Technical Document

GlobalTop Technology Inc.

G-SPP Profile Application Notes

Revision: V0A

Version History

Title:	**G-SPP Profile Application Notes**		
Subtitle:	**BLE**		
Doc Type:	**Technical Document**		
Revision	**Date**	**Editor**	**Description**
V0A	2014-12-05	Rico	First Release
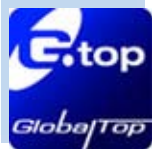
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1. Introduction

G-SPP profile is used to exchange data between client and server devices. The purpose of this document will describe how it works.

1.1 Application Overview

The G-SPP is used to transmit and receive data between BLE devices for Serial Port Communication. As the figure shown below, the Application could send and receive data over the air. On the terminal side, the BLE module uses G-SPP to get and pass data to the terminal over RS232 connection. The terminal could be the PC or stand alone device.

Server - Active mode. The device seeks out other Bluetooth devices with which to connect. In other words, the computer searches for Bluetooth devices such as keyboards, earphones, mobile phones, etc.

Client - Passive mode. The device listens for a connection request from other Bluetooth devices.
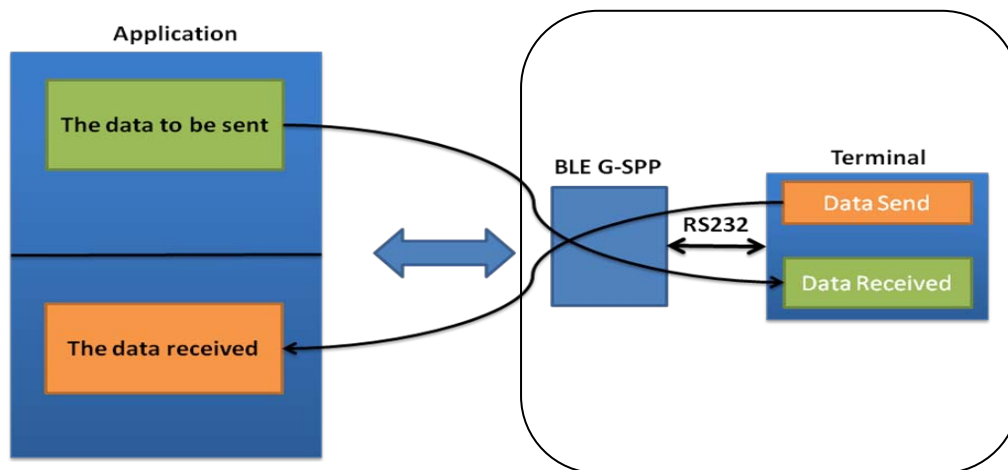
※Baud rate Support (bps): 2400, 9600, 19200, 38400, 57600, 460800 are recommend by chip supplier.

※Data payload size is 4K bytes max.

2. G-SPP Profile

This Profile exposes the following services

1. G-SPP

2. Device information (Version 1.1)

3. Battery (Version 1.0)

4. GAP

5. GATT

The G-SPP Profile includes G-SPP 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.
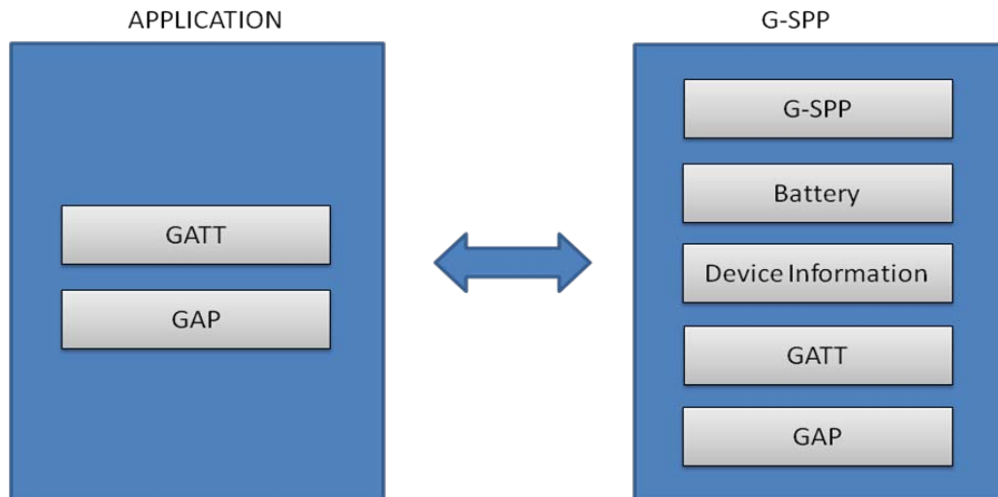
3. G-SPP Service

3.1 Service Characteristic

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

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

3.2 UUID GSPP Service

Name	UUID
GSPP Service	0x1816

### 3.3 UUID Data Transfer characteristic

Name	UUID
GSPP DATA	0x2A5B

4. Device Discovery & Pairing

The G-SPP profile starts in IDLE state then goes into Fast advertising state. After 30 seconds timeout, it will migrate to slow advertising state.

During Fast and Slow advertising states, remote APPLICATION could scan and pair to G-SPP profile, if it connects to G-SPP, after the connection completes, it could transmit data and receive data in Connected state.
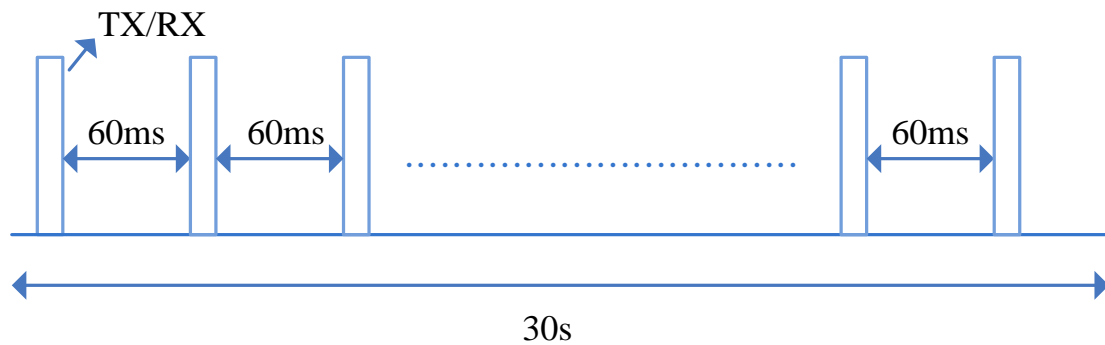
Remote APPLICATION could disconnect the connection and after the disconnect completes, it send Slow advertising and wait for next connection happens If no connection requests, G-SPP stays at slow advertising after 30 seconds timeout.
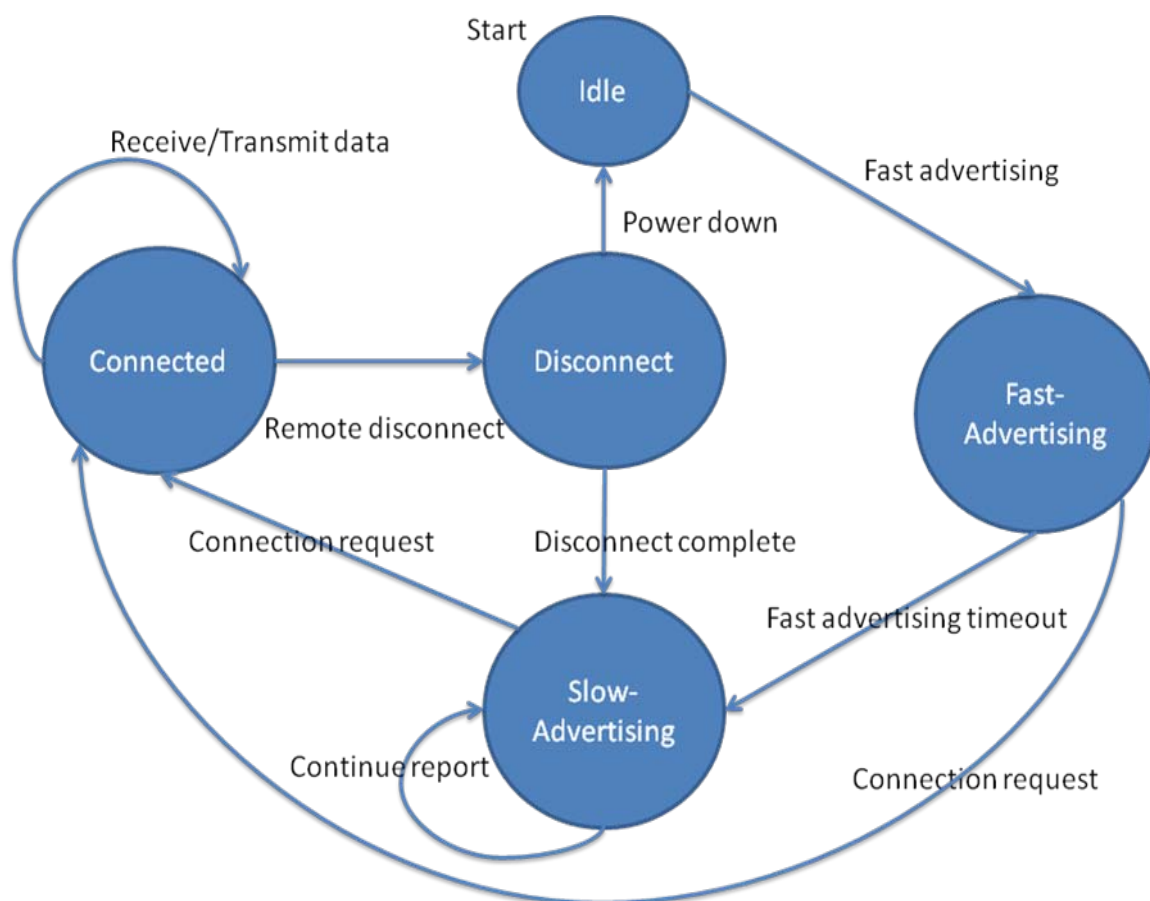
5. Advertising/Connected interval

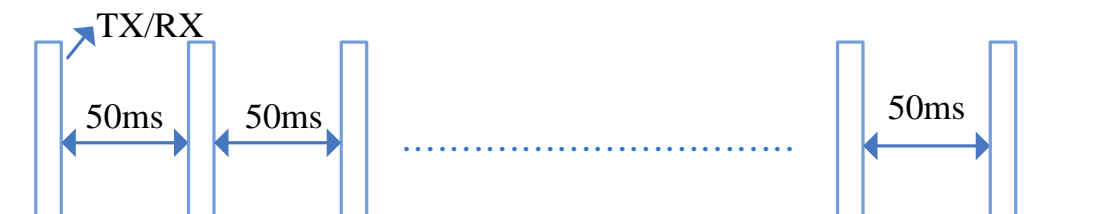The advertising/connected interval is for standard firmware version.

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

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[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