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BLE113 uart to MCY with gatt

pascali mobrici
asked this on May 8, 13:53

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hi, I want to connect the module ble113 with my MCU.
The goal is to be able to send commands to the MCU using the form BLE113, such as enabling the sending of data to a service gatt and then you can answer always MCU via the requested service.
I read all the guides conceivable but still have a lot of trouble!
Could I have some examples?
The MCU is connected to ble113 through uart with noflow.
thanks

0 people would like this to be answered. | Be the first! |

Comments

Jeff Rowberg
Bluegiga
Technologies

Hello Pascali,

The best single resource for this type of development is found here:

- https://bluegiga.zendesk.com/entries/45890933--REFERENCE-BGAPI-BGLib-Implementation-on-BLE-devices

There is an example project attached to that post, plus links to many 3rd-party/unofficial BGLib implementations in various languages.

May 8, 2015, 16:06

pascali mobrici

thank you, I read the guide, but I do not think goes well!
I want to connect my PC (which is installed on a BLED112 using BLE GUI as software) to my device with BLE113 and MCU.
For example I want to create a GATT service on BLE113 named "Temp". When I'm going to read this service from BLE GUI, the BLE113 must send a command to the MCU via uart (eg 0xac 0x53, ie name of the service and stop communication), then the MCU goes to read the temperature from the sensor and re-sent this value to BLE113 (eg send 3 bytes, service name, temperature reading, stop communication ... 0xac 0x19 0x53). Now the BLE113 can update the value of the service GATT "Temp" with the new value (0x19) or 25 ° C and i can read it on the BLE GUI

is possible to have an example?

Thanks in advance

May 11, 2015, 12:39

Jeff Rowberg
Bluegiga
Technologies

Hello Pascali,

The type of communication that you describe here between the module and MCU (3-byte UART packets) do not use the BGAPI protocol. This kind of comms would require a fully customized BGScript application running on the BLE module to interpret incoming data and send outgoing data back to the MCU. We do not have an example of something like this, although the "**uart_echo_packet**" project would be the closes starting point to help with UART processing:

- https://bluegiga.zendesk.com/entries/28461493--BGScript-uart-echo-packet-UART1-Alt1-loopback-local-echo-with-watermarking-and-packetization

The links that I sent before would have the module configured in BGAPI mode, and then all of the application logic to control connections, GATT transfers, etc. would be present on the MCU instead of in BGScript. But this does not look like what you have in mind.

May 11, 2015, 16:27

pascali mobrici

another solution?

a guide?

thanks

May 11, 2015, 17:03

Support

Jeff Rowberg
Bluegiga
Technologies

Hi Pascali,

There are no other guides or solutions besides the two described above. You have to either use BGAPI and and MCU-based application (in which case the first link I sent is the best reference), or a custom BGScript-based implementation. We do not have an example of a BGScript project that does what you discuss here.

May 11, 2015, 17:04

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pascali mobrici

now i use the "project_evkit_conn_slave_gatt_server.ble113.xml", in the "cable_replacement" example.

i can send data from BLED112 to BLE113 (so to the MCU), it's perfect.... but i can't send data from the mcu to gatt service!

May 11, 2015, 17:43

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pascali mobrici

this code is ok?

```
# Receiving data to UART and forwarding it to Bluetooth connection
event system_endpoint_watermark_rx(endpoint, size)
if endpoint = system_endpoint_uart1 then
in_len = size
if in_len > 20 then # Read maximum of 20 bytes
in_len = 20
end if

# disable RX watermark
call system_endpoint_set_watermarks(system_endpoint_uart1, 0, $ff)

# Read data from UART
call system_endpoint_rx(system_endpoint_uart1, in_len)(result, in_len, in(0:in_len))


call attributes_write(xgatt_prova, 0, in_len, in(0:in_len))

# write data back out the UART1
call system_endpoint_tx(system_endpoint_uart1, in_len, in(0:in_len))
call system_endpoint_set_watermarks(system_endpoint_uart1, 20, $ff)
end if
end
```

i use your project "uart_echo", but not function!!!

i this this product is not so good!

Your guide is not good.

May 13, 2015, 13:21

Jeff Rowberg
Bluegiga
Technologies

Hello Pascali,

Is there a reason that you are setting a watermark size of 20 bytes? Are you always sending 20-byte packets into the module via the UART interface?

The unmodified "**cable_replacement**" example project that comes with the SDK has a corresponding application note which you can find under the "Application Notes" section of the BLE module product pages on our website:

- https://www.bluegiga.com/en-US/products/ble112-bluetooth-smart-module/#documentation

This walks you through how to fully test both RX and TX data using BLEGUI and a BLED112 as the client/master device, and a BLE module running that example firmware as the server/slave device.

May 13, 2015, 23:28

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