## **Prerequisites:**

Shared via email firmware to be flashed in device [FC41D].

Shared via email "数据类测试工具 COM" tool



Third party Bluetooth application installed on mobile phone, to connect with FC41D.

## Steps:

Connect FC41D module with PC via main\_Uart port.

Open the port in QComm tool.

Check the version on FC41D device

## [2023-04-10\_14:46:22:372]AT+QVERSION

[2023-04-10\_14:46:22:372]+QVERSION:FC41DAAR02A02\_202304071551 [2023-04-10\_14:46:22:372]0K

Configure FC41D device as peripheral device and advertise:

[2023-04-10\_14:46:40:182]AT+QBLEINIT=2

[2023-04-10\_14:46:40:182]0K [2023-04-10\_14:46:42:241]AT+QBLEADVPARAM=150,150

[2023-04-10\_14:46:42:241]0K [2023-04-10\_14:46:43:466]AT+QBLEGATTSSRV=fff1

[2023-04-10\_14:46:43:466]0K [2023-04-10\_14:46:44:083]AT+QBLEGATTSCHAR=fff2

[2023-04-10\_14:46:44:083]0K [2023-04-10\_14:46:44:856]AT+QBLEGATTSCHAR=fff3

[2023-04-10\_14:46:44:856]0K [2023-04-10\_14:46:47:600]AT+QBLEADVSTART

[2023-04-10\_14:46:48:080]0K

Using the third-party Bluetooth application on mobile device, search and connect to the configured peripheral device on FC41D.

[2023-04-10\_14:46:48:080]0K [2023-04-10\_14:55:22:029]+QBLESTAT:CONNECTED

Set the MTU mode to maximum number of bytes i.e 512 bytes

[2023-04-10\_15:48:56:281]AT+QBLECFGMTU=512

[2023-04-10\_15:48:56:281]0K [2023-04-10\_15:48:56:343]+QBLEMTU:<512>

Run the command "AT+QBLETRANMODE" on FC41D module

[2023-04-10\_14:58:40:755]AT+QBLETRANMODE=fff2 [2023-04-10\_14:58:40:755]OK

Now, Open the tool 数据类测试工具 COM on PC, the interface will be shown as below:

| 🔒 数据类测试              | T首COM          |                          |    |                | -   |  | $\times$            |
|----------------------|----------------|--------------------------|----|----------------|---|--|---------------------|
| COM25 ~              | 921600         | * 打开                     | 清陽 | 全显示            |   | 清除生  | 全部                  |
|                      |                |                          |    | ~              | 控制<br>RTS<br>流控问隔<br>随机问隔(                                | <ul> <li>● 自动R</li> <li>0</li> <li>上限为输</li> </ul> | ATS<br>入值)          |
|                      |                |                          |    | <b>~</b><br>发送 | <ul> <li>发送换行</li> <li>发送间隔</li> <li>数据量Bytes:</li> </ul> | 自动发<br>20<br>500                                   | <b></b><br>支送<br>填充 |
| 状态<br>接收速率:<br>发送速率: | 0KB/s<br>0KB/s | 接收计数(字节) 0<br>发送计数(字节) 0 |    |                |   | 清除;  | 十数                  |

Disconnect the module port from Qcomm tool and connect with 数据类测试工具 COM tool

| 🔒 数据类测试工具  | COM       |      |
|------------|-----------|------|
| COM25 ~ 92 | 1600 ~ 打开 | 清除显示 |
|            |           | ^    |

After opening the port, set delay time and data bytes to be sent



Click on mentioned option, it will fill the random data automatically equivalent to set number of bytes

| 数据类测试工具COM                                   |                                     |      | _                                      |                          |
|--|-------------------------------------|------|--|--------------------------|
| COM25 > 921600                               | > 关闭                                | 清除显示 |  | 清除全部                     |
| +QBLESTAT:DISCONNECTI<br>+QBLESTAT:CONNECTED | ED                                  | ~    | 控制<br>✓ RTS<br>流控间隔<br>✓ 随机间隔<br>□ CTS | □ 自动RTS<br>0<br>(上限为输入值) |
| 4567890123456789012345                       | 56789012345678901234567890123456789 | 9 发送 | □ 发送换行<br>发送间隔<br>数据量 <b>Bytes</b>     | □ 自动发送<br>20<br>: 500 填充 |
| 状态<br>接收速率: 0.00KB/s<br>发送速率: 0KB/s          | 接收计数(字节) 45<br>发送计数(字节) 0           |      |  | 清除计数                     |

For continuous data sending, check the option mentioned below:

| 🔒 数据类测试工具COM   |                                    |      | _                                       |                         | ×                   |
|--|------------------------------------|------|---|-------------------------|---------------------|
| COM25 V 921600<br>+QBLESTAT:CONNECT<br>+QBLESTAT:CONNECTED<br>+QBLESTAT:CONNECTED<br>+QBLESTAT:CONNECTED | ★闭<br>ED<br>ED                     | 清除显示 | 控制<br>✓ RTS<br>流控回隔<br>✓ 随机间隔(<br>□ CTS | 清岡<br>□ 自动<br>0<br>上限为4 | *全部<br>JRTS<br>输入值) |
| 456789012345678901234  | 5678901234567890123456789012345678 | 9 发送 | <ul> <li></li></ul>                     | ✓ 自动<br>20<br>500       | <b>戊送</b><br>填充     |
| 状态<br>接收速率: 0KB/s<br>发送速率: 5.58KB/s  | 接收计数(字节) 0<br>发送计数(字节) 78000       |      |   | 清陽                      | 计数                  |

After sending data for some interval, stop sending data by unchecking the auto data sending box.

After stopping the data transfer, we can check the speed and total number of bytes transferred.

| ♣数据类测试工具COM  | - 🗆 X  |
|--|--|
| COM25 ~ 921600 ~ 关闭 清除显示   | 清除全部   |
| +QBLESTAT:DISCONNECTED<br>+QBLESTAT:CONNECTED<br>+QBLESTAT:DISCONNECTED<br>+QBLESTAT:CONNECTED<br>□  | 控制<br>✓ RTS 自动RTS<br>流控何隔 0 ✓ 随机间隔(上限为输入值) □ CTS                             |
| 456789012345 | <ul> <li>□ 发送换行 □ 自动发送</li> <li>发送间隙 20</li> <li>数据量Bytes: 500 填充</li> </ul> |
| 状态   |  |
| 接收速率:         0KB/s         接收计数(字节) 0           发送速率:         16.59KB/s         发送计数(字节) 14000  | 清除计数   |

Transferred data can be compared on mobile device if all the transferred data has been received on other end or not.

|  | 地店  | 医村证  | 白石畑  |
|--|---|--|--|
| FC41D 13500  | 回传  | 请求BSI  | 检卡   |
| 3365789012345678901234567<br>23456789012345678901234567<br>12345678901234567890123456<br>1234567890123456789012345<br>0123456789012345678901234<br>89012345678901234567890123<br>8901234567890123456789012<br>67890123456789012345678901234567890<br>45678901234567890128456789012845678901234567890123456789012345678 | 8901234<br>7890123<br>6789012<br>56789012<br>5678901<br>4567890<br>2345678<br>2345678<br>9012345<br>8901234<br>5678901<br>25678901<br>25678901<br>25678901<br>2345678<br>2345678<br>2345678<br>2345678<br>2345678<br>901234<br>5901234<br>5901234<br>5901234<br>5901234<br>5901234<br>5678901 | 567890123<br>345678901<br>334567890<br>1234567890<br>1234567890<br>1234567890<br>1234567890<br>1234567890<br>1234567890<br>1234567890<br>1234567890<br>1234567890<br>1234567890<br>1234567890<br>1234567890<br>1234567890<br>1234567890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>123457890<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>12345780<br>10 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|
| <ul> <li>连接USB 清空</li> <li>串口数据</li> </ul>   | 回传  |  |  |

|   |                               |            | ~  |  |
|---|-------------------------------|------------|----|--|
| 567890123456789012345                       | 6789012345678901234567890     | 0123456789 | 发送 | □ 发送换行     □ 自动发送       发送间隔     20       数据量Bytes:     500     填充 |
| 代态<br><u>奏收速率: 0KB/s</u><br>[送速率: 16.96KB/s | 接收计数(字节) 24<br>发送计数(字节) 13500 |            |    | 消除计数   |