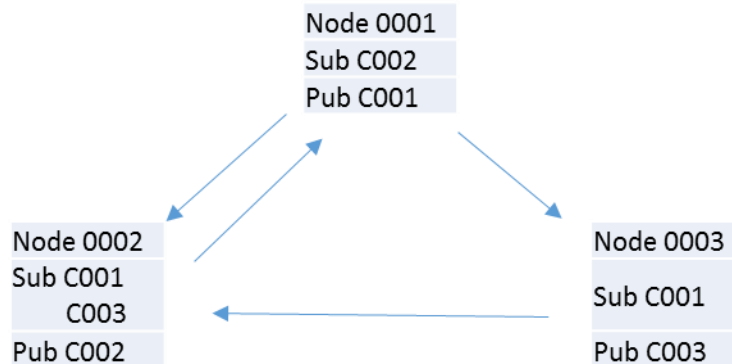


BLE Mesh Demo Guide

Amp'ed RF Technology, Inc.

BLE60 Mesh Quick Start Guide



1. 1.General setup

- Serial COM port settings: 115200/N/8/1
- All AT commands must terminate with a CRLF.
- AT commands may be sent over the BLE link or the COM port/module UART

2. Set the addr & Group mesn network

2.1. Set all NodeAddr, SubscriptionAddr, PubilcationAddr.

Use AT command.See config **var40,41,42**

2.1.1. Node 0001

AT+AB config

```

var01 BuildVersion      = 240415B
var02 BD_ADDR          = 00043e7f7631
var03 DeviceName       = ART MESH
var04 StreamControl    = true
var05 PIN               = 123456
var06 UartBaudrate     = 115200
var07 UartParity       = none
var08 UartDataBits     = 8
var09 UartStopBits     = 1
var10 SleepEnable      = false
var11 GPIO_KeepAwake   = none
var12 EnableEncryption = false
var13 HostEvents       = true
var14 ProfileRole      = all
var15 AdvIntMin        = 256
  
```

```

var16 AdvIntMax      = 512
var17 ScanInt        = 32
var18 ScanWindow     = 18
var19 ConnectIntMin  = 912
var20 ConnectIntMax  = 1000
var21 SlaveLatency   = 0
var22 SupervisorTimeout = 2000
var23 Appearance     = 0000
var24 TxPower        = 7
var25 ConnectMode    = Bypass
var26 HardwareType   = BLE60
var27 manufacturerName = Amp'ed Up
var28 ModelNumber    = BLE60
var29 SerialNumber   = 5.2
var30 HWRevision     = 1.0.0
var31 FWRevision     = 1.0.0
var32 SWRevision     = 1.0.0
var33 SystemID       = 000000FEFFBE7C08
var34 IEEECertification = 010200000000
var35 PnPID          = 03040000000000
var36 LeMeshEnable   = true
var37 DeviceUuid     = 0000fee000001000800000805f9b34fb
var38 RelayEnable    = true
var39 ProxyEnable    = true
var40 NodeAddr       = 0001
var41 SubscriptionAddr = C002
var42 PublicationAddr = C001
var43 TTL            = 5
var44 NetworkKey     = f8a14f9810e7c216f03e8c9fa86b4388
var45 ApplicationKey = d8d46041e2774cd633938c0ecbcac13f

```

2.1.2. Node 0002

at+ab config

```

var01 BuildVersion   = 240415B
var02 BD_ADDR        = 00043e7f7632
var03 DeviceName     = ART MESH
var04 StreamControl  = true
var05 PIN            = 123456

```

```

var06 UartBaudrate      = 115200
var07 UartParity        = none
var08 UartDataBits      = 8
var09 UartStopBits      = 1
var10 SleepEnable       = false
var11 GPIO_KeepAwake    = none
var12 EnableEncryption  = false
var13 HostEvents        = true
var14 ProfileRole       = all
var15 AdvIntMin         = 256
var16 AdvIntMax         = 512
var17 ScanInt           = 32
var18 ScanWindow        = 18
var19 ConnectIntMin     = 912
var20 ConnectIntMax     = 1000
var21 SlaveLatency      = 0
var22 SupervisorTimeout = 2000
var23 Appearance        = 0000
var24 TxPower           = 7
var25 ConnectMode       = Bypass
var26 HardwareType      = BLE60
var27 manufacturerName  = Amp'ed Up
var28 ModelNumber       = BLE60
var29 SerialNumber      = 5.2
var30 HWRevision        = 1.0.0
var31 FWRevision        = 1.0.0
var32 SWRevision        = 1.0.0
var33 SystemID          = 000000FEFFBE7C08
var34 IEEECertification  = 010200000000
var35 PnPID             = 03040000000000
var36 LeMeshEnable      = true
var37 DeviceUuid        = 0000fee000001000800000805f9b34fb
var38 RelayEnable       = true
var39 ProxyEnable       = true
var40 NodeAddr          = 0002
var41 SubscriptionAddr  = C001
var42 PublicationAddr   = C002

```

var43 TTL = 5
var44 NetworkKey = f8a14f9810e7c216f03e8c9fa86b4388
var45 ApplicationKey = d8d46041e2774cd633938c0ecbcac13f

2.1.3. Node 0003

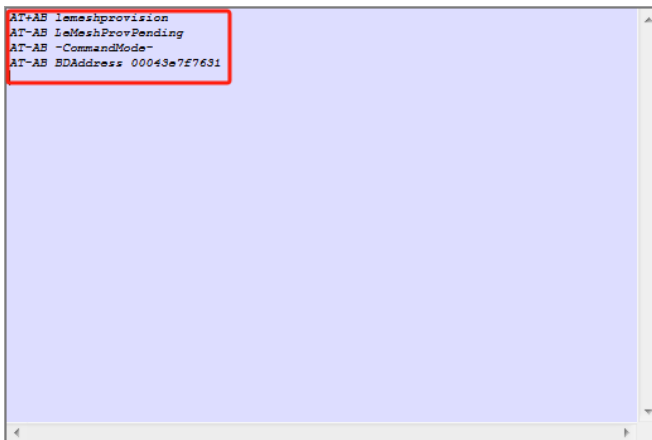
at+ab config

var01 BuildVersion = 240415B
var02 BD_ADDR = 00043e7f7633
var03 DeviceName = ART MESH
var04 StreamControl = true
var05 PIN = 123456
var06 UartBaudrate = 115200
var07 UartParity = none
var08 UartDataBits = 8
var09 UartStopBits = 1
var10 SleepEnable = false
var11 GPIO_KeepAwake = none
var12 EnableEncryption = false
var13 HostEvents = true
var14 ProfileRole = all
var15 AdvIntMin = 256
var16 AdvIntMax = 512
var17 ScanInt = 32
var18 ScanWindow = 18
var19 ConnectIntMin = 912
var20 ConnectIntMax = 1000
var21 SlaveLatency = 0
var22 SupervisorTimeout = 2000
var23 Appearance = 0000
var24 TxPower = 7
var25 ConnectMode = Bypass
var26 HardwareType = BLE60
var27 manufacturerName = Amp'ed Up
var28 ModelNumber = BLE60
var29 SerialNumber = 5.2
var30 HWRevision = 1.0.0
var31 FWRevision = 1.0.0
var32 SWRevision = 1.0.0

```
var33 SystemID          = 000000FEFFBE7C08
var34 IEEECertification = 010200000000
var35 PnPID             = 03040000000000
var36 LeMeshEnable      = true
var37 DeviceUuid        = 0000fee000001000800000805f9b34fb
var38 RelayEnable       = true
var39 ProxyEnable       = true
var40 NodeAddr          = 0003
var41 SubscriptionAddr  = C001
var42 PublicationAddr   = C003
var43 TTL               = 5
var44 NetworkKey        = f8a14f9810e7c216f03e8c9fa86b4388
var45 ApplicationKey    = d8d46041e2774cd633938c0ecbcac13f
```

2.2. Enable mesh group. Use AT command “**at+ab lemeshprovision**”

Node0001,0002&0003 run command “**at+ab lemeshprovision**”



```
AT+AB lemeshprovision
AT+AB LeMeshProvPending
AT+AB -CommandMode-
AT+AB BDAAddress 00043e7f7631
```

To check the mesh network, Use AT command “**at+ab lemeshshowprovision**”

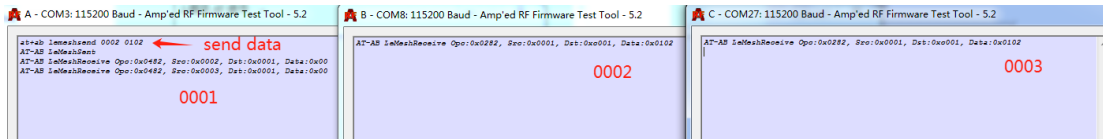
```

at+ab lemeshshowprovision
Node Addr      : 0001
Publco Addr    : c001
Ttl            : 05
Subs Addr      : c002
Net Keys NUM   : 1
/-----/
Key Type       : 01
Key State      : 00
Net Key        : f8a14f9810e7a216f03e8a9fa86b4388
Net Encryption Key : 0867b704991abd00af0dc6d76cef4980
Net Privacy Key : 887e470fea1664b6a7bfe7826ae495a4
Net Beacon Key  : 6462e37780d57ae7a0cf02500986ca87
Net Identifier  : 18
Flags          : 00
Node Identity   : 00
Identity Key    : 5d818bde7a03cb802fffb8999356a0f
Net Key Index   : 0000
Net ID         : 072f40da6a6a77e550
App Keys Num    : 01
IV             : 00000000
/-----/
App Keys Num   : 1
/-----/
Key Type       : 02
Key State      : 00
App Key        : d8d46041e2774ad633938a0e0c0eac13f
  
```

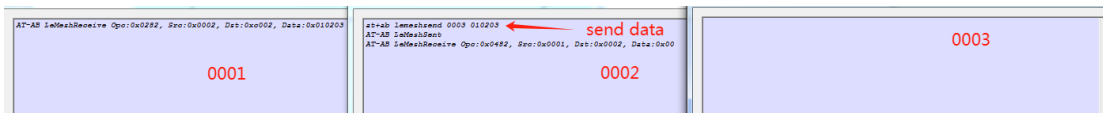
3. Mesh network send data

3.1. Send data use AT command “at+ab lemeshsend len data”

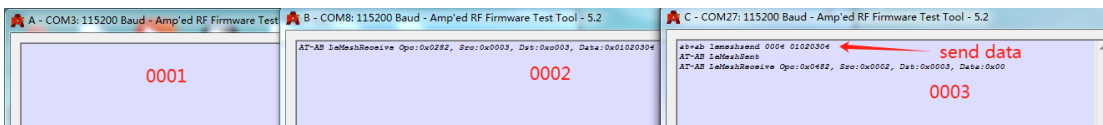
Eg: Node 0001 Send



Node 0002 Send



Node 0003 Send



4. Related AT commands

4.1. Remove from the mesh network, AT command “at+ab lemeshremoveprovision”

4.2. Lst, Add, Del subs addresses

AT command” at+ab LeMeshSubsAddr Lst/Add/Del [SubsAddr]”