BLE Structure

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# Advertisement

BlueBit will advertise as an iBeacon.

## Advertisement Packet Data

|  |  |  |
| --- | --- | --- |
| Byte(s) | Name | Value |
| 0 | Flags[0] | 0x02 |
| 1 | Flags[1] | 0x01 |
| 2 | Flags[2] | 0x06 |
| 3 | Length | 0x1A |
| 4 | Type | 0xFF |
| 5 | Company ID[0] | 0x4C |
| 6 | Company ID[1] | 0x00 |
| 7 | Beacon Type[0] | 0x02 |
| 8 | Beacon Type[1] | 0x15 |
| 9-24 | Proximity UUID | 152ad1e0-63af-11ea-bc55-0242ac130003 |
| 25-26 | Major | Second 2 bytes of the Resbit Serial Number |
| 27-28 | Minor | First 2 bytes of the Resbit Serial Number |
| 29 | Measured Power |  |

Advertisement Interval: Set by ResBit Configuration.

## Scan Response

Blue bit will return its service UUIDs within its scan response packet.

# Services

Vendor Specific UUID: 240FXXXX-2498-4B36-BC0C-EDCCC32D0635

## Device Information Service

UUID: 0x180A

### Characteristics

|  |  |  |  |
| --- | --- | --- | --- |
| Name | UUID | Value | Notes |
| Manufacturer Name | 0x2A29 | “Kinetic Vision” |  |
| Module Number | 0x2A24 | BlueBit Model Number |  |
| Serial Number | 0x2A25 | BlueBit Serial Number |  |
| Hardware Revision | 0x2A27 | Current Hardware Version |  |
| Firmware Revision | 0x2A26 | Current Firmware Version |  |
| Software Revision | 0x2A28 | Version of the BLE interface |  |
| System ID | 0x2A23 |  |  |

## 

## ResBit Device Information Service

Vendor Specific UUID: 0xAC00

### Characteristics

|  |  |  |  |
| --- | --- | --- | --- |
| Name | UUID | Value | Notes |
| Firmware Revision | 0xAC01 | ResBit Firmware Version | Semantic version encoded as a 32bit number. LSB is Build MSB is Major. Each item is 8 bits |
| Hardware Revision | 0xAC02 | ResBit Hardware Version | Semantic version encoded as a 32bit number. LSB is Build MSB is Major. Each item is 8 bits |
| Serial Number | 0xAC03 | ResBit Serial Number | 96 bit identifier. Read as if its an array of 3 32 bit numbers. |
| Model Number | 0xAC04 | ResBit Model Number |  |

## 

## ResBit Summary Service

Vendor Specific UUID: 0xAA00

### Characteristics

|  |  |  |  |
| --- | --- | --- | --- |
| Name | UUID | Value | Notes |
| Data | 0xAA01 | 20 Byte Array | Data stream for summary data. Supports notification. |
| Transfer Summary Data | 0xAA02 | true/false | Write a 1 to start data transmission, will change to a 0 when all data has been sent. Supports notification. |
| Transferring | 0xAA03 | uint8\_t | Is 1 when the Device is actively streaming data. 0 when idle. Supports notification. |
| Ack/Nack | 0xAA04 | uint8\_t | Basic response to data packet. 1 for good, 2 for resend data. If 2 is written the packets that need to be sent need to be written to response |
| Response | 0xAA05 | 20 Byte Array | Response data to a packet |
| Enable Debug | 0xAA07 | true/false | Write true to enable debug mode for BLE. NOT MEANT FOR USER USE. |
| ResBit serial number | 0xAA08 | 96 bit number | The Resbit Serial #. 96 bit identifier. Read as if it's an array of 3 32 bit numbers. |
| Transfer Error | 0xAA09 | uint8\_t | Error code for any errors. Supports notification. See “[Transfer Error Codes](#_ggdsvvncm8n4)”. |

### Transfer Error Codes

|  |  |  |
| --- | --- | --- |
| Name | Value | Notes |
| OK | 0x00 | Transfer finished successfully. |
| No Data | 0x01 | No summary data to transfer. |
| Timeout | 0x02 | Timed out while waiting for response from client; timeout duration is 2 seconds. |
| Invalid Response | 0x03 | Client response invalid. This can occur due to the value in the “Ack/Nack” characteristic being out of range, or due to the response packet being formatted incorrectly. |
| Cancelled by Client | 0x04 | Client cancelled summary data transfer (0 written to “Transfer Summary Data” characteristic by client). |
| Client Disconnected | 0x05 | Client disconnected during summary data transfer. |
| Packet Send Error | 0x06 | Internal error while attempting to send packet. |
| Internal Error | 0x07 | Generic internal error. |