

USE THE OBS421 AS A GATT BLUETOOTH CLASSIC TO BLUETOOTH LOW ENERGY GATEWAY APPLICATION NOTE

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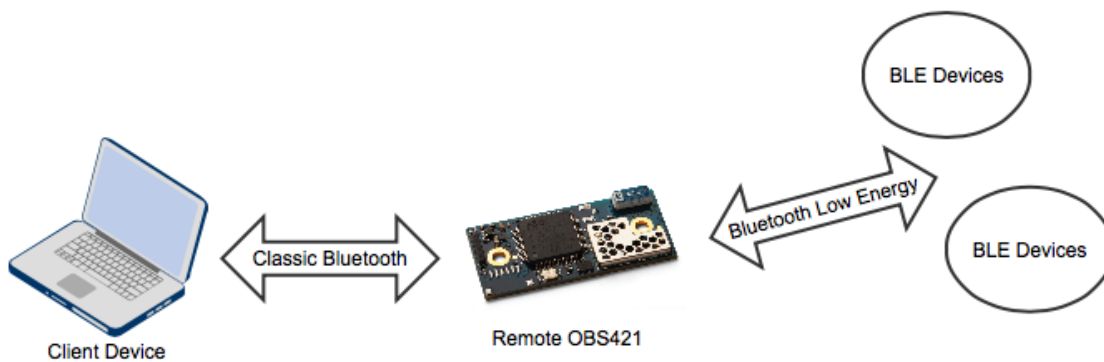
1 Abstract

This document is an application note elaborating on the possibly to use a OBS421 device as a gateway between one or more Bluetooth low energy (BLE) devices and a client supporting Classic Bluetooth only.

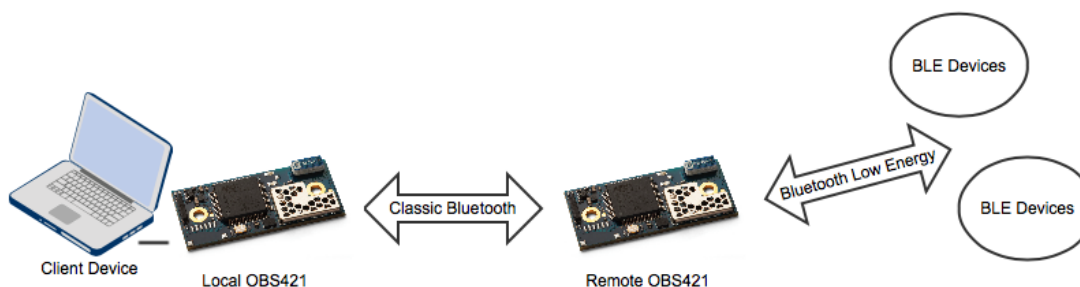
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3 Problem Description



Example 1 - A client device (illustrated by the laptop) that supports Classic Bluetooth only and an application in this device wants to access services and characteristics in one or more GATT based Bluetooth Low Energy devices.



Example 2 - A client device without Bluetooth support (illustrated by the laptop) that supports USB or serial com port and an application in this device wants to access services and characteristics in one or more GATT based Bluetooth Low Energy devices.

i This may also be useful as a repeater if there is a problem with the range from the client (in this example the laptop) and the remote Bluetooth Low Energy devices.

i This use case is based on the fact that the device in the client device (laptop) is using the AT command support for GATT (see [Bluetooth Serial Port Adapter AT Commands GATT](#)). This also means that the client application is the same independently if the client is connected directly to the OBS421 using a UART or connected remotely using Bluetooth.

4 How can this be done?

The connectBlue dual-mode OBS421 module supports both both Classic Bluetooth and Bluetooth low energy and can be configured to act as a gateway between Classic and Low Energy Bluetooth.

In example 2 the local OBS421 is configured and used as a standard OBS421 device and how this is done is **not** covered in this application note (see more details in the [Bluetooth Serial Port Adapter AT Commands](#) document).

w Please note that in example 2 you need to configure the remote OBS421 to use a different escape sequence than the local OBS421. This is done using the ATS2 AT command (see [Bluetooth Serial Port Adapter AT Commands](#)).

Step 1 - Configuration of the remote OBS421

The following basic configurations need to be applied to the remote OBS421. They can be done either using the [connectBlue SPA Toolbox](#) or by issuing the commands directly on the OBS421 UART (see more in [Bluetooth Serial Port Adapter AT Commands](#)):

AT Command	Description
AT*ADWM=1,0,1	Enables support for multiple connections. These specific parameters are to allow "Max Supported Connections"
AT*AGCM=2,1	Defines that the device is connectable. You might also set the device discoverable (AT*AGDM=3,1) depending on your use case.
AT*ACCB=1,1	Enables configuration over the air. This is required as the Bluetooth Low Energy GATT commands are AT commands and need to be executed over the air.
AT*ADDSP=0,1 AT*ADWSN=0,"SPP",1	Enables server functionality in the OBS421. In this case it is a Serial Port Service with the name "SPP".
AT*AMWS=0,0,0,0,1,0	Resets the module. Required for some of the above settings to take effect.

Besides the configuration above you need to decide which level of security you want and configure the security settings according to this.

Step 2 - Connecting to and accessing Bluetooth Low Energy devices

1. Establish a connection to the OBS421 device.
2. Set the device in AT command mode by sending the correct escape sequence (the default is "/").
3. When in AT command mode you may execute any of the the GATT AT commands as described in [Bluetooth Serial Port Adapter AT Commands GATT](#). This includes search for Bluetooth Low Energy devices, discover services and characteristics, connect to one or more devices and read and write data.

See the [Bluetooth Low Energy \(BLE\) GATT Examples with OBS421 & OLP425 Application Note](#) for some examples on how this can be done.

5 Related Documents

- [Bluetooth Serial Port Adapter AT Commands](#)
- [Bluetooth Serial Port Adapter AT Commands GATT](#)
- [Bluetooth Low Energy \(BLE\) GATT Examples with OBS421 & OLP425 Application Note](#)