

Wi-Fi Audio-A31 RF Performance

Rev:0.1

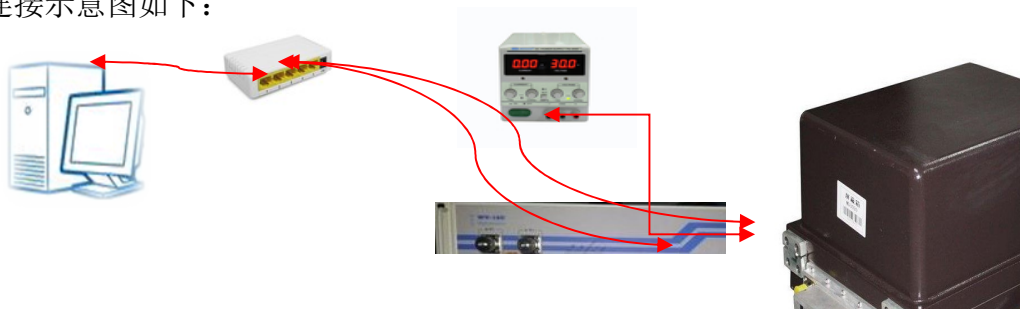
Table of contents

Wi-Fi Audio-A31 RF Performance.....	1
Rev:0.1	1
1 基本测试项目	3
1.1 测试设备.....	3
1.2 频谱和功率图.....	3
1.3 频谱平坦度图.....	5
2 TX 指标测试.....	6
2.1 附图:	7
3 RX 指标测试.....	8
3.1 附图.....	9
4 Revision History	10

1 基本测试项目

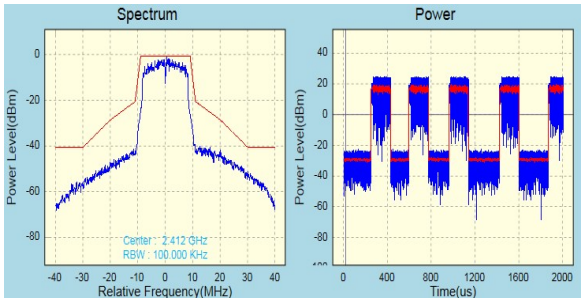
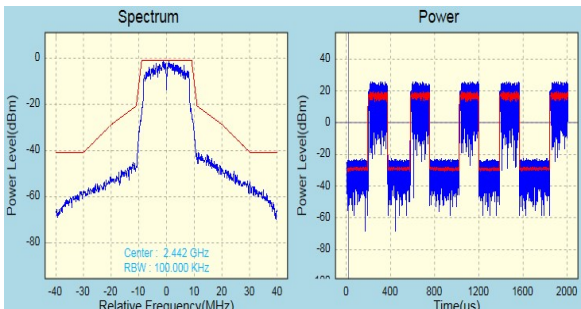
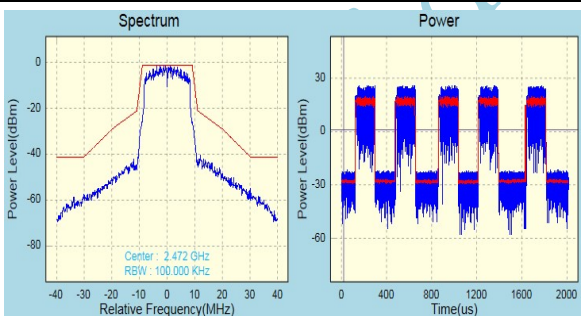
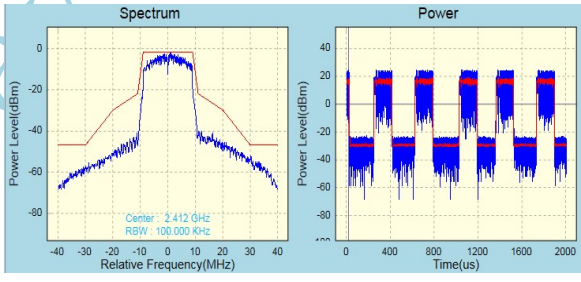
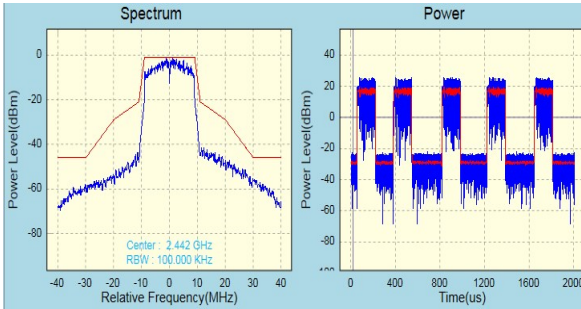
1.1 测试设备

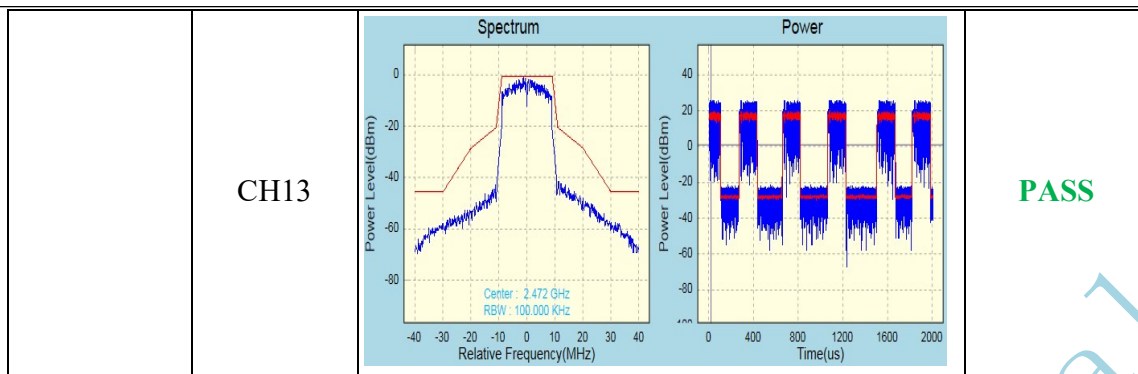
屏蔽箱；5V/1A 电源；交换机；网线；RF 延长线；WIFI 测试底板；PC。
连接示意图如下：



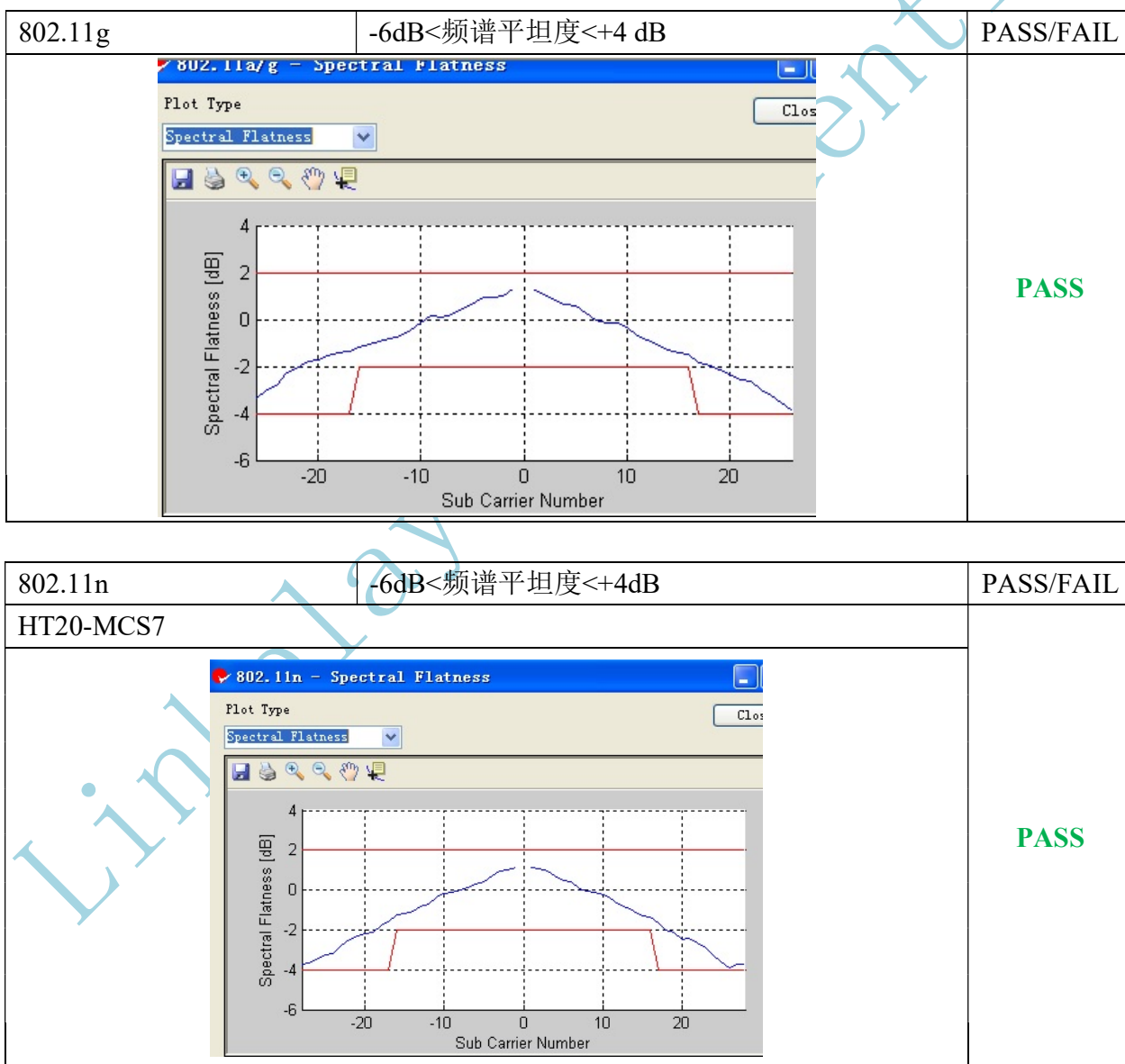
1.2 频谱和功率图

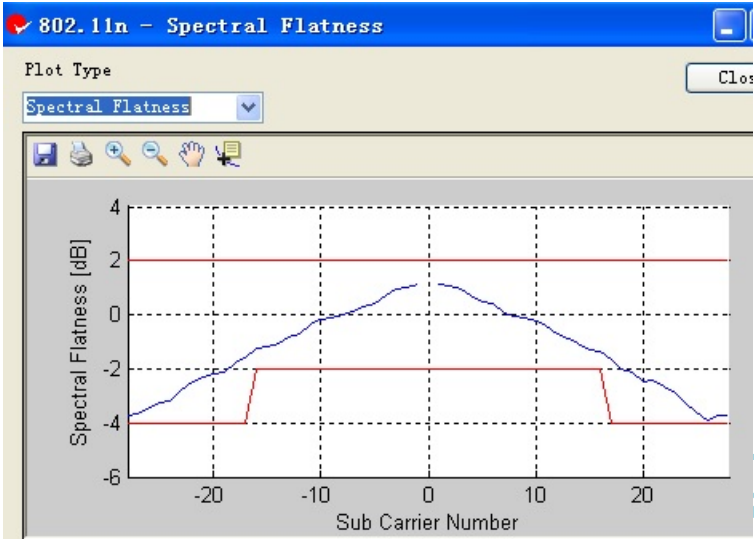
模式	频道	发射频谱 MASK<-20MHz, >+20MHz	测试结果
802.11b	CH1		PASS
	CH7		PASS
	CH13		PASS
模式	频道	发射频谱 MASK>-30MHz, <+30MHz	测试结果

802.11g	CH1		PASS
	CH7		PASS
	CH13		PASS
模式	频道	发射频谱 MASK>-30MHz, <+30MHz	测试结果
802.11n	CH1		PASS
	CH7		PASS



1.3 频谱平坦度图

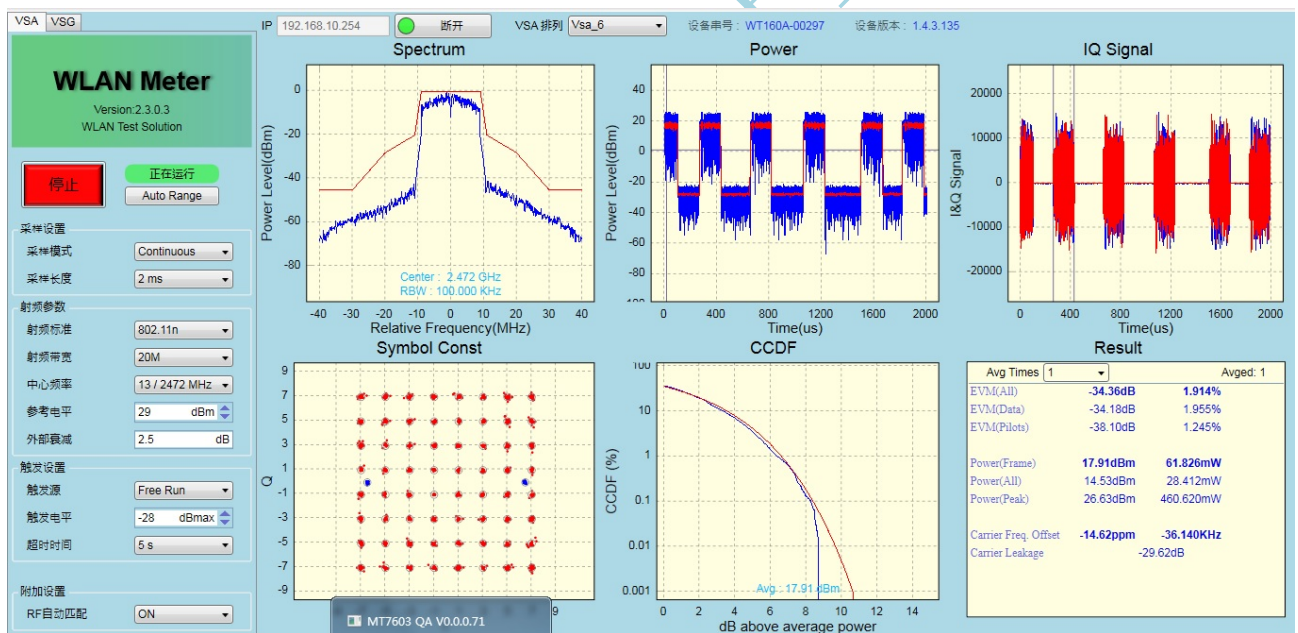
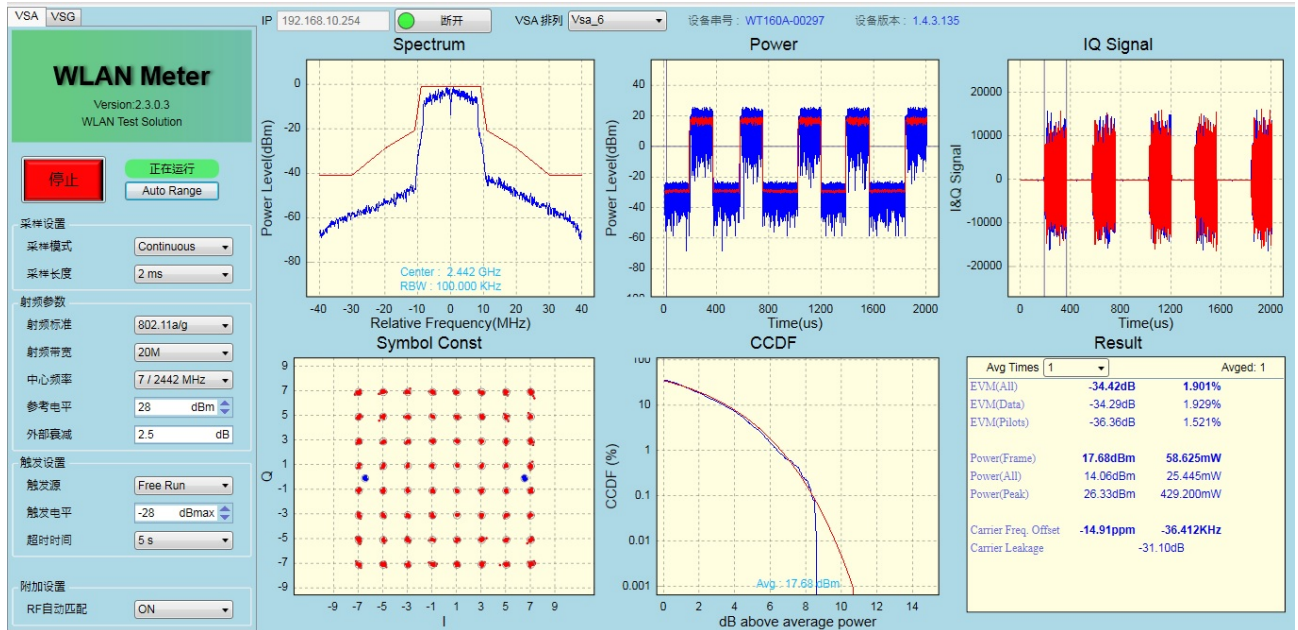


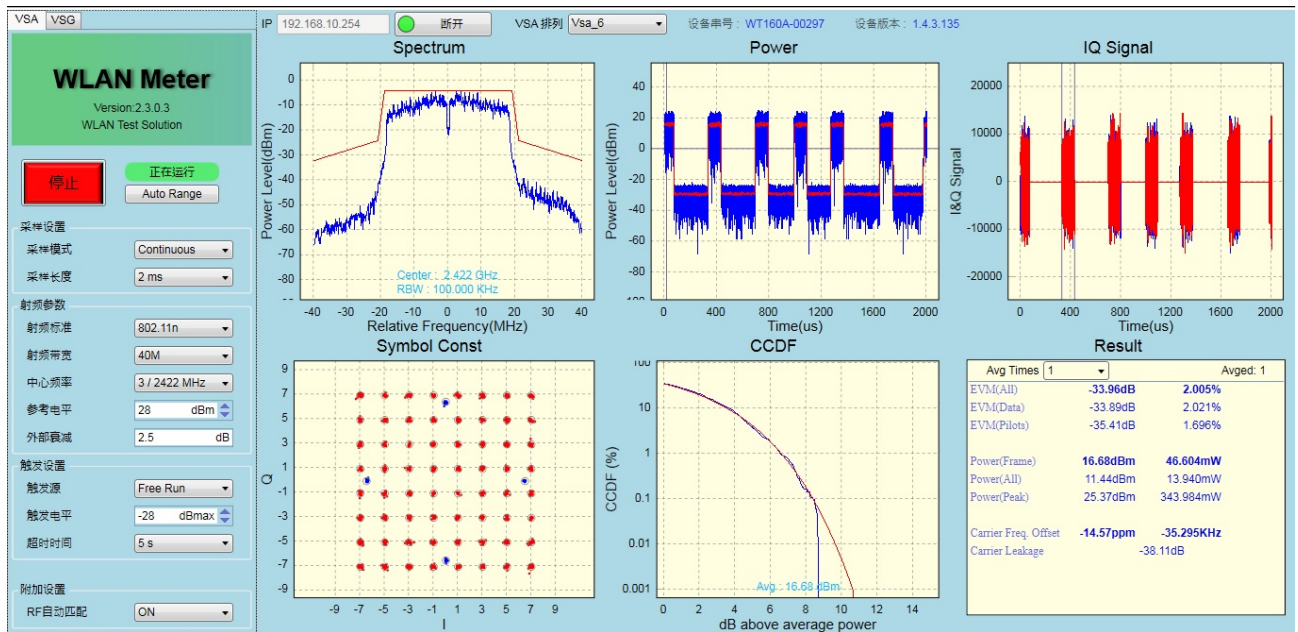
802.11n	-6dB<频谱平坦度<+4dB	PASS/FAIL
HT40-MCS7		

2 TX 指标测试

测试项目	测试标准		实测数据			测试结果	
			CH1	CH7	CH13	PASS/FAIL	
802.11b	POWER	19±1dBm	19.23	18.55	18.47	PASS	
	EVM	≤-25dB	-38.72	-38.65	-40.37	PASS	
	PPM	±15	-0.05	-0.13	-0.14	PASS	
	MASK	OK/NG	OK	OK	OK		
802.11g	POWER	16.5±1dBm	16.68	16.09	15.92	PASS	
	EVM	≤-30dB	-33.30	-33.63	-34.14	PASS	
	PPM	±15	1.42	0.21	-0.79	PASS	
	MASK	OK/NG	OK	OK	OK		
802.11n	HT20 MCS7	POWER	16.5±1dBm	16.44	15.95	15.85	PASS
		EVM	≤-30dB	-33.44	-33.30	-31.32	PASS
		PPM	±15	0.84	-0.07	0.53	PASS
		MASK	OK/NG	OK	OK	OK	
	HT40 MCS7	POWER	15.5±1dBm	CH3 15.67	CH7 14.95	CH11 14.81	PASS/FAIL PASS
		EVM	≤-30dB	-32.69	-32.21	-32.93	PASS
		PPM	±15	-0.12	1.24	-1.40	PASS
		MASK	OK/NG	OK	OK	OK	

2.1 附图:





3 RX 指标测试

测试项目	测试标准		实测数据			测试结果
			CH1	CH7	CH13	PASS/FAIL
802.11b (11Mbps)	RX≤-76dBm; FER≤8%		-85.5	-85.5	-85.5	PASS
802.11g (54Mbps)	RX≤-68dBm; FER≤10%		CH1	CH7	CH13	PASS
			-75.5	-75.5	-75.5	
802.11n	HT20 (65Mbps)	RX≤-65dBm; FER≤10%	CH1	CH7	CH13	PASS
			-72.5	-72.5	-72.5	
	HT40 (130Mbps)	RX≤-63dBm; FER≤10%	CH3	CH7	CH11	PASS/FAIL
			-68	-68	-68	PASS

3.1 附图

WLAN Meter
Version: 2.3.0.3
WLAN Test Solution

开启 **空闲**

VSG参数

射频标准: 802.11a/g
射频带宽: 20M
信号类型: 54 Mbps(OFDM)
中心频率: 7/2442 MHz
IFG: 50 us
重复次数: User Defined
功率: -75.0 dBm
外部衰减: 2.5 dB

TX/RX | EEPROM | MAC | BBP | RF Page | About

Cal: 1
0. 2.4G R-Cal Cal Normal Mode RF Type: MT7628 :: 2 T 2 R

Channel: 7 2442-MHz Mode: OFDM Rate: MCS=7, 54 Mbps System BW: 20 Per-Packet: 20 Primary Select: 0

TX

TX frame setting

FC	Dur	Address1(6)Dest	Address2(6)Source	Address3(6)BSSID	Seq
0800	0000	FFFFFFFFFFFF	000000000000	001122334455	0000

Payload: Payload(2): Repeat: Total: 1024

Repeat: 00 LoopBack: AIFS: 200 TX Power0: 0.5dB Freq: 7F

Start TX Transmitted: 663 Conti. Ch, Preamble, rate, TXPs: 21

TX Tone: Single DC +WF DC I: 10 DC Q: 10

RX

RX Error (Dropped)

MAC Mdrdy	RX OK	PER	RSSI_0	RSSI_1	Stop RX
1000	995	0.005000	-76	-110	reset counter

CCK PD: OFDM PD CCK SFD Err: 0 1312 0

CCK Sig Err: OFDM Tag Err: OFDM Sig Err: RCPI0,1: 0 0 5 69 0

Driver RX Count: PHY Mdrdy: FCS Err (PHY): Frequency Offset From: 995 CCK O/OFDM 1000 CCK O/OFDM 5 52

One RX Path: RX 0: -80 128 -95 128

SNR0: 34 SNR1: 28

TMR Setting: Initialite Responder Disable

WLAN Meter
Version: 2.3.0.3
WLAN Test Solution

开启 **空闲**

VSG参数

射频标准: 802.11n
射频带宽: 20M
信号类型: HT20-MCS7
中心频率: 13/2472 MHz
IFG: 50 us
重复次数: User Defined
功率: -71.0 dBm
外部衰减: 2.5 dB

附加设置

RF自动匹配: ON

MT7603 QA V0.0.0.71

TX/RX | EEPROM | MAC | BBP | RF Page | About

Cal: 1
0. 2.4G R-Cal Cal Normal Mode RF Type: MT7628 :: 2 T 2 R

Channel: 13 2472-MHz Mode: HT MixMode Rate: MCS=7, 65 Mbps System BW: 20 Per-Packet: 20 Primary Select: 0

TX

TX frame setting

FC	Dur	Address1(6)Dest	Address2(6)Source	Address3(6)BSSID	Seq
0800	0000	FFFFFFFFFFFF	000000000000	001122334455	0000

Payload: Payload(2): Repeat: Total: 1024

Repeat: 00 LoopBack: AIFS: 200 TX Power0: 0.5dB Freq: 7F

Start TX Transmitted: 663 Conti. Ch, Preamble, rate, TXPs: 21

TX Tone: Single DC +WF DC I: 10 DC Q: 10

RX

RX Error (Dropped)

MAC Mdrdy	RX OK	PER	RSSI_0	RSSI_1	Stop RX
999	993	0.006006	-73	-110	reset counter

CCK PD: OFDM PD CCK SFD Err: 2 1005 8

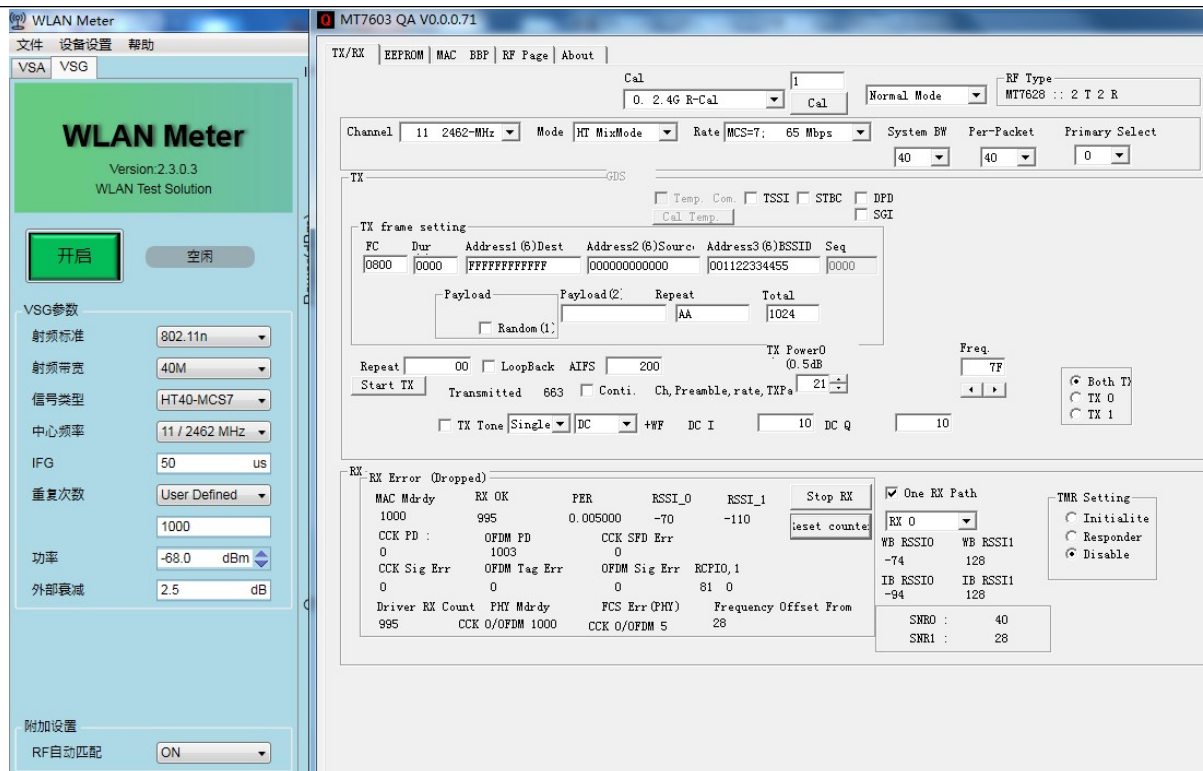
CCK Sig Err: OFDM Tag Err: OFDM Sig Err: RCPI0,1: 0 0 75 0

Driver RX Count: PHY Mdrdy: FCS Err (PHY): Frequency Offset From: 993 CCK O/OFDM 999 CCK O/OFDM 6 53

One RX Path: RX 0: -74 128 -96 128

SNR0: 41 SNR1: 28

TMR Setting: Initialite Responder Disable



4 Revision History

Revision	Date	Originator	Comments
0.1	2015-07-15	Cunxue Wang	Initial release