

MT8852B 4.0/5.0 测试方法

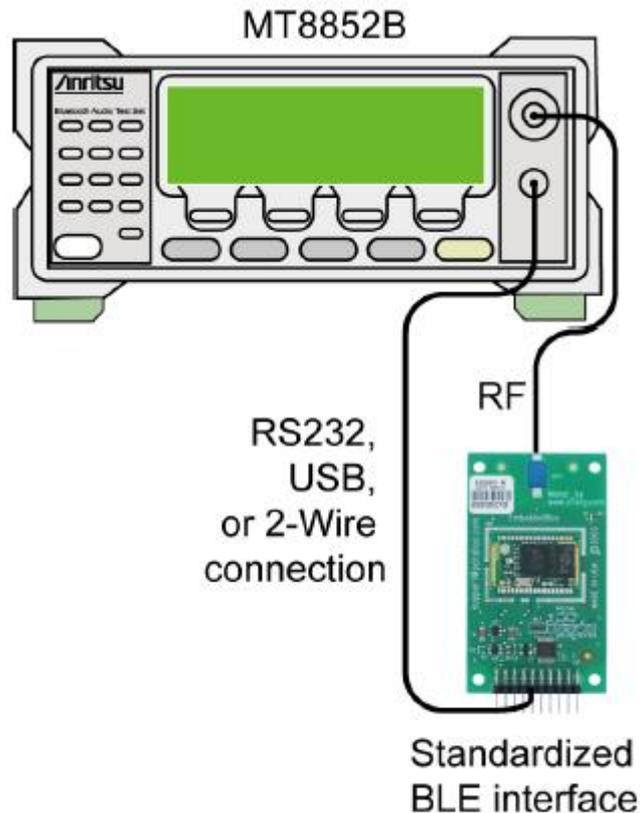
By WanLiMing

Part One: DUT 准备工作

- 1: Download DTM(Direct Test Mode 也叫测试模式)版本的 Firmware to DUT (针对不同的芯片, 需要咨询对应的芯片厂商)
- 2: 根据不同的芯片型号, 产品接口形式, 咨询芯片厂商被测产品可接受的 HCI 指令下发方式。通常有 RS232/ 2-Wire/USB 等方式, 如果采用 RS232/2-Wire 还要咨询清楚通讯的波特率。

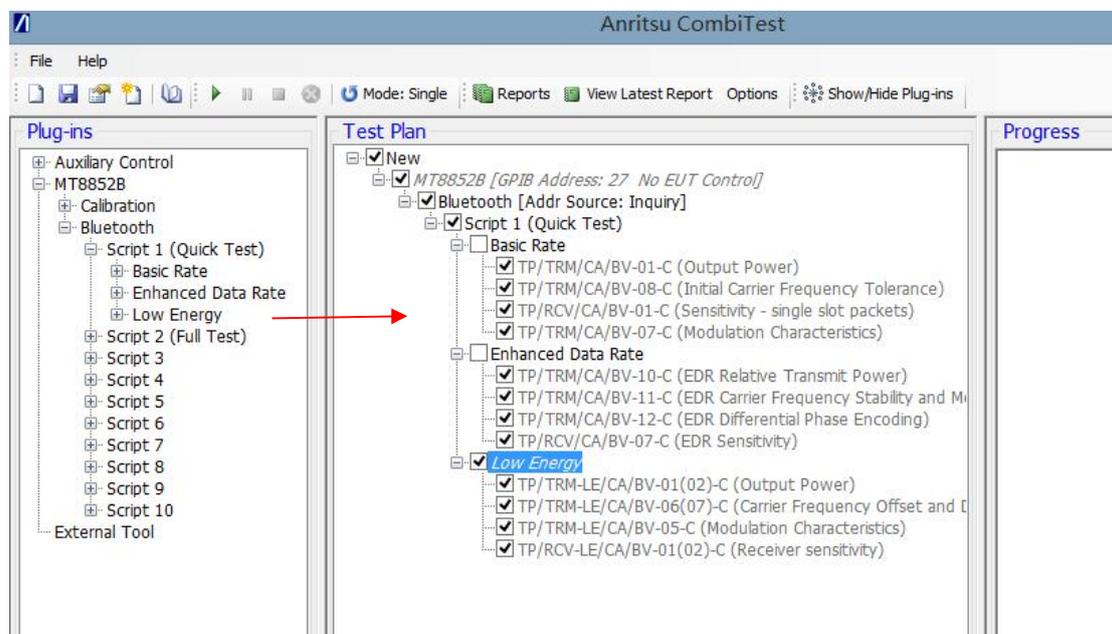
Part Two: 测试环境搭建

- 1: 如果用软件操作, 需要在 PC 上安装 Combitest 或 BLE Measurement Software
如果手动操作, 不需要 PC 及安装软件
- 2: 连接 DUT RF cable 及 HCI cable 至 DUT。
如果是 RS232/2-Wire 方式与被测件通讯, 通常要接 RS232-TTL 电平转换小板, 再接至芯片 UART 接口

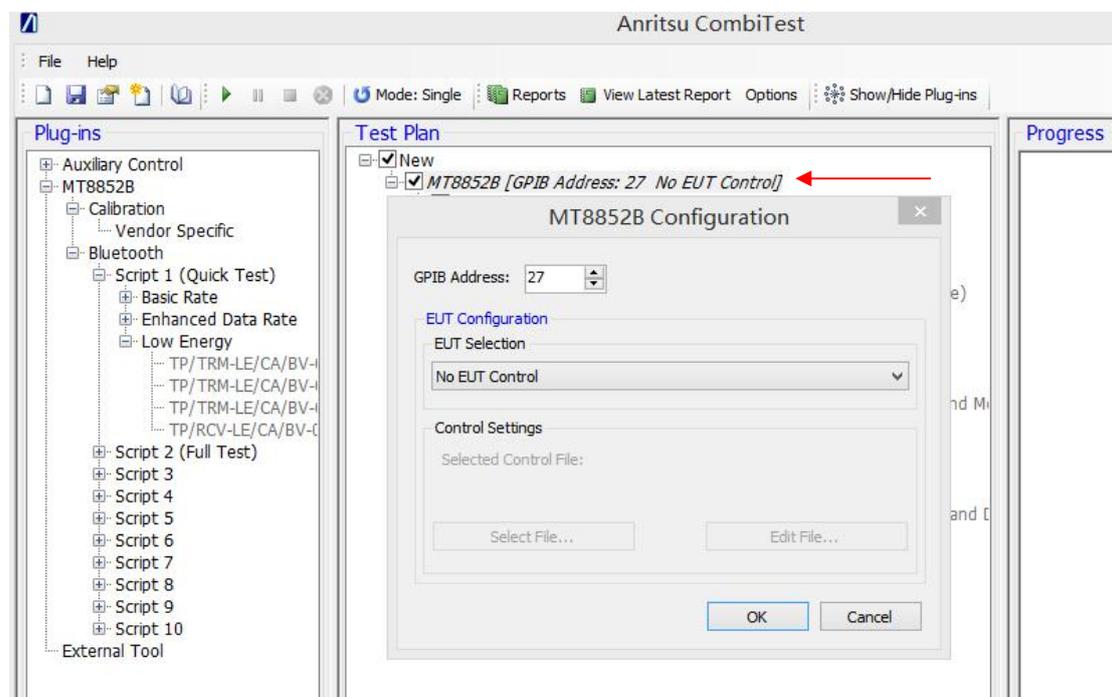


Part Three: 测试操作（以 Combittest 为例）

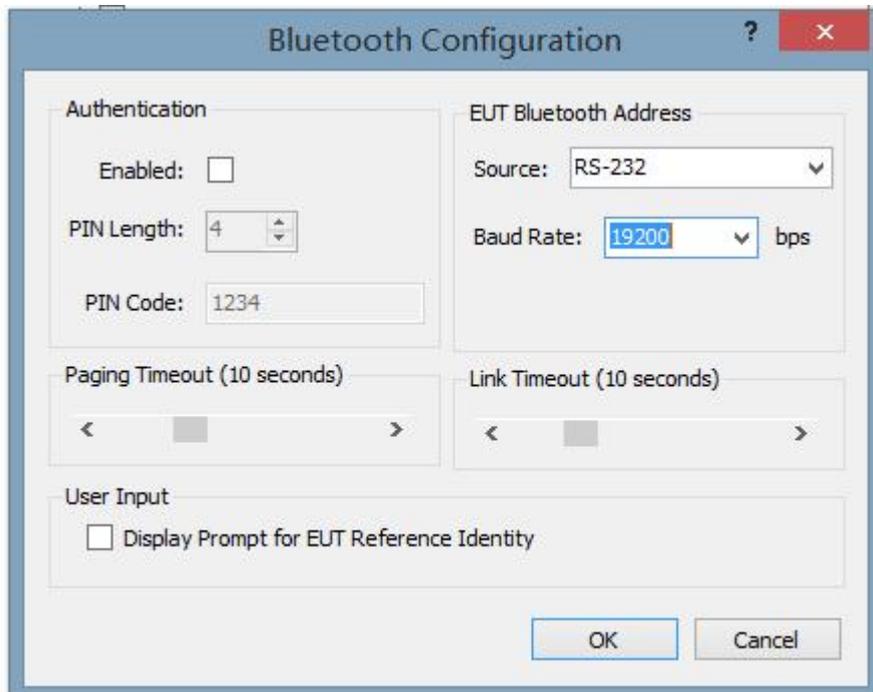
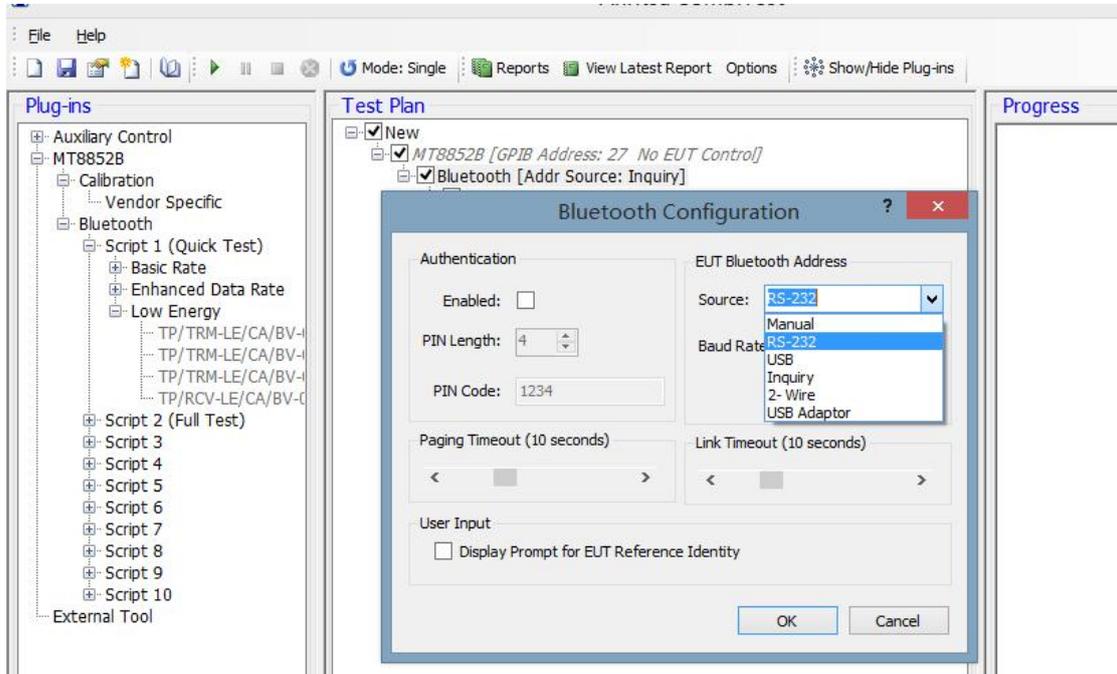
- 1: 选择你要的测试脚本（脚本 1,2 的参数为 SIG 规定的默认参数不可修改，其他可以修改）
双击左侧脚本及项目至中间对话框



- 2: 配置仪器 GPIB 地址（默认 27）
在 MT8852B 处点击右键

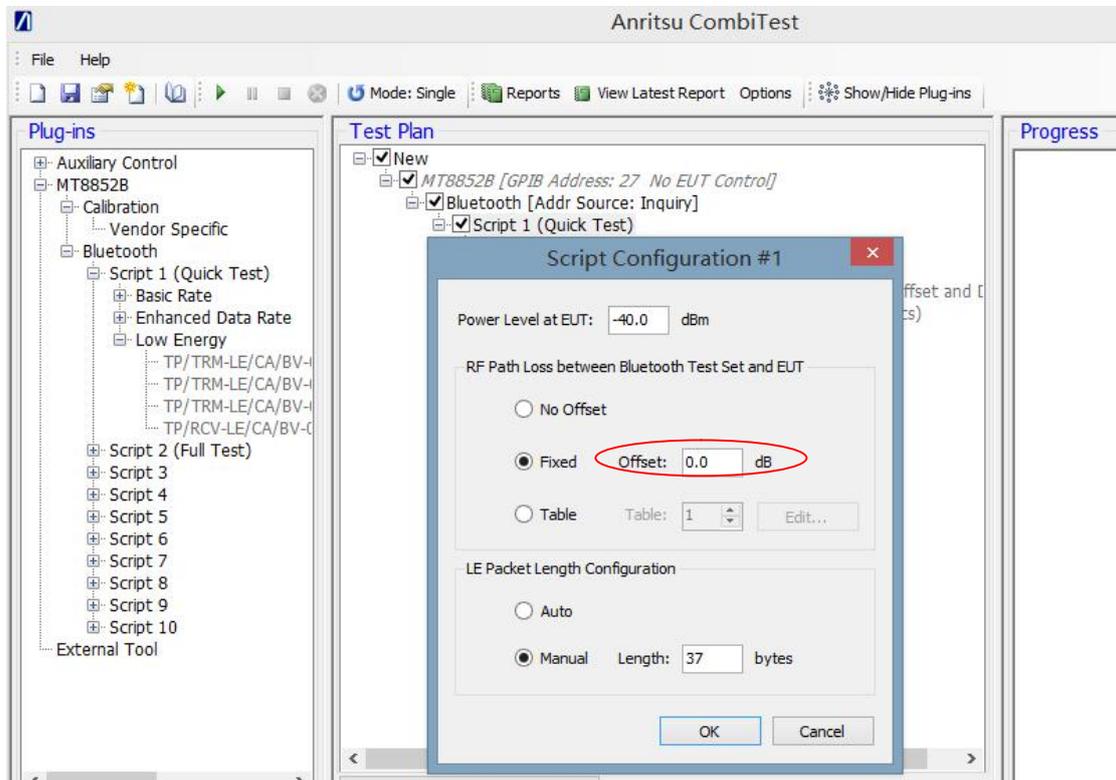


- 3: 配置 DUT HCI 通讯方式 (RS232 和 2-Wire 还要设定波特率)
在 Bluetooth 【Addr Source】处点击右键



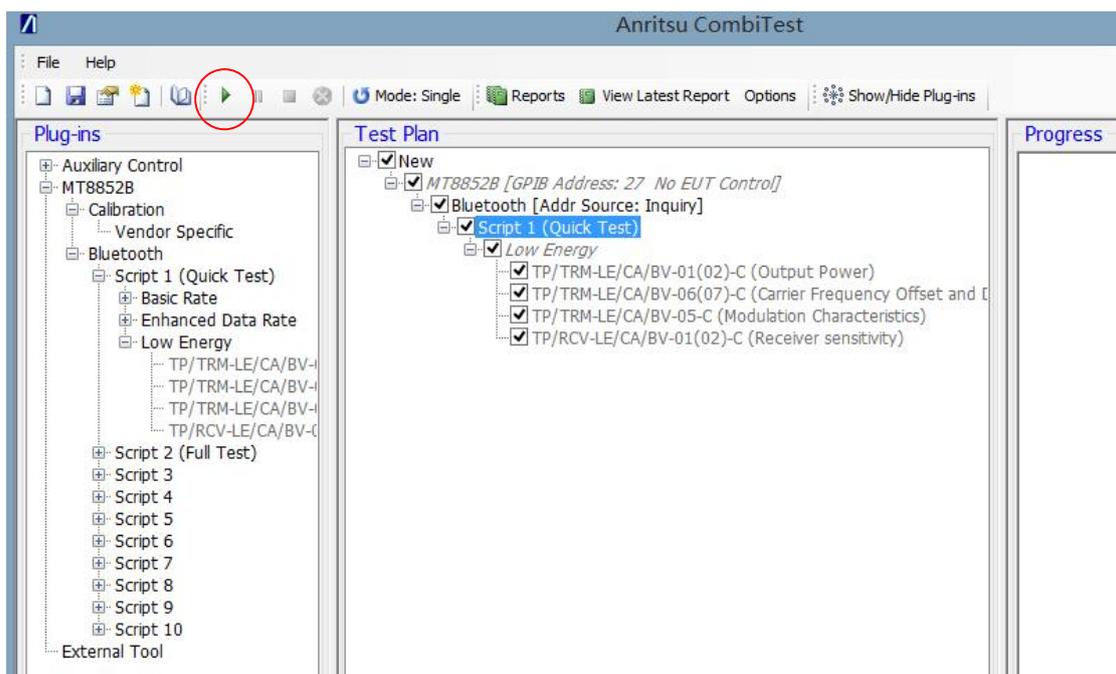
4: 设定 RF 通道损耗

在 Script1 处点右键：假设损耗是 2dB，此处要填 -2（负数）



5: 点击 Run 开始测试

测试完成后会自动生成 Pass 或 Fail 的报告



Test Plan Result: Passed

Test Plan Status: Complete

Test Plan Name: New
CombiTest Version: 3.3
User: lenovo
Test Station Name: PPBB

Date: 2018-07-16
Start Time: 10:46:08
Elapsed Time: 00h 00m 25s

Bluetooth Test Results

Bluetooth Script 3: Passed

Instrument: MT8852B
S/N: 0001109007
Firmware: 4.20.007
Plug-in Version: 1.3

Elapsed Time: 00:00:17
Connection Time: N/A ms
EUT Bluetooth Address: N/A

Low Energy Test Results

TP/TRM-LE/CA/BV-01(02)-C (Output Power)

	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Limits</u>
Average Power	0.20 dBm	-0.88 dBm	-1.41 dBm	
Max Power	0.20 dBm	-0.88 dBm	-1.41 dBm	< 10.0 dBm
Min Power	0.19 dBm	-0.88 dBm	-1.41 dBm	> -20.0 dBm
Peak to Average	0.13 dB	0.13 dB	0.13 dB	< 3.0 dB
Total Packets Failed	0	0	0	
Total Packets Tested	10	10	10	
Result	Pass	Pass	Pass	

TP/TRM-LE/CA/BV-06(07)-C (Carrier Frequency Offset and Drift)

	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Limits</u>
Average Frequency Offset	56.20 kHz	56.70 kHz	57.20 kHz	
Max +ve Frequency Offset	61.50 kHz	59.40 kHz	61.50 kHz	<= +/- 150 kHz
Min -ve Frequency Offset	51.90 kHz	53.70 kHz	54.00 kHz	<= +/- 150 kHz
Drift Rate / 50 μs	-11.26 kHz	7.75 kHz	5.57 kHz	<= 20 kHz / 50 μs
Max Drift	12 kHz	8 kHz	9 kHz	<= 50 kHz
Average Drift	6 kHz	2 kHz	1 kHz	
Total Packets Failed	0	0	0	
Total Packets Tested	10	10	10	
Result	Pass	Pass	Pass	

TP/TRM-LE/CA/BV-05-C (Modulation Characteristics)

	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Limits</u>
'F1avg'	255.8 kHz	257.5 kHz	260.2 kHz	225 kHz < F1avg < 275 kHz
'F1max'	266.4 kHz	267.7 kHz	269.8 kHz	
F1 Packets Failed	0	0	0	
'F2avg'	230.3 kHz	235.3 kHz	233.9 kHz	
'F2max'	202.3 kHz	207.1 kHz	205.9 kHz	>= 185 kHz
'F2max' Pass Rate	100.00 %	100.00 %	100.00 %	> 99.9 %
F1/F2 ratio	0.90	0.91	0.89	>= 0.80
Total Packets Tested	20	20	20	
Result	Pass	Pass	Pass	

TP/RCV-LE/CA/BV-01(02)-C (Receiver sensitivity)

Power Level: -85.0 dBm, Dirty Tx Status: On

	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Limits</u>
Frame Error Rate	0.200 %	5.800 %	1.500 %	<= 30.800 %
Total Packets Received	998	942	985	
Total Packets Transmitted	1000	1000	1000	
Result	Pass	Pass	Pass	

TP/RCV-LE/CA/BV-07-C (PER Report Integrity)

Power Level: -30.0 dBm, Packet Number Mode: Random

	<u>Cycle 1</u>	<u>Cycle 2</u>	<u>Cycle 3</u>	<u>Limits</u>
Frame Error Rate	50.0 %	50.0 %	50.0 %	50.0 % <= PER <= 65.4 %
Total Packets Received	63	127	203	
Total Packets Transmitted	126	254	406	
Result	Pass	Pass	Pass	

TP/RCV-LE/CA/BV-06-C (Maximum Input Signal Level)

Power Level: -10.0 dBm

	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Limits</u>
Frame Error Rate	0.000 %	0.000 %	0.000 %	<= 30.800 %
Total Packets Received	1500	1500	1500	
Total Packets Transmitted	1500	1500	1500	
Result	Pass	Pass	Pass	