



ATS282X
RF 测试指南

Latest Version: 3.0

2016-03-25

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3 引言

3.1 版本历史

日期	版本号	注释	作者
2015-10-10	1.0	建立初始版本	成展广
2016-01-05	2.0	增加用蓝牙综测仪测试 LE 和 BR/EDR 的说明	成展广
2016-03-24	3.0	配合新发布 SDK 包，定频工具和 FT_Mode 宏定义位置更新	成展广

3.2 编写目的

本文档主要介绍如何进行芯片或模块的 RF 定频测试，适用于 ATS282X 系列芯片,如 ATS2823,ATS2823B,ATS2825,ATS2829 等等。

4 测试准备

1. FCC test 时的硬件接线:

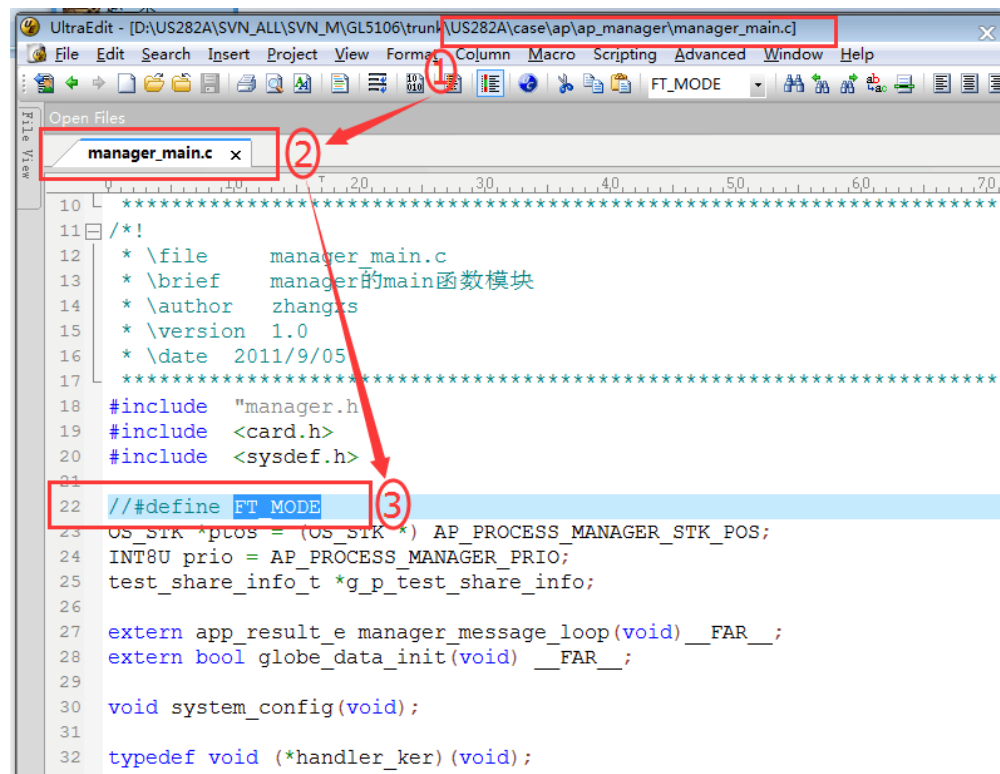
ATS282X 的 **GPIOA21**, 连接到 PC 端串口工具的 RX,

ATS282X 的 **GPIOA22**, 连接到 PC 端串口工具的 TX,

GND 共地连接,

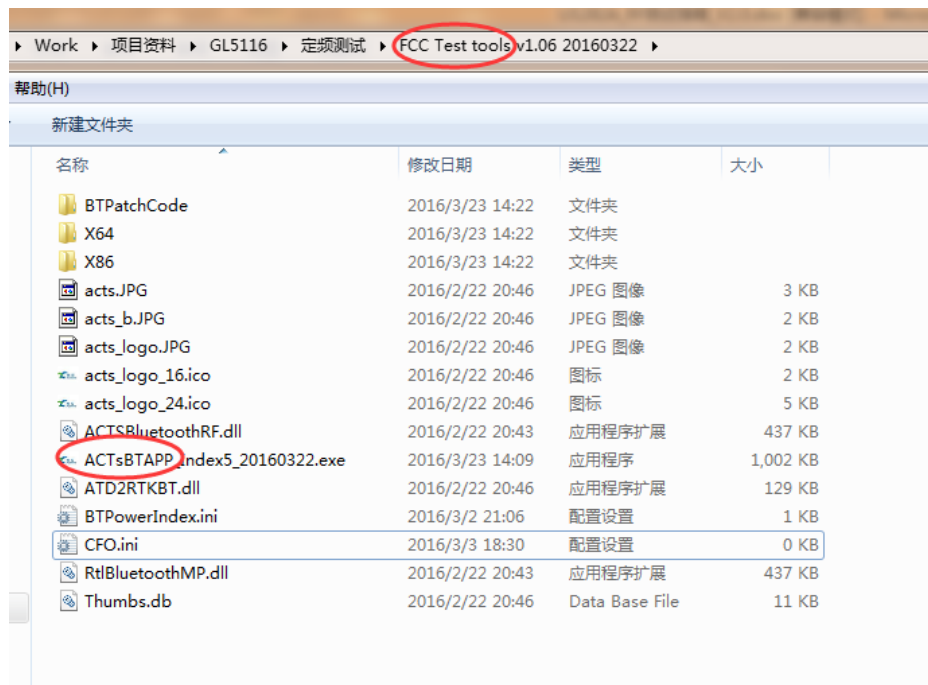
VCC, PC 端的串口工具若是 RS232 串口工具则需要连接 VCC 供电, 如果是 USB 转串口工具则不需要接 VCC。

2. 待测试机器 (DUT) 要烧录能进入测试模式的定频测试固件, 该测试固件的制作方法是在 case\ap\ap_manager\manager_main.c 中将注释掉的 **#define FT_MODE** 宏打开, 然后重新编译打包生成固件。

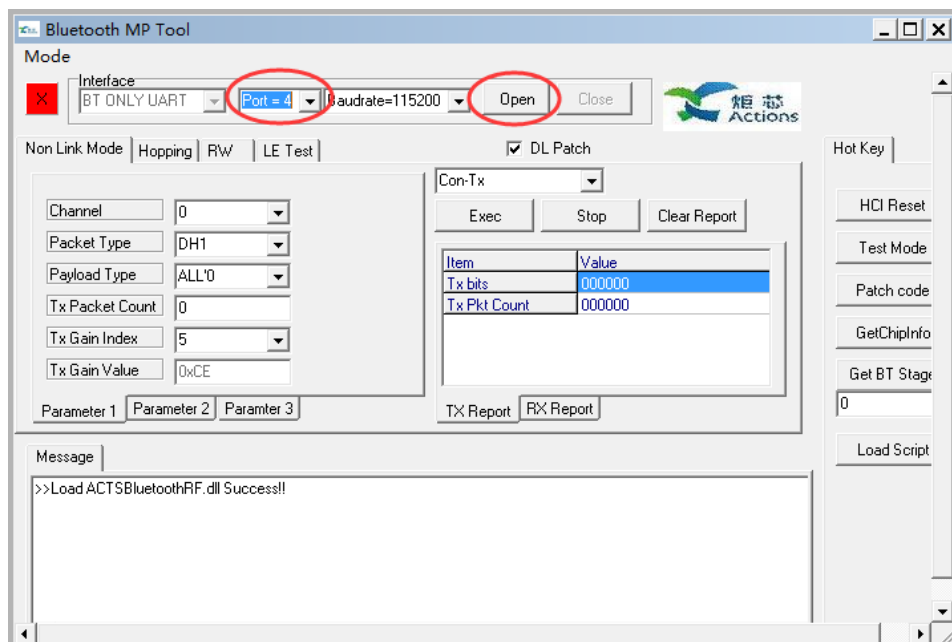


3. 先给 DUT 上电, 再将串口工具接到电脑上, 请注意这个上电顺序, 以防串口工具影响 DUT 上电开机。

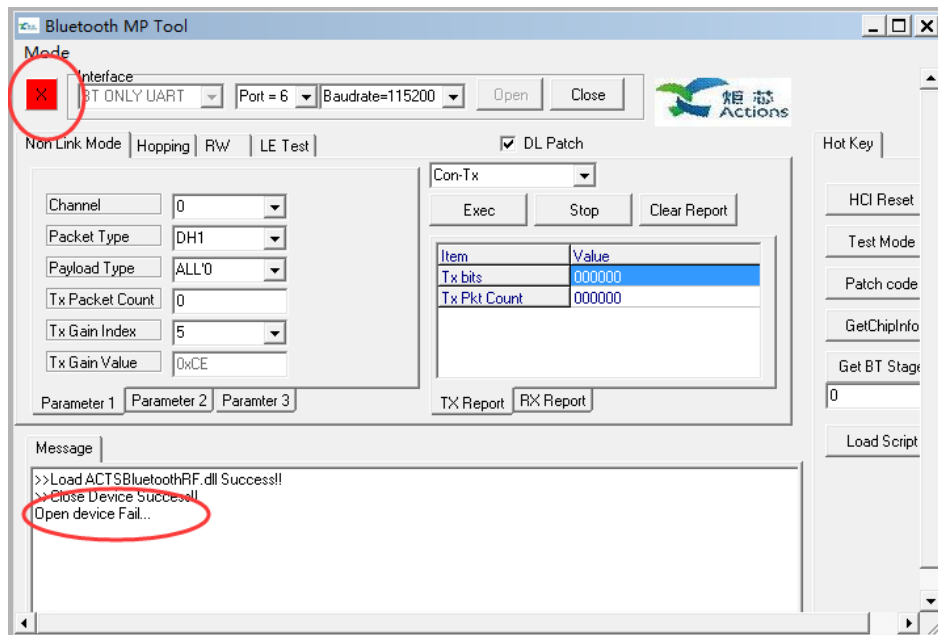
4. 在发布资料包中的 Tool 文件夹中找到 FCC Tool 工具，找到并打开 ACTSBTAPP.exe。软件工具版本请使用最新发布版本。



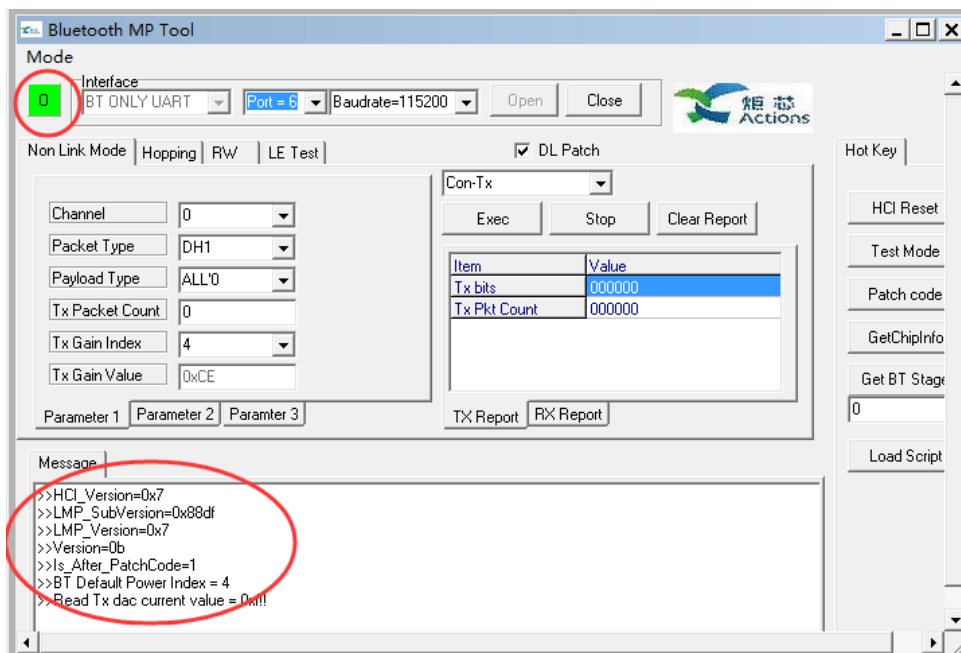
5. 打开软件后，在软件界面上的 PORT 处选择 PC 与串口工具连接的串口。点击 open，进行连接。Baudrate 默认使用 115200。



6. 如果软件 Message 窗口提示连接失败, 此时左上角依然显示红色 X,
- 此时请检查① Port 选择是否正确, 串口工具和 DUT 接线是否正确; ② DUT 工作状态是否正常, 如烧录的固件是否正确, BTVCC 电压是否正常等; ③ 串口工具是否损坏或者兼容性不好; ④ PC 端软件工具运行是否正常, 更换 PC 再尝试。



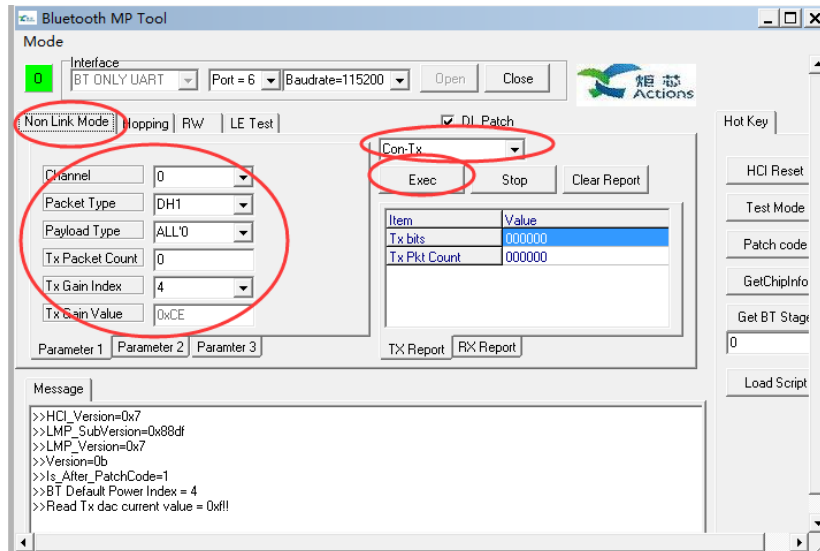
7. 如果连接成功, 左上角会显示绿色 O, 且 Message 窗口会有连接的相关信息打印:



8. 连接成功后可以进入 Non Link Mode, LE, Hopping 测试。

5 定频测试

Non Link Mode: 手动测试 BR/EDR RF 性能，软件打开后就是默认进入这个模式。在软件界面上按照测试要求设置相关参数后点 **Exec** 即可运行测试。



Channel: 选择发射频道，0-->2402MHZ, 39-->2441MHZ, 78-->2480MHZ 等。

Packet Type: 发送包类型，包括 DH1/DH3/DH5/2DH1/2DH3/2DH5/3DH1/3DH3/3DH5

PayLoad Type: 发送信息的内容，包括 A11 '0' , A11

'1' , 0101, 1010, 0x0~0xF, 00001111, 11110000, PRBS9, 其中 PRBS9 表示随机码。

TX Packet Count: 发送包的数量，0 表示无限。

TX Gain Index: 发送功率控制，参数值为 0~7, 每个相隔 3dB, 默认为 5 (1dBm)。如需要调整可以右键-->Debug-->Enable BT Tx Power Index 。

TX Gain Value: 默认使用 Actions 指定值，无法修改。

Con-Tx: 持续发射模式

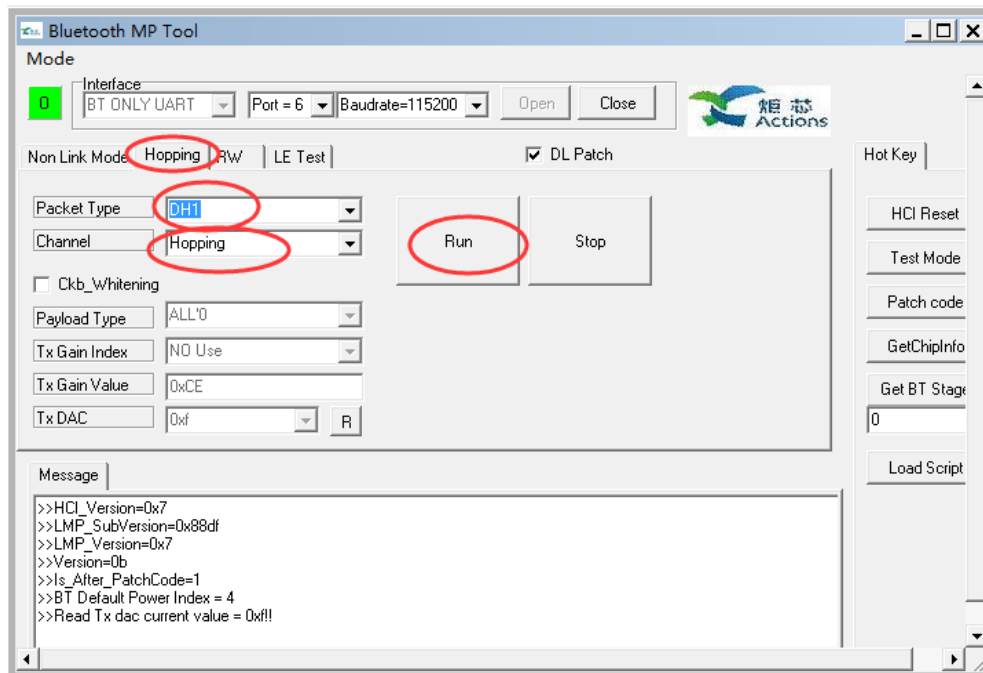
Pkt-Tx: 包发射模式

Pkt-RX: 包接收模式

Single Tone: 纯载波测试模式

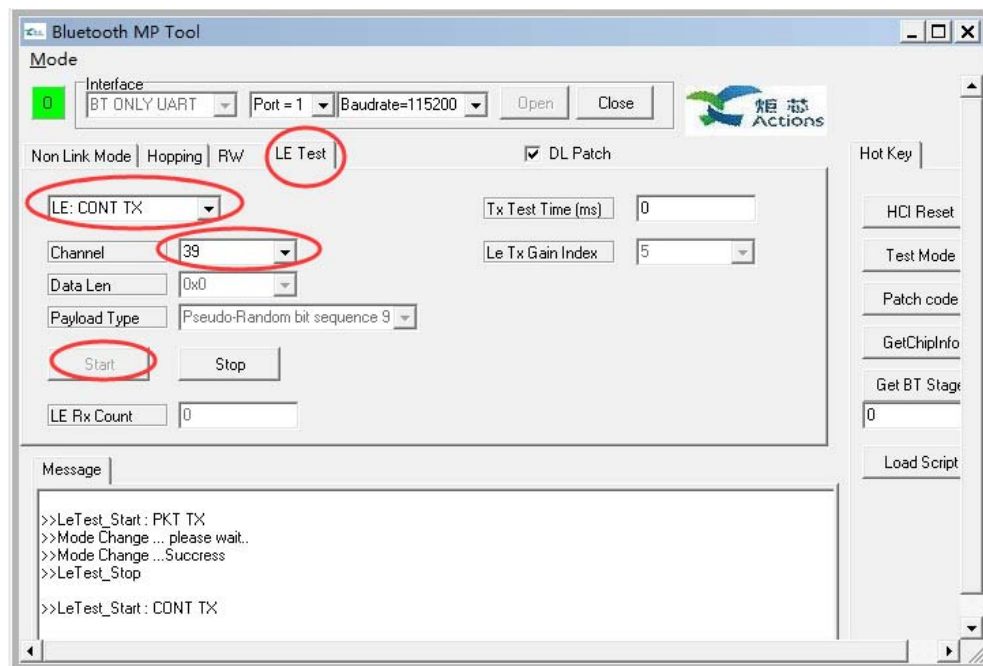
6 跳频测试

Hopping: 跳频测试，设置 packet type 和 channel 后点 Run 进入测试，请注意 packet type 不能为 NULL。

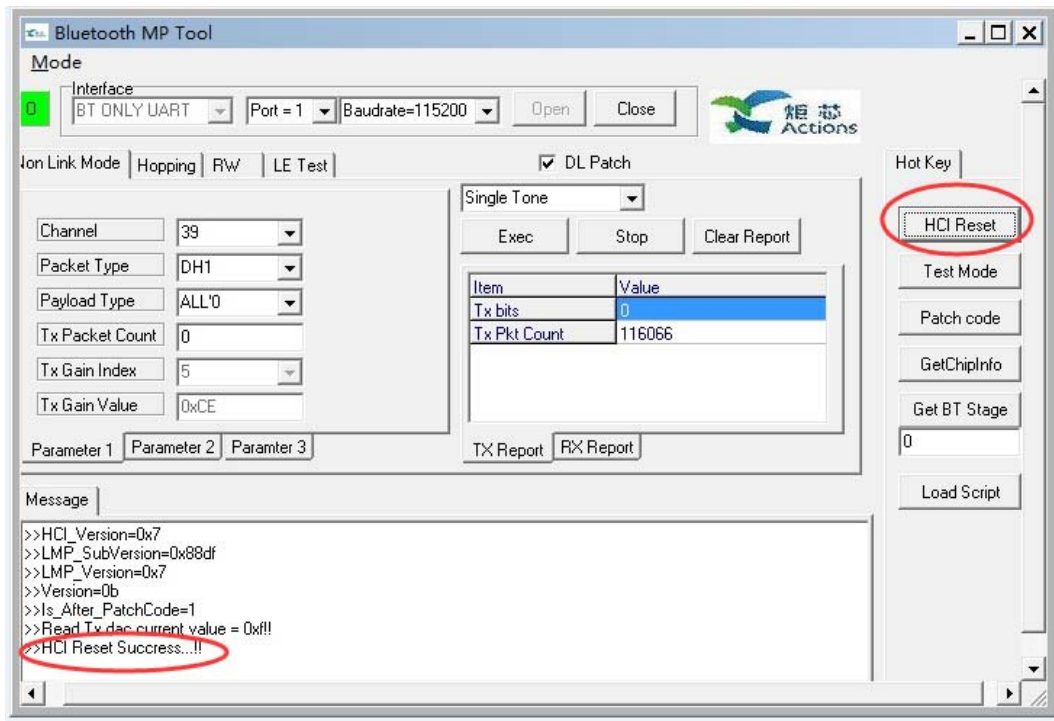


7 LE Test

① 手动测试可以按照测试要求设置后点 Start 开始测试。



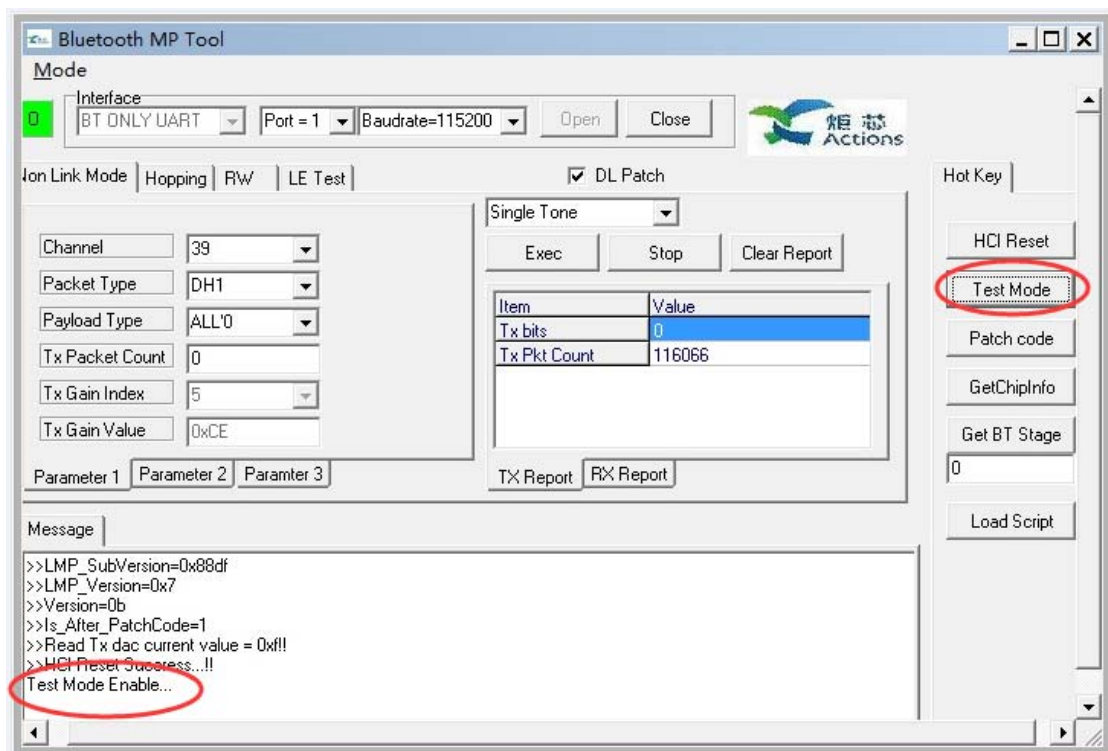
② 用蓝牙综测仪自动化测试可以点 HCI Reset 初始化，初始化成功后把串口转接到蓝牙综测仪上进行连接并测试即可。注意：蓝牙综测仪串口波特率也要设置为 115200。



8 BR/EDR 测试

BR/EDR 测试，要用蓝牙综测仪测试 BR/EDR 可以点 Test Mode 进入测试模式，然后用蓝牙综测仪去查询连接并进行测试即可。

注意：测试 TX 项目时要用 TX Mode，不能使用 Loopback。



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