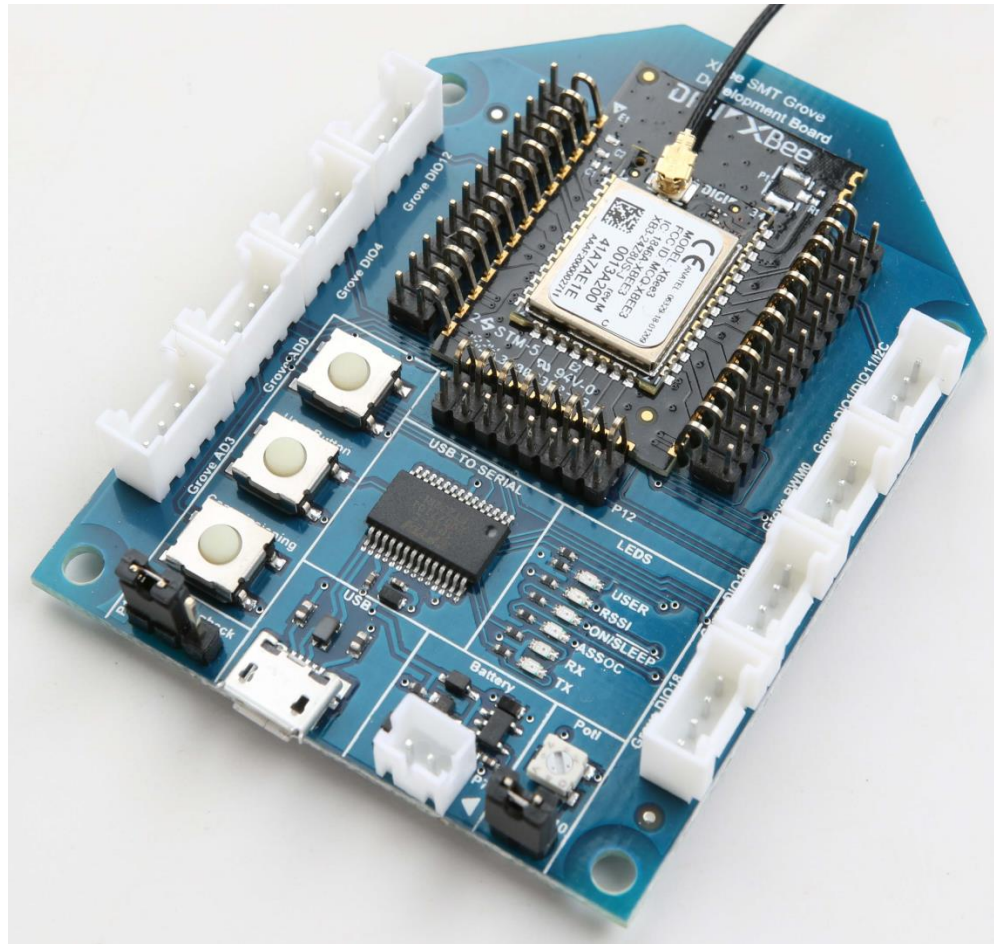


XBee Radio Modules



DigiMesh Primer

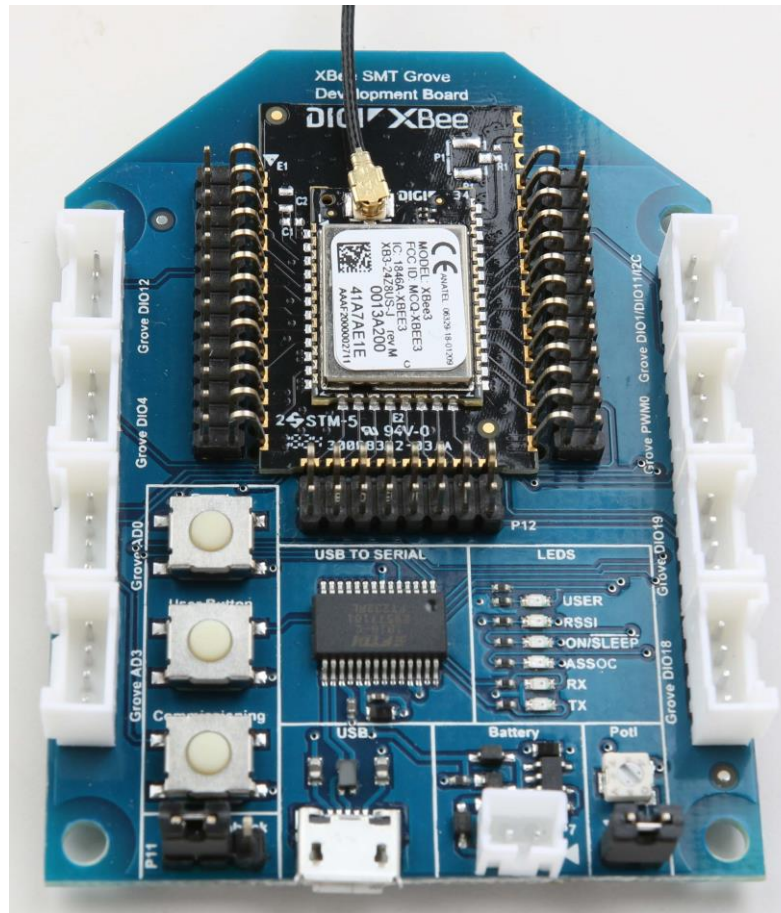
January 30, 2020

Fred Eady

XBee Radio Modules

AGENDA

- DigiMesh Basics
- DigiMesh and MicroPython
- Day 4 Summary



Presented by:

XBee Radio Modules

DigiMesh Basics - Update the XBee Modules

The screenshot shows the XCTU software interface with a 'Discovering radio modules...' dialog box open. The dialog box contains the following information:

- Search finished. 3 device(s) found
- 3 device(s) found
- Devices discovered:
 - Port: COM4 - 9600/8/N/1/N - AT
Name:
MAC Address: 0013A20041A7AE40
 - Port: COM5 - 9600/8/N/1/N - AT
Name:
MAC Address: 0013A20041A7AE1E
 - Port: COM3 - 9600/8/N/1/N - AT
Name:
MAC Address: 0013A20041A7ADBA
- Select all | Deselect all
- Your device was not found? [Click here](#)
- Cancel | Add selected devices

XBee Radio Modules

DigiMesh Basics - Update the XBee Modules

The screenshot displays the XCTU software interface for configuring XBee radio modules. The window title is "XCTU" and the menu bar includes "XCTU", "Working Modes", "Tools", and "Help". The main toolbar contains icons for adding, deleting, and configuring modules, as well as a search bar. The "Radio Modules" section on the left lists three modules with their respective names, functions, ports, and MAC addresses. A context menu is open over the third module, showing options to sort by Name, Function, Port, or MAC Address, and to move it up or down. The "Radio Configuration" section on the right shows the configuration for the selected module (0013A20041A7ADBA), including the function set (Digi XBee3 802.15.4) and firmware version (2006). The configuration parameters are divided into two sections: "Parameters which affect the 802.15.4 network" and "Coordinator/End Device configuration".

Parameter	Value	Unit/Type
CH Channel	C	
ID Network PAN ID	3332	
C8 Compatibility Options	0	Bitfield
NI Node Identifier		
NT Node Discover Time	19	x 100 ms
NO Node Discover Options	0	Bitfield
MM MAC Mode	802.15.4 + Digi header w/ACKS [0]	
NP Maximum Pack...yload Length	6C	

Parameter	Value	Unit/Type
CE Device Role	End Device [0]	
A1 End Device Association	0	Bitfield
A2 Coordinator Association	0	Bitfield
SC Scan Channels	FFFF	Bitfield
A1 Association Indication	0	

Presented by:

XBee Radio Modules

DigiMesh Basics - Update the XBee Modules

The screenshot shows the XCTU software interface with the 'Update firmware' dialog box open. The dialog prompts the user to 'Update the radio module firmware' and 'Configure the firmware that will be flashed to the radio module.' It asks the user to 'Select the product family of your device, the new function set and the firmware version to flash:'

Product family	Function set	Firmware version
XB3-24	Digi XBee3 802.15.4 Digi XBee3 DigiMesh 2.4 Digi XBee3 Zigbee 3.0	3004 (Newest) 3003 3002 3001 3000

Buttons: Update, Cancel, View Release Notes, Select current, Force the module to maintain its current configuration (checkbox).

Presented by:

XBee Radio Modules

DigiMesh Basics - Update the XBee Modules

The screenshot displays the XCTU software interface for configuring XBee radio modules. The window title is "XCTU" and the menu bar includes "XCTU", "Working Modes", "Tools", and "Help". The main interface is divided into several sections:

- Radio Modules:** A list of three configured modules, each with a "Name" field and a "Function" field. The first module is selected, showing its details: Name: Digi XBee3 DigiMesh 2.4, Port: COM3 - 9600/8/N/1/N - AT, and MAC: 0013A20041A7ADBA.
- Radio Configuration [- 0013A20041A7ADBA]:** A configuration panel for the selected module. It includes a toolbar with "Read", "Write", "Default", "Update", and "Profile" buttons. Below the toolbar, the "Product family" is XB3-24, the "Function set" is Digi XBee...Mesh 2.4, and the "Firmware version" is 3004.
- Networking:** A section titled "Parameters which affect the DigiMesh network" containing several configuration fields:
 - CH Channel: C
 - ID Network ID: 7FFF
 - CE Device Role: Standard Router [0]
 - CB Compatibility Options: 0 Bitfield
 - NI Node Identifier: (empty)
 - NT Network Discovery Back-off: 82 * 100 ms
 - NO Network Discovery Options: 0 Bitfield
 - NP Maximum Packe...ayload Length: 49
- DigiMesh Addressing:** A section titled "Source and destination addressing settings" containing several configuration fields:
 - SH Serial Number High: 13A200
 - SL Serial Number Low: 41A7ADBA
 - DH Destination Address High: 0
 - DL Destination Address Low: FFFF
 - RR Unicast Retries: A Retries
 - MT Broadcast Multi-Transmits: 3
 - TO Transmit Options: C0 Bitfield

Presented by:

XBee Radio Modules

DigiMesh Basics - Update the XBee Modules

The screenshot displays the XCTU software interface for configuring XBee radio modules. The window title is "XCTU" and the menu bar includes "XCTU", "Working Modes", "Tools", and "Help". The main interface is divided into several sections:

- Radio Modules:** A list of three configured modules:
 - Module 1:** Name: Digi XBee3 DigiMesh 2.4, Port: COM3 - 9600/8/N/1/N - AT, MAC: 0013A20041A7ADBA.
 - Module 2:** Name: Digi XBee3 DigiMesh 2.4, Port: COM4 - 9600/8/N/1/N - AT, MAC: 0013A20041A7AE40.
 - Module 3:** Name: Digi XBee3 DigiMesh 2.4, Port: COM5 - 9600/8/N/1/N - AT, MAC: 0013A20041A7AE1E.
- Radio Configuration [- 0013A20041A7ADBA]:** A detailed configuration panel for the selected module. It includes:
 - Product family:** XB3-24
 - Function set:** Digi XBee...Mesh 2.4
 - Firmware version:** 3004
 - Networking:** Parameters which affect the DigiMesh network.
 - CH Channel: C
 - ID Network ID: 1CEC
 - CE Device Role: Standard Router [0]
 - CB Compatibility Options: 0 (Bitfield)
 - NI Node Identifier: DIGIMESH_1
 - NT Network Discovery Back-off: 82 * 100 ms
 - NO Network Discovery Options: 0 (Bitfield)
 - NP Maximum Packe...ayload Length: 49
 - DigiMesh Addressing:** Source and destination addressing settings.
 - SH Serial Number High: 13A200
 - SL Serial Number Low: 41A7ADBA
 - DH Destination Address High: 0
 - DL Destination Address Low: FFFF
 - RR Unicast Retries: A (Retries)
 - MT Broadcast Multi-Transmits: 3
 - TO Transmit Options: C0 (Bitfield)

Presented by:

XBee Radio Modules

DigiMesh Basics - Update the XBee Modules

The screenshot displays the XCTU software interface for configuring XBee radio modules. The window title is "XCTU" and it includes a menu bar with "XCTU", "Working Modes", "Tools", and "Help". The main interface is divided into several sections:

- Radio Modules:** A list of three configured modules, each with a "Name", "Function", "Port", and "MAC" address.
 - Module 1: Name: [blank], Function: Digi XBee3 DigiMesh 2.4, Port: COM3 - 9600/8/N/1/N - AT, MAC: 0013A20041A7ADBA
 - Module 2: Name: [blank], Function: Digi XBee3 DigiMesh 2.4, Port: COM4 - 9600/8/N/1/N - AT, MAC: 0013A20041A7AE40
 - Module 3: Name: [blank], Function: Digi XBee3 DigiMesh 2.4, Port: COM5 - 9600/8/N/1/N - AT, MAC: 0013A20041A7AE1E
- Radio Configuration [- 0013A20041A7ADBA]:** A configuration panel for the selected module, featuring a toolbar with "Read", "Write", "Default", "Update", and "Profile" buttons, and a search field for "Parameter".
- Sleep diagnostics and timing:** A table of sleep-related parameters:

SS Synchronous Sleep status	40
OS Operating Sleep Time	C8
OW Operating Wake Time	7D0
MS Missed Sync Messages	4
SQ Missed Sleep Sync Count	4
- UART Interface:** Configuration options for the UART interface, including:

BD UART Baud Rate	9600 [3]
NB UART Parity	No Parity [0]
SB UART Stop Bits	One stop bit [0]
FT Flow Control Threshold	D9 Bytes
RO Transparent Pa...zation Timeout	3 * character times
AP API Enable	API Mode Without Escapes [1]
AO API Output Mode	API Rx Indicator - 0x90 [0]
AZ Extended API Options	0 Bitfield
- AT Command Options:** Change AT Command Mode Behavior. Command mode is only accessible via the UART.

CC Command Sequence Character	28	Recomm... (ASCII)
CT Command Mode Timeout	64	* 100ms

Presented by:

XBee Radio Modules

DigiMesh Basics - Discover Remote XBee Modules

The screenshot displays the XCTU (XBee Configuration Tool Utility) software interface. The main window is titled "Radio Configuration [DIGIMESH_1 - 0013A20041A7ADBA]". On the left, a "Radio Modules" pane shows a module named "DIGIMESH_1" with the following details: Function: Digi XBee3 DigiMesh 2.4, Port: COM3 - 9600/8/N/1/N - API 1, and MAC: 0013A20041A7ADBA. The main configuration area is divided into two sections: "Networking" and "DigiMesh Addressing".

Networking
Parameters which affect the DigiMesh network

Parameter	Value	Unit/Type
CH Channel	C	
ID Network ID	1CEC	
CE Device Role	Standard Router [0]	Dropdown
CB Compatibility Options	0	Bitfield
NI Node Identifier	DIGIMESH_1	
NT Network Discovery Back-off	82	* 100 ms
NO Network Discovery Options	0	Bitfield
NP Maximum Packe...ayload Length	49	

DigiMesh Addressing
Source and destination addressing settings

Parameter	Value	Unit/Type
SH Serial Number High	13A200	
SL Serial Number Low	41A7ADBA	
DH Destination Address High	0	
DL Destination Address Low	FFFF	
RR Unicast Retries	A	Retries
MT Broadcast Multi-Transmits	3	
TO Transmit Options	C0	Bitfield

Presented by:

XBee Radio Modules

DigiMesh Basics - Discover Remote XBee Modules

The screenshot displays the XCTU (XBee Configuration & Test Utility) software interface. The main window shows the configuration for a radio module named DIGIMESH_1. The configuration details are as follows:

- Name:** DIGIMESH_1
- Function:** Digi XBee3 DigiMesh 2.4
- Port:** COM3 - 9600/8/N/1/N - API 1
- MAC:** 0013A20041A7ADBA

The right-hand pane shows the 'Radio Configuration [DIGIMESH_1]' settings, categorized into 'Networking' and 'DigiMesh Addressing'. The 'Networking' section includes parameters such as CH Channel, ID Network ID, CE Device Role, CB Compatibility Option, NI Node Identifier, NT Network Discovery B, NO Network Discovery C, and NP Maximum Packe...ay. The 'DigiMesh Addressing' section includes parameters such as SH Serial Number High, SL Serial Number Low, DH Destination Address, DL Destination Address L, RR Unicast Retries, MT Broadcast Multi-Tran, and TO Transmit Options.

Overlaid on the main window is a dialog box titled 'Discovering remote devices...'. The dialog box contains the following text:

- Discovering other radio modules in the network.
- Waiting for remote devices to answer...
- 2 new device(s) found
- Stop

The dialog box also displays a list of 'New remote devices discovered':

- Name:** DIGIMESH_3
MAC Address: 0013A20041A7AE1E
- Name:** DIGIMESH_2
MAC Address: 0013A20041A7AE40

At the bottom of the dialog box, there are buttons for 'Select all', 'Unselect all', 'Cancel', and 'Add selected devices'.

XBee Radio Modules

DigiMesh Basics - Configure Remote XBee Modules

The screenshot shows the XCTU software interface for configuring XBee radio modules. The window title is "XCTU" and the menu bar includes "Working Modes", "Tools", and "Help".

Radio Modules: This section displays a list of configured modules. The first module is "DIGIMESH_1" with the following details:

- Name: DIGIMESH_1
- Function: Digi XBee3 DigiMesh 2.4
- Port: COM3 - 9600/8/N/1/N - API 1
- MAC: 0013A20041A7ADBA

Below this, there are two remote modules:

- DIGIMESH_3:** Name: DIGIMESH_3, Function: Digi XBee3 DigiMesh 2.4, MAC: 0013A20041A7AE1E
- DIGIMESH_2:** Name: DIGIMESH_2, Function: Digi XBee3 DigiMesh 2.4, MAC: 0013A20041A7AE40

Radio Configuration [DIGIMESH_2 - 0013A20041A7AE40]: This section provides controls for interacting with the selected module (Read, Write, Default, Update, Profile) and shows the current configuration:

- Product family: XB3-24
- Function set: Digi XBee...Mesh 2.4
- Firmware version: 3004

Networking: Parameters which affect the DigiMesh network:

- CH Channel: C
- ID Network ID: 1CEC
- CE Device Role: Standard Router [0]
- CB Compatibility Options: 0 (Bitfield)
- NI Node Identifier: DIGIMESH_2
- NT Network Discovery Back-off: 82 * 100 ms
- NO Network Discovery Options: 0 (Bitfield)
- NP Maximum Packe...ayload Length: 49

DigiMesh Addressing: Source and destination addressing settings:

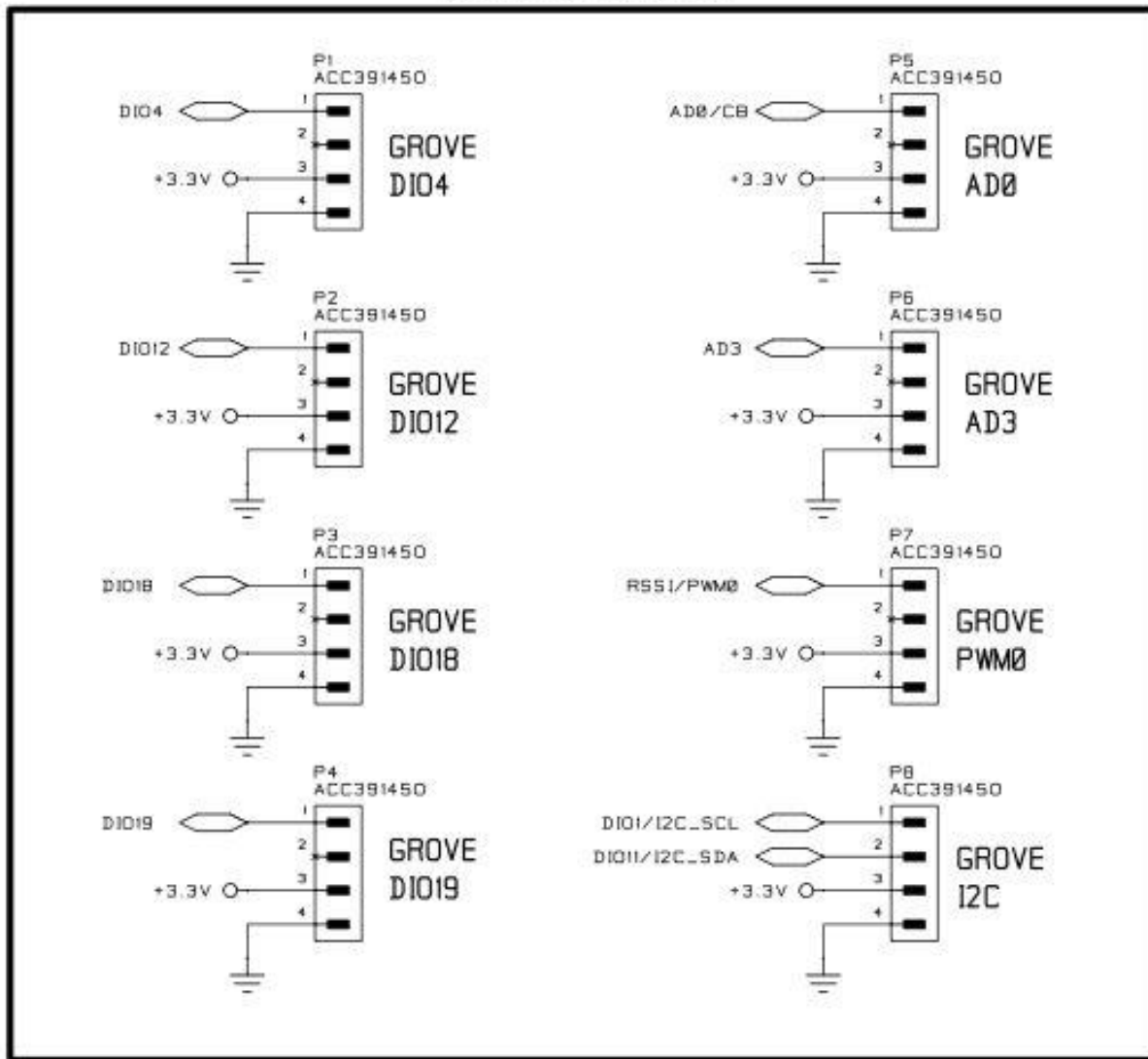
- SH Serial Number High: 13A200
- SL Serial Number Low: 41A7AE40
- DH Destination Address High: 0
- DL Destination Address Low: FFFF
- RR Unicast Retries: A (Retries)
- MT Broadcast Multi-Transmits: 3
- TO Transmit Options: C0 (Bitfield)

Presented by:

XBee Radio Modules

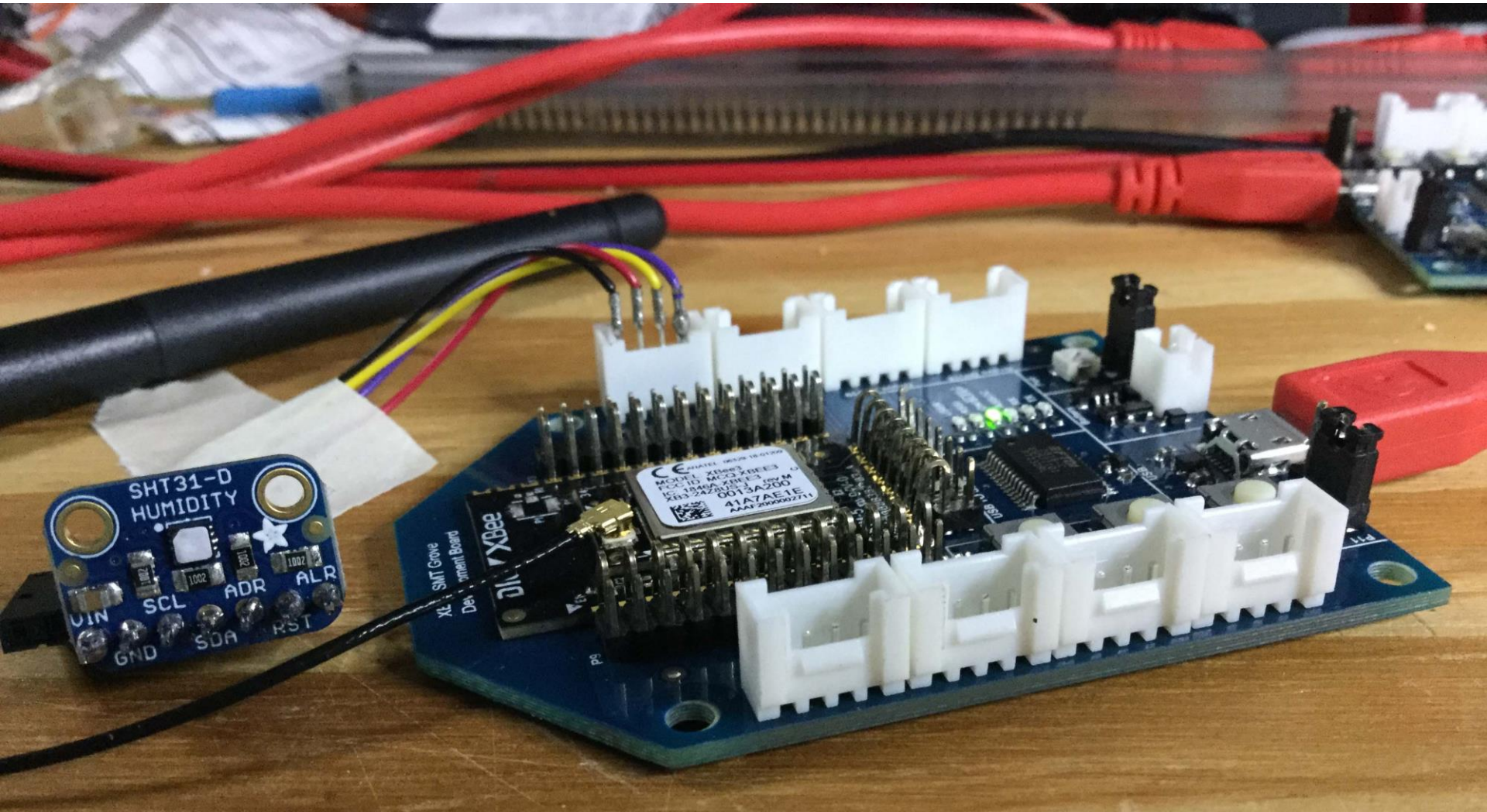
DigiMesh and MicroPython - Install Temp/Humidity Sensor

GROVE CONNECTORS



XBee Radio Modules

DigiMesh and MicroPython - Install Temp/Humidity Sensor



XBee Radio Modules

DigiMesh and MicroPython - Install Temp/Humidity Sensor

```
main.py X
1  # Copyright (c) 2019, Digi International, Inc.
2  #
3  # Permission is hereby granted, free of charge, to any person obtaining a copy
4  # of this software and associated documentation files (the "Software"), to deal
5  # in the Software without restriction, including without limitation the rights
6  # to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
7  # copies of the Software, and to permit persons to whom the Software is
8  # furnished to do so, subject to the following conditions:
9  #
10 # The above copyright notice and this permission notice shall be included in
11 # all copies or substantial portions of the Software.
12 #
13 # THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
14 # IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
15 # FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
16 # AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
17 # LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
18 # OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
19 # SOFTWARE.
20
21 from machine import I2C
22
23
24 print(" +-----+")
25 print(" | XBee MicroPython I2C Scanner Sample |")
26 print(" +-----+\n")
27
28 # Instantiate an I2C peripheral.
29 i2c = I2C(1)
30
31 # Scan for I2C slaves connected to the interface and print their address.
32 for address in i2c.scan():
33     print("- I2C device found at address: %s" % hex(address))
34
```

Xbee REPL Console

```
Selected XBee device: DIGIMESH_3 | COM5 - 9600/8/N/1/N | 0013A20041A7AE1E
soft reboot
Loading /flash/main.mpy...
Running bytecode...
+-----+
| XBee MicroPython I2C Scanner Sample |
+-----+

- I2C device found at address: 0x44

MicroPython v1.11-1238-g936401b on 2019-09-11; XBee3 DigiMesh 2.4 with EFR32MG
Type "help()" for more information.
>>>
```



XBee Radio Modules

DigiMesh and MicroPython - Install Temp/Humidity Sensor

The screenshot displays the PyCharm IDE interface. The main editor shows a Python script named `main.py` with the following code:

```
11 # all copies or substantial portions of the Software.  
12 #  
13 # THE SOFTWARE IS  
14 # IMPLIED, INCLUD  
15 # FITNESS FOR A P  
16 # AUTHORS OR COPY  
17 # LIABILITY, WHET  
18 # OUT OF OR IN CO  
19 # SOFTWARE.  
20  
21 from machine impo  
22  
23  
24 print(" +-----+  
25 print(" | XBee Mi  
26 print(" +-----+  
27  
28 # Instantiate an  
29 i2c = I2C(1)  
30  
31 # Scan for I2C s1  
32 for address in i2  
33 print("- I2C  
34
```

The XBee REPL Console window shows the following output:

```
Selected XBee device: DIGIMESH_3 | COM5 - 9600/8/N/1/N | 0013A20041A7AE1E  
soft reboot  
Loading /flash/main.mpy...  
Running bytecode...  
+-----+  
| XBee MicroPython I2C Scanner Sample |  
+-----+  
  
- I2C device found at address: 0x44  
  
MicroPython v1.11-1238-g936401b on 2019-09-11; XBee3 DigiMesh 2.4 with EFR32MG  
Type "help()" for more information.  
>>> █
```

The bottom status bar indicates the file encoding is UTF-8, 4 spaces, and the Python version is 3.8 (i2c_scanner).



XBee Radio Modules

DigiMesh and MicroPython - Enable XBee MicroPython

The screenshot shows the XCTU software interface for configuring a radio module. The left sidebar displays the module details for 'DIGIMESH_3':

- Name: DIGIMESH_3
- Function: Digi XBee3 DigiMesh 2.4
- Port: COM52 - 9600/8/N/1/N - AT
- MAC: 0013A20041A7AE1E

The main configuration area is titled 'Radio Configuration [DIGIMESH_3 - 0013A20041A7AE1E]'. It features a toolbar with 'Read', 'Write', 'Default', 'Update', and 'Profile' buttons. Below the toolbar, the 'UART Interface' section is expanded, showing various configuration options:

- SQ Missed Sleep Sync Count:** E5
- BD UART Baud Rate:** 9600 [3]
- NB UART Parity:** No Parity [0]
- SB UART Stop Bits:** One stop bit [0]
- FT Flow Control Threshold:** D9 Bytes
- RO Transparent P...ation Timeout:** 3 * character times
- AP API Enable:** MicroPython REPL [4] (selected)
- AO API Output Mode:** Transparent Mode [0]
- AZ Extended API Options:** NA [3]

The 'AT Command Options' section is also visible, with options for 'CC Command Seq...e Character' (2B), 'CT Command Mode Timeout' (64 * 100ms), and 'GT Guard Times' (3E8 * 1ms).



XBee Radio Modules

DigiMesh and MicroPython - Sensor Data Transmission

```
File Edit View Navigate Code Refactor Build Run Tools XBee VCS Window Help sht31D_1 [C:\Public\PycharmProjects\sht31D_1]
sht31D_1 \main.py
Project
  sht31D_1 C:\Public\PycharmProjects\sht31D_1
  External Libraries
  Scratches and Consoles
main.py
1 from machine import I2C
2 import time
3 import xbee
4
5 # Constants
6 SHT31D_ADDR = 68
7
8 # Instantiate an I2C peripheral.
9 i2c = I2C(1)
10
11 while True:
12     # send command to read with high repeatability
13     cmd = bytearray(2)
14     cmd[0] = 0x2C
15     cmd[1] = 0x06
16     i2c.writeto(SHT31D_ADDR, cmd)
17     time.sleep(0.02)
18     dataTH = bytearray(6)
19     dataTH = i2c.readfrom(SHT31D_ADDR, 6)
20     t = (dataTH[0] << 8) + dataTH[1]
21     h = (dataTH[3] << 8) + dataTH[4]
22
23     valueTC = -45 + (175 * (t / 65535))
24     valueTF = -49 + (315 * (t / 65535))
25     valueH = 100 * (h / 65535)
26     val = "{:3.2f}".format(valueTF)
27     xbee.transmit(xbee.ADDR_BROADCAST, val + 'F')
28     val = "{:3.2f}".format(valueTC)
29     xbee.transmit(xbee.ADDR_BROADCAST, val + 'C')
30     val = "{:3.2f}".format(valueH)
31     xbee.transmit(xbee.ADDR_BROADCAST, val + '%')
32     time.sleep(2)
33
XBee REPL Console
Selected XBee device: DIGIMESH_3 | COM52 - 9600/8/N/1/N | 0013A20041A7AE1E
MicroPython v1.11-1238-g936401b on 2019-09-11; XBee3 DigiMesh 2.4 with EFR32MG
Type "help()" for more information.
>>>
soft reboot
Loading /flash/main.mpy...
Running bytecode...
```

```
main.py X
1 from machine import I2C
2 import time
3 import xbee
4
5 # Constants
6 SHT31D_ADDR = 68
7
8 # Instantiate an I2C peripheral.
9 i2c = I2C(1)
10
11 while True:
12     # send command to read with high repeatability
13     cmd = bytearray(2)
14     cmd[0] = 0x2C
15     cmd[1] = 0x06
16     i2c.writeto(SHT31D_ADDR, cmd)
17     time.sleep(0.02)
18     dataTH = bytearray(6)
19     dataTH = i2c.readfrom(SHT31D_ADDR, 6)
20     t = (dataTH[0] << 8) + dataTH[1]
21     h = (dataTH[3] << 8) + dataTH[4]
22
23     valueTC = -45 + (175 * (t / 65535))
24     valueTF = -49 + (315 * (t / 65535))
25     valueH = 100 * (h / 65535)
26     val = "{:3.2f}".format(valueTF)
27     xbee.transmit(xbee.ADDR_BROADCAST, val + 'F')
28     val = "{:3.2f}".format(valueTC)
29     xbee.transmit(xbee.ADDR_BROADCAST, val + 'C')
30     val = "{:3.2f}".format(valueH)
31     xbee.transmit(xbee.ADDR_BROADCAST, val + '%')
32     time.sleep(2)
33
```

```
COM52 - DIGIMESH3
sht31D_1
Event Log
33:1 LF UTF-8 5 spaces* Python 3.8 (sht31D_1)
```



XBee Radio Modules

DigiMesh and MicroPython - Sensor Data Reception

```
main.py x
15  # FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
16  # AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
17  # LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
18  # OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
19  # SOFTWARE.
20
21  import xbee
22
23
24  print(" +-----+")
25  print(" | XBee MicroPython Receive Data Sample |")
26  print(" +-----+\n")
27
28  print("Waiting for data...\n")
29
30  while True:
31      # Check if the XBee has any message in the queue.
32      received_msg = xbee.receive()
33      if received_msg:
34          # Get the sender's 64-bit address and payload from the received message.
35          sender = received_msg['sender_eui64']
36          payload = received_msg['payload']
37          print("Data received from %s >> %s" % (''.join('{:02x}'.format(x).upper() for x in sender),
38          payload.decode()))
39
```

Project: receive_data_1
C:\Public\PycharmProjects\receive_data_1

XBee REPL Console

```
Selected XBee device: DIGIMESH_2 | COM53 - 9600/1
Data received from 0013A20041A7AE1E >>
Data received from 0013A20041A7AE1E >>
Data received from 0013A20041A7AE1E >>
Data received from 0013A20041A7AE1E >>
Data received from 0013A20041A7AE1E >>
Data received from 0013A20041A7AE1E >>
Data received from 0013A20041A7AE1E >>
Data received from 0013A20041A7AE1E >>
Data received from 0013A20041A7AE1E >>
Data received from 0013A20041A7AE1E >>
Data received from 0013A20041A7AE1E >>
Data received from 0013A20041A7AE1E >>
```



XBee Radio Modules

DigiMesh and MicroPython - Sensor Data Reception

```
File Edit View Navigate Code Refactor Build Run Tools XBee VCS Window Help receive_data_1 [C:\Public\PycharmProjects\receive_data_1] - ...\main.py - PyCharm
receive_data_1 > main.py
Project
  receive_data_1
  External Libraries
  Scratches and Consoles
main.py
  # FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
  # AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
  # LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE ARISING FROM
  # OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE U
  # SOFTWARE.
  21 import xbee
  22
  23
  24 print(" +-----+")
  25 print(" | XBee MicroPython Receive Data Sample |")
  26 print(" +-----+\n")
  27
  28 print("waiting for data...\n")
  29
  30 while True:
  31     # Check if the XBee has any message in the queue
  32     received_msg = xbee.receive()
  33     if received_msg:
  34         # Get the sender's 64-bit address and payload
  35         sender = received_msg['sender_eui64']
  36         payload = received_msg['payload']
  37         print("Data received from %s >> %s" % ('%.10j' % sender, payload))
  38
  39
XBee REPL Console
Selected XBee device: DIGIMESH_2 | COM53 - 9600/8/N/1/N | 0013A20041A7AE40
Data received from 0013A20041A7AE1E >> 25.34C
Data received from 0013A20041A7AE1E >> 49.94%
Data received from 0013A20041A7AE1E >> 77.58F
Data received from 0013A20041A7AE1E >> 25.32C
Data received from 0013A20041A7AE1E >> 50.00%
Data received from 0013A20041A7AE1E >> 77.66F
Data received from 0013A20041A7AE1E >> 25.37C
Data received from 0013A20041A7AE1E >> 49.96%
Data received from 0013A20041A7AE1E >> 77.58F
Data received from 0013A20041A7AE1E >> 25.32C
Data received from 0013A20041A7AE1E >> 49.91%
XBee REPL Console
Selected XBee device: DIGIMESH_2 | COM53 - 9600/8/N/1/N | 0013A20041A7AE40
Data received from 0013A20041A7AE1E >> 25.32C
Data received from 0013A20041A7AE1E >> 49.95%
Data received from 0013A20041A7AE1E >> 77.61F
Data received from 0013A20041A7AE1E >> 25.34C
Data received from 0013A20041A7AE1E >> 49.93%
Data received from 0013A20041A7AE1E >> 77.58F
Data received from 0013A20041A7AE1E >> 25.32C
Data received from 0013A20041A7AE1E >> 49.93%
Data received from 0013A20041A7AE1E >> 77.56F
Data received from 0013A20041A7AE1E >> 25.31C
Data received from 0013A20041A7AE1E >> 49.93%
```



XBee Radio Modules

Day 4 Summary

