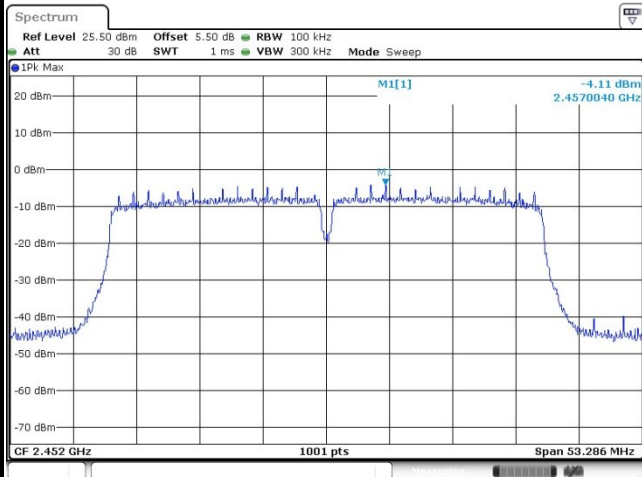




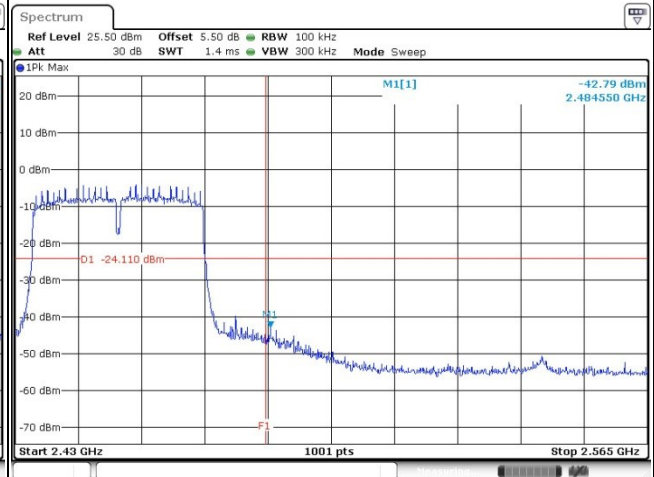
Test Mode : 802.11n HT40

Test Channel : 09

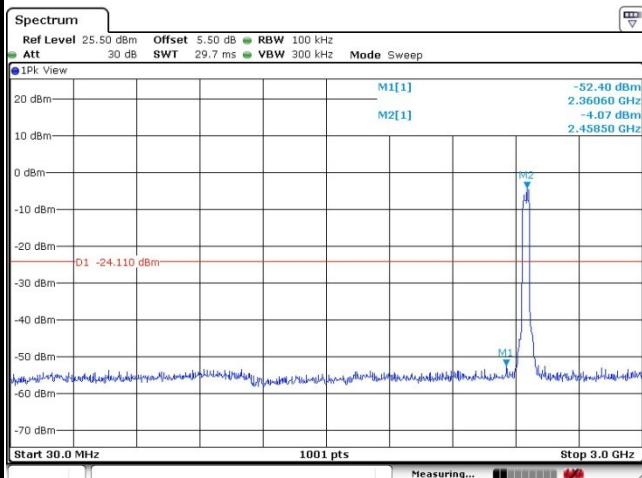
100kHz PSD reference Level



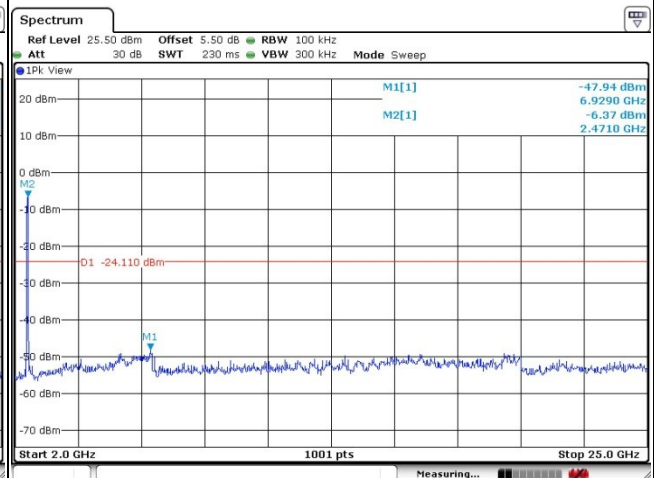
High Channel Plot



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

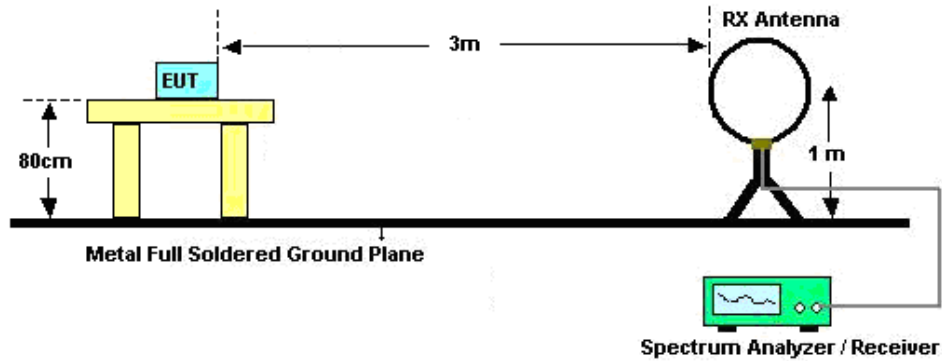
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test 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 testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. 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:

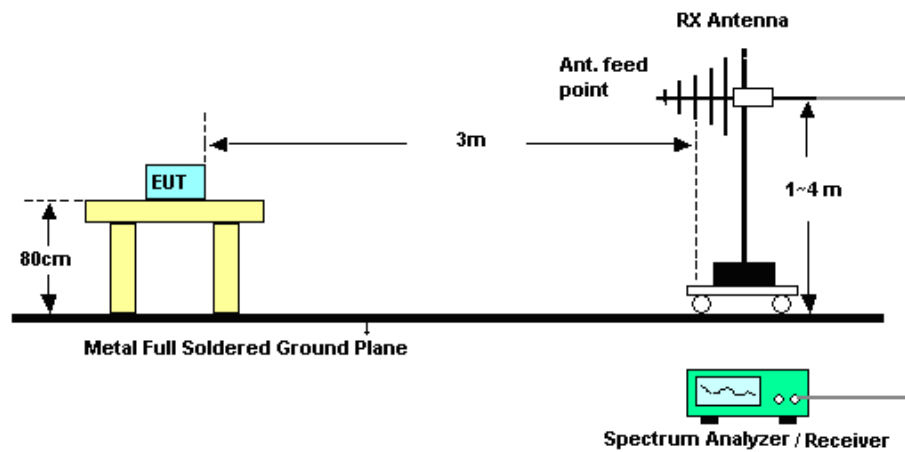
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

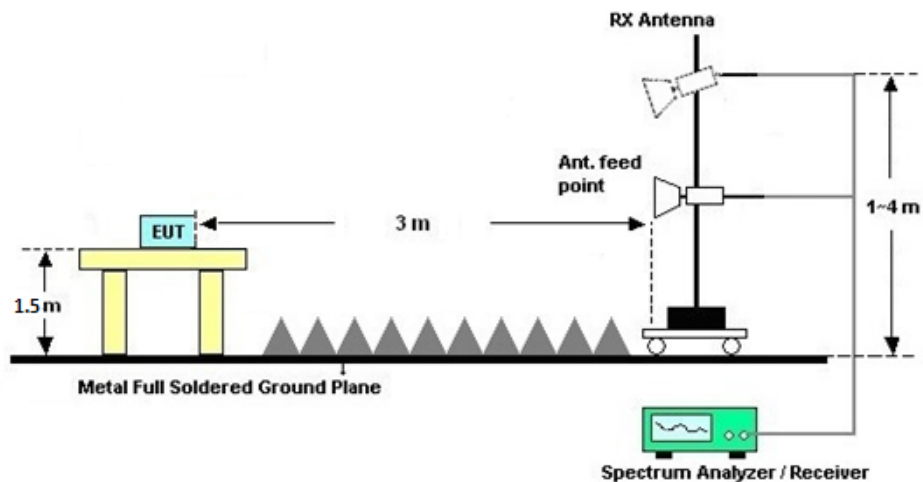
For radiated emissions below 30MHz



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.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and Appendix D.

3.5.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and Appendix D.

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.

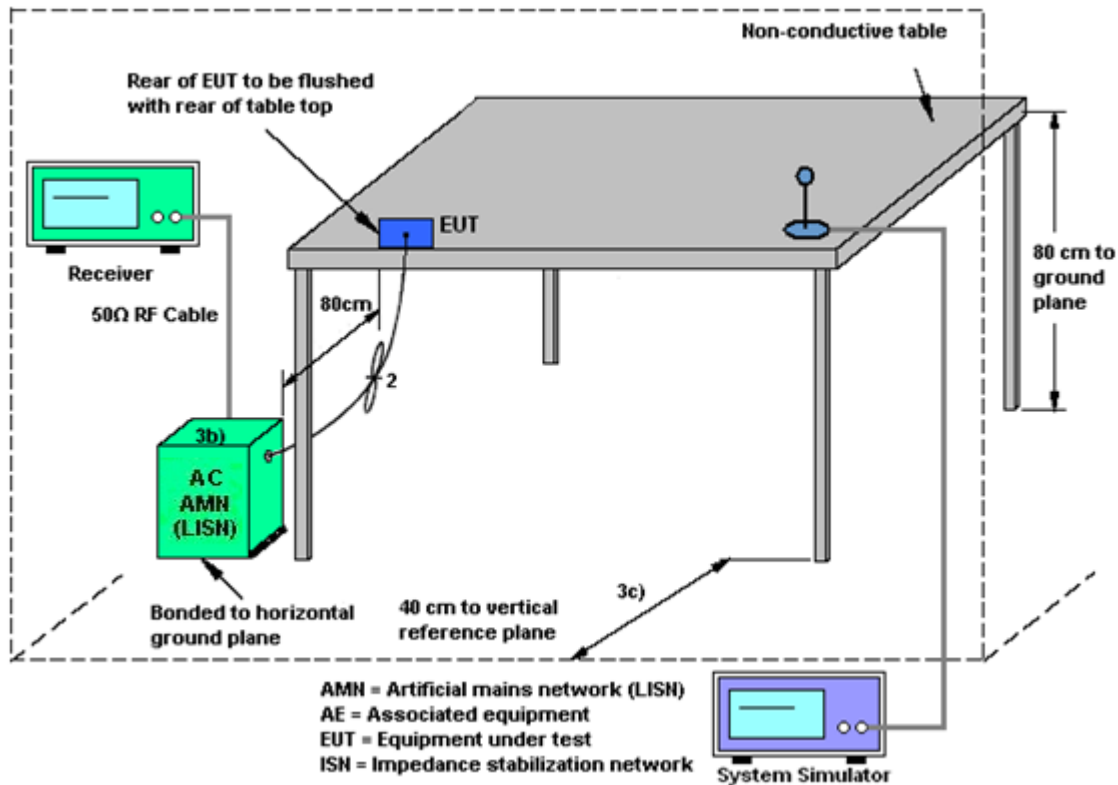
3.6.2 Measuring Instruments

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

Please refer to Appendix B.



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

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



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	Apr. 18, 2018	Aug. 07, 2018	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 18, 2018	Apr. 18, 2018	Jan. 17, 2019	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 18, 2018	Apr. 18, 2018	Jan. 17, 2019	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz; Max 30dBm	Oct. 19, 2017	Apr. 21, 2018	Oct. 18, 2018	Radiation (03CH03-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44GHz	Apr. 17, 2018	Apr. 21, 2018	Apr. 16, 2019	Radiation (03CH03-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 22, 2017	Apr. 21, 2018	Oct. 21, 2018	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	47610	30MHz~1GHz	Sep. 12, 2017	Apr. 21, 2018	Sep. 11, 2018	Radiation (03CH03-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75959	1GHz~18GHz	Jan. 21, 2018	Apr. 21, 2018	Jan. 20, 2019	Radiation (03CH03-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Feb. 07, 2018	Apr. 21, 2018	Feb. 06, 2019	Radiation (03CH03-KS)
Amplifier	com-power	PA-103A	161069	1MHz ~1000MHz / 32 dB	Apr 17, 2018	Apr. 21, 2018	Apr. 16, 2019	Radiation (03CH03-KS)
Amplifier	MITEQ	TTA1840-35-HG	1887435	18~40GHz	Oct. 12, 2017	Apr. 21, 2018	Oct. 11, 2018	Radiation (03CH03-KS)
high gain Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	2025788	1Ghz-18Ghz	Apr. 17, 2018	Apr. 21, 2018	Apr. 16, 2019	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Oct. 12, 2017	Apr. 21, 2018	Oct. 11, 2018	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Apr. 21, 2018	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Apr. 21, 2018	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Apr. 21, 2018	NCR	Radiation (03CH03-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 19, 2018	Apr. 21, 2018	Apr. 18, 2019	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Oct. 13, 2017	Apr. 21, 2018	Oct. 12, 2018	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Oct. 13, 2017	Apr. 21, 2018	Oct. 12, 2018	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 12, 2017	Apr. 21, 2018	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% ($U = 2U_c(y)$)	2.3dB
--	-------

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.5dB
--	-------

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.1dB
--	-------

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.5dB
--	-------



Appendix A. conducted test results

A1 - DTS Part

Test Engineer:	Silent Hai	Temperature:	21~25	°C
Test Date:	2018/4/18	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
11b	1Mbps	1	1	2412	11.49	8.53	0.50	Pass
11b	1Mbps	1	6	2437	11.49	8.57	0.50	Pass
11b	1Mbps	1	11	2462	11.54	8.55	0.50	Pass
11g	6Mbps	1	1	2412	17.38	16.34	0.50	Pass
11g	6Mbps	1	6	2437	17.38	16.34	0.50	Pass
11g	6Mbps	1	11	2462	17.63	16.34	0.50	Pass
HT20	MCS0	1	1	2412	18.38	17.56	0.50	Pass
HT20	MCS0	1	6	2437	18.28	17.56	0.50	Pass
HT20	MCS0	1	11	2462	18.28	17.56	0.50	Pass
HT40	MCS0	1	3	2422	35.96	35.64	0.50	Pass
HT40	MCS0	1	6	2437	36.06	35.52	0.50	Pass
HT40	MCS0	1	9	2452	36.06	35.52	0.50	Pass

TEST RESULTS DATA
Peak Power Table

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
11b	1Mbps	1	1	2412	15.65	30.00	0.10	15.75	36.00	Pass
11b	1Mbps	1	6	2437	15.82	30.00	0.10	15.92	36.00	Pass
11b	1Mbps	1	11	2462	15.44	30.00	0.10	15.54	36.00	Pass
11g	6Mbps	1	1	2412	21.92	30.00	0.10	22.02	36.00	Pass
11g	6Mbps	1	6	2437	22.25	30.00	0.10	22.35	36.00	Pass
11g	6Mbps	1	11	2462	22.28	30.00	0.10	22.38	36.00	Pass
HT20	MCS0	1	1	2412	22.38	30.00	0.10	22.48	36.00	Pass
HT20	MCS0	1	6	2437	22.46	30.00	0.10	22.56	36.00	Pass
HT20	MCS0	1	11	2462	22.26	30.00	0.10	22.36	36.00	Pass
HT40	MCS0	1	3	2422	20.15	30.00	0.10	20.25	36.00	Pass
HT40	MCS0	1	6	2437	20.34	30.00	0.10	20.44	36.00	Pass
HT40	MCS0	1	9	2452	20.09	30.00	0.10	20.19	36.00	Pass

TEST RESULTS DATA
Average Power Table
(Reporting Only)

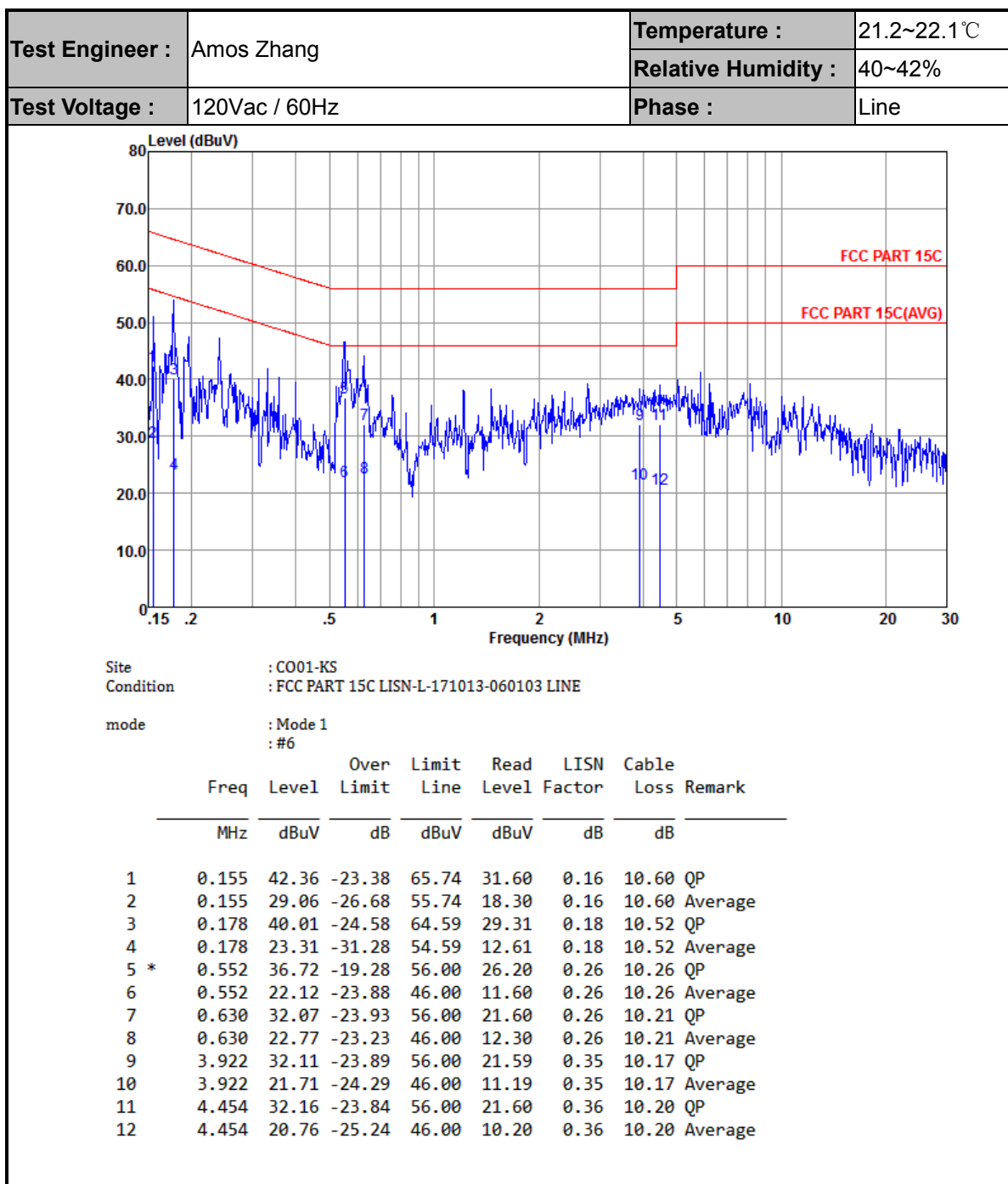
2.4GHz Band						
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)
11b	1Mbps	1	1	2412	0.00	12.31
11b	1Mbps	1	6	2437	0.00	12.44
11b	1Mbps	1	11	2462	0.00	12.09
11g	6Mbps	1	1	2412	0.09	12.17
11g	6Mbps	1	6	2437	0.09	12.28
11g	6Mbps	1	11	2462	0.09	12.30
HT20	MCS0	1	1	2412	0.13	12.43
HT20	MCS0	1	6	2437	0.13	12.55
HT20	MCS0	1	11	2462	0.13	12.18
HT40	MCS0	1	3	2422	0.21	9.62
HT40	MCS0	1	6	2437	0.21	9.73
HT40	MCS0	1	9	2452	0.21	9.56

TEST RESULTS DATA
Peak Power 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
11b	1Mbps	1	1	2412	-10.02	0.10	8.00	Pass
11b	1Mbps	1	6	2437	-9.91	0.10	8.00	Pass
11b	1Mbps	1	11	2462	-10.39	0.10	8.00	Pass
11g	6Mbps	1	1	2412	-12.96	0.10	8.00	Pass
11g	6Mbps	1	6	2437	-12.75	0.10	8.00	Pass
11g	6Mbps	1	11	2462	-12.93	0.10	8.00	Pass
HT20	MCS0	1	1	2412	-13.36	0.10	8.00	Pass
HT20	MCS0	1	6	2437	-12.80	0.10	8.00	Pass
HT20	MCS0	1	11	2462	-12.92	0.10	8.00	Pass
HT40	MCS0	1	3	2422	-17.51	0.10	8.00	Pass
HT40	MCS0	1	6	2437	-18.47	0.10	8.00	Pass
HT40	MCS0	1	9	2452	-17.85	0.10	8.00	Pass

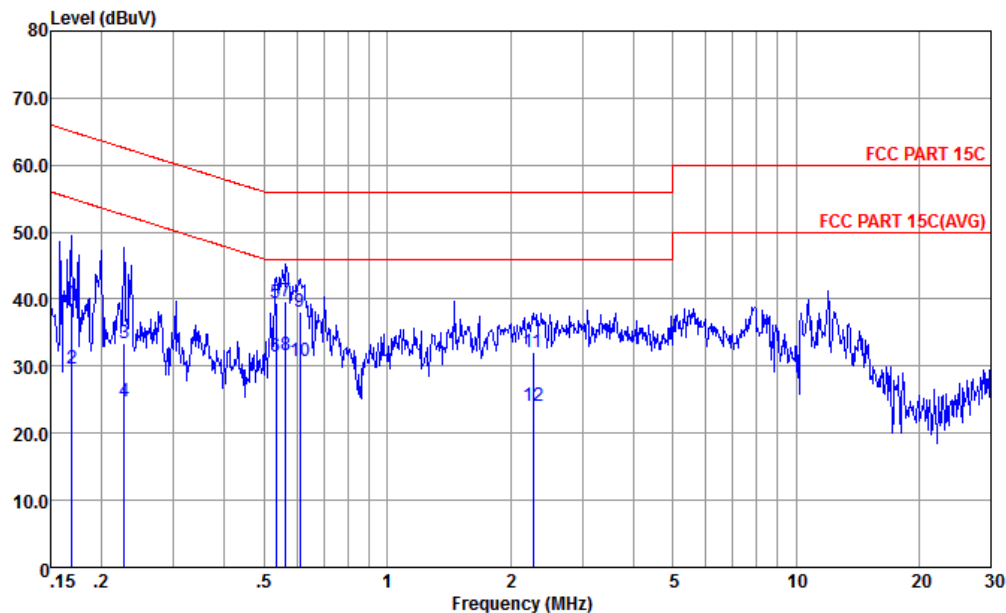


Appendix B. AC Conducted Emission Test Results





Test Engineer :	Amos Zhang	Temperature :	21.2~22.1℃
		Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral



Site : CO01-KS
Condition : FCC PART 15C LISN-N-171013-060103 NEUTRAL

mode : Mode 1
: #6

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.169	39.43	-25.56	64.99	28.60	0.28	10.55	QP
2	0.169	29.73	-25.26	54.99	18.90	0.28	10.55	Average
3	0.227	33.33	-29.24	62.57	22.60	0.28	10.45	QP
4	0.227	24.63	-27.94	52.57	13.90	0.28	10.45	Average
5	0.535	39.47	-16.53	56.00	28.90	0.29	10.28	QP
6	0.535	31.47	-14.53	46.00	20.90	0.29	10.28	Average
7	0.564	39.75	-16.25	56.00	29.20	0.29	10.26	QP
8 *	0.564	31.75	-14.25	46.00	21.20	0.29	10.26	Average
9	0.611	38.02	-17.98	56.00	27.50	0.30	10.22	QP
10	0.611	30.82	-15.18	46.00	20.30	0.30	10.22	Average
11	2.273	32.13	-23.87	56.00	21.61	0.32	10.20	QP
12	2.273	24.13	-21.87	46.00	13.61	0.32	10.20	Average



Appendix C. Radiated Spurious Emission

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2358.88	55.1	-18.9	74	49.96	31.76	7.52	34.14	387	115	P	H
		2387.22	44.28	-9.72	54	39.03	31.8	7.59	34.14	387	115	A	H
	*	2414	100.19	-	-	94.87	31.86	7.62	34.16	387	115	P	H
	*	2414	97.16	-	-	91.84	31.86	7.62	34.16	387	115	A	H
		2377.6	54.73	-19.27	74	49.54	31.78	7.55	34.14	389	67	P	V
		2387.48	44.16	-9.84	54	38.91	31.8	7.59	34.14	389	67	A	V
	*	2412	100.42	-	-	95.1	31.86	7.62	34.16	389	67	P	V
	*	2414	97.31	-	-	91.99	31.86	7.62	34.16	389	67	A	V



802.11b CH 11 2462MHz	*	2464	102.35	-	-	96.88	32.03	7.69	34.25	376	110	P	H
	*	2464	99.31	-	-	93.84	32.03	7.69	34.25	376	110	A	H
		2495.02	55.73	-18.27	74	50.15	32.14	7.74	34.3	376	110	P	H
		2483.51	44.56	-9.44	54	39.03	32.09	7.72	34.28	376	110	A	H
	*	2462	102.89	-	-	97.42	32.03	7.69	34.25	379	55	P	V
	*	2460	99.7	-	-	94.23	32.03	7.69	34.25	379	55	A	V
		2484.58	55.78	-18.22	74	50.25	32.09	7.72	34.28	379	55	P	V
		2483.51	44.87	-9.13	54	39.34	32.09	7.72	34.28	379	55	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	39.69	-34.31	74	58.48	34.24	11.5	64.53	100	360	P	H
		4824	39.37	-34.63	74	58.16	34.24	11.5	64.53	100	360	P	V
802.11b CH 06 2437MHz		4872	38.28	-35.72	74	57.01	34.31	11.56	64.6	100	360	P	H
		7308	40.47	-33.53	74	55.71	35.79	13.98	65.01	100	360	P	H
		4872	38.55	-35.45	74	57.28	34.31	11.56	64.6	100	360	P	V
		7308	40.46	-33.54	74	55.7	35.79	13.98	65.01	100	360	P	V
802.11b CH 11 2462MHz		4926	38.97	-35.03	74	57.65	34.38	11.62	64.68	100	360	P	H
		7386	39.17	-34.83	74	54.41	35.84	13.97	65.05	100	360	P	H
		4926	37.87	-36.13	74	56.55	34.38	11.62	64.68	100	360	P	V
		7386	40.74	-33.26	74	55.98	35.84	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. 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	59.2	-14.8	74	53.95	31.8	7.59	34.14	377	119	P	H
		2389.69	46.78	-7.22	54	41.53	31.8	7.59	34.14	377	119	A	H
	*	2420	99.32	-	-	93.96	31.91	7.64	34.19	377	119	P	H
	*	2418	91.65	-	-	86.33	31.86	7.62	34.16	377	119	A	H
		2389.43	59.42	-14.58	74	54.17	31.8	7.59	34.14	387	67	P	V
		2389.82	47.39	-6.61	54	42.14	31.8	7.59	34.14	387	67	A	V
	*	2410	100.44	-	-	95.12	31.86	7.62	34.16	387	67	P	V
	*	2410	92.06	-	-	86.74	31.86	7.62	34.16	387	67	A	V



802.11g CH 11 2462MHz	*	2468	102.32	-	-	96.85	32.03	7.69	34.25	114	122	P	H
	*	2470	94.61	-	-	89.14	32.03	7.69	34.25	114	122	A	H
		2484.04	59.62	-14.38	74	54.09	32.09	7.72	34.28	114	122	P	H
		2483.56	48.2	-5.8	54	42.67	32.09	7.72	34.28	114	122	A	H
	*	2468	103.01	-	-	97.54	32.03	7.69	34.25	367	81	P	V
	*	2468	94.62	-	-	89.15	32.03	7.69	34.25	367	81	A	V
		2484.52	60.16	-13.84	74	54.63	32.09	7.72	34.28	367	81	P	V
		2483.51	48.35	-5.65	54	42.82	32.09	7.72	34.28	367	81	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	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	39.58	-34.42	74	58.37	34.24	11.5	64.53	100	360	P	H
		4824	39.56	-34.44	74	58.35	34.24	11.5	64.53	100	360	P	V
802.11g CH 06 2437MHz		4872	38.85	-35.15	74	57.58	34.31	11.56	64.6	100	360	P	H
		7308	39.55	-34.45	74	54.79	35.79	13.98	65.01	100	360	P	H
		4872	38.98	-35.02	74	57.71	34.31	11.56	64.6	100	360	P	V
		7308	39.4	-34.6	74	54.64	35.79	13.98	65.01	100	360	P	V
802.11g CH 11 2462MHz		4926	39.03	-34.97	74	57.71	34.38	11.62	64.68	100	360	P	H
		7386	39.84	-34.16	74	55.08	35.84	13.97	65.05	100	360	P	H
		4926	38.56	-35.44	74	57.24	34.38	11.62	64.68	100	360	P	V
		7386	40.85	-33.15	74	56.09	35.84	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 802.11n HT20 (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)
802.11n HT20 CH 01 2412MHz		2389.69	62.33	-11.67	74	57.08	31.8	7.59	34.14	376	119	P	H
		2389.95	48.17	-5.83	54	42.92	31.8	7.59	34.14	376	119	A	H
	*	2418	99.59	-	-	94.27	31.86	7.62	34.16	376	119	P	H
	*	2416	91.5	-	-	86.18	31.86	7.62	34.16	376	119	A	H
		2389.95	61.57	-12.43	74	56.32	31.8	7.59	34.14	388	67	P	V
		2389.95	48.71	-5.29	54	43.46	31.8	7.59	34.14	388	67	A	V
	*	2414	99.79	-	-	94.47	31.86	7.62	34.16	388	67	P	V
	*	2410	92.1	-	-	86.78	31.86	7.62	34.16	388	67	A	V



802.11n HT20 CH 11 2462MHz	*	2468	102.91	-	-	97.44	32.03	7.69	34.25	114	122	P	H
	*	2470	95	-	-	89.53	32.03	7.69	34.25	114	122	A	H
		2483.68	61.28	-12.72	74	55.75	32.09	7.72	34.28	114	122	P	H
		2483.74	49.62	-4.38	54	44.09	32.09	7.72	34.28	114	122	A	H
	*	2470	102.74	-	-	97.27	32.03	7.69	34.25	367	83	P	V
	*	2468	94.96	-	-	89.49	32.03	7.69	34.25	367	83	A	V
		2483.56	60.92	-13.08	74	55.39	32.09	7.72	34.28	367	83	P	V
		2483.51	49.64	-4.36	54	44.11	32.09	7.72	34.28	367	83	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	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	39.77	-34.23	74	58.56	34.24	11.5	64.53	100	360	P	H
		4824	38.51	-35.49	74	57.3	34.24	11.5	64.53	100	360	P	V
802.11n HT20 CH 06 2437MHz		4872	39.59	-34.41	74	58.32	34.31	11.56	64.6	100	360	P	H
		7308	40.08	-33.92	74	55.32	35.79	13.98	65.01	100	360	P	H
		4872	38.37	-35.63	74	57.1	34.31	11.56	64.6	100	360	P	V
		7308	39.05	-34.95	74	54.29	35.79	13.98	65.01	100	360	P	V
802.11n HT20 CH 11 2462MHz		4926	39.23	-34.77	74	57.91	34.38	11.62	64.68	100	0	P	H
		7386	39.54	-34.46	74	54.78	35.84	13.97	65.05	100	0	P	H
		4926	38.6	-35.4	74	57.28	34.38	11.62	64.68	100	360	P	V
		7386	40.05	-33.95	74	55.29	35.84	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 802.11n HT40 (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)
802.11n HT40 CH 03 2422MHz		2388.78	57.68	-16.32	74	52.43	31.8	7.59	34.14	379	118	P	H
		2389.95	47.94	-6.06	54	42.69	31.8	7.59	34.14	379	118	A	H
	*	2424	95.43	-	-	90.07	31.91	7.64	34.19	379	118	P	H
	*	2432	86.98	-	-	81.62	31.91	7.64	34.19	379	118	A	H
		2492.02	54.98	-19.02	74	49.4	32.14	7.74	34.3	379	118	P	H
		2491.36	45.18	-8.82	54	39.6	32.14	7.74	34.3	379	118	A	H
		2389.95	57.89	-16.11	74	52.64	31.8	7.59	34.14	381	73	P	V
		2389.43	48.29	-5.71	54	43.04	31.8	7.59	34.14	381	73	A	V
	*	2432	94.39	-	-	89.03	31.91	7.64	34.19	381	73	P	V
	*	2414	87.17	-	-	81.85	31.86	7.62	34.16	381	73	A	V
		2488.66	54.95	-19.05	74	49.37	32.14	7.74	34.3	381	73	P	V
		2487.04	45.2	-8.8	54	39.67	32.09	7.72	34.28	381	73	A	V
802.11n HT40 CH 06 2437MHz		2325.6	58.81	-15.19	74	56.5	31.55	7.44	36.68	301	152	P	H
		2388.91	46.95	-7.05	54	44.31	31.7	7.59	36.65	301	152	A	H
	*	2436	103.83	-	-	101.03	31.81	7.64	36.65	301	152	P	H
	*	2438	100.64	-	-	97.75	31.87	7.67	36.65	301	152	A	H
		2492.56	59.52	-14.48	74	56.43	32.04	7.74	36.69	301	152	P	H
		2494.48	47.45	-6.55	54	44.36	32.04	7.74	36.69	301	152	A	H
		2388.78	58.24	-15.76	74	55.6	31.7	7.59	36.65	272	99	P	V
		2389.95	46.9	-7.1	54	44.25	31.7	7.59	36.64	272	99	A	V
	*	2436	103.15	-	-	100.35	31.81	7.64	36.65	272	99	P	V
	*	2436	100.32	-	-	97.52	31.81	7.64	36.65	272	99	A	V
		2486.8	58.2	-15.8	74	55.17	31.99	7.72	36.68	272	99	P	V
		2492.74	47.47	-6.53	54	44.38	32.04	7.74	36.69	272	99	A	V



802.11n HT40 CH 09 2452MHz		2384.1	54.84	-19.16	74	49.65	31.78	7.55	34.14	113	127	P	H
		2369.28	44.97	-9.03	54	39.78	31.78	7.55	34.14	113	127	A	H
	*	2464	96.68	-	-	91.21	32.03	7.69	34.25	113	127	P	H
	*	2462	88.79	-	-	83.32	32.03	7.69	34.25	113	127	A	H
		2486.2	58.7	-15.3	74	53.17	32.09	7.72	34.28	113	127	P	H
		2484.16	48.98	-5.02	54	43.45	32.09	7.72	34.28	113	127	A	H
		2317.93	54.81	-19.19	74	49.78	31.73	7.44	34.14	359	79	P	V
		2383.58	45.03	-8.97	54	39.84	31.78	7.55	34.14	359	79	A	V
	*	2462	96.98	-	-	91.51	32.03	7.69	34.25	359	79	P	V
	*	2464	88.9	-	-	83.43	32.03	7.69	34.25	359	79	A	V
		2487.1	59.05	-14.95	74	53.52	32.09	7.72	34.28	359	79	P	V
		2483.56	49.54	-4.46	54	44.01	32.09	7.72	34.28	359	79	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	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		4842	39.25	-34.75	74	58.01	34.27	11.52	64.55	100	360	P	H
HT40		7266	40.78	-33.22	74	56.01	35.77	13.99	64.99	100	360	P	H
CH 03		4842	38.6	-35.4	74	57.36	34.27	11.52	64.55	100	360	P	V
2422MHz		7266	40.42	-33.58	74	55.65	35.77	13.99	64.99	100	360	P	V
802.11n		4872	38.17	-35.83	74	56.9	34.31	11.56	64.6	100	360	P	H
HT40		7308	40.13	-33.87	74	55.37	35.79	13.98	65.01	100	360	P	H
CH 06		4872	38.33	-35.67	74	57.06	34.31	11.56	64.6	100	360	P	V
2437MHz		7308	40.31	-33.69	74	55.55	35.79	13.98	65.01	100	360	P	V
802.11n		4902	38.77	-35.23	74	57.46	34.36	11.6	64.65	100	360	P	H
HT40		7356	40.41	-33.59	74	55.65	35.82	13.97	65.03	100	360	P	H
CH 09		4902	38.98	-35.02	74	57.67	34.36	11.6	64.65	100	360	P	V
2452MHz		7356	41.07	-32.93	74	56.31	35.82	13.97	65.03	100	360	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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11n HT20 LF		30	23.89	-16.11	40	30.33	25.2	0.65	32.29	-	-	P	H
		59.1	23.89	-16.11	40	42.96	12.03	1.11	32.21	-	-	P	H
		64.92	23.23	-16.77	40	42.11	12.2	1.18	32.26	-	-	P	H
		252.13	25.33	-20.67	46	36.06	19.01	2.35	32.09	-	-	P	H
		561.56	26.39	-19.61	46	29.68	24.9	3.55	31.74	-	-	P	H
		866.14	30.58	-15.42	46	28.87	28.76	4.46	31.51	100	61	P	H
		34.85	31.68	-8.32	40	40.68	22.45	0.85	32.3	-	-	P	V
		64.92	33.75	-6.25	40	52.63	12.2	1.18	32.26	100	91	P	V
		306.45	25.08	-20.92	46	35.14	19.36	2.65	32.07	-	-	P	V
		323.91	26.24	-19.76	46	35.66	19.78	2.88	32.08	-	-	P	V
		592.6	26.3	-19.7	46	28.89	25.46	3.65	31.7	-	-	P	V
		838.98	30.44	-15.56	46	29.05	28.57	4.37	31.55	-	-	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 D. Radiated Spurious Emission Plots

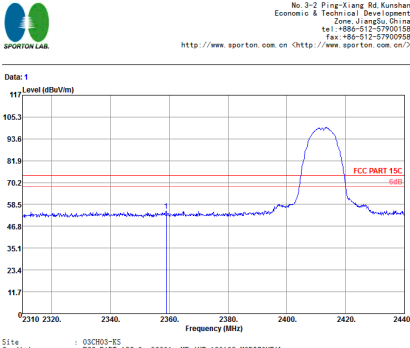
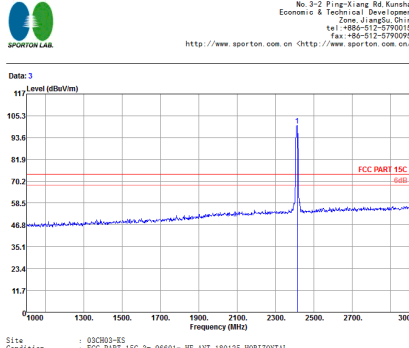
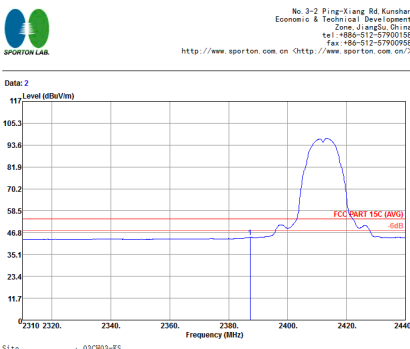
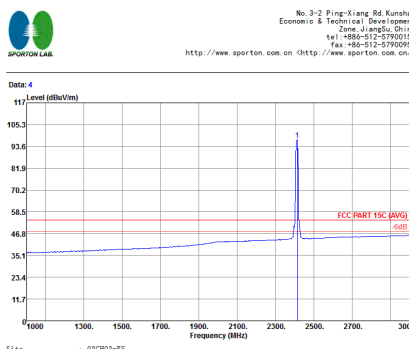
Note symbol

-L	Low channel location
-R	High channel location

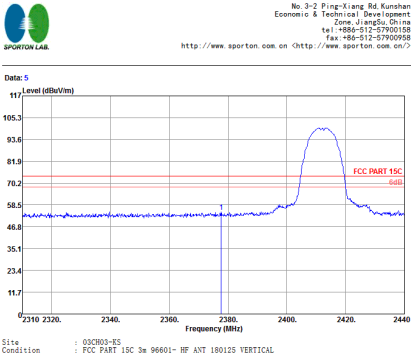
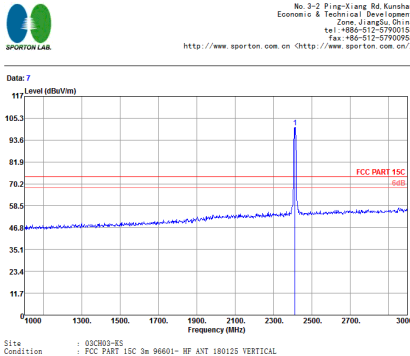
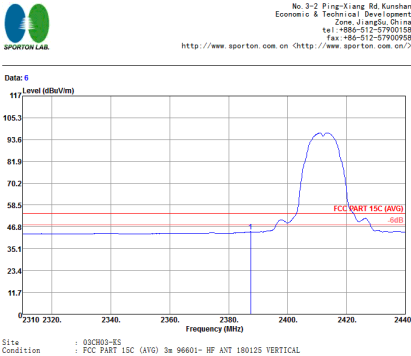
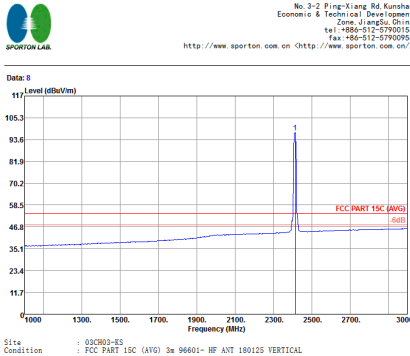


2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Fundamental
Peak	The plot shows the peak level of the signal in dBuV/m across the frequency range from 2310 to 2440 MHz. A significant peak is visible around 2412 MHz, reaching approximately 105.3 dBuV/m. The plot includes a red line for the FCC Part 15C limit and a blue line for the measured signal. The site condition is 03CB03-ES, FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL.	The plot shows the peak level of the signal in dBuV/m across the frequency range from 1000 to 3000 MHz. A sharp peak is visible at 2412 MHz, reaching approximately 105.3 dBuV/m. The plot includes a red line for the FCC Part 15C limit and a blue line for the measured signal. The site condition is 03CB03-ES, FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL.
Avg.	The plot shows the average level of the signal in dBuV/m across the frequency range from 2310 to 2440 MHz. A significant peak is visible around 2412 MHz, reaching approximately 105.3 dBuV/m. The plot includes a red line for the FCC Part 15C (AVG) limit and a blue line for the measured signal. The site condition is 03CB03-ES, FCC PART 15C (AVG) 3m 96601- HF ANT 180125 HORIZONTAL.	The plot shows the average level of the signal in dBuV/m across the frequency range from 1000 to 3000 MHz. A sharp peak is visible at 2412 MHz, reaching approximately 105.3 dBuV/m. The plot includes a red line for the FCC Part 15C (AVG) limit and a blue line for the measured signal. The site condition is 03CB03-ES, FCC PART 15C (AVG) 3m 96601- HF ANT 180125 HORIZONTAL.



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Vertical	Fundamental
Peak		
Avg.		



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 3 Level (dBuV/m) 117 105.3 93.6 81.9 70.2 58.5 46.8 35.1 23.4 11.7 0 2440 2450 2460 2470 2480 2490 2500 Frequency (MHz) FCC PART 15C -56dB Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 1 Level (dBuV/m) 117 105.3 93.6 81.9 70.2 58.5 46.8 35.1 23.4 11.7 0 1000 1300 1500 1700 1900 2100 2300 2500 2700 3000 Frequency (MHz) FCC PART 15C -56dB Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL
Avg.	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 4 Level (dBuV/m) 117 105.3 93.6 81.9 70.2 58.5 46.8 35.1 23.4 11.7 0 2440 2450 2460 2470 2480 2490 2500 Frequency (MHz) FCC PART 15C (AVG) -56dB Site Condition : 03C803-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 HORIZONTAL	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 2 Level (dBuV/m) 117 105.3 93.6 81.9 70.2 58.5 46.8 35.1 23.4 11.7 0 1000 1300 1500 1700 1900 2100 2300 2500 2700 3000 Frequency (MHz) FCC PART 15C (AVG) -56dB Site Condition : 03C803-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 HORIZONTAL



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Vertical	Fundamental
Peak	No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn SPORTON LAB Data: 7 Level (dBm/Vm) Frequency (MHz) Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 VERTICAL	No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn SPORTON LAB Data: 5 Level (dBm/Vm) Frequency (MHz) Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 VERTICAL
Avg.	No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn SPORTON LAB Data: 8 Level (dBm/Vm) Frequency (MHz) Site Condition : 03C803-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 VERTICAL	No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn SPORTON LAB Data: 6 Level (dBm/Vm) Frequency (MHz) Site Condition : 03C803-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 VERTICAL

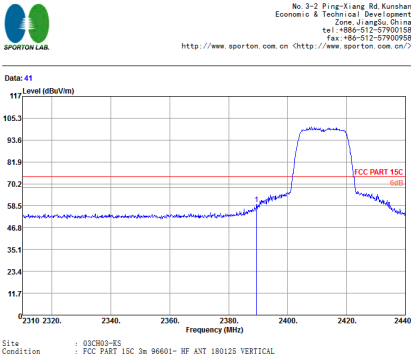
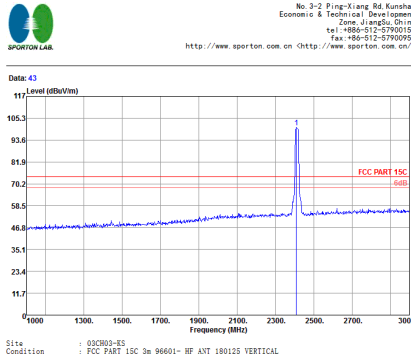
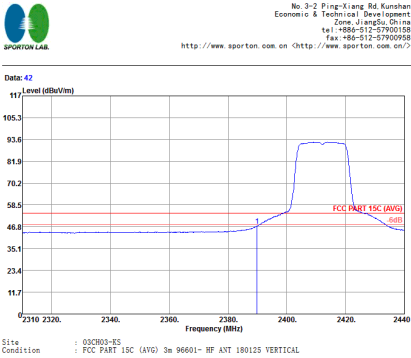
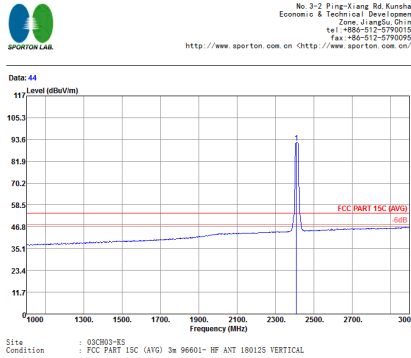


2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Fundamental
Peak	No. 3-2 Ping-Xiang Rd. Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL	No. 3-2 Ping-Xiang Rd. Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL
Avg.	No. 3-2 Ping-Xiang Rd. Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Site Condition : 03C803-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 HORIZONTAL	No. 3-2 Ping-Xiang Rd. Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Site Condition : 03C803-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 HORIZONTAL

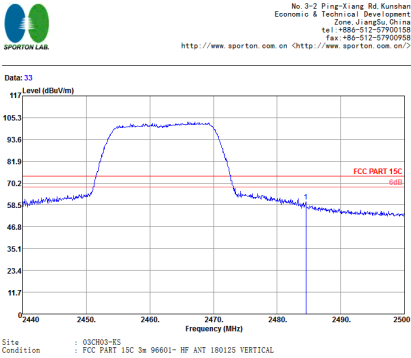
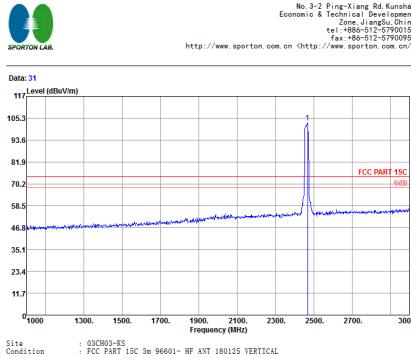
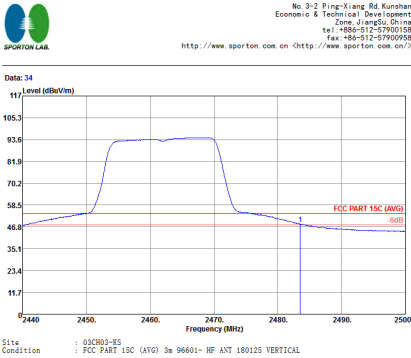
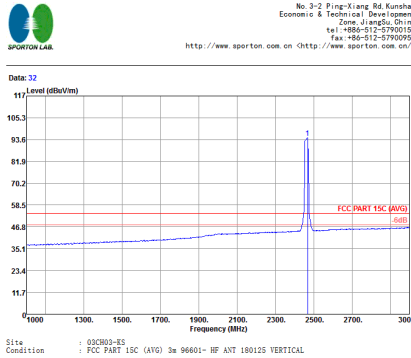


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Vertical	Fundamental
Peak	 Site : 03C803-ES Condition : FCC PART 15C 3m 96601- HF ANT 180125 VERTICAL	 Site : 03C803-ES Condition : FCC PART 15C 3m 96601- HF ANT 180125 VERTICAL
Avg.	 Site : 03C803-ES Condition : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 VERTICAL	 Site : 03C803-ES Condition : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 VERTICAL



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 29 Level (dBuV/m) 117 105.3 93.6 81.9 70.2 58.5 46.8 35.1 23.4 11.7 0 2440 2450 2460 2470 2480 2490 2500 Frequency (MHz) FCC PART 15C (dB) Site Condition : 03CR03-ES : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 27 Level (dBuV/m) 117 105.3 93.6 81.9 70.2 58.5 46.8 35.1 23.4 11.7 0 1000 1300 1500 1700 1900 2100 2300 2500 2700 3000 Frequency (MHz) FCC PART 15C (dB) Site Condition : 03CR03-ES : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL
Avg.	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 30 Level (dBuV/m) 117 105.3 93.6 81.9 70.2 58.5 46.8 35.1 23.4 11.7 0 2440 2450 2460 2470 2480 2490 2500 Frequency (MHz) FCC PART 15C (AVG) (dB) Site Condition : 03CR03-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 HORIZONTAL	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 28 Level (dBuV/m) 117 105.3 93.6 81.9 70.2 58.5 46.8 35.1 23.4 11.7 0 1000 1300 1500 1700 1900 2100 2300 2500 2700 3000 Frequency (MHz) FCC PART 15C (AVG) (dB) Site Condition : 03CR03-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 HORIZONTAL

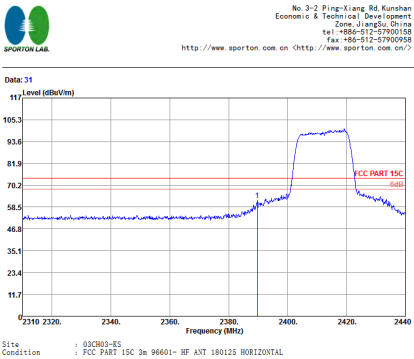
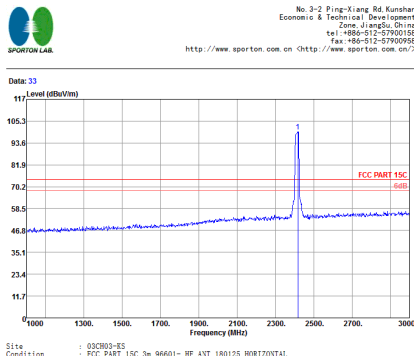
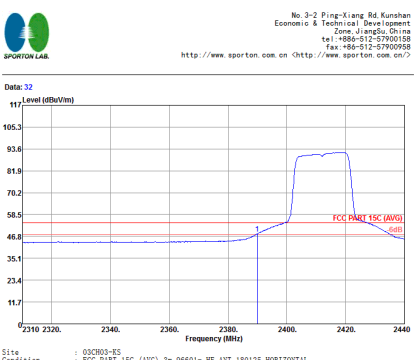
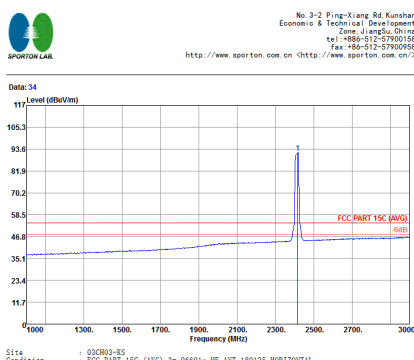


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Vertical	Fundamental
Peak	 Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 VERTICAL	 Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 VERTICAL
Avg.	 Site Condition : 03C803-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 VERTICAL	 Site Condition : 03C803-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 VERTICAL



2.4GHz 2400~2483.5MHz

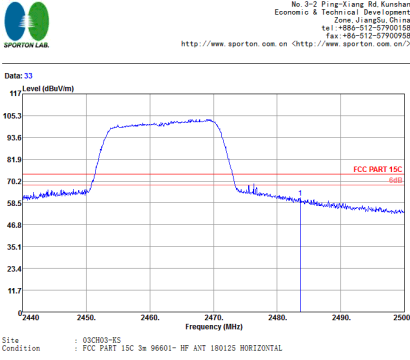
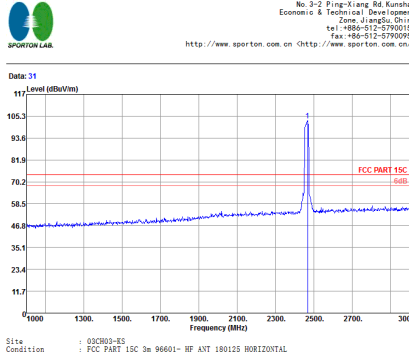
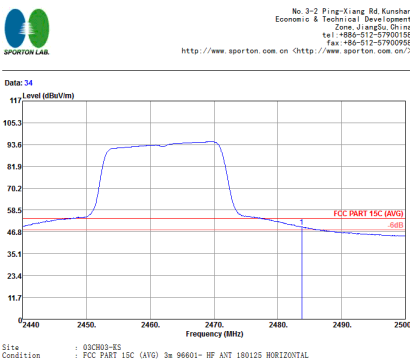
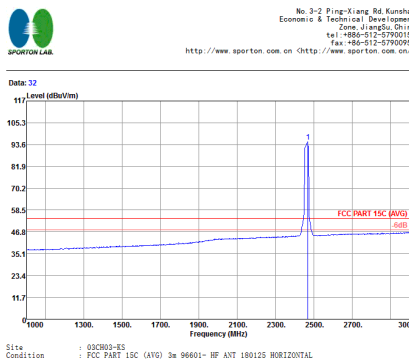
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Fundamental
Peak	 Site Condition : 03C003-ES : FCC PART 15C 3m 96601- RF ANT 180125 HORIZONTAL	 Site Condition : 03C003-ES : FCC PART 15C 3m 96601- RF ANT 180125 HORIZONTAL
Avg.	 Site Condition : 03C003-ES : FCC PART 15C (AVG) 3m 96601- RF ANT 180125 HORIZONTAL	 Site Condition : 03C003-ES : FCC PART 15C (AVG) 3m 96601- RF ANT 180125 HORIZONTAL

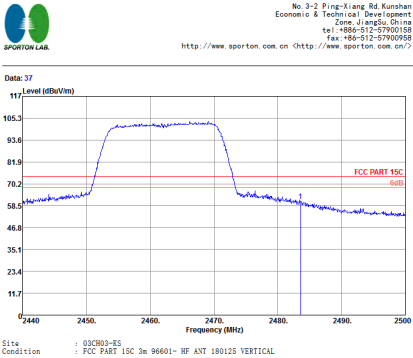
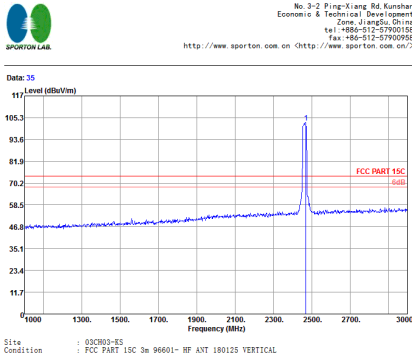
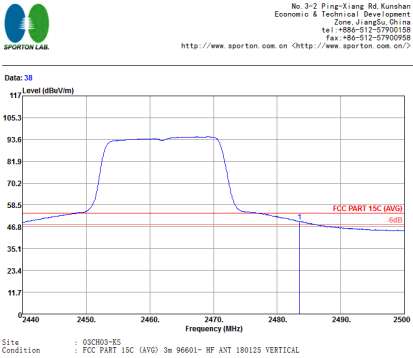
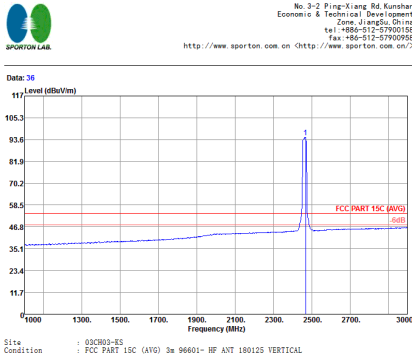


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Vertical	Fundamental
Peak	No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn SPORTON LAB. Data: 35 Level (dBuV/m) Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 VERTICAL	No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn SPORTON LAB. Data: 37 Level (dBuV/m) Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 VERTICAL
Avg.	No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn SPORTON LAB. Data: 36 Level (dBuV/m) Site Condition : 03C803-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 VERTICAL	No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn SPORTON LAB. Data: 38 Level (dBuV/m) Site Condition : 03C803-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 VERTICAL

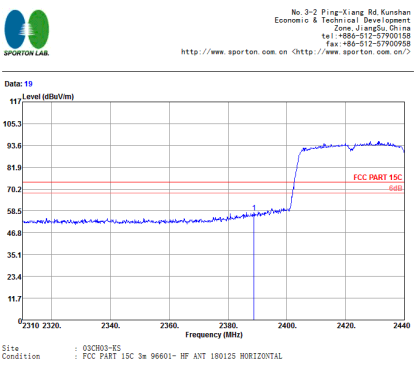
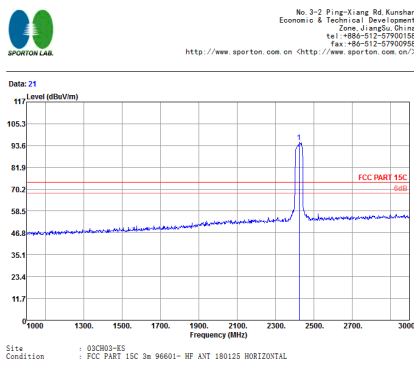
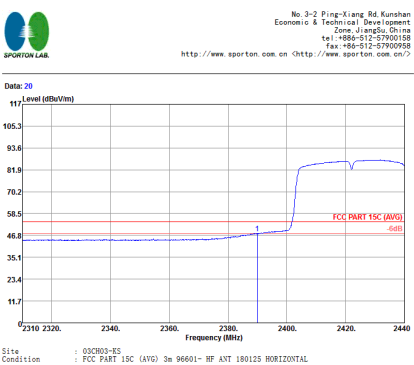
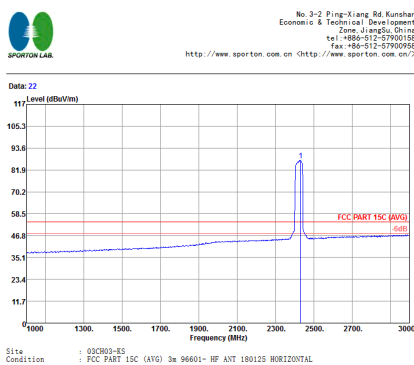


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Fundamental
Peak	The plot shows the peak power spectral density across the 2400-2500 MHz range. A red line indicates the FCC Part 15C limit at approximately 81.9 dBm. The measured signal (blue line) rises from 2450 MHz to a peak of about 105.3 dBm at 2462 MHz, then falls back to the noise floor by 2480 MHz.	The plot shows the peak power spectral density across the 1000-3000 MHz range. A red line indicates the FCC Part 15C limit at approximately 81.9 dBm. A sharp peak is visible at 2462 MHz, reaching a level of about 105.3 dBm.
Avg.	The plot shows the average power spectral density across the 2400-2500 MHz range. A red line indicates the FCC Part 15C (AVG) limit at approximately 81.9 dBm. The measured signal (blue line) rises from 2450 MHz to a peak of about 105.3 dBm at 2462 MHz, then falls back to the noise floor by 2480 MHz.	The plot shows the average power spectral density across the 1000-3000 MHz range. A red line indicates the FCC Part 15C (AVG) limit at approximately 81.9 dBm. A sharp peak is visible at 2462 MHz, reaching a level of about 105.3 dBm.

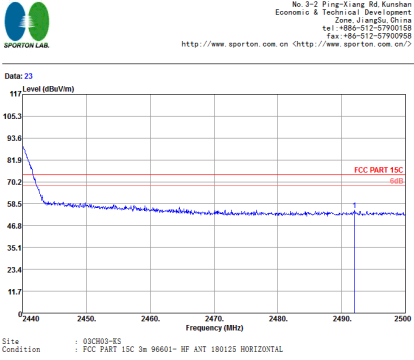
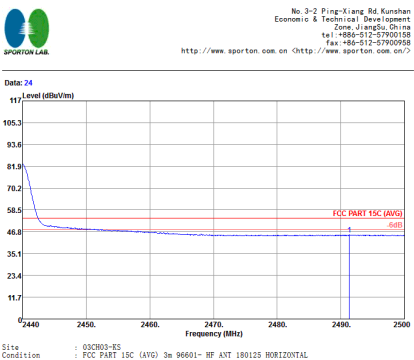


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Vertical	Fundamental
Peak	 Site : 03C003-ES Condition : FCC PART 15C 3m 96601- HF ANT 180125 VERTICAL	 Site : 03C003-ES Condition : FCC PART 15C 3m 96601- HF ANT 180125 VERTICAL
Avg.	 Site : 03C003-ES Condition : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 VERTICAL	 Site : 03C003-ES Condition : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 VERTICAL

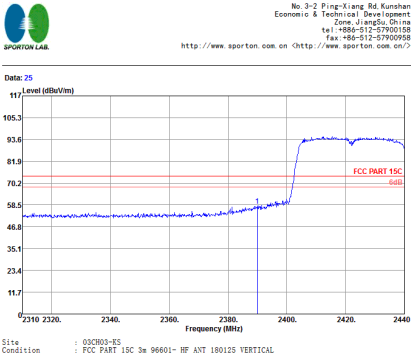
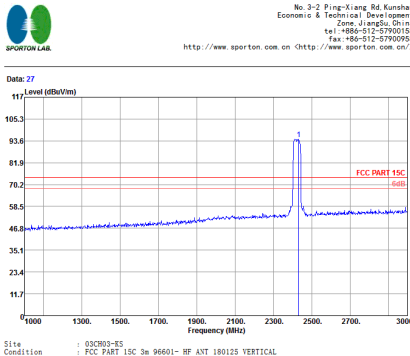
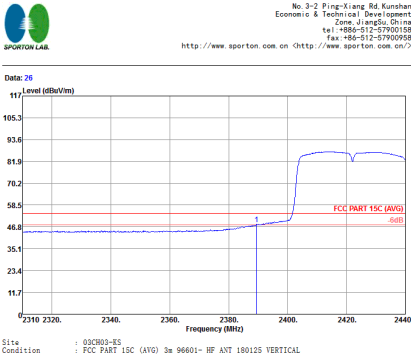
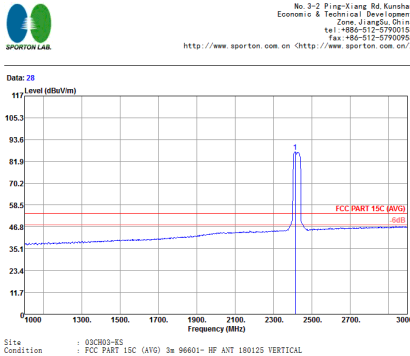
2.4GHz 2400~2483.5MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - L	
1	Horizontal	Fundamental
Peak	 Site Condition : 03CB03-ES : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL	 Site Condition : 03CB03-ES : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL
Avg.	 Site Condition : 03CB03-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 HORIZONTAL	 Site Condition : 03CB03-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 HORIZONTAL

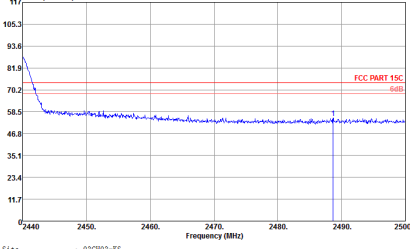
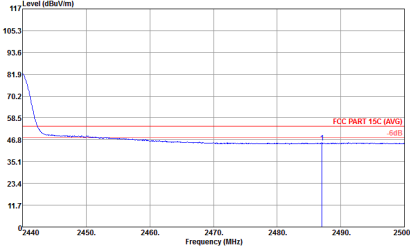


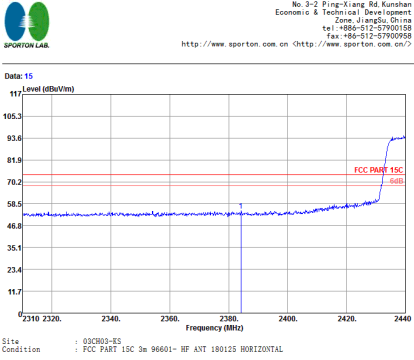
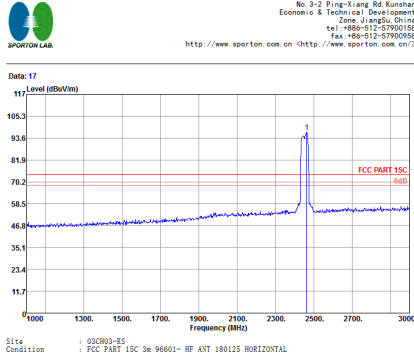
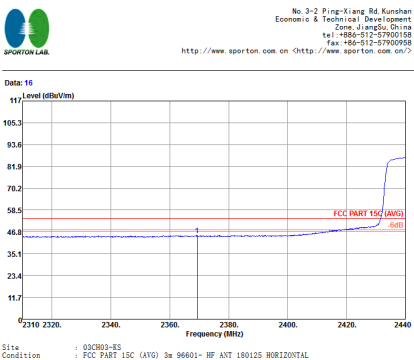
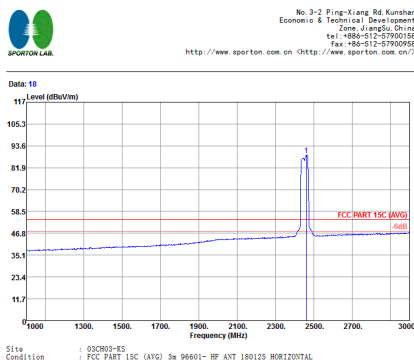
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - R	
1	Horizontal	Fundamental
Peak	 Site Condition : 03C803-ES : FCC PART 15C 3m 96601- RF ANT 180125 HORIZONTAL	Left Blank
Avg.	 Site Condition : 03C803-ES : FCC PART 15C (AVG) 3m 96601- RF ANT 180125 HORIZONTAL	Left Blank



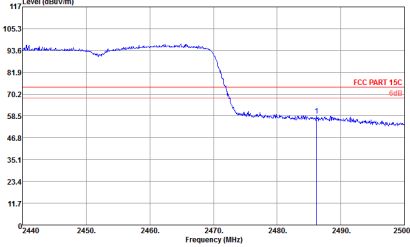
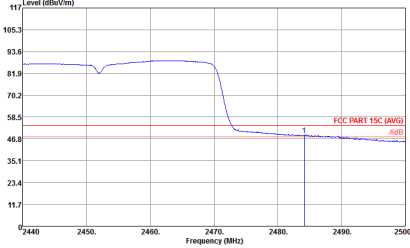
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		



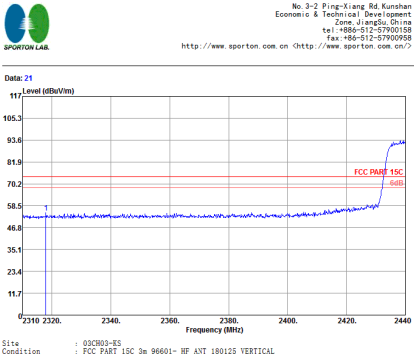
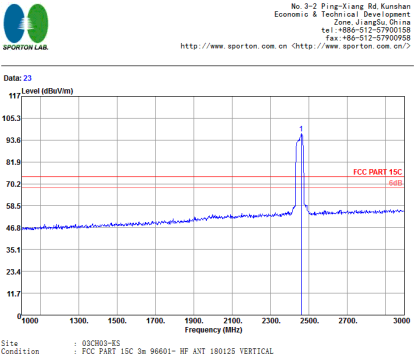
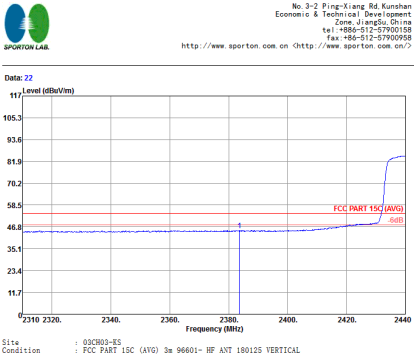
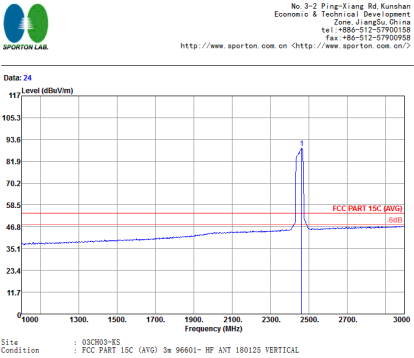
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - R	
1	Vertical	Fundamental
Peak	 No.3-2 Ping-Xiang Rd,Kunshan Economic & Technical Development Zone, Jiangsu, China Tel: +86-512-57900158 Fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 29  Site : 03C803-ES Condition : FCC PART 15C 3m 96601- RF ANT 180125 VERTICAL	Left blank
Avg.	 No.3-2 Ping-Xiang Rd,Kunshan Economic & Technical Development Zone, Jiangsu, China Tel: +86-512-57900158 Fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 30  Site : 03C803-ES Condition : FCC PART 15C (AVG) 3m 96601- RF ANT 180125 VERTICAL	Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - L	
1	Horizontal	Fundamental
Peak	 Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL	 Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL
Avg.	 Site Condition : 03C803-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 HORIZONTAL	 Site Condition : 03C803-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 HORIZONTAL

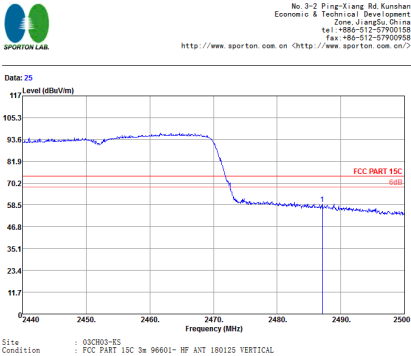
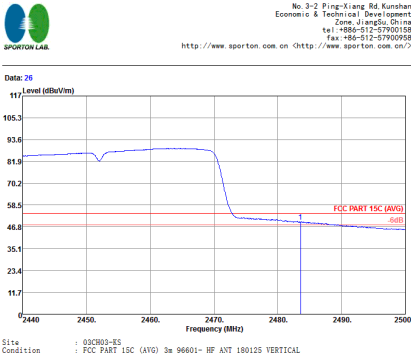


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - R	
1	Horizontal	Fundamental
Peak	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 19 Level (dBuV/m)  Site : 03CH03-ES Condition : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL	Left blank
Avg.	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 20 Level (dBuV/m)  Site : 03CH03-ES Condition : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 HORIZONTAL	Left blank



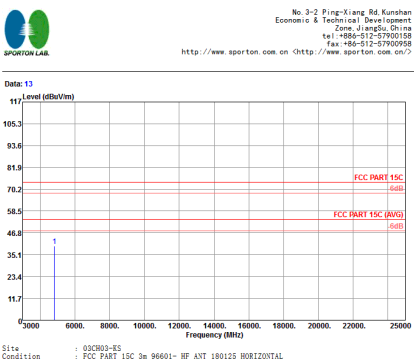
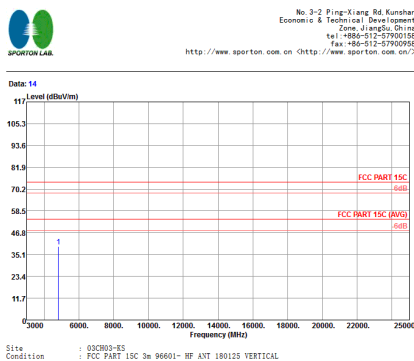
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - L	
1	Vertical	Fundamental
Peak	 Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 VERTICAL	 Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 VERTICAL
Avg.	 Site Condition : 03C803-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 VERTICAL	 Site Condition : 03C803-ES : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 VERTICAL



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - R	
1	Vertical	Fundamental
Peak	The peak spectrum plot shows the signal level in dBm/100MHz versus frequency in MHz. The signal is centered around 2452 MHz. The plot includes a red line for the FCC Part 15C limit and a blue line for the measured signal. The signal level is approximately 93.6 dBm/100MHz at 2452 MHz and drops to approximately 58.5 dBm/100MHz at 2483.5 MHz. The plot also includes the Sporton Lab logo and contact information.	Left blank
Avg.	The average spectrum plot shows the signal level in dBm/100MHz versus frequency in MHz. The signal is centered around 2452 MHz. The plot includes a red line for the FCC Part 15C (AVG) limit and a blue line for the measured signal. The signal level is approximately 93.6 dBm/100MHz at 2452 MHz and drops to approximately 58.5 dBm/100MHz at 2483.5 MHz. The plot also includes the Sporton Lab logo and contact information.	Left blank



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

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Site : 03CB03-ES Condition : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Site : 03CB03-ES Condition : FCC PART 15C 3m 96601- HF ANT 180125 VERTICAL



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.		



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	Horizontal Peak and Average Spectrum Plot. The y-axis is Level (dBm/1m) from 0 to 117. The x-axis is Frequency (MHz) from 3000 to 25000. Two peaks are labeled 1 and 2. FCC PART 15C limits are shown as red lines. Site Condition : 03C003-ES : FCC PART 15C 3m 96601- HP ANT 180129 HORIZONTAL	Vertical Peak and Average Spectrum Plot. The y-axis is Level (dBm/1m) from 0 to 117. The x-axis is Frequency (MHz) from 3000 to 25000. Two peaks are labeled 1 and 2. FCC PART 15C limits are shown as red lines. Site Condition : 03C003-ES : FCC PART 15C 3m 96601- HP ANT 180129 VERTICAL

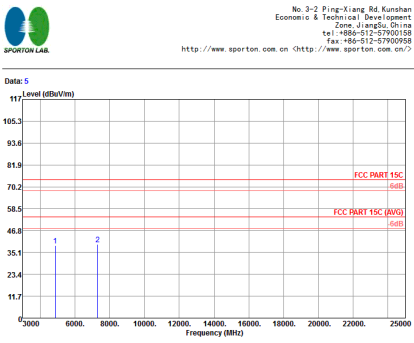
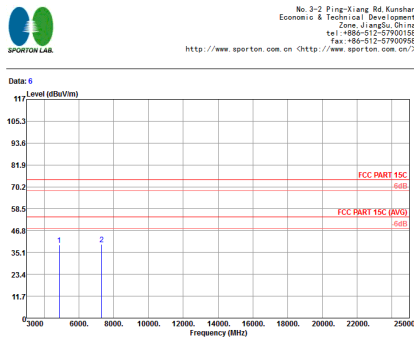


2.4GHz 2400~2483.5MHz

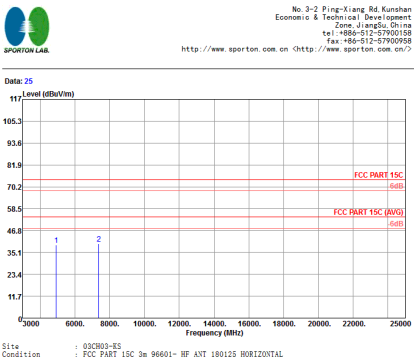
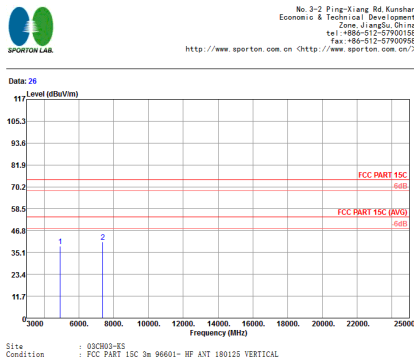
WIFI 802.11g (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.		



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 VERTICAL

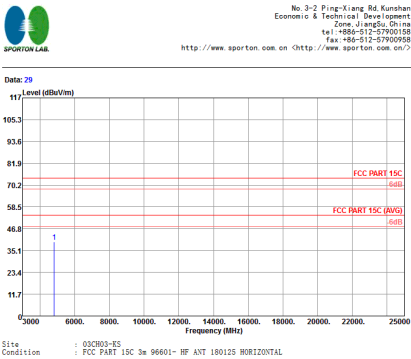
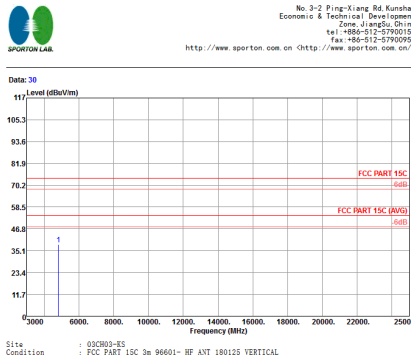


WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Site Condition : 03C803-ES : FCC PART 15C 3m 96601- HF ANT 180125 VERTICAL



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Site : 03CB03-ES Condition : FCC PART 15C 3m 96601- HF ANT 18012S HORIZONTAL	 No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Site : 03CB03-ES Condition : FCC PART 15C 3m 96601- HF ANT 18012S VERTICAL



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	SPORTON LAB. No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Data: 5 Level (dBm/1m) 117 105.3 93.6 81.9 70.2 58.5 46.8 35.1 23.4 11.7 FCC PART 15C (dB) FCC PART 15C (AVG) (dB) 1 2 3000 6000 8000 10000 12000 14000 16000 18000 20000 22000 24000 25000 Frequency (MHz) Site Condition : 03CR03-ES : FCC PART 15C 3m 96601- RF ANT 180125 HORIZONTAL	SPORTON LAB. No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Data: 6 Level (dBm/1m) 117 105.3 93.6 81.9 70.2 58.5 46.8 35.1 23.4 11.7 FCC PART 15C (dB) FCC PART 15C (AVG) (dB) 1 2 3000 6000 8000 10000 12000 14000 16000 18000 20000 22000 24000 25000 Frequency (MHz) Site Condition : 03CR03-ES : FCC PART 15C 3m 96601- RF ANT 180125 VERTICAL



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.		



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH03 2422MHz	
1	Horizontal	Vertical
Peak Avg.	Site : 03CR03-ES Condition : FCC PART 15C 3m 96601- RF ANT 180125 HORIZONTAL	Site : 03CR03-ES Condition : FCC PART 15C 3m 96601- RF ANT 180125 VERTICAL



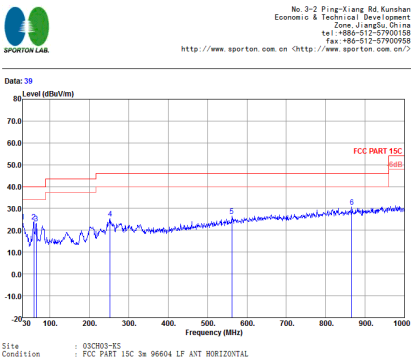
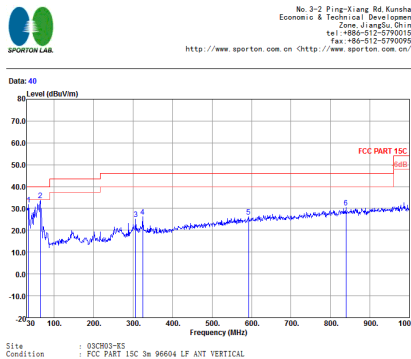
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	Horizontal Peak and Average Spectrum Plot. The y-axis is Level (dBm/100) from 0 to 117. The x-axis is Frequency (MHz) from 3000 to 25000. Two peaks are labeled 1 and 2. FCC PART 15C limits are shown as red lines. Site Condition : 03CR03-ES : FCC PART 15C 3m 96601- RF ANT 180125 HORIZONTAL	Vertical Peak and Average Spectrum Plot. The y-axis is Level (dBm/100) from 0 to 117. The x-axis is Frequency (MHz) from 3000 to 25000. Two peaks are labeled 1 and 2. FCC PART 15C limits are shown as red lines. Site Condition : 03CR03-ES : FCC PART 15C 3m 96601- RF ANT 180125 VERTICAL



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH09 2452MHz	
1	Horizontal	Vertical
Peak Avg.	SPORTON LAB. No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 13 Level (dBm/100MHz) 117 105.3 93.6 81.8 70.2 58.5 46.8 35.1 23.4 11.7 FCC PART 15C (dBm) FCC PART 15C (AVG) (dBm) 4 2 3000 6000 8000 10000 12000 14000 16000 18000 20000 22000 24000 25000 Frequency (MHz) Site Condition : 03CR03-ES : FCC PART 15C 3m 96601- RF ANT 180125 HORIZONTAL	SPORTON LAB. No. 3-2 Ping-Xiang Rd, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 14 Level (dBm/100MHz) 117 105.3 93.6 81.8 70.2 58.5 46.8 35.1 23.4 11.7 FCC PART 15C (dBm) FCC PART 15C (AVG) (dBm) 4 2 3000 6000 8000 10000 12000 14000 16000 18000 20000 22000 24000 25000 Frequency (MHz) Site Condition : 03CR03-ES : FCC PART 15C 3m 96601- RF ANT 180125 VERTICAL



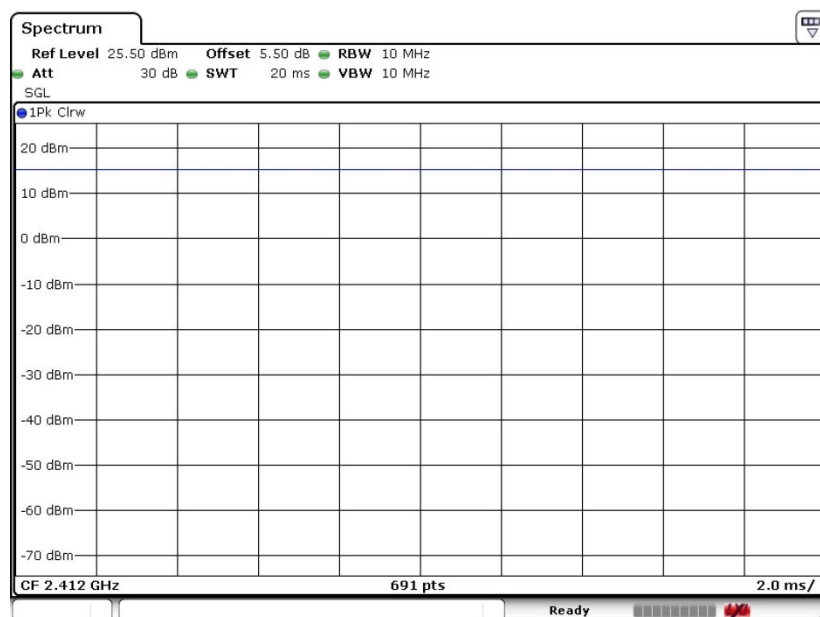
Emission below 1GHz
2.4GHz WIFI 802.11n HT20 (LF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT20 LF	
1	Horizontal	Vertical
QP / Peak	 Site Condition : 03CR03-ES : FCC PART 15C 3m 96604 LF ANT HORIZONTAL	 Site Condition : 03CR03-ES : FCC PART 15C 3m 96604 LF ANT VERTICAL

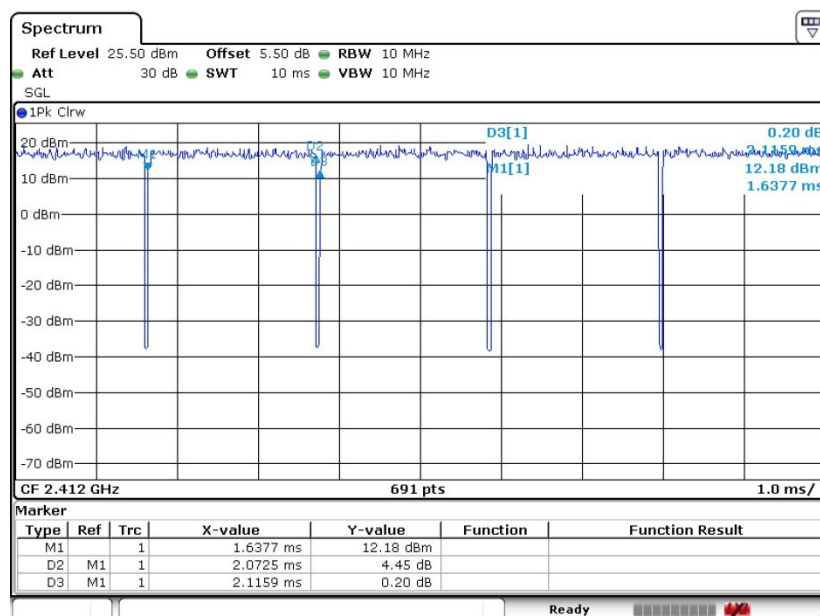
Appendix E. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
11b	100%	-	-	10Hz
11g	97.95	2.073	0.483	1kHz
11n HT20	97.00	1.917	0.522	1kHz
11n HT40	95.29	0.939	1.065	3kHz

11b

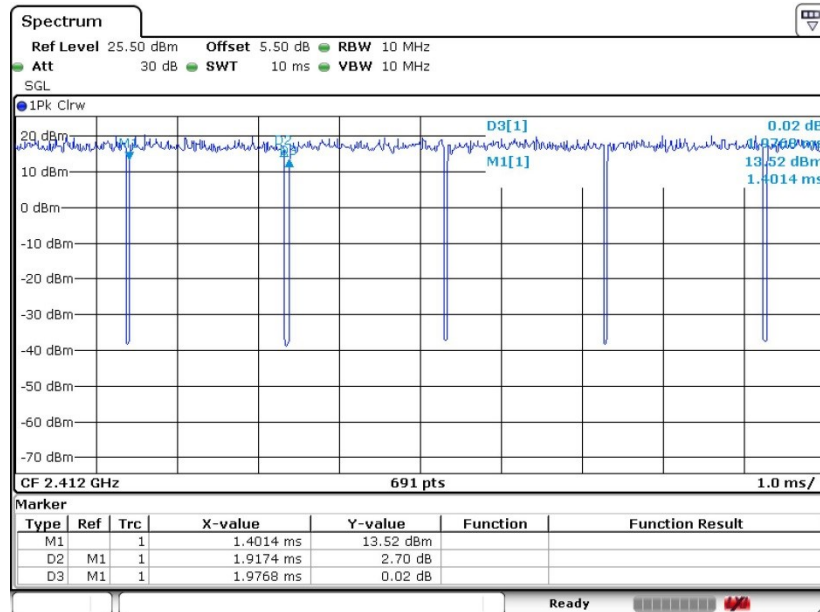


11g





11n HT20



11n HT40

