

Bluetooth and BLE Test with CyBluetool

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Murata Manufacturing Co., Ltd.



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Revision 1.0	2019/03/06	Initial
Revision 1.1	2019/09/06	3. Firmware Download
		Added Type1QP make target.



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1. About this Document

1.1. Purpose and Scope

This document provides instructions to use CyBluetool that is a software to run the Murata Type1LD and Type1QP module for Bluetooth and BLE test.

1.2. References documentation

N1-4629_Type1LD-Quick_Start_Guide.pdf N1-4799_Type1QP-Quick_Start_Guide.pdf

2. Setting up CyBluetool

CyBluetool is available for download from the Cypress WICED website.

- A) Cybluetool user's guide is available as below site also. https://community.cypress.com/docs/DOC-16475
- B) Download CyBluetool from the WICED Communities website.
 https://community.cypress.com/docs/DOC-15585 (for Windows)
 https://community.cypress.com/docs/DOC-15586 (for Linux)
- C) Install CyBluetool.

3. Firmware Download

This is a normal way to download firmware with Wiced build option. Please use bt_mfg_test application with below build option.

test.bt_mfg_test-MurataType1LD download run

test.bt_mfg_test-MurataType1QP download run

Note) For more detail firmware download, please refer to documents of [1.2. References documentation].

4. Start CyBluetool

Start the CyBluetool by selecting, START > All Programs > Cypress > CyBluetool > CyBluetool.





5. Initialization

5.1. Reset by HCI Command

Click the [Select device] button.

😴 CyBluetool
File Tools Help
Select device
Logs
Clear log

The [Select Device] screen is displayed, and execute the folloing process.

Select Device
Transport UART 👻
Device Name COM52 -
Baud Rate 115200
Flow Control None
Connect Cancel

- A) Select [UART].
- B) Select the port number which is used.
- C) Change [Flow Control] to None.
- D) Push the [Connect] button.

After you push the [connect] button, the following screen is displayed.



File Tools Help					
Select device					
DOM52					8
Filter	Expand all	Collapse all	Parameter	Valu	e
Command Name					
0: Vendor-specific Commands					
7.1: Link Control Commands			Description:		
7.2: Link Policy Commands					
7.3: Host Controller & Baseband Con	nmands				
7.4: Informational Parameters					
7.5: Status Parameters					
7.6: Testing Commands					
7.8: LE Controller Commands					
					Send
HCI Throughput Test					
050					
Diear log					
COM52					
08/06/18 19:13:27.002 com52 Transport o	pened				
08/06/18 19:13:27.002 com52 Protocol set	to HCI				
com52@115200					

E) Reset

Select [7.3: Host Controller & Baseband Commands] from [HCI Command] window, double click [Reset].

🕞 CyBluetool				
File Tools Help				
Select device				
COM52				₽×
Filter	Expand all Collapse all	Parameter	Value	
Command Name	*			
▷ 0: Vendor-specific Commands				
7.1: Link Control Commands		Description:		
7.2: Link Policy Commands				
7.3: Host Controller & Baseband Comma	inds			
Set_Event_Mask				
Reset				
Set_Event_Filter				
Flush				
Read_PIN_Type	-			Send
HCI Throughout Test				
	~			
08/06/18 19:13:27.002 com52 Protocol set to H com52@115200	CI			*
08/06/18 19:13:54.743 com52 c> Reset				
HCI Command com52@115200				
[03 0C 00] opcode = 0x0C03 (3075 "Beset")				
09/06/19 10:19:55 272 com52 /c Repet				
HCI Command Complete Event				=
Com52@115200 [0E 04]: 01 03 0C 00				
event = 0x0E (14,"Command Comp Num HCI Command Packets = 0x1	lete") (1)			
Command Opcode = 0xC03 (3075, Status = 0x0 (0, "Success", "Succ	'Reset")			
				T

If the response is [Status = 0x0 (0, "Success", "Success")], reset is success.





5.2. Confirm the BD Address read

A) Double click [Read BD Address] in [7.4: Informational Parameters].

The BD Address is displayed in Log window.

File Tools Help Select device Commod G Filter Expand all Collapse all Parameter Value Command Name 7.4: Informational Parameters	😔 CyBluetool					
Select device COM52 Filter Expand all Collapse all Parameter Value Tormand Name 7.4: Informational Parameters Read_Local_Version_Information Read_Local_Supported_Commands Read_Local_Supported_Commands Read_Local_Extended_Features Read_Local_Supported_Commands Read_Bourgers Read_Bourg	File Tools Help					
COM52 Expand all Collapse all Filter Expand all Collapse all Command Name Parameter Value P 7.3: Host Controller & Baseband Commands Parameter Value P 7.3: Host Controller & Baseband Commands Parameter Value P 7.3: Host Controller & Baseband Commands Parameter Value P 7.3: Host Controller & Baseband Commands Parameter Value Read_Local_Supported_Commands Parameter Pecription Read_Local_Supported_Commands Parameter Pecription Read_BD_ADDR Parameter Pecription Read_BD_ADDR Parameter Pecription Read_BD_ADDR Pecription Pecription Hol Throughput Test Pecription Loes Pecription Pecription COM52 Pecription Pecription 08/07/18 0851:18344 com52 c> Read_BD_ADDR Pecription HOI Throughput Test Pecription Loes Pecription Pecription Command_Complete Event Pecription Pecription 08/07/18 0851:18375 com52 c> Read_BD_ADDR Pecription Pecription HOI Command Complete Event Pecription Pecrent 5.006 (14,105, "Read_BD_ADDR")	Select device					
Filter Expand all Collapse all Parameter Value Command Name P. 7.3: Host Controller & Baseband Commands 7.4: Informational Parameters Read_Local_Supported_Commands Read_Local_Supported_Commands Read_Local_Supported_Features Read_Local_Supported_Features Read_Local_Supported_Features Read_BD_ADDR Head_BD_ADDR Kead_Local_Supported_Codeecs Colmsider Colmsider Colmand Colmand Colmand Command Complete Event complete Fixent Command Complete Event complete Fixent Command Complete Event complete Fixent Command Co	COM52					5 ×
Command Name	Filter	Expand all Coll	lapse all	Parameter	Value	
 7.3: Host Controller & Baseband Commands 7.4: Informational Parameters Read_Local_Supported_commands Read_Local_Supported_commands Read_Local_Supported_Features Read_Local_Extended_Features Read_Local_Supported_commands Read_Local_Supported_commands Read_Local_Supported_commands Read_Local_Supported_commands Read_Local_Supported_commands Read_Local_Supported_commands Read_Local_Supported_commands Read_Local_Supported_comeands Read_Local_Supported_comeands Read_BD_ADDR Read_BD_ADDR Read_BD_ADDR HOI Throughput Test Locs COM52 (Be/07/18 0851:18.844 com52 c> Read_BD_ADDR') (Be/07/18 0851:18.844 com52 c> Read_BD_ADDR') (Be/07/18 0851:18.947 com52 c> Rea	Command Name		~			
08/07/18 0951:18.944 com52 c> Read_BD_ADDR HCI Command com520115200 09 10 0 0] opcode = 0k.1009 (4105. "Read_BD_ADDR") 08/07/18 0951:18.975 com52 << Read_BD_ADDR HCI Command Complete Event com520 115200 0 (0 E 0A ± 0 10.91 00 A ⊂ 1 F0 a 2 ⊂ 0 1.43 event = 5.00E (11° Complete ") event = 5.00E (11° Complete ") command Opcode = 0k.1019 (4105. "Read BD_ADDR") Sature = 5.04 (10° Success") BD_ADDR = "480120001FAG"	7.3: Host Controller & Baseband Comma 7.4: Informational Parameters Read_Local_Version_Information Read_Local_Supported_Commands Read_Local_Supported_Features Read_Local_Extended_Features Read_Buffer_Size Read_Buffer_Size Read_BD_ADDR Kead_Local_Supported_Codecs HCI Throughput Test Logs ColM52	nds	E	Description:		Send
	08/07/18 09:51:18.944 com52 c> Read_BD_ADDR HCI Command com520:15200 [09:10:0] opcode = 0:1009 (4105, "Read_BD opcode = 0:1009 (4105, "Read_BD 08/07/18 09:51:18.975 com52 <c read_bd_addr<br="">HCI Command Complete Event com520:1520 [05:04.10:10] 10:00 AC FF 00 22 event = 10:00 [10:00</c>	ADDR") : 01 43 lete") (Nead_BD_ADDR"	r)			E

B) Select [7.3: Host Controller & Baseband Commands] in [HCI Command] window, double click [Reset].

CyBluetool					
File Tools Help					
Select device					
COM52					8
Filter	Expand all	Collapse all	Parameter	Value	
Command Name		*			
0: Vendor-specific Commands					
7.1: Link Control Commands					
7.2: Link Policy Commands			Description:		
▲ 7.3: Host Controller & Baseband Comma	ands				
Set_Event_Mask					
Reset					
Set_Event_Filter					
Flush					
Read_PIN_Type					
Write_PIN_Type		-			Send
HCI Throughput Test					
Logs					
Clear log					
COM52					
BD_ADDR = "43012C001FAC"					
08/07/18 09:54:30.881 com52 c> Reset					
HCI Command com52@115200					
[03 0C 00] arreste = 0.0002 (2075 "Breet")					
08/07/18 09:54:30:928 com52 <c reset<br="">HCICommand Complete Event</c>					
com52@115200 [0F_04]:01_03_0C_00					
event = 0x0E (14,"Command Comp Num HCI Command Packets = 0x	olete") L (1)				
Command Opcode = 0×C03 (3075,	"Reset")				
Status = UXU (U, SUCCESS , SUCC	ess)				

If the response is [Status = 0x0 (0, "Success", "Success")], reset is success.





6. How to set BT

6.1. Tx CW

A) Click [Set_Tx_Carrier_Frequency_ARM] in [0: Vendor-specific Commands].

File Tools Help		
Select device		
COM52		
Filter	Expand all	Collapse all
Command Name		*
 Vendor-specific Commands Write BD ADDR 		
Set_Tx_Carrier_Frequency_ARM		E
Update_UART_Baud_Rate		
Write_SCO_PCM_Int_Param		
Write_Receive_Only		
Enable_Radio		
Tx_Test		
Rx_Test		
LE_Meta2_VSC		-
HCI Throughput Test		

The parameter setting window is displayed on right window.

😔 CyBluetool					
File Tools Help					
Select device					
COM52					5×
Filter	Expand all	Collapse all	Parameter	Value	*
Command Name		^	Carrier_Enable	Carrier on	
 0: Vendor-specific Commands Write_BD_ADDR 			Carrier_Frequ…	0x962	
Set_Tx_Carrier_Frequency_ARM		=	Description:		
Update_UART_Baud_Rate					
Write_SCO_PCM_Int_Param			J		
Write_Receive_Only					
Enable_Radio					
Tx_Test					
Rx_Test					
LE_Meta2_VSC		-			Send
HCI Throughput Test					



B) Change [Carrier_Frequency] and [Transmit_power].

Click the [Send] button.

Please input 2402/2442/2480 in [Carrier_Frequency].

Parameter	Value						
Carrier_Enable	Carrier on 🔹						
Carrier_Frequ…	0x962						
Mode	Unmodulated 🔹						
Modulation T…	GFSK 👻						
Transmit_Po…	Specify Power Table index 🗸						
Transmit_Po…	0						
Transmit_Po…	0x0						

C) If you want to finish, select [Set_Tx_Carrier_Frequency_ARM] in HCI command and change [Carrier_Enable] to [Carrier off].

😴 CyBluetool					
File Tools Help					
Select device					
COM52					ā ×
Filter	Expand all	Collapse all	Parameter	Value	
Command Name		-	Carrier_Enable	Carrier off	
 Vendor-specific Commands Write BD ADDR 			Carrier_Frequ…	0x962	-
Set_Tx_Carrier_Frequency_ARM		E	Description:		
Update_UART_Baud_Rate					
Write_SCO_PCM_Int_Param					
Write_Receive_Only					
Enable_Radio					
Tx_Test					
Rx_Test					
LE_Meta2_VSC		-			Send
HCI Throughput Test					



6.2. Hopping ON Tx Test

A) Double click [Read BD Address] in [7.4: Informational Parameters].

😴 CyBluetool		
File Tools Help		
Select device		
COM52		
Filter	Expand all	Collapse all
Command Name		*
7.3: Host Controller & Baseband Comma	ands	
 7.4: Informational Parameters 		
Read_Local_Version_Information		
Read_Local_Supported_Commands		-
Read_Local_Supported_Features		=
Read_Local_Extended_Features		
Read_Buffer_Size		
Read Country Code		
Read_BD_ADDR		
Read_Local_Supported_Codecs		-
HCI Throughput Test		

B) Click [Tx_Test] in [0: Vendor-specific Commands].

The parameter setting window is displayed on right window.

😔 CyBluetool					
File Tools Help					
Select device					
COM52					₽×
Filter	Expand all	Collapse all	Parameter	Value	<u>^</u>
Command Name		^	Local_Device…		-
 0: Vendor-specific Commands Write_BD_ADDR 			Hopping_Mode	79 channel	•
Set_Tx_Carrier_Frequency_ARM Update_UART_Baud_Rate		E	Description:		
Write_SCO_PCM_Int_Param Write_Receive_Only			Connectionless tra	ansmit test to send Bluetooth packets	
Enable_Radio					
Tx_Test					
Rx_Test					
LE_Meta2_VSC ▷ 7.1: Link Control Commands					
7.2: Link Policy Commands		-			Send
HCI Throughput Test					



C) Change parameters according to the test.

Parameter	Value	
Local_Device_BD_ADDR	43012C001FAC	•
Hopping_Mode	79 channel	•
Frequency	2402 MHz	Ŧ
Modulation_Type	PRBS9 Pattern	•
Logical_Channel	ACL Basic	•
BB_Packet_Type	DH5 / 3-DH5	•
BB_Packet_Length	0x153	
Tx_Power_Level	Specify Power Table i	ndex 🔹
Transmit_Power_dBm	0	
Transmit_Power_Table_Index	0x0	

- ✓ Local_Device_BD_ADDR : the value of [Read BD Address]
- ✓ Hopping_Mode : 79channel
- ✓ Tx_Power_Level : Specify Power Table index
- ✓ Logical_Channel/BB_Packet_Type/BB_Packet_Length are as follows.

BB_Packet_Type	Logical_Channel	BB_Packet_Length
DH1	ACL Basic	27
DH3	ACL Basic	183
DH5	ACL Basic	339
2DH1	ACL EDR	54
2 DH3	ACL EDR	369
2 DH5	ACL EDR	679
3 DH1	ACL EDR	83
3 DH3	ACL EDR	552
3 DH5	ACL EDR	1021



D) If you want to finish, execute [Reset].

Select [7.3: Host Controller & Baseband Commands] from [HCI Command] window, double click [Reset].

😔 CyBluetool					
File Tools Help					
Select device					
COM52					5 ×
Filter	Expand all	Collapse all	Parameter	Valu	ie
Command Name		*			
0: Vendor-specific Commands					
7.1: Link Control Commands			Description:		
7.2: Link Policy Commands					
7.3: Host Controller & Baseband Comma	ands				
Set_Event_Mask					
Reset					
Set_Event_Filter					
Flush					
Read_PIN_Type					
Write DIN Type		T			Sena
HCI Throughput Test					
Logs					
Clear log					
COM52					
08/06/18 19:13:27.002 com52 Protocol set to H com52@115200	ICI				*
08/06/18 19:13:54.743 com52 c> Reset					
com52@115200					
[03 0C 00] opcode = 0x0C03 (3075, "Reset")					
08/06/18 19 13:55 273 com52 <c beset<="" td=""><td></td><td></td><td></td><td></td><td></td></c>					
HCI Command Complete Event					=
[0E 04]: 01 03 0C 00					
event = 0×0E (14,"Command Comp Num HCL Command Packets = 0×1	olete") (1)				
Command Opcode = 0xC03 (3075,	"Reset")				
Status = UXU (U, Success", "Succ	ess)				
					-

If the response is [Status = 0x0 (0, "Success", "Success")], reset is success.





6.3. Hopping OFF Tx Test

A) Double click [Read BD Address] in [7.4: Informational Parameters].

File Tools Help		
Select device		
COM52		
Filter	Expand all	Collapse all
Command Name		*
> 7.3: Host Controller & Baseband Comma	ands	
7.4: Informational Parameters		
Read_Local_Version_Information		
Read_Local_Supported_Commands		-
Read_Local_Supported_Features		=
Read_Local_Extended_Features		
Read_Buffer_Size		
Read_Country_Code		
Read_BD_ADDR		
Read_Local_Supported_Codecs		-
HCI Throughput Test		

B) Click [Tx_Test] in [0: Vendor-specific Commands].

The parameter setting window is displayed on right window.

😔 CyBluetool					
File Tools Help					
Select device					
COM52					₽×
Filter	Expand all	Collapse all	Parameter	Value	^
Command Name			Local_Device…		-
 O: Vendor-specific Commands Write_BD_ADDR 			Hopping_Mode	79 channel	•
Set_Tx_Carrier_Frequency_ARM Update_UART_Baud_Rate		=	Description:		
Write_SCO_PCM_Int_Param Write_Receive_Only			Connectionless tra	insmit test to send Bluetooth packets	
Enable_Radio					
Tx_Test					
Rx_Test					
LE_Meta2_VSC					
7.1: Link Control Commands					
▷ 7.2: Link Policy Commands		-			Send
HCI Throughput Test					



C) Change parameters according to the test.

Parameter	Value
Local_Device_BD_ADDR	43012C001FAC -
Hopping_Mode	Single frequency 🔹
Frequency	2402 MHz 👻
Modulation_Type	PRBS9 Pattern 👻
Logical_Channel	ACL Basic 🗸
BB_Packet_Type	DH5 / 3-DH5 🗸 🗸
BB_Packet_Length	0x153
Tx_Power_Level	Specify Power Table index 🔹
Transmit_Power_dBm	0
Transmit_Power_Table_Index	0x0

- ✓ Local_Device_BD_ADDR : the value of [Read BD Address]
- ✓ Hopping_Mode: Single frequency
- ✓ Frequency: 2402/2441/2480
- ✓ Tx_Power_Level: Specify Power Table index
- ✓ Logical_Channel/BB_Packet_Type/BB_Packet_Length are as follows.

BB_Packet_Type	Logical_Channel	BB_Packet_Length
DH1	ACL Basic	27
DH3	ACL Basic	183
DH5	ACL Basic	339
2DH1	ACL EDR	54
2 DH3	ACL EDR	369
2 DH5	ACL EDR	679
3 DH1	ACL EDR	83
3 DH3	ACL EDR	552
3 DH5	ACL EDR	1021



D) If you want to finish, execute [Reset].

Select [7.3: Host Controller & Baseband Commands] from [HCI Command] window, double click [Reset].

S CyBluetool				- 0 ×
File Tools Help				
Select device				
COM52				ē×
Filter	Expand all Collapse all	Parameter	Value	
Command Name	A			
0: Vendor-specific Commands				
7.1: Link Control Commands		Description:		
7.2: Link Policy Commands				
▲ 7.3: Host Controller & Baseband Comma	ands			
Set Event Mask				
Reset				
Set_Event_Filter				
Flush				
Read_PIN_Type				
Weite DIN Ture	*			Sena
HCI Throughput Test				
Logs				
Clear log				
COM52				
08/06/18 19:13:27.002 com52 Protocol set to H com52@115200	CI			*
08/06/18 19:13:54.743 com52 c> Reset				
com52@115200				
[03 0C 00] opcode = 0x0C03 (3075 "Beset")				
00/06/10 10/10/EF 070				
HCI Command Complete Event				=
com52@115200 [0F_04]: 01_03_0C_00				
event = 0x0E (14,"Command Comp	lete")			
Command_Opcode_= 0xC03 (3075,	"Reset")			
Status = 0x0 (0, "Success", "Succ	ess")			
ļ				*

If the response is [Status = 0x0 (0, "Success", "Success")], reset is success.



6.4. Rx Test

A) Double click [Read BD Address] in [7.4: Informational Parameters].

File Tools He	elp		
Select device			
COM52			
Filter		Expand all	Collapse all
Command Nam	e		
▷ 7.3: Host Co	ntroller & Baseband Comm	ands	
▲ 7.4: Informa	tional Parameters		
Read_Loo	cal_Version_Information		
Read_Loc	cal_Supported_Commands		_
Read_Loo	cal_Supported_Features		-
Read_Loc	cal_Extended_Features		
Read_But	ffer_Size		
Read Co	untry_Code		
Read_BD	_ADDR		

B) Click [Rx_Test] in [0: Vendor-specific Commands].

The parameter setting window is displayed on right window.

						ð
Expand all	Collapse (all	Parameter	Value		
		^	Remote_Devi····			-
			_ Report_Period	0x3E8		-
		E	Description:			
			Connectionless rec	eive test for Bluetooth packets		
		Ŧ			Ser	nd
	Expand all	Expand all Collapse	Expand all Collapse all	Expand all Collapse all Parameter Remote_Devi··· Report_Period Description: Connectionless rec	Expand all Collapse all Parameter Value Remote_Devi Report_Period 0x3E8 Description: Connectionless receive test for Bluetooth packets	Expand all Collapse all Parameter Value Remote_Devi··· Report_Period 0x3E8 Description: Connectionless receive test for Bluetooth packets

C) Change [Remote_Device_BD_ADDR] to the value of [READ BD Address].

Change [Frequency] to the channel which you want to receive.

Parameter	Value
Remote_Device_BD_ADDR	43012C001FAC -
Report_Period	0x3E8
Frequency	2402 MHz 🔻
Modulation_Type	PRBS9 pattern 👻
Logical_Channel	ACL Basic 💌
BB_Packet_Type	DH5 / 3-DH5 🗸
BB_Packet_Length	0×0



D) If you want to finish, execute [Reset].

Select [7.3: Host Controller & Baseband Commands] from [HCI Command] window, double click [Reset].

😴 CyBluetool				
File Tools Help				
Select device				
COM52				₽×
Filter	Expand all Collapse all	Parameter	Value	
Command Name	<u>^</u>			
0: Vendor-specific Commands				
7.1: Link Control Commands		Description:		
7.2: Link Policy Commands				
4 7.3: Host Controller & Baseband Comma	inds			
Set_Event_Mask				
Reset				
Set_Event_Filter				
Flush				
Read_PIN_Type				
Write DIN Ture	•			Send
HCI Throughput Test				
Logs				
Clear log				
COM52				
08/06/18 19:13:27.002 com52 Protocol set to H com52@115200	CI			*
08/06/18 19:13:54.743 com52 c> Reset				
HCI Command com52@115200				
[03 0C 00]				
opcode = 0x0C03 (3075, Reset)				
08/06/18 19:13:55.273 com52 <c reset<br="">HCI Command Complete Event</c>				=
com52@115200				-
event = 0x0E (14,"Command Comp	lete")			
Num_HCI_Command_Packets = 0x1 Command_Opcode = 0xC03 (3075	(1) "Beset")			
Status = 0x0 (0, "Success", "Succ	ess")			
				*
l				

If the response is [Status = 0x0 (0, "Success", "Success")], reset is success.

6.5. Inquiry

A) Click [Inquiry] in [7.1: Link Control Commands].

The parameter setting window is displayed on right window.

Push the [Send] button.

CyBluetool						
File Tools Help						
Select device						
COM52						ē ×
Filter	Expand all	Collapse	all	Parameter	Value	
Command Name			-	LAP	0x9E8B33	
0: Vendor-specific Commands			Ξ	Transford Lawrence	0.0	
7.1: Link Control Commands				Inquiry_Length	UX8	
Inquiry				Num_Respon…	0x0	
Inquiry_Cancel						
Periodic_Inquiry_Mode				Description:		
Exit_Periodic_Inquiry_Mode						
Create_Connection						
Disconnect						
Add_SCO_Connection						
Create_Connection_Cancel						
Accept_Connection_Request						
Reject_Connection_Request			-			Send
HCI Throughput Test						

When the inquiry have finished, "Inquiry Complete" is displayed in Log window.



7. How to set BLE

7.1. Tx Test

A) Click [LE_Transmitter_Test_[v1]] in [7.8: LE Controller Commands].

🕞 Cy	Bluetool				
File	Tools Help				
Selec	t device				
COM5	2				
Filter		Expand all	Collapse	all	
Com	mand Name			*	
	LE_Enable_Encryption				
	LE_Long_Term_Key_Requested_Rep	ly			
	LE_Long_Term_Key_Requested_Neg	ative_Reply	y		
	LE_Read_Supported_LE_States				
	LE Receiver Test [v1]			=	
	LE_Transmitter_Test_[v1]				
	LE_Test_End				
LE_Remote_Connection_Parameter_Request_Reply					
LE_Remote_Connection_Parameter_Request_Negative…					
	LE_Set_Data_Length				
	LE_Read_Default_Data_Length				
	LE_Write_Default_Data_Length			Ŧ	
HCI	Throughput Test				

The parameter setting window is displayed on right window.

B) Change [TX_Channel] to the value based on the calculation formula.

Change [Length_of_Test_Data] to 37.

S CyBluetool			
File Tools Help			
Select device			
COM52			5×
Filter	Expand all Collapse all	Parameter	Value
Command Name	· · · · · · · · · · · · · · · · · · ·	TX_Channel	0x0
LE_Enable_Encryption		Length of Test Data	0x25
LE_Long_Term_Key_Requested_Reply			0.25
LE_Long_Term_Key_Requested_Neg	ative_Reply	Packet_Payload	Pseudo-Random bit sequence 9
LE_Read_Supported_LE_States			<u></u>
LE_Receiver_Test_[v1]	-	Description:	
LE_Transmitter_Test_[v1]		(F = 2402 + [k * 2 MHz])	
LE_Test_End			
LE_Remote_Connection_Parameter_	Request_Reply		
LE_Remote_Connection_Parameter_	Request_Negative…		
LE_Set_Data_Length			
LE_Read_Default_Data_Length			
LE_Write_Default_Data_Length		r	Send
HCI Throughput Test			



C) If you want to finish LE_Transmitter_Test, execute [LE_Test_End].

Select [7.8: LE Controller Commands] from [HCI Command] window, double click [LE_Test_End].

S CyBluetool					- • •
File Tools Help					
Select device					
COM121					₽×
Filter	Expand all Collapse	all	Parameter	Value	
Command Name		*			
LE_Rand					
LE_Enable_Encryption					
LE_Long_Term_Key_Requested_Reply					
LE_Long_Term_Key_Requested_Negative_Repl	у				
LE_Read_Supported_LE_States		=			
LE_Receiver_Test_[v1]			Description:		
LE Transmitter Test [v1]					
LE_Test_End					
LE_Remote_Connection_Parameter_Request_R	eply				
LE_Remote_Connection_Parameter_Request_N	legative_Reply				
LE_Set_Data_Length					
LE_Read_Default_Data_Length					
LE_Write_Default_Data_Length		Ŧ			Send
HCI Throughput Test					
Logs					
Clear log					
COM121					
03/04/19 16:56:59:787 com121 c> LE_Test_End					
com121@115200					
[1F 20 00] oncode = 0x201F (8223, "LE Test End")					
02/04/10 165650 001					
HCI Command Complete Event					
[0E 06]: 01 1F 20 00 00 00					
event = 0x0E (14,"Command Complete") Num HCI Command Packets = 0x1 (1)					
Command Opcode = 0x201F (8223, "LE Test_E	ind")				
Num_Of_Packets_Received = 0x00 (0)					E
					-
	_				

If the response is [Status = 0x0 (0, "Success", "Success")], LE_Test_End is success.



7.2. Rx Test

A) Click [LE_Receiver_Test_[v1]] in [7.8: LE Controller Commands].

Se CyBluetool		
File Tools Help		
Select device		
COM52		
Filter	Expand all	Collapse all
Command Name		*
LE_Rand		
LE_Enable_Encryption	h.,	
LE_Long_Term_Key_Requested_Kep	uy Intivo Bonhy	
LE_LONG_Term_Rey_Requested_Neg	auve_kepiy	
LE Receiver Test [v1]		
LE_Transmitter_Test_[v1]		
LE_Test_End		
LE_Remote_Connection_Parameter_	Request_Re	ply
LE Romoto Connection Decemeter	Doguast No	antivo T
HCI Throughput Test		

The parameter setting window is displayed on right window.

B) Change [RX_Channel] to the value based on the calculation formula.

😴 CyBluetool				
File Tools Help				
Select device				
COM52				₽×
Filter	Expand all Collapse all	Parameter	Value	
Command Name	*	RX_Channel	0x0	
LE_Rand				
LE_Enable_Encryption		Description:		
LE_Long_Term_Key_Requested_Reply		(F = 2402 + lk * 3	2 MHz])	
LE_Long_Term_Key_Requested_Neg	ative_Reply			
LE_Read_Supported_LE_States				
LE_Receiver_Test_[v1]				
LE_Transmitter_Test_[v1]				
LE_Test_End				
LE_Remote_Connection_Parameter_	Request_Reply			
LE Romoto Connection Daramotor	Request Negative			Send
HCI Throughput Test				



C) If you want to finish LE_Receiver_Test, execute [LE_Test_End].

Select [7.8: LE Controller Commands] from [HCI Command] window, double click [LE_Test_End].

S CyBluetool					- • •
File Tools Help					
Select device					
COM121					₽×
Filter	Expand all Collapse	all	Parameter	Value	
Command Name		*			
LE_Rand					
LE_Enable_Encryption					
LE_Long_Term_Key_Requested_Reply					
LE_Long_Term_Key_Requested_Negative_Repl	у				
LE_Read_Supported_LE_States		Ξ			
LE_Receiver_Test_[v1]			Description:		
LE Transmitter Test [v1]					
LE_Test_End					
LE_Remote_Connection_Parameter_Request_R	eply				
LE_Remote_Connection_Parameter_Request_N	legative_Reply				
LE_Set_Data_Length					
LE_Read_Default_Data_Length					
LE_Write_Default_Data_Length		Ŧ			Send
HCI Throughput Test					
Logs					
Clear log					
COM121					
03/04/19 16:56:59:787 com121 c> LE_Test_End					
com121@115200					
[1F 20 00] oncode = 0x201F (8223, "LE Test End")					
02/04/10 165650 001					
HCI Command Complete Event					
[0E 06]: 01 1F 20 00 00 00					
event = 0x0E (14,"Command Complete") Num HCI Command Packets = 0x1 (1)					
Command Opcode = 0x201F (8223, "LE Test_E	ind")				
Num_Of_Packets_Received = 0x00 (0)					E
					-
	_				

If the response is [Status = 0x0 (0, "Success", "Success")], LE_Test_End is success.



8. Connection Test

(1):EUT, (2):Facing machine

8.1. BT Connection

A) Start two HCI Command windows.

6	CyBluetool				
F	ile Tools Help				
5	Select device				
E	COM52 COM80				
C	OM52				
F	ilter	Expand all	Collapse all		
	Command Name				
Ľ	0: Vendor-specific Commands				
II.	7.1: Link Control Commands				
U.	7.2: Link Policy Commands				
	7.3: Host Controller & Baseband Comma	ands			

At Both (1):EUT and (2):Facing machine, click [Write_Scan_Enable] in [7.3: Host Controller & Baseband Commands].

The parameter setting window is displayed on right window.

B) Change [Scan_Enable] to [Inquiry and Page Scan enabled].

Push the [Send] button.

Filter	Expand all	Collapse all	Parameter	Value
Command Name		^	Scan_Enable	Inquiry and Page Scan enabled
▲ 7.3: Host Controller & Baseband Comm	ands			
Set_Event_Mask				
Reset		E		
Set_Event_Filter				
Flush				
Read_PIN_Type				
Write_PIN_Type			Description:	
Create_New_Unit_Key				
Read_Stored_Link_Key				
Write_Stored_Link_Key				
Delete_Stored_Link_Key				
Write_Local_Name				
Read_Local_Name				
Read_Connection_Accept_Timeout				
Write_Connection_Accept_Timeout				
Read_Page_Timeout				
Write_Page_Timeout				
Read Scan Enable				Carl
Write_Scan_Enable				Send
Read_Page_Scan_Activity				
Write_Page_Scan_Activity		-		

If the response is [Status = 0x0 (0, "Success", "Success")], scan enable is success.



08/07/18 16:11:17.691 com52 <c reset<br="">HCI Command Complete Event com52@115200 [0E 04]: 01 03 0C 00 event = 1x0E (14, "Command Complete") Num,HCI Command, Packets = 0x1 (1) Command Opcode = 0xC013 (3075, "Reset") Status = 0x0 (0, "Success", "Success")</c>
08/07/18 16:18:01.425 com52 c> Write_Scan_Enable HCI Command com52@115200 [1A 00 01]:03 opcode = 0.v0C1A (3098, "Write_Scan_Enable") Scan_Enable = 0x3 (3, "Inquiry and Page Scan enabled")
08/07/18 16:18:01:441 com52 <c write_scan_enable<br="">HCI Command Complete Event com52@115200 [DE 04 : 01 1 A 0C 00 event = 0x0E (14,"Command Complete") Num_HCI Command Packets = 0x1 (1) Command Opcode = 0xC1A (3098, "Write_Scan_Enable") Status = 0x0 (0, "Success", "Success")</c>

C) At (2):Facing machine only, click [Inquiry] in [7.1: Link Control Commands].

The parameter setting window is displayed on right window.

Parameter is no change. And push the [Send] button.

ilter	Expand all	Collapse a	dl –	Parameter	Value
Command Name			^	LAP	0x9E8B33
 0: Vendor-specific Commands 7.1: Link Control Commands 			E	Inquiry_Length	0x8
Inquiry				Num_Respon…	0x0
Inquiry_Cancel					
Periodic_Inquiry_Mode					
Exit_Periodic_Inquiry_Mode					
Create_Connection					
Disconnect				Description:	
Add_SCO_Connection					
Create_Connection_Cancel					
Accept_Connection_Request					
Reject_Connection_Request					
Link_Key_Request_Reply					
Link_Key_Request_Negative_Reply					
PIN Code Request Reply			-		Send

- D) If EUT is found, the result is disyplayed in Log window.
- (1):EUT's BD Address is [43012Cxxxxxx].

Clear log			
COM52	COM80		
08/07/18 16:	8:48.549 com80 HCI Event com80@115201 [02 0F]: 01 CI event = 0x02 (Num Response BD_ADDR[0] = Page_Scan_Rej Page_Scan_Per Page_Scan_Por Class_of_Devic Clock_Offset[[<pre>Ke Inquiry Result) 2. 'Inquiry Result') 2. 'Inquiry Result'') ss = 0x1(1) '' C821587232CD'' bettition Mode[0] = 0x1(1, "R1") iod Mode[0] = 0x0(0, "P0") de[0] = 0x0(0, "Mandatory Page Scan Mode") l= 0x2E08(11651)</pre>	
08/07/18 16:	28:48.597 com80 HCI Event com80@115201 [02 0F]: 01 Ar event = 0x02 (Num Response BD_ADDR[0] = Page_Scan_Rej Page_Scan_Mo Class_of_Devic Clock_Offset[0]	<pre><e inquiry="" result<="" td=""><td></td></e></pre>	
08/07/18 16:	28:49.227 com80 HCIEvent com80@115201 [02 0F]:01 B event = 0x02 (Ke Inquiry Result) 7 8E 72 58 21 C8 01 00 00 0C 01 7E 79 74 2" foruity: Result")	-



E) At (2):Facing machine only, click [Create_Connection] in [7.1: Link Control Commands].

The parameter setting window is displayed on right window.

Change [BD_ADDR] to BD Address of (1):EUT.

Push the [Send] button.

COM80				×
Filter	Expand all	Collapse all	Parameter	Value
Command Name	Expand all Colla mand Name Expand all Colla : Vendor-specific Commands . . : Link Control Commands . . Inquiry Inquiry . . Inquiry_Cancel . . . Periodic_Inquiry_Mode . . . Create_Connection Disconnect . . Add_SCO_Connection . . . Accept_Connection_Cancel . . . Accept_Connection_Request . . . Link_Key_Request_Reply PIN_Code_Request_Negative_Reply 	^	BD_ADDR	43012C001FAC -
0: Vendor-specific Commands	5		Packet Type	DM1 DH1 DM3 DH3 DM5 DH5
 7.1: Link Control Commands Inquiry 	Expand all Collaps mand Name : Vendor-specific Commands .1: Link Control Commands Inquiry Inquiry_Cancel Periodic_Inquiry_Mode Exit_Periodic_Inquiry_Mode Create_Connection Disconnect Add_SCO_Connection Create_Connection_Cancel Accept_Connection_Request Reject_Connection_Request Link_Key_Request_Reply Link_Key_Request_Reply Discode_Request_Reply Discode_Request_Reply	=	Page Scan Repetition Mode	
Inquiry Cancel		-	Page_Scall_Repetition_Mode	KI T
Periodic_Inquiry_Mode			Page_Scan_Mode	Mandatory 👻
Exit_Periodic_Inquiry_Mod	le		Clock_Offset_Valid	False
Create_Connection			Clock_Offset	0x0
Add SCO Connection			Allow Role Switch	False
Create_Connection_Cance	el			laise
Accept_Connection_Reque	est		Description:	
Reject_Connection_Reque	st			
Link_Key_Request_Reply				
Link_Key_Request_Negat	ive_Reply			
PIN_Code_Request_Reply				
PIN_Code_Request_Nega	tive_Reply			
Change_Connection_Pack	et_Type			
Authentication_Requested	ł	-		Send
HCI Throughput Test				

F) At (1):EUT, when the following popup is displayed, push the [Yes] button.



G) At (1):EUT, The following popup is displayed.

Change [BD_ADDR] to BD Address of (2):Facing machine. And push the [Send] button.

HCI Command	: Accept_Co ? ×
Parameter	Value
BD_ADDR	4343A1121FAC -
Role	Slave 🔻
	Send
	Send

If the connection is successful, [Connection Complete] and [Max Slots Change] is displayed in Each Log



windows.

Logs	
Clear log	
COM52	COM80
	Role = 0x1 (1, "Slave")
08/07/18 16:5:	2:51.234 com52 <e command="" status<br="">HGI Event [OF 04]:00:01:09:04 event = 0x0F (15, "Command Status") Status = 0x0F (0, "Success", "Success") Num_HGI Command_Packets = 0x1 (1) Command_Opcode = 0x409 (1033, "Accept_Connection_Request")</e>
08/07/18 16:5:	2:51.234 com52 <e complete<br="" connection="">HCI Event [03 0B]: 00 0B 00 AC 1F 12 A1 43 43 01 00 event = 0x03 (3, "Connection Complete") Status = 0x0 (0, "Success", "Success") Connection Handle = 0x0B (11) BD_ADDR = "4343A1121FAC" Link_Type = 0x1 (1, "ACL connection") Encryption_Status = 0x0 (0, "Link level encryption disabled")</e>
08/07/18 16:5	2:51.234 com52 <e change<br="" max="" slots="">HCI Event com52@115200 [1B 03]: 0B 00 05 event = 0x1B (27," Max Slots Change") Connection Handle = 0x0B (11) LMP_Max_Slots = 0x5 (5)</e>

Logs		
Clear log		_
COM52	COM80	
	Clock_Offset = Allow_Role_Sw	= 0x00 (0) vitch = 0x0 (0)
08/07/18 16:5;	2:46.615 com80 HCI Event com80@11520 [0F 04]: 00 0 event = 0x0F Status = 0x0 (Num_HCI_Com Command_Opt) <e command="" status<br="">0 1 05 04 (15"Command Status") (0, "Success", "Success") imand_Packets = 0x1 (1) iode = 0x405 (1029, "Create_Connection")</e>
08/07/18 16:52	2:51.234 com80 HCI Event com80@11520 [03 0B]: 00 0 event = 0x03 (Status = 0x0 (Connection_H4 BD_ADDR = " Link_Type = 0: Encryption_Sta) <e complete<br="" connection="">0 8 00 AC 1F 00 2C 01 43 01 00 (3. "Connection Complete") (0. "Success", "Success") andle = 0x0B (11) 48012C001FAC" x1 (1. "ACL connection") atus = 0x0 (0. "Link level encryption disabled")</e>
08/07/18 16:52	2:51.266 com80 HCI Event com80@11520 [1B 03]: 0B 0 event = 0x1B Connection_Ha LMP_Max_Slot) <e change<br="" max="" slots="">10 05 (27, "Max Slots Change") andle = 0x0B (11) s = 0x5 (5)</e>



8.2. BLE Connection

A) Start two HCI Command windows.

Se CyBluetool		
File Tools Help		
Select device		
COM74 COM80		
COM74		
Filter	Expand all	Collapse all
Command Name		
0: Vendor-specific Commands		
7.1: Link Control Commands		
7.2: Link Policy Commands		
7.3: Host Controller & Baseband Comm	nands	

B) At (1):EUT only, click [LE_Set_Advertising_Enable] in [7.8: LE Controller Commands].

The parameter setting window is displayed on right window.

Change [Advertising_Enable] to [Advertising is enabled].

Filter	Expand all	Collapse all	Parameter	Value	
Command Name			Advertising_Enable	Advertising is enabled	•
0: Vendor-specific Commands				-	
7.1: Link Control Commands		=			
7.2: Link Policy Commands					
> 7.3: Host Controller & Baseband Comma	ands				
7.4: Informational Parameters					
7.5: Status Parameters					
7.6: Testing Commands					
7.8: LE Controller Commands					
LE_Set_Event_Mask					
LE_Read_Buffer_Size					
LE_Read_Local_Supported_Features			Description:		
LE_Set_Random_Address					
LE_Set_Advertising_Parameters					
LE_Read_Advertising_Channel_Tx_Po	ower				
LE_Set_Advertising_Data					
LE Set Scan Response					
LE_Set_Advertise_Enable					
LE_Set_Scan_Parameters					
LE_Set_Scan_Enable		-			Send



C) At (2):Facing machine only, click [LE_Set_Scan_Enable] in [7.8: LE Controller Commands].

The parameter setting window is displayed on right window.

Change [LE_Scan_Enable] to [Scanning is enabled].

Push the [Send] button.

COM80				
Filter	Expand all	Collapse all	Parameter	Value
Command Name		*	LE_Scan_Enable	Scanning is enabled 🗸 🗸
 7.8: LE Controller Commands 		_	Filter Duplicates	Duplicate filtering is disabled
LE_Set_Event_Mask			The Duplicates	
LE_Read_Buffer_Size		=		
LE_Read_Local_Supported_Features				
LE_Set_Random_Address				
LE_Set_Advertising_Parameters				
LE_Read_Advertising_Channel_Tx_Po	wer			
LE_Set_Advertising_Data				
LE_Set_Scan_Response				
LE_Set_Advertise_Enable				
LE Set Scan Parameters				
LE_Set_Scan_Enable			Description:	
LE_Create_Connection				
LE_Create_Connection_Cancel				
LE_Read_White_List_Size				
LE_Clear_White_List				
LE_Add_Device_To_White_List				
LE_Remove_Device_From_White_Lis	t			
LE_Connection_Update		-		Send
HCI Throughput Test				

D) Change [LE_Scan_Enable] to [Scanning is disabled].

COM80				×
Filter	Expand all	Collapse all	Parameter	Value
Command Name		*	LE_Scan_Enable	Scanning is disabled 🔹 🔻
a 7.8: LE Controller Commands			Filter Duplicates	Durdinete filterine in dischlad
LE_Set_Event_Mask			Filter_Dupilcates	
LE_Read_Buffer_Size		=		
LE_Read_Local_Supported_Features				
LE_Set_Random_Address				
LE_Set_Advertising_Parameters				
LE_Read_Advertising_Channel_Tx_Po	wer			
LE_Set_Advertising_Data				
LE_Set_Scan_Response				
LE_Set_Advertise_Enable				
LE_Set_Scan_Parameters			Description	
LE_Set_Scan_Enable			Description:	
LE_Create_Connection				
LE_Create_Connection_Cancel				
LE_Read_white_List_Size				
LE_Clear_write_List				
LE Remove Device From White List	÷			
LE_Connection_Update		-		Send
HCI Throughput Test			1	



E) At (2):Facing machine only, click [LE_Create_Connection] in [7.8: LE Controller Commands].

The parameter setting window is displayed on right window.

Change [Peer_Address] to BD Address of (1):EUT.

Change other parameters according to the test.

Push the [Send] button.

ilter	Expand all Co	llapse all	Parameter		Value
Command Name		*	LE_Scan_Interval	0x12	
 7.8: LE Controller Com LE_Set_Event_Mas 	mands k		LE_Scan_Window	0x12	
LE_Read_Buffer_Si	ze		InitiatorFilterPolicy	White List no	ot used and the Peer address in this command is used 🗣
LE_Read_Local_Supported_Features LE_Set_Random_Address LE_Set_Advertising_Parameters LE_Read_Advertising_Channel_Ty_Dower		=	Peer_Address_Type	Public Addre	ss · ·
LE_Set_Advertising	_Parameters		Peer_Address	794615BF72	B0 .
LE_Read_Advertisin LE_Set_Advertising	ig_Channel_Tx_Po _Data	wer	Own_Address_Type	Public Addre	ss
LE_Set_Scan_Resp	onse		Conn_Interval_Min	0x20	
LE_Set_Advertise_ LE_Set_Scan_Para	Enable neters		Conn_Interval_Max	0x20	
LE Set Scan Enab	e		Conn_Latency	0x0	
LE_Create_Connect LE Create Connect	ion ion Cancel		Supervision_Timeout	0xC80	
LE_Read_White_Lis	_ t_Size		Minimum_CE_Len	0x0	
LE_Clear_White_Lis LE_Add_Device_To	st _White_List		Maximum_CE_Len	0x0	
LE_Remove_Device	e_From_White_Lis late	st	Description:		
LE_Set_Host_Chan	nel_Classification				
LE_Read_Channel_	Мар				
LE_Read_Remote_	Used_Features				
LE_Encrypt					
LE_Rand					
LE_Enable_Encrypt	on				Sand
LE_Long_Term_Ke	/_Requested_Repl	y 🔻			Sena

If the received event is [LE_Event_Code = 0x1 (1, "LE Connection Complete Event")], connection is success.

Logs		
Clear log		
COM74	COM80	
08/08/18 12: 08/08/18 12:	22794 com80 c> LE_Create_Connection HCI Command com80e11520 000080115200 com80e11520 100 20 19 1-12 00 10 00 00 80 72 BF 15 46 79 00 20 00 20 00 00 00 80 0C 00 00 00 00 copede = bx2000 (800 % LE_Create_Connection") LE Scan, Interval = (bx12 (18, in slots. Range: 25ms to 10 25s) LE Scan, Interval = (bx12 (18, in slots. Range: 25ms to 10 25s) JnitiatorFilterPolicy = 0x0 (0, "Multe List not used and the Peer address in this command is used the ere Address = 794615BF7280" Peer_Address = 794615BF7280" Com_Interval Min = 0x20 (32) Com_Interval Min = 0x20 (32) Com_Interval Mix = 0x20 (0) Maximum_CE_Len = 0x00 (0, in slots. Range: 1 to 2*Conn_Interval) Maximum_CE_Len = 0x00 (0, in slots. Range: 1 to 2*Conn_Interval) Stall Com80 (4 Command Status HCI Event com800 115200	sed
	[0F 04]:00 01 0D 20 event = 0xbF (15,"Command Status") Status = 0x0 (0, "Success", "Success") Num, HCI Command, Packets = 0x1 (1) Command_Opcode = 0x2000 (8205, "LE_Create_Connection")	
08/08/18 12:	55022_com80 <e event<br="" le="">HCI Event JCI Event JCI Event JCI Event JCI Event HCI Event JCI Event Code = 0x1 (1, "LE connection Complete Event") Status = Dk0 (0, "Success") Connection, Handle = 0x40 (64) Role = 0x0 (0, "Connection is master") Peer_Address_Type = 0x0 (0, "Peer is using Public Address") Peer_Address = "7346 ISBF7280" Connection_Interval = 0x20 (32) Connection_Interval = 0x20 (32) Connection_Interval = 0x20 (32) Connection_Interval = 0x20 (32) Connection_Interval = 0x20 (32) Supervision_Timeout = 0x30 (0, 1000 ppm")</e>	



8.3. Communication Comfirmation

A) Confirm the [Connection_Handle] of (1):EUT side.



B) Click the [Throughput Test] Tab.

Transmit Test			
Mode POINT_TO_POINT			•
🔲 Set Packet Boundary Fla	¢		
Fixed write size	1	bytes	
Data pattern 00			
🔘 Data file			
Count: 1			Total bytes
Synchronize with local tra	ansport	COM80	~



C) Change parameters according to the test.

D	Duch the	[Ενοςιιτο Τ	[poct]	hutton
υ.		LACCULC	CSU	bullon

COM74								
Transmit Test								
			Connection Handle	0xC 🗸	1	Enqueued:	0(0×0)	
M L PODIT TO DODI	17				•	Sent:	0(0×0)	
Mode POINT_TO_POIN	11	¥	Send on first receive			Elapsed time:	0:00:00:00:000	Ξ
🔲 Set Packet Boundar	ry Flag	START_NON_FLUSHABLE_PACKET (0x	(00) 👻			Avg. throughput:	Not yet measured	
✓ Fixed write size	20	iytes	V Isochronous	10	ms interval	Min:	Not yet measured	
 Data pattern 	00 11 22 33 44 55 66 77 1	38 99 00 11 22 33 44 55 66 77 88 99			ASCII	Max:	Not yet measured	
						First byte time:	Not yet sent	
 Data file 					Browse	Last byte time:	Not yet sent	
Count	200	Total bytes:	4000(0×FA0)		Execute Test			
Synchronize with lo	cal transport	COM80 -						
HCI Throughput Test								

- ✓ Connection Handle: Select the value of (1):EUT. (set by default)
- ✓ Fixed write size: Enter the data size.
- ✓ Isochronous: Set the transmission interval.
- ✓ Data pattern: Enter the data of same size as [Fixed write size] with space every 1byte.
- ✓ Count: Enter the repeat transmission count.
- ✓ Synchronize with local transport: Check and select the port number of (2):Facing machine.

E) If you want to stop the test, push the [Abort Test] button.

DM74						
Transmit Test						
		Connection Handle	0×C	*	Enqueued:	1780(0×6F4)
					Sent:	1680(0×690)
Mode POINT_TO_POINT		Send on first receiv	e		Elapsed time:	00:00:01.058
Set Packet Boundary Flag	START_NON_FLUSHABLE_PACK	ET (0×00)	-		Avg. throughput:	12.7032 kbps
✓ Fixed write size 20	bytes	Isochronous	10	ms interval	Min:	4.70588 kbps
Data pattern 00 11 22 22	AA 55 66 77 00 00 00 11 00 00 AA 55 66 77 00 0	0		ASCI	Max:	13.3056 kbps
	++ 00 00 11 00 33 00 11 22 00 ++ 00 00 11 00 3	v			First byte time:	14:13:58.616
🔿 Data file				Browse	Last byte time:	14:13:59.640
Count: 200	Total byte	s: 4000(0×FA0)		Abort Test		
Synchronize with local transport	COM80 -					
		m				,
Л Throughput Test						

(END)