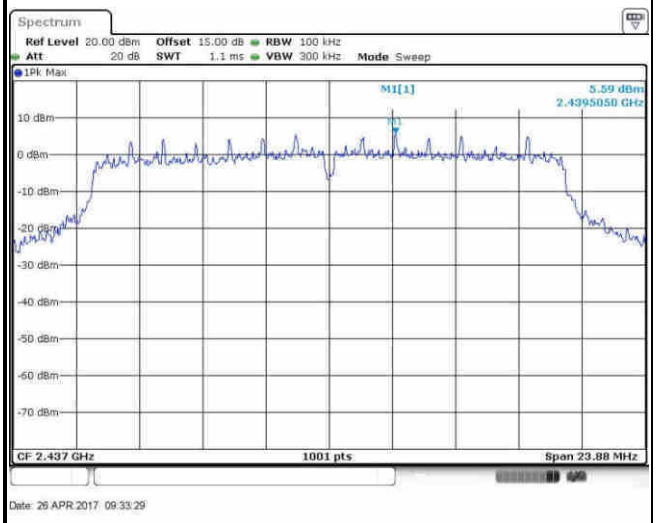
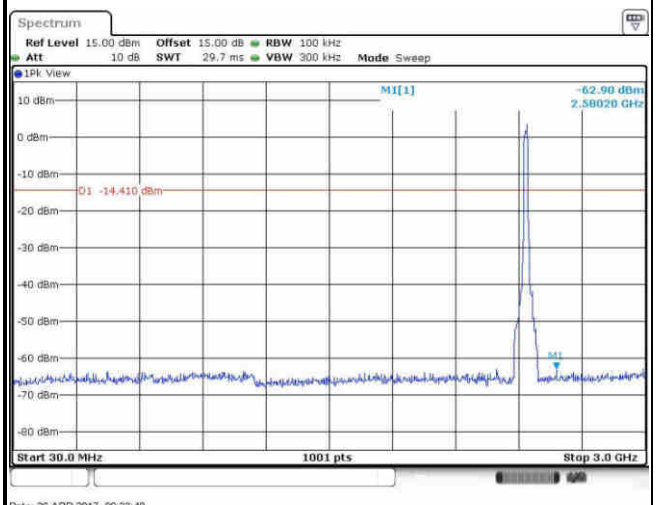
Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Sam Zheng

WLAN 802.11n HT20 Channel 06

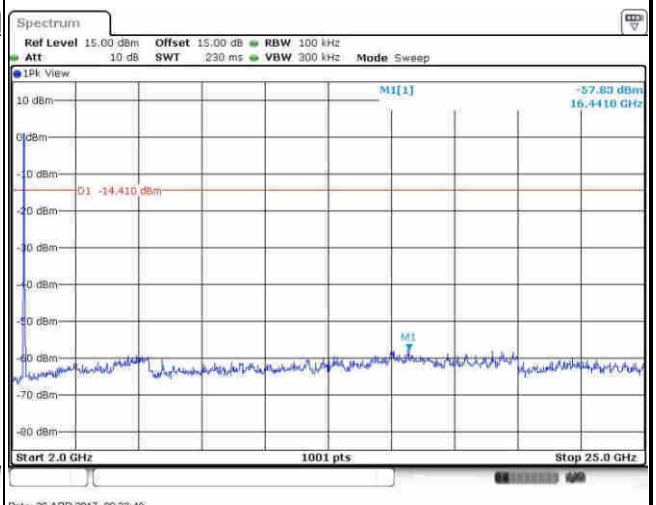
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



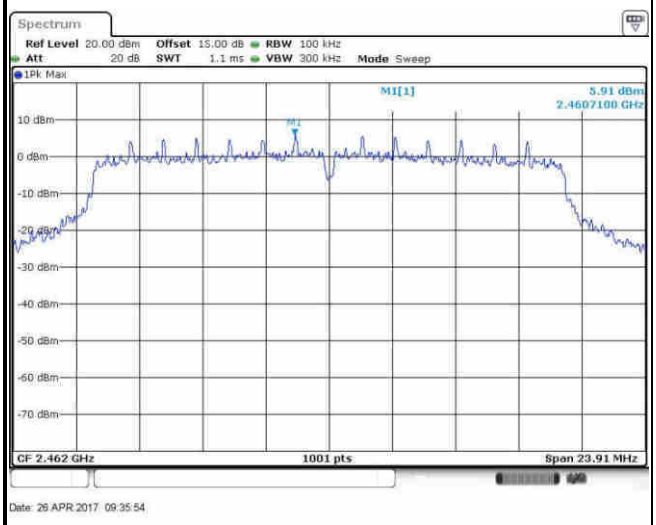
Spurious Emission 2GHz~25GHz



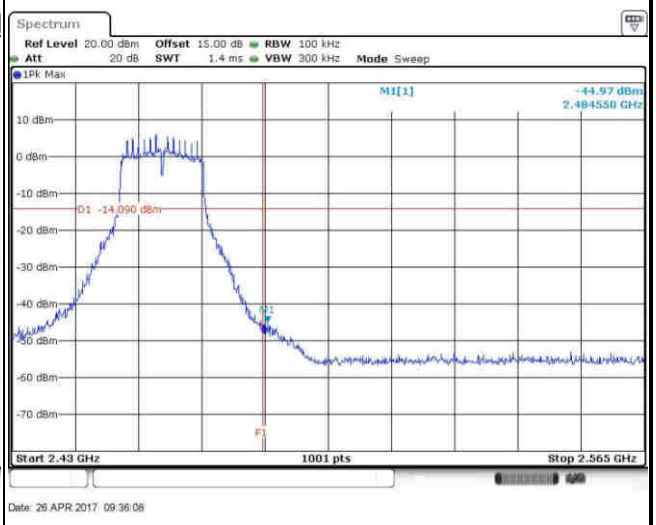
Number of TX :	2	**Ant. :**	1
Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Sam Zheng

WLAN 802.11n HT20 Channel 11

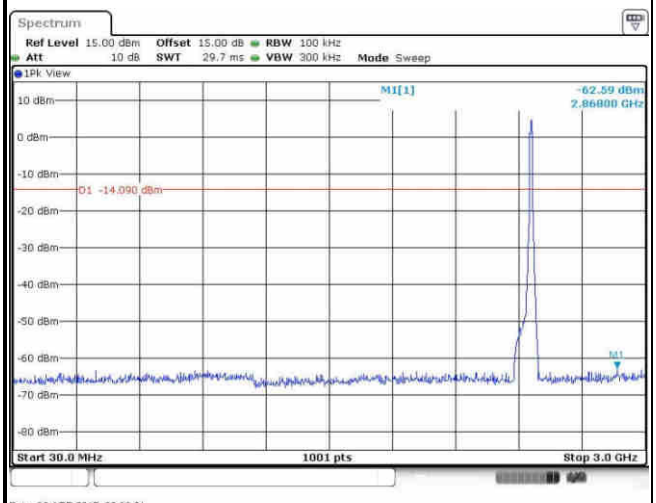
100kHz PSD reference Level



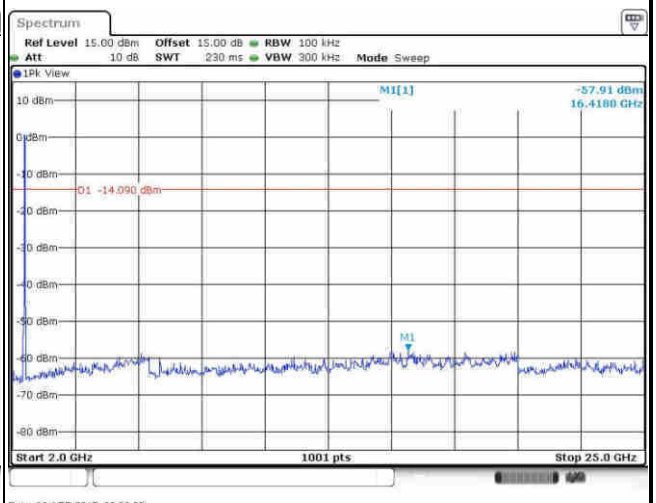
High Channel Plot



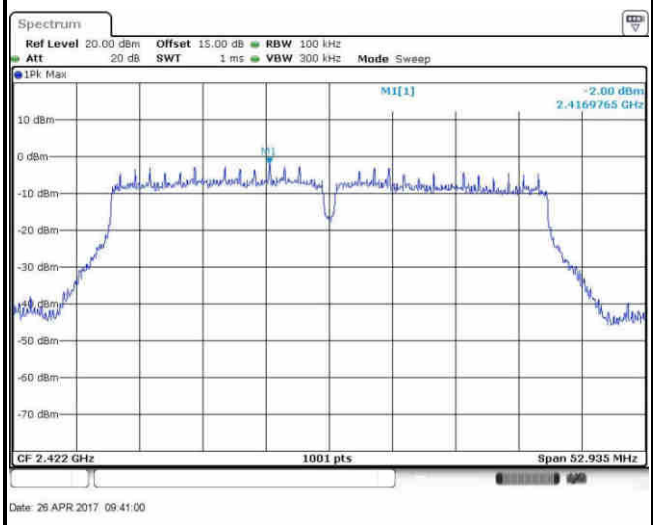
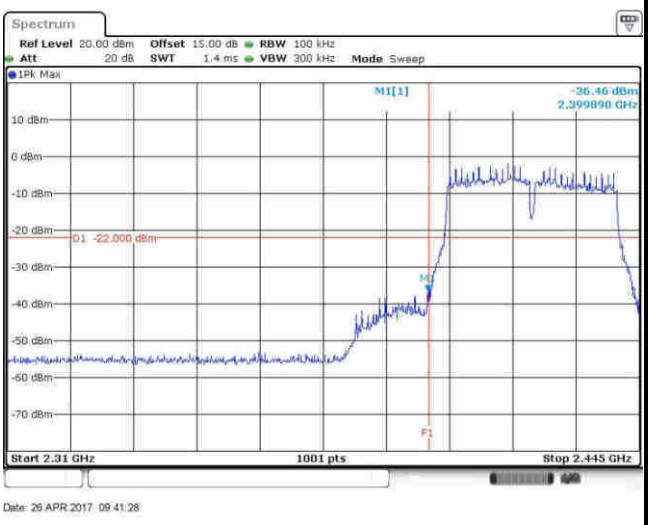
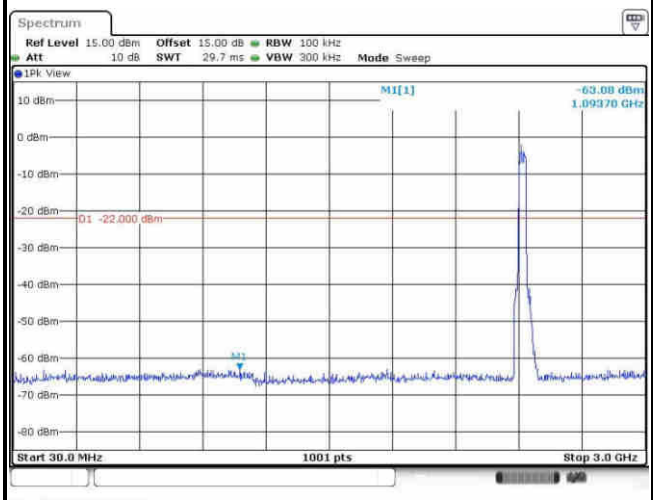
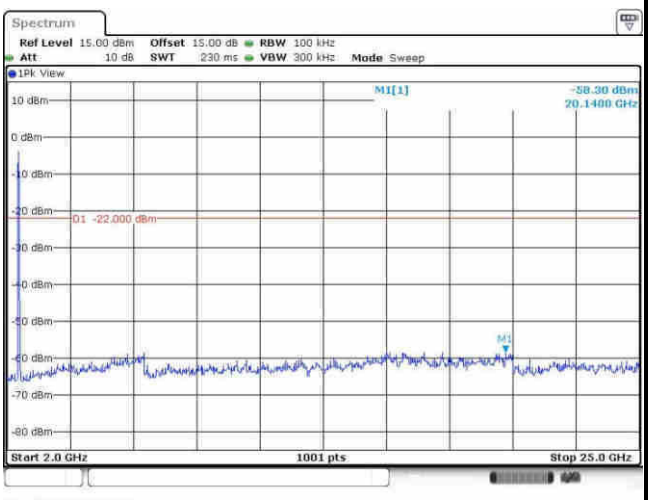
Spurious Emission 30MHz~3GHz



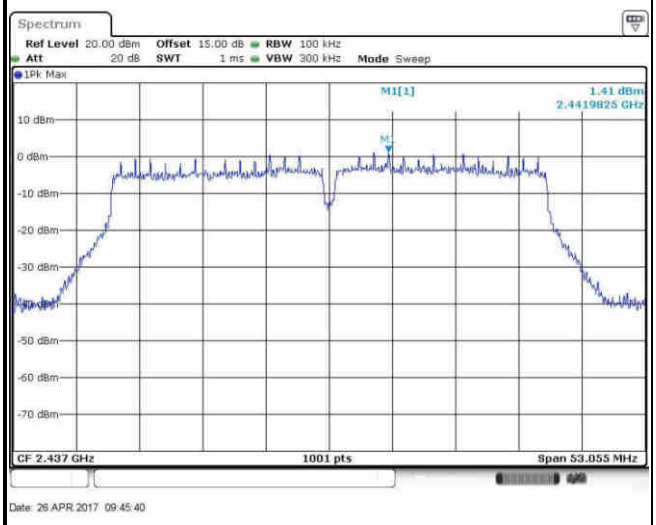
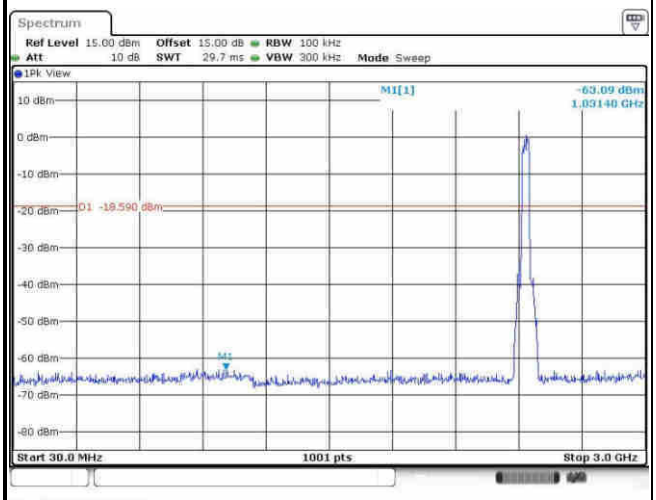
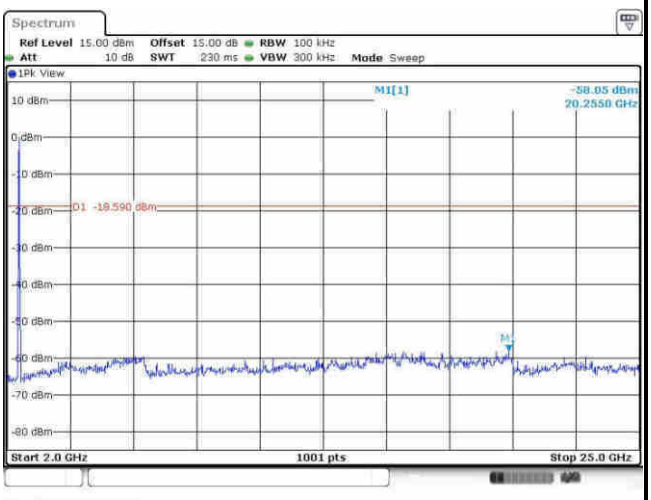
Spurious Emission 2GHz~25GHz



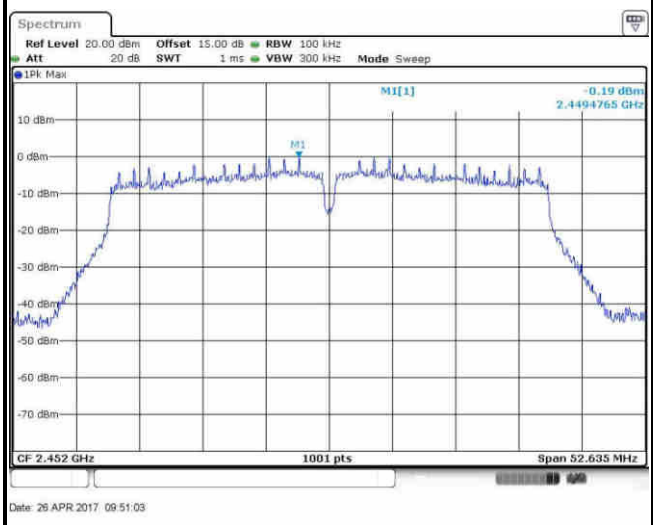
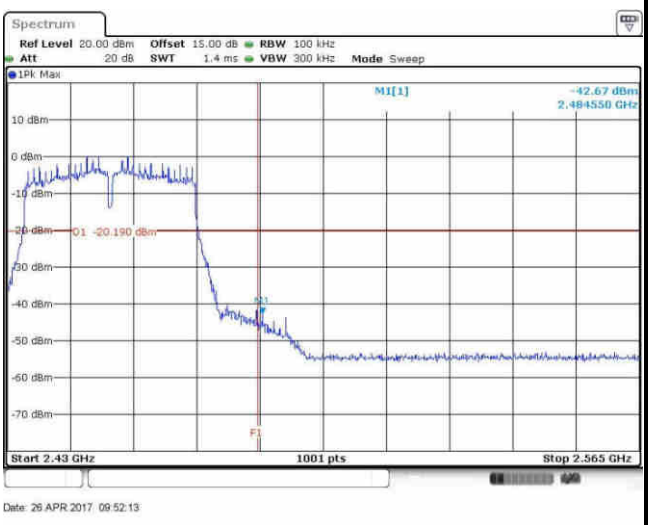
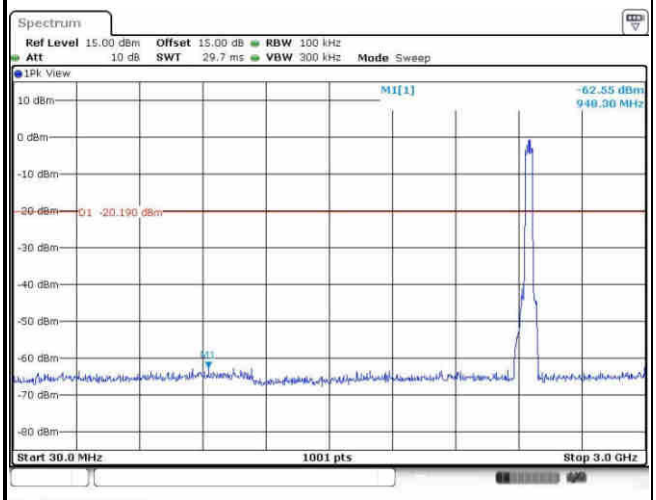
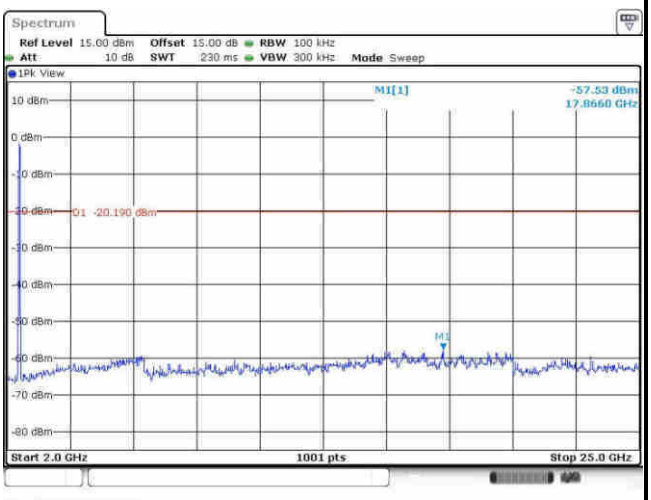
Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Band :	2.4GHz Low	Relative Humidity :	50~53%
Test Channel :	03	Test Engineer :	Sam Zheng

WLAN 802.11n HT40 Channel 03	
100kHz PSD reference Level	Low Channel Plot
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Sam Zheng

WLAN 802.11n HT40 Channel 06	
100kHz PSD reference Level	
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Band :	2.4GHz High	Relative Humidity :	50~53%
Test Channel :	09	Test Engineer :	Sam Zheng

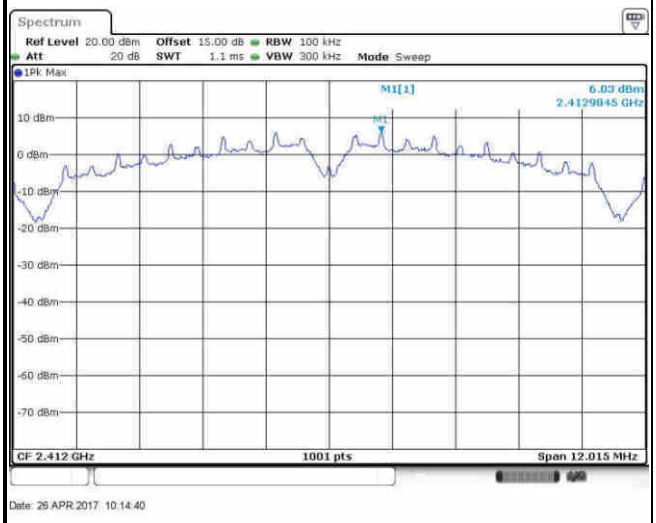
WLAN 802.11n HT40 Channel 09	
100kHz PSD reference Level	High Channel Plot
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

Number of TX = 2, Ant. 2 (Measured)

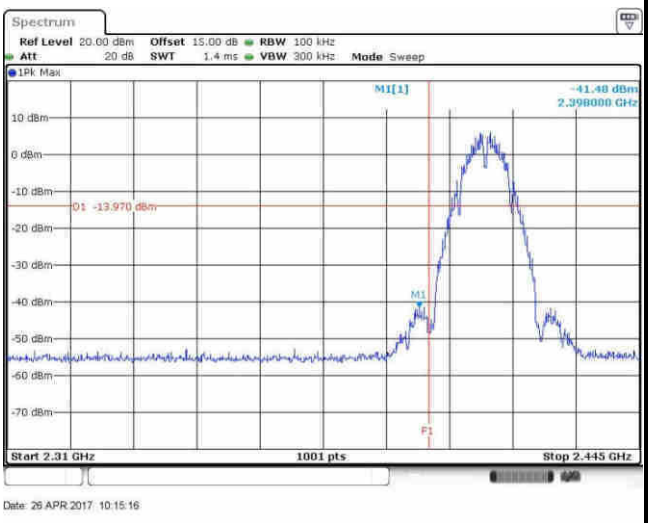
Number of TX :	2	**Ant. :**	2
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Sam Zheng

WLAN 802.11b Channel 01

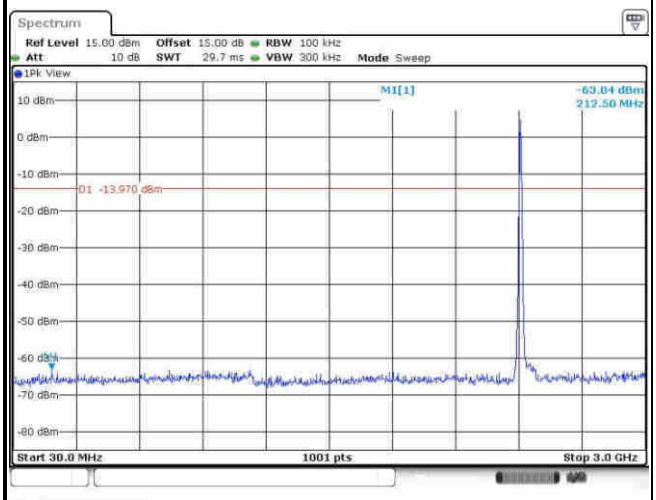
100kHz PSD reference Level



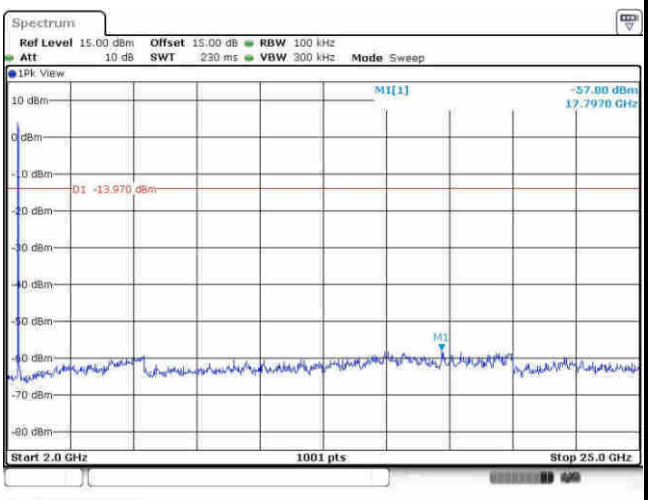
Low Channel Plot



Spurious Emission 30MHz~3GHz



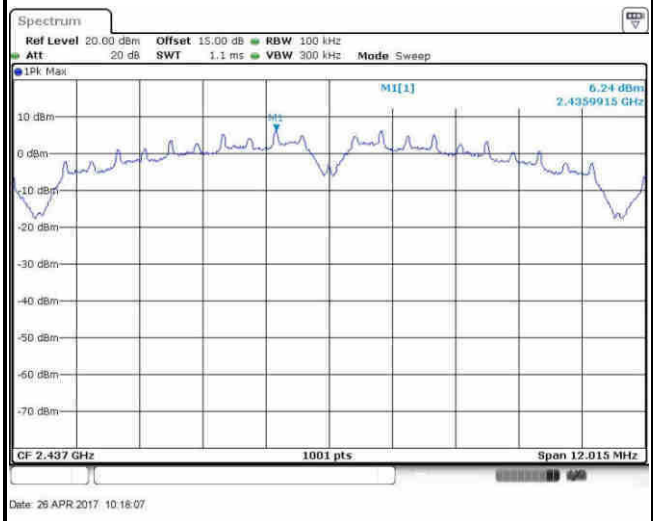
Spurious Emission 2GHz~25GHz



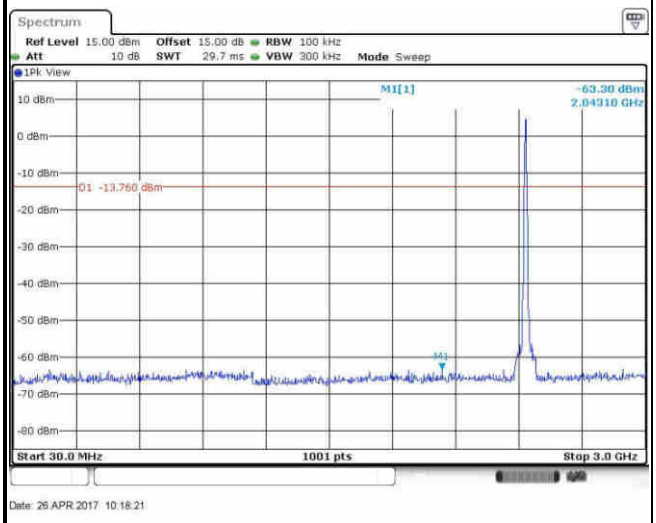
Number of TX :	2	**Ant. :**	2
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Sam Zheng

WLAN 802.11b Channel 06

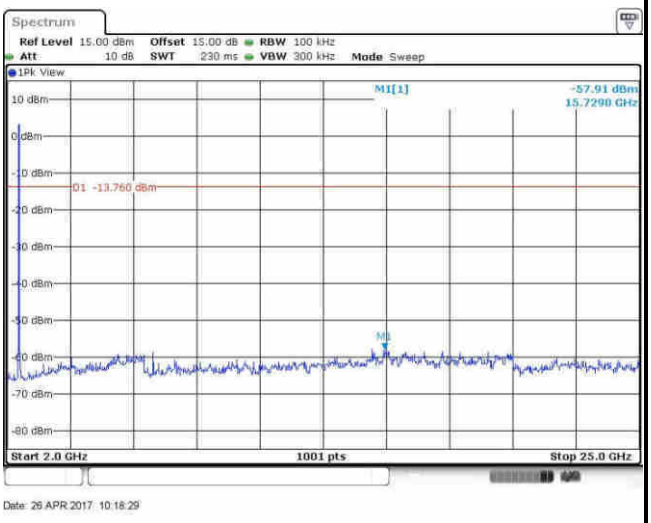
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



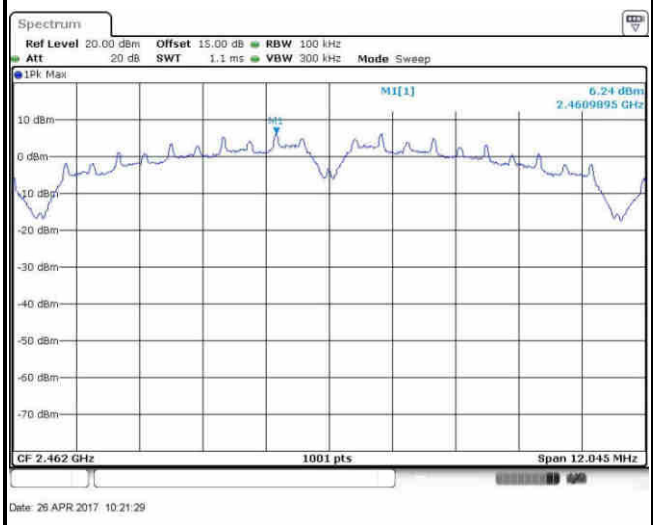
Spurious Emission 2GHz~25GHz



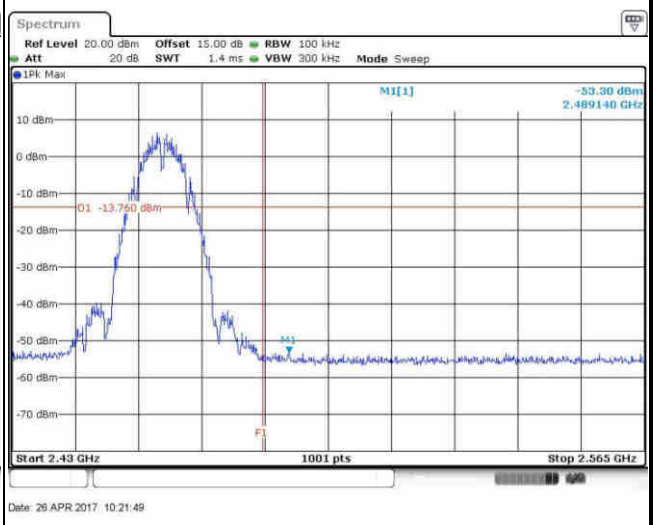
Number of TX :	2	**Ant. :**	2
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Sam Zheng

WLAN 802.11b Channel 11

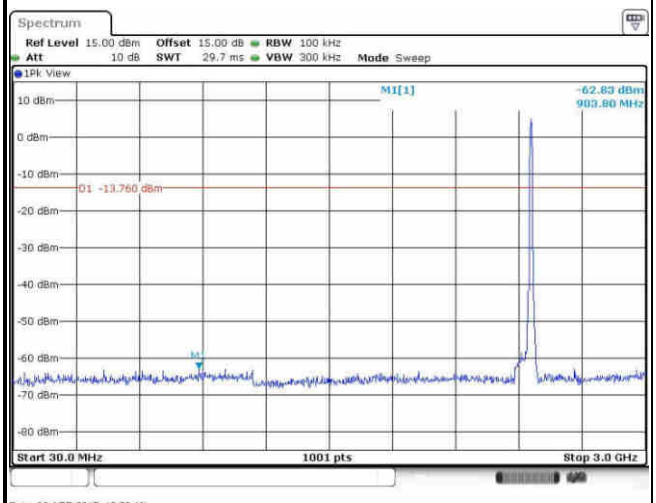
100kHz PSD reference Level



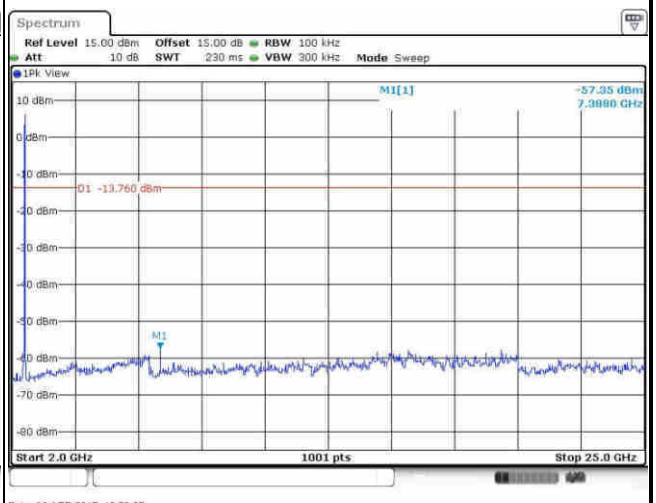
High Channel Plot



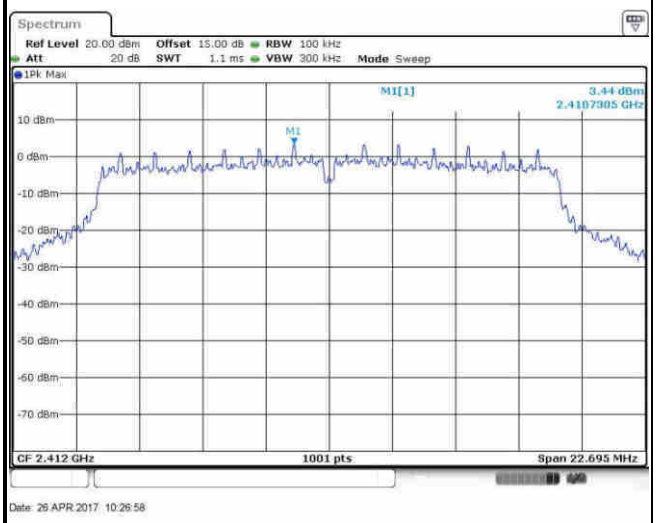
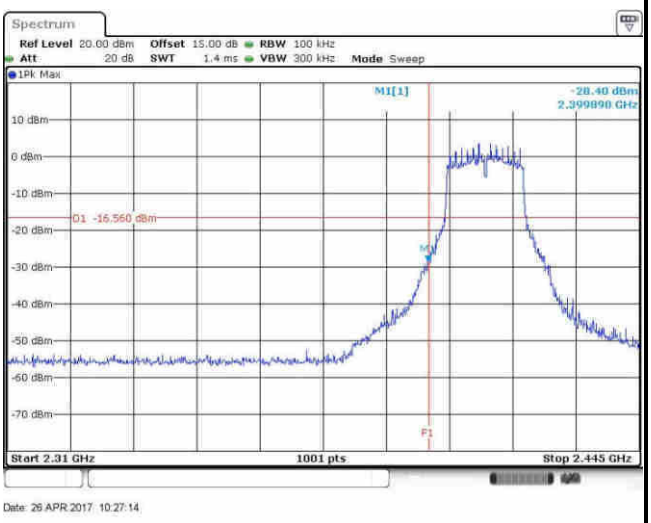
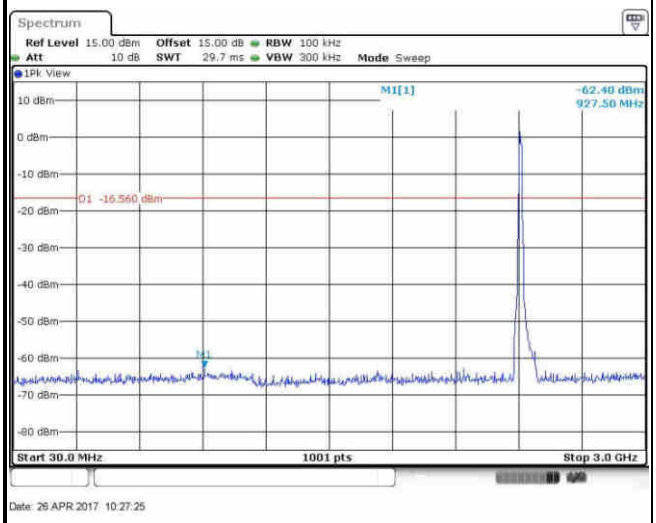
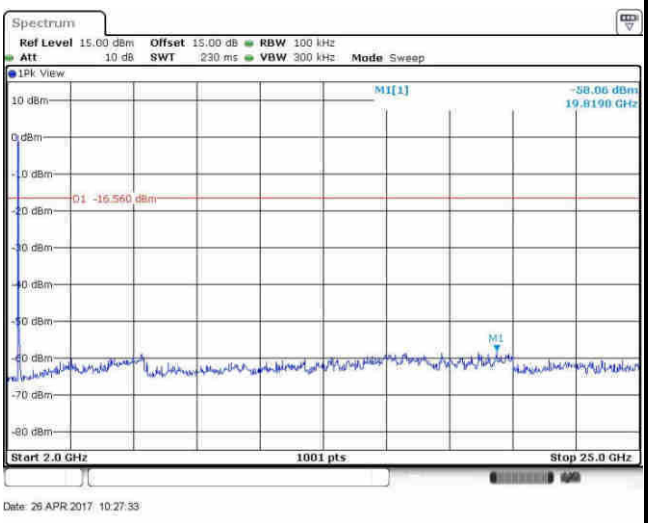
Spurious Emission 30MHz~3GHz



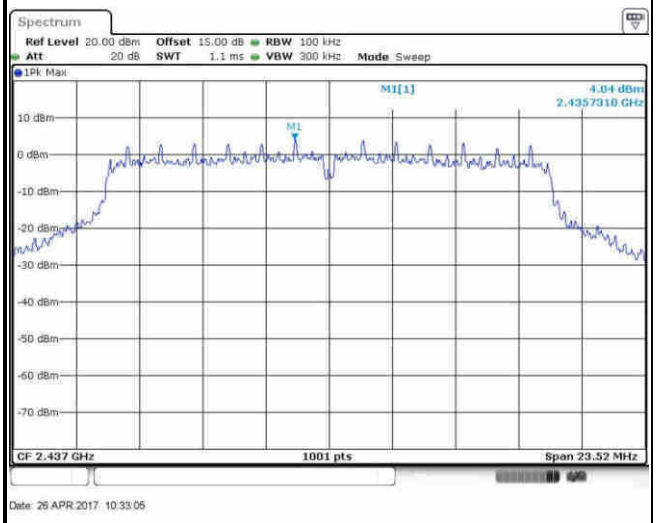
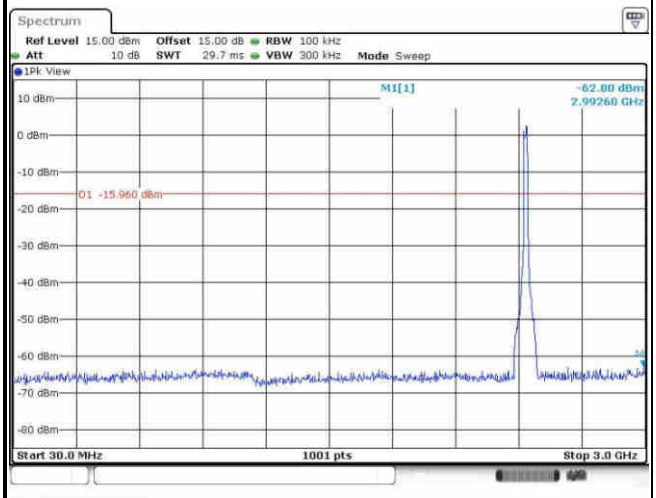
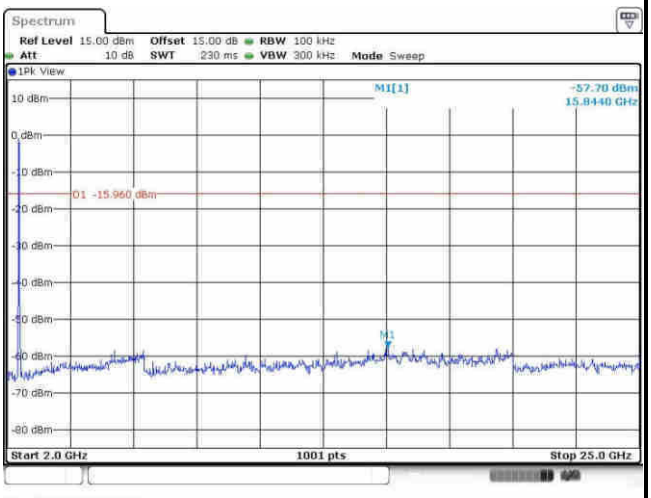
Spurious Emission 2GHz~25GHz



Number of TX :	2	Ant. :	2
Test Mode :	802.11g	Temperature :	24~26℃
Test Band :	2.4GHz Low	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Sam Zheng

WLAN 802.11g Channel 01	
100kHz PSD reference Level	Low Channel Plot
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

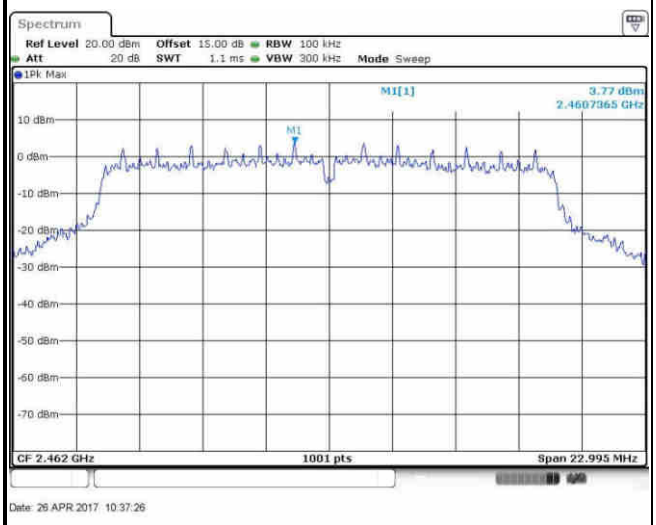
Number of TX :	2	Ant. :	2
Test Mode :	802.11g	Temperature :	24~26℃
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Sam Zheng

WLAN 802.11g Channel 06	
100kHz PSD reference Level	
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

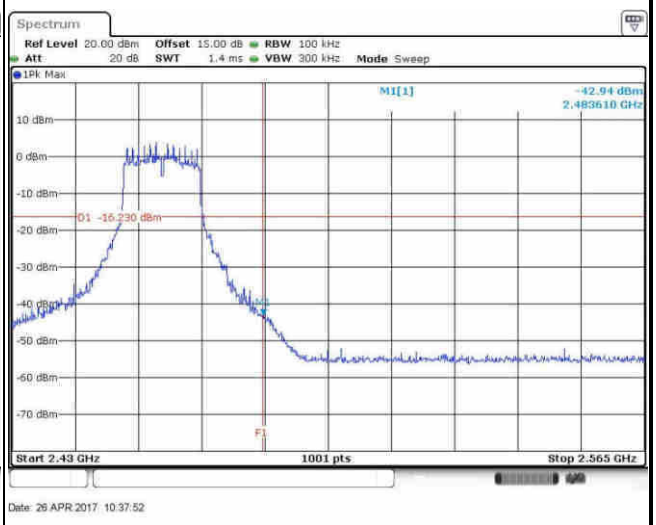
Number of TX :	2	**Ant. :**	2
Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Sam Zheng

WLAN 802.11g Channel 11

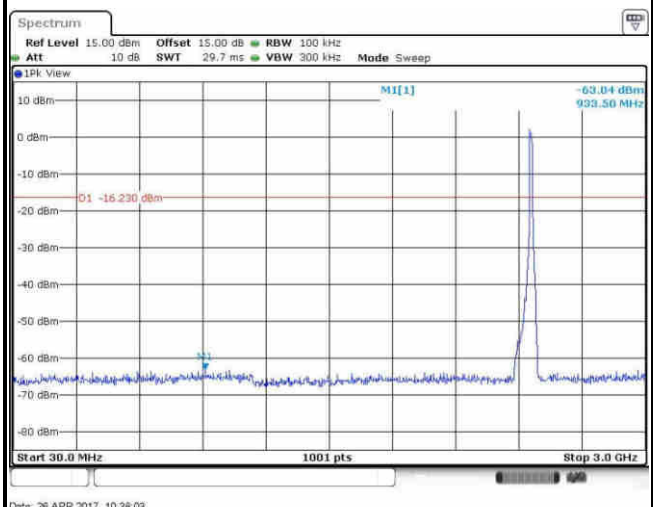
100kHz PSD reference Level



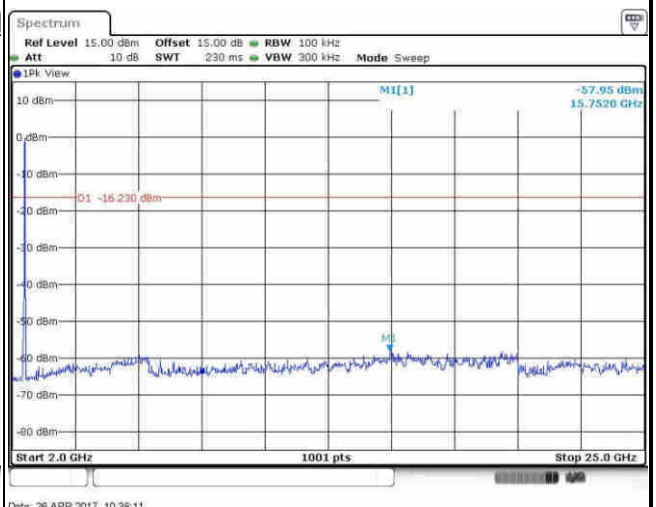
High Channel Plot



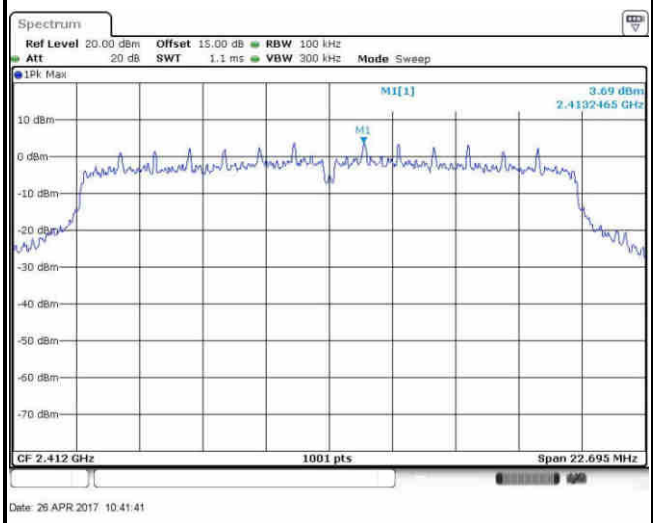
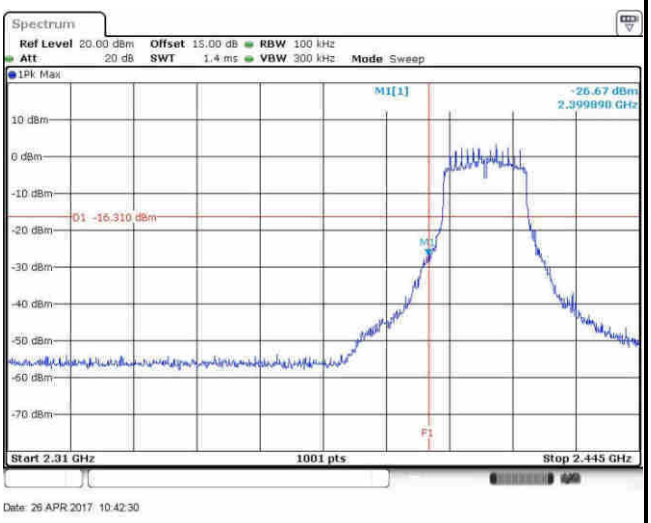
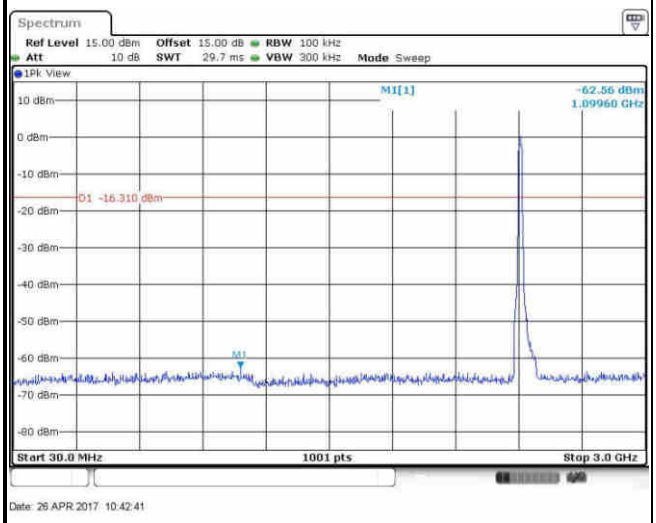
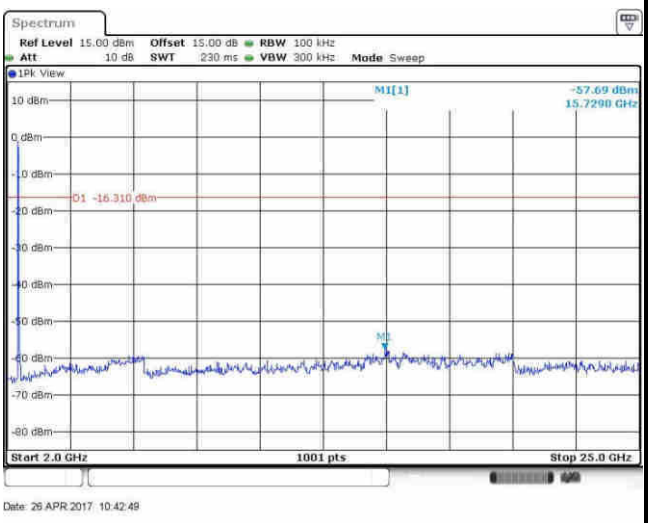
Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz



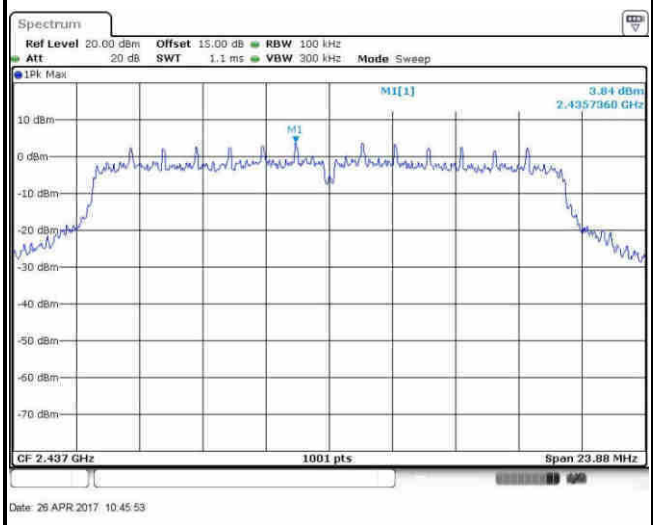
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Band :	2.4GHz Low	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Sam Zheng

WLAN 802.11n HT20 Channel 01	
100kHz PSD reference Level	Low Channel Plot
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

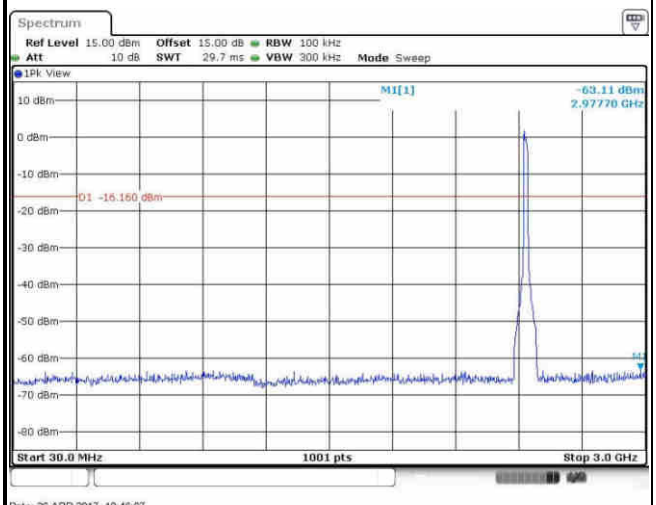
Number of TX :	2	**Ant. :**	2
Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Sam Zheng

WLAN 802.11n HT20 Channel 06

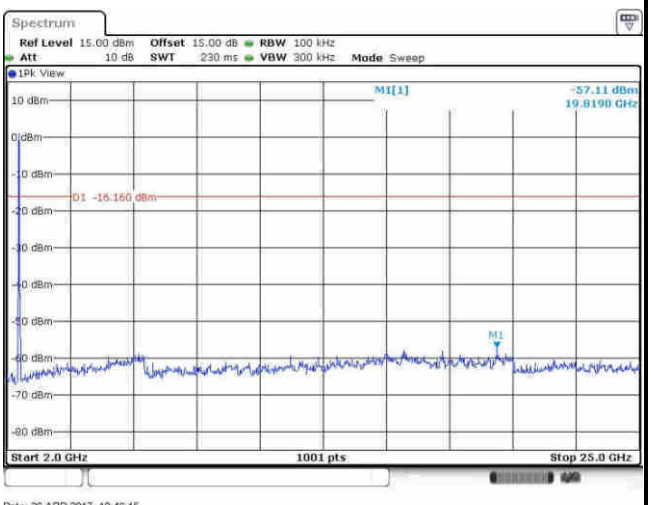
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



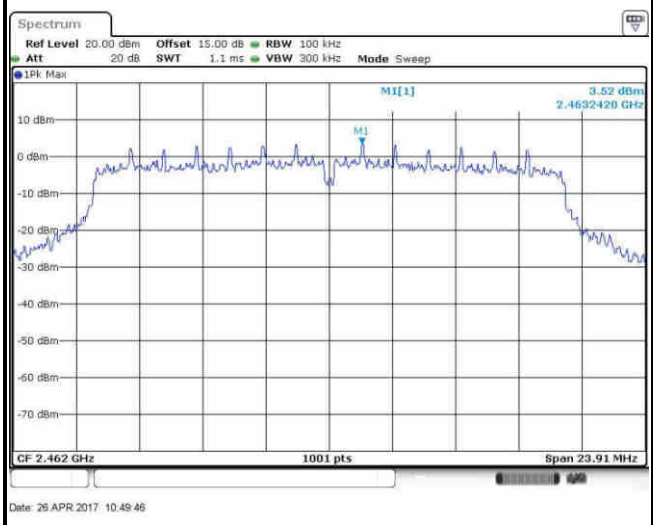
Spurious Emission 2GHz~25GHz



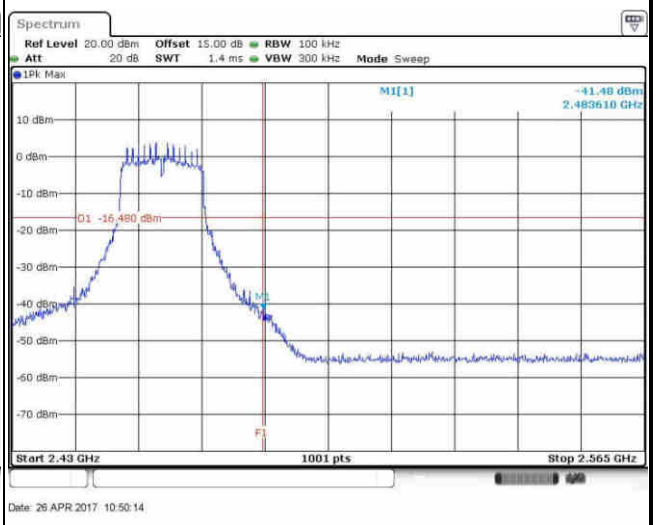
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Band :	2.4GHz High	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Sam Zheng

WLAN 802.11n HT20 Channel 11

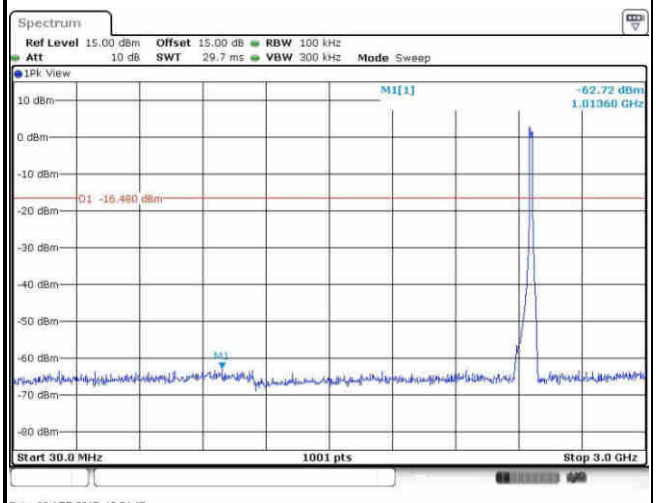
100kHz PSD reference Level



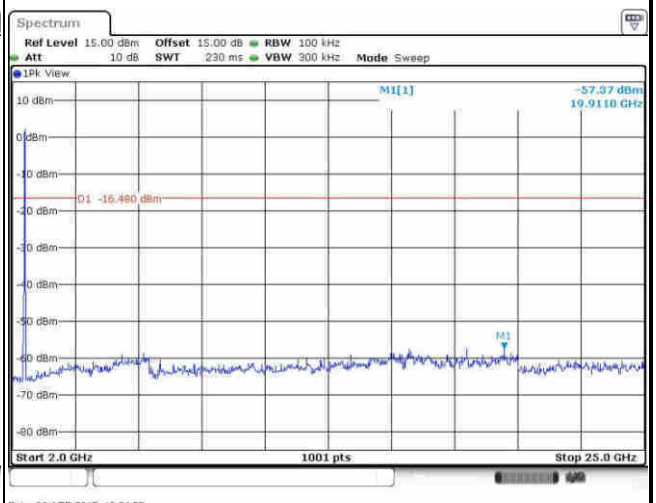
High Channel Plot



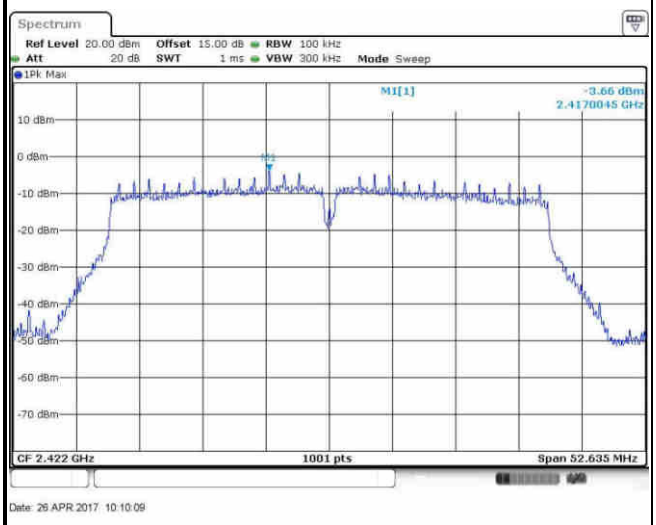
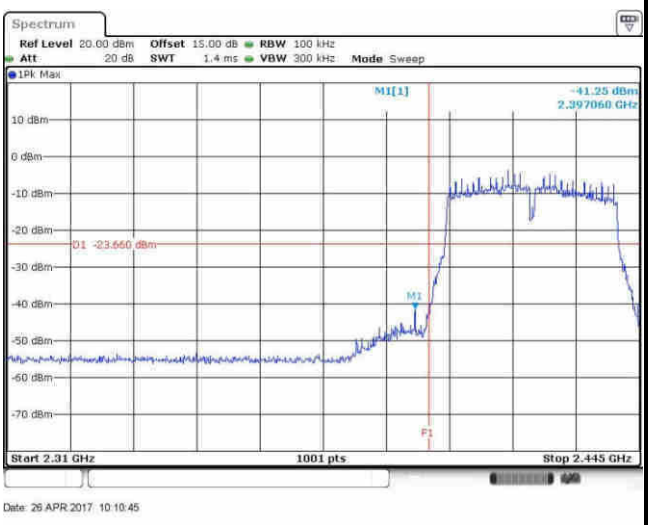
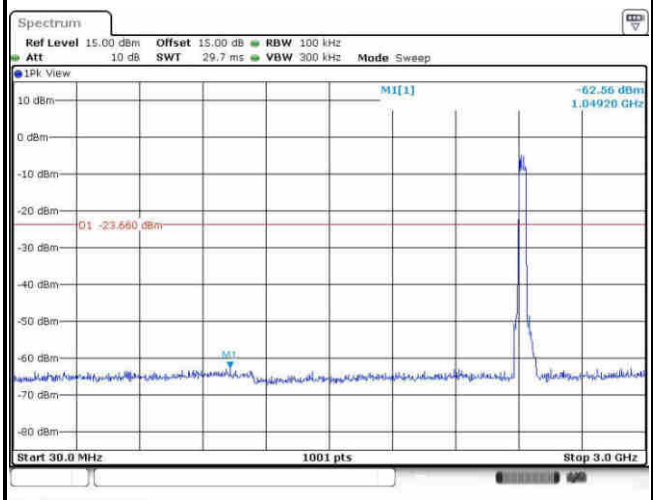
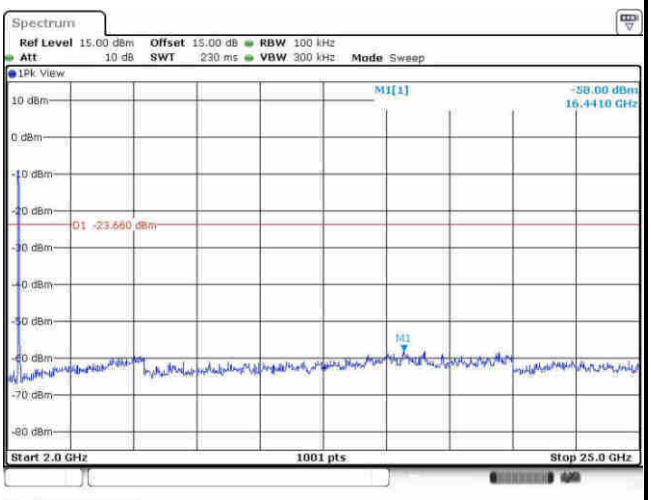
Spurious Emission 30MHz~3GHz



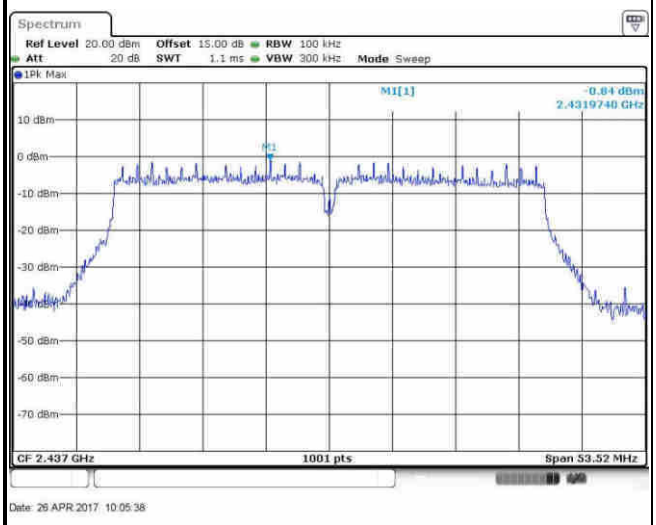
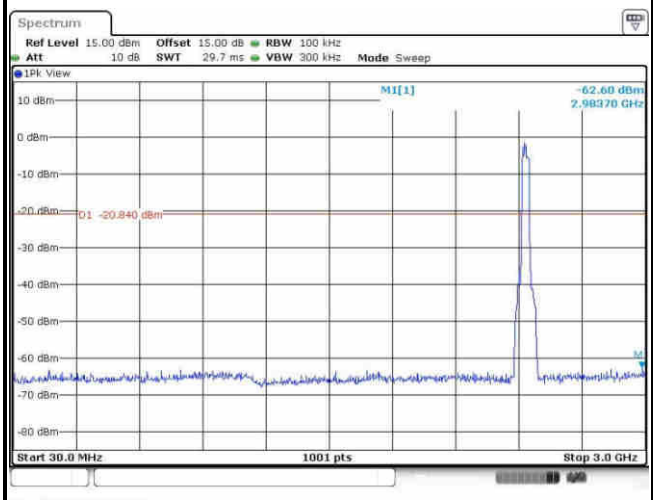
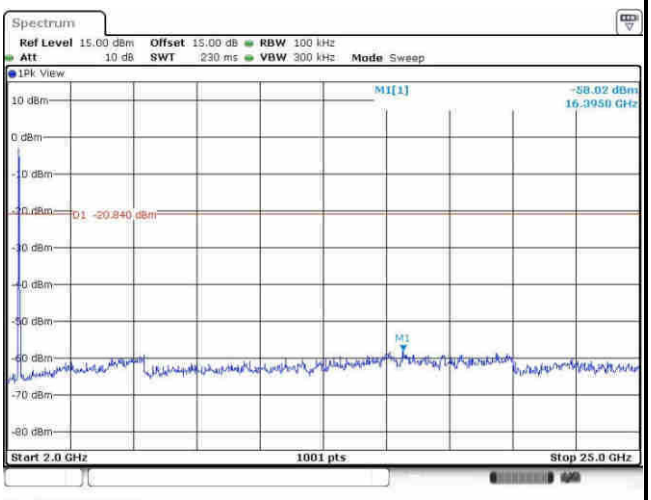
Spurious Emission 2GHz~25GHz



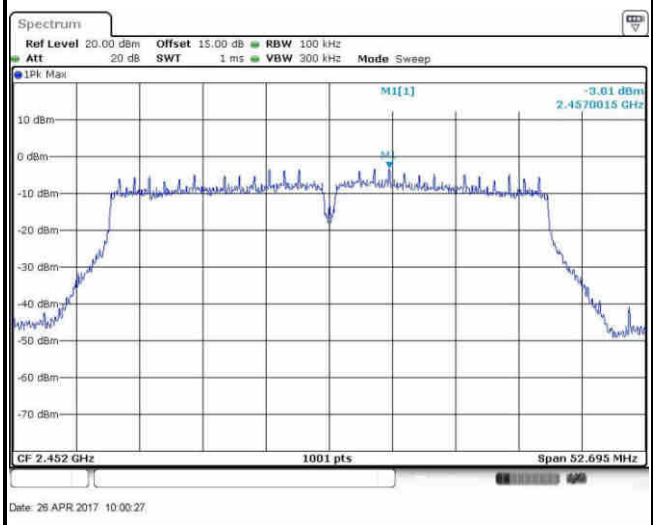
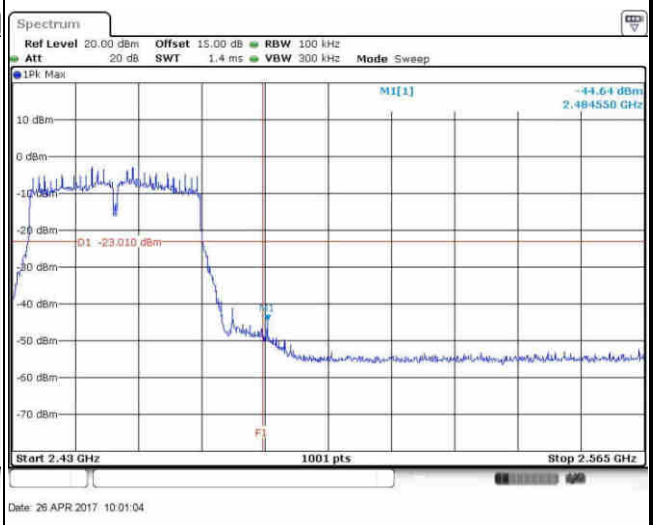
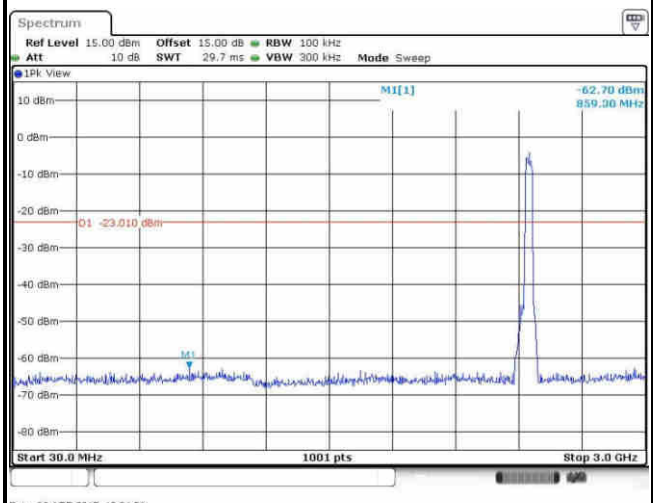
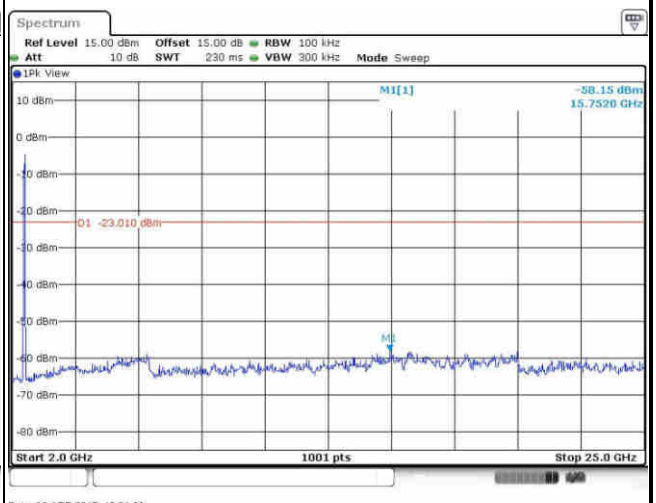
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Band :	2.4GHz Low	Relative Humidity :	50~53%
Test Channel :	03	Test Engineer :	Sam Zheng

WLAN 802.11n HT40 Channel 03	
100kHz PSD reference Level	Low Channel Plot
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Sam Zheng

WLAN 802.11n HT40 Channel 06	
100kHz PSD reference Level	
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Band :	2.4GHz High	Relative Humidity :	50~53%
Test Channel :	09	Test Engineer :	Sam Zheng

WLAN 802.11n HT40 Channel 09	
100kHz PSD reference Level	High Channel Plot
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.5.2 Measuring Instruments

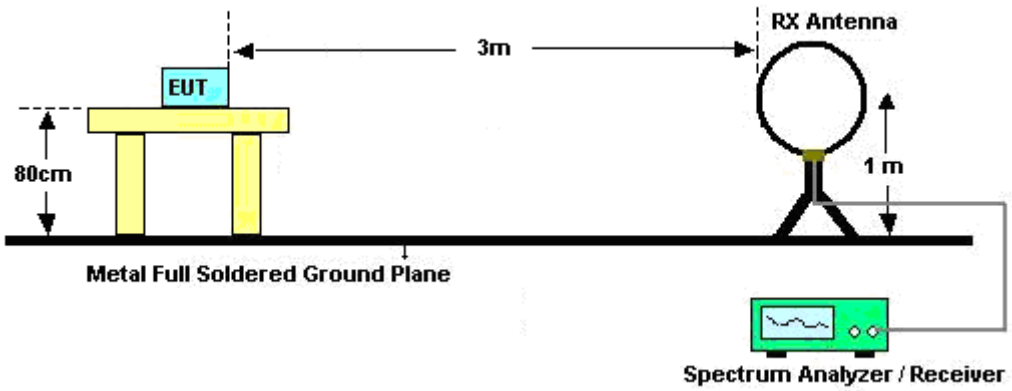
The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

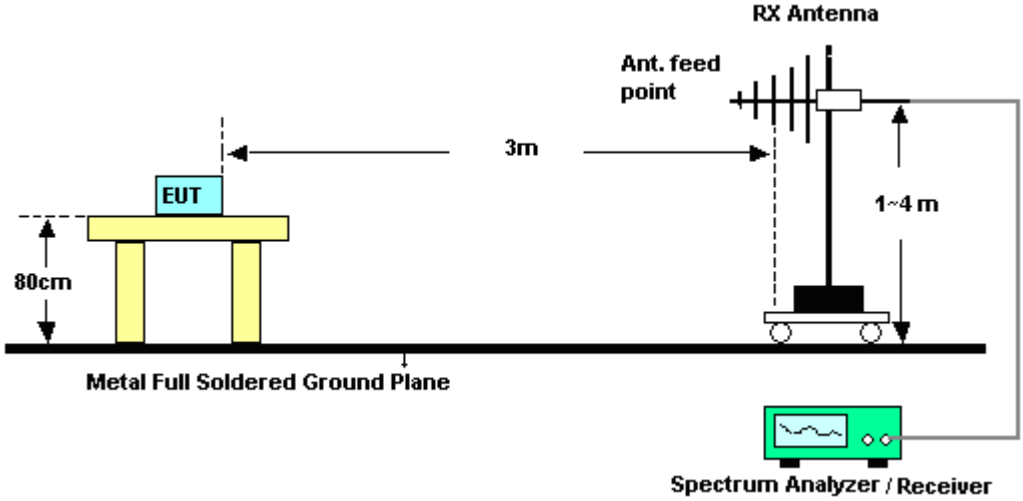
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

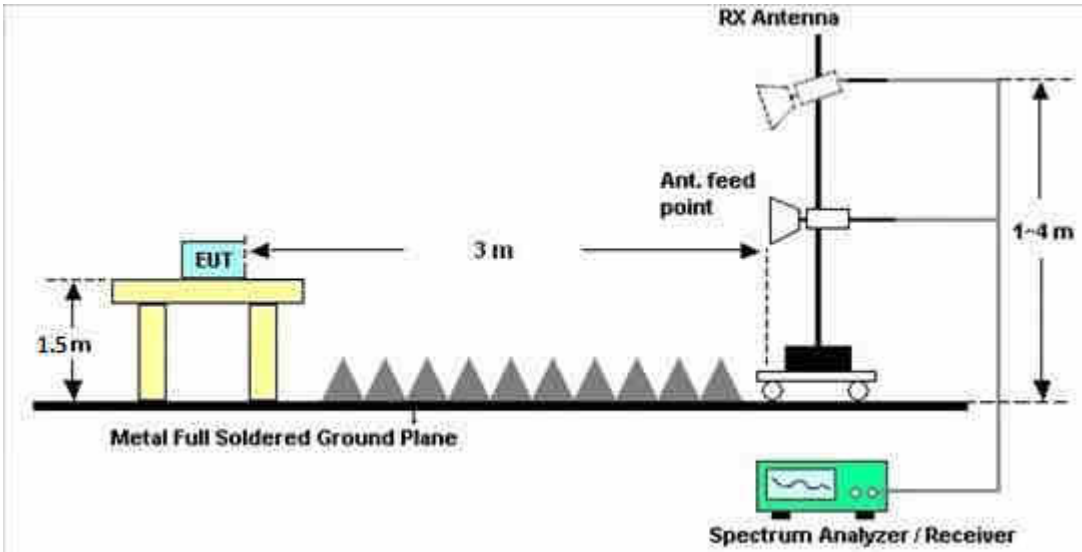
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated Spurious Emissions (9kHz ~ 30MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B.

3.5.7 Duty Cycle

Please refer to Appendix C.

3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix B.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

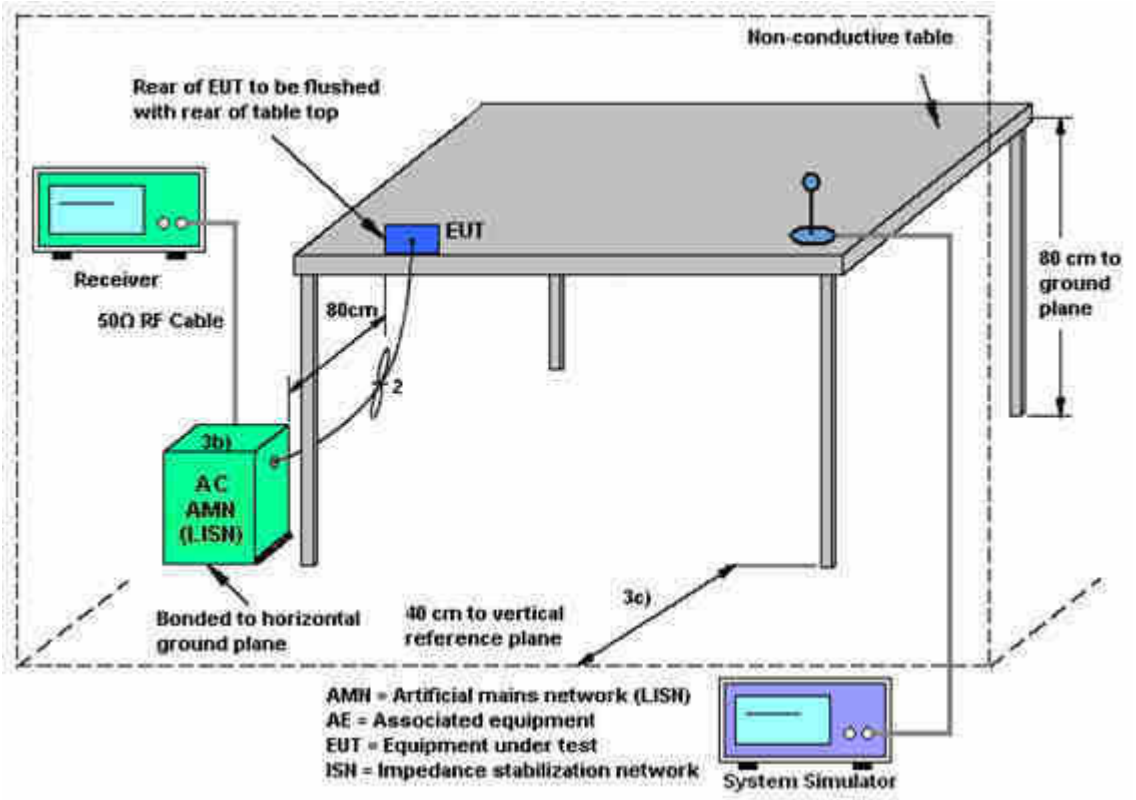
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

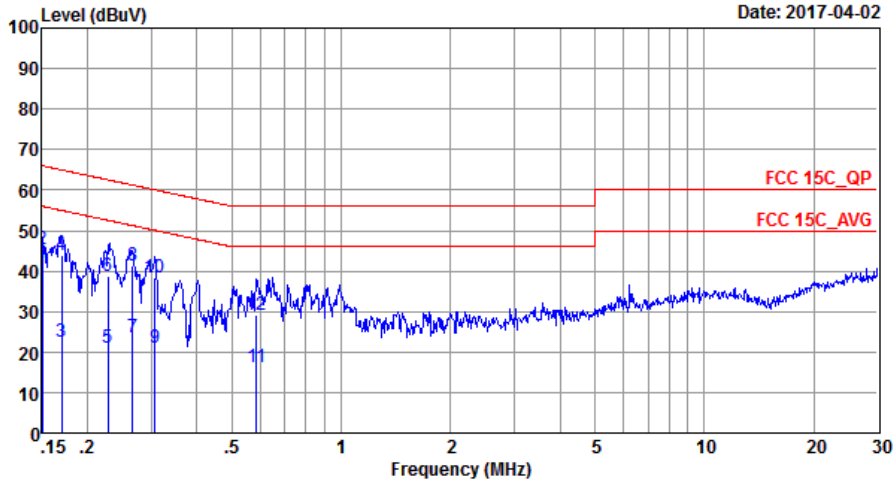
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF bandwidth = 9kHz) with Maximum Hold Mode.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	**Temperature :**	21~23℃
Test Engineer :	Tao Cheng	**Relative Humidity :**	41~42%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	GSM1900 Idle + Bluetooth Link + WLAN Link + USB Cable (Charging from Adapter) + Earphone + SIM 2		

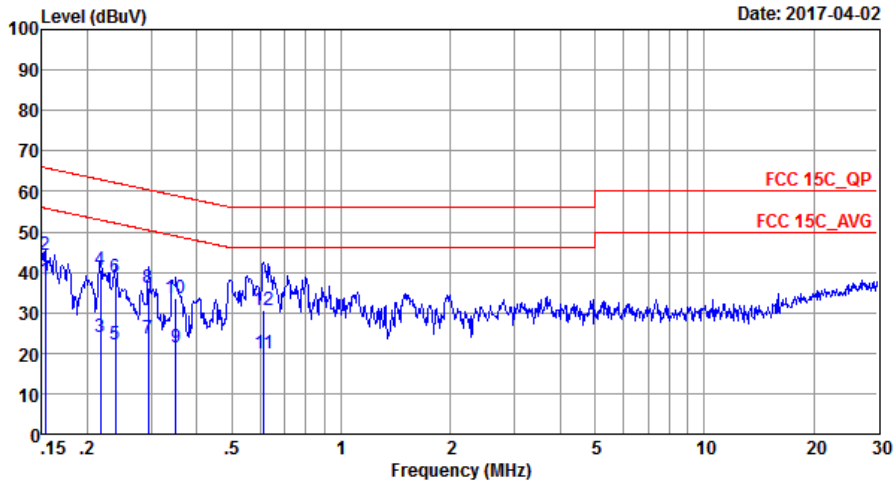


Site : CO01-SZ
Condition: FCC 15C_QP LISN_20170301_L LINE

IMEI : 001001227890453/001001227890453

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	*	0.15	42.04	-13.96	56.00	31.60	0.03	10.41	Average
2		0.15	45.54	-20.46	66.00	35.10	0.03	10.41	QP
3		0.17	22.36	-32.58	54.94	12.00	0.03	10.33	Average
4		0.17	43.96	-20.98	64.94	33.60	0.03	10.33	QP
5		0.23	21.15	-31.37	52.52	10.90	0.03	10.22	Average
6		0.23	38.85	-23.67	62.52	28.60	0.03	10.22	QP
7		0.27	23.45	-27.80	51.25	13.20	0.03	10.22	Average
8		0.27	41.25	-20.00	61.25	31.00	0.03	10.22	QP
9		0.31	21.15	-28.91	50.06	10.90	0.03	10.22	Average
10		0.31	38.35	-21.71	60.06	28.10	0.03	10.22	QP
11		0.59	16.19	-29.81	46.00	6.00	0.02	10.17	Average
12		0.59	29.19	-26.81	56.00	19.00	0.02	10.17	QP

Test Mode :	Mode 1	Temperature :	21~23℃
Test Engineer :	Tao Cheng	Relative Humidity :	41~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM1900 Idle + Bluetooth Link + WLAN Link + USB Cable (Charging from Adapter) + Earphone + SIM 2		



Site : CO01-SZ
Condition: FCC 15C_QP LISN_20170301_N NEUTRAL

IMEI : 001001227890453/001001227890453

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	*	0.15	38.03	-17.79	55.82	27.60	0.03	10.40	Average
2		0.15	44.43	-21.39	65.82	34.00	0.03	10.40	QP
3		0.22	24.05	-28.87	52.92	13.80	0.03	10.22	Average
4		0.22	40.45	-22.47	62.92	30.20	0.03	10.22	QP
5		0.24	22.25	-29.88	52.13	12.00	0.03	10.22	Average
6		0.24	38.75	-23.38	62.13	28.50	0.03	10.22	QP
7		0.29	23.45	-26.96	50.41	13.20	0.03	10.22	Average
8		0.29	36.25	-24.16	60.41	26.00	0.03	10.22	QP
9		0.35	21.33	-27.63	48.96	11.11	0.02	10.20	Average
10		0.35	33.43	-25.53	58.96	23.21	0.02	10.20	QP
11		0.61	20.09	-25.91	46.00	9.90	0.02	10.17	Average
12		0.61	30.59	-25.41	56.00	20.40	0.02	10.17	QP

3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = 10 log(N_{ANT}/N_{SS}=1) dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

Directional gain may be calculated by using the formulas applicable to equal gain antennas with GANT set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain G_{ANT} is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain “DG” is calculated as following table.

	Ant. 1 (dBi)	Ant. 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
2.4 GHz	-2.80	-3.00	-2.80	0.11	0.00	0.00

Power Limit Reduction = DG(Power) – 6dBi, (min = 0)

PSD Limit Reduction = DG(PSD) – 6dBi, (min = 0)

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	9kHz~40GHz	May 07, 2016	Apr. 01, 2017~ Apr. 26, 2017	May 06, 2017	Conducted (TH01-SZ)
Pulse Power Senor	Anritsu	MA2411B	1207253	30MHz~40GHz	Jan. 06, 2017	Apr. 01, 2017~ Apr. 26, 2017	Jan. 05, 2018	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Jan. 06, 2017	Apr. 01, 2017~ Apr. 26, 2017	Jan. 05, 2018	Conducted (TH01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	May 07, 2016	Apr. 01, 2017~ May 04, 2017	May 06, 2017	Radiation (03CH03-SZ)
EXA Spectrum Anaiyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz	May 07, 2016	Apr. 01, 2017~ May 04, 2017	May 06, 2017	Radiation (03CH03-SZ
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 07, 2016	Apr. 01, 2017~ May 04, 2017	May 06, 2017	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz~2GHz	May 21, 2016	Apr. 01, 2017~ May 04, 2017	May 20, 2017	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	May 07, 2016	Apr. 01, 2017~ May 04, 2017	May 06, 2017	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Aug. 10, 2016	Apr. 01, 2017~ May 04, 2017	Aug. 09, 2017	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102210	0.01Hz ~3000MHz	Oct. 11, 2016	Apr. 01, 2017~ May 04, 2017	Oct. 10, 2017	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Jan. 06, 2017	Apr. 01, 2017~ May 04, 2017	Jan. 05, 2018	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 16, 2016	Apr. 01, 2017~ May 04, 2017	Jul. 15, 2017	Radiation (03CH03-SZ
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Apr. 01, 2017~ May 04, 2017	NCR	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Apr. 01, 2017~ May 04, 2017	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Apr. 01, 2017~ May 04, 2017	NCR	Radiation (03CH03-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Jan. 06, 2017	Apr. 02, 2017	Jan. 05, 2018	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103892	9kHz~30MHz	Jan. 05, 2017	Apr. 02, 2017	Jan. 04, 2018	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	3816/2SH	00103912	9kHz~30MHz	Jan. 05, 2017	Apr. 02, 2017	Jan. 04, 2018	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 16, 2016	Apr. 02, 2017	Jul. 15, 2017	Conduction (CO01-SZ)

NCR: No Calibration Required

5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.5dB

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.1dB

Uncertainty of Radiated Emission Measurement (1GHz ~ 18GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0dB

Uncertainty of Radiated Emission Measurement (18GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0dB

Appendix A. Conducted Test Results

Report Number : FR712206C

Test Engineer:	Sam Zheng	Temperature:	24~26	°C
Test Date:	2017/4/01~2017/4/26	Relative Humidity:	50~53	%

Report Number : FR712206C

TEST RESULTS DATA
Peak Output Power

2.4GHz Band																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	21.17	18.35		30.00	30.00	-2.80	-3.00	18.37	15.35	36.00	36.00	Pass
11b	1Mbps	1	6	2437	20.78	18.35		30.00	30.00	-2.80	-3.00	17.98	15.35	36.00	36.00	Pass
11b	1Mbps	1	11	2462	20.14	17.97		30.00	30.00	-2.80	-3.00	17.34	14.97	36.00	36.00	Pass
11g	6Mbps	1	1	2412	21.85	19.96		30.00	30.00	-2.80	-3.00	19.05	16.96	36.00	36.00	Pass
11g	6Mbps	1	6	2437	21.31	18.86		30.00	30.00	-2.80	-3.00	18.51	15.86	36.00	36.00	Pass
11g	6Mbps	1	11	2462	20.86	19.85		30.00	30.00	-2.80	-3.00	18.06	16.85	36.00	36.00	Pass
HT20	MCS0	1	1	2412	22.96	19.07		30.00	30.00	-2.80	-3.00	20.16	16.07	36.00	36.00	Pass
HT20	MCS0	1	6	2437	22.56	18.94		30.00	30.00	-2.80	-3.00	19.76	15.94	36.00	36.00	Pass
HT20	MCS0	1	11	2462	21.68	18.31		30.00	30.00	-2.80	-3.00	18.88	15.31	36.00	36.00	Pass
HT40	MCS0	1	3	2422	23.51	20.75		30.00	30.00	-2.80	-3.00	20.71	17.75	36.00	36.00	Pass
HT40	MCS0	1	6	2437	23.24	20.18		30.00	30.00	-2.80	-3.00	20.44	17.18	36.00	36.00	Pass
HT40	MCS0	1	9	2452	23.19	19.58		30.00	30.00	-2.80	-3.00	20.39	16.58	36.00	36.00	Pass
VHT20	MCS0	1	1	2412	22.91	19.03		30.00	30.00	-2.80	-3.00	20.11	16.03	36.00	36.00	Pass
VHT20	MCS0	1	6	2437	22.49	18.91		30.00	30.00	-2.80	-3.00	19.69	15.91	36.00	36.00	Pass
VHT20	MCS0	1	11	2462	21.64	18.27		30.00	30.00	-2.80	-3.00	18.84	15.27	36.00	36.00	Pass
VHT40	MCS0	1	3	2422	23.48	20.63		30.00	30.00	-2.80	-3.00	20.68	17.63	36.00	36.00	Pass
VHT40	MCS0	1	6	2437	23.16	20.10		30.00	30.00	-2.80	-3.00	20.36	17.10	36.00	36.00	Pass
VHT40	MCS0	1	9	2452	23.08	19.56		30.00	30.00	-2.80	-3.00	20.28	16.56	36.00	36.00	Pass
11b	1Mbps	2	1	2412	19.32	16.12	21.02	30.00		-2.80		18.22		36.00		Pass
11b	1Mbps	2	6	2437	19.00	16.50	20.94	30.00		-2.80		18.14		36.00		Pass
11b	1Mbps	2	11	2462	18.33	16.15	20.39	30.00		-2.80		17.59		36.00		Pass
11g	6Mbps	2	1	2412	20.80	17.69	22.53	30.00		-2.80		19.73		36.00		Pass
11g	6Mbps	2	6	2437	20.45	18.00	22.41	30.00		-2.80		19.61		36.00		Pass
11g	6Mbps	2	11	2462	19.56	17.88	21.81	30.00		-2.80		19.01		36.00		Pass
HT20	MCS0	2	1	2412	20.71	17.76	22.49	30.00		-2.80		19.69		36.00		Pass
HT20	MCS0	2	6	2437	20.47	17.90	22.38	30.00		-2.80		19.58		36.00		Pass
HT20	MCS0	2	11	2462	19.61	17.93	21.86	30.00		-2.80		19.06		36.00		Pass
HT40	MCS0	2	3	2422	16.48	14.22	18.51	30.00		-2.80		15.71		36.00		Pass
HT40	MCS0	2	6	2437	20.33	18.30	22.44	30.00		-2.80		19.64		36.00		Pass
HT40	MCS0	2	9	2452	17.82	15.70	19.90	30.00		-2.80		17.10		36.00		Pass
VHT20	MCS0	2	1	2412	20.65	17.70	22.43	30.00		-2.80		19.63		36.00		Pass
VHT20	MCS0	2	6	2437	20.41	17.85	22.33	30.00		-2.80		19.53		36.00		Pass
VHT20	MCS0	2	11	2462	19.55	17.71	21.74	30.00		-2.80		18.94		36.00		Pass
VHT40	MCS0	2	3	2422	16.42	14.20	18.46	30.00		-2.80		15.66		36.00		Pass
VHT40	MCS0	2	6	2437	20.30	18.22	22.39	30.00		-2.80		19.59		36.00		Pass
VHT40	MCS0	2	9	2452	17.75	15.63	19.83	30.00		-2.80		17.03		36.00		Pass

Note: Measured power (dBm) has offset with cable loss.

TEST RESULTS DATA
Average Output Power

2.4GHz Band									
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Ant 1	Ant 2	Ant 1	Ant 2	SUM
11b	1Mbps	1	1	2412	0.05	0.03	18.47	15.72	
11b	1Mbps	1	6	2437	0.05	0.03	18.06	15.68	
11b	1Mbps	1	11	2462	0.05	0.03	17.44	15.60	
11g	6Mbps	1	1	2412	0.24	0.24	17.03	14.22	
11g	6Mbps	1	6	2437	0.24	0.24	16.46	14.09	
11g	6Mbps	1	11	2462	0.24	0.24	16.06	13.62	
HT20	MCS0	1	1	2412	0.25	0.25	17.86	14.06	
HT20	MCS0	1	6	2437	0.25	0.25	17.37	13.92	
HT20	MCS0	1	11	2462	0.25	0.25	16.60	13.40	
HT40	MCS0	1	3	2422	0.45	0.51	17.42	14.96	
HT40	MCS0	1	6	2437	0.45	0.51	16.99	14.47	
HT40	MCS0	1	9	2452	0.45	0.51	16.88	13.41	
VHT20	MCS0	1	1	2412	0.27	0.25	17.83	14.05	
VHT20	MCS0	1	6	2437	0.27	0.25	17.30	13.89	
VHT20	MCS0	1	11	2462	0.27	0.25	16.56	13.39	
VHT40	MCS0	1	3	2422	0.50	0.47	17.41	14.91	
VHT40	MCS0	1	6	2437	0.50	0.47	16.97	14.44	
VHT40	MCS0	1	9	2452	0.50	0.47	16.85	13.37	
11b	1Mbps	2	1	2412	0.05	0.05	16.43	13.28	18.14
11b	1Mbps	2	6	2437	0.05	0.05	16.15	13.70	18.10
11b	1Mbps	2	11	2462	0.05	0.05	15.45	13.45	17.57
11g	6Mbps	2	1	2412	0.24	0.24	15.92	12.77	17.63
11g	6Mbps	2	6	2437	0.24	0.24	15.44	13.07	17.42
11g	6Mbps	2	11	2462	0.24	0.24	14.89	12.94	17.03
HT20	MCS0	2	1	2412	0.25	0.25	15.75	12.65	17.49
HT20	MCS0	2	6	2437	0.25	0.25	15.49	12.69	17.33
HT20	MCS0	2	11	2462	0.25	0.25	14.63	12.79	16.82
HT40	MCS0	2	3	2422	0.49	0.47	10.24	7.87	12.22
HT40	MCS0	2	6	2437	0.49	0.47	14.14	11.64	16.08
HT40	MCS0	2	9	2452	0.49	0.47	11.71	9.17	13.63
VHT20	MCS0	2	1	2412	0.48	0.43	15.70	12.58	17.43
VHT20	MCS0	2	6	2437	0.48	0.43	15.44	12.63	17.27
VHT20	MCS0	2	11	2462	0.48	0.43	14.60	12.74	16.78
VHT40	MCS0	2	3	2422	0.87	0.90	10.17	7.85	12.17
VHT40	MCS0	2	6	2437	0.87	0.90	14.03	11.62	16.00
VHT40	MCS0	2	9	2452	0.87	0.90	11.67	9.15	13.60

Note: Measured power (dBm) has offset with cable loss.

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2		
11b	1Mbps	1	1	2412	13.34	13.29	8.01	8.01	0.50	Pass
11b	1Mbps	1	6	2437	13.39	13.19	8.03	8.01	0.50	Pass
11b	1Mbps	1	11	2462	13.24	13.94	8.01	8.03	0.50	Pass
11g	6Mbps	1	1	2412	17.43	17.48	15.29	15.31	0.50	Pass
11g	6Mbps	1	6	2437	17.68	17.63	15.45	15.33	0.50	Pass
11g	6Mbps	1	11	2462	17.68	17.53	15.43	15.29	0.50	Pass
HT20	MCS0	1	1	2412	18.58	18.68	15.94	15.13	0.50	Pass
HT20	MCS0	1	6	2437	18.83	18.83	16.74	15.92	0.50	Pass
HT20	MCS0	1	11	2462	18.78	18.73	15.92	15.92	0.50	Pass
HT40	MCS0	1	3	2422	36.66	36.36	35.09	35.05	0.50	Pass
HT40	MCS0	1	6	2437	36.66	36.76	35.13	35.72	0.50	Pass
HT40	MCS0	1	9	2452	36.36	36.56	35.13	35.09	0.50	Pass
11b	1Mbps	2	1	2412	13.09	12.94	8.01	8.01	0.50	Pass
11b	1Mbps	2	6	2437	13.29	13.04	8.01	8.01	0.50	Pass
11b	1Mbps	2	11	2462	13.24	13.29	8.01	8.03	0.50	Pass
11g	6Mbps	2	1	2412	17.38	17.48	15.31	15.13	0.50	Pass
11g	6Mbps	2	6	2437	17.58	17.58	15.43	15.68	0.50	Pass
11g	6Mbps	2	11	2462	17.53	17.48	15.86	15.33	0.50	Pass
HT20	MCS0	2	1	2412	18.68	18.63	15.92	15.13	0.50	Pass
HT20	MCS0	2	6	2437	18.83	18.78	15.92	15.92	0.50	Pass
HT20	MCS0	2	11	2462	18.73	18.68	15.94	15.94	0.50	Pass
HT40	MCS0	2	3	2422	36.66	36.26	35.29	35.09	0.50	Pass
HT40	MCS0	2	6	2437	36.76	36.56	35.37	35.68	0.50	Pass
HT40	MCS0	2	9	2452	36.36	36.36	35.09	35.13	0.50	Pass

Report Number : FR712206C

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant 1	Ant 2	Worse + 3.01	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	-7.13	-9.07	-	-2.80	-3.00	8.00	8.00	Pass
11b	1Mbps	1	6	2437	-7.56	-10.15		-2.80	-3.00	8.00	8.00	Pass
11b	1Mbps	1	11	2462	-9.57	-11.90		-2.80	-3.00	8.00	8.00	Pass
11g	6Mbps	1	1	2412	-10.33	-12.55		-2.80	-3.00	8.00	8.00	Pass
11g	6Mbps	1	6	2437	-10.12	-12.71		-2.80	-3.00	8.00	8.00	Pass
11g	6Mbps	1	11	2462	-10.76	-12.96		-2.80	-3.00	8.00	8.00	Pass
HT20	MCS0	1	1	2412	-7.85	-11.67		-2.80	-3.00	8.00	8.00	Pass
HT20	MCS0	1	6	2437	-9.56	-11.96		-2.80	-3.00	8.00	8.00	Pass
HT20	MCS0	1	11	2462	-10.80	-13.71		-2.80	-3.00	8.00	8.00	Pass
HT40	MCS0	1	3	2422	-12.00	-14.19		-2.80	-3.00	8.00	8.00	Pass
HT40	MCS0	1	6	2437	-13.14	-14.78		-2.80	-3.00	8.00	8.00	Pass
HT40	MCS0	1	9	2452	-11.61	-15.94		-2.80	-3.00	8.00	8.00	Pass
11b	1Mbps	2	1	2412	-8.25	-12.74	-5.24	0.11		8.00		Pass
11b	1Mbps	2	6	2437	-10.30	-12.45	-7.29	0.11		8.00		Pass
11b	1Mbps	2	11	2462	-9.56	-12.43	-6.55	0.11		8.00		Pass
11g	6Mbps	2	1	2412	-10.61	-13.14	-7.60	0.11		8.00		Pass
11g	6Mbps	2	6	2437	-10.44	-13.66	-7.43	0.11		8.00		Pass
11g	6Mbps	2	11	2462	-11.78	-12.37	-8.77	0.11		8.00		Pass
HT20	MCS0	2	1	2412	-11.05	-13.32	-8.04	0.11		8.00		Pass
HT20	MCS0	2	6	2437	-10.19	-13.53	-7.18	0.11		8.00		Pass
HT20	MCS0	2	11	2462	-10.69	-13.21	-7.68	0.11		8.00		Pass
HT40	MCS0	2	3	2422	-17.08	-20.65	-14.07	0.11		8.00		Pass
HT40	MCS0	2	6	2437	-15.53	-17.07	-12.52	0.11		8.00		Pass
HT40	MCS0	2	9	2452	-15.63	-19.12	-12.62	0.11		8.00		Pass

Measured power density (dBm) has offset with cable loss.

Appendix B. Radiated Spurious Emission

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2347.8	49.05	-24.95	74	50.22	27.19	5.88	34.24	150	257	P	H
		2387.175	37.98	-16.02	54	38.99	27.29	5.92	34.22	150	257	A	H
	*	2412	91.02	-	-	91.97	27.33	5.92	34.2	150	257	P	H
	*	2412	88.16	-	-	89.11	27.33	5.92	34.2	150	257	A	H
		2387.175	49.16	-24.84	74	50.17	27.29	5.92	34.22	150	257	P	V
		2388.96	39.14	-14.86	54	40.15	27.29	5.92	34.22	150	257	A	V
	*	2412	101.38	-	-	102.33	27.33	5.92	34.2	150	257	P	V
	*	2412	98.38	-	-	99.33	27.33	5.92	34.2	150	257	A	V
802.11b CH 06 2437MHz		2375.52	49.16	-24.84	74	50.24	27.26	5.88	34.22	165	167	P	H
		2389.66	38	-16	54	39.01	27.29	5.92	34.22	165	167	A	H
	*	2437	98.59	-	-	99.44	27.4	5.93	34.18	165	167	P	H
	*	2437	95.44	-	-	96.29	27.4	5.93	34.18	165	167	A	H
		2486.28	48.82	-25.18	74	49.53	27.47	5.95	34.13	165	167	P	H
		2498.25	38.21	-15.79	54	38.87	27.5	5.95	34.11	165	167	A	H
		2323.16	48.62	-25.38	74	49.88	27.16	5.84	34.26	204	279	P	V
		2389.38	38	-16	54	39.01	27.29	5.92	34.22	204	279	A	V
	*	2437	101.34	-	-	102.19	27.4	5.93	34.18	204	279	P	V
	*	2437	98.16	-	-	99.01	27.4	5.93	34.18	204	279	A	V
		2497.2	48.92	-25.08	74	49.58	27.5	5.95	34.11	204	279	P	V
		2489.01	38.23	-15.77	54	38.91	27.5	5.95	34.13	204	279	A	V

802.11b CH 11 2462MHz	*	2462	100.05	-	-	100.84	27.43	5.93	34.15	162	223	P	H
	*	2462	96.93	-	-	97.72	27.43	5.93	34.15	162	223	A	H
		2492.64	49.5	-24.5	74	50.16	27.5	5.95	34.11	162	223	P	H
		2483.52	38.99	-15.01	54	39.7	27.47	5.95	34.13	162	223	A	H
	*	2462	101.98	-	-	102.77	27.43	5.93	34.15	219	274	P	V
	*	2462	98.78	-	-	99.57	27.43	5.93	34.15	219	274	A	V
		2488.8	49.28	-24.72	74	49.96	27.5	5.95	34.13	219	274	P	V
		2483.52	38.82	-15.18	54	39.53	27.47	5.95	34.13	219	274	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	43.46	-30.54	74	60.37	32.56	8.87	58.34	250	0	P	H
		4824	44.01	-29.99	74	60.92	32.56	8.87	58.34	250	0	P	V
802.11b CH 06 2437MHz		4874	43.71	-30.29	74	60.53	32.66	8.85	58.33	250	0	P	H
		7311	55.95	-18.05	74	66.67	37.66	11.02	59.4	250	0	P	H
		7311	46.55	-7.45	54	57.27	37.66	11.02	59.4	250	0	A	H
		4874	44.98	-29.02	74	61.8	32.66	8.85	58.33	250	0	P	V
		7311	53.71	-20.29	74	64.43	37.66	11.02	59.4	250	0	P	V
		7311	44.65	-9.35	54	55.37	37.66	11.02	59.4	250	0	A	V
802.11b CH 11 2462MHz		4924	47.17	-26.83	74	63.95	32.76	8.79	58.33	250	0	P	H
		7386	53.82	-20.18	74	64.62	37.68	10.96	59.44	250	0	P	H
		7386	44.39	-9.61	54	55.19	37.68	10.96	59.44	250	0	A	H
		4924	50.3	-23.7	74	67.08	32.76	8.79	58.33	250	0	P	V
		7386	53.91	-20.09	74	64.71	37.68	10.96	59.44	250	0	P	V
		7386	44.22	-9.78	54	55.02	37.68	10.96	59.44	250	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2390	57.65	-16.35	74	58.64	27.29	5.92	34.2	150	307	P	H
		2390	49.79	-4.21	54	50.78	27.29	5.92	34.2	150	307	A	H
	*	2412	108.26	-	-	109.21	27.33	5.92	34.2	150	307	P	H
	*	2412	100.88	-	-	101.83	27.33	5.92	34.2	150	307	A	H
		2389.485	59.65	-14.35	74	60.66	27.29	5.92	34.22	164	275	P	V
		2389.275	50.01	-3.99	54	51.02	27.29	5.92	34.22	164	275	A	V
	*	2412	108.85	-	-	109.8	27.33	5.92	34.2	164	275	P	V
	*	2412	101.61	-	-	102.56	27.33	5.92	34.2	164	275	A	V
802.11g CH 06 2437MHz		2389.94	49.87	-24.13	74	50.86	27.29	5.92	34.2	166	228	P	H
		2388.82	40.42	-13.58	54	41.43	27.29	5.92	34.22	166	228	A	H
	*	2437	104.35	-	-	105.2	27.4	5.93	34.18	166	228	P	H
	*	2437	97.15	-	-	98	27.4	5.93	34.18	166	228	A	H
		2484.25	50.28	-23.72	74	50.99	27.47	5.95	34.13	166	228	P	H
		2483.55	40.87	-13.13	54	41.58	27.47	5.95	34.13	166	228	A	H
		2389.38	50.09	-23.91	74	51.1	27.29	5.92	34.22	164	273	P	V
		2389.94	41.3	-12.7	54	42.29	27.29	5.92	34.2	164	273	A	V
	*	2437	103.27	-	-	104.93	27.4	5.12	34.18	164	273	P	V
	*	2437	96.21	-	-	97.87	27.4	5.12	34.18	164	273	A	V
		2485.3	50.43	-23.57	74	51.14	27.47	5.95	34.13	164	273	P	V
		2483.69	41.08	-12.92	54	41.79	27.47	5.95	34.13	164	273	A	V

802.11g CH 11 2462MHz	*	2462	107.75	-	-	108.54	27.43	5.93	34.15	162	303	P	H
	*	2462	100.81	-	-	101.6	27.43	5.93	34.15	162	303	A	H
		2483.92	58.62	-15.38	74	59.33	27.47	5.95	34.13	162	303	P	H
		2483.72	49.53	-4.47	54	50.24	27.47	5.95	34.13	162	303	A	H
	*	2462	108.43	-	-	109.22	27.43	5.93	34.15	150	273	P	V
	*	2462	101.07	-	-	101.86	27.43	5.93	34.15	150	273	A	V
		2483.68	58.38	-15.62	74	59.09	27.47	5.95	34.13	150	273	P	V
		2483.56	50.68	-3.32	54	51.39	27.47	5.95	34.13	150	273	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	42.93	-31.07	74	59.84	32.56	8.87	58.34	250	0	P	H
		7236	54.86	-19.14	74	65.48	37.65	11.09	59.36	250	0	P	H
		7236	45.4	-8.6	54	56.02	37.65	11.09	59.36	250	0	A	H
		4824	43.6	-30.4	74	60.51	32.56	8.87	58.34	250	0	P	V
		7236	54.38	-19.62	74	65	37.65	11.09	59.36	250	0	P	V
		7236	44.46	-9.54	54	55.08	37.65	11.09	59.36	250	0	A	V
802.11g CH 06 2437MHz		4874	43.29	-30.71	74	60.36	32.66	8.6	58.33	250	0	P	H
		7311	54.62	-19.38	74	66.12	37.66	10.24	59.4	250	0	P	H
		7311	50.81	-3.19	54	62.31	37.66	10.24	59.4	250	0	A	H
		4874	43.13	-30.87	74	60.2	32.66	8.6	58.33	250	0	P	V
		7311	52.47	-21.53	74	63.97	37.66	10.24	59.4	250	0	P	V
		7311	48.92	-5.08	54	60.42	37.66	10.24	59.4	250	0	A	V
802.11g CH 11 2462MHz		4924	43.92	-30.08	74	60.7	32.76	8.79	58.33	250	0	P	H
		7386	52.1	-21.9	74	62.9	37.68	10.96	59.44	250	0	P	H
		7386	42.46	-11.54	54	53.26	37.68	10.96	59.44	250	0	A	H
		4924	46.78	-27.22	74	63.56	32.76	8.79	58.33	250	0	P	V
		7386	51.78	-22.22	74	62.58	37.68	10.96	59.44	250	0	P	V
		7386	42.18	-11.82	54	52.98	37.68	10.96	59.44	250	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2389.905	54.66	-19.34	74	55.65	27.29	5.92	34.2	150	315	P	H
		2390	45.76	-8.24	54	46.75	27.29	5.92	34.2	150	315	A	H
802.11n	*	2412	102.67	-	-	103.62	27.33	5.92	34.2	150	315	P	H
HT20	*	2412	94.83	-	-	95.78	27.33	5.92	34.2	150	315	A	H
CH 01		2389.695	54.25	-19.75	74	55.26	27.29	5.92	34.22	190	251	P	V
2412MHz		2390	45.43	-8.57	54	46.42	27.29	5.92	34.2	190	251	A	V
	*	2412	102.64	-	-	103.59	27.33	5.92	34.2	190	251	P	V
	*	2412	94.5	-	-	95.45	27.33	5.92	34.2	190	251	A	V
		2388.26	48.61	-25.39	74	49.62	27.29	5.92	34.22	165	228	P	H
		2389.94	39.66	-14.34	54	40.65	27.29	5.92	34.2	165	228	A	H
	*	2437	103.07	-	-	103.92	27.4	5.93	34.18	165	228	P	H
	*	2437	95.13	-	-	95.98	27.4	5.93	34.18	165	228	A	H
802.11n		2483.5	48.88	-25.12	74	50.35	27.47	5.19	34.13	165	228	P	H
HT20		2483.55	40.1	-13.9	54	40.81	27.47	5.95	34.13	165	228	A	H
CH 06		2389.24	49.59	-24.41	74	50.6	27.29	5.92	34.22	185	254	P	V
2437MHz		2388.96	39.62	-14.38	54	40.63	27.29	5.92	34.22	185	254	A	V
	*	2437	102.4	-	-	103.25	27.4	5.93	34.18	185	254	P	V
	*	2437	94.78	-	-	95.63	27.4	5.93	34.18	185	254	A	V
		2484.53	48.87	-25.13	74	49.58	27.47	5.95	34.13	185	254	P	V
		2484.88	39.75	-14.25	54	40.46	27.47	5.95	34.13	185	254	A	V

802.11n HT20 CH 11 2462MHz	*	2462	102.5	-	-	103.29	27.43	5.93	34.15	150	314	P	H
	*	2462	94.43	-	-	95.22	27.43	5.93	34.15	150	314	A	H
		2483.72	56.92	-17.08	74	57.63	27.47	5.95	34.13	150	314	P	H
		2483.52	47.15	-6.85	54	47.86	27.47	5.95	34.13	150	314	A	H
	*	2462	102.59	-	-	104.19	27.43	5.12	34.15	150	254	P	V
	*	2462	94.73	-	-	96.33	27.43	5.12	34.15	150	254	A	V
		2483.76	55.24	-18.76	74	55.95	27.47	5.95	34.13	150	254	P	V
		2483.52	46.11	-7.89	54	46.82	27.47	5.95	34.13	150	254	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		4824	44.19	-29.81	74	61.1	32.56	8.87	58.34	250	0	P	H
		4824	42.53	-31.47	74	59.44	32.56	8.87	58.34	250	0	P	V
802.11n HT20 CH 06 2437MHz		4874	42.33	-31.67	74	59.15	32.66	8.85	58.33	250	0	P	H
		7311	55.42	-18.58	74	66.14	37.66	11.02	59.4	250	0	P	H
		7311	50.82	-3.18	54	61.54	37.66	11.02	59.4	250	0	A	H
		4874	42.07	-31.93	74	58.89	32.66	8.85	58.33	250	0	P	V
		7311	52.85	-21.15	74	63.57	37.66	11.02	59.4	250	0	P	V
		7311	49.05	-4.95	54	59.77	37.66	11.02	59.4	250	0	A	V
802.11n HT20 CH 11 2462MHz		4924	42.42	-31.58	74	59.2	32.76	8.79	58.33	250	0	P	H
		7386	49.14	-24.86	74	59.94	37.68	10.96	59.44	250	0	P	H
		4924	42	-32	74	58.78	32.76	8.79	58.33	250	0	P	V
		7386	47.91	-26.09	74	58.71	37.68	10.96	59.44	250	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2388.68	56.84	-17.16	74	57.85	27.29	5.92	34.22	165	222	P	H
		2389.94	48.97	-5.03	54	49.96	27.29	5.92	34.2	165	222	A	H
	*	2422	101.3	-	-	102.2	27.36	5.92	34.18	165	222	P	H
	*	2422	93.23	-	-	94.13	27.36	5.92	34.18	165	222	A	H
802.11n		2484.53	51.37	-22.63	74	52.08	27.47	5.95	34.13	165	222	P	H
HT40		2483.69	41.3	-12.7	54	42.01	27.47	5.95	34.13	165	222	A	H
CH 03		2389.94	57.67	-16.33	74	58.66	27.29	5.92	34.2	152	275	P	V
2422MHz		2389.52	49.31	-4.69	54	50.32	27.29	5.92	34.22	152	275	A	V
	*	2422	101.91	-	-	102.81	27.36	5.92	34.18	152	275	P	V
	*	2422	94.23	-	-	95.13	27.36	5.92	34.18	152	275	A	V
		2484.81	50.39	-23.61	74	51.1	27.47	5.95	34.13	152	275	P	V
		2487.05	41.89	-12.11	54	42.6	27.47	5.95	34.13	152	275	A	V
		2389.38	57.18	-16.82	74	58.19	27.29	5.92	34.22	167	295	P	H
		2389.1	48.63	-5.37	54	49.64	27.29	5.92	34.22	167	295	A	H
	*	2437	104.17	-	-	105.02	27.4	5.93	34.18	167	295	P	H
	*	2437	96.17	-	-	97.02	27.4	5.93	34.18	167	295	A	H
802.11n		2483.5	58.63	-15.37	74	59.34	27.47	5.95	34.13	167	295	P	H
HT40		2483.69	49.88	-4.12	54	50.59	27.47	5.95	34.13	167	295	A	H
CH 06		2389.38	57.44	-16.56	74	58.45	27.29	5.92	34.22	159	273	P	V
2437MHz		2389	50.24	-3.76	54	51.25	27.29	5.92	34.22	159	273	A	V
	*	2437	105.24	-	-	106.09	27.4	5.93	34.18	159	273	P	V
	*	2437	97.41	-	-	98.26	27.4	5.93	34.18	159	273	A	V
		2483.5	55.38	-18.62	74	56.09	27.47	5.95	34.13	159	273	P	V
		2483.5	47.58	-6.42	54	48.29	27.47	5.95	34.13	159	273	A	V

		2389.8	50.69	-23.31	74	51.68	27.29	5.92	34.2	150	307	P	H
		2388.54	42.35	-11.65	54	43.36	27.29	5.92	34.22	150	307	A	H
	*	2452	102.14	-	-	102.96	27.4	5.93	34.15	150	307	P	H
	*	2452	95.1	-	-	95.92	27.4	5.93	34.15	150	307	A	H
802.11n		2484.25	57.43	-16.57	74	58.14	27.47	5.95	34.13	150	307	P	H
HT40		2483.5	49.81	-4.19	54	50.52	27.47	5.95	34.13	150	307	A	H
CH 09		2386.3	49.97	-24.03	74	50.98	27.29	5.92	34.22	159	273	P	V
2452MHz		2388.26	41.85	-12.15	54	42.86	27.29	5.92	34.22	159	273	A	V
	*	2452	103.33	-	-	104.15	27.4	5.93	34.15	159	273	P	V
	*	2452	95.92	-	-	96.74	27.4	5.93	34.15	159	273	A	V
		2483.5	56.54	-17.46	74	57.25	27.47	5.95	34.13	159	273	P	V
		2483.5	49.56	-4.44	54	50.27	27.47	5.95	34.13	159	273	A	V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		4844	42.57	-31.43	74	59.47	32.59	8.85	58.34	250	0	P	H
HT40		7266	48.31	-25.69	74	58.97	37.66	11.06	59.38	250	0	P	H
CH 03		4844	40.98	-33.02	74	57.88	32.59	8.85	58.34	250	0	P	V
2422MHz		7266	47.9	-26.1	74	58.56	37.66	11.06	59.38	250	0	P	V
802.11n		4874	41.93	-32.07	74	58.75	32.66	8.85	58.33	250	0	P	H
HT40		7311	48.67	-25.33	74	59.39	37.66	11.02	59.4	250	0	P	H
CH 06		4874	41.43	-32.57	74	58.25	32.66	8.85	58.33	250	0	P	V
2437MHz		7311	47.91	-26.09	74	58.63	37.66	11.02	59.4	250	0	P	V
802.11n		4902	41.56	-32.44	74	58.34	32.73	8.82	58.33	250	0	P	H
HT40		7356	47.72	-26.28	74	58.49	37.67	10.99	59.43	250	0	P	H
CH 09		4902	41.36	-32.64	74	58.14	32.73	8.82	58.33	250	0	P	V
2452MHz		7356	47.5	-26.5	74	58.27	37.67	10.99	59.43	250	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11n HT20(LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11n HT20 LF		30	28.72	-11.28	40	33.46	26.7	0.56	32	100	50	P	H
		97.9	26.52	-16.98	43.5	38.88	18.6	0.79	31.75	-	-	P	H
		134.76	31.53	-11.97	43.5	44	18.11	1.01	31.59	-	-	P	H
		169.68	32.06	-11.44	43.5	45.46	16.94	1.1	31.44	-	-	P	H
		223.03	28.47	-17.53	46	41.78	16.71	1.34	31.36	-	-	P	H
		888.45	31.89	-14.11	46	31.7	28.41	2.98	31.2	-	-	P	H
		30	33.54	-6.46	40	38.28	26.7	0.56	32	120	30	P	V
		95.96	30.36	-13.14	43.5	42.94	18.4	0.78	31.76	-	-	P	V
		162.89	34.89	-8.61	43.5	48.02	17.24	1.09	31.46	-	-	P	V
		404.42	28.72	-17.28	46	32.11	25.89	1.96	31.24	-	-	P	V
		714.82	30.78	-15.22	46	31.79	27.58	2.65	31.24	-	-	P	V
		971.87	33.01	-20.99	54	31.27	29.84	3.12	31.22	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m)– 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m)– 54(dBμV/m)

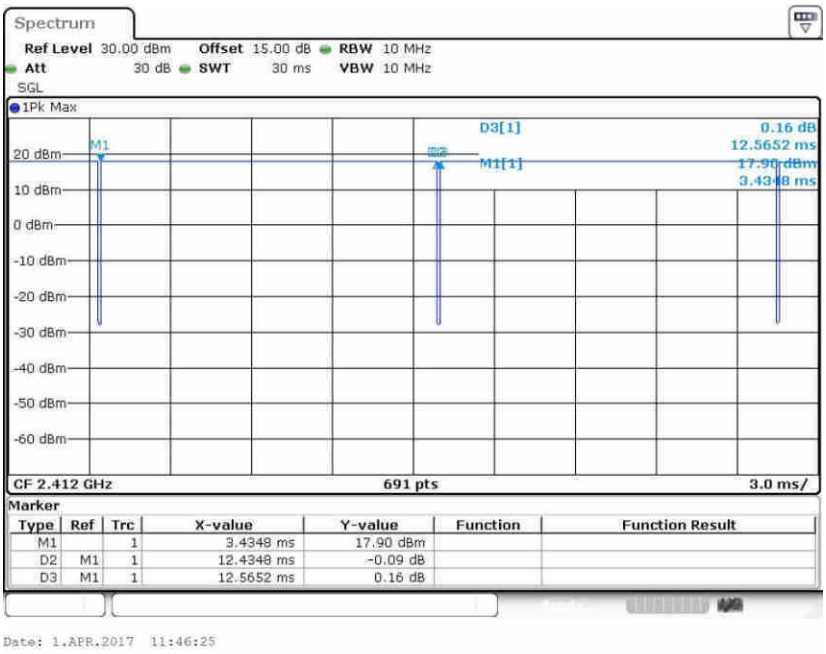
= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is "PASS".

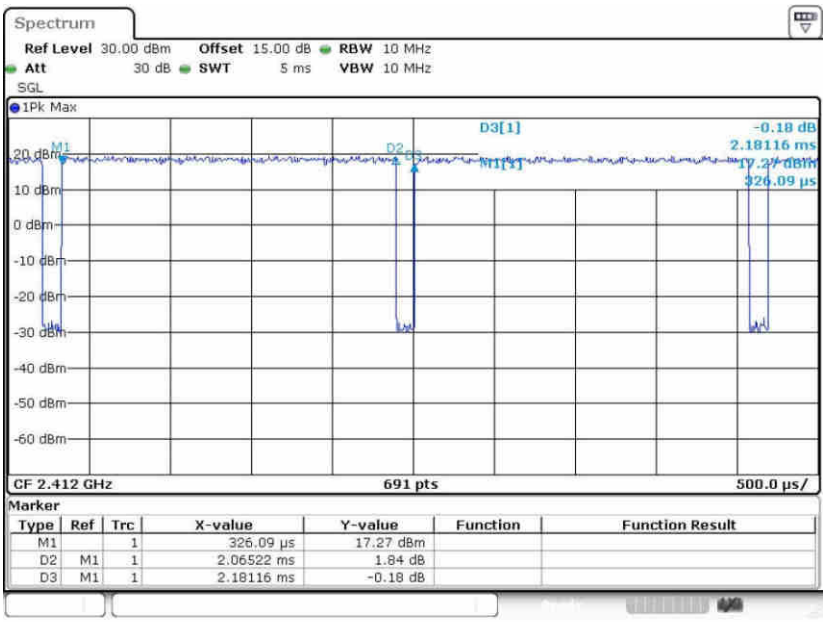
Appendix C. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
1+2	802.11 b	98.96	-	-	10Hz
1+2	802.11 g	94.68	2.065	0.484	1KHz
1+2	802.11n HT20	94.31	1.920	0.521	1KHz
1+2	802.11n HT40	89.71	0.948	1.055	3kHz

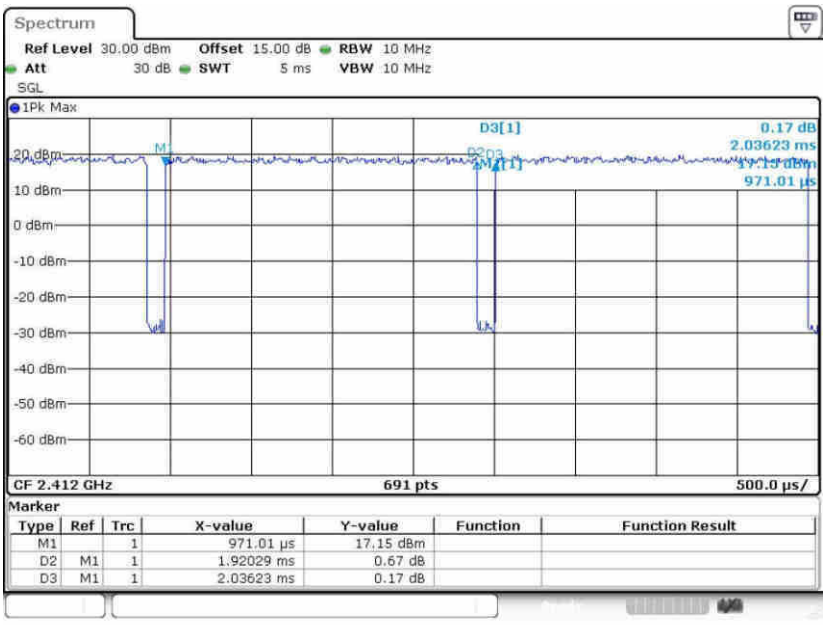
802.11b Ant.1+2



802.11g Ant.1+2



802.11n20 Ant.1+2



802.11n40 Ant.1+2