

# Bluetooth Smart (BLE) ART Connection Guide Core iOS Demo

Amp'ed RF Technology, Inc.



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#### 1. Introduction

Bluetooth Low Energy is implemented on the iOS mobile platform as the Core Bluetooth Framework. Amp'ed RF has developed a demo application to evaluate our platforms.

BLE mode has 3 options which are set via "at+ab config BLEModemMode = [0-2]" as follows:

- 0: Demo, battery service used to exchange data with  ${\tt LeBypass}$
- 1: Modem, Custom Service is used to exchange data with LeBypass
- 2: Profile, no LeBypass mode allowed (some FW versions do not support this)

#### 1.1. Demo (default mode)

The default mode is battery service based data exchange with LeBypass. A BLE connection is used to transfer data between ART CoreBlue Bluetooth demo and the module. Also, writing to the battery state of the module will result in a notification from the module by the LightBlue demo.

#### 1.2. Modem mode

Using LeBypass, the first characteristic of customer service can be written to the module and notifications can be received from the module through the LightBlue demo.

#### 1.3. Profile mode

If the module is not in BLE bypass mode, it will not go into LeBypass mode after the connection is made. Each characteristic of customer service can be read and written in the module and the module can send notifications using AT commands such as legetchar/leupdatechar to get and set characteristics locally.



### 2. iOS Evaluation Application

- 2.1. Startup
  - Launch the evaluation terminal tool from UART

Open the tools "Term".



Click "Setup", then select the desired port and use the default baud rate of 115200. Click "OK", then "Connect".

1	Setup	×	-Profile
	Comm Fort Fort Baudrats [COM3 ] [115200 ] ERS/CTS Flow Enabled	Keyboard Append LF after C icreen Color	A - Setup BT24H-MF-141027B- Select
5	Use Small Packet	OK	☐ Binary Mode ☐ Stay On Top _ear Profile Start Captur
			CTS/RTS Enabl

Send "at+ab config", and confirm the module's configurations.

	TRE Firmware Test 1001 - 4.9	
at+ab config System Configuration Settings var01 BuildVersion var02 BD_ADDR var03 DeviceName var04 StreamingSerial var05 PIN var06 UartBaudrate var07 UartParity var08 UartDataBits var09 UartDataBits var09 UartStallovSleepEn var11 MatSthallovSleepEn var12 HostDeepSleepEn	<pre>r - Version 1.7 = 141024A_Temperature = 00043e000001 = BT53H = true = 1234 = 115200 = none = 8 = 1 = 16 = true = false</pre>	Connect Disconnect Profile Setup BT24H-MP-141027B-A2DI Select Load Binary Mode
var13 GPIO_HostKeepAwake var14 GPIO_HostWakeup var15 UseSmallPackets var16 EnableAFH var17 ATReply var18 Qog Latency var19 CpuMHz Clear Rx: 2037 Speed:0	= none = none = false = true = AT-AB = 20 = 8 Mands reset sppconnect RMTConfig factory	yinit discovery



Confirm ProfileRole=P.

var31 EnableSPP var33 iAPAppID var34 iAPprotocolStrMain var35 iAPProtocolStrMain var36 CPIC2Mode var41 CreditMax var42 AccName var42 AccName var43 AccManufacturer var44 AccManufacturer var45 AccSerialNumber var45 AccSerialNumber var46 AffMewner var47 ProfileRole var47 ProfileRole var48 AdVINEMIN var48 AdVINEMIN var48 AdVINEMIN var45 ScanInt var45 ScanInt var45 ScanInt var45 ConnectIntMin var55 CannectIntMax var57 BatteryEnable var46 CharacteristicMax	<pre>= true = A152C3D4E5 = com.AmpedRFTech.Demo = com.AmpedRFTech.ProtocolAlt = 3 = BT53H = 7 = ART = ART = Demo = Anp'ed Up! = felse = p = 256 = 512 = 32 = 18 = 912 = 10000 = true = 4</pre>	E	Connect Disconnect Profile Setup BT24H-MP-141027B-A2DH Select Load Binary Mode Stay On Top ear Frofil Start Capture
Clear Rx: 2312 Speed: 0 Set Cmds Escape	mmands reset sppconnect BMTConfig bond reconnect a2dp	factoryin firmupdat	CTS/RIS Enabled it discovery se Send 2000 lines



#### 2.2. Connection

• Establish BLE connection between the iOS device and the BT module

Scan for nearby BT devices by turning on Bluetooth on the iOS device (Settings/Bluetooth/On).



Open CoreBluetooth and select the BT module to create the BLE connection.

work	-74 中国移动 夺  16:27   寥 彩 82% ■● Amped
	AVAILABLE DEVICES
iHealth iHealth iScale	codec >
<u>6</u> 6	DUT
按图滚珠 MacroLab Sphero Pet	Amp'ed Up!
AR AR Tech Tech	codec
ARTDemo CoreBlueto., WifiComm	BT53H >

The iOS device will display "Connected device" and the module will go into bypass mode.



Select the BT device for the data exchange window.



### 2.3. Data Exchange

• Send and receive data to/from the BT module as desired.



/ar39 HardwareType	= BT53H	~	Constant
var41 CreditMax	= 7		Connect
/ar42 AccName	= ART		Disconnect
ar43 AccManufacturer	= ART		
/ar44 AccModelNumber	= Demo		-Profile
ar45 AccSerialNumber	= Amp'ed Up!		A 💌
/ar46 MITMEvent	= false		
ar47 ProfileRole	= p		Setup
/ar48 AdvIntMin	= 256		
ar49 AdvIntMax	= 512		BT24H-MP-141027B-A2
ar50 ScanInt	= 32		
ar51 ScanWindow	= 18		Select Load
ar52 ConnectIntMin	= 912		
ar53 ConnectIntMax	= 1000		□ Binary Mode
ar57 BatteryEnable	= true		C Store On The
ar58 CharacteristicMax	= 4		j Stay on Top
ar59 ServiceUUID	= 26cc3fc06241f5b4534763a3097f6764	E	
			.ear Profile
AT-AB -BLE-ConnectionUp 5f	ca61de2aca		Start Capture
AT-AB -BLE-BypassMode-			
wertasdf		-	
4			
			CTS/RTS Enabled
	Commands		
Clear Rx: 2104			1 1 1 1 1 1 1 1
	reset sppconnect KMILonfig facto	ryini	t discovery



- 2.4. Disconnect
  - Disconnect by BT module

Use the "Escape" string to switch from bypass mode to command mode. Send "at+ab LeDisconnect" to close the connection.

🍂 A - COM3: 115200 Baud - Amp'	ed RF Firmware Test Tool - 4.9	
var43 AccManufacturer var44 AccModelNumber var45 AccStalNumber var45 AccStalNumber var47 ProfileRole var47 ProfileRole var47 AdVIntMix var45 AdVIntMix var45 GanInt var45 GanInt var51 GanInt var52 ConnecIntMix	<ul> <li>λAT</li> <li>Demo</li> <li>λam<sup>1</sup> ed Up!</li> <li>false</li> <li>p</li> <li>256</li> <li>512</li> <li>32</li> <li>18</li> <li>912</li> <li>1000</li> </ul>	Connect Disconnect Profile Setup BT24H-WP-141027B-A20H
var57 BattaryEnable var58 CharacteristicMax var59 ServiceUUID AT-AB -BLE-ConnectionUp Sfc AT-AB -BLE-ConnectionDown attab ledisconnect AT-AB -BLE-ConnectionDown	= true = true = 26cc3fc06241f5b4534763a3097f6764 a61de2aca ndMode-	Select Load Binary Hode Stay On Top .eur Profil Start Capture
Clear Rx: 2152 Speed:0 Set Cnds Escape	nmands reset sppconnect BUTConfig factory bond reconnect 22dp firmup.	CTS/RTS Enabled

• Disconnect by iOS device

Click "Disconnect" to close the BLE connection.



Note: After disconnecting, close the BLE demo. It must be closed before using it again.



### 3. LightBlue Application Evaluation using Modem Mode 0

- 3.1. Connection
  - Set the configuration: AT+AB config BLEModemMode=0.
  - Connect the module to the PC using the method shown in the previous section.
  - Establish BLE connection between the iOS device and the BT module

Open the LightBlue demo, select the module and make the BLE connection.



The module will enter BLE bypass mode.

🍂 A - COM3: 115200 Baud - Amp'ed RF Firmware Test Tool - 4.9	
war46 loofarialNumber = lmn'ed Uni	
war47 MTMEwont = falso	Connect
war47 minevent - raise	Disconnect
var48 Profilekole – p	Disconnect
var45 Advintmin = 238	-Profile-
varst GoopTot = 22	
varsi Scaninc - 32	
Varsz Scanwindow – 18	Setun
varss connectintmin = 512	
vars4 Connectintnax = 1000	
varse Baccerysnable - crue	BT53H_141231B. bin
	Select Load
Var60 ServiceUUID = 2600310062411504534/638309/16/64	Derect Load
Varei BLEnodemiode = 0	_
ATTICK month	🗌 Binary Mode
Altad reset	Stay On Top
AT-AB ResetPending	- · ·
AI-AB -CommandMode-	eer Profild
AT-AB BDAddress 00043e268462	.ear monn,
AT-AB -BLE-ConnectionUp 5fa84fb7c3b7	≡ Start Capture
AT-AB -BLE-BypassMode-	
	+
( III III III III III III III III III I	- P
	CTS/RTS Enabled
Commands	
Clear Rx: 6334	1
Speed: 0 reset config vars	bond 1ap
Set Umas Escape stop dis factoryinit fir	rmupdate Send 20 lines



### 3.2. Data Exchange

Select "Battery Service", then "Battery Level". Then, the "Write" and "Start Notify" buttons will appear.

Services	Characteristics
Battery Service         >           UUID: 180 <sup>III</sup> >           0x200C3FC0-0241-F3584-5347-63A3097F0764         >           UUID: 240C3FC0-6241-F3584-6347-63A3097F0764         >	Battery Level UUID: 2A19 Properties: Write Nosty

Click "Write", fill in the desired data in the "Write ASCII" window (≤ 20 bytes), and then click "Send".





The module will receive the data.

A - COM3: 115200 Baud - Amp'ed RF Firmware Test Tool - 4.9				
var46 AccSerialNumber var47 MITMEvent var48 ProfileRole var49 AdvIntMin var50 AdvIntMax var51 ScanInt var52 ScanWindow var53 ConnectIntMin var54 ConnectIntMin	<pre>= Amp'ed Up! = false = p = 256 = 512 = 32 = 18 = 912 = 1000</pre>	Connect Disconnect Profile A v Setup		
var58 BatteryEnable var59 CharacteristicMax var60 ServiceUUID var61 BLEModemMode	<pre>= true = 4 = 26cc3fc06241f5b4534763a3097f6764 = 0</pre>	BT53H_141231B. bin Select Load		
AT-AB ResetPending AT-AB -CommandMode- AT-AB BDAddress 00043e268462 AT-AB -BLE-ConnectionUp 5fa84f AT-AB -BLE-BypassMode- tumbhes	b7c3b7	E Stay On Top		
Clear Rx: 6342	III + + + + + + + + + + + + + + + + + +	CTS/RTS Enabled		

If the data needs to be sent to an iPad, first click "Start Notify" on the demo, which will change to "Stop Notify".

Scanne for Peripherals       Scance (Standard)       Scancd)       Scance (Standard)       Scan	About	LightBlue	RSSI -56
	Scanning for Peripherals	Services	Characteristics
BISO BY AND	hxhx UUID: AF9528F6-AE9F-8318-CDC6- BC18B840C678 Local Names Intex Service: Bettery TX: Power Lowst: D	Battery Service         >           UUID: 180F         >           0x200C3PC0-0241-F384-3347-03A3007F0794         >           UUID: 280C3PC0-0241-F384-3347-63A3007F0794         >	UUID: 2A19 Properties: Write Notify
ASCII Hax Decimal Date	B153 And And And And And And And And And And		
Hex Decimal Date Write Stop Notify	ASCII		}
Decimal Date Write Stop Notify			
Determal Date Write Stop Notify	PIOX		
Date Write Stop Notify			
Write Stop Notify	Decimal		
	Decimal		



DUT sends data to the demo, which will then be displayed on the demo.

A - COM3: 115200 Baud - A	mp'ed RF Firmware Test Tool - 4.9	X
var46 AccSerialNumber var47 MITMEvent var48 ProfileRole var49 AdvIntMin	= Amp'ed Up! = false = p = 256	Connect Disconnect
var50 AdvIntMax var51 ScanInt var52 ScanWindow var53 ConnectIntMin var54 ConnectIntMax	= 512 = 32 = 18 = 912 = 1000	Profile A V Setup
var58 BatteryEnable var59 CharacteristicMax var60 ServiceUUID var61 BLEModemMode	= true = 4 = 26cc3fc06241f5b4534763a3097f6764 = 0	BT53H_141231B. bin Select Load
AT+ab reset AT-AB ResetPending AT-AB -CommandMode- AT-AB BDAddress 00043e26	8462	Binary Mode   Stay On Top _ear Profil.
AT-AB -BLE-ConnectionUp AT-AB -BLE-BypassMode- tyyhhhgg111111122345	5fa84fb7c3b7	Start Capture
Clear Rx: 6344 Speed: 0	Commands reset config var3 bond	CTS/RTS Enabled
Set Cmds Escape	stop dis factoryinit firmupdate	Send 20 lines

The demo will receive data one byte by one byte.

iPad	上午11:08		☞ 🕏 不在充电 💷
About	LightBlu	ıe	RSSI-60
Scanning for Peripherals	Services		Characteristics
hxhx UUID: AP9528FE-AE9F-B318-CDC6- BCC1988A9CC678	Battery Service	>	Battery Level
Local Name: hothx Service: Battery TX Power Level: 0	UURD: 260 C3P00-6241-P584-5347-6	3A3007F8754	
Bt53			
AF AGAINST Det To Construction Det To Constructio			
ASCII 5			
Hex 0x35			
Decimal 53			
Date 2015	/04/21 11:08:02:024		
	Write	Stop Notify	
Central mod	de lets you connect to	peripherals a	round you.
	1	:==	
Central	Peripheral	Profiles	Logs



- 3.3. Disconnect
  - Disconnect by BT module

Same as per previous demo.

• Disconnect by iOS device

On the left, press and hold the BT module to disconnect.

iPad		上午1	11:33	● 🕆 不在究电 ■
About				
Scanning for Periphera	S	Services		Characteristics
Bt53				
URUID: 2F1A55F8- D6E1-2CF7-4461-26B0D77DE37F Local Norms: B553 Service: Battory TX Power Leves: 0				
hxhx LUID: Arisostre:-AESF-B318-CDC6- BC1688460078 Service:Bettery Service:Bettery TX Power Level: 0				
		Disconnected (	rom Peripheral	
		Disconnected	rom r empirerai	
		0	к	
		L	لالم	
Centr	al mod	e lets you conne	ct to peripherals a	round you.
	+			

The BT module will prompt "AT-AB -BLE-ConnectionDown".

AT+ab reset AT-AB ResetPending AT-AB -CommandMode- AT-AB BDAddress 00043e268462 AT-AB -BLE-ConnectionUp 5f23dd3e5983 AT-AB -BLE-BypassMode- 123434345AT-AB -BLE-ConnectionDown	*	Connect Disconnect Profile A - Setup
		BT53H_141231B. bin Select Load
		│ Binary Mode │ Stay On Top
		.ear Profil Start Capture
	Ξ.	
		CTS/RTS Enabled
Clear         Rx: 162         Commands           Speed: 0         reset         config         var3         bon	d	iap
		1



### 4. LightBlue Application Evaluation using Modem Mode 1

- 4.1. Connection
  - Set the configuration: AT+AB config BLEModemMode=1.
  - Connect the module to the PC using the method shown in the previous section.
  - Establish BLE connection between the iOS device and the BT module

Open the LightBlue demo, select the module and make the BLE connection.



#### 4.2. Data Exchange

Select the 1st characteristic of customer service.

O Locate all		
	LightBlue	RSSI
Scanning for Peripherals	Services	Characteristics
hxhx	Battery Service	> 0x8F8796F1-64F7-7085-1E41-0988B46D79100
00000: AP9528FE-AE9F-8318-CDC6- 8C188849C678	0x20CC3FC0+6241-F584+5347-63A3097F6764	Ox8F8796F1-64F7-7085-1541-098846D79101
Local Name: Potoc Service: Bettery DV Research and D	UUID: 200 03F00-6241-F584-5347-6343097F6764	ULD BRITHPI OFF TEED IDHI ONBHETTILLI Properties Paul Vete
Rt53		Ox80F8796F1-64F2-7085-1841-098846079162
Julio: JETASSER-		0x8F8796F1-64F7-7085-1E41-098B46D79103
20E1-2CF7-4401-20B0D77DE37F		ULIE: EPICIAPI 6677 7285 ED41 CORRECTIVES: Proposition Planet Veter
Revice: Ballity DC Power Level: 0		
ASCH		}
ASCII Hex Ox		}
ASCII Hex <b>O</b> X		}
ASCII Hex Ox Decimal		}
ASCII Hex OX Decimal Date 201	5/04/21 11:49:43:340	}
ASCII Hex Ox Decimal Date 201	5/04/21 11:49:43:340	*Notify
ASCII Hex Ox Decimal Data 201	5/04/21 11:49:43:340 Read Write Star	t Notify
ASCII Hex 0x Decimal Date 201	5/04/21 11:49:43:340 Read Write Star de lets you connect to periphe	t Notify rrais around you.



Click "Write", fill in the desired data in the "Write ASCII" window (≤ 20 bytes), and then click "Send".



The BT module will receive the data.

🍂 A - COM3: 115200 Baud - Amp'ed RF Firmware Test Tool - 4.9	
AT+ab reset AT-AB ResetPending AT-AB -CommandMode- AT-AB BDAdtress 00043e268462 AT-AB -BLE-ConnectionUp 5f29dd3e5983 AT-AB -BLE-BypassMode- www	Connect Disconnect Profile A v Setup
	BT53H_141231B. bin Select Load
	│ Binary Mode │ Stay On Top
	_ear Profil Start Capture



If the data needs to be sent to an iPad, first click "Start Notify" on the demo, which will change to "Stop Notify".

About Scanning for Peripherals bxbix UDDi Arrisol extension Arrisol extension Arrisol extension Arrisol extension Bits3 Arrisol extension Arrisol extension Bits3 Arrisol extension Arrisol extensi	LightBlue Services Battery Service UUE: 100F Battocarce and read soft down	Characteria	RSSI = 00           Stics           B2-1241-002840279100           V           B3-1241-002840079101           V           B3-1241-002840079102           V           V           B3-1241-002840079102           V           B3-1241-002840079102           V           B3-1241-002840079102           V           B3-1241-002840079102           V           B3-1241-002840079102           V           <
Scanning for Peripherals  http: http://www.scanses.org/scanses.	Services Battery Service UUE:189 Battery Service UUE:189 Battery Service:184-1584-584-584-584 Battery Service:184-184 Battery Service:184-184 Battery Service:184-184 Battery Service:184	Characteris	Stics         >           BB-1E41-0908B48D79100         >           BB-1E41-0908B48D79101         >           BB-1E41-0908B48D79101         >           BB-1E41-0908B48D79101         >           BB-1E41-0908B48D79101         >           BB-1E41-0908B48D79102         >           BB-1E41-0908B48D79101         >           BB-1E41-0908B48D79102         >           BB-1E41-0908B48D79102         >           BB-1E41-0908B48D79102         >           BB-1E41-0908B48D79102         >
http: MASA And Sater Alert - Basis - Cool- Constained on the Base - Base -	Battery Service Units Internet Service Bateccar Co-Sk41-rs84-Sk47-604/000776 Inter Secces Co-Sk41-rs84-Sk47-604/000776	OsBF 6790671-04477-77     OsBF 6790671-04477-77     OsBF 6790671-04477-77     OsBF 6790671-04477-70     OsBF 6790671-04477-70     OsBF 6790671-04477-70	BS-1E41-030B48D79100 BB-1E41-090B48D79101 BB-1E41-090B48D79101 BS-1E41-090B48D79102 BS-1E41-090B48T785
Among America America Star CoDe- Contensation Contension Contensio Contension Contension	0000-100 6x800-07-00-8341-9584-5347-634509788 1.4401-280-0320-6341-9584-5347-634309788	64 CaseF8706F1-64F7-70 Use server der verste CaseF8706F1-64F7-70 Use server der verste CaseF8706F1-64F7-70	BD111         Augenetic Nation Vetals           BB-1E41-098B46D79101         >           008940217911         Page-files: Real Vetals           BB-1E41-098B46D79102         >           008940217912         Page-files: Real Vetals           BB-1E41-098B46D79102         >
IX Power Lave: 0 BI53 UID: IFIA58- BE1-2077-4-61-26800770E37F Codal Name: BB3 Bevice: Battery IX Power Lave: 0		0xBF8796F1-64F7-70 0xBF8796F1-64F7-70	B5-1E41-096B46D79102
DIDO UUID: 2F1A5678- Local Name: 1553 Service: Battery IX Power Lavel: 0		0x8F8796F1-64F7-70	
TX Power Level: 0		33.02 (2010) 3010 1041	BS-1E41-098B46D79103
			_
ASCII			
Hex Ox			
Decimal			_
Date 201	5/04/21 11:49:43:340		-
	Read Write S	top Notify	
	de lets you connect to peri	borale around you	
Central mo	sue leta you connect to pen	nerais around you.	

DUT sends data to the demo, which will then be displayed on the demo.

AT-AB ResetPending		Connect	1
AT-AB -CommandMode-		Disconnect	-
AI-AB BDAddress 00043e20	5452 5539dd2a5992	-Profile	
AT-AB -BLE-Connectionop	512500365503	4	-
www123467		1° -	_
·		Setup	<u> </u>
		BT53H_141231B.	bin
		Select Lo:	ad
		🖵 Binary Mo	de
		🔽 Stay On T	op
		.ear Profil	u -
		Start Captu	re
		-	
4		P	
		UTS/RTS Enab	Led
Clear Bx: 137	Commands		



The demo will receive data one byte by one byte.

kd		上年11:53		④ \$ 不在充电
About		LightBlue		RSSI -
Scanning for Peripheral	s Servic	es		Characteristics
hxhx UUID: 8/9828FE-AE9F-B318-CDC6- BC188949C678 Local Name: helvs Service: Bottery TX Power Level: 0	Batter UUID: 180 0x20ccarc UU0: 3x0cc	ry Service F 26 0241 - F384 - 5347 - 634300 FFC3-H241 - F384 - 5347 - 63430	> 97F0764 > 97F0764	0x8F8796F1-64F7-7085-1E41-090846079100 0x8F8796F1-64F7-7085-1E41-0908446079100 0x8F8796F1-64F7-7085-1E41-098846079101 0x8F8796F1-64F7-7085-1E41-098846079102 0x8F8796F1-64F7-7085-1E41-098146079102
Bt53 JUND: IF IASEF8- SEE I-20F7-4461-2680D77DE37F Joedan Home: Bh3 Jewice: Battery FX Power Lovet: 0	•			Last Statistics Field         Statistics         Statistics
ASC	17			
ASC	11 7 × 0x37	1		
ASC He Decima	1 7 × 0x37 ■ 55			
ASC He Decima	# 7 × 0x37 # 55 ≈ 2015/04/21 11:	51:42:321		
ASC He Decima Dat	1 7 × 0x37 55 • 2015/04/21 11::	51:42:321 Write	Stop Noti	fy

4.3. Disconnect

Same as previous demo.



### 5. LightBlue Application Evaluation using Modem Mode 2

- 5.1. Connection
  - Set the configuration: AT+AB config BLEModemMode=2.
  - Connect the module to the PC using the method shown in the previous section.
  - Establish BLE connection between the iOS device and the BT module

Open the LightBlue demo, select the module and make the BLE connection. Note that the module does NOT switch to BLE Bypass Mode.

A - COM3: 115200 Baud - Amp'ed RF Firmware Test Tool - 4.9		
AT+ab reset AT-AB ResetPending AT-AB -CommandMode- AT-AB BAddress 00043e260462 AT-AB -BLE-ConnectionUp 70f6f2149434	*	Connect Disconnect Profile Setup
		BT53H_141231B. bin Select Load Binary Mode
隐藏空白	Ŧ	_ear Profil
۲. ( )		CTS/RTS Enabled
Clear         Rx: 109         Commands           Speed:0         reset         config         var3         bor           Set Cmds         Escape         stop         dis         factoryinit         firmug	d date	iap Send 20 lines

#### 5.2. Data Exchange

Click "Write", fill in the desired data in the "Write ASCII" window (≤ 20 bytes), and then click "Send".

Scanning for Periphera	LightBlue	Characteristics
hxhx UUD: AF952BFE-AE9F-B318-CDC6- BC180846C678 Local Name: hrbrx Sorvice: Battery TX Power Level: 0	Battery Service UUD-180F baseCardo-dati-FSH-SAT-daAbatrFRIM	OLDF073071-6477-7055-1E41-090346079100     Ale investigation of a least to the function of the investigation     OLDF073071-6477-7055-1E41-090346079101     OLDF0731671-0503407091714477-09034607910     OLDF0731671-050427091714477-7058-1E41-090840070910     OLDF07317477-0505-1E41-090840070910     OLDF07317477-0505-1E41-090840070910     OLDF07317477-0505-1E41-090840070910     OLDF0731747-0505-1E41-090840070910     OLDF073174     OLDF0731747-0505-1E41-09084007910     OLDF073174     OLDF073174     OLDF07317     OLDF073174     OLDF07317     OLDF0731     OLDF0731     OLDF0731     OLDF0731     OLDF0731     OLDF0731     OLDF073     OLDF0731     OLDF073     OLDF07     OLDF073     OLDF073     OLDF073
Bt53 UUID: 2F1A56F8- D8E1-2CF7-4461-26B0D77DE37F Local Name: Bt53	>	LDD: INTERPT ANT 7005 1011 CORRECTION Proposition From Veta           0x80F87900F1-04F7-70056-11E41-09808460279103           LDD: INTERPT ANT 70056-11E41-09808460279103           LDD: INTERPT ANT 70056-11E41-09808460279103
Service Battery TX Power Level 0	Write Hex auvgyygygy	



The BT module will receive the data.

A - COM3: 115200 Baud - Amp'ed RF Firmware Test Tool - 4.9	
AT+ab reset AT+ab reset AT-AB ResetPending AT-AB ResetPending AT-AB -CommandMode- AT-AB BDAddress 00043e268462 AT-AB -BLE-ConnectionDp 511f1ce64424 Characteristic handle 1a updated: guvgyygygy	Connect Disconnect Profile Setup BI53H_141231B. bin Select Load Binary Mode Stay On Top .ear Profil Start Cap
K b	CTS/BTS Enabled
Clear     Rx: 175     Commands       Speed:0     reset     config     var3     bond       Set Cmds     Escape     stop     dis     factoryinit     firmupdate	iap Send 20 lines

In the BT module receiving data, "1a" ("26" is hexadecimal) is the offset. The legetchar/leupdatechar command can be used to read /update the char of offset.

Use AT command "AT+AB legetchar 26" to get the message ("26" is decimal).

		Conserved
AT-AB -BLE-ConnectionDown		Connect
AT-AB -BLE-ConnectionUp 4670b7abfc37		Disconnect
AT-AB -BLE-ConnectionDown		
AT+ab reset		Profile
AT-AB ResetPending		A 💌
AT-AB -CommandMode-		<u> </u>
AT-AB BDAddress 00043e268462		Setup
AT-AB -BLE-ConnectionUp 4670b7abfc37		
Characteristic handle 1a updated: uhuhuhuji		BT53H 141231B.bin
at+ab legetcgar 26		
AT-AB ErrFormat		Select Load
at+ab legetchar26		
AT-AB ErrUnknownCmd legetchar26		🖵 Binary Mode
at+ab legetchar 26		🗖 Stay On Ton
handle:1a vlen:9 value		,,
(hex):75 68 75 68 75 68 75 6a 69		our Profil
		.ear froming
		Start Cap
		EN
	Ŧ	
<		and the second second second
٢		CTS/RTS Enabled
Commands		CTS/RTS Enabled
Clear Rx: 378 Commands		CTS/RTS Enabled



Click the "Read" button to see the message.

		LightBlue	RSSI -49
Scanning for Peri	ipherals	Services	Characteristics
Bt53 UUID: 2F1A55F8- D6E1-2CF7-4461-26B0D77DE Local Name: Bt53 Service: Better:	637F >	Battery Service           UUD: 180F           0x200C0FC0-0241-F504-0347-6343007F6           UUD: 280C0FC0-0241-F504-0347-6343007F6	0x8F875691-6487-70865-1641-0988046073190         >           0x8F875691-6487-70885-1641-0988046071910         >           0x8F875691-6487-70855-1541-098804007101         >           0x8F875691-6487-70855-1541-098804007101         >
TX Power Level: 0 iap2 UUID: AF9528FE-AE9F-8318-CDC6- BC188846C678 Local Name: lap2	- >		DxBF47909F1-04F7-7005-1E41-090B40D79102         >           Libit Vertref1-04F7-7005-1E41-090B40D79103         >           DxBF47909F1-04F7-7005-1E41-090B40D79103         >           Libit Vertref1-04F7-005-1E41-090B40D79103         >
	ASCII uhuhi	uhuji	3
	ASCII uhuhi Hex 0x756	uhuji 387568756A69	3
	ASCII uhuhu Hex 0x756 Decimal	uhuji 5887568756A69	3
	ASCII uhuhi Hex 0x756 Decimal Date 2015/	uhuji 3875687568756A69 /04/21 13:41:07:942	3
	ASCII uhuhi Hex 0x750 Decimal Date 2015/	uhuji 5875687568756A69 704/21 13:41:07:942 Read Write S	Start Notify
	ASCII uhuhi Hex 0x750 Decimal Date 2015/ F Central mod	uhuji 587568756A69 704/21 13:41:07:942 Read Write S de lets you connect to peri	Start Notify

Update the message using the "AT+AB leupdatechar 1a 2 62 62" command.

r≨r\$r\$hT-AB -CommandMode- AT-AB -BLE-ConnectionDown	Connect
AT-AB -BLE-ConnectionUp 4670b7abfc37	Disconnect
AT-AB -BLE-ConnectionDown	
AT+ab reset	-Profile
AT-AB ResetPending	A V
AT-AB -CommandMode-	
AT-AB BDAddress 00043e268462	Setup
AT-AB -BLE-ConnectionUp 4670b7abfc37	
Characteristic handle la updated: uhuhuhuji	PTEON 1410010 L
at+ab legetcgar 26	b155A_141251b. b1R
AT-AB ErrFormat	Select Load
at+ab legetchar26	
AT-AB ErrUnknownCmd legetchar26	Biperv Mode
at+ab legetchar 26	
nandle:1a vlen:9 value	Stay Un lop
(hex):75 68 75 68 75 68 75 6a 69	
AT+AB leupdatechar 1a 2 62 62	.ear Profil:
AT-AB LEUpdateOK	Start Cap
	EN
۲ ۲	CTS/RTS Enabled
- Comenda	
Clear Rx: 396	1
Speed:0 reset config var3 bond	1 ap
Set Ends Escape time	4. C., 1 00 1;



to another			
bout	LightBl	lue	RSSI -4
Scanning for Peripherals	Services	Cha	aracteristics
Bt53	Battery Service	> 0.01	1796F1-64F7-7086-1E41-0988646D79100
F1A55F8- WEI - 20CF7-4461-26B0D77DE37F ocal Name: Bt53 iervice: Bettery X Power Level: 0	> 0x28CC3FC0+8241-F584-5347- UURC 29CC3FC0-8241-F584-5347	-03A3007F6764 > 0x8FE	1706F1-64F7-7085-1E41-098846D79101
ap2 AUD: PISSEPE-AESF-B318-CDC6- IC18Ba960C878 Jocal Name: Isp2 Jervice: Battery X Power Level: 0	>	UNE HT	CTUT 447 200 01 000 001 000 000 Paulate fail (04
Ascii	Ь	D	
ASCII	bb 0x6262		
ASCII Hex Decimal	bb 0x6262 25186		
ASCII Hex Decimal Date	bb 0x6262 25186 2015/04/21 13:46:11:758		
ASCII Hex Decimal Date	bb 0x6262 25186 2015/04/21 13:46:11:758 Read Write	Start Notify	

### 5.3. Disconnect

Same as previous demo.