CBT-300 BLE IOS App Protocol

IOS Version：IOS7.0 above，recommend IOS9.0 above。

IOS device：iPhone 4S above(5S, 6, 6S，6plus, 6plus S, iPad air2, mini iPad2 and so on new device)。

Protocol Standard: Standard BLE4.0。

Communication：

1. APP search CBT-300 tester device，Build connection。
2. App waits for receiving data.
3. CBT-300 sends data to IOS APP.
4. APP displays receiving data when CBT-300 sending completed。
5. CBT-300 disconnect(After send data completed 5 seconds)。

**BLE Service and UUID**:

|  |  |  |  |
| --- | --- | --- | --- |
| Service Name | Service UUID | Characteristic | Characteristic UUID |
| Generic Access | 0x1800 | [Device Name](https://developer.bluetooth.org/gatt/characteristics/Pages/CharacteristicViewer.aspx?u=org.bluetooth.characteristic.gap.device_name.xml) | 0X2A00 |
| [Appearance](https://developer.bluetooth.org/gatt/characteristics/Pages/CharacteristicViewer.aspx?u=org.bluetooth.characteristic.gap.appearance.xml) | 0X2A01 |
| Device Information | 0x180A | [Manufacturer Name String](https://developer.bluetooth.org/gatt/characteristics/Pages/CharacteristicViewer.aspx?u=org.bluetooth.characteristic.manufacturer_name_string.xml) | 0X2A29 |
| **Battery Service** | 0x181F | [Battery Level](https://developer.bluetooth.org/gatt/characteristics/Pages/CharacteristicViewer.aspx?u=org.bluetooth.characteristic.battery_level.xml) | 0X2A19 |
| Client Characteristic Configuration Descriptor(CCCD) | 0X2902 |

**Note: Battery Service🡪Battery Level send data format referring to below 20Byte.**

**CBT-300 Tester Send data to IOS APP format(total 20Byte)：**

| **Transferring Items** | **Range/Options** | **Example** | **Note** |
| --- | --- | --- | --- |
| Start | 0X55,0xAA | 0X55, 0xAA | 2 byte |
| Frame length | 0-256（total length） | 20(0x14) | 1 byte |
| BLE Version | 100（1.00） | 0x64 | 1 byte |
| Battery Type: | REGULAR--0  AGM---1  SPRIL---2  GEL ----3 | 0x01(AGM) | 1 byte |
| Rating: | Battery CCA value | 650(CCA) | 2 byte |
| Measure Voltage: | 0 ~ 1800 | 1238(12.38V) | 2 byte |
| Measure CCA: | 0 ~ 2000 | 402(CCA) | 2 byte |
| Battery Result: | GOOD BATTERY --0  GOOD RECHARGE --1  CHARGE & RETEST --2  REPLACE BATTERY --3  BAD CELL-REPLACE --4 | 0x03 (REPLACE BATTERY) | 1 byte |
| **Device Serial Number** | **Serial Number format#**  **Byte0, Btye1, Byte2, Byte3, Byte4, Byte5.**  **Byte0: Month 0-12**  **Byte1:Year 00-99**  **Byte2: Location 3-China**  **Byte3-5: Note#** | **SN: 0316398765**  **3,16,3,9,87,65** | **6 byte** |
| **Tester counter** | **0-65535** | **0x00,0x02** | **2 byte** |

**Note#：Serial number format：**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **M** | **M** | **Y** | **Y** | **L** | **#** | **#** | **#** | **#** | **#** |
| **month** | **month** | **year** | **year** | **location** | **nr** | **nr** | **nr** | **nr** | **nr** |
| **1** | **1** | **1** | **5** | **3** | **0** | **0** | **0** | **0** | **5** |

**e.g.：SN: 0116312345：**

**Byte0=1; Byte1=16; Byte2=3; Byte3=1; Byte4=12; Byte5=45;**

**e.g.：SN: 0316398765：**

**Byte0=3; Byte1=16; Byte2=3; Byte3=9; Byte4=87; Byte5=65;**

**Note：Byte3-Byte5: high byte first。**