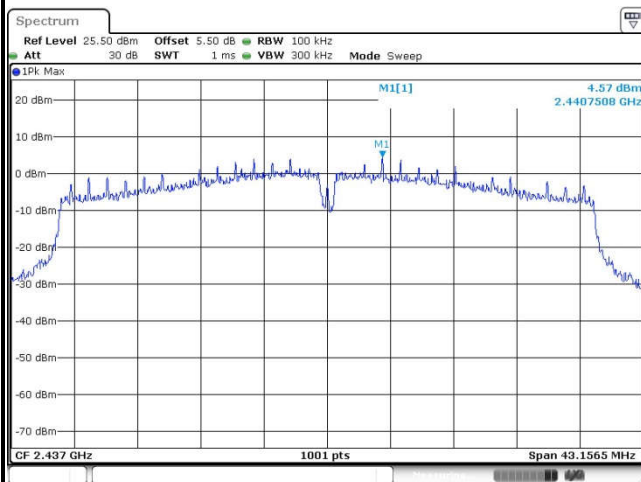




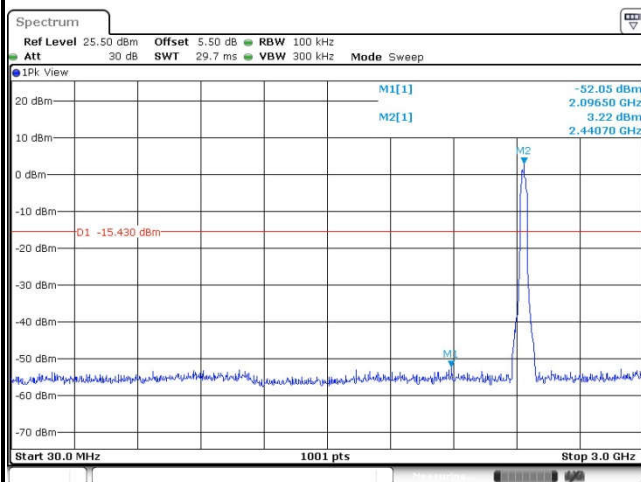
Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~55%
Test Channel :	06	Test Engineer :	Silent Hai

WLAN 802.11n HT40 Channel 06

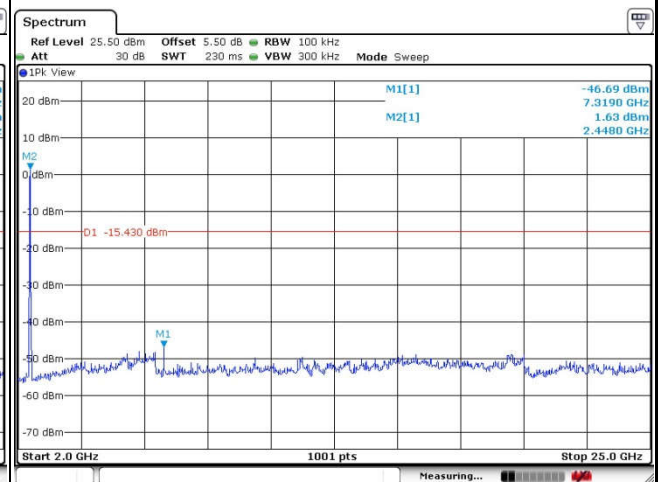
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

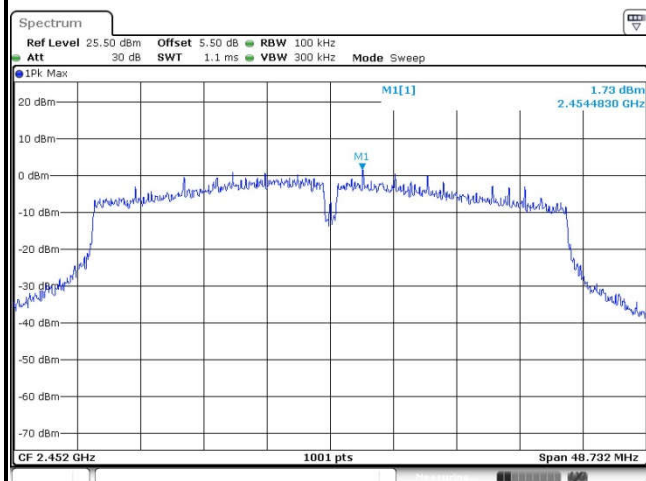




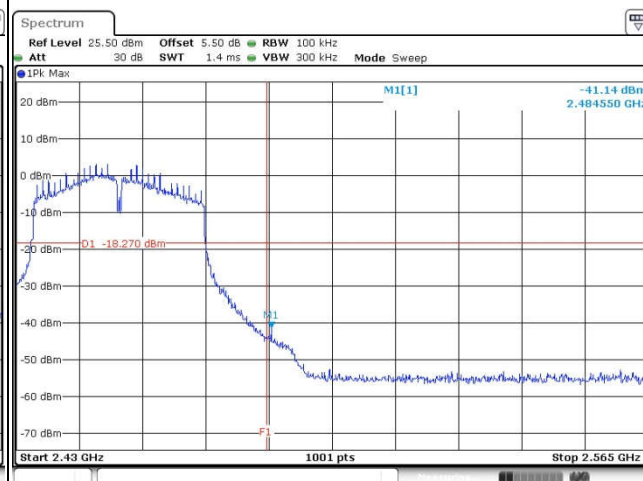
Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~55%
Test Channel :	09	Test Engineer :	Silent Hai

WLAN 802.11n HT40 Channel 09

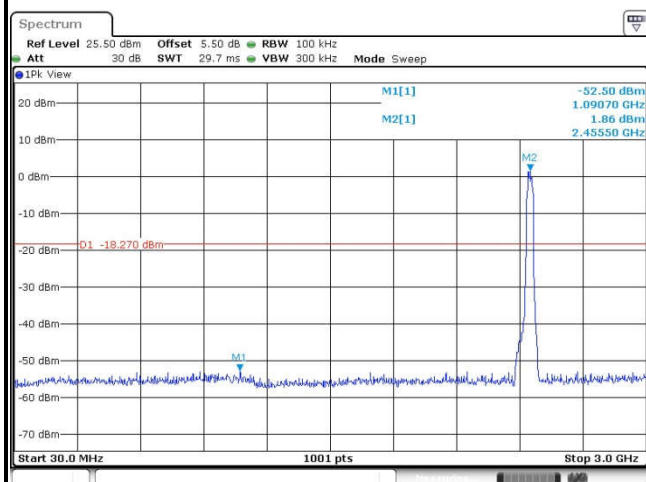
100kHz PSD reference Level



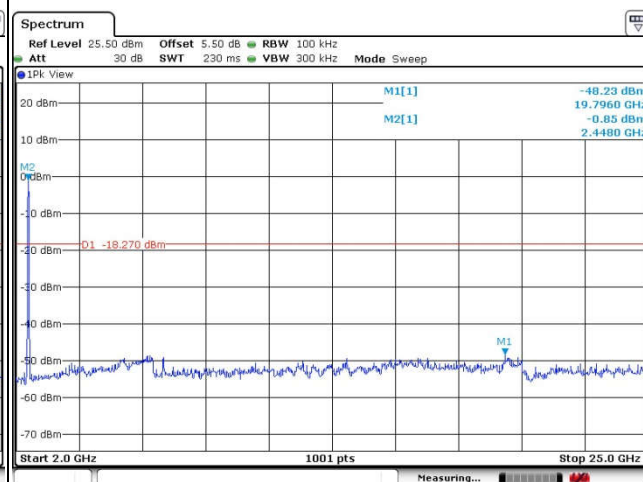
High Channel Plot



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz



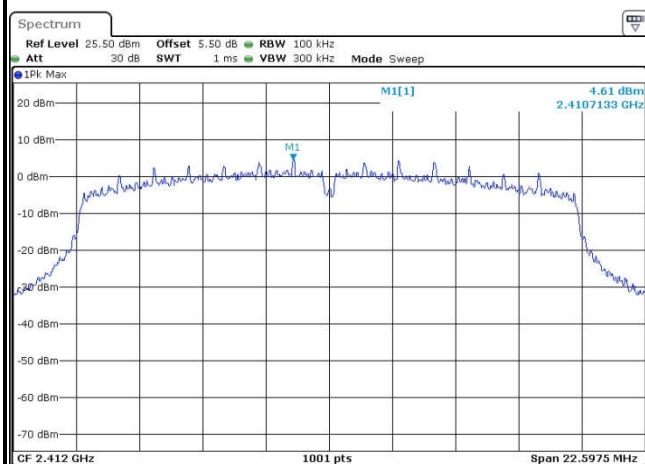


Number of TX = 2, Ant. 2 (Measured)

Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~55%
Test Channel :	01	Test Engineer :	Silent Hai

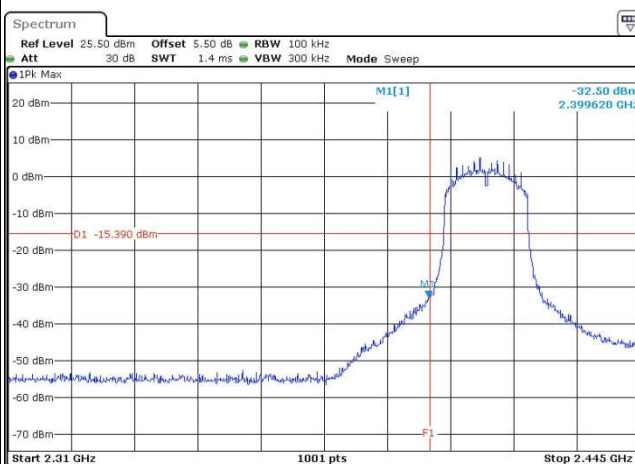
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



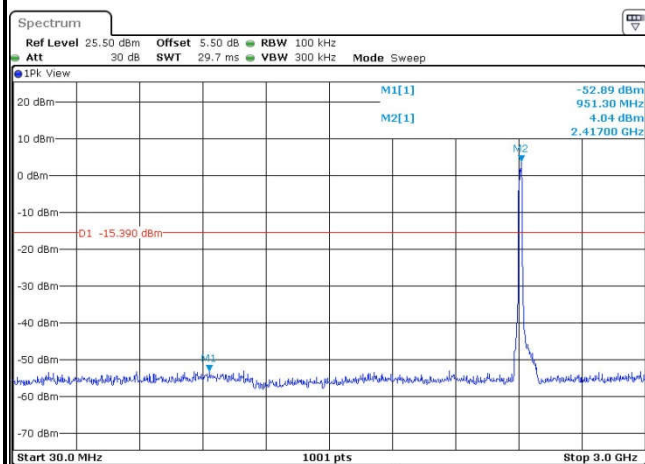
Date: 14.NOV.2017 10:15:55

Low Channel Plot



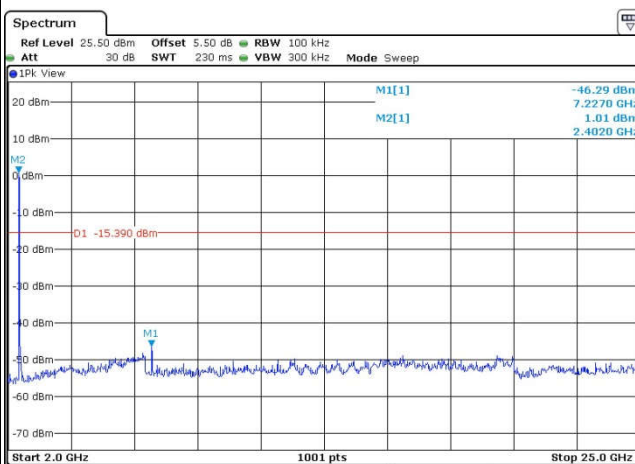
Date: 14.NOV.2017 10:17:55

Spurious Emission 30MHz~3GHz



Date: 14.NOV.2017 10:16:26

Spurious Emission 2GHz~25GHz



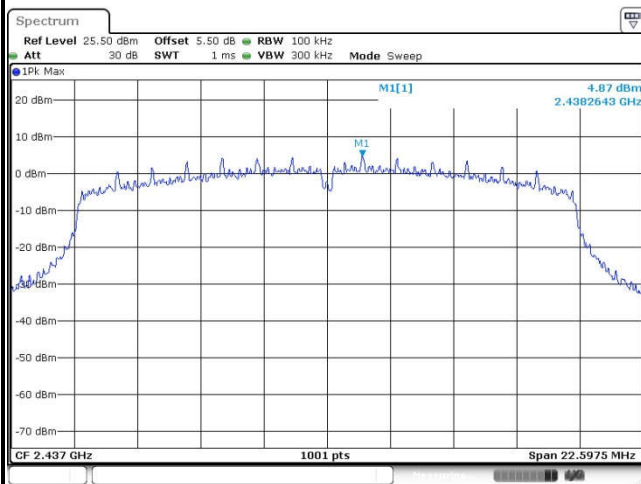
Date: 14.NOV.2017 10:16:48



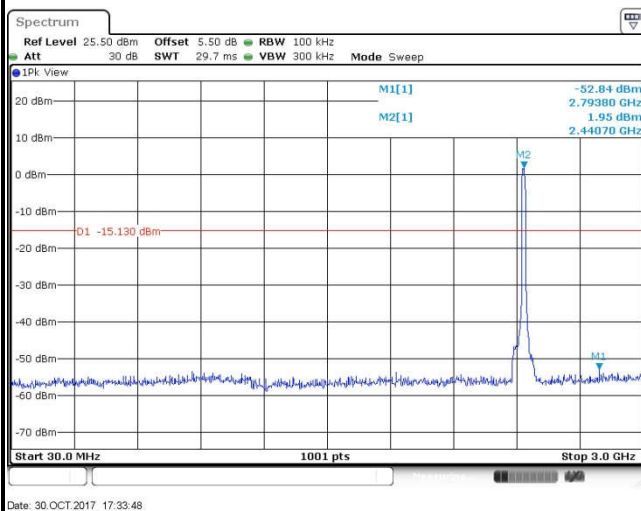
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~55%
Test Channel :	06	Test Engineer :	Silent Hai

WLAN 802.11n HT20 Channel 06

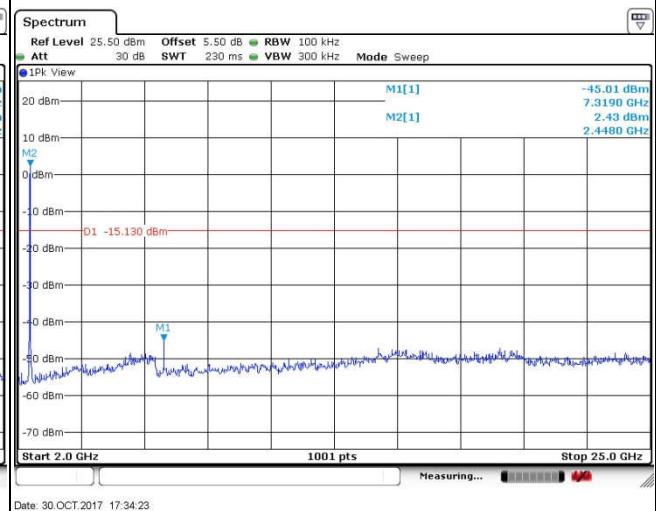
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

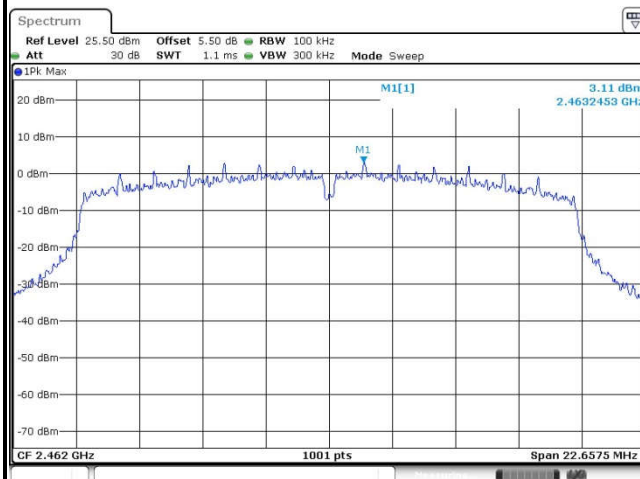




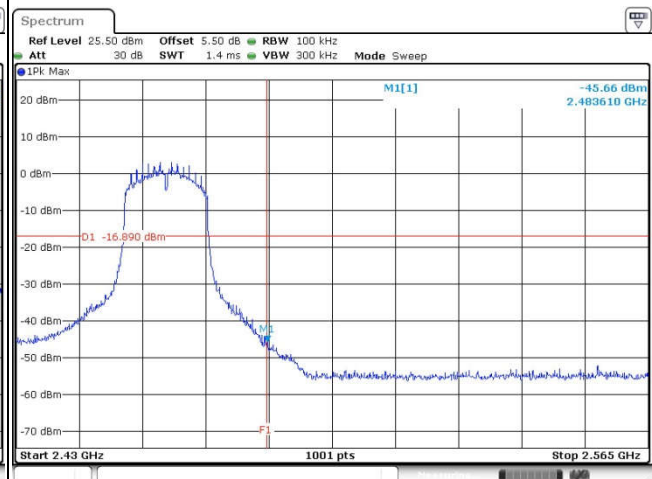
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~55%
Test Channel :	11	Test Engineer :	Silent Hai

WLAN 802.11n HT20 Channel 11

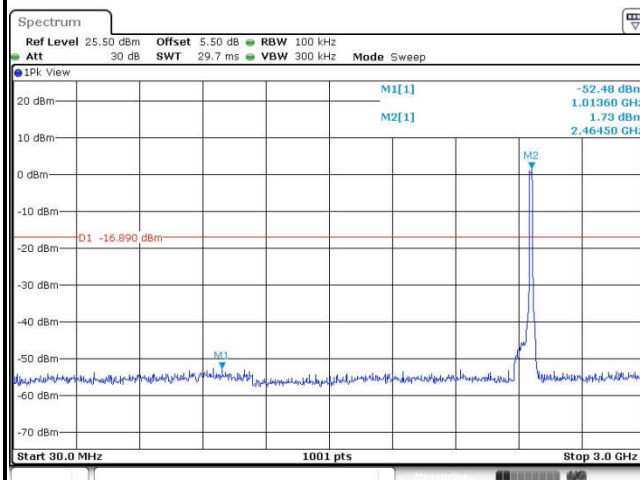
100kHz PSD reference Level



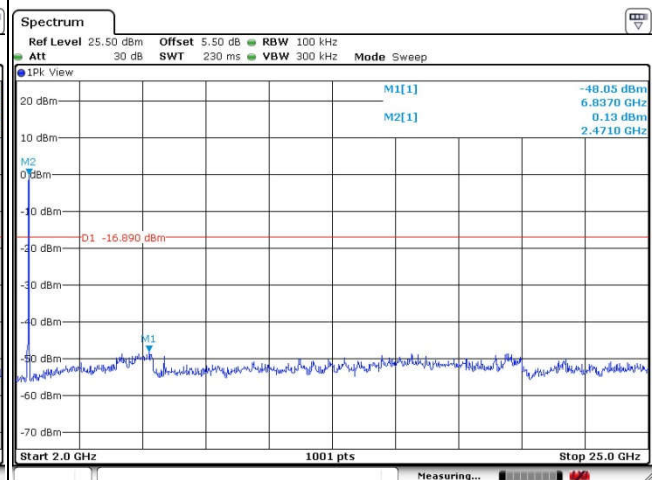
High Channel Plot



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

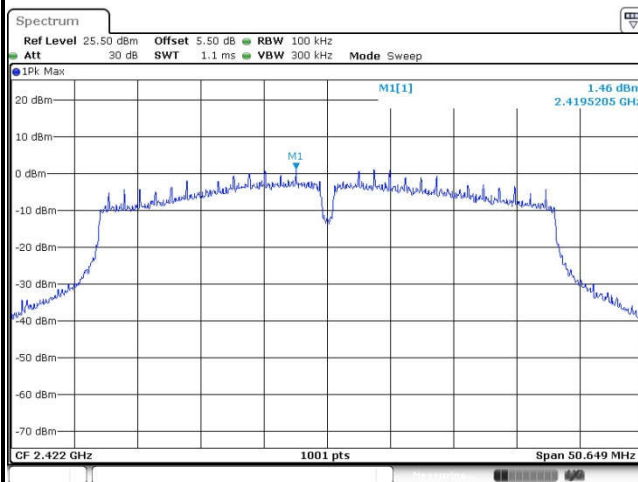




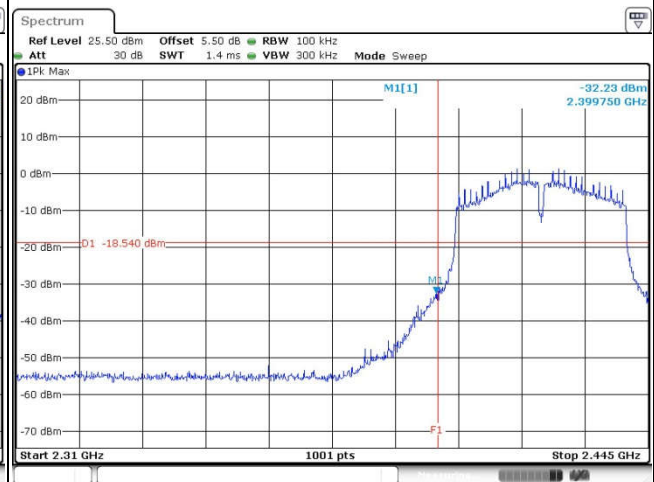
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT40	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~55%
Test Channel :	03	Test Engineer :	Silent Hai

WLAN 802.11n HT40 Channel 03

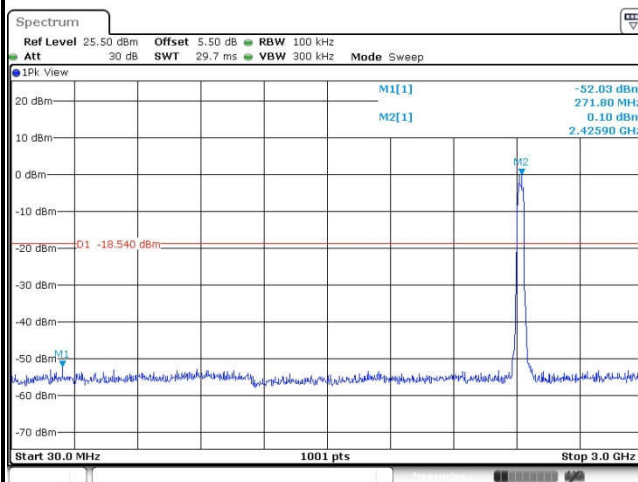
100kHz PSD reference Level



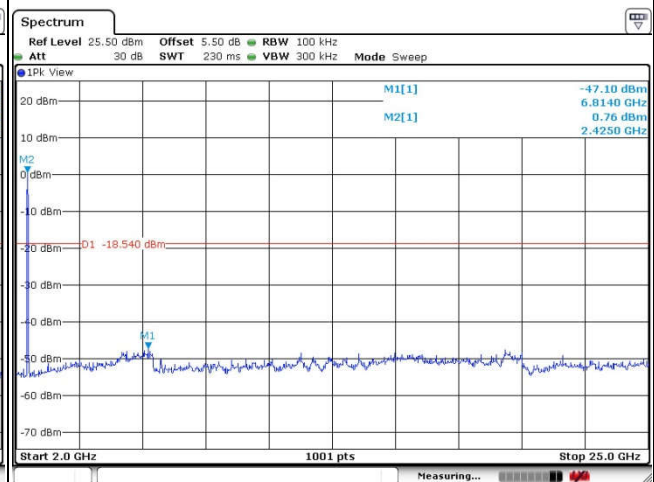
Low Channel Plot



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

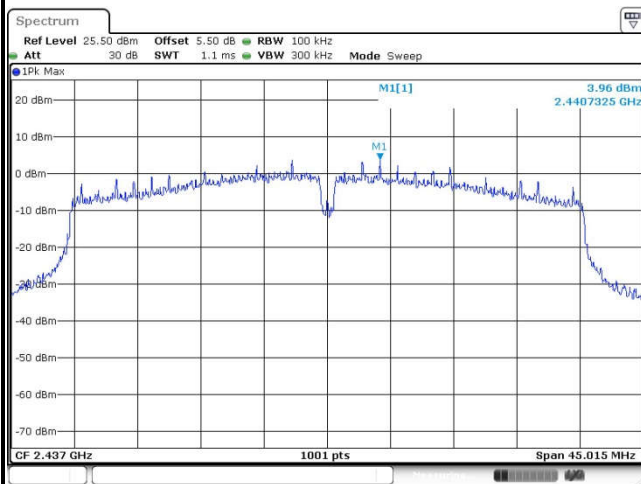




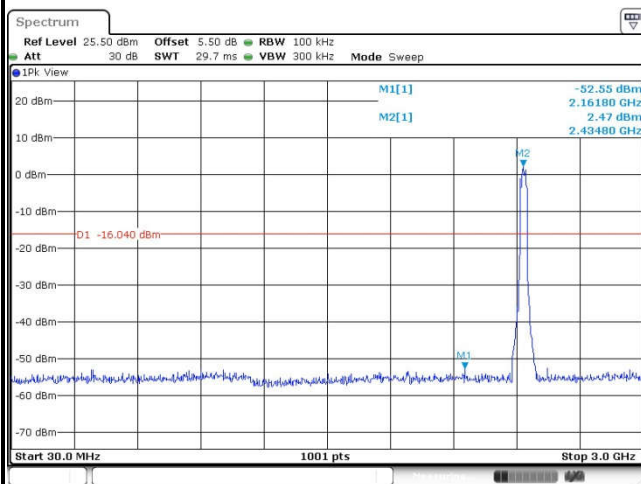
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT40	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~55%
Test Channel :	06	Test Engineer :	Silent Hai

WLAN 802.11n HT40 Channel 06

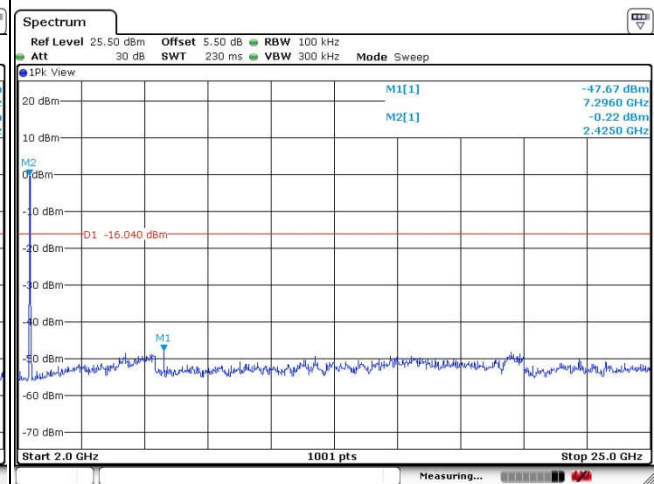
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

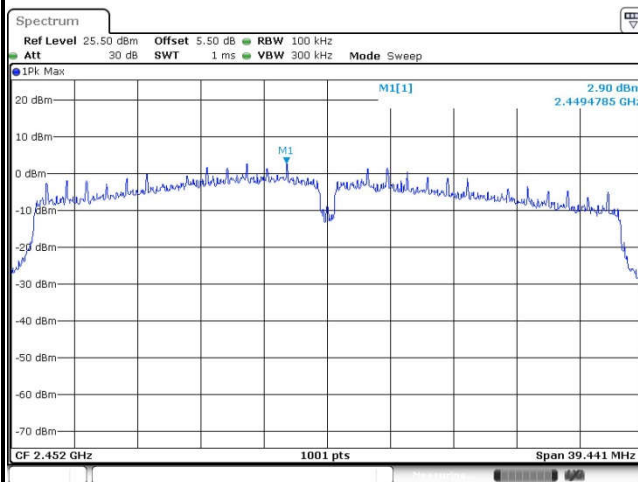




Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT40	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~55%
Test Channel :	09	Test Engineer :	Silent Hai

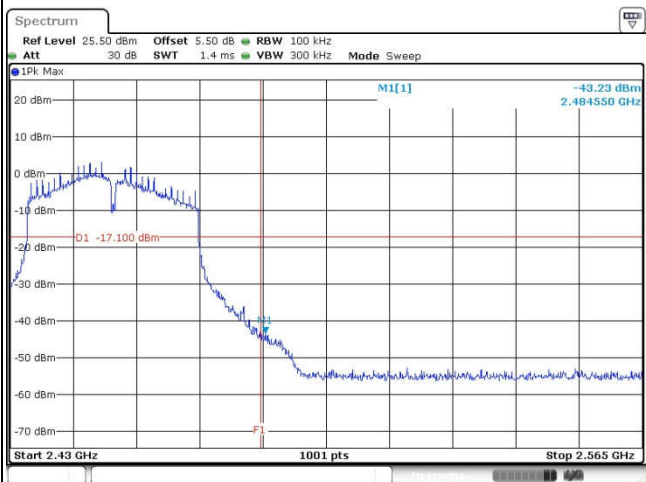
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



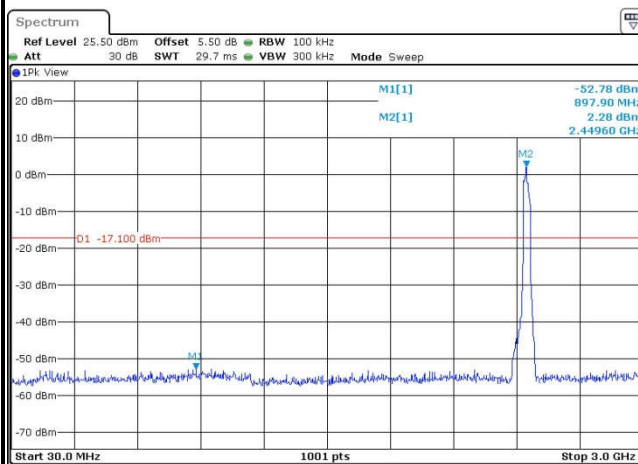
Date: 14.NOV.2017 10:33:11

High Channel Plot



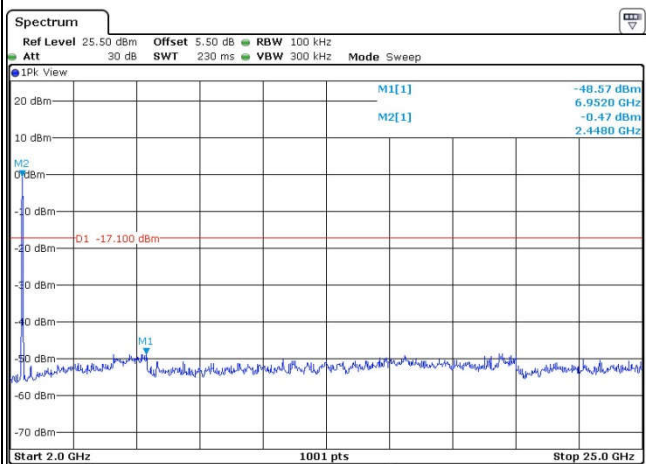
Date: 14.NOV.2017 10:33:24

Spurious Emission 30MHz~3GHz



Date: 14.NOV.2017 10:33:35

Spurious Emission 2GHz~25GHz



Date: 14.NOV.2017 10:33:52

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

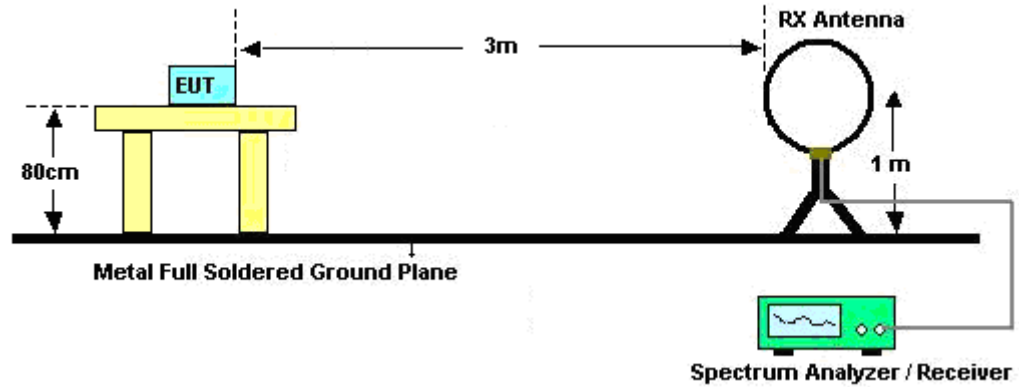
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test 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 $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.

For average measurement:

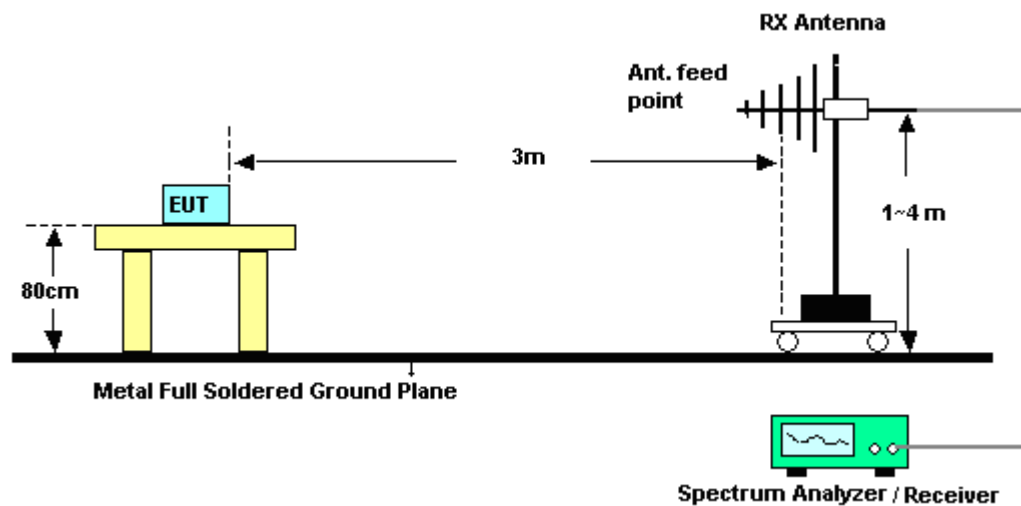
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

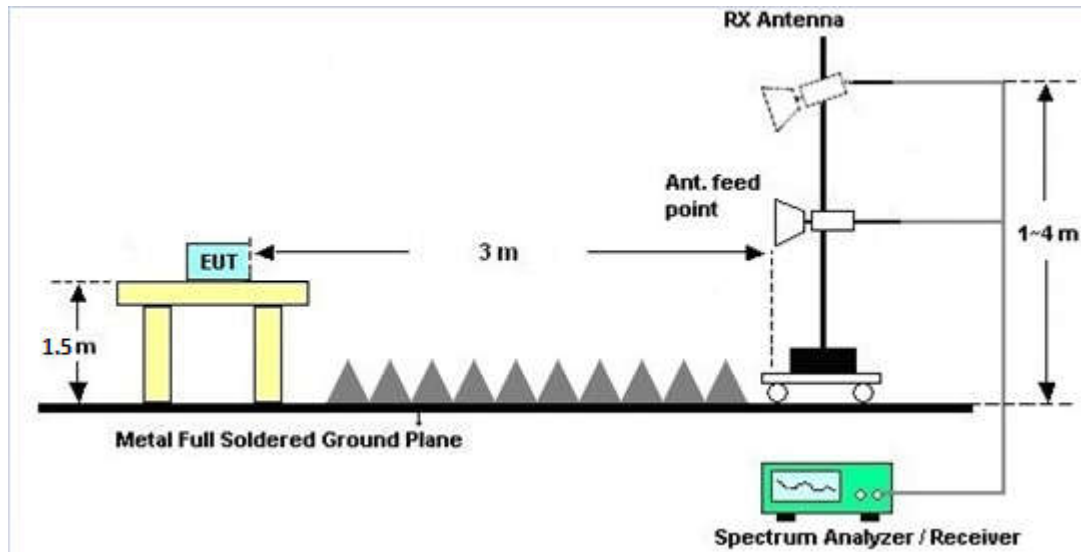
For radiated emissions below 30MHz



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 (dB μ V)	
	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.

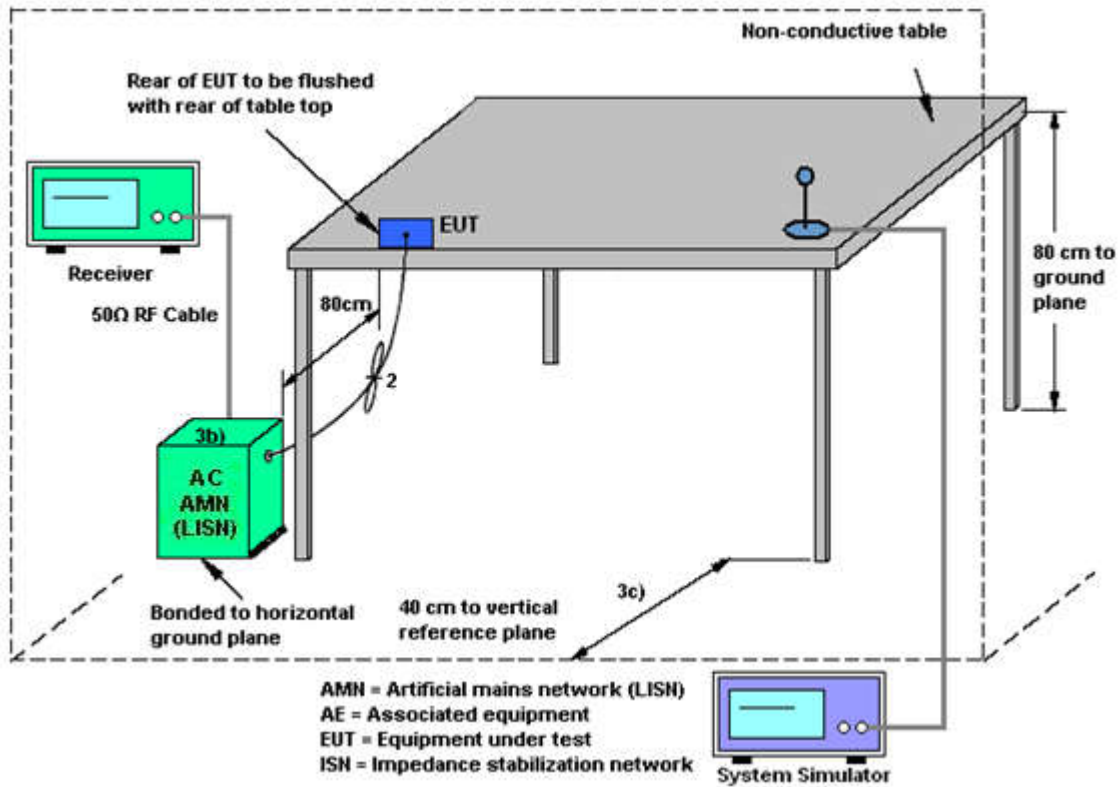
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

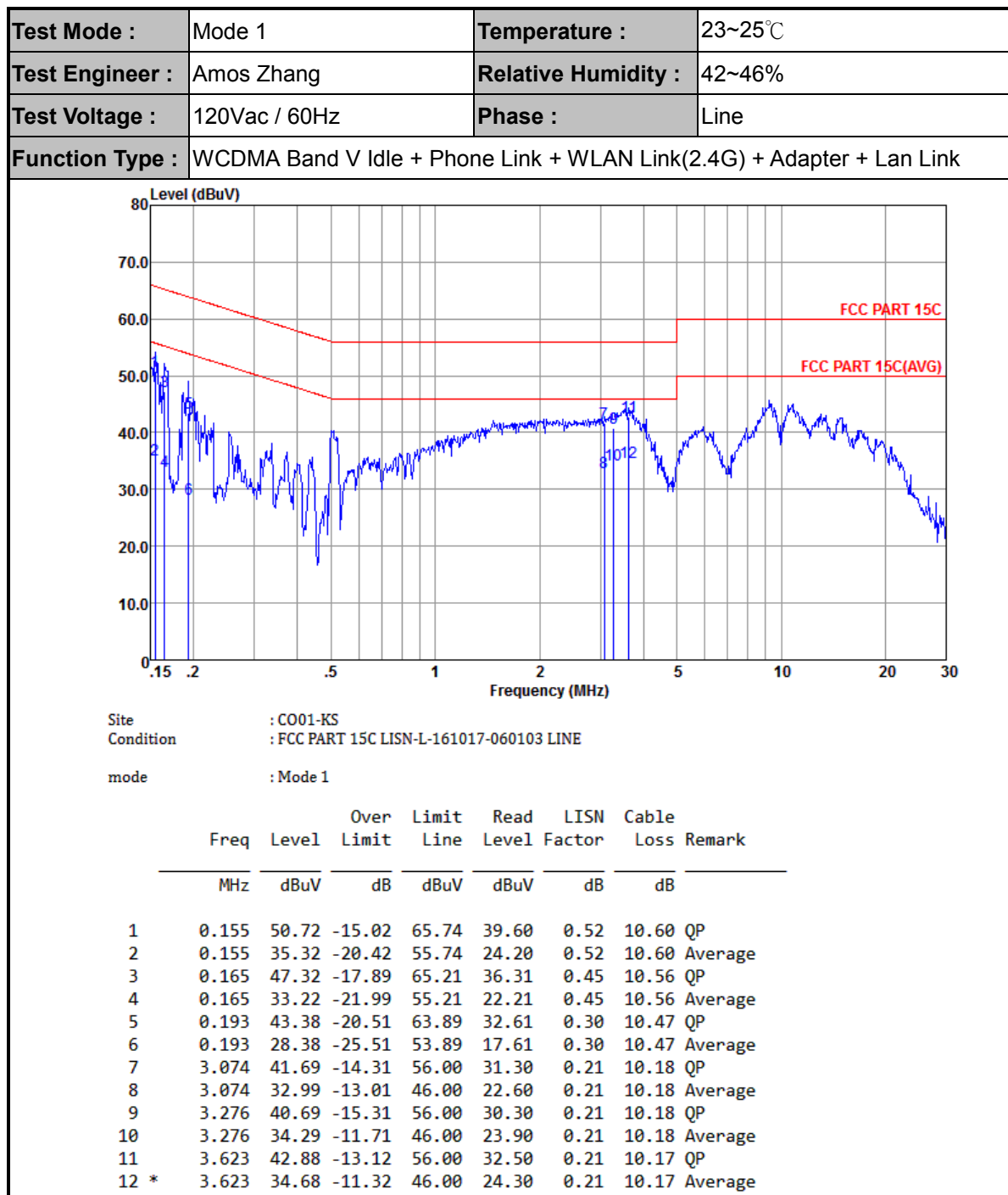
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other 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



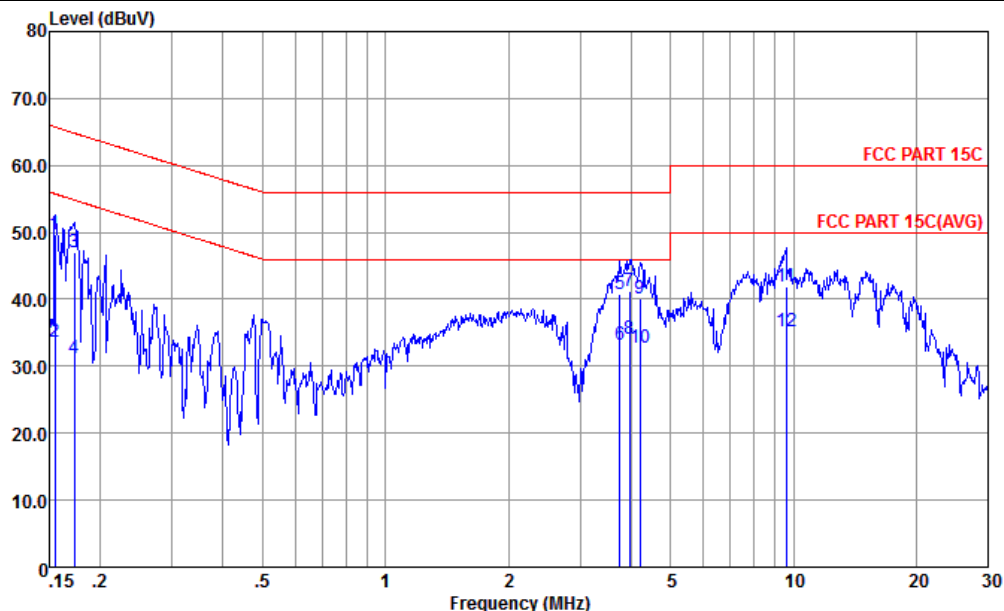


3.6.5 Test Result of AC Conducted Emission





Test Mode :	Mode 1	Temperature :	23~25°C
Test Engineer :	Amos Zhang	Relative Humidity :	42~46%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band V Idle + Phone Link + WLAN Link(2.4G) + Adapter + Lan Link		



Site : CO01-KS
Condition : FCC PART 15C LISN-N-161017-060103 NEUTRAL
mode : Mode 1

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.155	49.74	-16.00	65.74	38.80	0.34	10.60	QP
2	0.155	33.54	-22.20	55.74	22.60	0.34	10.60	Average
3	0.173	47.07	-17.74	64.81	36.19	0.34	10.54	QP
4	0.173	31.17	-23.64	54.81	20.29	0.34	10.54	Average
5	3.759	40.86	-15.14	56.00	30.30	0.39	10.17	QP
6	3.759	33.16	-12.84	46.00	22.60	0.39	10.17	Average
7	3.964	41.15	-14.85	56.00	30.59	0.39	10.17	QP
8 *	3.964	34.15	-11.85	46.00	23.59	0.39	10.17	Average
9	4.202	40.16	-15.84	56.00	29.59	0.39	10.18	QP
10	4.202	32.66	-13.34	46.00	22.09	0.39	10.18	Average
11	9.603	41.82	-18.18	60.00	31.20	0.29	10.33	QP
12	9.603	35.22	-14.78	50.00	24.60	0.29	10.33	Average

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. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the Antenna exceeds 6 dBi. 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 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 G_{ANT} 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.

			DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
	Ant. 1 (dBi)	Ant. 2 (dBi)				
2.4 GHz	2.00	2.10	5.06	5.06	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	101040	10Hz~40GHz	Aug. 08, 2017	Oct. 30, 2017~ Nov. 14, 2017	Aug. 07, 2018	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 19, 2017	Oct. 30, 2017~ Nov. 14, 2017	Jan. 18, 2018	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 19, 2017	Oct. 30, 2017~ Nov. 14, 2017	Jan. 18, 2018	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz; Max 30dBm	Oct. 19, 2016	Oct. 10, 2017~ Oct. 14, 2017	Oct. 18, 2017	Radiation (03CH03-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44GHz	Apr. 18, 2017	Oct. 10, 2017~ Oct. 14, 2017	Apr. 17, 2018	Radiation (03CH03-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 23, 2016	Oct. 10, 2017~ Oct. 14, 2017	Nov. 22, 2017	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	35406	25MHz~2GHz	Apr. 22, 2017	Oct. 10, 2017~ Oct. 14, 2017	Apr. 21, 2018	Radiation (03CH03-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1356	1GHz~18GHz	Apr. 22, 2017	Oct. 10, 2017~ Oct. 14, 2017	Apr. 21, 2018	Radiation (03CH03-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Feb. 15, 2017	Oct. 10, 2017~ Oct. 14, 2017	Feb. 14, 2018	Radiation (03CH03-KS)
Amplifier	com-power	PA-103A	161069	1MHz~1000MHz / 32 dB	Apr. 18, 2017	Oct. 10, 2017~ Oct. 14, 2017	Apr. 17, 2018	Radiation (03CH03-KS)
high gain Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	2025788	1GHz~18GHz	Apr. 18, 2017	Oct. 10, 2017~ Oct. 14, 2017	Apr. 17, 2018	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Oct. 19, 2016	Oct. 10, 2017~ Oct. 14, 2017	Oct. 18, 2017	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Oct. 10, 2017~ Oct. 14, 2017	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Oct. 10, 2017~ Oct. 14, 2017	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Oct. 10, 2017~ Oct. 14, 2017	NCR	Radiation (03CH03-KS)
EMI Receiver	R&S	ESC17	100768	9kHz~7GHz;	Apr. 20, 2017	Oct. 30, 2017	Apr. 19, 2018	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Oct. 13, 2017	Oct. 30, 2017	Oct. 12, 2018	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Oct. 13, 2017	Oct. 30, 2017	Oct. 12, 2018	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 12, 2017	Oct. 30, 2017	Oct. 11, 2018	Conduction (CO01-KS)

NCR: No Calibration Required

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.3dB
---	-------

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.6dB
---	-------

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.5dB
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Uncertainty of Radiated Emission Measurement (18GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.7dB
---	-------



Appendix A. Conducted Test Results

Report Number : FR7O1802A

Test Engineer:	Silent Hai	Temperature:	21~25	°C
Test Date:	2017/10/31~2017/11/14	Relative Humidity:	51~55	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band										
Mod.	Data Rate	N _{TX}	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	13.89		10.05		0.50	Pass
11b	1Mbps	1	6	2437	13.89		10.05		0.50	Pass
11b	1Mbps	1	11	2462	13.99		10.05		0.50	Pass
11g	6Mbps	1	1	2412		16.68		15.08	0.50	Pass
11g	6Mbps	1	6	2437		16.68		15.06	0.50	Pass
11g	6Mbps	1	11	2462		16.83		15.08	0.50	Pass
HT20	MCS0	1	1	2412		17.73		15.09	0.50	Pass
HT20	MCS0	1	6	2437		17.78		15.07	0.50	Pass
HT20	MCS0	1	11	2462		17.98		15.11	0.50	Pass
HT40	MCS0	1	3	2422		35.96		33.77	0.50	Pass
HT40	MCS0	1	6	2437		35.66		28.77	0.50	Pass
HT40	MCS0	1	9	2452		36.06		26.29	0.50	Pass
HT20	MCS0	2	1	2412	17.68	17.73	15.09	15.07	0.50	Pass
HT20	MCS0	2	6	2437	18.13	17.78	15.07	15.07	0.50	Pass
HT20	MCS0	2	11	2462	17.73	17.88	15.09	15.11	0.50	Pass
HT40	MCS0	2	3	2422	36.06	35.96	32.53	33.77	0.50	Pass
HT40	MCS0	2	6	2437	35.86	35.66	28.77	30.01	0.50	Pass
HT40	MCS0	2	9	2452	36.06	35.96	32.49	26.29	0.50	Pass

TEST RESULTS DATA
Peak Output Power

2.4GHz Band																
Mod.	Data Rate	N _{TX}	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	19.08	19.23		30.00	30.00	2.00	2.10	21.08	21.33	36.00	36.00	Pass
11b	1Mbps	1	6	2437	19.38	19.32		30.00	30.00	2.00	2.10	21.38	21.42	36.00	36.00	Pass
11b	1Mbps	1	11	2462	19.61	18.87		30.00	30.00	2.00	2.10	21.61	20.97	36.00	36.00	Pass
11g	6Mbps	1	1	2412	24.12	24.17		30.00	30.00	2.00	2.10	26.12	26.27	36.00	36.00	Pass
11g	6Mbps	1	6	2437	23.97	25.08		30.00	30.00	2.00	2.10	25.97	27.18	36.00	36.00	Pass
11g	6Mbps	1	11	2462	24.54	24.25		30.00	30.00	2.00	2.10	26.54	26.35	36.00	36.00	Pass
HT20	MCS0	1	1	2412	24.22	25.21		30.00	30.00	2.00	2.10	26.22	27.31	36.00	36.00	Pass
HT20	MCS0	1	6	2437	23.95	25.05		30.00	30.00	2.00	2.10	25.95	27.15	36.00	36.00	Pass
HT20	MCS0	1	11	2462	24.41	25.34		30.00	30.00	2.00	2.10	26.41	27.44	36.00	36.00	Pass
HT40	MCS0	1	3	2422	23.78	24.67		30.00	30.00	2.00	2.10	25.78	26.77	36.00	36.00	Pass
HT40	MCS0	1	6	2437	23.64	24.29		30.00	30.00	2.00	2.10	25.64	26.39	36.00	36.00	Pass
HT40	MCS0	1	9	2452	24.12	24.12		30.00	30.00	2.00	2.10	26.12	26.22	36.00	36.00	Pass
HT20	MCS0	2	1	2412	23.67	23.62	26.66	30.00		2.10		28.76		36.00		Pass
HT20	MCS0	2	6	2437	24.36	25.17	27.79	30.00		2.10		29.89		36.00		Pass
HT20	MCS0	2	11	2462	22.79	22.85	25.83	30.00		2.10		27.93		36.00		Pass
HT40	MCS0	2	3	2422	21.43	21.37	24.41	30.00		2.10		26.51		36.00		Pass
HT40	MCS0	2	6	2437	23.25	23.31	26.29	30.00		2.10		28.39		36.00		Pass
HT40	MCS0	2	9	2452	22.68	22.28	25.49	30.00		2.10		27.59		36.00		Pass

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

TEST RESULTS DATA
Average Output Power

2.4GHz Band									
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Ant 1	Ant 2	Ant 1	Ant 2	SUM
11b	1Mbps	1	1	2412	0.00	0.00	16.81	16.91	
11b	1Mbps	1	6	2437	0.00	0.00	17.08	17.01	
11b	1Mbps	1	11	2462	0.00	0.00	17.32	16.68	
11g	6Mbps	1	1	2412	0.11	0.11	15.45	14.73	
11g	6Mbps	1	6	2437	0.11	0.11	16.66	16.66	
11g	6Mbps	1	11	2462	0.11	0.11	17.23	14.84	
HT20	MCS0	1	1	2412	0.11	0.12	16.53	16.66	
HT20	MCS0	1	6	2437	0.11	0.12	16.46	16.54	
HT20	MCS0	1	11	2462	0.11	0.12	16.93	16.79	
HT40	MCS0	1	3	2422	0.17	0.17	16.80	16.91	
HT40	MCS0	1	6	2437	0.17	0.17	16.71	16.53	
HT40	MCS0	1	9	2452	0.17	0.17	16.90	16.19	
HT20	MCS0	2	1	2412	0.12	0.12	14.63	14.41	17.53
HT20	MCS0	2	6	2437	0.12	0.12	16.88	16.54	19.72
HT20	MCS0	2	11	2462	0.12	0.12	14.23	13.81	17.03
HT40	MCS0	2	3	2422	0.17	0.20	13.28	13.02	16.16
HT40	MCS0	2	6	2437	0.17	0.20	16.02	15.51	18.78
HT40	MCS0	2	9	2452	0.17	0.20	14.76	14.11	17.46

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

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band												
Mod.	Data Rate	N _{TX}	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	-7.03		-	2.00	2.10	8.00	8.00	Pass
11b	1Mbps	1	6	2437	-6.61			2.00	2.10	8.00	8.00	Pass
11b	1Mbps	1	11	2462	-7.11			2.00	2.10	8.00	8.00	Pass
11g	6Mbps	1	1	2412		-8.52		2.00	2.10	8.00	8.00	Pass
11g	6Mbps	1	6	2437		-7.86		2.00	2.10	8.00	8.00	Pass
11g	6Mbps	1	11	2462		-9.05		2.00	2.10	8.00	8.00	Pass
HT20	MCS0	1	1	2412		-8.99		2.00	2.10	8.00	8.00	Pass
HT20	MCS0	1	6	2437		-8.40		2.00	2.10	8.00	8.00	Pass
HT20	MCS0	1	11	2462		-8.34		2.00	2.10	8.00	8.00	Pass
HT40	MCS0	1	3	2422		-10.77		2.00	2.10	8.00	8.00	Pass
HT40	MCS0	1	6	2437		-10.98		2.00	2.10	8.00	8.00	Pass
HT40	MCS0	1	9	2452		-9.99		2.00	2.10	8.00	8.00	Pass
HT20	MCS0	2	1	2412	-9.38	-9.05	-6.04	5.06		8.00		Pass
HT20	MCS0	2	6	2437	-8.06	-7.81	-4.80	5.06		8.00		Pass
HT20	MCS0	2	11	2462	-9.66	-10.21	-6.65	5.06		8.00		Pass
HT40	MCS0	2	3	2422	-13.20	-12.51	-9.50	5.06		8.00		Pass
HT40	MCS0	2	6	2437	-9.64	-10.48	-6.63	5.06		8.00		Pass
HT40	MCS0	2	9	2452	-10.15	-11.81	-7.14	5.06		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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2387.09	55.73	-18.27	74	58.76	25.8	7.59	36.42	282	358	P	H
		2385.01	45.34	-8.66	54	48.58	25.67	7.55	36.46	282	358	A	H
	*	2412	109.44	-	-	112.42	25.83	7.62	36.43	282	358	P	H
	*	2410	106.3	-	-	109.28	25.83	7.62	36.43	282	358	A	H
		2387.48	54.46	-19.54	74	57.49	25.8	7.59	36.42	301	73	P	V
		2389.95	43.45	-10.55	54	46.48	25.8	7.59	36.42	301	73	A	V
	*	2412	107.28	-	-	110.26	25.83	7.62	36.43	301	73	P	V
	*	2410	104.14	-	-	107.12	25.83	7.62	36.43	301	73	A	V
802.11b CH 06 2437MHz		2389.43	57.75	-16.25	74	60.78	25.8	7.59	36.42	273	358	P	H
		2389.95	46.42	-7.58	54	49.45	25.8	7.59	36.42	273	358	A	H
	*	2436	107.71	-	-	110.65	25.86	7.64	36.44	273	358	P	H
	*	2436	104.18	-	-	107.12	25.86	7.64	36.44	273	358	A	H
		2485.18	58.23	-15.77	74	61.04	25.94	7.72	36.47	273	358	P	H
		2483.51	46.77	-7.23	54	49.58	25.94	7.72	36.47	273	358	A	H
		2389.69	55.14	-18.86	74	58.17	25.8	7.59	36.42	306	68	P	V
		2389.95	45.03	-8.97	54	48.06	25.8	7.59	36.42	306	68	A	V
	*	2436	105.6	-	-	108.54	25.86	7.64	36.44	306	68	P	V
	*	2436	101.9	-	-	104.84	25.86	7.64	36.44	306	68	A	V
		2484.46	54.54	-19.46	74	57.35	25.94	7.72	36.47	306	68	P	V
		2483.8	44.04	-9.96	54	46.85	25.94	7.72	36.47	306	68	A	V



802.11b CH 11 2462MHz	*	2460	110.43	-	-	113.29	25.91	7.69	36.46	267	0	P	H
	*	2460	107.34	-	-	110.2	25.91	7.69	36.46	267	0	A	H
		2484.04	57.18	-16.82	74	59.99	25.94	7.72	36.47	267	0	P	H
		2483.51	47.91	-6.09	54	50.72	25.94	7.72	36.47	267	0	A	H
	*	2462	107.88	-	-	110.74	25.91	7.69	36.46	262	74	P	V
	*	2460	104.78	-	-	107.64	25.91	7.69	36.46	262	74	A	V
		2483.62	55.08	-18.92	74	57.89	25.94	7.72	36.47	262	74	P	V
		2483.56	45.28	-8.72	54	48.09	25.94	7.72	36.47	262	74	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	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	41.34	-32.66	74	63.69	30.68	11.5	64.53	300	360	P	H
		4824	41.02	-32.98	74	63.37	30.68	11.5	64.53	100	0	P	V
802.11b CH 06 2437MHz		4872	44.1	-29.9	74	66.29	30.85	11.56	64.6	300	0	P	H
		7308	41.48	-32.52	74	57.7	34.81	13.98	65.01	300	0	P	H
		4872	39.67	-34.33	74	61.86	30.85	11.56	64.6	100	0	P	V
		7308	39.37	-34.63	74	55.59	34.81	13.98	65.01	100	0	P	V
802.11b CH 11 2462MHz		4926	41.89	-32.11	74	63.93	31.02	11.62	64.68	300	0	P	H
		7386	40.95	-33.05	74	57	35.03	13.97	65.05	300	0	P	H
		4926	43.39	-30.61	74	65.43	31.02	11.62	64.68	100	360	P	V
		7386	41.27	-32.73	74	57.32	35.03	13.97	65.05	100	360	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 802.11b (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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 11 2462MHz	*	2462	110	-	-	112.86	25.91	7.69	36.46	274	238	P	H
	*	2460	106.65	-	-	109.51	25.91	7.69	36.46	274	238	A	H
		2483.56	60.35	-13.65	74	63.16	25.94	7.72	36.47	274	238	P	H
		2483.62	50.68	-3.32	54	53.49	25.94	7.72	36.47	274	238	A	H
	*	2462	108.56	-	-	111.42	25.91	7.69	36.46	100	278	P	V
	*	2460	105.23	-	-	108.09	25.91	7.69	36.46	100	278	A	V
		2483.92	59.41	-14.59	74	62.22	25.94	7.72	36.47	100	278	P	V
		2483.51	49.91	-4.09	54	52.72	25.94	7.72	36.47	100	278	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	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 11 2462MHz		4926	46.4	-27.6	74	68.44	31.02	11.62	64.68	300	0	P	H
		7386	40.25	-33.75	74	56.3	35.03	13.97	65.05	300	0	P	H
		4926	44.91	-29.09	74	66.95	31.02	11.62	64.68	100	360	P	V
		7386	40.53	-33.47	74	56.58	35.03	13.97	65.05	100	360	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 802.11g (Band Edge @ 3m)

WIFI Ant. 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		2389.69	63.35	-10.65	74	66.38	25.8	7.59	36.42	284	241	P	H
		2389.95	52.65	-1.35	54	55.68	25.8	7.59	36.42	284	241	A	H
	*	2414	109.25	-	-	112.23	25.83	7.62	36.43	284	241	P	H
	*	2414	101.36	-	-	104.34	25.83	7.62	36.43	284	241	A	H
		2389.43	64.29	-9.71	74	67.32	25.8	7.59	36.42	382	293	P	V
		2389.95	52.99	-1.01	54	56.02	25.8	7.59	36.42	382	293	A	V
	*	2410	110.23	-	-	113.21	25.83	7.62	36.43	382	293	P	V
	*	2410	102.41	-	-	105.39	25.83	7.62	36.43	382	293	A	V
802.11g CH 06 2437MHz		2389.82	58.59	-15.41	74	61.62	25.8	7.59	36.42	293	246	P	H
		2389.95	49.31	-4.69	54	52.34	25.8	7.59	36.42	293	246	A	H
	*	2436	111.49	-	-	114.43	25.86	7.64	36.44	293	246	P	H
	*	2436	103.55	-	-	106.49	25.86	7.64	36.44	293	246	A	H
		2484.28	57.84	-16.16	74	60.65	25.94	7.72	36.47	293	246	P	H
		2483.74	47.28	-6.72	54	50.09	25.94	7.72	36.47	293	246	A	H
		2389.56	58.8	-15.2	74	61.83	25.8	7.59	36.42	367	295	P	V
		2389.82	48.38	-5.62	54	51.41	25.8	7.59	36.42	367	295	A	V
	*	2436	111.36	-	-	114.3	25.86	7.64	36.44	367	295	P	V
	*	2436	103.31	-	-	106.25	25.86	7.64	36.44	367	295	A	V
		2487.34	57.53	-16.47	74	60.34	25.94	7.72	36.47	367	295	P	V
		2483.51	47.65	-6.35	54	50.46	25.94	7.72	36.47	367	295	A	V



802.11g CH 11 2462MHz	*	2462	109.65	-	-	112.51	25.91	7.69	36.46	280	245	P	H
	*	2460	101.99	-	-	104.85	25.91	7.69	36.46	280	245	A	H
		2483.51	65.26	-8.74	74	68.07	25.94	7.72	36.47	280	245	P	H
		2483.51	52	-2	54	54.81	25.94	7.72	36.47	280	245	A	H
	*	2464	111.1	-	-	113.96	25.91	7.69	36.46	367	286	P	V
	*	2464	103.49	-	-	106.35	25.91	7.69	36.46	367	286	A	V
		2485.84	65.88	-8.12	74	68.69	25.94	7.72	36.47	367	286	P	V
		2483.51	52.91	-1.09	54	55.72	25.94	7.72	36.47	367	286	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. 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	36.26	-37.74	74	58.61	30.68	11.5	64.53	100	360	P	H
		4824	39.36	-34.64	74	61.71	30.68	11.5	64.53	200	360	P	V
802.11g CH 06 2437MHz		4872	37.11	-36.89	74	59.3	30.85	11.56	64.6	100	360	P	H
		7308	40.13	-33.87	74	56.35	34.81	13.98	65.01	100	360	P	H
		4872	38.94	-35.06	74	61.13	30.85	11.56	64.6	100	360	P	V
		7308	40.78	-33.22	74	57	34.81	13.98	65.01	100	360	P	V
802.11g CH 11 2462MHz		4926	39.19	-34.81	74	61.23	31.02	11.62	64.68	100	0	P	H
		7386	41.12	-32.88	74	57.17	35.03	13.97	65.05	100	0	P	H
		4926	39.89	-34.11	74	61.93	31.02	11.62	64.68	100	0	P	V
		7386	40.21	-33.79	74	56.26	35.03	13.97	65.05	100	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 802.11g (Band Edge @ 3m)

WIFI Ant. 1	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		2389.82	64.35	-9.65	74	67.38	25.8	7.59	36.42	290	343	P	H
		2389.95	53.32	-0.68	54	56.35	25.8	7.59	36.42	290	343	A	H
	*	2410	110.23	-	-	113.21	25.83	7.62	36.43	290	343	P	H
	*	2410	102.57	-	-	105.55	25.83	7.62	36.43	290	343	A	H
		2388	64.93	-9.07	74	67.96	25.8	7.59	36.42	323	90	P	V
		2389.95	52.84	-1.16	54	55.87	25.8	7.59	36.42	323	90	A	V
	*	2412	110.2	-	-	113.18	25.83	7.62	36.43	323	90	P	V
	*	2410	101.68	-	-	104.66	25.83	7.62	36.43	323	90	A	V

2.4GHz 2400~2483.5MHz
WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 1	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	36.05	-37.95	74	58.4	30.68	11.5	64.53	100	360	P	H
		4824	36.67	-37.33	74	59.02	30.68	11.5	64.53	100	360	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 HT20 (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)
802.11n HT20 CH 01 2412MHz		2387.09	63.28	-10.72	74	66.31	25.8	7.59	36.42	104	227	P	H
		2389.95	52.77	-1.23	54	55.8	25.8	7.59	36.42	104	227	A	H
	*	2414	110.19	-	-	113.17	25.83	7.62	36.43	104	227	P	H
	*	2408	99.78	-	-	102.76	25.83	7.62	36.43	104	227	A	H
		2389.69	66.16	-7.84	74	69.19	25.8	7.59	36.42	100	279	P	V
		2389.95	49.64	-4.36	54	52.67	25.8	7.59	36.42	100	279	A	V
	*	2414	113.05	-	-	116.03	25.83	7.62	36.43	100	279	P	V
	*	2414	105.29	-	-	108.27	25.83	7.62	36.43	100	279	A	V
802.11n HT20 CH 06 2437MHz		2388.26	60.37	-13.63	74	63.4	25.8	7.59	36.42	153	230	P	H
		2389.95	51.04	-2.96	54	54.07	25.8	7.59	36.42	153	230	A	H
	*	2438	111.1	-	-	113.99	25.89	7.67	36.45	153	230	P	H
	*	2440	103.26	-	-	106.15	25.89	7.67	36.45	153	230	A	H
		2485.72	59.57	-14.43	74	62.38	25.94	7.72	36.47	153	230	P	H
		2483.62	49.56	-4.44	54	52.37	25.94	7.72	36.47	153	230	A	H
		2389.82	60.3	-13.7	74	63.33	25.8	7.59	36.42	100	301	P	V
		2389.82	51.53	-2.47	54	54.56	25.8	7.59	36.42	100	301	A	V
	*	2438	112.39	-	-	115.28	25.89	7.67	36.45	100	301	P	V
	*	2438	105.05	-	-	107.94	25.89	7.67	36.45	100	301	A	V
		2485	61.05	-12.95	74	63.86	25.94	7.72	36.47	100	301	P	V
		2483.51	49.93	-4.07	54	52.74	25.94	7.72	36.47	100	301	A	V



802.11n HT20 CH 11 2462MHz	*	2460	111.99	-	-	114.85	25.91	7.69	36.46	278	231	P	H
	*	2460	104.31	-	-	107.17	25.91	7.69	36.46	278	231	A	H
		2485	66.99	-7.01	74	69.8	25.94	7.72	36.47	278	231	P	H
		2483.51	53.4	-0.6	54	56.21	25.94	7.72	36.47	278	231	A	H
	*	2460	110.88	-	-	113.74	25.91	7.69	36.46	100	303	P	V
	*	2458	102.69	-	-	105.55	25.91	7.69	36.46	100	303	A	V
		2484.28	64.66	-9.34	74	67.47	25.94	7.72	36.47	100	303	P	V
		2483.68	50.71	-3.29	54	53.52	25.94	7.72	36.47	100	303	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	45.56	-28.44	74	67.91	30.68	11.5	64.53	300	0	P	H
		4824	39.94	-34.06	74	62.29	30.68	11.5	64.53	100	0	P	V
802.11n HT20 CH 06 2437MHz		4872	48.72	-25.28	74	70.91	30.85	11.56	64.6	300	360	P	H
		7308	42.22	-31.78	74	58.44	34.81	13.98	65.01	300	360	P	H
		4872	43.58	-30.42	74	65.77	30.85	11.56	64.6	100	360	P	V
		7308	40.57	-33.43	74	56.79	34.81	13.98	65.01	100	360	P	V
802.11n HT20 CH 11 2462MHz		4926	47.13	-26.87	74	69.17	31.02	11.62	64.68	300	0	P	H
		7386	42.94	-31.06	74	58.99	35.03	13.97	65.05	300	0	P	H
		4926	40.73	-33.27	74	62.77	31.02	11.62	64.68	100	0	P	V
		7386	41.78	-32.22	74	57.83	35.03	13.97	65.05	100	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)
802.11n HT40 CH 03 2422MHz		2389.95	61.95	-12.05	74	64.98	25.8	7.59	36.42	325	248	P	H
		2389.17	50.32	-3.68	54	53.35	25.8	7.59	36.42	325	248	A	H
	*	2420	109.99	-	-	112.93	25.86	7.64	36.44	325	248	P	H
	*	2420	102.17	-	-	105.11	25.86	7.64	36.44	325	248	A	H
		2487.22	54.23	-19.77	74	57.04	25.94	7.72	36.47	325	248	P	H
		2486.44	44.18	-9.82	54	46.99	25.94	7.72	36.47	325	248	A	H
		2389.95	61.39	-12.61	74	64.42	25.8	7.59	36.42	326	286	P	V
		2389.56	50.68	-3.32	54	53.71	25.8	7.59	36.42	326	286	A	V
	*	2428	106.02	-	-	108.96	25.86	7.64	36.44	326	286	P	V
	*	2426	98.56	-	-	101.5	25.86	7.64	36.44	326	286	A	V
		2487.52	54.08	-19.92	74	56.85	25.97	7.74	36.48	326	286	P	V
		2485	44.4	-9.6	54	47.21	25.94	7.72	36.47	326	286	A	V
802.11n HT40 CH 06 2437MHz		2389.56	58.33	-15.67	74	61.36	25.8	7.59	36.42	100	276	P	H
		2389.69	48.15	-5.85	54	51.18	25.8	7.59	36.42	100	276	A	H
	*	2444	107.43	-	-	110.32	25.89	7.67	36.45	100	276	P	H
	*	2442	100.45	-	-	103.34	25.89	7.67	36.45	100	276	A	H
		2483.98	60.92	-13.08	74	63.73	25.94	7.72	36.47	100	276	P	H
		2484.16	49.82	-4.18	54	52.63	25.94	7.72	36.47	100	276	A	H
		2387.48	58	-16	74	61.03	25.8	7.59	36.42	373	286	P	V
		2389.95	48.6	-5.4	54	51.63	25.8	7.59	36.42	373	286	A	V
	*	2444	109.11	-	-	112	25.89	7.67	36.45	373	286	P	V
	*	2442	101.47	-	-	104.36	25.89	7.67	36.45	373	286	A	V
		2484.22	60.77	-13.23	74	63.58	25.94	7.72	36.47	373	286	P	V
		2484.46	49.72	-4.28	54	52.53	25.94	7.72	36.47	373	286	A	V



802.11n HT40 CH 09 2452MHz		2389.17	56	-18	74	59.03	25.8	7.59	36.42	261	12	P	H
		2389.95	46.64	-7.36	54	49.67	25.8	7.59	36.42	261	12	A	H
	*	2450	109.62	-	-	112.51	25.89	7.67	36.45	261	12	P	H
	*	2448	102.11	-	-	105	25.89	7.67	36.45	261	12	A	H
		2483.5	64.93	-9.07	74	67.74	25.94	7.72	36.47	261	12	P	H
		2483.74	52.59	-1.41	54	55.4	25.94	7.72	36.47	261	12	A	H
		2389.3	53.78	-20.22	74	56.81	25.8	7.59	36.42	367	276	P	V
		2389.69	45.16	-8.84	54	48.19	25.8	7.59	36.42	367	276	A	V
	*	2450	108.8	-	-	111.69	25.89	7.67	36.45	367	276	P	V
	*	2450	101.29	-	-	104.18	25.89	7.67	36.45	367	276	A	V
		2483.68	62.66	-11.34	74	65.47	25.94	7.72	36.47	367	276	P	V
		2484.34	49.86	-4.14	54	52.67	25.94	7.72	36.47	367	276	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 HT40 CH 03 2422MHz		4842	38.52	-35.48	74	60.82	30.73	11.52	64.55	300	360	P	H
		7266	41.52	-32.48	74	57.8	34.72	13.99	64.99	300	360	P	H
		4844	38.12	-35.88	74	60.42	30.73	11.52	64.55	100	360	P	V
		7266	40.56	-33.44	74	56.84	34.72	13.99	64.99	100	360	P	V
802.11n HT40 CH 06 2437MHz		4872	39.88	-34.12	74	62.07	30.85	11.56	64.6	300	360	P	H
		7308	41.37	-32.63	74	57.59	34.81	13.98	65.01	300	360	P	H
		4874	42.77	-31.23	74	64.96	30.85	11.56	64.6	100	360	P	V
		7308	41.44	-32.56	74	57.66	34.81	13.98	65.01	100	360	P	V
802.11n HT40 CH 09 2452MHz		4902	38.42	-35.58	74	60.51	30.96	11.6	64.65	300	360	P	H
		7356	41.52	-32.48	74	57.64	34.94	13.97	65.03	300	360	P	H
		4902	40.95	-33.05	74	63.04	30.96	11.6	64.65	300	0	P	V
		7356	41.38	-32.62	74	57.5	34.94	13.97	65.03	300	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		30.97	26.45	-13.55	40	31.47	26.58	0.69	32.29	-	-	P	H
		76.56	21.95	-18.05	40	37.8	15.1	1.28	32.23	-	-	P	H
		112.45	22.53	-20.97	43.5	34.66	18.62	1.52	32.27	-	-	P	H
		144.46	24.16	-19.34	43.5	37	17.67	1.77	32.28	-	-	P	H
		216.24	23.3	-22.7	46	36.28	17.07	2.16	32.21	-	-	P	H
		898.15	33.28	-12.72	46	31.2	28.97	4.56	31.45	200	357	P	H
		36.79	29.5	-10.5	40	36.17	24.7	0.89	32.26	100	45	P	V
		81.41	28.39	-11.61	40	43.67	15.66	1.31	32.25	-	-	P	V
		98.87	24.73	-18.77	43.5	36.73	18.86	1.4	32.26	-	-	P	V
		127.97	26.01	-17.49	43.5	38.49	18.16	1.64	32.28	-	-	P	V
		323.91	26.65	-19.35	46	35.24	20.61	2.88	32.08	-	-	P	V
		907.85	32.9	-13.1	46	30.75	29	4.59	31.44	-	-	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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		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)

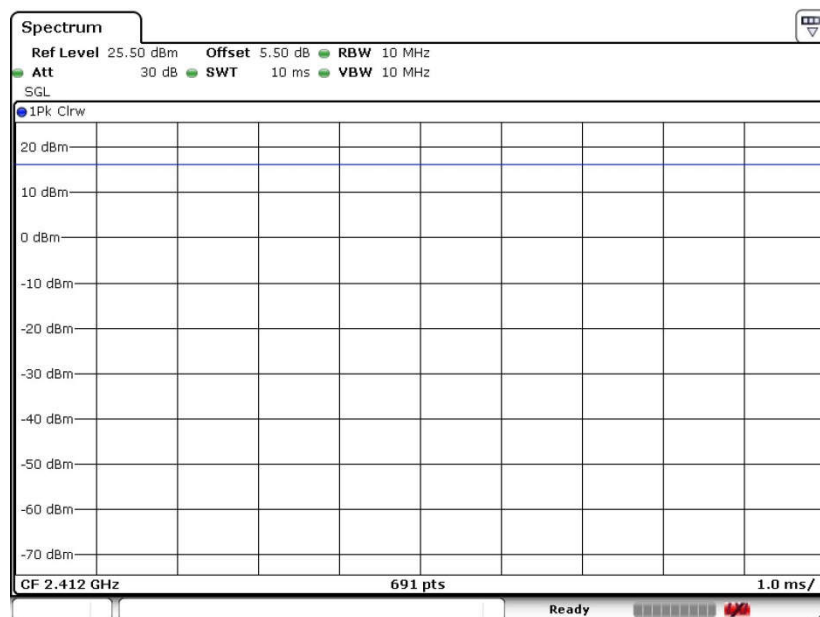
= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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

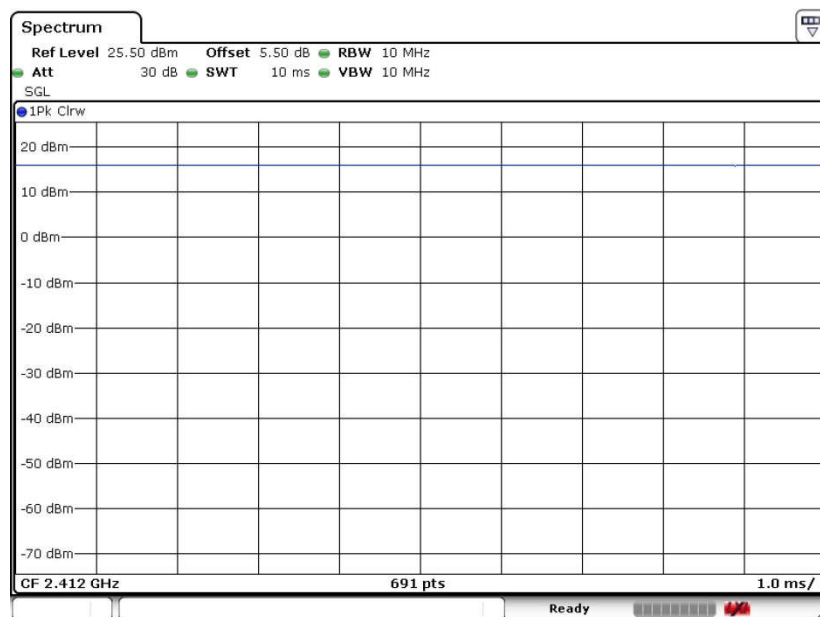
Appendix C. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
1	802.11 b	100	-	-	10Hz
2	802.11 b	100	-	-	10Hz
1	802.11 g	97.56	2.029	0.493	1kHz
2	802.11 g	97.55	2.022	0.495	1kHz
1+2	802.11n HT20	97.38	1.884	0.531	1kHz
1+2	802.11n HT40	96.24	0.928	1.078	3kHz

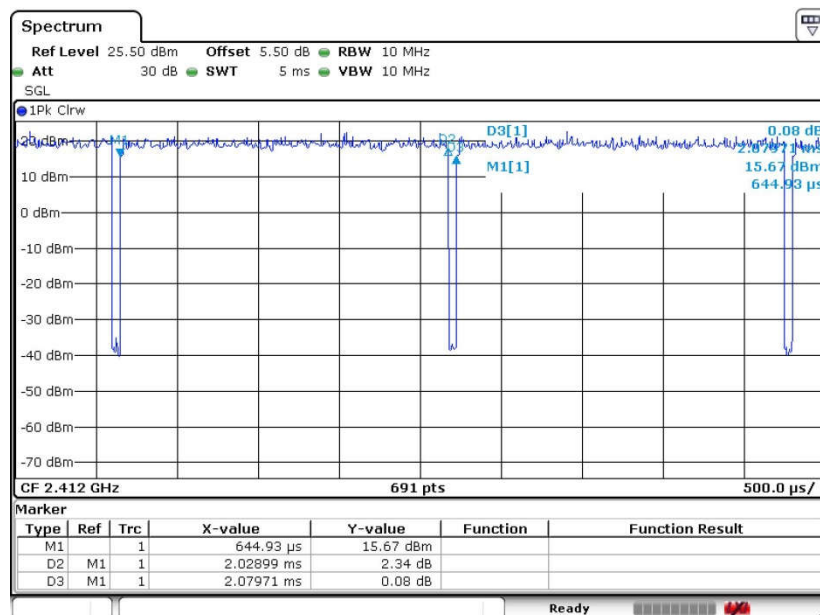
802.11b Ant.1




802.11b Ant.2

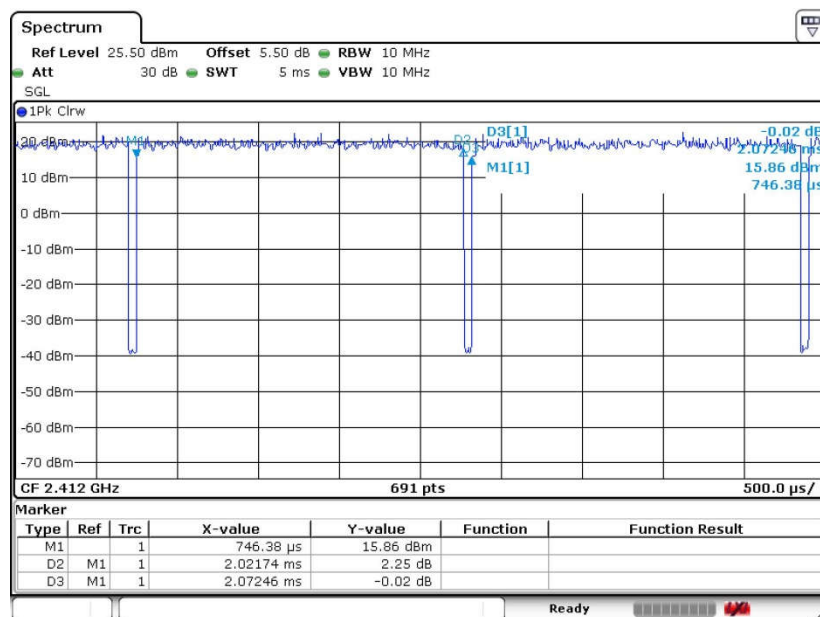


802.11g Ant.1

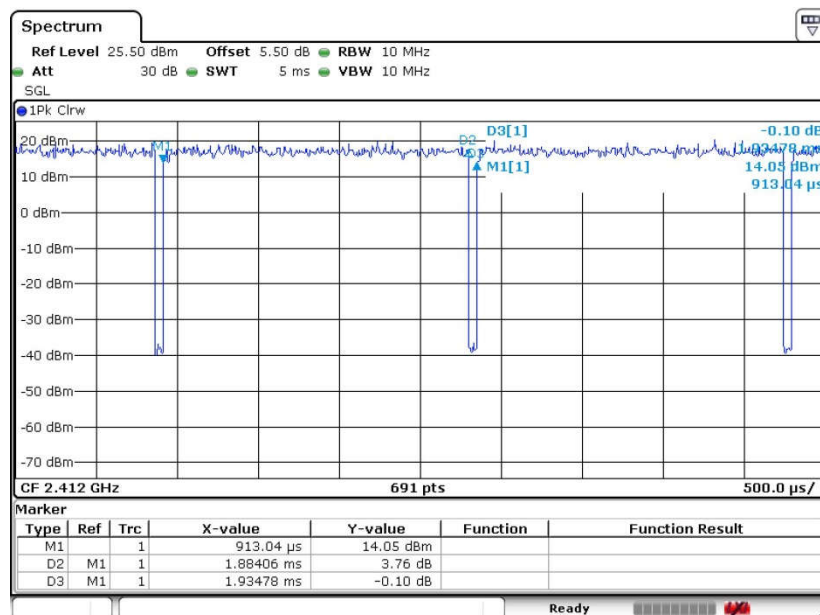




802.11g Ant.2



802.11n20 Ant.1+2





802.11n40 Ant.1+2

