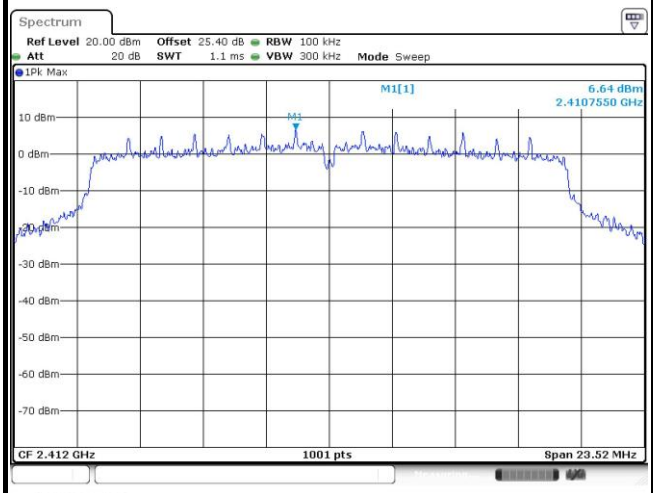
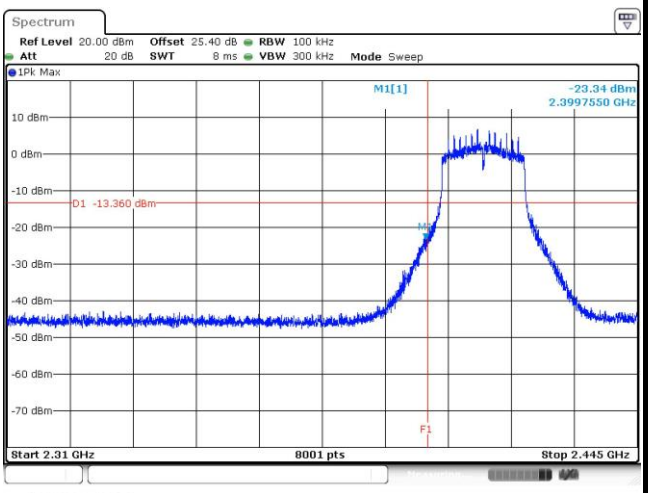
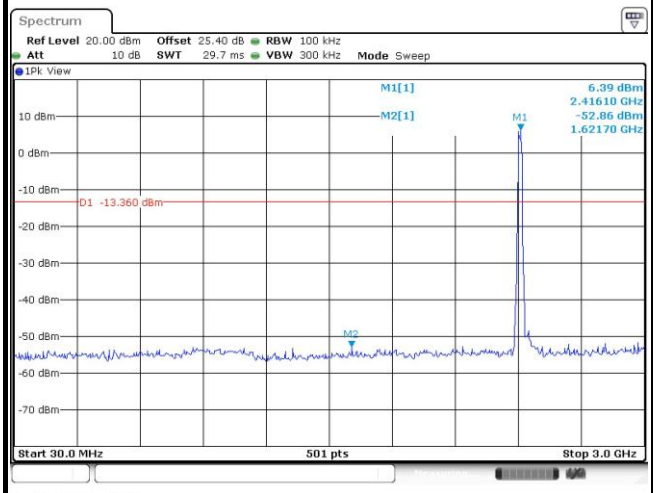
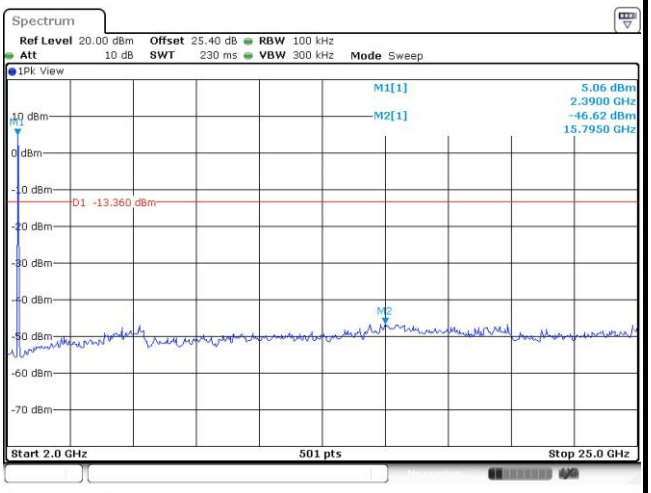
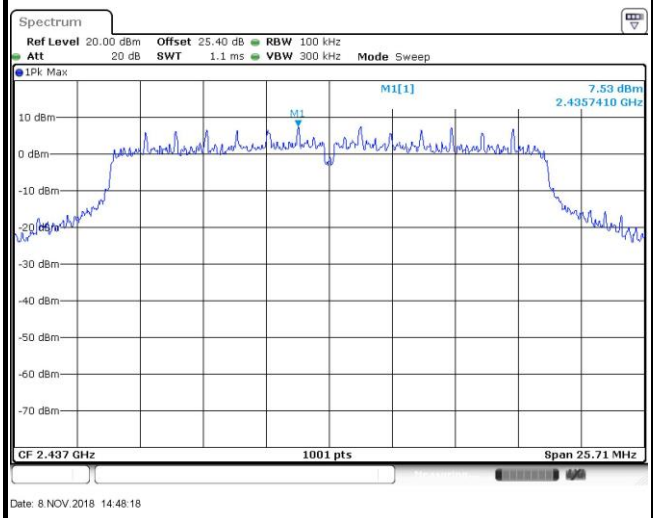
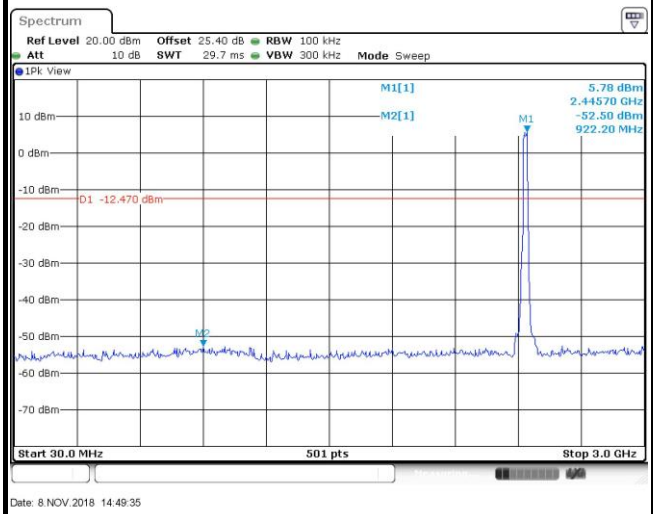
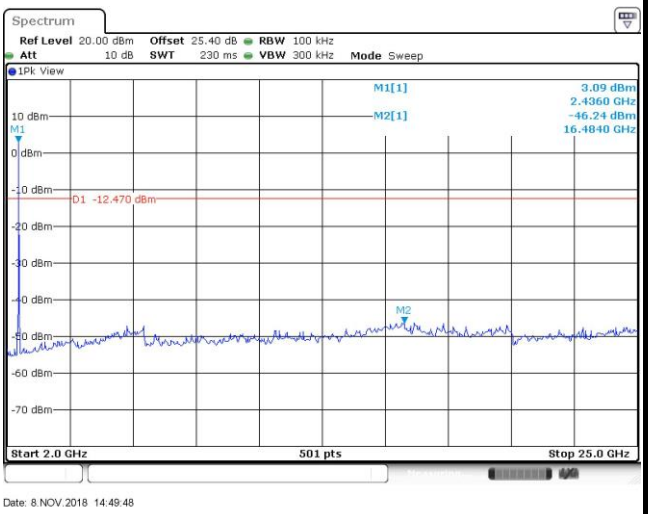
Test Mode :	802.11n HT20	Test Channel :	01

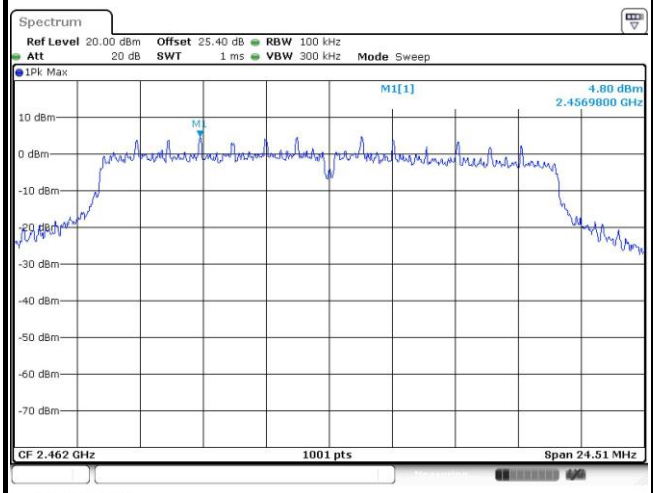
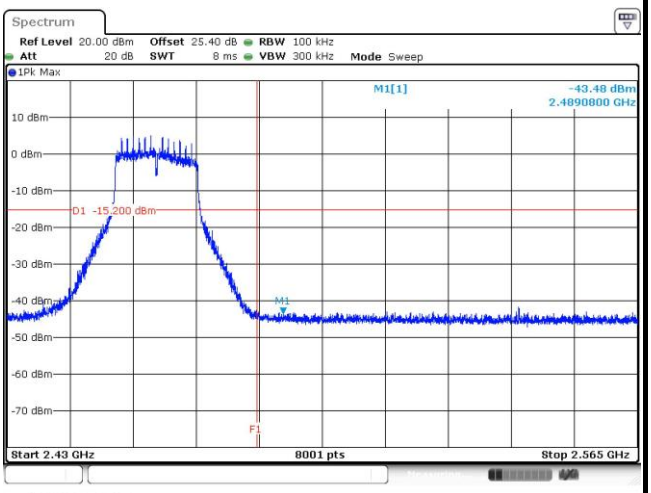
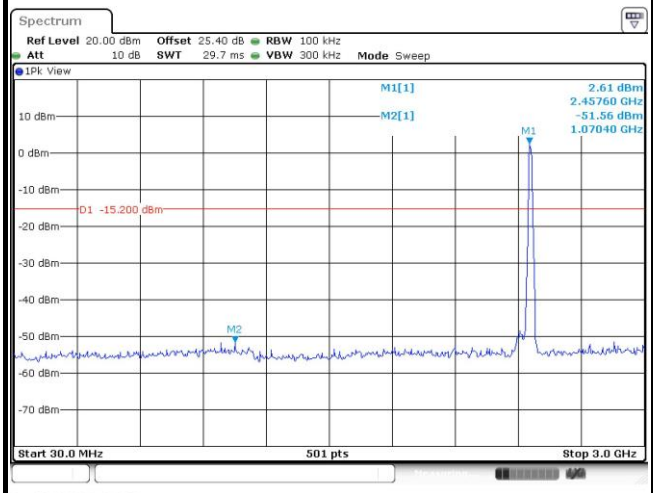
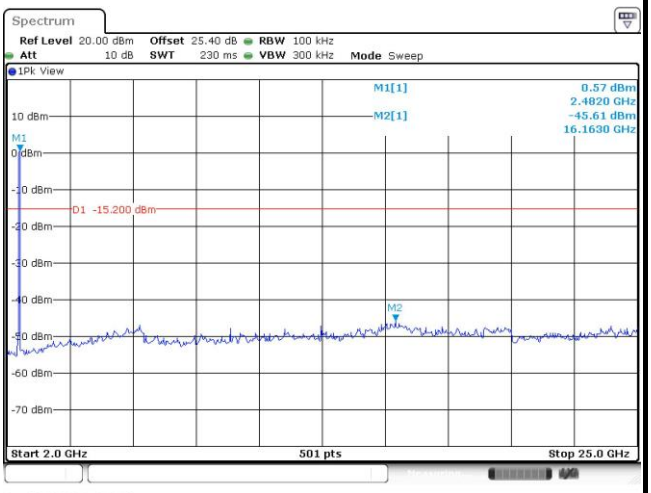
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11n HT20	Test Channel :	06

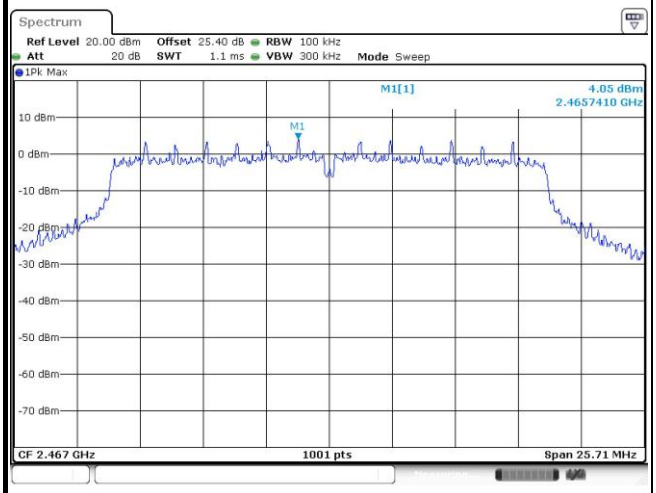
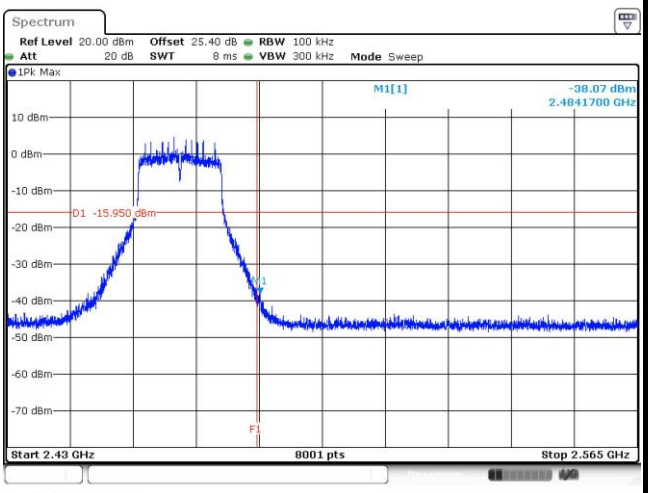
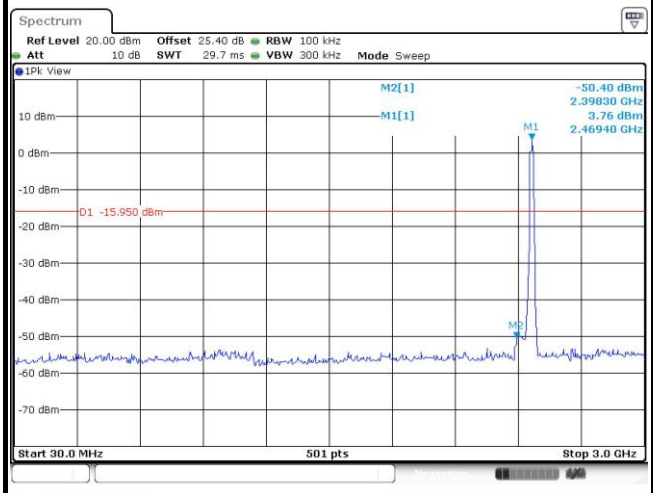
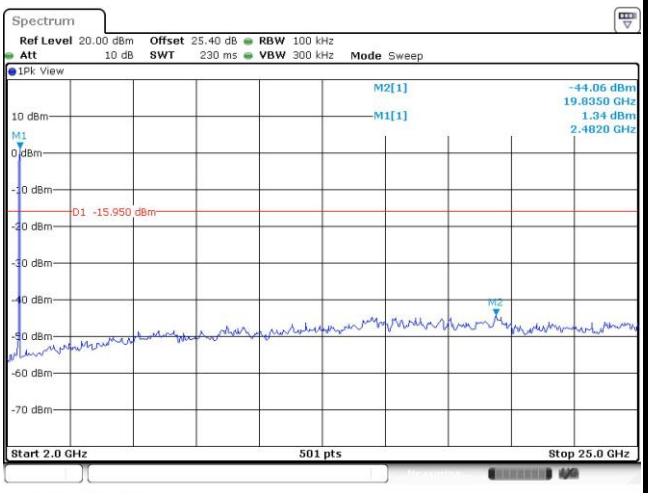
100kHz PSD reference Level	Channel Plot
	

Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

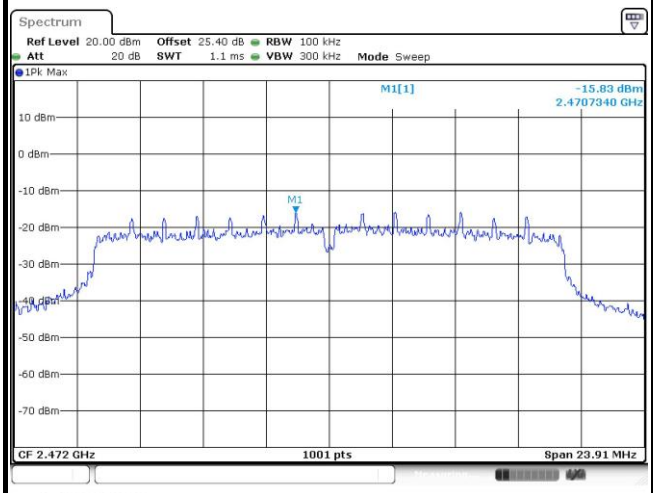
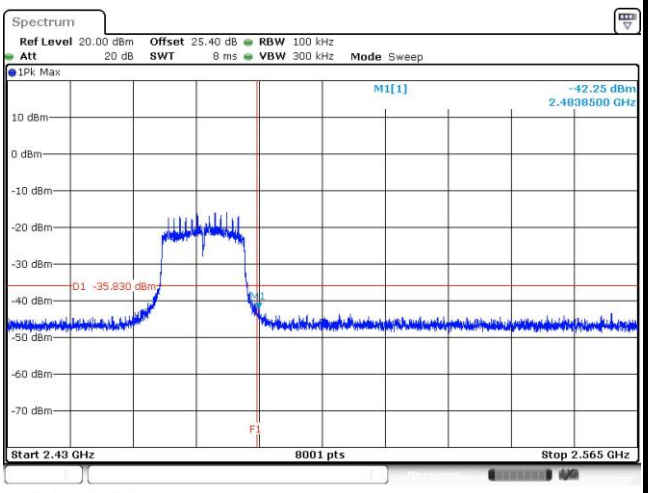
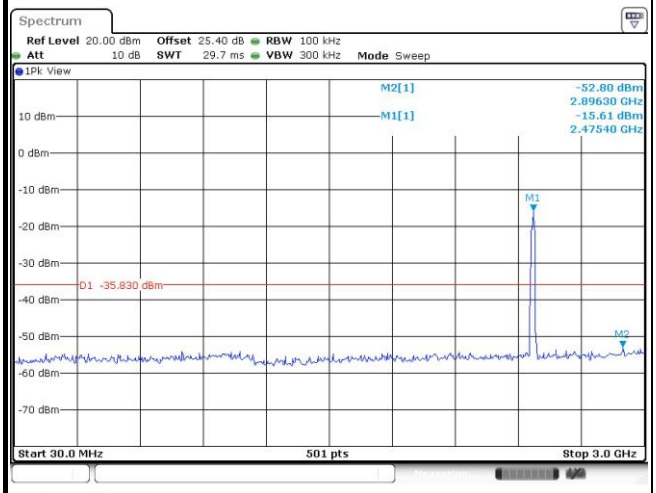
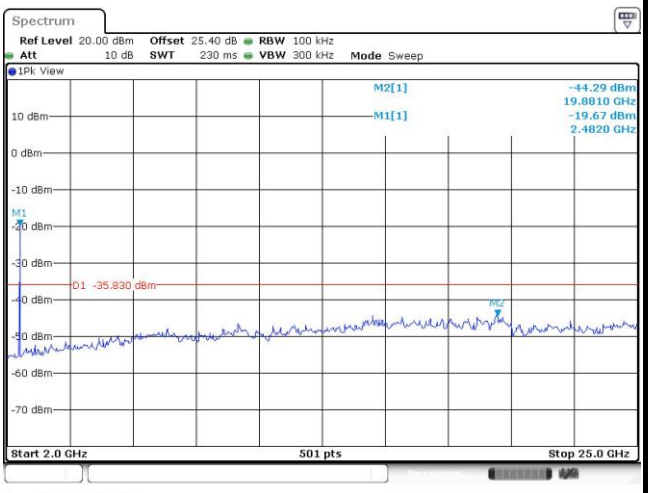
Test Mode :	802.11n HT20	Test Channel :	11

100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11n HT20	Test Channel :	12

100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11n HT20	Test Channel :	13

100kHz PSD reference Level	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

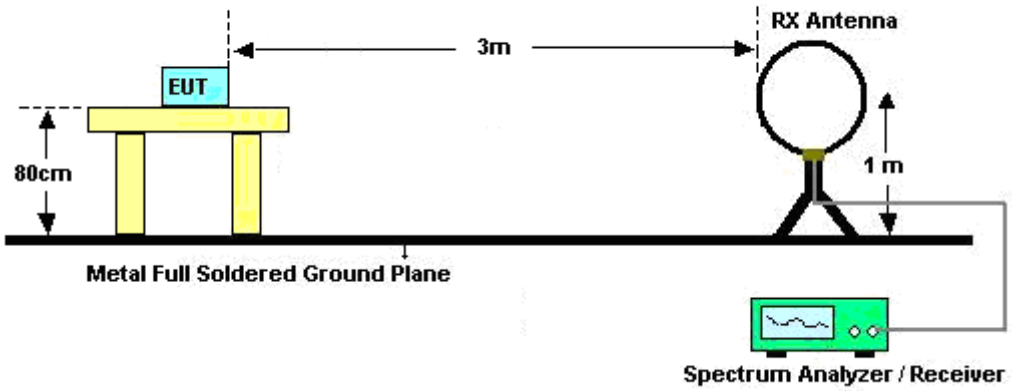
See list of measuring equipment of this test report.

3.5.3 Test Procedures

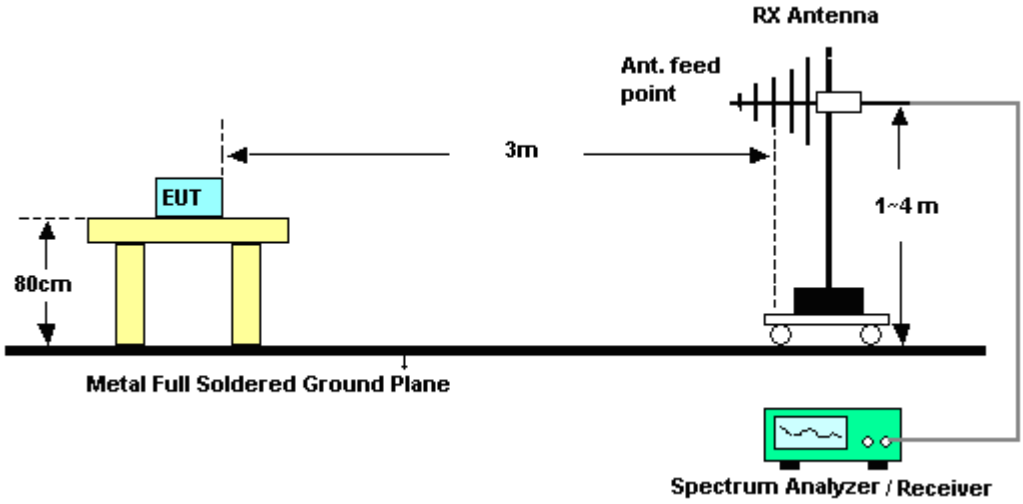
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test 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 ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

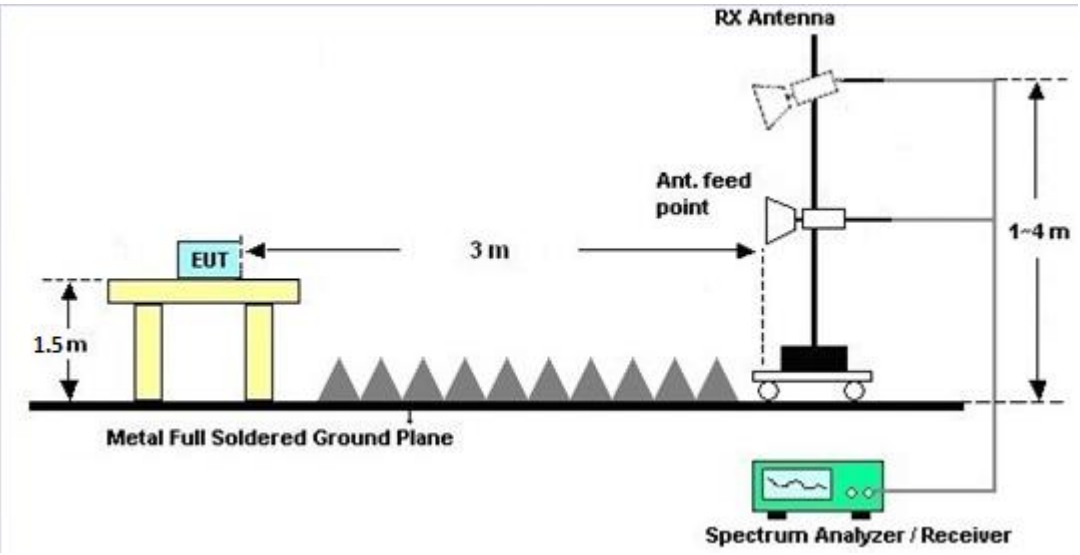
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

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 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 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 (dBμV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

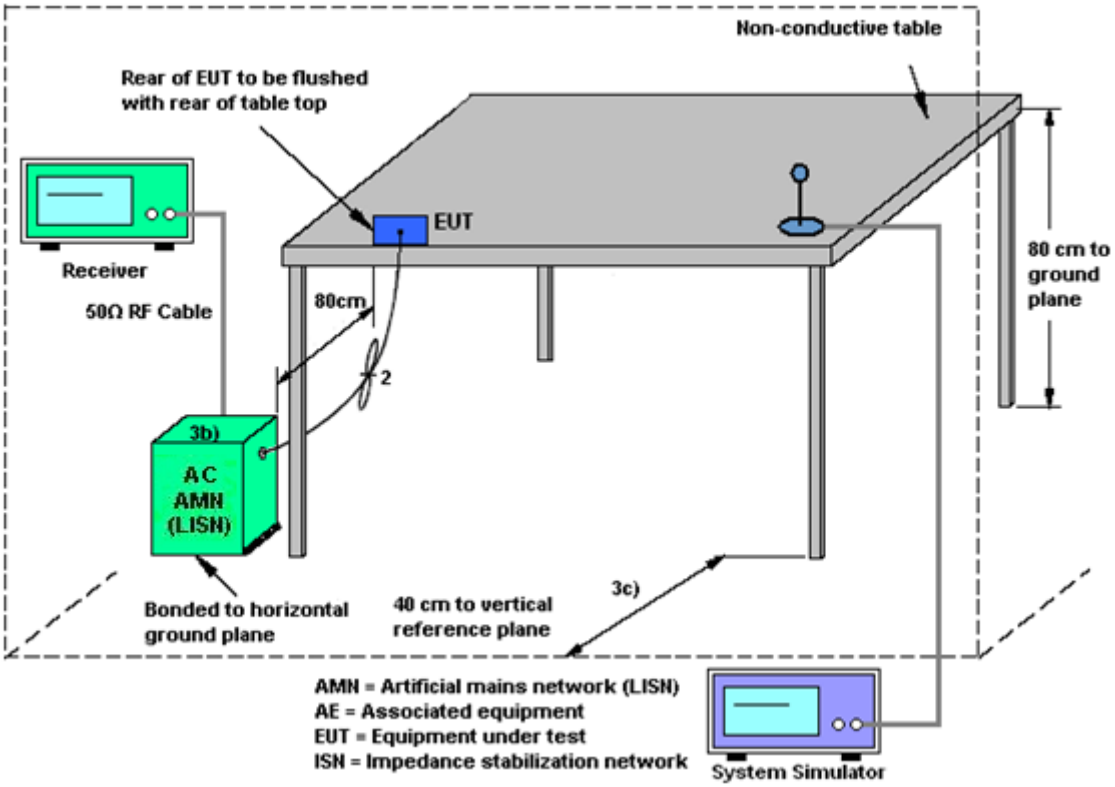
3.6.2 Measuring Instruments

See list of measuring equipment 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. 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

<CDD Modes >

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.

<CDD Modes>

			DG for Power	DG for PSD	Power Limit Reduction	PSD Limit Reduction
	Ant. 1 (dBi)	Ant. 2 (dBi)	(dBi)	(dBi)	(dB)	(dB)
2.4 GHz	-0.50	0.10	0.10	2.82	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
Power Meter	Anritsu	ML2495A	1132003	N/A	Aug. 16, 2018	Oct. 05, 2018 ~ Nov. 19, 2018	Aug. 15, 2019	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	1126017	300MHz~40GHz	Aug. 16, 2018	Oct. 05, 2018 ~ Nov. 19, 2018	Aug. 15, 2019	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 21, 2017	Oct. 05, 2018 ~ Nov. 19, 2018	Nov. 20, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV 30	100895	9kHz~30GHz	Apr. 20, 2018	Oct. 05, 2018 ~ Nov. 19, 2018	Apr. 19, 2019	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC1300484	N/A	Mar. 01, 2018	Oct. 05, 2018 ~ Nov. 19, 2018	Feb. 28, 2019	Conducted (TH05-HY)
Hygrometer	Testo	DTM-303A	TP157075	N/A	Mar. 06, 2018	Oct. 05, 2018 ~ Nov. 19, 2018	Mar. 05, 2019	Conducted (TH05-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY84209521	1GHz~26GHz	Dec. 01, 2017	Oct. 05, 2018 ~ Nov. 19, 2018	Nov. 30, 2018	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Dec. 05, 2018	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9KHz~3.6GHz	Nov. 12, 2018	Dec. 05, 2018	Nov. 11, 2019	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 14, 2018	Dec. 05, 2018	Nov. 13, 2019	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 03, 2018	Dec. 05, 2018	Jan. 02, 2019	Conduction (CO05-HY)
Test Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Dec. 05, 2018	N/A	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 03, 2018	Dec. 05, 2018	Jan. 02, 2019	Conduction (CO05-HY)
Loop Antenna	TESEQ	HLA 6120	31244	9 kHz~30 MHz	May 29, 2018	Dec. 05, 2018~ Dec. 25, 2018	May 28, 2019	Radiation (03CH07-HY)
Bilog Antenna	TESEQ	CBL 6111D&N-6-06	35414&AT-N0602	30MHz to 1GHz	Oct. 13, 2018	Dec. 05, 2018~ Dec. 25, 2018	Oct. 12, 2019	Radiation (03CH07-HY)
Horn Antenna	ESCO	3117	00211469	1GHz~18GHz	Apr. 06, 2018	Dec. 05, 2018~ Dec. 25, 2018	Apr. 05, 2019	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170576	18GHz ~ 40GHz	May 08, 2018	Dec. 05, 2018~ Dec. 25, 2018	May 07, 2019	Radiation (03CH07-HY)
EMI Test Receiver	Agilent	N9038A (MXE)	MY53290053	20Hz to 26.5GHz	Jan. 16, 2018	Dec. 05, 2018~ Dec. 25, 2018	Jan. 15, 2019	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	E4446A	MY50180136	3Hz~44GHz	Apr. 25, 2018	Dec. 05, 2018~ Dec. 25, 2018	Apr. 24, 2019	Radiation (03CH07-HY)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz ~ 18GHz	Apr. 25, 2018	Dec. 05, 2018~ Dec. 25, 2018	Apr. 24, 2019	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz-1GHz	May 21, 2018	Dec. 05, 2018~ Dec. 25, 2018	May 20, 2019	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Nov. 02, 2018	Dec. 05, 2018~ Dec. 25, 2018	Nov. 01, 2019	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A01917	1GHz~26.5GHz	Apr. 23, 2018	Dec. 05, 2018~ Dec. 25, 2018	Apr. 22, 2019	Radiation (03CH07-HY)
Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 16, 2018	Dec. 05, 2018~ Dec. 25, 2018	Jul. 15, 2019	Radiation (03CH07-HY)
Hygrometer	TECPEL	HTC-2	1	N/A	May 12, 2018	Dec. 05, 2018~ Dec. 25, 2018	May 11, 2019	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24971/4,MY28655/4	9KHz~30MHz	Jan. 02, 2018	Dec. 05, 2018~ Dec. 25, 2018	Jan. 01, 2019	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4, MY24971/4, MY15682/4	30MHz~1GHz	Feb. 27, 2018	Dec. 05, 2018~ Dec. 25, 2018	Feb. 26, 2019	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4, MY24971/4, MY15682/4	1GHz~18GHz	Feb. 27, 2018	Dec. 05, 2018~ Dec. 25, 2018	Feb. 26, 2019	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SF102/2*11SK252	MY4278/2	9kHz~40GHz	May 17, 2018	Dec. 05, 2018~ Dec. 25, 2018	May 16, 2019	Radiation (03CH07-HY)
Filter	Wainwright	WLKS1200-12SS	SN2	1.2GHz Low Pass	Mar. 21, 2018	Dec. 05, 2018~ Dec. 25, 2018	Mar. 20, 2019	Radiation (03CH07-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60ST	SN2	3GHz High Pass	Mar. 21, 2018	Dec. 05, 2018~ Dec. 25, 2018	Mar. 20, 2019	Radiation (03CH07-HY)
Controller	ChainTek	Chaintek 3000	N/A	Control Turn table	N/A	Dec. 05, 2018~ Dec. 25, 2018	N/A	Radiation (03CH07-HY)
Controller	Max-Full	MF7802	MF780208368	Control Ant Mast	N/A	Dec. 05, 2018~ Dec. 25, 2018	N/A	Radiation (03CH07-HY)
Antenna Mast	Max-Full	MFA520BS	N/A	1m~4m	N/A	Dec. 05, 2018~ Dec. 25, 2018	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Dec. 05, 2018~ Dec. 25, 2018	N/A	Radiation (03CH07-HY)
Software	Audix	E3 6.2009-8-24	RK-001042	N/A	N/A	Dec. 05, 2018~ Dec. 25, 2018	N/A	Radiation (03CH07-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.20**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.70**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.50**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.20**

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Shiming Liu / Kai Liao	Temperature:	21~25	°C
Test Date:	2018/10/5~2018/11/19	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2		
11b	1Mbps	2	1	2412	13.94	13.79	8.07	8.53	0.50	Pass
11b	1Mbps	2	6	2437	13.99	14.09	8.53	9.01	0.50	Pass
11b	1Mbps	2	11	2462	13.94	13.99	8.53	8.53	0.50	Pass
11b	1Mbps	2	12	2467	13.89	14.09	8.57	9.03	0.50	Pass
11b	1Mbps	2	13	2472	13.84	13.74	8.55	8.53	0.50	Pass
11g	6Mbps	2	1	2412	16.88	16.68	15.32	15.90	0.50	Pass
11g	6Mbps	2	6	2437	16.88	16.93	15.76	16.28	0.50	Pass
11g	6Mbps	2	11	2462	16.83	16.83	15.45	15.72	0.50	Pass
11g	6Mbps	2	12	2467	16.78	16.83	15.68	16.28	0.50	Pass
11g	6Mbps	2	13	2472	17.58	19.23	15.42	15.70	0.50	Pass
HT20	MCS0	2	1	2412	17.98	17.78	15.94	15.68	0.50	Pass
HT20	MCS0	2	6	2437	18.08	18.03	15.96	17.14	0.50	Pass
HT20	MCS0	2	11	2462	18.03	18.03	15.96	16.34	0.50	Pass
HT20	MCS0	2	12	2467	17.88	17.98	15.96	17.14	0.50	Pass
HT20	MCS0	2	13	2472	18.23	18.73	15.96	15.94	0.50	Pass

TEST RESULTS DATA
Peak Output Power

2.4GHz Band																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	20.26	19.81	-	30.00	30.00	-0.60	-0.70	19.66	19.11	36.00	36.00	Pass
11b	1Mbps	1	6	2437	19.83	19.30	-	30.00	30.00	-0.60	-0.70	19.23	18.60	36.00	36.00	Pass
11b	1Mbps	1	11	2462	18.40	18.44	-	30.00	30.00	-0.60	-0.70	17.80	17.74	36.00	36.00	Pass
11b	1Mbps	1	12	2467	19.40	19.51	-	30.00	30.00	-0.60	-0.70	18.80	18.81	36.00	36.00	Pass
11b	1Mbps	1	13	2472	18.88	18.56	-	30.00	30.00	-0.60	-0.70	18.28	17.86	36.00	36.00	Pass
11g	6Mbps	1	1	2412	21.41	21.33	-	30.00	30.00	-0.60	-0.70	20.81	20.63	36.00	36.00	Pass
11g	6Mbps	1	6	2437	21.84	21.96	-	30.00	30.00	-0.60	-0.70	21.24	21.26	36.00	36.00	Pass
11g	6Mbps	1	11	2462	21.08	21.67	-	30.00	30.00	-0.60	-0.70	20.48	20.97	36.00	36.00	Pass
11g	6Mbps	1	12	2467	14.53	14.33	-	30.00	30.00	-0.60	-0.70	13.93	13.63	36.00	36.00	Pass
11g	6Mbps	1	13	2472	-0.55	-2.40	-	30.00	30.00	-0.60	-0.70	-1.15	-3.10	36.00	36.00	Pass
HT20	MCS0	1	1	2412	20.87	20.84	-	30.00	30.00	-0.60	-0.70	20.27	20.14	36.00	36.00	Pass
HT20	MCS0	1	6	2437	21.97	22.16	-	30.00	30.00	-0.60	-0.70	21.37	21.46	36.00	36.00	Pass
HT20	MCS0	1	11	2462	19.69	19.84	-	30.00	30.00	-0.60	-0.70	19.09	19.14	36.00	36.00	Pass
HT20	MCS0	1	12	2467	18.80	18.60	-	30.00	30.00	-0.60	-0.70	18.20	17.90	36.00	36.00	Pass
HT20	MCS0	1	13	2472	1.46	-0.77	-	30.00	30.00	-0.60	-0.70	0.86	-1.47	36.00	36.00	Pass
11b	1Mbps	2	1	2412	20.30	20.27	23.30	30.00		-0.60		22.70		36.00		Pass
11b	1Mbps	2	6	2437	19.84	19.82	22.84	30.00		-0.60		22.24		36.00		Pass
11b	1Mbps	2	11	2462	18.70	18.80	21.76	30.00		-0.60		21.16		36.00		Pass
11b	1Mbps	2	12	2467	19.69	20.01	22.86	30.00		-0.60		22.26		36.00		Pass
11b	1Mbps	2	13	2472	18.94	19.04	22.00	30.00		-0.60		21.40		36.00		Pass
11g	6Mbps	2	1	2412	21.61	21.65	24.64	30.00		-0.60		24.04		36.00		Pass
11g	6Mbps	2	6	2437	22.00	22.41	25.22	30.00		-0.60		24.62		36.00		Pass
11g	6Mbps	2	11	2462	21.17	21.39	24.29	30.00		-0.60		23.69		36.00		Pass
11g	6Mbps	2	12	2467	14.54	14.81	17.69	30.00		-0.60		17.09		36.00		Pass
11g	6Mbps	2	13	2472	-0.50	-2.32	1.69	30.00		-0.60		1.09		36.00		Pass
HT20	MCS0	2	1	2412	21.23	21.91	24.59	30.00		-0.60		23.99		36.00		Pass
HT20	MCS0	2	6	2437	22.06	22.48	25.29	30.00		-0.60		24.69		36.00		Pass
HT20	MCS0	2	11	2462	19.84	20.02	22.94	30.00		-0.60		22.34		36.00		Pass
HT20	MCS0	2	12	2467	19.01	19.31	22.17	30.00		-0.60		21.57		36.00		Pass
HT20	MCS0	2	13	2472	1.55	-0.75	3.56	30.00		-0.60		2.96		36.00		Pass

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

TEST RESULTS DATA
Average Output Power

2.4GHz Band									
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Ant 1	Ant 2	Ant 1	Ant 2	SUM
11b	1Mbps	1	1	2412	0.00	0.00	17.83	17.48	
11b	1Mbps	1	6	2437	0.00	0.00	17.57	17.06	
11b	1Mbps	1	11	2462	0.00	0.00	16.23	16.10	
11b	1Mbps	1	12	2467	0.00	0.00	17.10	17.26	
11b	1Mbps	1	13	2472	0.00	0.00	16.64	16.22	
11g	6Mbps	1	1	2412	0.07	0.10	16.79	16.87	
11g	6Mbps	1	6	2437	0.07	0.10	17.43	17.55	
11g	6Mbps	1	11	2462	0.07	0.10	16.51	17.26	-
11g	6Mbps	1	12	2467	0.07	0.10	9.97	9.76	
11g	6Mbps	1	13	2472	0.07	0.10	-5.33	-7.60	
HT20	MCS0	1	1	2412	0.08	0.12	16.23	16.12	
HT20	MCS0	1	6	2437	0.08	0.12	17.36	17.48	
HT20	MCS0	1	11	2462	0.08	0.12	14.94	15.14	
HT20	MCS0	1	12	2467	0.08	0.12	13.80	13.93	
HT20	MCS0	1	13	2472	0.08	0.12	-3.69	-6.03	
11b	1Mbps	2	1	2412	0.00	0.00	17.84	17.77	20.82
11b	1Mbps	2	6	2437	0.00	0.00	17.58	17.35	20.48
11b	1Mbps	2	11	2462	0.00	0.00	16.49	16.44	19.48
11b	1Mbps	2	12	2467	0.00	0.00	17.36	17.66	20.52
11b	1Mbps	2	13	2472	0.00	0.00	16.66	16.62	19.65
11g	6Mbps	2	1	2412	0.10	0.08	17.20	17.19	20.21
11g	6Mbps	2	6	2437	0.10	0.08	17.68	18.07	20.89
11g	6Mbps	2	11	2462	0.10	0.08	16.54	17.81	20.23
11g	6Mbps	2	12	2467	0.10	0.08	9.98	10.12	13.06
11g	6Mbps	2	13	2472	0.10	0.08	-5.25	-7.57	-3.25
HT20	MCS0	2	1	2412	0.09	0.09	16.57	16.53	19.56
HT20	MCS0	2	6	2437	0.09	0.09	17.58	17.97	20.79
HT20	MCS0	2	11	2462	0.09	0.09	15.25	15.31	18.29
HT20	MCS0	2	12	2467	0.09	0.09	13.89	14.19	17.05
HT20	MCS0	2	13	2472	0.09	0.09	-3.61	-6.01	-1.64

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

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant 1	Ant 2	Worse + 3.01	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	2	1	2412	-4.30	-3.82	-0.81	2.36		8.00		Pass
11b	1Mbps	2	6	2437	-4.19	-5.14	-1.18	2.36		8.00		Pass
11b	1Mbps	2	11	2462	-5.47	-5.82	-2.46	2.36		8.00		Pass
11b	1Mbps	2	12	2467	-4.56	-4.63	-1.55	2.36		8.00		Pass
11b	1Mbps	2	13	2472	-4.28	-4.93	-1.27	2.36		8.00		Pass
11g	6Mbps	2	1	2412	-7.76	-8.72	-4.75	2.36		8.00		Pass
11g	6Mbps	2	6	2437	-7.96	-7.62	-4.61	2.36		8.00		Pass
11g	6Mbps	2	11	2462	-9.05	-6.27	-3.26	2.36		8.00		Pass
11g	6Mbps	2	12	2467	-15.08	-15.77	-12.07	2.36		8.00		Pass
11g	6Mbps	2	13	2472	-30.14	-32.34	-27.13	2.36		8.00		Pass
HT20	MCS0	2	1	2412	-8.33	-9.43	-5.32	2.36		8.00		Pass
HT20	MCS0	2	6	2437	-7.76	-7.36	-4.35	2.36		8.00		Pass
HT20	MCS0	2	11	2462	-9.77	-9.30	-6.29	2.36		8.00		Pass
HT20	MCS0	2	12	2467	-11.91	-10.87	-7.86	2.36		8.00		Pass
HT20	MCS0	2	13	2472	-28.56	-31.18	-25.55	2.36		8.00		Pass

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

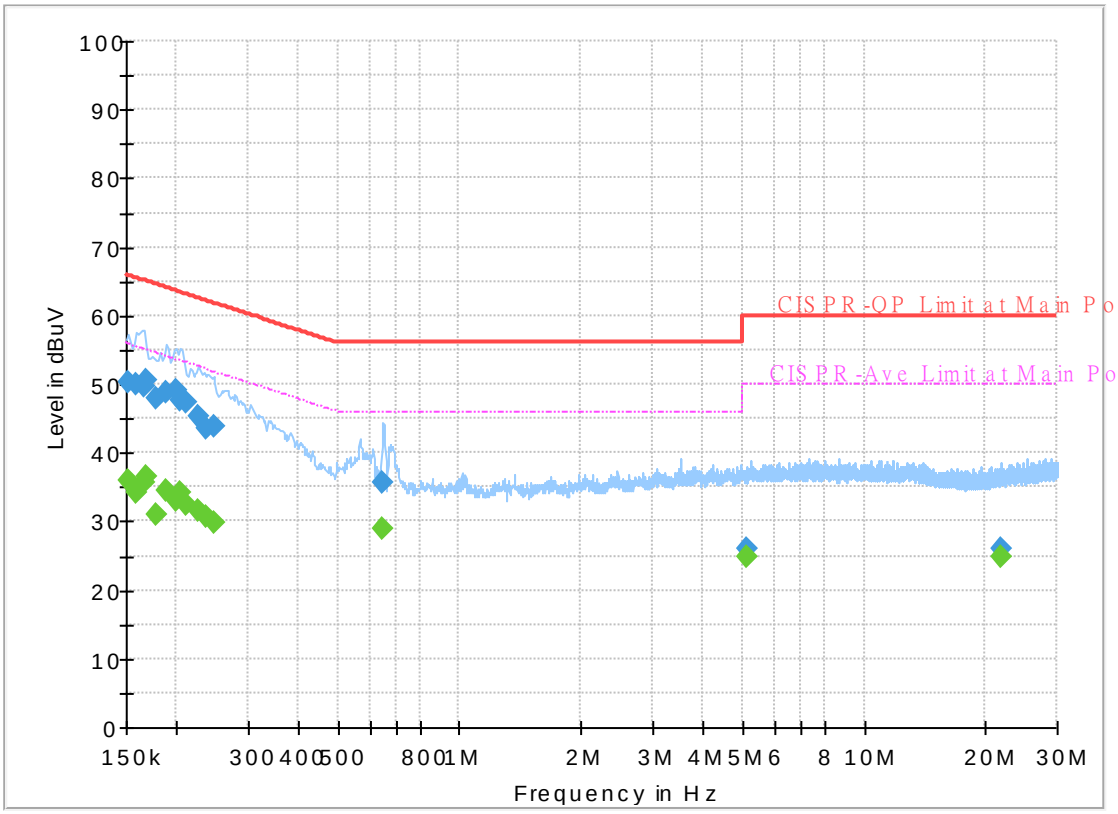
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Jimmy Chang	**Temperature :**	22~23℃
		Relative Humidity :	55~57%

EUT Information

Report NO :	891148-01
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line

Full Spectrum



Final_Result

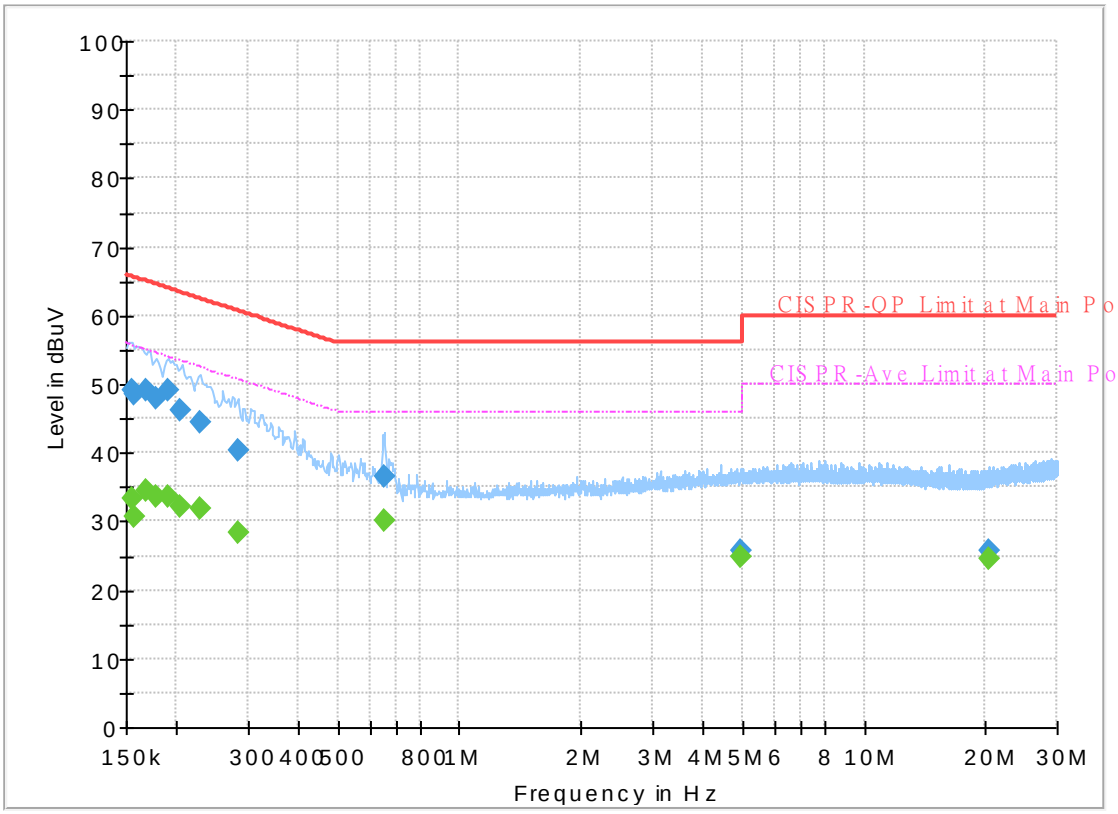
Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	35.87	55.88	20.01	L1	OFF	19.5
0.152250	50.42	---	65.88	15.46	L1	OFF	19.5
0.159000	---	34.31	55.52	21.21	L1	OFF	19.5
0.159000	50.05	---	65.52	15.47	L1	OFF	19.5
0.165750	---	35.76	55.17	19.41	L1	OFF	19.5
0.165750	49.62	---	65.17	15.55	L1	OFF	19.5
0.168000	---	36.52	55.06	18.54	L1	OFF	19.5
0.168000	50.49	---	65.06	14.57	L1	OFF	19.5
0.177000	---	30.90	54.63	23.73	L1	OFF	19.5
0.177000	47.99	---	64.63	16.64	L1	OFF	19.5
0.188250	---	34.39	54.11	19.72	L1	OFF	19.5
0.188250	48.72	---	64.11	15.39	L1	OFF	19.5
0.199500	---	33.18	53.63	20.45	L1	OFF	19.5
0.199500	49.12	---	63.63	14.51	L1	OFF	19.5
0.204000	---	34.08	53.45	19.37	L1	OFF	19.5
0.204000	47.57	---	63.45	15.88	L1	OFF	19.5
0.210750	---	32.35	53.18	20.83	L1	OFF	19.5
0.210750	47.27	---	63.18	15.91	L1	OFF	19.5
0.226500	---	31.58	52.58	21.00	L1	OFF	19.5
0.226500	45.25	---	62.58	17.33	L1	OFF	19.5
0.237750	---	30.58	52.17	21.59	L1	OFF	19.5

0.237750	**43.55**	**---**	**62.17**	**18.62**	**L1**	**OFF**	**19.5**
0.249000	**---**	**29.82**	**51.79**	**21.97**	**L1**	**OFF**	**19.5**
0.249000	**43.77**	**---**	**61.79**	**18.02**	**L1**	**OFF**	**19.5**
0.647250	**---**	**29.08**	**46.00**	**16.92**	**L1**	**OFF**	**19.6**
0.647250	**35.74**	**---**	**56.00**	**20.26**	**L1**	**OFF**	**19.6**
5.129250	**---**	**24.97**	**50.00**	**25.03**	**L1**	**OFF**	**19.7**
5.129250	**26.12**	**---**	**60.00**	**33.88**	**L1**	**OFF**	**19.7**
21.878250	**---**	**24.72**	**50.00**	**25.28**	**L1**	**OFF**	**20.3**
21.878250	**25.88**	**---**	**60.00**	**34.12**	**L1**	**OFF**	**20.3**

EUT Information

Report NO :	891148-01
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.154500	---	33.38	55.75	22.37	N	OFF	19.5
0.154500	49.17	---	65.75	16.58	N	OFF	19.5
0.156750	---	30.74	55.63	24.89	N	OFF	19.5
0.156750	48.59	---	65.63	17.04	N	OFF	19.5
0.168000	---	34.64	55.06	20.42	N	OFF	19.5
0.168000	49.19	---	65.06	15.87	N	OFF	19.5
0.177000	---	33.48	54.63	21.15	N	OFF	19.5
0.177000	48.09	---	64.63	16.54	N	OFF	19.5
0.190500	---	33.54	54.02	20.48	N	OFF	19.5
0.190500	49.12	---	64.02	14.90	N	OFF	19.5
0.204000	---	32.15	53.45	21.30	N	OFF	19.5
0.204000	46.18	---	63.45	17.27	N	OFF	19.5
0.228750	---	31.79	52.50	20.71	N	OFF	19.5
0.228750	44.37	---	62.50	18.13	N	OFF	19.5
0.285000	---	28.26	50.67	22.41	N	OFF	19.5
0.285000	40.36	---	60.67	20.31	N	OFF	19.5
0.651750	---	30.06	46.00	15.94	N	OFF	19.6
0.651750	36.68	---	56.00	19.32	N	OFF	19.6
4.962750	---	24.83	46.00	21.17	N	OFF	19.7
4.962750	25.63	---	56.00	30.37	N	OFF	19.7
20.307750	---	24.55	50.00	25.45	N	OFF	20.3

20.307750	**25.74**	**---**	**60.00**	**34.26**	**N**	**OFF**	**20.3**

Appendix C. Radiated Spurious Emission

Test Engineer :	Jesse Wang, Stan Hsieh, and Troye Hsien	Temperature :	24~26 °C
		Relative Humidity :	50~51 %

<For Sample 1>

<Adapter 1>

2.4GHz 2400~2483.5MHz

WIFI 802.11b (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		2386.965	55.13	-18.87	74	40.63	32	17.44	34.94	400	101	P	H
		2390	43.83	-10.17	54	29.34	32	17.44	34.95	400	101	A	H
	*	2412	105	-	-	90.44	32.07	17.44	34.95	400	101	P	H
	*	2412	102.31	-	-	87.75	32.07	17.44	34.95	400	101	A	H
													H
													H
		2353.26	54.31	-19.69	74	39.95	31.93	17.37	34.94	400	70	P	V
		2390	43.86	-10.14	54	29.37	32	17.44	34.95	400	70	A	V
	*	2412	102.61	-	-	88.05	32.07	17.44	34.95	400	70	P	V
	*	2412	100.36	-	-	85.8	32.07	17.44	34.95	400	70	A	V
													V
													V

802.11b CH 06 2437MHz		2357.74	54.6	-19.4	74	40.23	31.93	17.38	34.94	400	103	P	H
		2389.94	43.89	-10.11	54	29.4	32	17.44	34.95	400	103	A	H
	*	2437	105.92	-	-	91.18	32.2	17.5	34.96	400	103	P	H
	*	2437	102.91	-	-	88.17	32.2	17.5	34.96	400	103	A	H
		2493.21	54.21	-19.79	74	39.33	32.3	17.56	34.98	400	103	P	H
		2484.25	43.95	-10.05	54	29.09	32.27	17.56	34.97	400	103	A	H
		2321.34	54.25	-19.75	74	40.07	31.8	17.31	34.93	382	86	P	V
		2387.56	43.64	-10.36	54	29.14	32	17.44	34.94	382	86	A	V
	*	2437	101.16	-	-	86.42	32.2	17.5	34.96	382	86	P	V
	*	2437	98.13	-	-	83.39	32.2	17.5	34.96	382	86	A	V
		2493.91	54.91	-19.09	74	40.03	32.3	17.56	34.98	382	86	P	V
		2484.53	43.9	-10.1	54	29.04	32.27	17.56	34.97	382	86	A	V
802.11b CH 11 2462MHz	*	2462	105.25	-	-	90.43	32.23	17.56	34.97	379	110	P	H
	*	2462	102.38	-	-	87.56	32.23	17.56	34.97	379	110	A	H
		2494.88	54.98	-19.02	74	40.1	32.3	17.56	34.98	379	110	P	H
		2483.52	44.16	-9.84	54	29.3	32.27	17.56	34.97	379	110	A	H
													H
													H
	*	2462	100.24	-	-	85.42	32.23	17.56	34.97	400	266	P	V
	*	2462	97.03	-	-	82.21	32.23	17.56	34.97	400	266	A	V
		2494.12	54.55	-19.45	74	39.67	32.3	17.56	34.98	400	266	P	V
		2483.84	43.9	-10.1	54	29.04	32.27	17.56	34.97	400	266	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 12 2467MHz	*	2467	105.01	-	-	90.19	32.23	17.56	34.97	382	103	P	H
	*	2467	102.05	-	-	87.23	32.23	17.56	34.97	382	103	A	H
		2483.76	54.7	-19.3	74	39.84	32.27	17.56	34.97	382	103	P	H
		2483.52	45.29	-8.71	54	30.43	32.27	17.56	34.97	382	103	A	H
													H
													H
	*	2467	100.15	-	-	85.33	32.23	17.56	34.97	400	266	P	V
	*	2467	97.12	-	-	82.3	32.23	17.56	34.97	400	266	A	V
		2487.76	54.28	-19.72	74	39.39	32.3	17.56	34.97	400	266	P	V
		2484.08	44.43	-9.57	54	29.57	32.27	17.56	34.97	400	266	A	V
													V
													V
802.11b CH 13 2472MHz	*	2472	102.8	-	-	87.94	32.27	17.56	34.97	374	114	P	H
	*	2472	99.84	-	-	84.98	32.27	17.56	34.97	374	114	A	H
		2483.52	55.93	-18.07	74	41.07	32.27	17.56	34.97	374	114	P	H
		2483.52	48.63	-5.37	54	33.77	32.27	17.56	34.97	374	114	A	H
													H
													H
	*	2472	97.47	-	-	82.61	32.27	17.56	34.97	400	267	P	V
	*	2472	94.33	-	-	79.47	32.27	17.56	34.97	400	267	A	V
		2499	54.67	-19.33	74	39.79	32.3	17.56	34.98	400	267	P	V
		2483.52	44.75	-9.25	54	29.89	32.27	17.56	34.97	400	267	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	53.46	-20.54	74	67.87	33.95	10.98	59.34	100	191	P	H
		4824	50.66	-3.34	54	65.07	33.95	10.98	59.34	100	191	A	H
													H
													H
		4824	46.53	-27.47	74	60.94	33.95	10.98	59.34	100	0	P	V
													V
													V
													V
802.11b CH 06 2437MHz		4874	52.52	-21.48	74	66.73	34	11.03	59.24	100	173	P	H
		4874	50.55	-3.45	54	64.76	34	11.03	59.24	100	173	A	H
		7311	44.41	-29.59	74	53.18	35.7	13.66	58.13	100	0	P	H
													H
		4874	47.72	-26.28	74	61.93	34	11.03	59.24	100	0	P	V
		7311	43.47	-30.53	74	52.24	35.7	13.66	58.13	100	0	P	V
													V
													V
802.11b CH 11 2462MHz		4924	53.31	-20.69	74	67.29	34.07	11.09	59.14	100	189	P	H
		4924	50.84	-3.16	54	64.82	34.07	11.09	59.14	100	189	A	H
		7386	44.87	-29.13	74	53.57	35.8	13.76	58.26	100	0	P	H
													H
		4924	47.62	-26.38	74	61.6	34.07	11.09	59.14	100	0	P	V
		7386	44.92	-29.08	74	53.62	35.8	13.76	58.26	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 12 2467MHz		4934	53.02	-20.98	74	67	34.07	11.09	59.14	100	183	P	H
		4934	50.54	-3.46	54	64.52	34.07	11.09	59.14	100	183	A	H
		7401	45.61	-28.39	74	54.36	35.77	13.76	58.28	100	0	P	H
													H
		4934	47.75	-26.25	74	61.73	34.07	11.09	59.14	100	0	P	V
		7401	44.27	-29.73	74	53.02	35.77	13.76	58.28	100	0	P	V
													V
													V
802.11b CH 13 2472MHz		4944	53.34	-20.66	74	67.2	34.1	11.14	59.1	100	172	P	H
		4944	50.48	-3.52	54	64.34	34.1	11.14	59.1	100	172	A	H
		7416	44.82	-29.18	74	53.57	35.77	13.76	58.28	100	0	P	H
													H
		4944	48.12	-25.88	74	61.98	34.1	11.14	59.1	100	0	P	V
		7416	44.64	-29.36	74	53.39	35.77	13.76	58.28	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2388.645	61.5	-12.5	74	47	32	17.44	34.94	124	95	P	H
		2389.485	51.52	-2.48	54	37.02	32	17.44	34.94	124	95	A	H
	*	2412	110.03	-	-	95.47	32.07	17.44	34.95	124	95	P	H
	*	2412	102.65	-	-	88.09	32.07	17.44	34.95	124	95	A	H
													H
													H
		2388.645	59.79	-14.21	74	45.29	32	17.44	34.94	347	77	P	V
		2389.59	48.92	-5.08	54	34.42	32	17.44	34.94	347	77	A	V
	*	2412	108.54	-	-	93.98	32.07	17.44	34.95	347	77	P	V
	*	2412	101.32	-	-	86.76	32.07	17.44	34.95	347	77	A	V
													V
													V
802.11g CH 06 2437MHz		2389.24	53.71	-20.29	74	39.21	32	17.44	34.94	100	95	P	H
		2389.94	44.52	-9.48	54	30.03	32	17.44	34.95	100	95	A	H
	*	2437	111.27	-	-	96.53	32.2	17.5	34.96	100	95	P	H
	*	2437	103.4	-	-	88.66	32.2	17.5	34.96	100	95	A	H
		2485.16	54.32	-19.68	74	39.46	32.27	17.56	34.97	100	95	P	H
		2483.55	44.58	-9.42	54	29.72	32.27	17.56	34.97	100	95	A	H
		2329.46	54.05	-19.95	74	39.87	31.8	17.31	34.93	382	78	P	V
		2387.84	44.2	-9.8	54	29.7	32	17.44	34.94	382	78	A	V
	*	2437	109.65	-	-	94.91	32.2	17.5	34.96	382	78	P	V
	*	2437	101.94	-	-	87.2	32.2	17.5	34.96	382	78	A	V
		2490.55	53.86	-20.14	74	38.97	32.3	17.56	34.97	382	78	P	V
		2483.55	44.6	-9.4	54	29.74	32.27	17.56	34.97	382	78	A	V

802.11g CH 11 2462MHz		2462	109.17	-	-	94.35	32.23	17.56	34.97	110	94	P	H
		2462	101.46	-	-	86.64	32.23	17.56	34.97	110	94	A	H
		2483.56	63.82	-10.18	74	48.96	32.27	17.56	34.97	110	94	P	H
		2483.52	52.47	-1.53	54	37.61	32.27	17.56	34.97	110	94	A	H
													H
													H
		2462	106.64	-	-	91.82	32.23	17.56	34.97	386	40	P	V
		2462	99.25	-	-	84.43	32.23	17.56	34.97	386	40	A	V
		2483.68	57.16	-16.84	74	42.3	32.27	17.56	34.97	386	40	P	V
		2483.64	46.78	-7.22	54	31.92	32.27	17.56	34.97	386	40	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 12 2467MHz		2467	102.8	-	-	87.98	32.23	17.56	34.97	110	97	P	H
		2467	95.52	-	-	80.7	32.23	17.56	34.97	110	97	A	H
		2483.52	61.95	-12.05	74	47.09	32.27	17.56	34.97	110	97	P	H
		2483.52	52.48	-1.52	54	37.62	32.27	17.56	34.97	110	97	A	H
													H
													H
		2467	101.87	-	-	87.05	32.23	17.56	34.97	387	77	P	V
		2467	94.45	-	-	79.63	32.23	17.56	34.97	387	77	A	V
		2483.52	59.32	-14.68	74	44.46	32.27	17.56	34.97	387	77	P	V
		2483.52	49.29	-4.71	54	34.43	32.27	17.56	34.97	387	77	A	V
													V
													V
802.11g CH 13 2472MHz		2472	90.19	-	-	75.33	32.27	17.56	34.97	330	102	P	H
		2472	82.36	-	-	67.5	32.27	17.56	34.97	330	102	A	H
		2483.52	61.56	-12.44	74	46.7	32.27	17.56	34.97	330	102	P	H
		2483.52	52.49	-1.51	54	37.63	32.27	17.56	34.97	330	102	A	H
													H
													H
		2472	87.09	-	-	72.23	32.27	17.56	34.97	369	66	P	V
		2472	79.04	-	-	64.18	32.27	17.56	34.97	369	66	A	V
		2483.72	60.28	-13.72	74	45.42	32.27	17.56	34.97	369	66	P	V
		2483.52	50.86	-3.14	54	36	32.27	17.56	34.97	369	66	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	47.97	-26.03	74	62.38	33.95	10.98	59.34	100	0	P	H
													H
													H
													H
		4824	44.35	-29.65	74	58.76	33.95	10.98	59.34	100	0	P	V
													V
													V
													V
802.11g CH 06 2437MHz		4874	49.44	-24.56	74	63.65	34	11.03	59.24	100	0	P	H
		7311	43.65	-30.35	74	52.42	35.7	13.66	58.13	100	0	P	H
													H
													H
		4874	45.32	-28.68	74	59.53	34	11.03	59.24	100	0	P	V
		7311	43.48	-30.52	74	52.25	35.7	13.66	58.13	100	0	P	V
													V
													V
802.11g CH 11 2462MHz		4924	48.32	-25.68	74	62.3	34.07	11.09	59.14	100	0	P	H
		7386	44.66	-29.34	74	53.36	35.8	13.76	58.26	100	0	P	H
													H
													H
		4924	44.43	-29.57	74	58.41	34.07	11.09	59.14	100	0	P	V
		7386	45.46	-28.54	74	54.16	35.8	13.76	58.26	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 12 2467MHz		4934	44.18	-29.82	74	58.16	34.07	11.09	59.14	100	0	P	H
		7401	44.64	-29.36	74	53.39	35.77	13.76	58.28	100	0	P	H
													H
													H
		4934	42.68	-31.32	74	56.66	34.07	11.09	59.14	100	0	P	V
		7401	44.67	-29.33	74	53.42	35.77	13.76	58.28	100	0	P	V
													V
													V
802.11g CH 13 2472MHz		4944	42.95	-31.05	74	56.81	34.1	11.14	59.1	100	0	P	H
		7416	44.56	-29.44	74	53.31	35.77	13.76	58.28	100	0	P	H
													H
													H
		4944	42.83	-31.17	74	56.69	34.1	11.14	59.1	100	0	P	V
		7416	44.31	-29.69	74	53.06	35.77	13.76	58.28	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2389.905	62.96	-11.04	74	48.47	32	17.44	34.95	316	104	P	H
		2390	52.31	-1.69	54	37.82	32	17.44	34.95	316	104	A	H
	*	2412	109.25	-	-	94.69	32.07	17.44	34.95	316	104	P	H
	*	2412	101.66	-	-	87.1	32.07	17.44	34.95	316	104	A	H
802.11n													H
HT20													H
CH 01		2389.17	59.82	-14.18	74	45.32	32	17.44	34.94	400	31	P	V
2412MHz		2389.8	49.31	-4.69	54	34.82	32	17.44	34.95	400	31	A	V
	*	2412	105.94	-	-	91.38	32.07	17.44	34.95	400	31	P	V
	*	2412	98.55	-	-	83.99	32.07	17.44	34.95	400	31	A	V
													V
													V
		2367.82	53.83	-20.17	74	39.46	31.93	17.38	34.94	306	104	P	H
		2389.94	45.2	-8.8	54	30.71	32	17.44	34.95	306	104	A	H
	*	2437	114.91	-	-	100.17	32.2	17.5	34.96	306	104	P	H
	*	2437	106.57	-	-	91.83	32.2	17.5	34.96	306	104	A	H
802.11n		2484.53	54.62	-19.38	74	39.76	32.27	17.56	34.97	306	104	P	H
HT20		2484.11	45.1	-8.9	54	30.24	32.27	17.56	34.97	306	104	A	H
CH 06		2361.52	54.31	-19.69	74	39.94	31.93	17.38	34.94	389	7	P	V
2437MHz		2335.62	44.76	-9.24	54	30.48	31.9	17.31	34.93	389	7	A	V
	*	2437	109.48	-	-	94.74	32.2	17.5	34.96	389	7	P	V
	*	2437	102.11	-	-	87.37	32.2	17.5	34.96	389	7	A	V
		2493.7	53.95	-20.05	74	39.07	32.3	17.56	34.98	389	7	P	V
		2490.34	44.79	-9.21	54	29.9	32.3	17.56	34.97	389	7	A	V

	*	2462	111.23	-	-	96.41	32.23	17.56	34.97	303	106	P	H
	*	2462	103.66	-	-	88.84	32.23	17.56	34.97	303	106	A	H
		2483.84	62.71	-11.29	74	47.85	32.27	17.56	34.97	303	106	P	H
		2483.6	52.46	-1.54	54	37.6	32.27	17.56	34.97	303	106	P	H
802.11n													H
HT20													H
CH 11	*	2462	105.81	-	-	90.99	32.23	17.56	34.97	382	7	P	V
2462MHz	*	2462	97.83	-	-	83.01	32.23	17.56	34.97	382	7	A	V
		2484.12	57.32	-16.68	74	42.46	32.27	17.56	34.97	382	7	P	V
		2483.52	47.53	-6.47	54	32.67	32.27	17.56	34.97	382	7	A	V
													V
													V

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

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
	*	2467	105.75	-	-	90.93	32.23	17.56	34.97	100	97	P	H
	*	2467	97.93	-	-	83.11	32.23	17.56	34.97	100	97	A	H
		2483.8	63.27	-10.73	74	48.41	32.27	17.56	34.97	100	97	P	H
		2483.52	52.46	-1.54	54	37.6	32.27	17.56	34.97	100	97	A	H
802.11n													H
HT20													H
CH 12	*	2467	104.29	-	-	89.47	32.23	17.56	34.97	332	76	P	V
2467MHz	*	2467	96.77	-	-	81.95	32.23	17.56	34.97	332	76	A	V
		2483.52	62.36	-11.64	74	47.5	32.27	17.56	34.97	332	76	P	V
		2483.52	52.37	-1.63	54	37.51	32.27	17.56	34.97	332	76	A	V
													V
													V
	*	2472	90.56	-	-	75.7	32.27	17.56	34.97	330	96	P	H
	*	2472	82.68	-	-	67.82	32.27	17.56	34.97	330	96	A	H
		2483.52	64.06	-9.94	74	49.2	32.27	17.56	34.97	330	96	P	H
		2483.52	52.46	-1.54	54	37.6	32.27	17.56	34.97	330	96	A	H
802.11n													H
HT20													H
CH 13	*	2472	87.79	-	-	72.93	32.27	17.56	34.97	370	66	P	V
2472MHz	*	2472	79.82	-	-	64.96	32.27	17.56	34.97	370	66	A	V
		2483.6	62.23	-11.77	74	47.37	32.27	17.56	34.97	370	66	P	V
		2483.52	51.44	-2.56	54	36.58	32.27	17.56	34.97	370	66	A	V
													V
													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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4824	47.08	-26.92	74	61.49	33.95	10.98	59.34	100	0	P	H
													H
802.11n													H
HT20													H
CH 01		4824	42.78	-31.22	74	57.19	33.95	10.98	59.34	100	0	P	V
2412MHz													V
													V
													V
		4874	49.91	-24.09	74	64.12	34	11.03	59.24	100	0	P	H
		7311	45.06	-28.94	74	53.83	35.7	13.66	58.13	100	0	P	H
802.11n													H
HT20													H
CH 06		4874	46.25	-27.75	74	60.46	34	11.03	59.24	100	0	P	V
2437MHz		7311	44.05	-29.95	74	52.82	35.7	13.66	58.13	100	0	P	V
													V
													V
		4924	47.77	-26.23	74	61.75	34.07	11.09	59.14	100	0	P	H
		7386	47.28	-26.72	74	55.98	35.8	13.76	58.26	100	0	P	H
802.11n													H
HT20													H
CH 11		4924	44.55	-29.45	74	58.53	34.07	11.09	59.14	100	0	P	V
2462MHz		7386	44.68	-29.32	74	53.38	35.8	13.76	58.26	100	0	P	V
													V
													V

Remark

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

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4934	44.86	-29.14	74	58.84	34.07	11.09	59.14	100	0	P	H
		7401	44.79	-29.21	74	53.54	35.77	13.76	58.28	100	0	P	H
802.11n													H
HT20													H
CH 12		4934	43.18	-30.82	74	57.16	34.07	11.09	59.14	100	0	P	V
2467MHz		7401	44.97	-29.03	74	53.72	35.77	13.76	58.28	100	0	P	V
													V
													V
		4944	42.99	-31.01	74	56.85	34.1	11.14	59.1	100	0	P	H
		7416	44.82	-29.18	74	53.57	35.77	13.76	58.28	100	0	P	H
802.11n													H
HT20													H
CH 13		4944	42.75	-31.25	74	56.61	34.1	11.14	59.1	100	0	P	V
2472MHz		7416	44.5	-29.5	74	53.25	35.77	13.76	58.28	100	0	P	V
													V
													V

Remark

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

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	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 802.11g LF		30	32.12	-7.88	40	36.37	24.6	1.33	30.18	100	0	P	H
		187.41	28.61	-14.89	43.5	41.45	14.77	2.37	29.98	-	-	P	H
		240.33	31.3	-14.7	46	41.4	17.22	2.63	29.95	-	-	P	H
		533.1	30.15	-15.85	46	32.31	23.99	3.73	29.88	-	-	P	H
		869.1	32.63	-13.37	46	27.82	28.97	4.88	29.04	-	-	P	H
		962.9	35.1	-18.9	54	27.62	30.89	5.06	28.47	-	-	P	H
													H
													H
													H
													H
													H
													H
		30	33.44	-6.56	40	37.69	24.6	1.33	30.18	100	0	P	V
		121.26	28.63	-14.87	43.5	39.2	17.48	2.01	30.06	-	-	P	V
		176.61	25.05	-18.45	43.5	37.62	15.17	2.25	29.99	-	-	P	V
		638.1	28.78	-17.22	46	28.25	26.16	4.14	29.77	-	-	P	V
		797.7	30.98	-15.02	46	27.77	27.96	4.6	29.35	-	-	P	V
		997.9	35.85	-18.15	54	28.64	30.32	5.12	28.23	-	-	P	V
													V
													V
													V
													V
													V
													V

Remark

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

<For Sample 1>

<Adapter 2>

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 13 2472MHz	*	2472	91.48	-	-	76.62	32.27	17.56	34.97	306	108	P	H
	*	2472	83.49	-	-	68.63	32.27	17.56	34.97	306	108	A	H
		2483.64	62.53	-11.47	74	47.67	32.27	17.56	34.97	306	108	P	H
		2483.52	52.48	-1.52	54	37.62	32.27	17.56	34.97	306	108	A	H
													H
													H
	*	2472	87.08	-	-	72.22	32.27	17.56	34.97	266	74	P	V
	*	2472	79.39	-	-	64.53	32.27	17.56	34.97	266	74	A	V
		2483.52	59.4	-14.6	74	44.54	32.27	17.56	34.97	266	74	P	V
		2483.52	49.98	-4.02	54	35.12	32.27	17.56	34.97	266	74	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 13 2472MHz		4944	42.56	-31.44	74	56.42	34.1	11.14	59.1	100	0	P	H
		7416	44.54	-29.46	74	53.29	35.77	13.76	58.28	100	0	P	H
													H
													H
		4944	42.32	-31.68	74	56.18	34.1	11.14	59.1	100	0	P	V
		7416	44.2	-29.8	74	52.95	35.77	13.76	58.28	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	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 802.11g LF		31.62	22.68	-17.32	40	27.95	23.58	1.33	30.18	-	-	P	H
		163.38	27.62	-15.88	43.5	39.22	16.15	2.25	30	-	-	P	H
		284.88	28.12	-17.88	46	36.36	18.84	2.86	29.94	-	-	P	H
		929.3	33.21	-12.79	46	27.48	29.46	4.97	28.7	-	-	P	H
		941.9	33.4	-12.6	46	27.05	29.92	5.05	28.62	-	-	P	H
		957.3	34.56	-11.44	46	27.27	30.75	5.05	28.51	100	0	P	H
													H
													H
													H
													H
													H
													H
		30.27	34.32	-5.68	40	38.57	24.6	1.33	30.18	100	0	P	V
		160.14	20.23	-23.27	43.5	31.42	16.57	2.25	30.01	-	-	P	V
		287.04	20.71	-25.29	46	28.9	18.89	2.86	29.94	-	-	P	V
		888.7	33.24	-12.76	46	28.48	28.82	4.89	28.95	-	-	P	V
		938.4	33.76	-12.24	46	27.67	29.75	4.98	28.64	-	-	P	V
		957.3	34	-12	46	26.71	30.75	5.05	28.51	-	-	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

<For Sample 2>

<Adapter 1>

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 13 2472MHz	*	2472	88.32	-	-	73.46	32.27	17.56	34.97	300	103	P	H
	*	2472	81.52	-	-	66.66	32.27	17.56	34.97	300	103	A	H
		2483.52	61.68	-12.32	74	46.82	32.27	17.56	34.97	300	103	P	H
		2483.52	52.09	-1.91	54	37.23	32.27	17.56	34.97	300	103	A	H
													H
													H
	*	2472	85.03	-	-	70.17	32.27	17.56	34.97	386	70	P	V
	*	2472	77.63	-	-	62.77	32.27	17.56	34.97	386	70	A	V
		2483.52	56.46	-17.54	74	41.6	32.27	17.56	34.97	386	70	P	V
		2483.56	47.74	-6.26	54	32.88	32.27	17.56	34.97	386	70	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 13 2472MHz		4944	42.59	-31.41	74	56.45	34.1	11.14	59.1	100	0	P	H
		7416	44.83	-29.17	74	53.58	35.77	13.76	58.28	100	0	P	H
													H
													H
		4944	44.44	-29.56	74	58.3	34.1	11.14	59.1	100	0	P	V
		7416	44.47	-29.53	74	53.22	35.77	13.76	58.28	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	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 802.11g LF		30	29.2	-10.8	40	33.45	24.6	1.33	30.18	100	0	P	H
		46.2	25.38	-14.62	40	38.31	15.89	1.34	30.16			P	H
		164.73	30.92	-12.58	43.5	42.62	16.05	2.25	30			P	H
		753.6	30.59	-15.41	46	27.82	27.79	4.46	29.48			P	H
		858.6	32.1	-13.9	46	27.46	28.98	4.74	29.08			P	H
		945.4	34.38	-11.62	46	27.79	30.13	5.05	28.59			P	H
													H
													H
													H
													H
													H
													H
		30	32.32	-7.68	40	36.57	24.6	1.33	30.18	100	0	P	V
		38.64	29.48	-10.52	40	38.43	19.88	1.34	30.17			P	V
		69.15	24	-16	40	40.18	12.24	1.7	30.12			P	V
		769	30.87	-15.13	46	27.95	27.9	4.46	29.44			P	V
		867	32.71	-13.29	46	27.89	28.98	4.88	29.04			P	V
		954.5	34.22	-11.78	46	27.11	30.59	5.05	28.53			P	V
													V
													V
													V
													V
													V
													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	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Path 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) + Path 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

Test Engineer :	Jesse Wang, Stan Hsieh, and Troye Hsien	**Temperature :**	24~26 °C
		Relative Humidity :	50~51 %

Note symbol

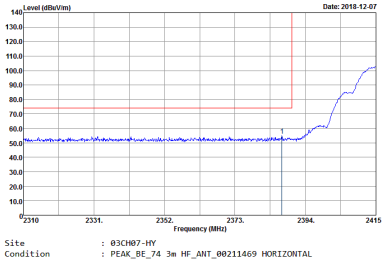
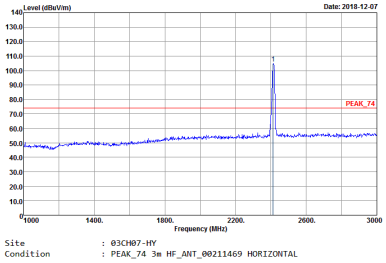
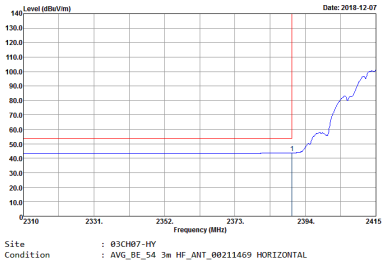
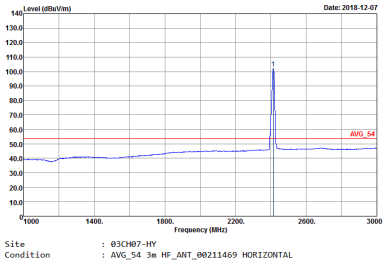
-L	**Low channel location**
-R	**High channel location**

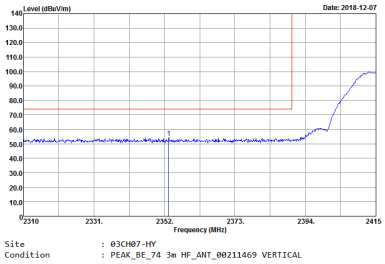
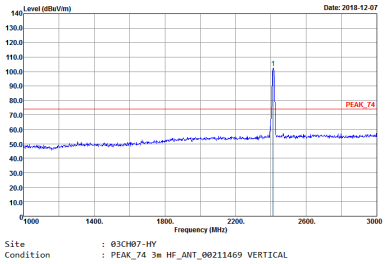
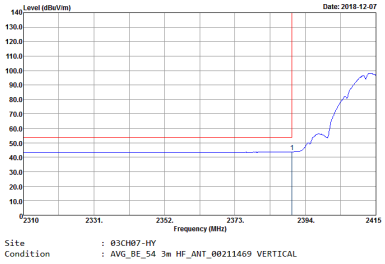
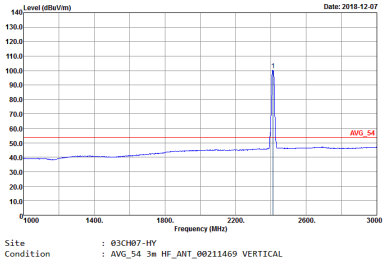
<For Sample 1>

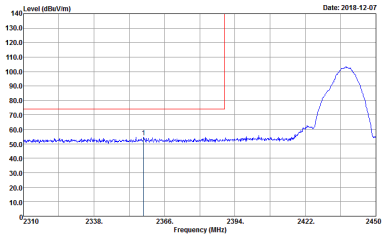
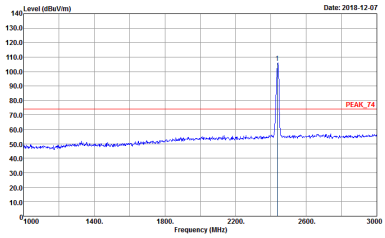
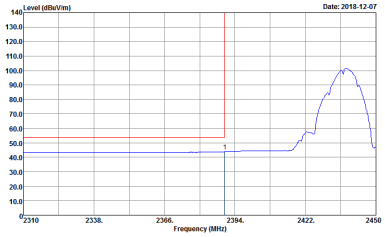
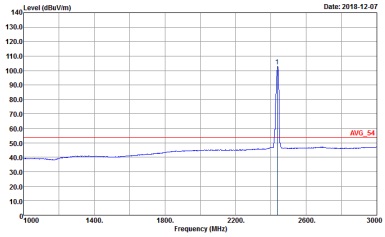
<Adapter 1>

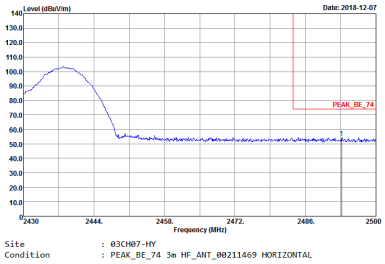
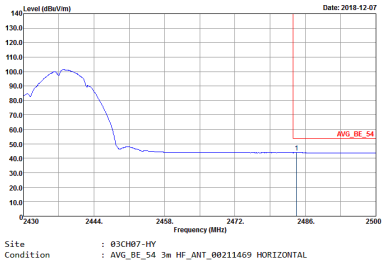
2.4GHz 2400~2483.5MHz

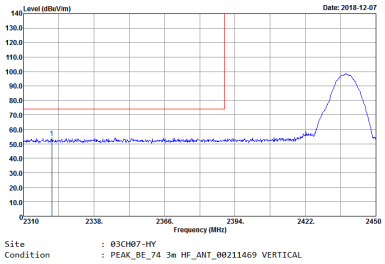
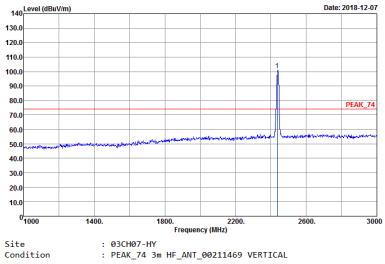
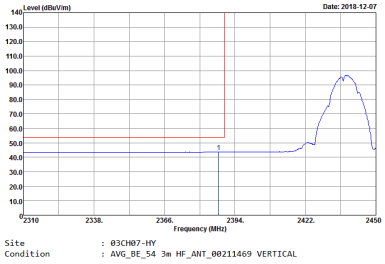
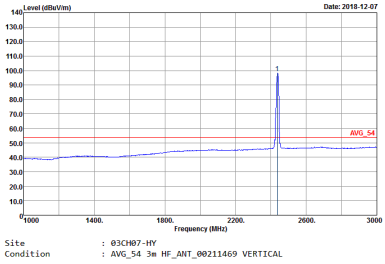
WIFI 802.11b (Band Edge @ 3m)

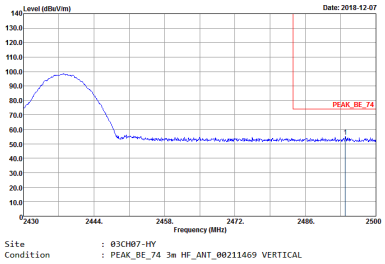
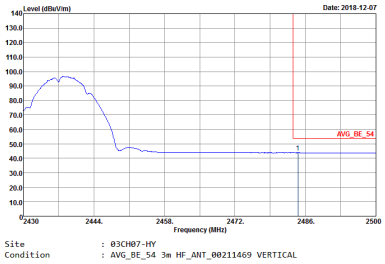
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

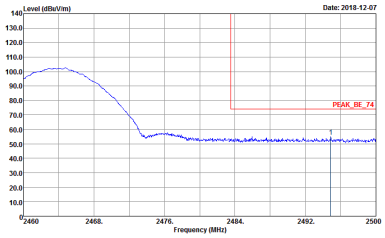
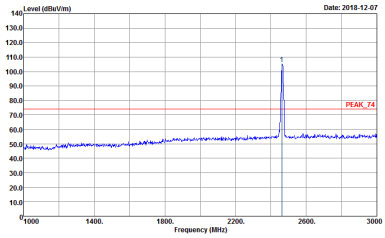
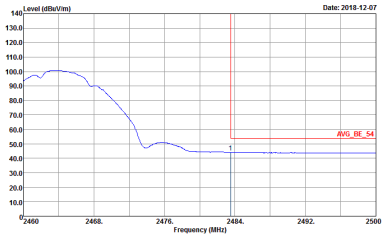
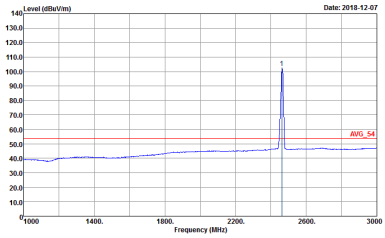
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 VERTICAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 VERTICAL

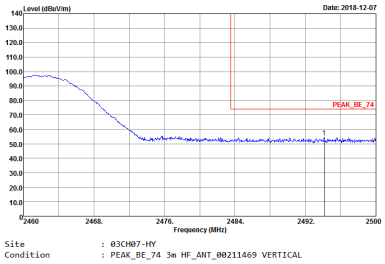
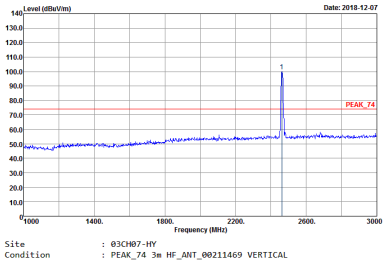
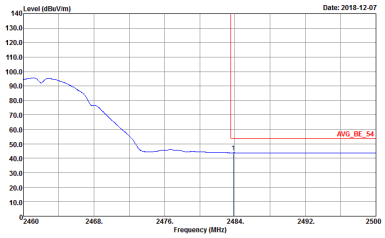
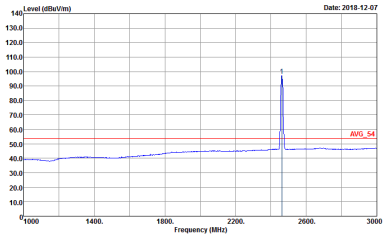
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 HORIZONTAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 HORIZONTAL

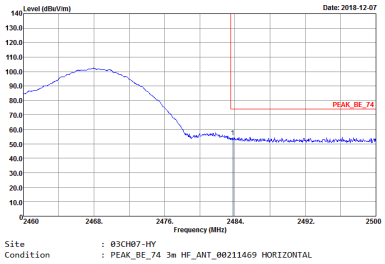
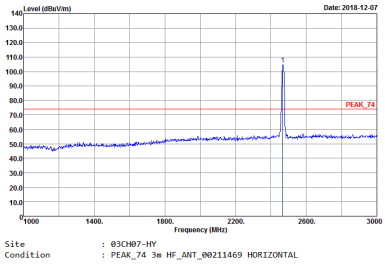
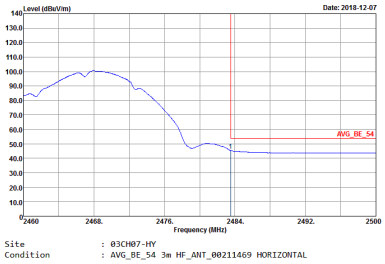
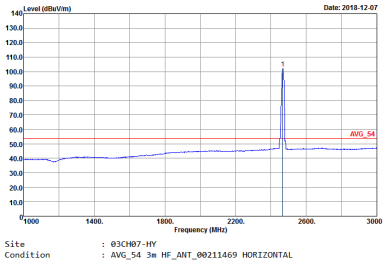
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

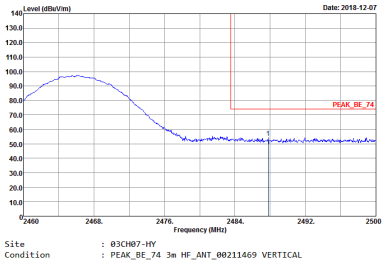
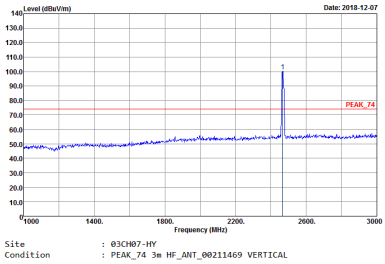
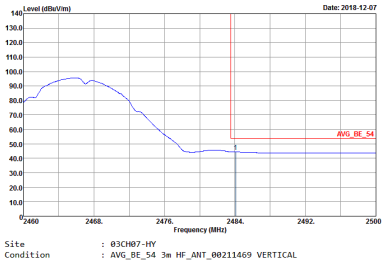
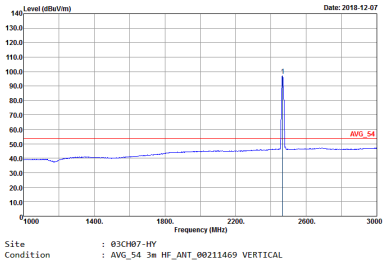
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 VERTICAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 VERTICAL

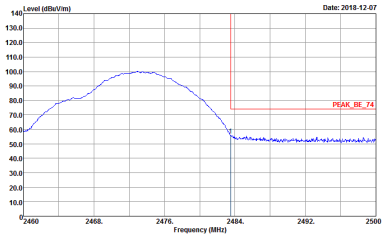
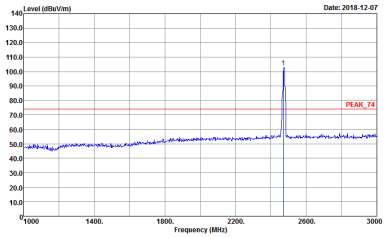
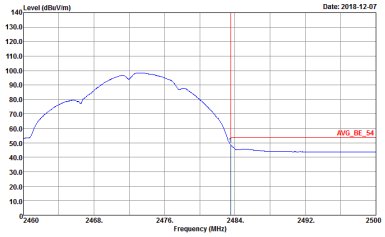
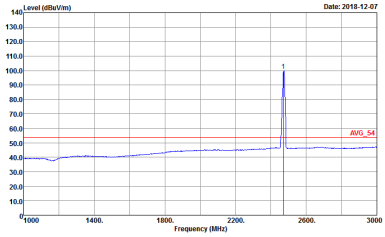
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

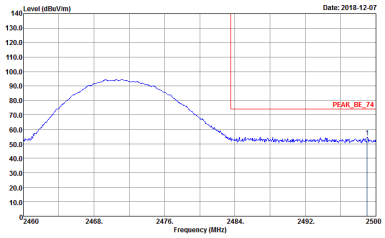
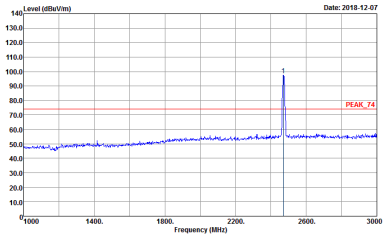
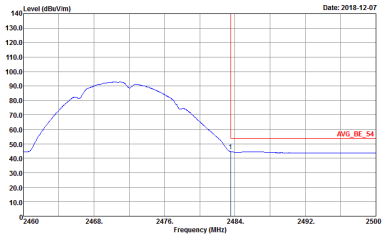
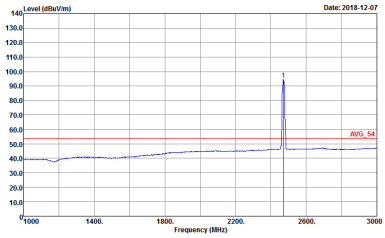
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 HORIZONTAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 HORIZONTAL

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 VERTICAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 VERTICAL

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH12 2467MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 HORIZONTAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 HORIZONTAL

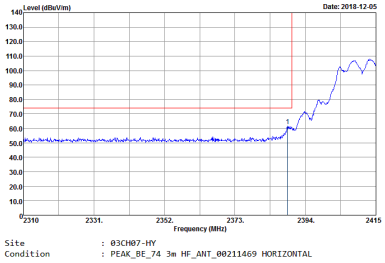
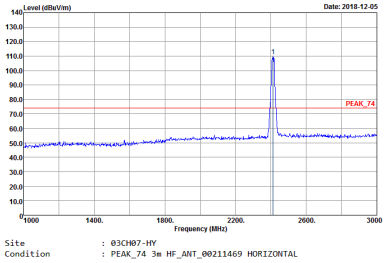
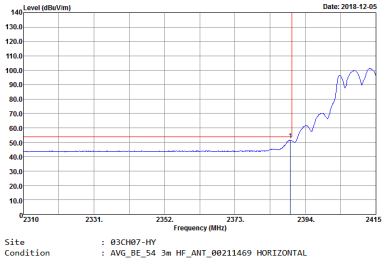
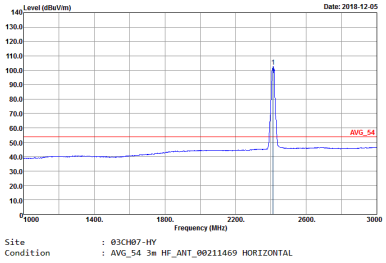
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH12 2467MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 VERTICAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 VERTICAL

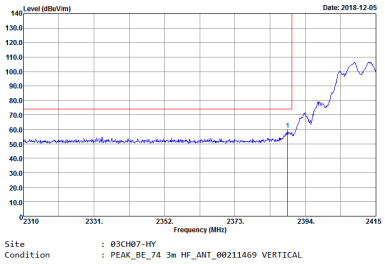
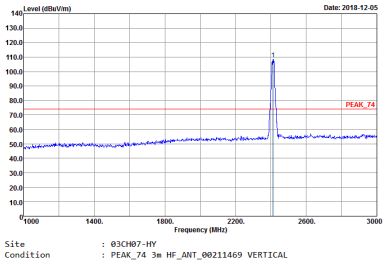
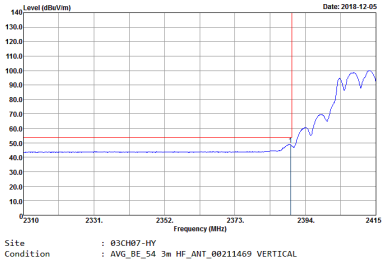
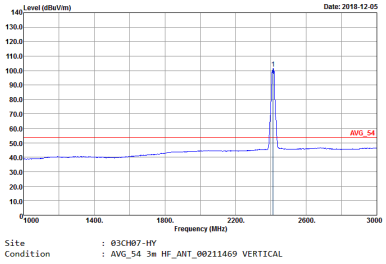
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH13 2472MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 HORIZONTAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 HORIZONTAL

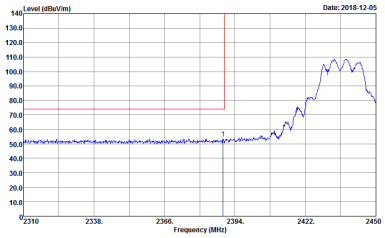
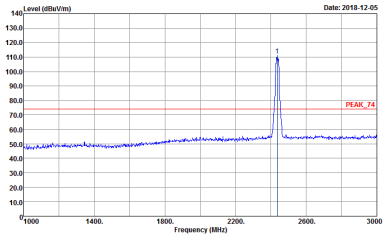
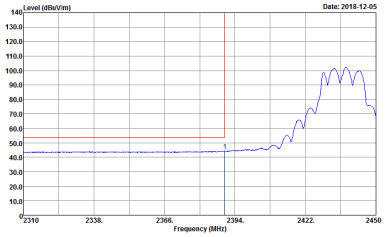
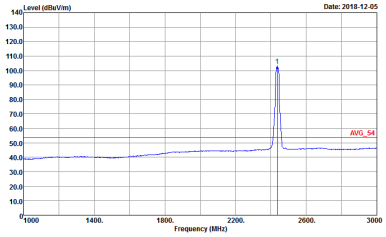
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH13 2472MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 VERTICAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 VERTICAL

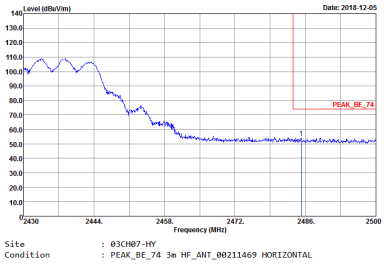
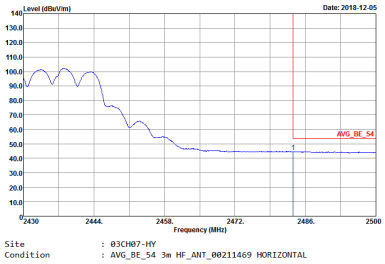
2.4GHz 2400~2483.5MHz

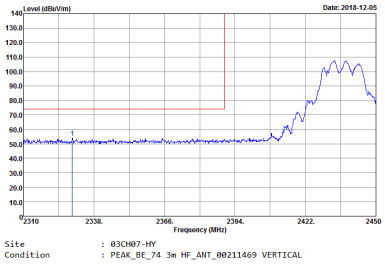
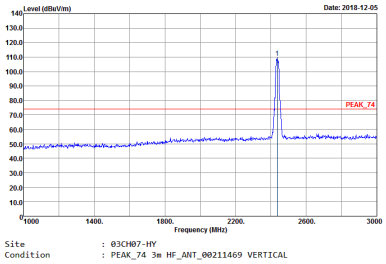
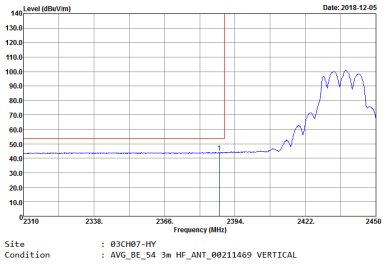
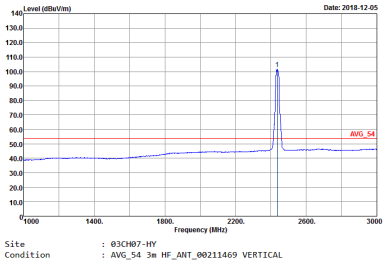
WIFI 802.11g (Band Edge @ 3m)

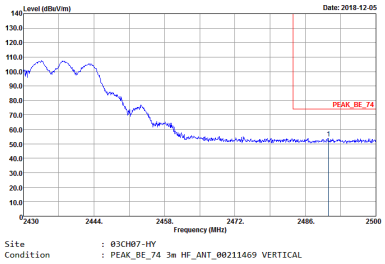
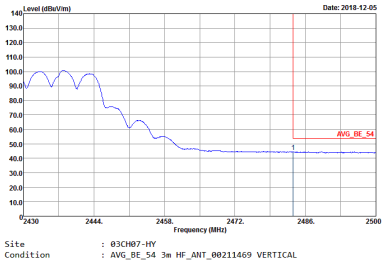
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

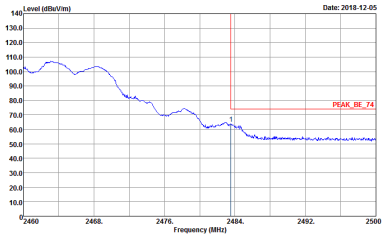
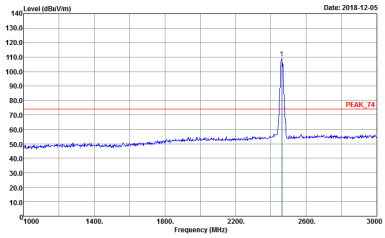
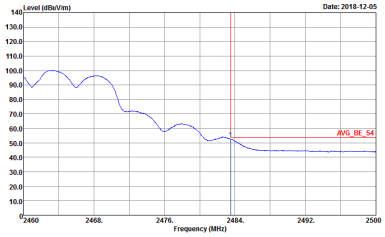
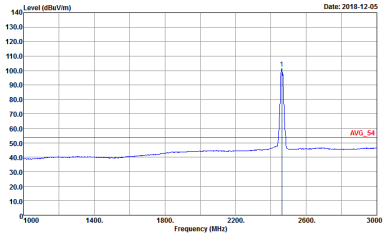
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 VERTICAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 VERTICAL

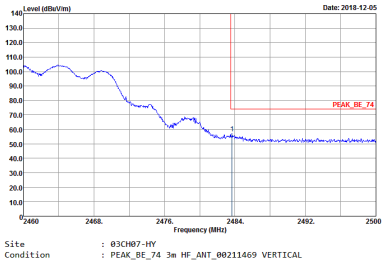
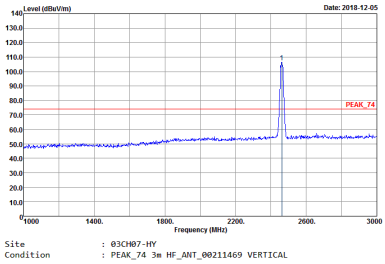
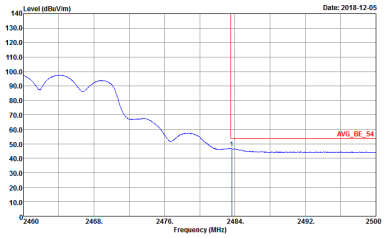
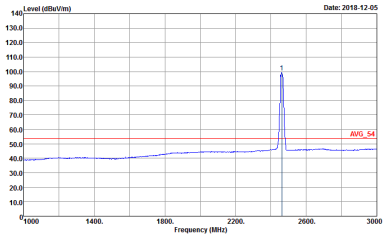
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

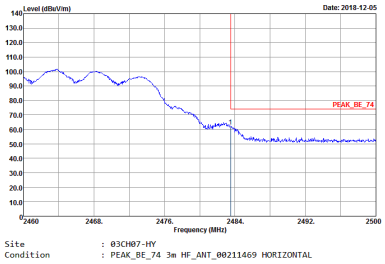
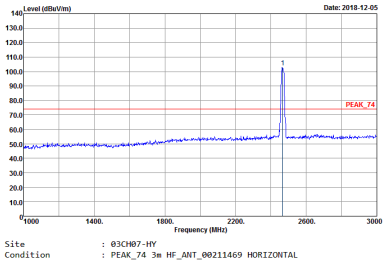
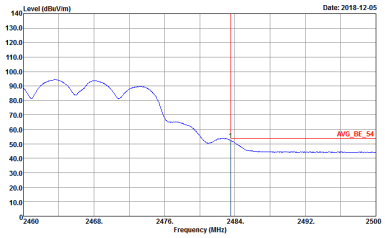
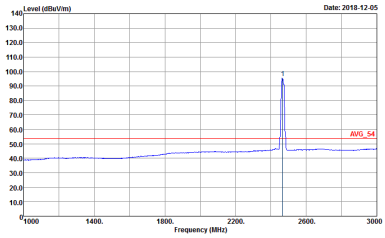
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

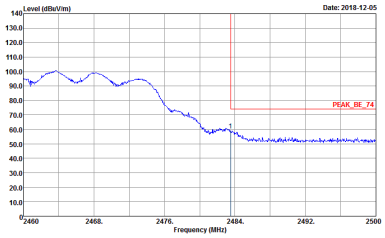
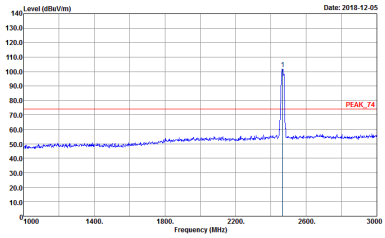
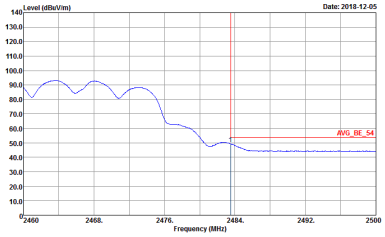
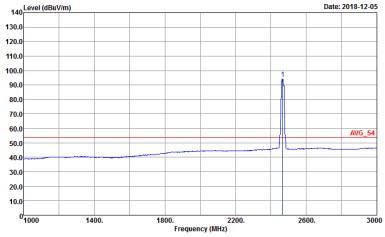
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		

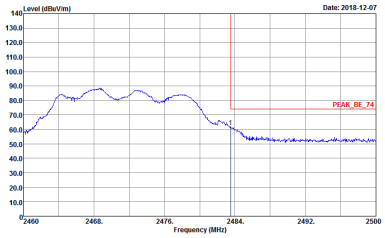
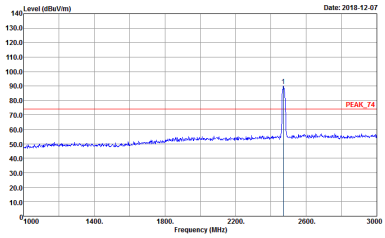
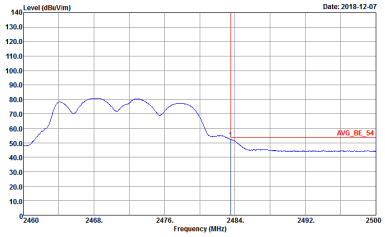
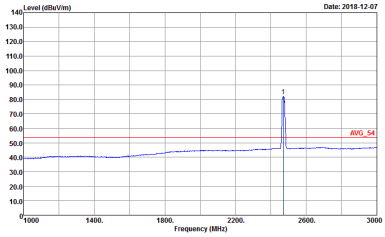
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1+2	Vertical	Fundamental
Peak		Left Blank
Avg.		Left Blank

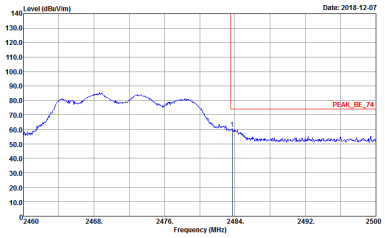
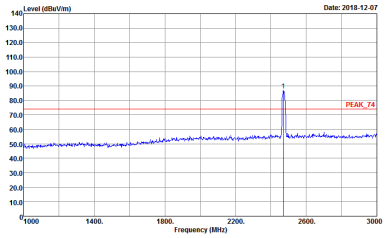
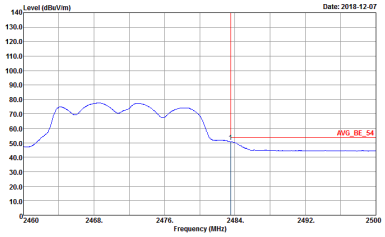
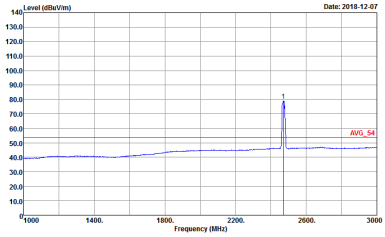
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 HORIZONTAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 HORIZONTAL

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 VERTICAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 VERTICAL

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH12 2467MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 HORIZONTAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 HORIZONTAL

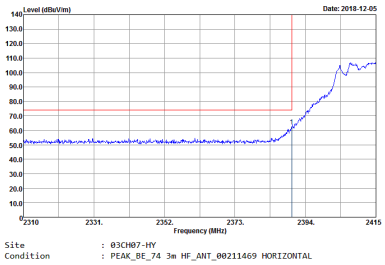
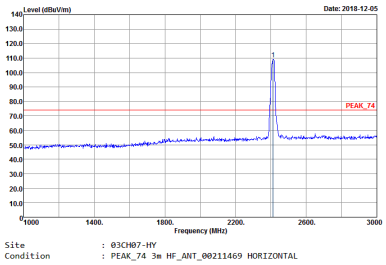
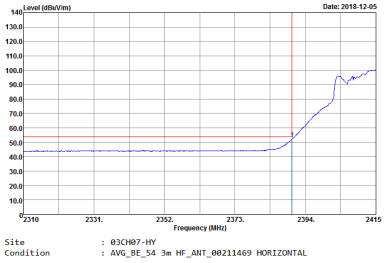
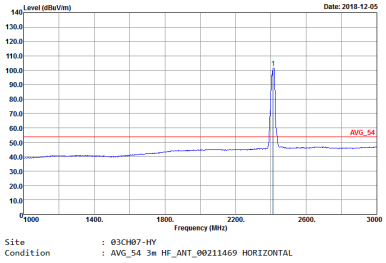
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH12 2467MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 VERTICAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 VERTICAL

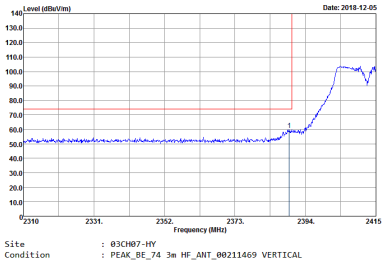
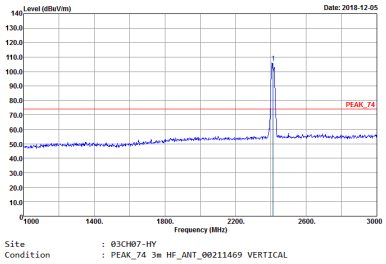
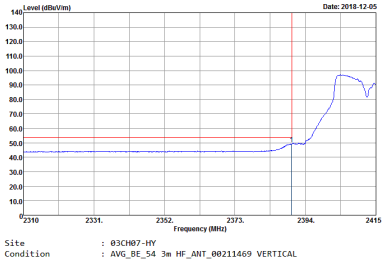
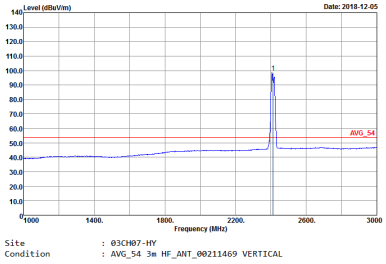
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH13 2472MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 HORIZONTAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 HORIZONTAL

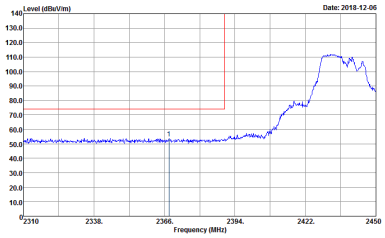
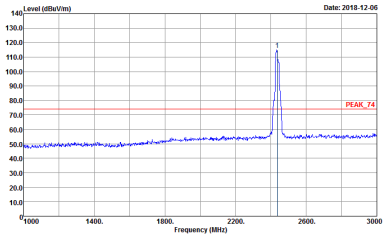
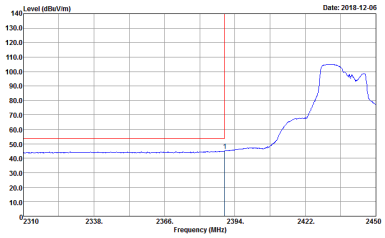
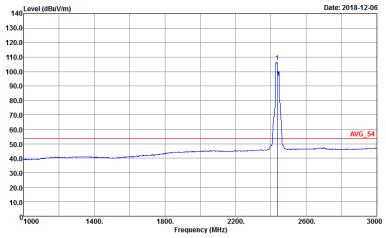
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH13 2472MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 VERTICAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 VERTICAL

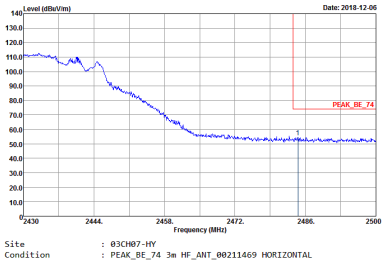
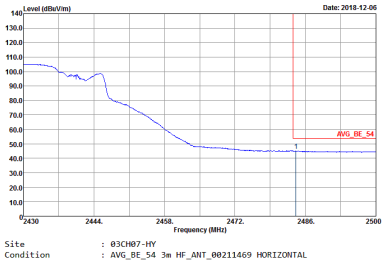
2.4GHz 2400~2483.5MHz

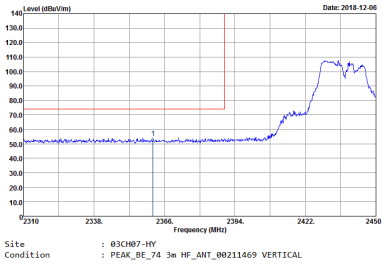
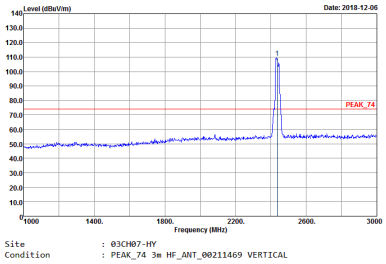
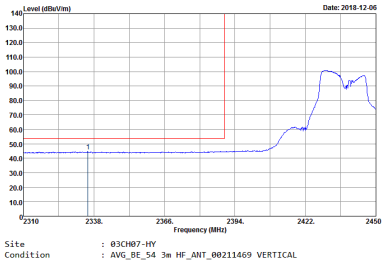
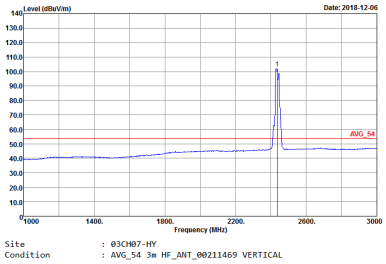
WIFI 802.11n HT20 (Band Edge @ 3m)

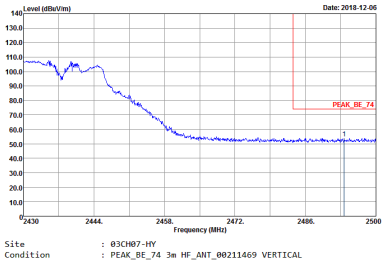
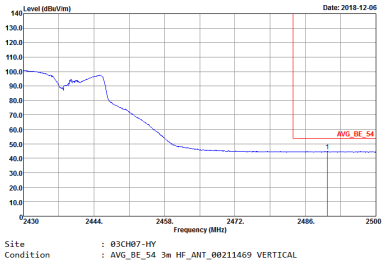
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

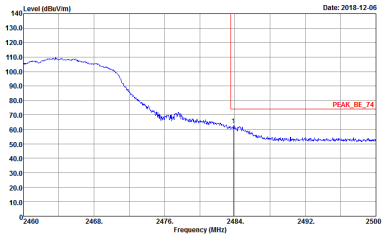
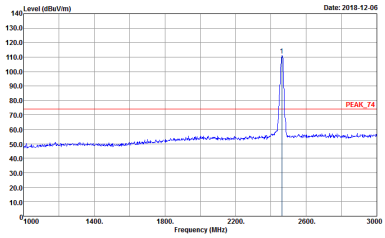
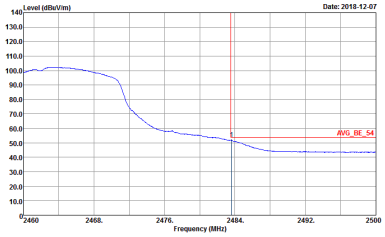
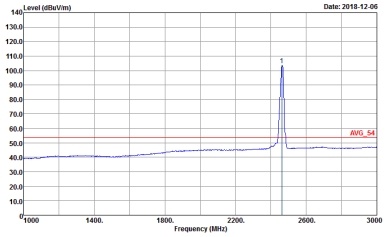
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 VERTICAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 VERTICAL

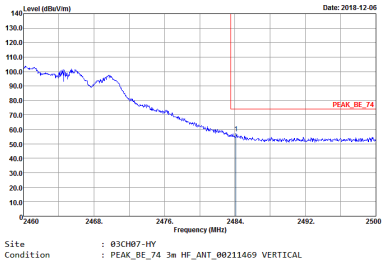
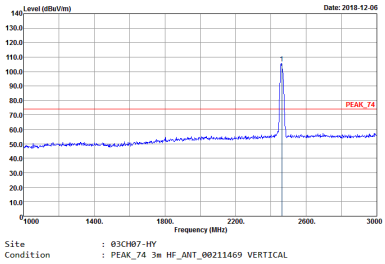
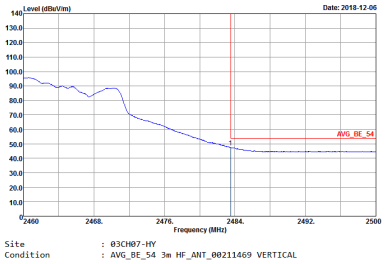
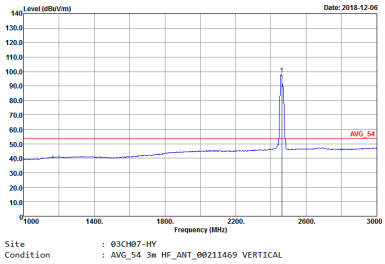
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

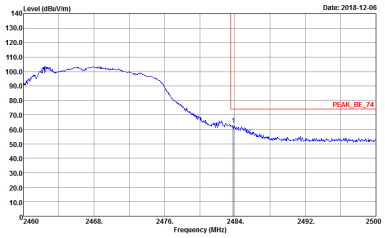
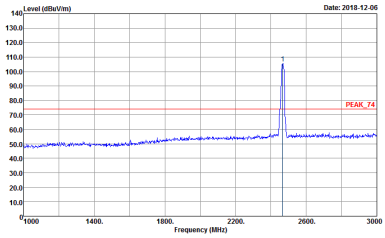
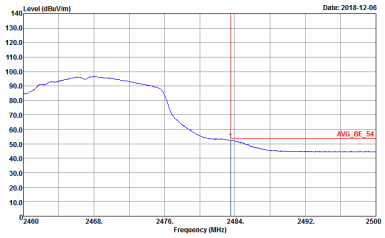
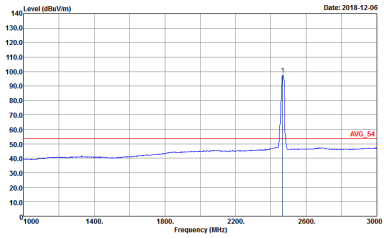
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

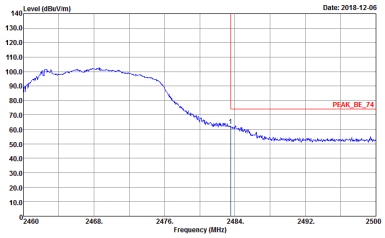
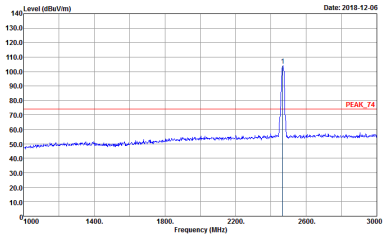
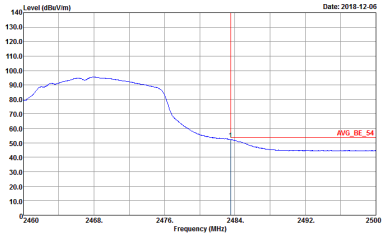
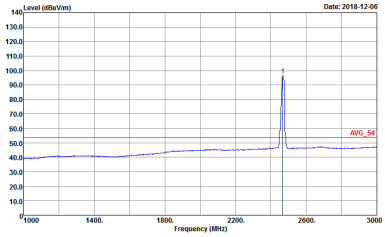
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		

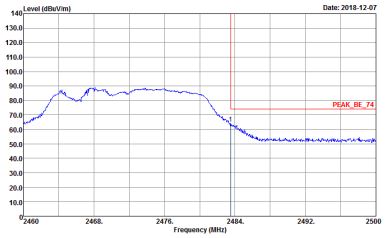
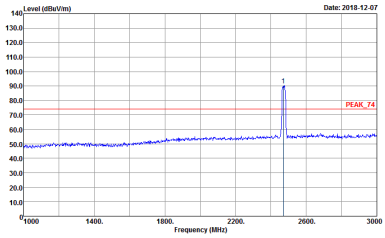
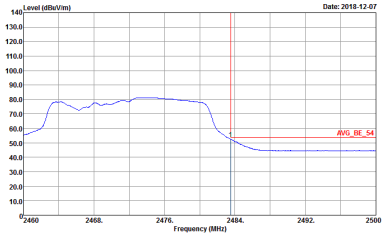
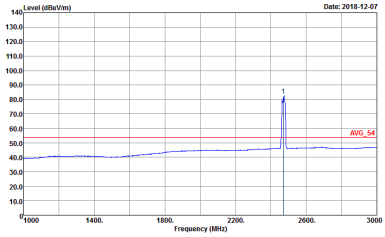
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1+2	Vertical	Fundamental
Peak		Left Blank
Avg.		Left Blank

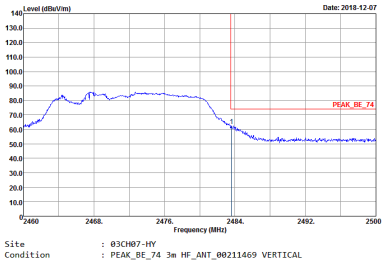
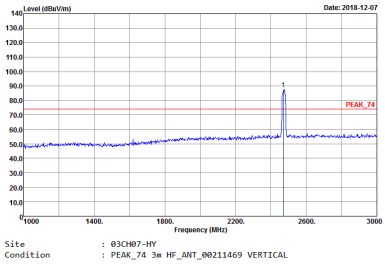
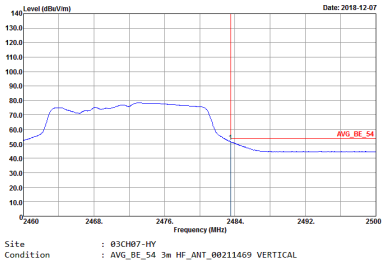
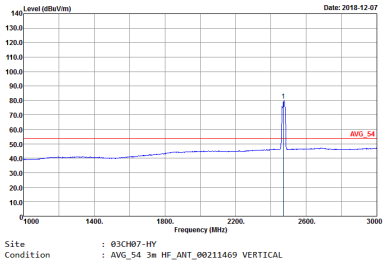
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 HORIZONTAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 HORIZONTAL

WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 VERTICAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 VERTICAL

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH12 2467MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 HORIZONTAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 HORIZONTAL

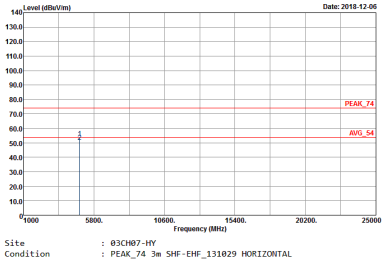
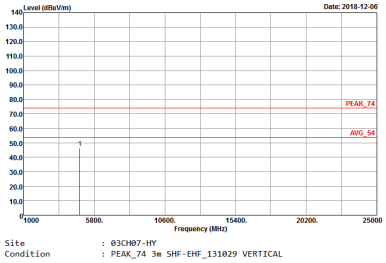
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH12 2467MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 VERTICAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 VERTICAL

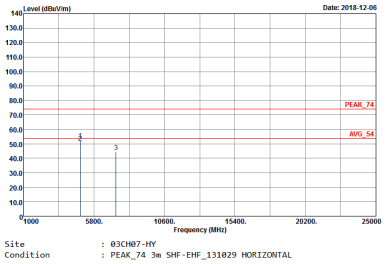
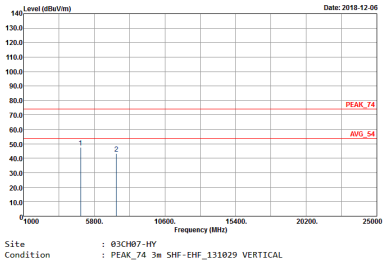
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH13 2472MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 HORIZONTAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 HORIZONTAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 HORIZONTAL

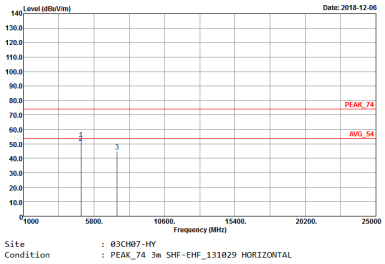
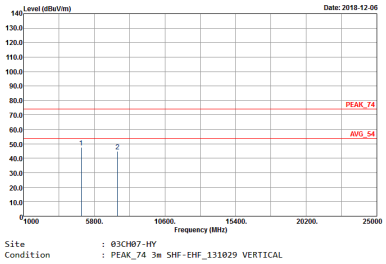
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH13 2472MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 VERTICAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 VERTICAL

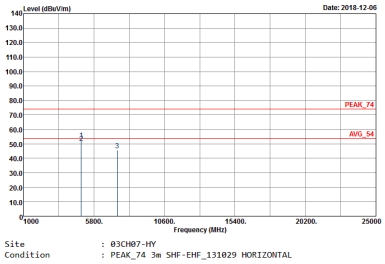
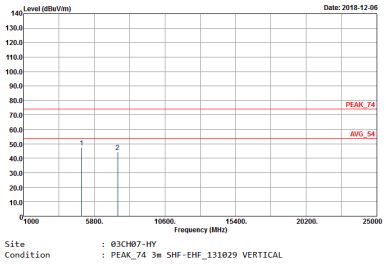
2.4GHz 2400~2483.5MHz

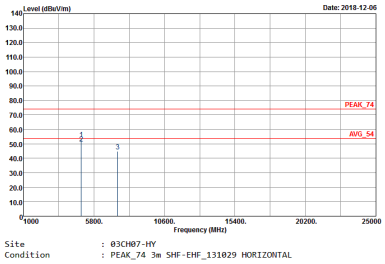
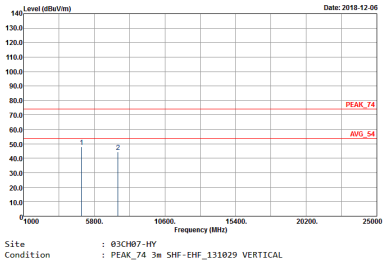
WIFI 802.11b (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

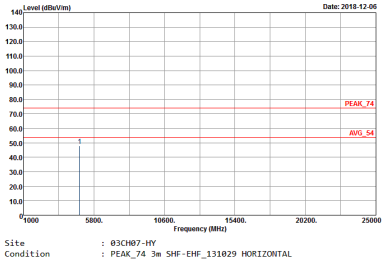
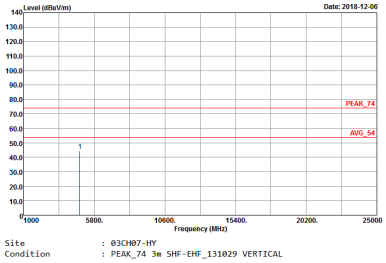
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.		

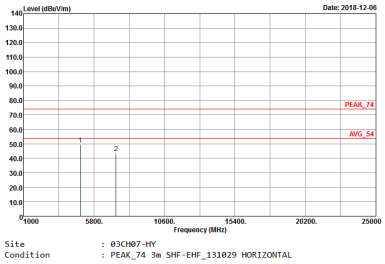
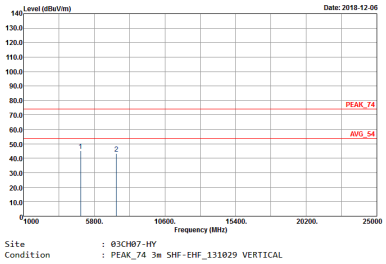
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH12 2467MHz	
1+2	Horizontal	Vertical
Peak Avg.		

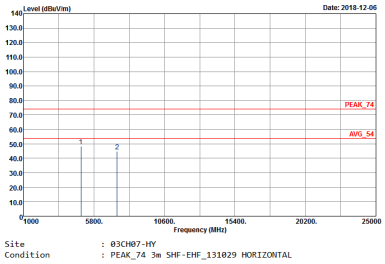
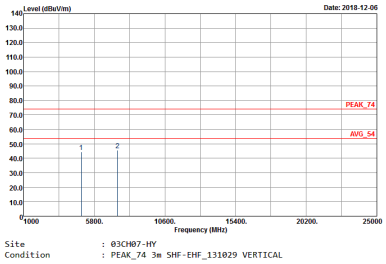
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH13 2472MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 VERTICAL

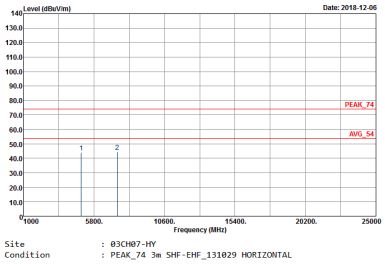
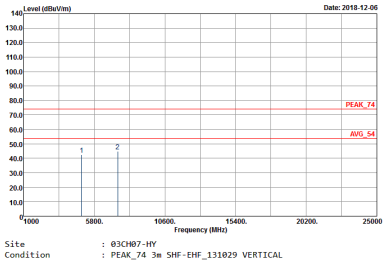
2.4GHz 2400~2483.5MHz

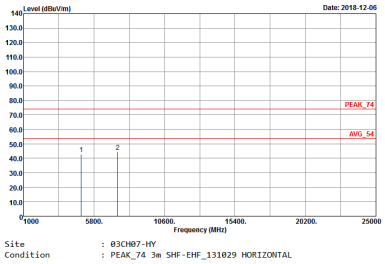
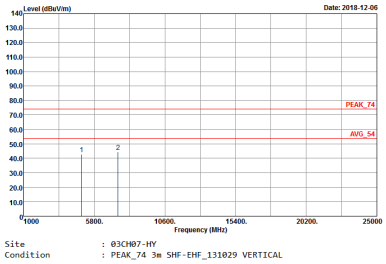
WIFI 802.11g (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

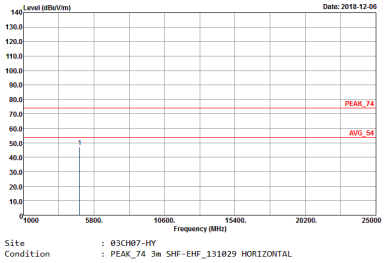
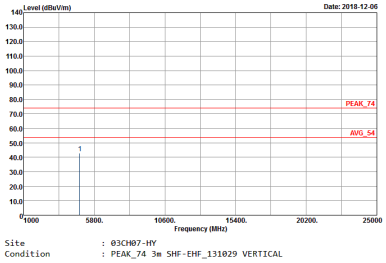
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.		

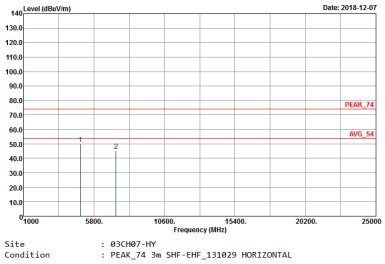
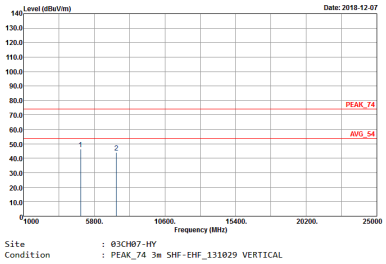
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH12 2467MHz	
1+2	Horizontal	Vertical
Peak Avg.		

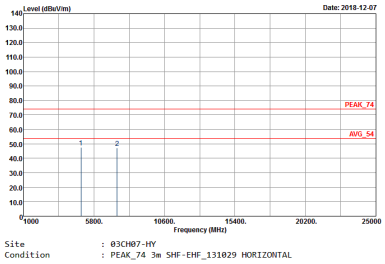
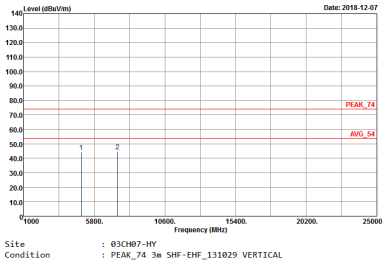
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH13 2472MHz	
1+2	Horizontal	Vertical
Peak Avg.		

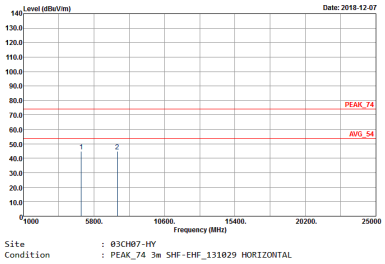
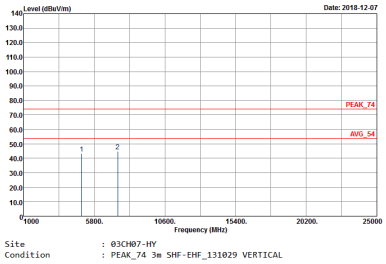
2.4GHz 2400~2483.5MHz

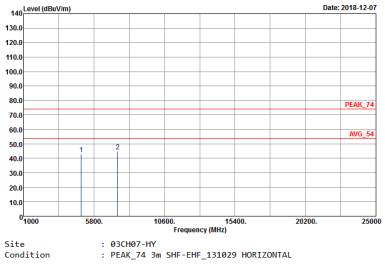
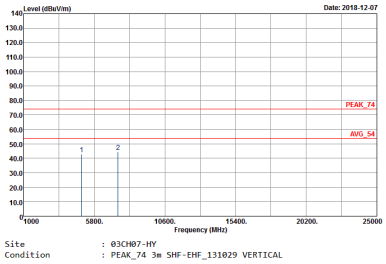
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 VERTICAL

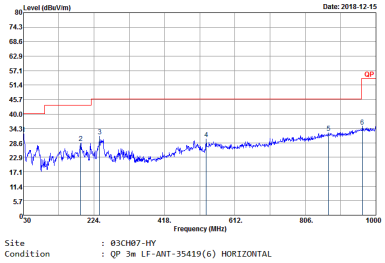
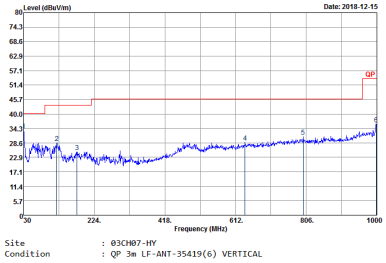
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH12 2467MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH13 2472MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

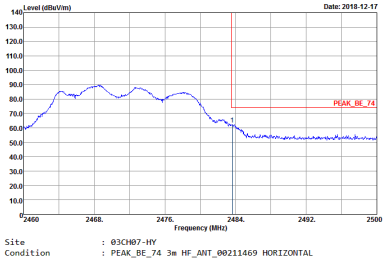
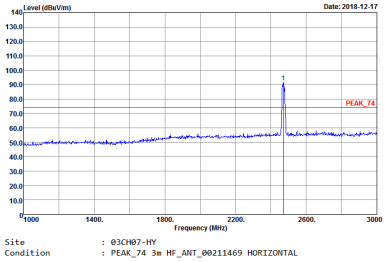
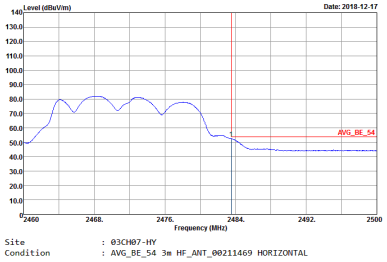
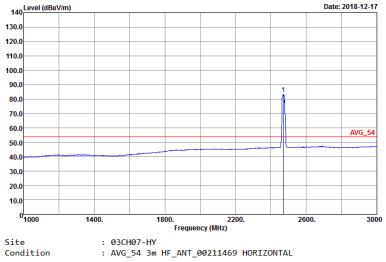
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11g LF	
1+2	Horizontal	Vertical
QP / Peak		

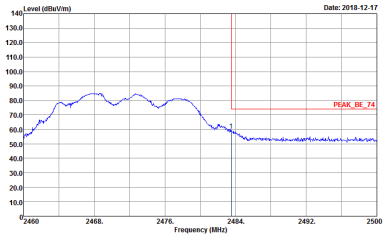
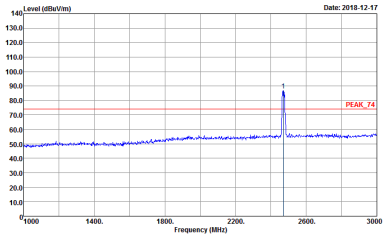
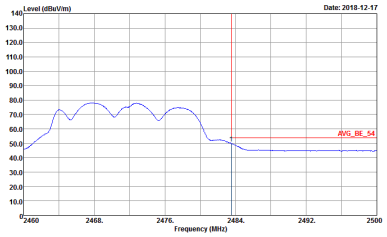
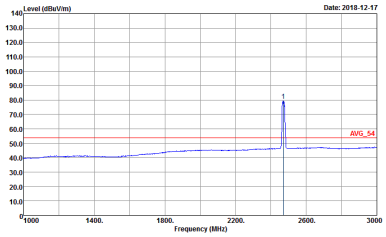
<For Sample 1>

<Adapter 2>

2.4GHz 2400~2483.5MHz

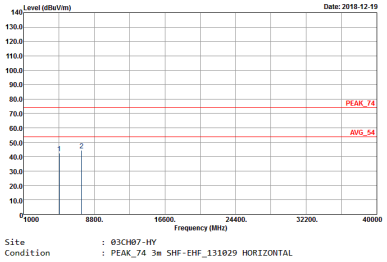
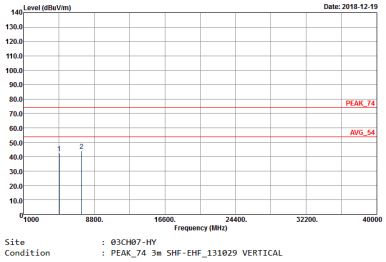
WIFI 802.11g (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH13 2472MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH13 2472MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 VERTICAL
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 VERTICAL	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 VERTICAL

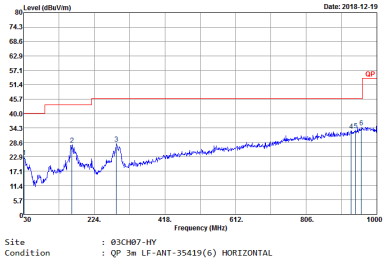
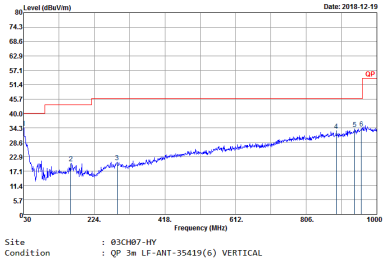
2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH13 2472MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

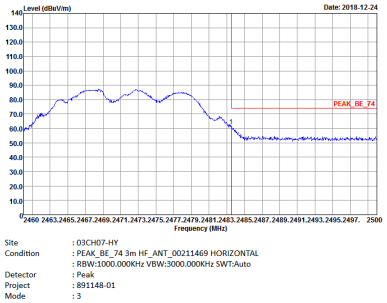
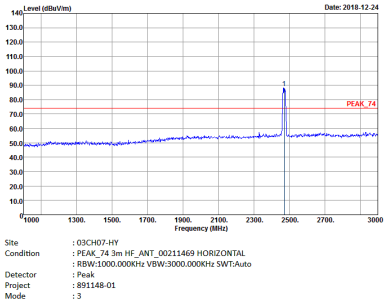
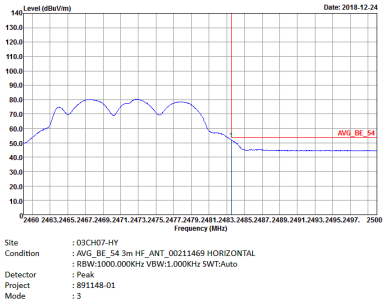
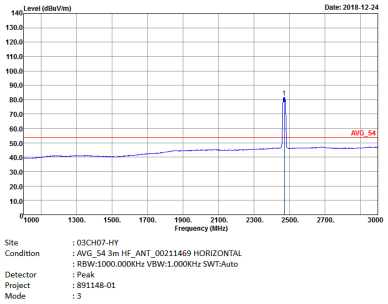
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11g LF	
1+2	Horizontal	Vertical
QP / Peak		

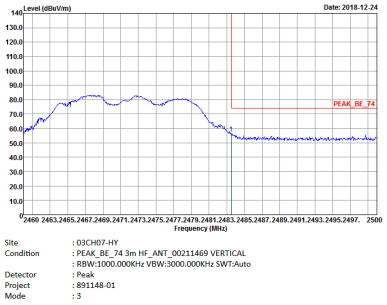
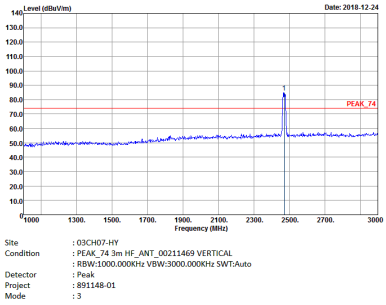
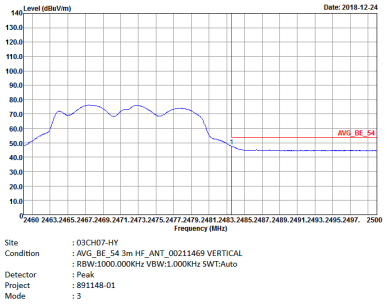
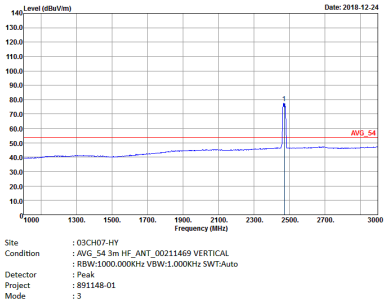
<For Sample 2>

<Adapter 1>

2.4GHz 2400~2483.5MHz

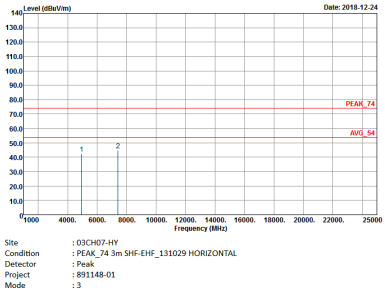
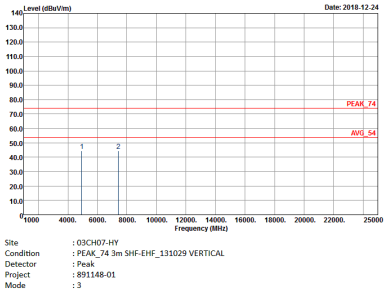
WIFI 802.11g (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH13 2472MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH13 2472MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00211469 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 891148-01 Mode : 3	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00211469 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 891148-01 Mode : 3
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00211469 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 891148-01 Mode : 3	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00211469 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 891148-01 Mode : 3

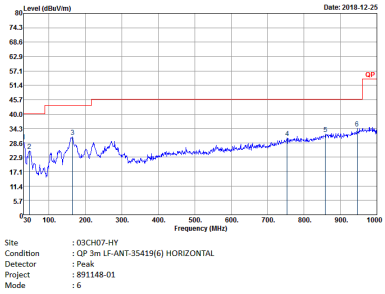
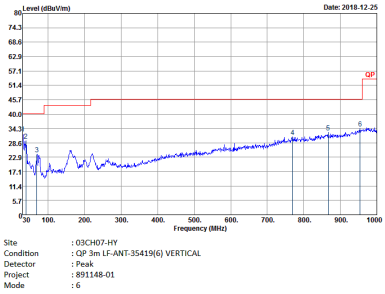
2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH13 2472MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

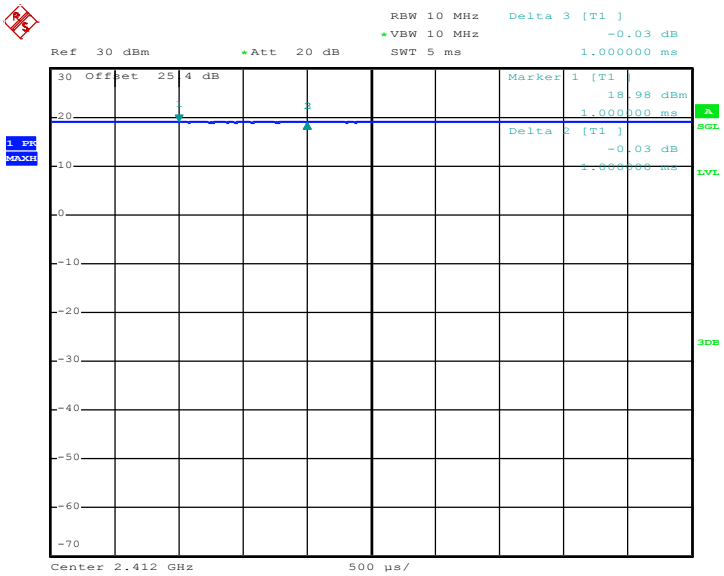
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11g LF	
1+2	Horizontal	Vertical
QP / Peak		

Appendix E. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
1	802.11b	100.00	-	-	10Hz	0.00
2	802.11b	100.00	-	-	10Hz	0.00
1+2	802.11b for Ant. 1	100.00	-	-	10Hz	0.00
1+2	802.11b for Ant. 2	100.00	-	-	10Hz	0.00
1	802.11g	98.30	-	-	10Hz	0.07
2	802.11g	97.83	2024	0.49	1kHz	0.10
1+2	802.11g for Ant. 1	97.69	2032	0.49	1kHz	0.10
1+2	802.11g for Ant. 2	98.08	-	-	10Hz	0.08
1	2.4GHz 802.11n HT20	98.18	-	-	10Hz	0.08
2	2.4GHz 802.11n HT20	97.36	1884	0.53	1kHz	0.12
1+2	2.4GHz 802.11n HT20 for Ant. 1	97.92	1879	0.53	1kHz	0.09
1+2	2.4GHz 802.11n HT20 for Ant. 2	97.92	1884	0.53	1kHz	0.09

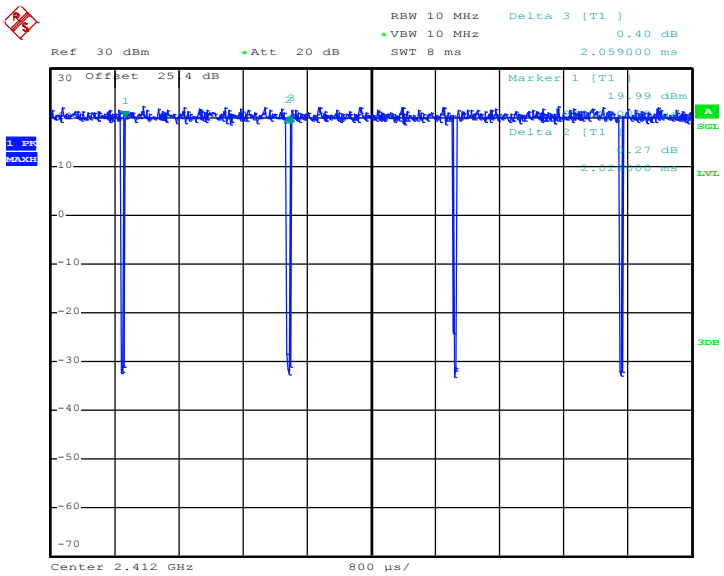
<Ant. 1>

802.11b



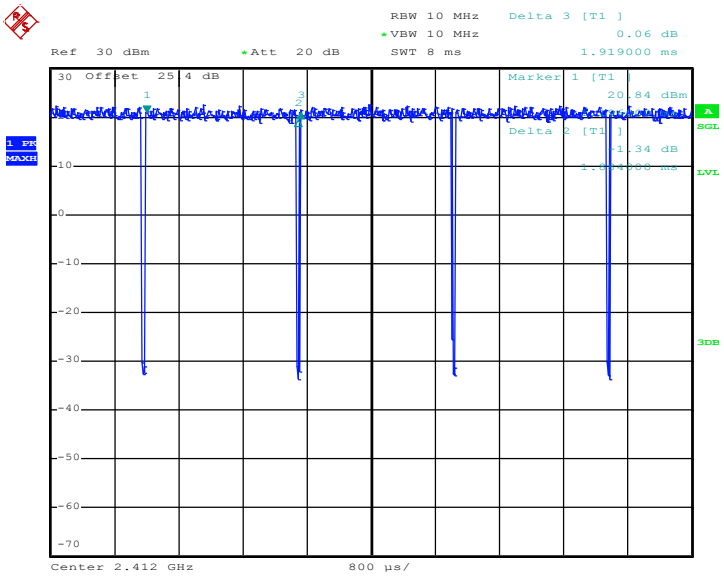
Date: 5.OCT.2018 00:36:30

802.11g



Date: 5.OCT.2018 00:55:20

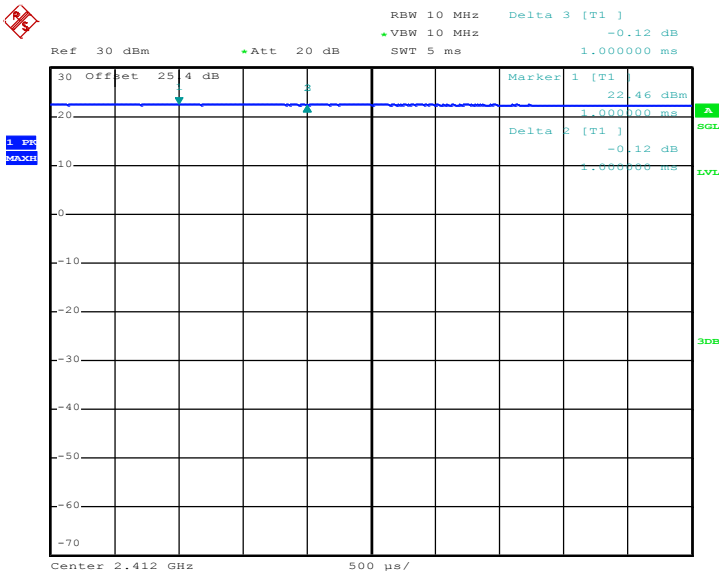
802.11n HT20



Date: 5.OCT.2018 01:09:29

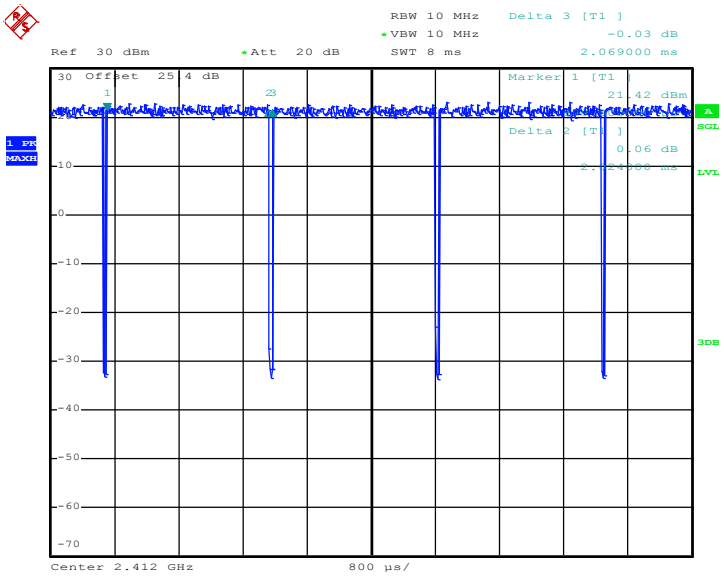
<Ant. 2>

802.11b



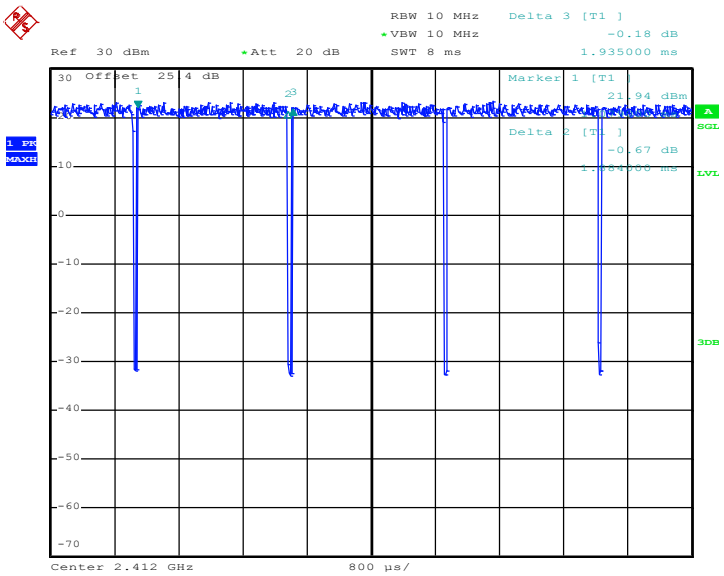
Date: 5.OCT.2018 00:42:41

802.11g



Date: 5.OCT.2018 00:58:29

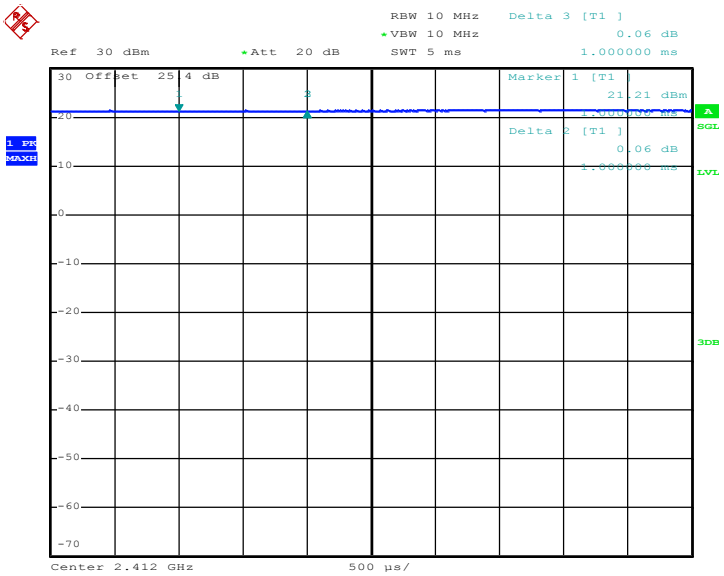
802.11n HT20



Date: 5.OCT.2018 01:13:16

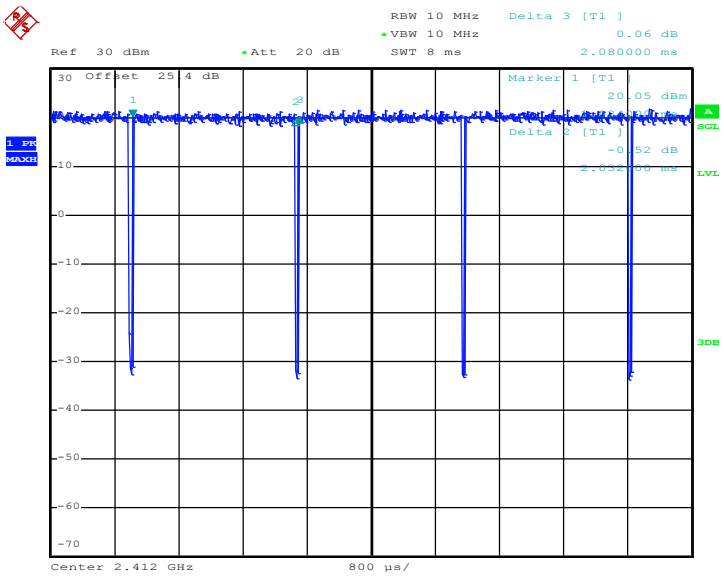
MIMO <Ant. 1>

802.11b



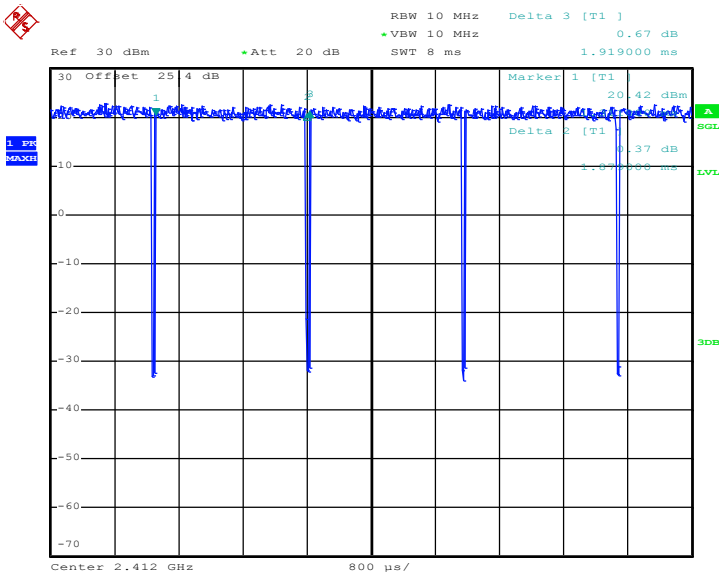
Date: 5.OCT.2018 00:49:40

802.11g



Date: 5.OCT.2018 01:02:40

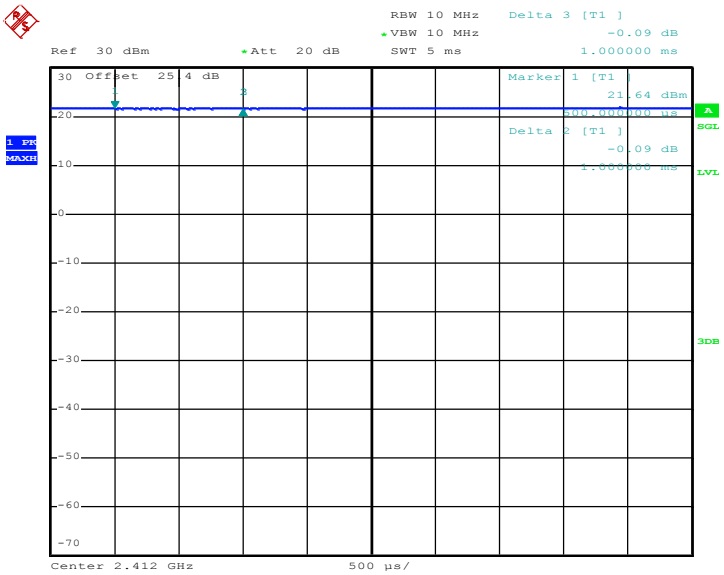
802.11n HT20



Date: 5.OCT.2018 01:16:12

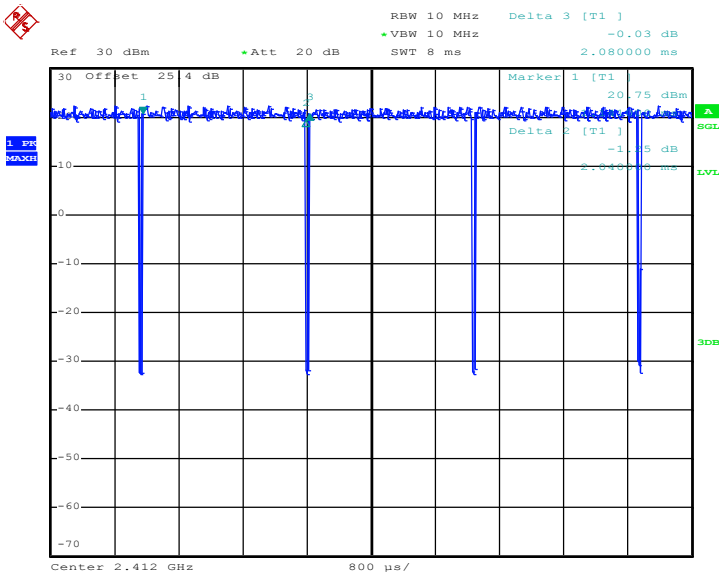
MIMO <Ant. 2>

802.11b



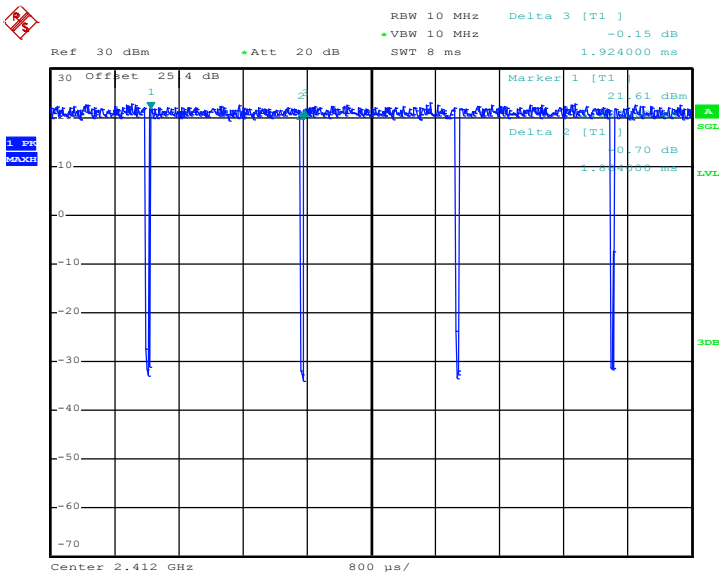
Date: 5.OCT.2018 00:50:17

802.11g



Date: 5.OCT.2018 01:03:27

802.11n HT20



Date: 5.OCT.2018 01:16:58

THE END