg_id": 0,

//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for downlink sending configuration on the web page

"cmd": "filter_companyId",

"active": 0/1, //0:Cancel [other values default is 0], 1:Set up

"companyId": "004C",

//Broadcast data Comanyid, which is fixed 4BYTE, range [A-FA-F0-9] base data

"companyId2": "1234" //Broadcast data Comanyid, which is fixed 4BYTE, scope [A-FA-F0-9] base data,

//If you only filter one, don't send this value

}

Return

```
{
"to": "server",
"from":"ble",
"td_mac": "11:22:aa:cc:dd:ee",
"msg_id": 0,
//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for
downlink sending configuration on the web page
"cmd": "filter_companyId",
"result":"success" /"failcode:{errno}" //"success"success，"failcode"fail,{errno} standards for
failed codes
}
```

2.6 Set/cancel the scanned and filtered MAC address

```
{
"from": "server",
"to":"ble",
"td_mac": "11:22:aa:cc:dd:ee",
"msg_id": 0,
//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for
downlink sending configuration on the web page
"cmd": "filter_mac_list",
"active": 0/1, //0:Cancel [other values default is 0], 1:Set up
"mac_list": [
//the device MAC address list, number [1,8]
"12:34:56:ac:1a:3a",
"65:43:21:11:22:33"
]
}
Return
{
"to": "server",
"from":"ble",
"td_mac": "11:22:aa:cc:dd:ee",
"msg_id": 0,
//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for
downlink sending configuration on the web page
"cmd": "filter_mac_list",
"result":"success" /"failcode:{errno}" //"success"success，"failcode"fail,{errno} standards for
failed codes
}
```

2.7 Filtering conditions are all matched/single matched

When multiple filtration conditions are set, the default is single matching (all filter conditions are "or"). The all matching indicates that all conditions must be met (logical relationship is "and"), and the single matching only needs to meet one; for example, setting the name filtering Skylab and RSSI filter-60, the all matching needs to meet the device name Skylab, and the signal value is greater than -60.

It should be noted that the relationship between the same filtration type is "or" the relationship is set.

This function is often prepared for whether to initiate connections after scanning the filtered device.

```
{
"from": "server",
"to":"ble",
"td_mac": "12:34:56:78:76:ac",
"msg_id": 0,
//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for
downlink sending configuration on the web page
"cmd": "match_type",
"match_type": 0/1
0: single match, 1: all match
}
```

Return

```
{
"to": "server",
"from":"ble",
"td_mac": "11:22:aa:cc:dd:ee",
"msg_id": 0,
//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for
downlink sending configuration on the web page
"cmd": "match_type",
```

2.8 Get the current filter configuration

```
{
"from": "server",
"to":"ble",
"td_mac": "12:34:56:78:76:ac",
"msg_id": 0,
//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for
downlink sending configuration on the web page
"cmd": "get_filter_info"
}
```

Return

```
{
"from": "ble",
```

```
"to":"server",
"td_mac": "12:34:56:78:76:ac",
"msg_id": 0,
//the downlink transmission is incremented, return on reply [1,65534], 65535 is reserved for
downlink sending configuration on the web page
"cmd": "get_filter_info",
"filter_rssi_status": 0/1,
//0: No settings, 1: Settings
"filter_rssi_value": -80,
//filter_rssi_status is 0, without this parameter
"filter_devname_status": 0/1,
//0: No settings, 1: Settings
"filter_devname": "Dev*;SKY*",
//filter_devname_status is 0, without this parameter，  Multiple use; separate
"filter_buuid_status": 0/1/2,
//0: No settings, 1: Settings, 2: Settings 2
"filter_buuid": "1234567890abcdef", //filter_buuid_status is 0, without this parameter
"filter_buuid2": "2234567890abcdef", //filter_buuid_statu is 0 or 1, without this parameter
"filter_companyId_status": 0/1/2,
//0: No settings, 1: Settings, 2: Settings 2
"filter_companyId":1234,
//filter_companyId_status is 0, without this parameter,
//Hexadecimal numbers of two bytes；
"filter_companyId2":004C,
//filter_companyId_status is 0, without this parameter,
//Hexadecimal numbers of two bytes；
"filter_mac_status": 0/1,
//0: No settings, 1: Settings
"mac_list":[
//filter_mac_status is 0, without this parameter, the device MAC address filter list, number [1,8]
"12:34:56:ac:1a:3a",
"65:43:21:11:22:33"
],
"connect_status": 0/1,
//0: No connection, 1: Connection
"match_type": 0/1
//0: Single match, 1: all match
}
```