BlueBits BLE GATTs Structure

Revision: 01

Release Date: 01-10-2021

Part #: PG-RESBIT-GEN2,GEN3,GEN4

Revision History

Revision Date 01-OCT-2021   **Description** *AA*:Initial Release

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 (default is 1 second).

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

**NOT CURRENTLY ENABLED

UUID: 0x180A

Characteristics

Name	UUID	Value	Notes
Manufacturer Name	0x2A29	"Mfg"	Ex: "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	READ/WRITE	Value	Notes
Firmware Revision	0xAC01	READ	ResBit Firmware Version	Semantic version encoded as a 32bit number. LSB is Build MSB is Major. Each item is 8 bits
Hardware Revision	0xAC02	READ	ResBit Hardware Version	Semantic version encoded as a 32bit number. LSB is Build MSB is Major. Each item is 8 bits
Model Number	0xAC03	READ	ResBit Model Number	Reserved (can be ignored)
Serial Number	0xAC04	READ	ResBit Serial Number	96 bit identifier. Read as if it's an array of 3 32 bit numbers.
Time	0xAC05	WRITE	The time to set the resbit unit to. Is a uint32_t. Only supports writes.	Write to this characteristic to set the time on the resbit unit. Accepts uint32s.

ResBit Summary Service

Vendor Specific UUID: 0xAA00

Characteristics

Name	UUID	Value	Notes
Data	0xAA01	20 Byte Array	Data stream for summary data. Supports: NOTIFY, READ
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: NOTIFY, READ, WRITE
Transferring	0xAA03	uint8_t	Is 1 when the Device is actively streaming data. 0 when idle. Supports: NOTIFY, READ
Ack/Nack	0xAA04	uint8_t	Acknowledgement of data packet. 1 for ACK, 2 for NACK + resend data. Client must write to the Response characteristic prior to NACK (no response expected for ACK). Supports: WRITE
Response	0xAA05	20 Byte Array	Response data to a packet. See "BlueBits Summary Data Transfer Protocol". Supports: WRITE
Enable Debug	0xAA07	true/false	Write true to enable debug mode for BLE. NOT MEANT FOR USER USE. Supports: READ, WRITE
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. Supports: READ, WRITE
Transfer Error	0xAA09	uint8_t	Error code for any errors. See "Transfer Error Codes". Supports: NOTIFY, READ

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.