MT7663

Test-Mode Software Application Note Part-2: Combo-Tool

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Document Revision History

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1 System overview

1.1 General Description

MT7663 chip is highly integrated single chip which have built in 2x2 dual-band wireless LAN and Bluetooth combo radio. It can be configured in test-mode for performance validation, production testing and regulatory certification. There are two software tools, QA-Tool and Combo-Tool responsible for evaluating WIFI and Bluetooth signal and performance testing. This document is introducing how to install and use Combo-Tool.

2 Combo-Tool

Combo-Tool installation package include 2 major software:

- BT driver
- Combo-Tool Windows installation package

Before doing installation, users should check computer system type by right-clicking Computer icon and selecting Properties to know OS type as following figures.



The OS type MTK strongly recommends use Windows7 64-bit operating system. Users should set Windows7 64-bit OS under test mode according to following steps:

1. Right-click "Command Prompt" in Accessories and select "Run as administrator."

 Windows Media Center Windows Media Player Windows Update XPS Viewer Accessories Bluetooth File Transfer Calculator 	A Stanley Liao (麥仲愴) Documents
Command Prompt	Open
🕮 Connect to a Network 🛙 🌍	Run as administrator
Connect to a Projector	Open file location
Math Input Panel	Scan for viruses

2. After command window pops out, entering command "**bcdedit /set testsigning on**" to enable test mode as following figure.



2.1 How to install Combo-Tool

Users should follow the procedure listed in below to install Combo-Tool

- 1_{st} step: Install BT driver
- 2nd step: Install Combo-Tool

2.1.1 Install BT driver

BT driver is necessary for Combo-Tool. This driver should be well installed to make Bluetooth device and Combo-Tool working smoothly. Users can refer to following steps to install this driver.

USB Interface:

- 1. In Window Device Manager, users can update driver software and select BT driver in the folder
 - ..\Driver\USB



2. Select model "*Mediatek Bluetooth USB Dongle (7663)*" and click Install. Device Manager will also show a device "*Mediatek Bluetooth USB Dongle (7663)*" in Bluetooth Radios if installation is completed.

	选择要为此化硬件安装的设备驱动程序
南部政府程序转任 - MerliaTek Bluet	開き Generic Bluetooth Adapter Bluetooth HCI USB Device MediaTek Bluetooth USB Dongle (7663)
/indows 已经成功地更新驱动	
indows 已经完成安装此设备的驱动程序	1月 第37(件: 単語 1月

3. Right-click "MediaTek QA Test USB WDM Driver" (WiFi device) and select disable. User should plug-out and plug-in DUT again after this step.



SDIO interface:

- 1. Connect DUT to PC/NB and check Windows Device Manager.
- Window Device Manager would discover DUT shows two "Generic SDIO Device". User should check DUT VID and PID from "Hardware Ids" of Device Manager to know WiFi and BT device. Please refer to following figure and table to identify WIFI and BT devices:

Hardware Ids	Feature
SD\VID_037a&PID_7663&FN_1	MT7663S-WiFi
SD\VID_037a&PID_7663&FN_2	MT7663S-BT



3. Right-click on "7663 Combo" BT device (SD\VID_037a&PID_7663&FN_2) and Update Driver Software.

.

 ✓ Network adapters ✓ Intel(R) 82578DM Gigabit ✓ Other devices ✓ Generic SDIO Device ✓ Generic SDIO Device 	t Network Connection			
Ports (COM & LPT) T Communications P T Intel(R) Active Man Processors	Update Driver Software Disable Uninstall			
Scan for hardware changes Scan for hardware changes Sound, video and gam				
 System devices Universal Serial Bus controllers 				

4. Select model "*MTK SDIO Common Adapter*" and click Install. Device Manager will also show a device "MTK SDIO Common Adapter" in SDIO if installation is completed.

	Select the device driver you want to install for the select the manufacturer and model of your hardward disk that contains the driver you want to install, click	this hardware. Ire device and then click Next. If you have a Irk Hove Disk.
	Show compatible hardware Medei	
Windows ! Vould yo Name: Publish	iecurity u like to install this device software? MEDIATEK er MEDIATEK INC.	Have Disk
Always You sho decide	trust software from "MEDIATEK INC.". Install Don't Insta uld only install driver software from publishers you trust. <u>How can I</u> which device software is safe to install?	
	ii Jindate DeverSoftware . MTE STED Common Adapter	23
C	Windows has successfully updated your driver software	

5. Right click the **"7663 Combo**" WIFI device (SD\VID_037a&PID_7663&FN_1) and select disable as follows.User should plug-out and plug-in DUT again after this step.



2.1.2 Install Combo-Tool

Double-click **WCN_Combo_Tool_Setup** icon in "..\Combo_Tool\" and follow below steps to install Combo-Tool.



After installation is completed, users can right-click the icon to set "Run this program in compatibility mode for: Windows XP" in the installed path C:\Program Files (x86)\WediaTek\WCN_Combo_Tool

	· 腔相 · 兴田封孝 · 和相負科火		
🚖 我的最爱 🚽	名稱	修改日期	類型
🚺 下蚶	🔰 BT	2015/4/29下午0	相對資料來
10 A E	🔋 сом	2015/4/29下午 0	檔案資料夾
1 最近的位置	퉬 Document	2015/4/29 下午 0	檔案資料夹
	📕 FM	2015/4/29 下午 0	福宪資料末
🥁 集體櫃	🔰 GPS	2015/4/29下午0	相案資料來
□ 文件	🌲 sdio_common_driver	2015/4/29 下午 0	福宾資料夾
」 ☆ 音樂	. 🔒 WiFi	2015/4/29 下午 0	檔案資料夾
■ 混託	極 unins000	2015/4/29 下午 0	PSpice Circuit
	ji unins000	2015/4/29下午0	後用程寸
	WCN_Combol_Tool	N_Combol_Tool Properties	
▶ 電腦 、	Gen	eral Competibility Security De	
10個項目	f y an He	ou have problems with this programs sarlier version of Windows, select ches that earlier version.	
		ompatibility mode	
		V Fun this program in compatibility	mode for:

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2.2 How to use Combo-Tool

Users should follow the procedure listed in below to initiate DUT by Combo-Tool

1. Running WCN_Combo_Tool as administrator and the UI will pop out.



14 WCN Combo Tool #1								x
	GPS WIEL						About	-
Kill Total Relayer #1	MediaTek BT Tool							
File Config Advance Help	Setting HCI Common	der RFTest Scripter [BLE Test Mode Non-Sign	aling Fix Test Tx Tone Test Abou	t]			
Part for the other andication to use	-Download Pate	h o Command	•	Media	Tek			
	Download Patch	-		Test Items		Relo	ad	
	WMT Reset Comr	mand	Repeat Times:	O Download Patch	item1.txt		E	
	BT Power On		Under de Tax	C TBD	Item2.txt		E	
			ноокеа: 10	C TBD	Item3.txt		E	
				о тво	ltem4.txt		E	
J STP USB			Run	C TBD	Item5.txt		E	
STP option				C TBD	ltem6.txt		E	
STP mandatory mode			Learning Windows					
O STP full-set mode			Lifend whoow				<u></u>	
Starl Relay Stop Fielay Log								
Patch Download								
Select patch bin file Browse								
HCI wrap patch format								
Download Stop								
Power Control							-	
USB Suspend USB Resume			•				P.	
USE SUSPEND USE RESUME			Check COM 11,1	2,13,14,15,16,17,18,19,20,21,22,23,	24,25,26,27,28,29,30,			
Sleen Wake Sleen Wake Sleen Wake								
DT WAK FA WAK CDS WAR								
Common Benjster Access								
								۱,

- 2. a. Select COM → Config → Enable "Transport over BT"
 - b. Set Baudrate = 115200.
 - c. Select BT port number, uncheck "STP" and set device type (SDIO/USB).
 - d. Click " Start Relay "

	Total Relayer #1
WCN Combo I col #1	File Config Advance Help
CDM BT FM	Baudrate a.
Total Relayer #1	115200
File Config Advance Help	Port for the other application to use
Bau Test Mode	I BT COM33 ↓ I WMT COM35 ↓
✓ Aggregation	
Port Options	I FM COM37 ▼ IF GPS COM39 ▼
ANT HCI packet setting	VIFI VIFI VANT
Change Baudrate setting	Devier
Use virtual COM	STP SDD
ANT RAM code download	CM4 + NSDIO
WiFi firmware download	STP option
a. BT RAM code download	G STP mandatoru mode
ST Transport over BT	
 STP mandatory mode 	C STP full-set mode
C STP full-set mode	d. Start Relay Stop Relay Log

- 3. Click "Browse" and "Download" buttons to load patch in this step.
- 4. After patch download pops out "Download bin file ok!", click " ON " button to set BT ON as following figure.

		1	Batala Daumia a d
	Patch Download		Patch Download
	Select patch bin file Browse		Select patch bin file Browse
	IV HCI wrap patch format		F HCI wrap patch format
	Download Stop		Download Stop
	Power Control		- Power Control
	USB Suspend USB Resume		USP Resume
	USB SUSPEND USB RESUME		OBB Suspend OBB Resulte
	ON OFF ON OFF ON OFF ON DEFT	Information 🗾	USB SUSPEND USB RESUME
3	ET OFF FM OFF GDS OFF ANT OFI	Developed bis file als	ON OFF ON OFF ON OFF ON OFF
X	Sleep Wake Sleep Wake Sleep Wake	Download bin file ok!	BT ON FM OFF GDS OFF ANT OF
	BT WAK FM WAK GPS WAK		Sleep Wake Sleep Wake Sleep Wake
	Common Benister Access		BT WAK FM WAK GPS WAK

5. On **Setting** page:

- a. Select HCI type : UART
- b. Select COM Port and Baud Rate identical to step-2
- c. Click " Open " button to open BT COM port; (" Close " button can also close BT COM port.)
- d. Click "RESET Device " after Open is clicked.
- e. Click "Read "button. If users can get BD address, your DUT initiation is successful.
- f. Click " Enter DUT " button, the device is entering Bluetooth test mode (signaling mode).

🗱 MediaTek BT Tool	A reader (TRAN
Setting HCI Commander	RFTest Scripter BLE Test Mode Non-Signaling Rx Test
Device 1 a.	
HCI type : UART	COM Port : COM23 -
Open Close	Baud Rate : 115200 👻
Patch File : D:\patch122	5.bin Patch
BD Address ; 0x 00:00:4	5.76:37:01
BESET Device	neau e.
The set Device	
d.	Т.

2.2.1 BDR/EDR Signaling Test Mode

If uses can read BD Address successful on **Setting** page, the DUT is entering Bluetooth signaling test mode automatically. Users can use R&S® CBT Bluetooth Tester to create connection with DUT directly and perform testing. Users could have detailed information of this Bluetooth tester from this URL: <u>https://www.rohde-schwarz.com/en/product/cbt_cbt32-productstartpage_63493-7927.html</u>



2.2.2 BDR/EDR Non-signaling TX Setting

Ensuring Device is opened and "RESET Device "button is clicked on "**Setting**" page. After that, change the page to "**RF Test**"

🗱 MediaTek BT Tool	
Setting HCI Commander RF Test Scripter BLE Test Mode No	on-Signaling Rx Test Tx Tone Test About
Device 1	
HCI type : UART - COM Port : COM11 -	
Open Close Baud Rate : 115200 💌	
Patch File : D:\palch1225.bin Patch	
BD Address: Dx CD 00:00:00:00:00 RESET Device Enter DUT Write	

TX Setting

- a. Click "RESET Device " button to reset DUT again. HCl event would respond RX: E, 4, 1, 3, C, 0.
- b. Select Pattern type
- c. Select Packet type
- d. Set channel number (0~78) or frequency hopping
- e. Set Tx Power Level for power control (Option)
- f. Click " Start " button to start transmitting
- g. Click " Stop " button to stop transmitting.

Note: If BT tester is CBT, user should configure BD address = 000000A5F0C3 on it.

Repeat a~g if Tx pattern, packet type, channel or power level are changed.

Note: 7663 Tx power Level 7 = effuse 0x137 setting MAX power

NediaTek BT Tool	_ 🗆 X
Setting HC Commander BF Test Scripter BLE Test Mode BLE Normal Mode Non-Signaing Rx Test Tx Tone Test	
BF Test	Clearlog
C Packet Type NULL Data Length 0	
C Single Frequency 78 d. @ Frequency Hopping	
E. Sol	
SyncCommand	
<u>x</u>]	

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2.2.3 BDR/EDR Non-signaling RX Setting

Ensuring Device is opened and "RESET Device "button is clicked on "**Setting**" page. After that, change the page to "**Non-Signaling Rx Test**"

🙀 MediaTek BT Tool	×
Setting HCICommander RF Test Scripter BLE Test Mode Non-Signaling Rx Test Tx Tone Test About	
Device 1	
HCI type : UART - COM Part : COM11 -	
Open Close Baud Rate : 115200 💌	
Patch File : D:1palch1225.bin Patch	
BD Address : 0x 00 00:00:00:00	
RESET Device Enter DUT White	

RX Setting

- a. Click "HCI Reset " button at first.
- b. Select Rx Pattern type.
- c. Set Rx channel number (0~78)
- d. Select Rx Packet type.
- e. Set BD address identical to CBT tester

Setup TX parameters on CBT test and turn on transmitting.

- f. Click " Enter Test " button to start receiving
- g. Click "Exit Test "button to stop receiving. RX test results are shown on right-side.

Repeat a~g if Rx pattern, packet type or channel are changed.

Martia Tek BT Tool		<u> </u>
Setting HCI Commander RF Test Scripter BLE Test Mode BLE Normal Mode Nor	-Signaling Rx Test	
Non-Signaling Rx Test	Non-Signaling Fix Test Result	
b. Rx Pattern Paeudo Random Bit Sequer -	Rx Packet Count 1238	
C. Rx Frequency 0	Rx Error Rate: 0.161650%	
Rx Packet Type DH1 Tester Actiese 00ASFDC3	Rx Byte Count: 33426	
	Bil Error Flate: 0.000746%	
g. a.		
[F年 65:13-45] 12: 1, JPC, 17, 0, 48, 0, 0, 0, 1, 4, 0, 0, 0, 0, 0, 2, 9, 0, 3, 0 [F年 65:13-6] 12: 見4, 1, DPC, 0 [F年 65:13-52] 12: 1, JPC, 17, 0, 47, 9, 0, 0, 0, 1, 4, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,		
[F午 05:13:52] RZ: E, 14, 1, D, PC, QDG, 4, 0, 0, E, 77, 20, 32, 82, 0, 0 EA, 2, 0, 0		
	Clear Log	
BT Non-Signaling Test successfully		
·		



2.2.4 BLE Signaling Test Mode

The picture below shows the setup for BLE signaling test mode. The PC serves as a relay station. Then, the DUT and the CBT can transmit commands with each other.

Accessories:

- 1 USB cable
- 1 USB-to-RS232 cable (Option if PC has no RS232 COM-port)
- 1 RS232 TX/RX cross-over cable.



Combo-Tool Setting for Signaling Test Mode (Real COM Relay)

After inserting the DUT through the USB cable, please follow the steps to set the real COM relay correctly.

- a. Follow the step 1~4 in the beginning of Section 2.2 (Page 9 to 11) to download patch.
- b. Click "Stop Relay " to close BT COM port.
- c. Click "Config ", then unselect "Use virtual COM"
- d. Select COM port of "USB to UART cable". For example: COM8 for "USB to UART cable", please choose "COM8"
- e. Press "Start Relay " for Real COM Relay.
- f. click " ON " button to set BT turn on.

👯 Total Relayer #2	🗤 Total Relayer #2	🚟 Total Relayer #2	🐯 Total Relayer #2
File Config Help	File Config Help	<u>File Config H</u> elp	<u>File Config H</u> elp
Baudrate	Ba Alternate Setting 0 🔸	Baudrate	Baudrate
113200	ANT HCI packet setting	J115200	115200
Port for the other application to use	CP v Hes victual COM	Port for the other application to use	Port for the other application to use
	MIT RAIM code download	🗹 📴 🛄 💽 🖬 🐨 🐨	
FM COM75 V GPS COM77 V	WiFi firmware download 0M77		
WIFI COM73 V ANT COM81 V			WIFI COM79 🖵 🗖 ANT COM81 👻
Device	Device	Device	Device
STP USB	T STP USB	STP USB	E STP USB
STP option	STP option	STP option	STP option
STP mandatory mode	STP mandatory mode	STP mandatory mode	STP mandatory mode
C STP full-set mode			
Start Relay D. Stop Relay Log	Start Relay Stop Relay Log	Start Relay Stop Fislay Log	C. Start Relay Stop Relay Log
Patch Download	Patch Download	Patch Download	Patch Download
D:\Documents and Settings\mtk03286\C Browse	D:\Documents and Settings\mtk03286\D Browse	D:\Documents and Settings\mtkD3286\D Browse	D:\Documents and Settings\mtk03286\C Browse
F HCI wrap patch format	IV HCI wrap patch format	F HCI wrap patch format	HCI wrap patch format
Download Stop	Download Stop	Download Stop	Download Stop
Power Control	Power Control	Power Control	Power Control
Suspand WAKEUD	USB Suspend USB Resume	USB Suspend USB Resume	USB Suspend USB Resume
In ord on ord on ord on ord	Suspend WAILEUP	Suspend WAREUP	Suspend WARE UP
DT OFF EN OFF GDS OFF ANT OFF	UN UFF UN UFF UN UFF UN UFF	ON OFF ON OFF ON OFF ON OFF	UN FF UN OFF UN OFF UN OFF
I can have a finance been a finance been a	BI OFF FM OFF OPS OFF ANT OFF	BI OFF FM OFF GPS OFF ANT OFF	f of the two of t
Sieep Wake Sieep Wake	sleep wake sleep Wake Sleep Wake	Sleep Wake Sleep Wake Sleep Wake	Sleep Wake Sleep Wake Sleep Wake
BEWAR PAWAR GPSWAR	BT WAR FM WAR GPS WAR	BT WAK FM WAK GDS WAK	BT WAK FM WAK GDS WAK
Common Hegister Access	Common Register Access	Common Register Access	Common Register Access
		N Z	

g. Click "Run" Button to run "BT LE test script" by CBTgo.

men - CB180					
easurements Co	nfiguration Window Options <u>H</u> elp				
	# X # Q, 0,	. 🕪 🗟 🍯		- ()	
Mea	asurement F	Report 💲		•	
			писффиннали	3	
Operator:	noname	2	2013年10月28日 上午 09:54:3	4	
CBT Ident:	Rohde&Schwarz, CBT-1153.9000.35, 100655,	CBTV5.50	CBTgo Version: 2.2.	0	
Options:	0, CB7-B55, K55, K57, K53, FMR6, intel Celeron	Mobil,256 MB,DIG FPGA			
	RF FPGA				
Sequence:					
	Test Name and Condition	Lower Limit Upper Limi	it Measured Value P/F]	
TRMJLE/CA/01	C (Output power)				
TRM-LE/CA/01	(C (Output power)			-	
TRM-LEICA/01.	IC (Output power) vad: PRBS 9, Length: 37 Bytes			-	
TRM-LE/CA/01. Bursts: 1, Paylo Channet: 0	IC (Output power) ad: PRBS 9, Length: 37 Bytes	78.04.40m 46.04.40m	0.40.40m	-	
TRM-LE/CA/01 Bursts: 1, Paylo Channet 0 Average Powe	/C (Output power) wd: PRBS9, Length: 37 Bytes wPeak BowAvg)	-20.00 dBm 10.00 dBm	0.40 dBm	-	
TRM-LE/CA/01 Bursts: 1, Paylo Channet 0 Average Powe Difference (Po Channet 29	/C (Output power) ad: PRBS9, Length: 37 Bytes F WPeak - PowAvg)	-20.00 dBm 10.00 dBm 3.00 dB	0.40 dBm 🖌 0.60 dB 🖌	-	
TRM-LE/CA/01. Bursts: 1, Paylo Channet: 0 Average Powe Difference (Po Channet: 19 Average Powe	/C (Output power) ad: PRBS9, Length: 37 Bytes Ff wPeak - PowAvg)	-20.00 dBm 10.00 dBm 3.00 dB	0.40 dBm v 0.60 dB v	-	
TRM-LE/CA/01 Bursts: 1, Paylo Channet 0 Average Powe Difference (Po Channet 19 Average Powe Difference (Po	IC (Output power) ad: PRBS9, Length: 37 Bytes if wPeak - PowAvg) if wPeak - PowAvg)	-20.00 dBm 10.00 dBm 3.00 dB -20.00 dBm 10.00 dBm 3.00 dB 3.00 dB	0.40 dBm v 0.60 dB v 0.32 dBm v	-]]	
TRM-LE/CA/01 Bursts: 1, Paylo Channet: 0 Difference (Poi Channet: 19 Difference (Poi Channet: 39	IC (Output power) Had: PRBS9, Length: 37 Bytes H WPeak - PowAvg) H WPeak - PowAvg)	-20.00 dBm 10.00 dBm 3.00 dB -20.00 dBm 10.00 dBm 3.00 dB	0.40 dBm v 0.60 dB v 0.32 dBm v 0.52 dB v	-]]	

2.2.5 BLE Non-Signaling TX Test Mode

On "Setting" page, ensure Device is opened and " RESET Device " button is clicked

🗤 MediaTek BT Tool
Setting HCI Commander RF Test Scripter BLE Test Mode Non-Signaling Rx Test
Device 1
HCI type: UART COM Port: COM11
Open Close Baud Rate : 115200 💌
Patch File : D:\patch1225.bin
BD Address : 0x 00:00:46:76:62:01 Read
RESET Device Enter DUT Write

BLE Test Mode – TX

- a. Select TX Test
- b. Select Channel number
- c. Select Pattern type

d. Click Start button and TX signal is present on CBT accordingly. Click Stop to stop transmitting. Users can repeat a \sim d to change channel number and pattern type.

🗱 MediaTek BT Tool		_ 🗆 🗙
Setting HCI Commander RF Test Scripter BLE Test M	fode BLE Normal Mode Non-Signaing Rx Test Tx Tone Test	
 a. C Particut b. C Particut b. C Particut c. Particut c. <a href="https://www.e</td><td>Road BLE Access Address Road (F4: 00.2254) IX: 3,0,0,0 (F4: 00.2254) IX: 3,0,0,0 (F4: 00.2251) IX: 3,1,0,0 (F4: 00.2251) IX: 1,1,0,2,0 (F4: 00.2251) IX: 1,1,1,1,1,1,1,0,0</td><td></td>	Road BLE Access Address Road (F4: 00.2254) IX: 3,0,0,0 (F4: 00.2254) IX: 3,0,0,0 (F4: 00.2251) IX: 3,1,0,0 (F4: 00.2251) IX: 1,1,0,2,0 (F4: 00.2251) IX: 1,1,1,1,1,1,1,0,0	
Pocket Court	Charlog	
3		•

2.2.6 BLE Non-Signaling RX Test Mode

On "Setting" page, ensure Device is opened and " RESET Device " button is clicked

🗱 MediaTek BT Tool
Setting HCI Commander RF Test Scripter BLE Test Mode Non-Signaling Rx Test
Device 1
HCI type: UART COM Port: COM11
Open Close Baud Rate : 115200 v
Patch File : D:\patch1225.bin
BD Address : 0x 00:00:46:76:62:01 Read
RESET Device Enter DUT Write

BLE Test Mode – RX

- a. Select RX Test
- b. Select Channel number
- c. Pattern type is default in PRBS9

Turn on CBT packet generator.

d. Click "Start " button \Rightarrow Click Stop button again. RX results are shown in Packet Count. Users can repeat a ~ d to change channel number and pattern type.

👪 Me	ediaTek BT Tool	_ D X
Setti	ing HCI Commander RF Test Scripter BLE Test Mode BLE Normal Mode Non-Signaing Rx Test Tx Tone Test	
b. c.	Channel Read BLE Access Address Channel Read Patienn PR BS 9 It Lt+ 00/37/46 IX: 3,0,0, Lt+ 00/37/46 IX: 3,0,0, Lt+ 00/37,46 IX: 3,0,0, Lt+ 00/37/46 IX: 3,0,0, Lt+ 00/37,46 IX: 3,0,0, Packet Count STE	
Stop	Clear Log d.	
Jorop	on occusiony	
•		

2.2.7 CW-tone TX Setting

Ensuring Device is opened and "RESET Device "button is clicked on "**Setting**" page. After that, change page to "**Tx Tone Test**"

👪 MediaTek BT Tool	
Setting HCI Commander RF Test Scripter BLE Test Mode Non-Signaling	Rx Test Tx Tone Test About
Device 1	
HCI type: UART COM Port : COM11	
Open Close Baud Rate : 115200 💌	
Patch File : D:\patch1225.bin Patch	
BD Address : 0x 00:00:00:00:00:00 [Read]	
RESET Device Enter DUT Write	

Non-modulated signal

- a. Select Tone Type: Single_Tone_DC
- b. Select Tx Frequency (channel) number: 0 ~ 78
- c. Click " Enter Test " button to start signal transmitting.
- d. Click "HCI Reset " button to stop signal transmitting

Repeat a ~ d if Tx channel is changed.

MP MediaTek BT Tool	<u> </u>
Setting HCI Commander RF Text Scripter BLE Text Mode BLE Normal Mode Non-Signaling Fix Text Tix Tone Text	
Tx Tore Test	
a. Tone Type Single_Tone_DC	
b. Tx Frequency 0	
Mode BT	
Nodulation 1M	
Pattorn PRB53	
C. Enter Test HCI Reset d.	
[F年 04-41 03] TX: D5,PC,5,0,0,0,0,0 [F年 04-41 03] FX: E,4,1,D5,PC,0	-
	Clear Log
BT Ix Tone Test successfully	
19 <u>11</u>	
4	•

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Modulated signal

- a. Select Tone Type: Modulation_Tone
- b. Select Tx Frequency (channel) number: 0 ~ 78
- c. Click " Enter Test " button to start signal transmitting.
- d. Click "HCI Reset " button to stop signal transmitting

Repeat a ~ d if Tx channel is changed.

Setting HL Lommander HF Text Scripter BLE Test Mode BLE Normal Mode Nor-Signaling Hx Test 1x Toris Test	
Tx Tane Test	
a. Tone Type Modulation_Tone	
b. Tx Frequency 0	
Mode BT	
Nodulation IM	
Pattorn PRBS3	
C. Enter Test	
[下午 04-8 03] TZ: DS,FC,5,0,4,0,0,0 [下午 04-8:03] TZ: E,4,1,DS,FC,0	
	Clear Log
BT Tx Tone Test successfully	

2.2.8 BLE Enhanced TX Test Mode

"LE Enhanced Test Mode" support part of BT5 LE feature test.

This BT5.0 testing can be executed with equipment likes R&S® CMW270/500 which support BT5.0 feature.

As CMW270/500, users could have detailed information of this Bluetooth tester from this URL: <u>https://www.rohde-schwarz.com/product/cmw270-productstartpage_63493-9552.html</u>



Ensuring Device is opened and "RESET Device "button is clicked on "**Setting**" page. After that, change the page to "**LE Enhanced Test Mode**"

MediaTek BT Tool	
Setting HCI Commander RF Test Scripter BLE Test Mode Non-Signaling Rx Test Tx Tone Test A	bout LE Enhanced Test Mode
Device 1	
HCI type : UART COM Port : COM11	
Open Close Baud Rate : 115200 💌	
Patch File : D:\patch1225.bin Patch	
BD Address : 0x 00:00:00:00:00:00 Read	
RESET Device Enter DUT Write	

TX Setting

- a. Select Tx test
- b. Set channel number (0~78)
- c. Select PHY type (1M, 2M PHY.....)
- d. Set Payload Length (0~255)
- e. Select Pattern type
- f. Click "Start "button to start transmitting. Click "Stop "button to stop transmitting.

Repeat a~f if Tx pattern, channel, PHY type or Payload Length are changed.

-	PleiaTek DT Tool	
a	Setting HCI Commander RF Test Scripter BLE Test Mode Non-Signaling Rx Test Tx Tone Test About LE Enhanced Test Mode	-
	Channel D 0 [14:32:02] TX: 3,0,0, [14:32:02] RX: E,4,1,3,0,0 [14:32:02] RX: E,4,1,3,0,0 [14:32:02] TX: 34,20,4,0,FF,0,2 [14:32:02] RX: E,4,1,34,20,0	
	Payload Length 255 C	

2.2.9 BLE Enhanced RX Test Mode

Ensuring Device is opened and "RESET Device "button is clicked on "**Setting**" page. After that, change the page to "**LE Enhanced Test Mode**"

🗤 MediaTek BT Tool	
Setting HCI Commander RF Test Scripter BLE Test Mode Non-Signaling Rx Test Tx Tone Test A	bout LE Enhanced Test Mode
Device 1	
HCI type : UART COM Port : COM11	
Open Close Baud Rate : 115200 -	
Patch File : D:\patch1225.bin Patch	
BD Address : 0x 00:00:00:00:00 Read RESET Device Enter DUT Write	

RX Setting

- a. Select Rx test
- b. Set channel number (0~78)
- c. Select PHY type (1M, 2M PHY.....)
- d. Click Start button, Click Stop button again. RX results are shown in Packet Count.

Repeat a~d if Rx channel or PHY type are changed.

E)	# TediaTek H	IT Tool				
	Setting HCI Cor	mmander RFTest Scripter BLE	Test Mode Non-Signaling Rx Test Tx Tone Test About	LE Enhanced Test Mode		
-	C Tx Test	🗭 Rx Test				
	Channel	0	[14:32:02] TX: 3,C,0,	<u>^</u>		
	PHY	2M PHY	[14:32:02] RX: E,4,1,3,C,0 [14:32:02] TX: 34,20,4,0,FF,0,2 [14:32:02] RX: E,4,1,34,20,0			
	Payload Lengtl	h 255	[14:38:32] TX: 1F,20,0, [14:38:32] TX: E,6,1,1F,20,0,0,0			
	Pattern	PRBS9	[14:38:34] TX: 3,C,O, [14:38:34] RX: E,4,1,3,C,O [14:38:34] TX: 32,C03,O,1,O			
		Stop	[14:38:34] RX: E,4,1,33,20,0	~		
1	Packet Count	0		Clear Log		