Protocol	Asynchronous serial interface
Baud Rate	9600 baud
#Start bits	1
#Data bits	8
#Stop bits	1
Parity	None

AtyParam2.java :

(Bluetooth) send 0XDBDB00000000 return 140 byte date

(BMS serial port)send 0X5A5A00000000

Frame header （0-3）：0xAA 0X55 0XAA 0XFF

Voltage date （4-69）： 0.000 V

current（70-73）：int 0.0 A

Percentage of remaining capacity（74）：u8

Battery physical capacity of battery pack（75-78）：u32 .000000 AH

The remaining capacity of battery pack（79-82）：u32 .000000 AH

The cycle capacity of battery pack（83-86）：u32 .000AH

From the power start to the present time accumulating, unit is second（87-90）：u32 S

Real temperature（91-102）： short Celsius degree

Charge MOSFET status flags (103): u8

    //Charge MOSFET status flags

    //value：0 is turn off

    //value：1 is turn on

    //value：2 over charge protect

    //value：3 over current protect

    //value：4 battery is full charged

    //value：5 the total voltage of battery pack is over

    //value：6 battery over temperature

    //value：7 the MOSFET over temperature

    //value：8 Abnormal current

    //value：9 Balanced string out (a battery is not detected)

    //value：10 Motherboard over temperature

    //value：13 Discharge MOSFET abnormality

    //value：15 Manually turn off

Discharge MOSFET status flags (104): u8

    //discharge MOSFET status flags

//value：0 turn off

//value：1   turn on

//value：2   over discharge protect (single battery)

//value：3   over current protect

//value：5   over discharge protect (battery pack)

//value：6   battery over temperature

//value：7 the MOSFET over temperature

//value：8 Abnormal current

//value：9 Balanced string out (a battery is not detected)

//value：10   Motherboard over temperature

//value：11   charge MOSFET turn on

//value：12   short protect

//value：13 Discharge MOSFET abnormality

//value：14   Start exception

//value：15 Manually turn off

Balanced status flag (105): u8

//Balanced status flag

//value：0 turn off

//value：1   Exceeding limit trigger balance

//value：2   When charging, the voltage difference is too big, trigger balance

//value：3 balance over temperature

//value：4 Automatic balance

//value：10 Motherboard over temperature

Tire length(106-107) : u16 MM

Pulses number (week)(108-109) : u16 N

Relay switch (110):u8   (do not display)

Current power(111-114)： int   W watt

The battery number corresponding to the highest voltage(115)： u8

The highest voltage（116-117）： u16 0.000V

The battery number corresponding to the lowest voltage（118）： u8

Minimum voltage（119-120）： u16 0.000V

average voltage（121-122）： u16   0.000V

Effective battery quantity (the number of battery strings)（123）： u8 S

Discharge MOSFET, voltage between D-S (124-125)：u16 0.0 V (do not display)

Drive voltage (discharge MOSFET)(126-127)：u16 0.0V (do not display)

Drive voltage (charge MOSFET)(128-129)：u16 0.0V (do not display)

When the detected current is 0, the initial value of the comparator (130-131);u16   (do not

display)

A control bit of 1 indicates that the battery is in balance (1-32 bits corresponds to 1S-32S balance) (132-135) u32 (The corresponding bit is 1 to display the color at the corresponding voltage)

System log (data sent to the serial port), status :0-4(charge and discharge MOSFET) Battery number: 5-9 Sequential order: 10-14 Charge and discharge: 15 (1 discharge, 0 charge)(136-137)u16
System log (136-137)：

Checksum（138-139）：2 byte

/***************Setting parameters and reading parameters*****************/
1-2: Header
    (0xA5-0xA5 Write data to BMS
    0x5A-0x5A Read data from BMS
    0xDB-0xDB Write data to the main board)
3: address

4-5: Data
6: Checksum

BMS control address
247 // BMS power off, turn off the power of BMS
248 // current to zero
249 //Discharge MOS, 1 is turn on, 0 is turn off
250 //Charge MOSFET, 1 is turn on, 0 is turn off
251 //change to LiFePO4 setting
252 //The battery is automatically balanced
253 //Factory default Setting
254 //Reboot button
255 //apply button

AtyParam.java

/**********************read and write parameter address******************/

1 / / single cell over-voltage alarm voltage

2 / / single cell undervoltage warning voltage

3 / / single cell overvoltage protection voltage

4 / / single cell undervoltage protection voltage

5 / / single cell overvoltage recovery

6 / / single cell undervoltage recovery

7 // Total voltage overvoltage protection voltage (the over charge protect of battery pack)

8 // Total voltage undervoltage protection voltage (the over discharge protect value of battery pack)

9 //Charge Overcurrent Protection   unit is 000.0A

10 //Charging overcurrent protection delay   unit is seconds

11 //Discharge Overcurrent Protection   unit is A

12 //Discharge Overcurrent Protection Delay   units is Seconds

13 //balance voltage limit

14 //balance starting voltage during charging

15 //balance voltage window,   eg: 50mV, eg: 30mV.

16 //balance current value (1-20)

17 //System Voltage Reference

18 // Current sensor range

19 //Start Current (A)

20 //Short Circuit Protection Current (A)

21 //short circuit protection delay (us)

22 //No current detected, automatic standby time (seconds)

23 //The total voltage AD value is converted into the actual voltage value parameter 0000 (4-digit integer)

24 / / set the number of battery strings, such as 32S, such as 24S

25 // battery high temperature charge protection

26 // Battery High Temperature Charge Recovery

27 // Battery High Temperature Discharge Protection

28 // Battery high temperature discharge recovery

29 //MOSFET high temperature protection

30 // MOSFET high temperature recovery

31 //(31.32) Battery Physical Capacity .000 000AH (2 Spaces) (76 Low, 77 High)

33 //(33.34) remaining capacity .000 000AH (2 spaces) (78 low, 79 high)

35 //(35.36) Total circulation capacity .000AH (2 spaces) (80 low, 81 high)

41 // tire length

42 // number of pulses per week

(51+x) // Battery Internal Resistance (51-74)

100 // Runtime (70-71)