Technical Document

GlobalTop Technology Inc.

Lighting Profile Application Notes

Revision: V0A

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Version History

Title:	Lighting Profile Application Notes		
Subtitle:	BLE		
Doc Type:	Technical Document		
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V0A	2014-12-05	Rico	First Release

Table of Contents

1. Introduction

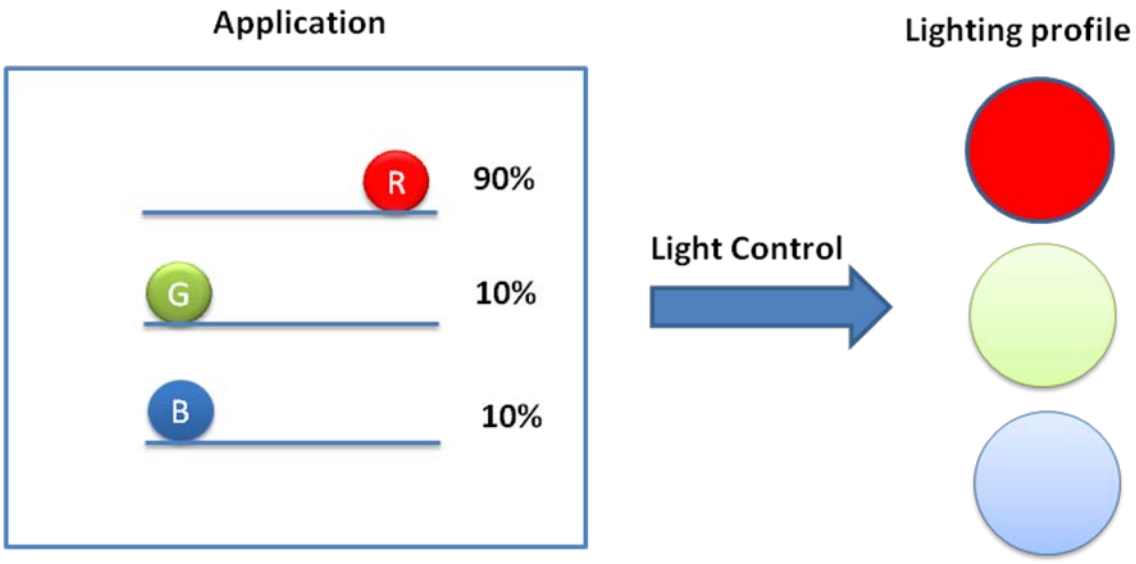
Lighting profile is used to control the bulb by PWM method or GPIO to turn it ON/OFF.

The purpose of this document will describe how it works.

1.1 Application Overview

The Lighting Profile module is controlled by the Application.

In the figure below, the Application demonstrates dimming the Red, Green and Blue dimmable light bulbs shown in percentage.

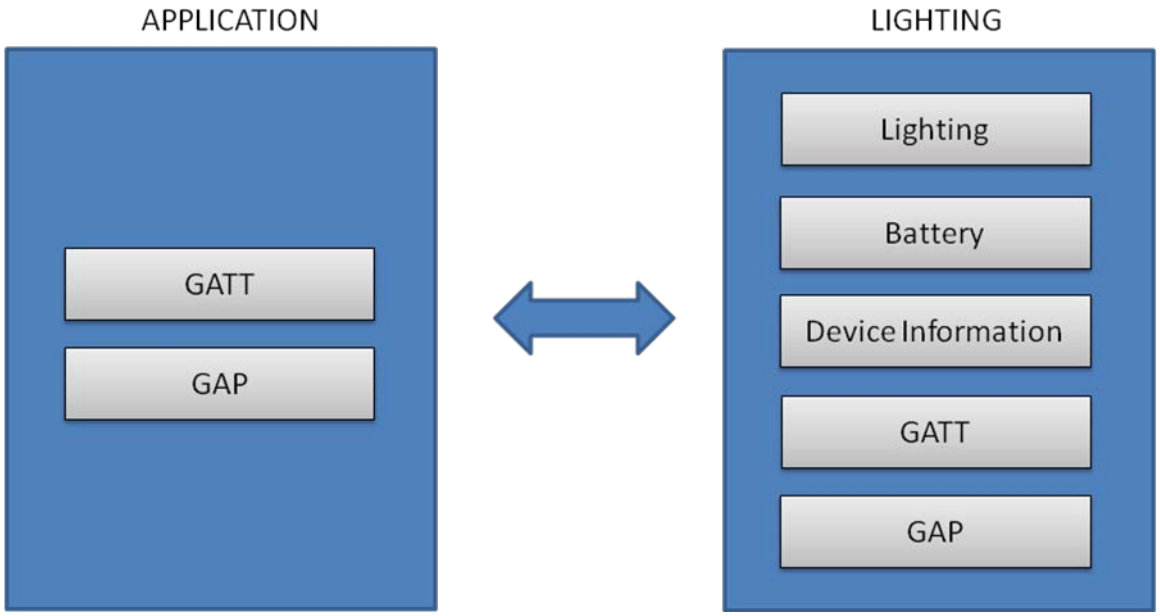


2. Lighting Profile

This Profile exposes the following services

1. Lighting
2. Device information (Version 1.1)
3. Battery (Version 1.0)
4. GAP
5. GATT

The Lighting Profile includes Light service. GATT and GAP are mandated by Bluetooth Core Specification Version 4.1. Device Information and Battery services are both optional, please find in Bluetooth SIG for detail information.



3. Lighting Service

3.1 Service Characteristic

Characteristic Name	Access permission	Managed by	Optional Security Permission	Requirement
LTC_CONTROL	Notify, Write	Application	※Writeable only with Authentication	M

※Data can be written to the module, only after the Authentication is completed.

3.2 UUID Lighting Service

Name	UUID
LTC Service	0x1814

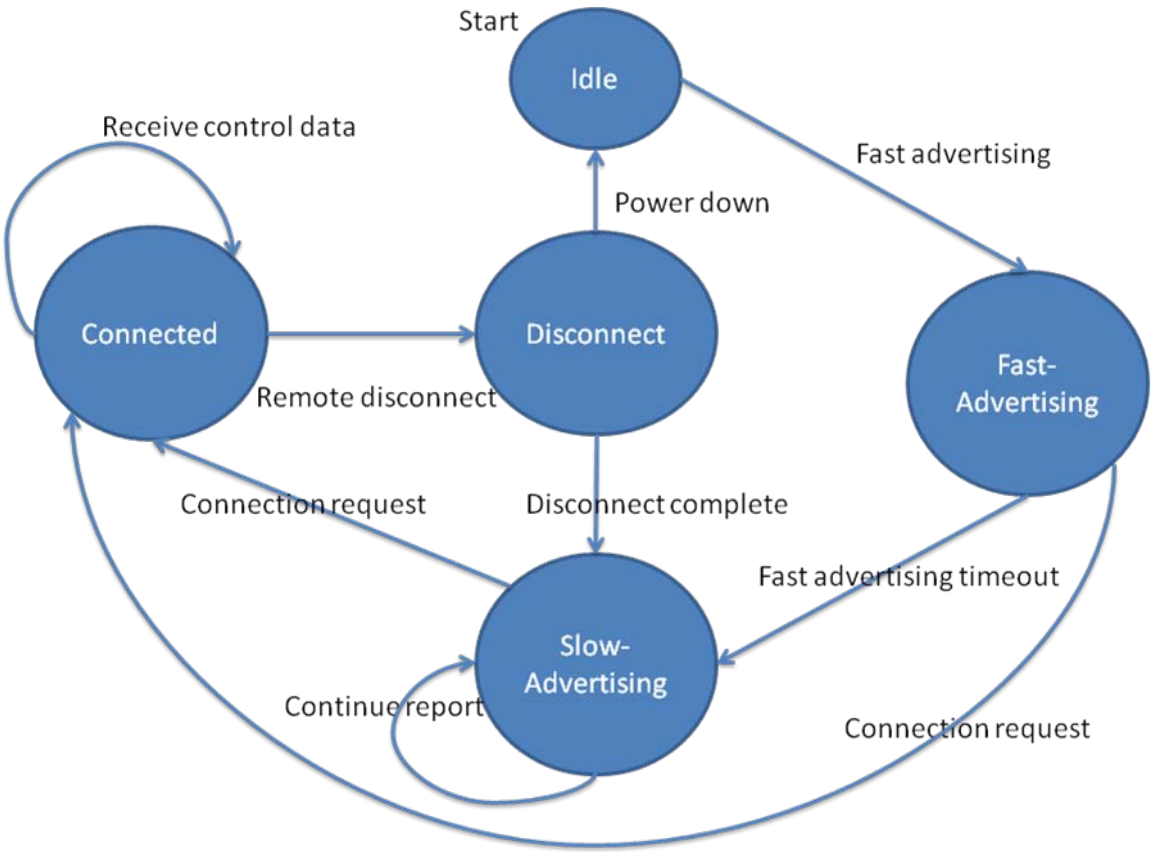
3.3 UUID Data Transfer characteristic

Name	UUID
LTC Control	0x2A53

4. Device Discovery & Pairing

When powering on, the device do fast advertising for 30 seconds. Before 30 seconds timeout if there is no connection request received it goes into Slow Advertising.

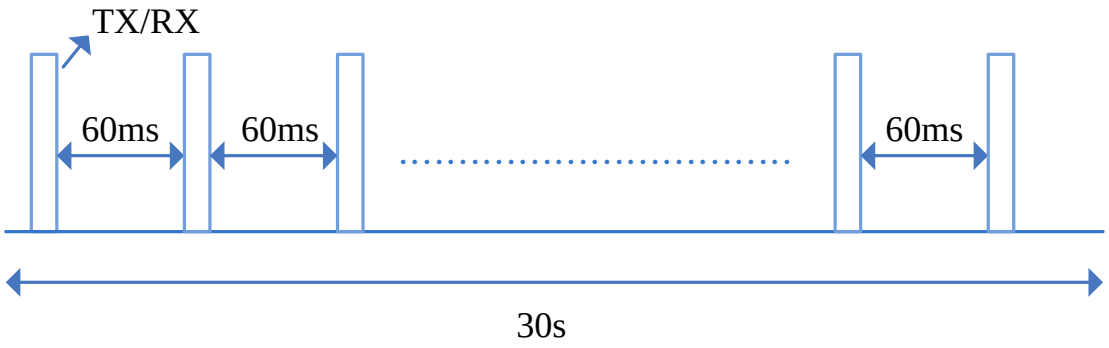
Connection request happens both in Fast and Slow Advertising State, when connection is complete it stays at Connected State and disconnect when remote disconnects it then it goes into Slow Advertising State.



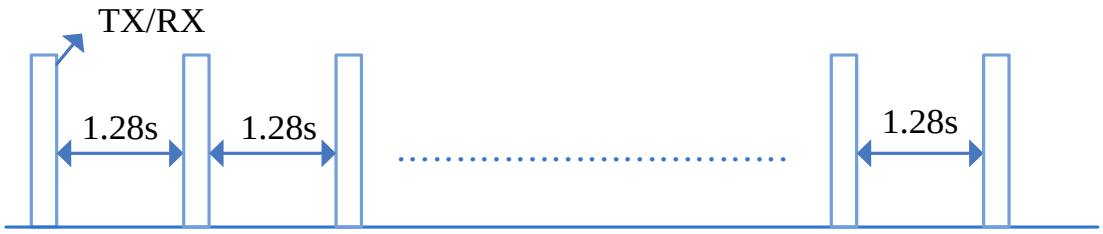
5. Advertising/Connected interval

The advertising/connected interval described here is for standard firmware version.

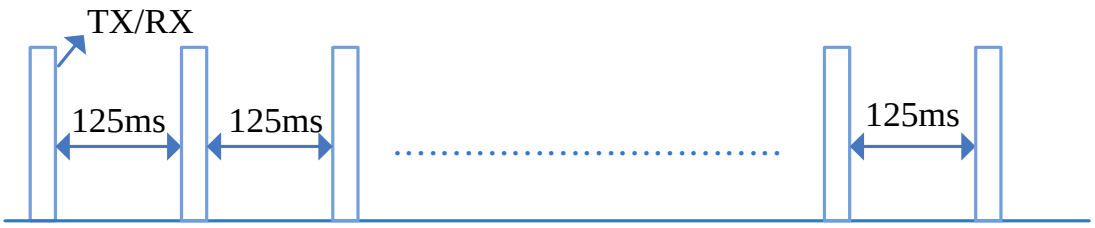
Fast Advertising



Slow Advertising



Connected



6. Sample Code

Please refer to the sample APP development for iOS and Android systems.

- iOS：BTLE Central Peripheral Transfer[1] from Developer library
- Android：Android developer[2] from Android developer

[1] BTLE Central Peripheral Transfer: https://developer.apple.com/library/ios/samplecode/BTLE_Transfer/Introduction/Intro.html#//apple_ref/doc/uid/DTS40012927

[2] Android developer: https://developer.android.com/guide/topics/connectivity/bluetooth-le.html