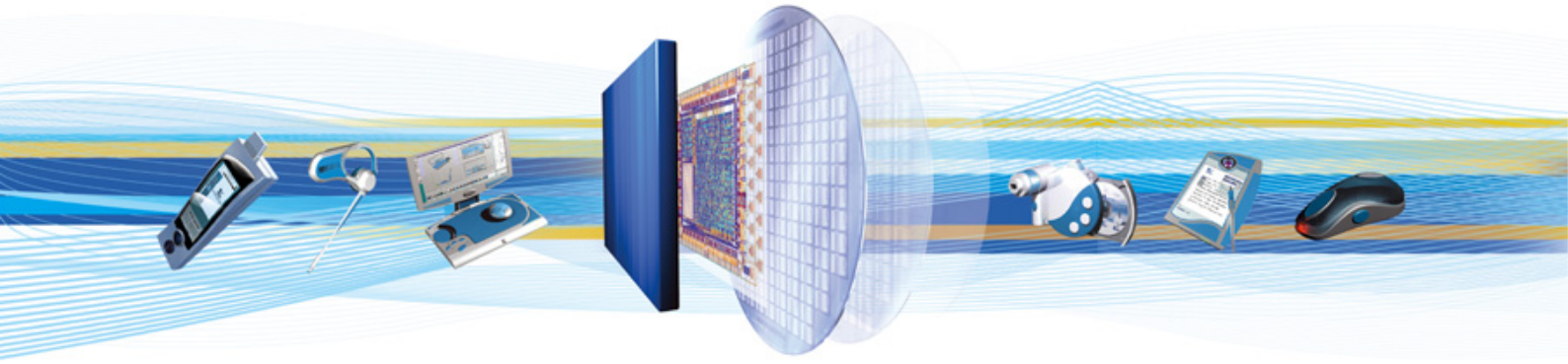
# CSR Synergy Bluetooth 18.2.0

# BPPC Basic Printing Profile Client

# Demo Description

November 2011



**Cambridge Silicon Radio Limited**

Churchill House
Cambridge Business Park
Cowley Road
Cambridge CB4 0WZ
United Kingdom

Registered in England and Wales 3665875

Tel: +44 (0)1223 692000
Fax: +44 (0)1223 692001
www.csr.com



© Cambridge Silicon Radio Limited 201
This material is subject to CSR's non-disclosure agreement.

# Contents





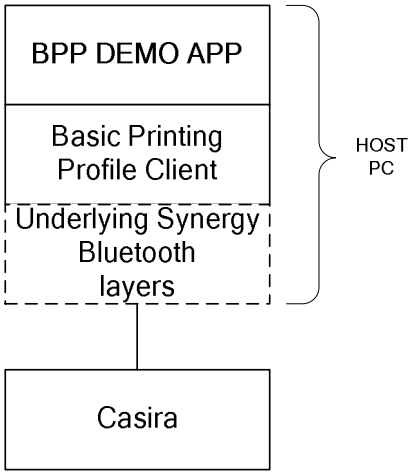


© Cambridge Silicon Radio Limited 2011
This material is subject to CSR's non-disclosure agreement.

# 1 Basic Printing Profile (BPP Client)

## 1.1 Generally

The Basic Printing Profile (BPP) defines the server and client side necessary for printing wireless using Bluetooth®. This demo application demonstrates how to interface and utilize the BPP client side. The figure below depicts the physical setup of the demo application.




On the host/PC the demo application is running on top of the BPP Client together with the rest of CSR Synergy Bluetooth. The host is connected to a Casira, running either a RFCOMM or a HCI build.

The scenarios covered by this demo application are the following:

- Request details about the capabilities of the printer using Bluetooth®
- Configuration of a print job
- Send print data to a printer (e.g. basic text or vCard)

**Requirement:** This demo application requires a BPP server to be running within the range of the application in order to be able to utilize all functionality of this demo application.

The application has been made to run on Windows and Linux and may be connected to the Casira using either a serial connection using CSR Synergy Bluetooth (`hci_bpp_client_demo_app.exe`), a serial connection using H4DS (`hci_bpp_client_demo_app_h4ds.exe`) or an USB connection (`hci_bpp_client_demo_app_usb.exe`).

The description below is based on the Windows demo application but the description also holds for the Linux Demo Application.

## 1.2 Use of Program hci_bpp_client_demo_app.exe

**NOTE:** This description is for CSR Synergy Bluetooth HCI. The functionality of the application for the RFCOM build is identical. The only difference is the naming: hci_bpp_client_demo_app.exe (HCI) versus rfc_bpp_client_demo_app.exe (RFCOMM).

Before using the demo application ensure that a BPP server is running – then follow the following description.

*Start the program hci_bpp_client_demo_app.exe:*
The hci_bpp_client_demo_app.exe program must be executed using certain execution parameters. This can be done using e.g. a 'command prompt'. The following parameters must be specified:



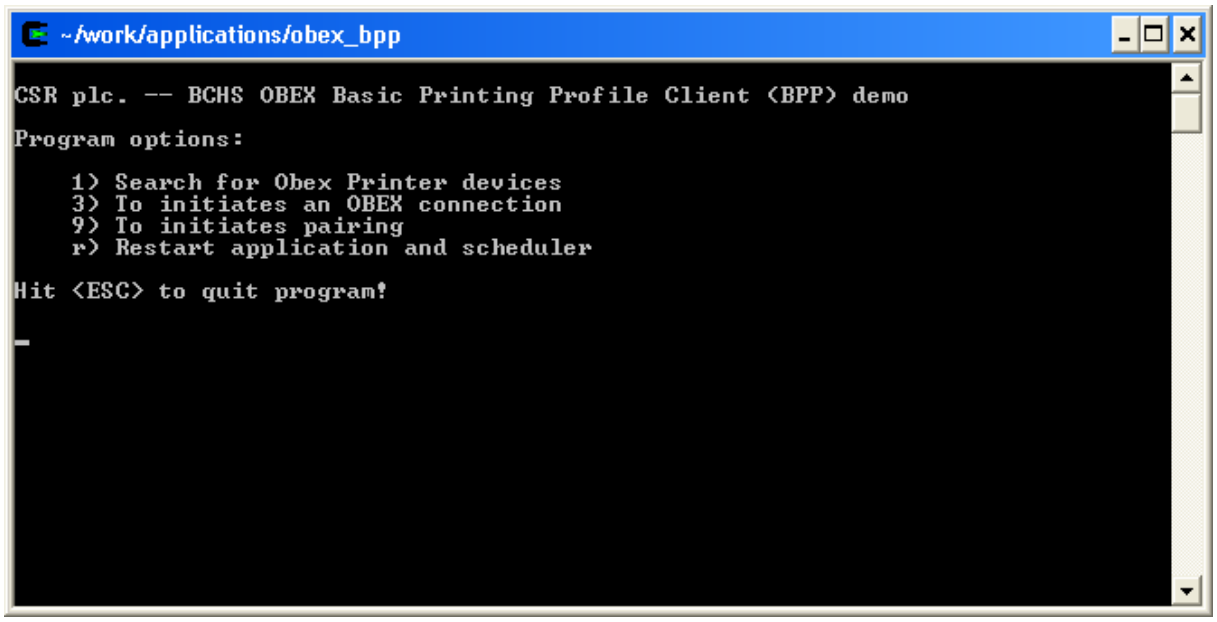

© Cambridge Silicon Radio Limited 2011
This material is subject to CSR's non-disclosure agreement.

| | |
|---|---|
| -B <baudrate> | specifies the baud rate for the COM port connected to the Casira. If no parameter is given, the default value of 115200 baud will be used. |
| -C <COM port> | specifies the COM port number connected to the Casira. If no parameter is specified, COM1 will be used as default value. (For Linux the default port is /dev/ttyS0). |
| -A < BD addr.> | Specifies the device address for the default connection, e.g. hci_bpp_client_demo_app.exe –a 0002:5b:01a494. If no address is specified it is necessary to perform a search for servers in order to establish a connection. |

An example of the program execution using COM3 with baud rate 230400 is given below:

```
hci_bpp_client_demo_app.exe –B 230400 –C COM3
```

*Using the BPP demo application:*
Once the hci_bpp_client_demo_app.exe is started the following screen appears:



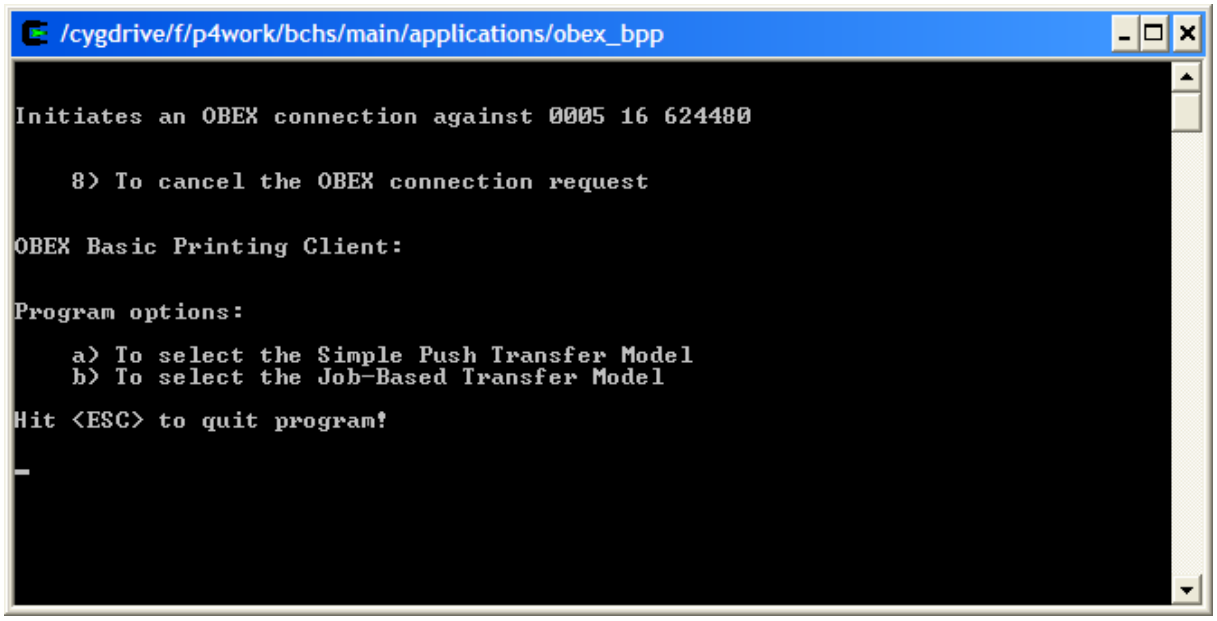

**NOTE:** All options shown at any point in time in the user interface are valid options at that given point in time.

Follow the following procedure for normal usage of the demo application:

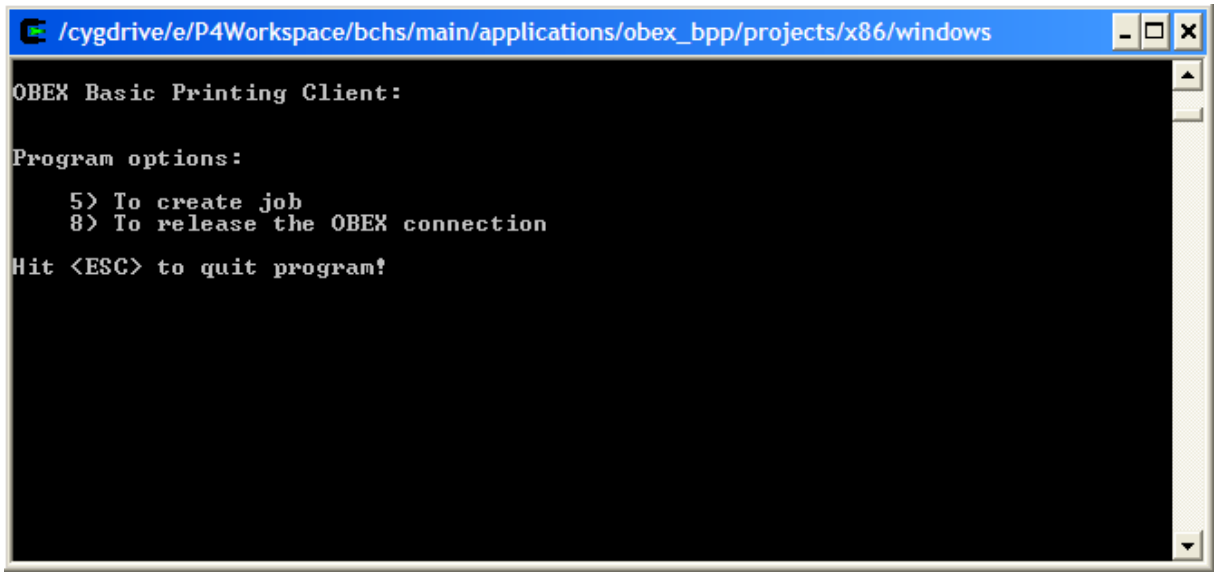
1. If the Bluetooth® device address of the BBP Server is not known in advance press “1” for making a discovery of BPP Servers, and a list of available servers (and their addresses) will be shown, if any present. Now the Bluetooth® device address is known, therefore press “9” to initiate pairing with the BPP server. If the ‘-A’ parameter was specified during application start it is possible to go directly to option “3” upon start of the demo application.

2. When pairing is done, press “3” to initiate the OBEX BPP connection, and enter the address of the BPP server being paired with. Now the capabilities of the printer will be shown in the user interface and a new menu appears:


© Cambridge Silicon Radio Limited 2011
This material is subject to CSR’s non-disclosure agreement.



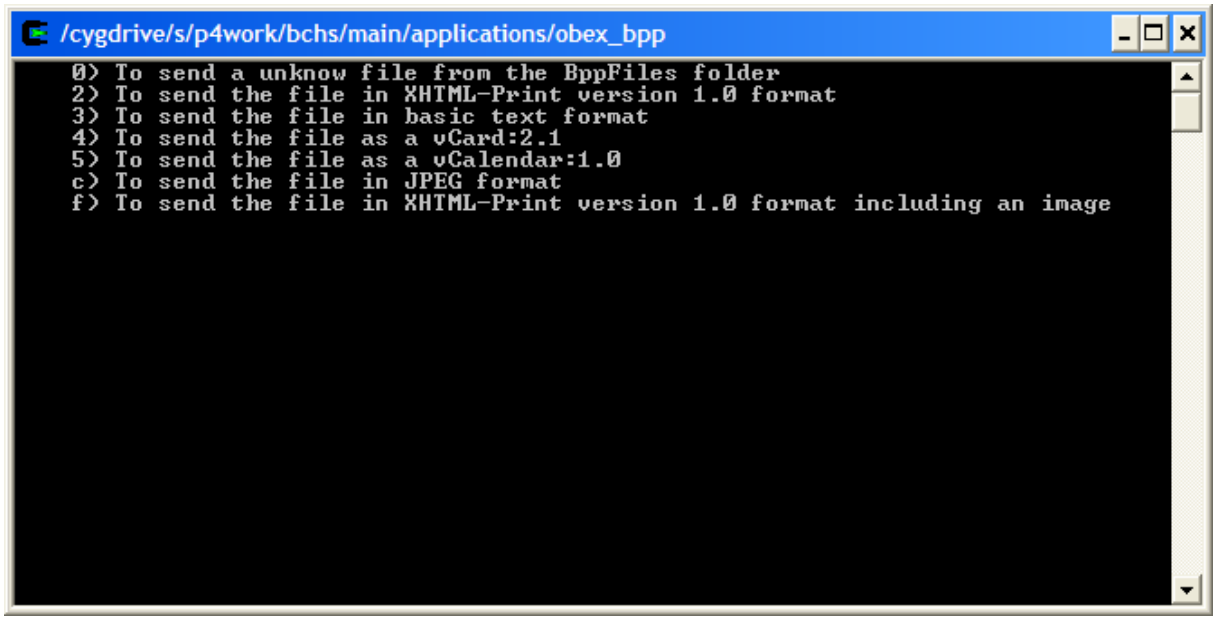

3. Press “a” to select either the Simple Push Transfer Model or “b” to select the Job-Based Transfer Model. If the Simple Push Transfer Model “a” is chosen the screen seen under point 4. is shown, where it is possible to send one of the present files. After the file has been sent it is possible to send another or to release the connection. This concludes the possibilities for the Simple Push Transfer Model. If “b”, the Job-Based Transfer Model is chosen, the screen below will appear.




4. Press “5” to create a job. For creation of a job, the job must be configured (paper size, quality etc.) requiring the user to choose some settings in the following menus. One of the menus looks like:

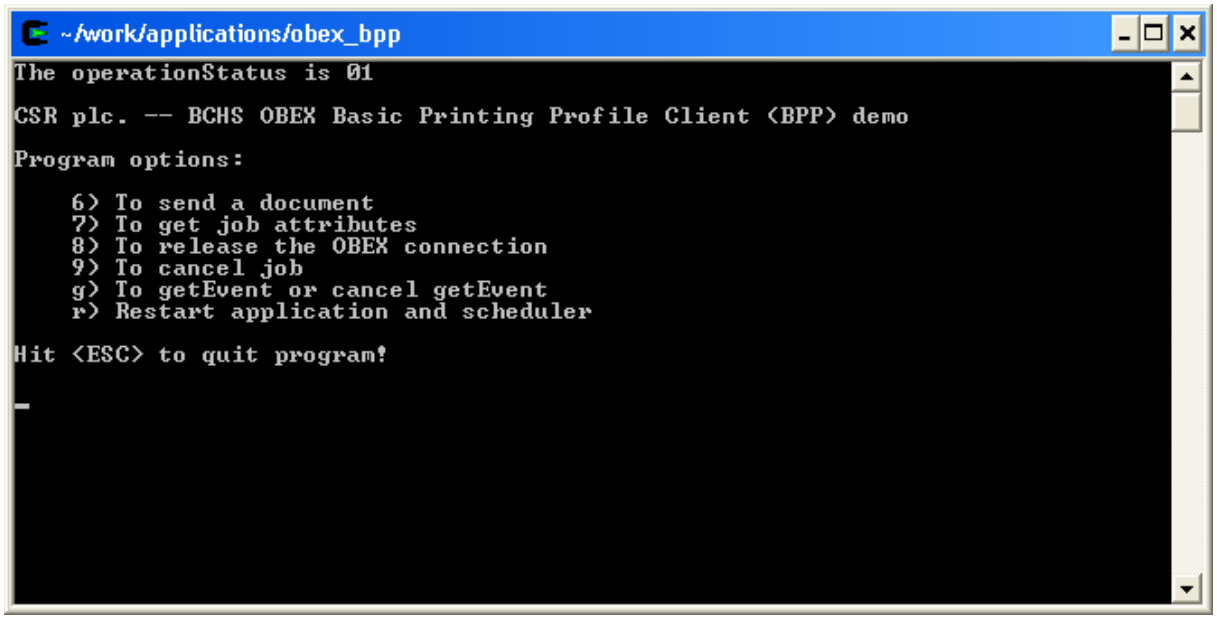



© Cambridge Silicon Radio Limited 2011
This material is subject to CSR’s non-disclosure agreement.




In this menu the user can choose to create jobs using pre-made files. Note that the menu items available depends on the capabilities of the printer connected to. The files used can be found in the "applications/obex_bpp/projects/x86/bpp_files", or "applications/obex_bpp/bpp_files" directory, depending on where the program is executed from. These pre-made files range from JPEG to basic text files. If "0" is chosen in this menu, a not user defined file will be sent to the printer. The file name must then be specified later.

5. When the job creation is done, the following menu appears:




Press "6" to send the job to the printer. If a user defined file was chosen in item 4, please enter the name of the file to print manually (ensure that the file is placed in the bpp_files folder).
Press "7" to get the attributes for the created job.
Press "9" to cancel the created job on the printer. Remember that after this you will have to create a new job before you can print.
Press "g" to initiate the getEvent procedure. After the getEvent has been activated "g" can be pressed again to deactivate the getEvent procedure.

6. After you have pressed "6" the job has been sent to the printer and the OBEX connection can be terminated by pressing "8", or a new job can be created and printed.




© Cambridge Silicon Radio Limited 2011
This material is subject to CSR's non-disclosure agreement.

# 2 Linux

This section describes how to build and run the BPP demo application on Linux.

The BPP demo application (pure user space), located in `./applications/obex_bpp`, may be compiled on Linux by means of:

> make clean all TARGET_ARCH=Linux-2.6-x86

This will output four files: `hci_bpp_client_demo_app`, `hci_bpp_client_demo_app_h4ds`, and `hci_bpp_client_demo_app_usb`, for serial and USB communication using a HCI split and `rfc_bpp_client_demo_app`, `rfc_bpp_client_demo_app_h4ds`, and `rfc_bpp_client_demo_app_usb`, for serial and USB communication using a RFC split.

The demo applications are used like described above for Windows.




© Cambridge Silicon Radio Limited 2011
This material is subject to CSR's non-disclosure agreement.

# Terms and Definitions

| | |
|---|---|
| BlueCore® | Group term for CSR's range of Bluetooth wireless technology chips |
| Bluetooth® | Set of technologies providing audio and data transfer over short-range radio connections |
| CSR | Cambridge Silicon Radio |
| UniFi™ | Group term for CSR's range of chips designed to meet IEEE 802.11 standards |

# Document History

| Revision | Date | History |
|---|---|---|
| 1 | 26 SEP 11 | Ready for release 18.2.0 |




© Cambridge Silicon Radio Limited 2011
This material is subject to CSR's non-disclosure agreement.

# TradeMarks, Patents and Licences

Unless otherwise stated, words and logos marked with ™ or ® are trademarks registered or owned by CSR plc or its affiliates. Bluetooth® and the Bluetooth logos are trademarks owned by Bluetooth SIG, Inc. and licensed to CSR. Other products, services and names used in this document may have been trademarked by their respective owners.

The publication of this information does not imply that any licence is granted under any patent or other rights owned by CSR plc.

CSR reserves the right to make technical changes to its products as part of its development programme.

While every care has been taken to ensure the accuracy of the contents of this document, CSR cannot accept responsibility for any errors.

# and Use in Safety-critical Compliance

CSR's products are not authorised for use in life-support or safety-critical applications. Use in such applications is done at the sole discretion of the customer. CSR will not warrant the use of its devices in such applications.

# Performance and Conformance

Refer to www.csrsupport.com for compliance and conformance to standards information.




© Cambridge Silicon Radio Limited 2011
This material is subject to CSR's non-disclosure agreement.