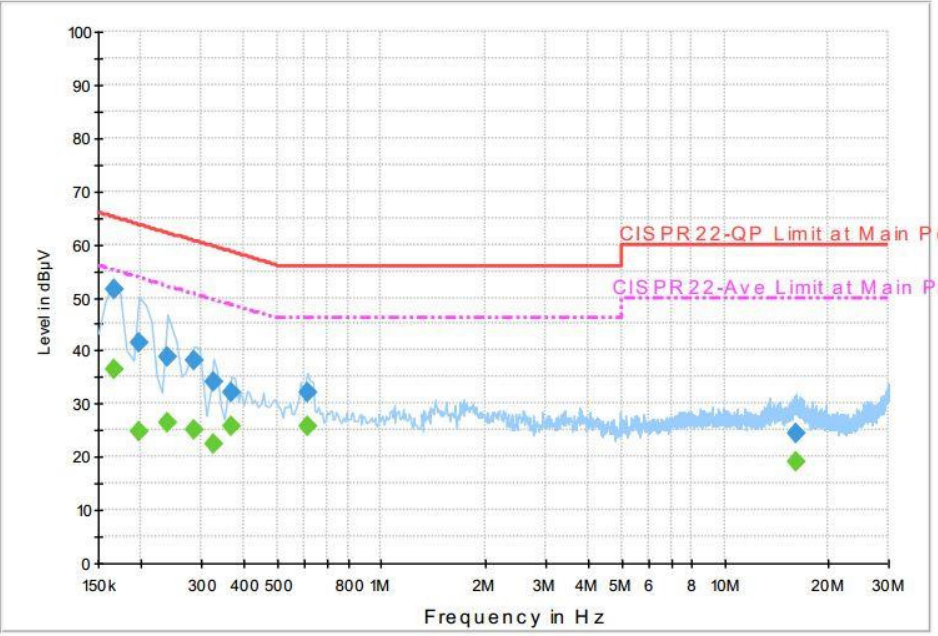
3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	21~22℃
Test Engineer :	Derreck Chen	Relative Humidity :	51~52%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	Bluetooth Link + LAN Link + WLAN (2.4GHz) Link + Adapter		



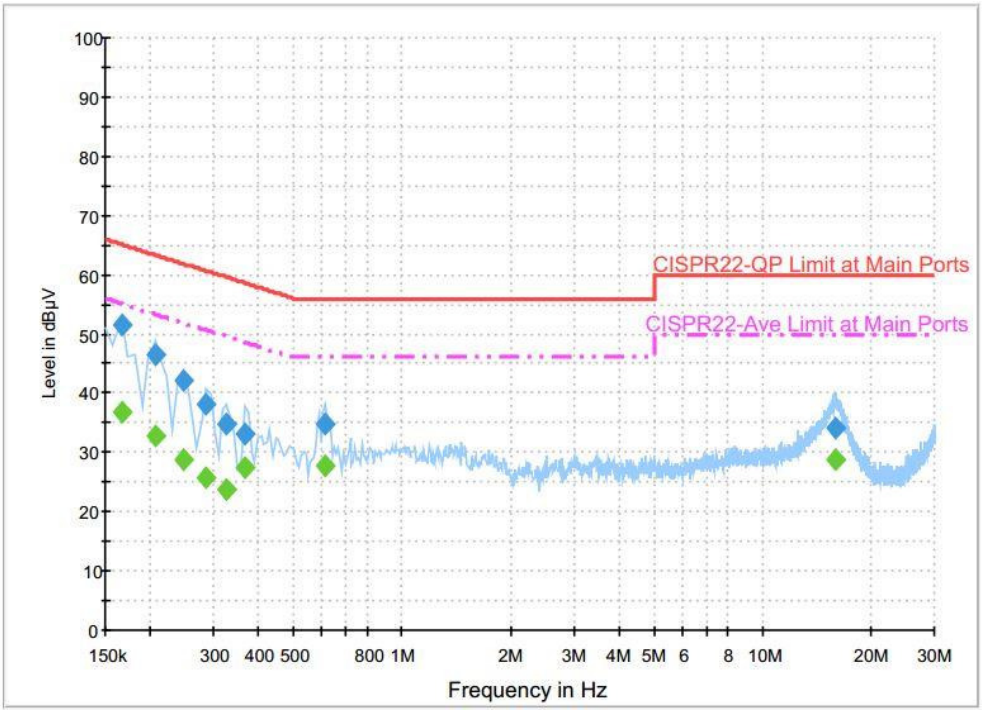
Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	52.1	Off	L1	19.6	13.1	65.2
0.198000	41.4	Off	L1	19.6	22.3	63.7
0.238000	38.9	Off	L1	19.6	23.3	62.2
0.286000	38.1	Off	L1	19.6	22.5	60.6
0.326000	34.1	Off	L1	19.6	25.5	59.6
0.366000	32.0	Off	L1	19.6	26.6	58.6
0.614000	32.0	Off	L1	19.6	24.0	56.0
16.238000	24.5	Off	L1	19.8	35.5	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	36.5	Off	L1	19.6	18.7	55.2
0.198000	24.8	Off	L1	19.6	28.9	53.7
0.238000	26.3	Off	L1	19.6	25.9	52.2
0.286000	24.9	Off	L1	19.6	25.7	50.6
0.326000	22.5	Off	L1	19.6	27.1	49.6
0.366000	25.8	Off	L1	19.6	22.8	48.6
0.614000	25.7	Off	L1	19.6	20.3	46.0
16.238000	18.9	Off	L1	19.8	31.1	50.0

Test Mode :	Mode 1	Temperature :	21~22℃
Test Engineer :	Derreck Chen	Relative Humidity :	51~52%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	Bluetooth Link + LAN Link + WLAN (2.4GHz) Link + Adapter		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	51.7	Off	N	19.6	13.5	65.2
0.206000	46.4	Off	N	19.6	17.0	63.4
0.246000	42.0	Off	N	19.6	19.9	61.9
0.286000	38.1	Off	N	19.6	22.5	60.6
0.326000	34.8	Off	N	19.6	24.8	59.6
0.366000	33.1	Off	N	19.6	25.5	58.6
0.614000	34.8	Off	N	19.6	21.2	56.0
15.958000	34.1	Off	N	19.9	25.9	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	36.9	Off	N	19.6	18.3	55.2
0.206000	32.6	Off	N	19.6	20.8	53.4
0.246000	28.8	Off	N	19.6	23.1	51.9
0.286000	25.6	Off	N	19.6	25.0	50.6
0.326000	23.6	Off	N	19.6	26.0	49.6
0.366000	27.4	Off	N	19.6	21.2	48.6
0.614000	27.8	Off	N	19.6	18.2	46.0
15.958000	28.9	Off	N	19.9	21.1	50.0

3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting Antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the Antenna exceeds 6 dBi. The use of a permanently attached Antenna or of an Antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

Non-TXBF 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 802.11b/g mode supports CDD mode.

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

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

	Ant. 1 (dBi)	Ant. 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
2.4 GHz(b/g)	2.20	2.20	2.20	5.21	0.00	0.00

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

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

The EUT 802.11n mode does not support CDD mode.

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

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

	Ant. 1 (dBi)	Ant. 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
2.4 GHz(n)	2.20	2.20	2.20	2.20	0.00	0.00

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

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

TXBF Modes

FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

For beamforming transmissions, directional gain is calculated as

$$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$$

where

Each antenna is driven by no more than one spatial stream;

N_{SS} = the number of independent spatial streams of data;

N_{ANT} = the total number of antennas

$g_{j,k} = 10^{G_k/20}$ if the kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna.

The EUT supports beamforming.

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

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

	Ant. 1 (dBi)	Ant. 2 (dBi)	Power (dBi)	PSD (dBi)	Reduction (dB)	Reduction (dB)
2.4 GHz(n)	2.20	2.20	5.21	5.21	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 Sensor	DARE	RPR3006W	13I00030SNO31	9kHz~6GHz	Sep. 17, 2015	Apr. 27, 2016 ~ Jul. 13, 2016	Sep. 16, 2016	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	13I00030SNO32	9kHz~6GHz	Sep. 17, 2015	Apr. 27, 2016 ~ Jul. 13, 2016	Sep. 16, 2016	Conducted (TH05-HY)
Power Meter	Anritsu	ML2495A	1218006	300MHz~40GHz	Oct. 07, 2015	Apr. 27, 2016 ~ Jul. 13, 2016	Oct. 06, 2016	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	0846202	300MHz~40GHz	Oct. 05, 2015	Apr. 27, 2016 ~ Jul. 13, 2016	Oct. 04, 2016	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 23, 2015	Apr. 27, 2016 ~ Jul. 13, 2016	Nov. 22, 2016	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Apr. 27, 2016	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 26, 2015	Apr. 27, 2016	Aug. 25, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2015	Apr. 27, 2016	Dec. 01, 2016	Conduction (CO05-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	May 07, 2016 ~ Jul. 19, 2016	Sep. 01, 2016	Radiation (03CH06-HY)
Bilog Antenna	Schaffner	CBL6111C	2725	30MHz~1GHz	Nov. 17, 2015	May 07, 2016 ~ Jul. 19, 2016	Nov. 16, 2016	Radiation (03CH06-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1156	1GHz~18GHz	Aug. 21, 2015	May 07, 2016 ~ Jul. 19, 2016	Aug. 20, 2016	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170576	18GHz ~ 40GHz	Apr. 15, 2016	May 07, 2016 ~ Jul. 19, 2016	Apr. 14, 2017	Radiation (03CH06-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100472	20Hz~26.5GHz	Jan. 07, 2016	May 07, 2016 ~ Jul. 19, 2016	Jan. 06, 2017	Radiation (03CH06-HY)
Preamplifier	SONOMA	310N	186713	9kHz~1GHz	Apr. 19, 2016	May 07, 2016 ~ Jul. 19, 2016	Apr. 18, 2017	Radiation (03CH06-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	1850117	1GHz ~ 18GHz	Jul. 01, 2015	May 07, 2016 ~ Jun. 21, 2016	Jun. 30, 2016	Radiation (03CH06-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	1850117	1GHz ~ 18GHz	Jun. 22, 2016	Jun 22, 2016 ~ Jul. 19, 2016	Jun. 21, 2017	Radiation (03CH06-HY)
Preamplifier	Agilent	8449B	3008A01917	1GHz~26.5GHz	Apr. 18, 2016	May 07, 2016 ~ Jul. 19, 2016	Apr. 17, 2017	Radiation (03CH06-HY)
Antenna Mast	MF	MF-7802	MF780208212	1m~4m	N/A	May 07, 2016 ~ Jul. 19, 2016	N/A	Radiation (03CH06-HY)
Turn Table	INN-CO	DS2000	420/650/00	0-360 degree	N/A	May 07, 2016 ~ Jul. 19, 2016	N/A	Radiation (03CH06-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.26**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.50**

Appendix A. Conducted Test Results

< Non-TXBF Modes>

Test Engineer:	Bill Kuo	Temperature:	21~25	°C
Test Date:	2016/4/27~2016/5/19	Relative Humidity:	51~54	%

Report Number : FR671301B

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	11.80	11.90	9.04	8.60	0.50	Pass
11b	1Mbps	2	6	2437	11.70	11.80	8.08	9.00	0.50	Pass
11b	1Mbps	2	11	2462	11.75	11.90	9.04	8.60	0.50	Pass
11g	6Mbps	2	1	2412	18.45	18.20	16.40	16.44	0.50	Pass
11g	6Mbps	2	6	2437	18.25	18.20	16.40	16.44	0.50	Pass
11g	6Mbps	2	11	2462	18.20	18.25	16.44	16.40	0.50	Pass
HT20	MCS8	2	1	2412	19.15	19.00	17.64	17.64	0.50	Pass
HT20	MCS8	2	6	2437	19.15	19.15	17.64	17.64	0.50	Pass
HT20	MCS8	2	11	2462	19.15	19.05	17.68	17.68	0.50	Pass
HT40	MCS8	2	3	2422	36.80	36.70	36.32	36.40	0.50	Pass
HT40	MCS8	2	6	2437	36.60	36.70	36.40	36.40	0.50	Pass
HT40	MCS8	2	9	2452	36.60	36.70	36.40	36.40	0.50	Pass

Report Number : FR671301B

TEST RESULTS DATA
Peak Output Power

2.4GHz Band																	
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Setting	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	2	1	2412	72	21.43	21.07	24.26	30.00		2.20		26.46		36.00		Pass
11b	1Mbps	2	6	2437	72	21.64	21.12	24.40	30.00		2.20		26.60		36.00		Pass
11b	1Mbps	2	11	2462	72	21.46	20.98	24.24	30.00		2.20		26.44		36.00		Pass
11g	6Mbps	2	1	2412	69	23.71	23.41	26.57	30.00		2.20		28.77		36.00		Pass
11g	6Mbps	2	6	2437	73	24.61	24.35	27.49	30.00		2.20		29.69		36.00		Pass
11g	6Mbps	2	11	2462	71	23.91	23.74	26.84	30.00		2.20		29.04		36.00		Pass
HT20	MCS8	2	1	2412	64	22.66	22.46	25.57	30.00		2.20		27.77		36.00		Pass
HT20	MCS8	2	6	2437	75	25.02	24.75	27.90	30.00		2.20		30.10		36.00		Pass
HT20	MCS8	2	11	2462	64	22.43	21.92	25.19	30.00		2.20		27.39		36.00		Pass
HT40	MCS8	2	3	2422	58	21.75	21.61	24.69	30.00		2.20		26.89		36.00		Pass
HT40	MCS8	2	6	2437	68	23.94	23.56	26.76	30.00		2.20		28.96		36.00		Pass
HT40	MCS8	2	9	2452	60	22.05	21.49	24.79	30.00		2.20		26.99		36.00		Pass

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

TEST RESULTS DATA
Average Output Power
(Reporting Only)

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	2	1	2412	0.23	0.22	18.11	17.85	20.99
11b	1Mbps	2	6	2437	0.23	0.22	18.23	17.98	21.12
11b	1Mbps	2	11	2462	0.23	0.22	18.21	17.78	21.01
11g	6Mbps	2	1	2412	0.27	0.22	16.86	16.57	19.73
11g	6Mbps	2	6	2437	0.27	0.22	18.09	17.67	20.90
11g	6Mbps	2	11	2462	0.27	0.22	17.17	16.86	20.03
HT20	MCS8	2	1	2412	0.43	0.43	15.62	15.30	18.47
HT20	MCS8	2	6	2437	0.43	0.43	18.45	18.10	21.29
HT20	MCS8	2	11	2462	0.43	0.43	15.38	14.55	17.99
HT40	MCS8	2	3	2422	0.83	0.80	14.36	14.03	17.21
HT40	MCS8	2	6	2437	0.83	0.80	16.74	16.32	19.55
HT40	MCS8	2	9	2452	0.83	0.80	14.64	14.32	17.49

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

Report Number : FR671301B

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	-4.83	-5.80	-1.82	5.21		8.00		Pass
11b	1Mbps	2	6	2437	-5.42	-5.39	-2.38	5.21		8.00		Pass
11b	1Mbps	2	11	2462	-5.28	-5.13	-2.12	5.21		8.00		Pass
11g	6Mbps	2	1	2412	-9.19	-9.03	-6.02	5.21		8.00		Pass
11g	6Mbps	2	6	2437	-7.58	-8.64	-4.57	5.21		8.00		Pass
11g	6Mbps	2	11	2462	-9.49	-9.49	-6.48	5.21		8.00		Pass
HT20	MCS8	2	1	2412	-10.20	-10.01	-7.00	2.20		8.00		Pass
HT20	MCS8	2	6	2437	-7.23	-7.18	-4.17	2.20		8.00		Pass
HT20	MCS8	2	11	2462	-11.04	-10.68	-7.67	2.20		8.00		Pass
HT40	MCS8	2	3	2422	-14.29	-15.31	-11.28	2.20		8.00		Pass
HT40	MCS8	2	6	2437	-10.43	-12.85	-7.42	2.20		8.00		Pass
HT40	MCS8	2	9	2452	-15.35	-14.35	-11.34	2.20		8.00		Pass

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

<TXBF Modes>

Test Engineer:	Kenny Chen	Temperature:	21~25	°C
Test Date:	2016/7/13	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		
HT20	MCS0	2	1	2412	18.90	18.95	17.00	17.50	0.50	Pass
HT20	MCS0	2	6	2437	19.05	19.05	16.04	17.56	0.50	Pass
HT20	MCS0	2	11	2462	18.95	18.85	15.08	17.14	0.50	Pass
HT40	MCS0	2	3	2422	36.50	36.40	31.32	32.56	0.50	Pass
HT40	MCS0	2	6	2437	36.50	36.50	32.56	31.28	0.50	Pass
HT40	MCS0	2	9	2452	36.30	36.40	32.52	30.04	0.50	Pass

TEST RESULTS DATA
Peak Output Power

2.4GHz Band																	
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Setting	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	
HT20	MCS0	2	1	2412	60	22.72	22.59	25.67	30.00		5.21		30.88		36.00		Pass
HT20	MCS0	2	6	2437	75	25.41	25.20	28.32	30.00		5.21		33.53		36.00		Pass
HT20	MCS0	2	11	2462	62	22.74	22.70	25.73	30.00		5.21		30.94		36.00		Pass
HT40	MCS0	2	3	2422	60	21.79	22.08	24.95	30.00		5.21		30.16		36.00		Pass
HT40	MCS0	2	6	2437	70	23.63	23.84	26.75	30.00		5.21		31.96		36.00		Pass
HT40	MCS0	2	9	2452	60	21.37	20.54	23.99	30.00		5.21		29.20		36.00		Pass

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

TEST RESULTS DATA
Average Output Power
(Reporting Only)

2.4GHz Band							
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)		
					Ant 1	Ant 2	SUM
HT20	MCS0	2	1	2412	15.80	14.50	18.21
HT20	MCS0	2	6	2437	18.10	18.30	21.21
HT20	MCS0	2	11	2462	15.40	14.50	17.98
HT40	MCS0	2	3	2422	14.70	13.60	17.20
HT40	MCS0	2	6	2437	16.60	16.40	19.51
HT40	MCS0	2	9	2452	14.50	13.90	17.22

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	
HT20	MCS0	2	1	2412	-4.84	-6.03	-1.83	5.21		8.00		Pass
HT20	MCS0	2	6	2437	-1.09	-0.60	2.41	5.21		8.00		Pass
HT20	MCS0	2	11	2462	-5.67	-5.26	-2.25	5.21		8.00		Pass
HT40	MCS0	2	3	2422	-6.09	-4.98	-1.97	5.21		8.00		Pass
HT40	MCS0	2	6	2437	-2.70	-2.56	0.45	5.21		8.00		Pass
HT40	MCS0	2	9	2452	-3.66	-6.09	-0.65	5.21		8.00		Pass

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

Appendix B. Radiated Spurious Emission

Test Engineer :	Donny Tang	Temperature :	19~23°C
		Relative Humidity :	55~60%

<Non-TXBF Modes with AC Adapter>

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2386.5	56.04	-17.96	74	56.68	27.17	6.75	34.56	132	135	P	H
		2386.14	45.49	-8.51	54	46.13	27.17	6.75	34.56	132	135	A	H
	*	2412	111.87	-	-	112.47	27.21	6.75	34.56	132	135	P	H
	*	2412	109.38	-	-	109.98	27.21	6.75	34.56	132	135	A	H
													H
													H
		2335.92	49.83	-24.17	74	50.66	27.06	6.67	34.56	106	329	P	V
		2333.13	39.02	-14.98	54	39.89	27.02	6.67	34.56	106	329	A	V
	*	2412	105.14	-	-	105.74	27.21	6.75	34.56	106	329	P	V
	*	2412	102.64	-	-	103.24	27.21	6.75	34.56	106	329	A	V
													V
													V

802.11b CH 06 2437MHz		2388.39	53.41	-20.59	74	54.05	27.17	6.75	34.56	136	119	P	H
		2355	43.23	-10.77	54	43.98	27.1	6.71	34.56	136	119	A	H
	*	2437	111.65	-	-	112.07	27.29	6.84	34.55	136	119	P	H
	*	2437	109.19	-	-	109.61	27.29	6.84	34.55	136	119	A	H
		2485.68	54.32	-19.68	74	54.57	27.36	6.94	34.55	136	119	P	H
		2485.12	42.33	-11.67	54	42.58	27.36	6.94	34.55	136	119	A	H
		2374.89	49.28	-24.72	74	50	27.13	6.71	34.56	100	330	P	V
		2358.87	39.27	-14.73	54	40.02	27.1	6.71	34.56	100	330	A	V
	*	2437	104.46	-	-	104.88	27.29	6.84	34.55	100	330	P	V
	*	2437	101.88	-	-	102.3	27.29	6.84	34.55	100	330	A	V
		2488.28	49.97	-24.03	74	50.18	27.4	6.94	34.55	100	330	P	V
		2485.48	37.93	-16.07	54	38.18	27.36	6.94	34.55	100	330	A	V
802.11b CH 11 2462MHz	*	2462	111.77	-	-	112.16	27.32	6.84	34.55	107	118	P	H
	*	2462	109.47	-	-	109.86	27.32	6.84	34.55	107	118	A	H
		2489.24	55.99	-18.01	74	56.2	27.4	6.94	34.55	107	118	P	H
		2483.52	45.02	-8.98	54	45.27	27.36	6.94	34.55	107	118	A	H
													H
													H
	*	2462	104.96	-	-	105.35	27.32	6.84	34.55	151	318	P	V
	*	2462	102.55	-	-	102.94	27.32	6.84	34.55	151	318	A	V
		2493.04	50.64	-23.36	74	50.85	27.4	6.94	34.55	151	318	P	V
		2483.52	38.78	-15.22	54	39.03	27.36	6.94	34.55	151	318	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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	39.56	-34.44	74	57.02	31.22	11.01	59.69	100	0	P	H
													H
													H
													H
		4824	39.26	-34.74	74	56.72	31.22	11.01	59.69	100	0	P	V
													V
													V
													V
802.11b CH 06 2437MHz		4874	41.47	-32.53	74	58.56	31.31	11.06	59.46	100	0	P	H
		7311	45.01	-28.99	74	57.74	35.98	11.71	60.42	100	0	P	H
		12186	54.37	-19.63	74	58.28	38.77	16.4	59.08	211	193	P	H
		12186	48.79	-5.21	54	52.7	38.77	16.4	59.08	211	193	A	H
		4874	39.79	-34.21	74	56.88	31.31	11.06	59.46	100	0	P	V
		7311	43.1	-30.9	74	55.83	35.98	11.71	60.42	100	0	P	V
		12186	51.06	-22.94	74	54.97	38.77	16.4	59.08	311	208	P	V
		12186	45.31	-8.69	54	49.22	38.77	16.4	59.08	311	208	A	V
802.11b CH 11 2462MHz		4924	41.11	-32.89	74	57.77	31.39	11.17	59.22	100	0	P	H
		7386	45.78	-28.22	74	58.52	36.17	11.55	60.46	100	0	P	H
													H
													H
		4924	40.85	-33.15	74	57.51	31.39	11.17	59.22	100	0	P	V
		7386	42.45	-31.55	74	55.19	36.17	11.55	60.46	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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2389.47	66.85	-7.15	74	67.49	27.17	6.75	34.56	147	136	P	H
		2387.13	53.39	-0.61	54	54.03	27.17	6.75	34.56	147	136	A	H
	*	2412	116.25	-	-	116.85	27.21	6.75	34.56	147	136	P	H
	*	2412	106.09	-	-	106.68	27.21	6.75	34.55	147	136	A	H
													H
													H
		2389.38	57.74	-16.26	74	58.38	27.17	6.75	34.56	180	341	P	V
		2389.83	45.35	-8.65	54	45.99	27.17	6.75	34.56	180	341	A	V
	*	2412	107.66	-	-	108.26	27.21	6.75	34.56	180	341	P	V
	*	2412	97.65	-	-	98.25	27.21	6.75	34.56	180	341	A	V
													V
													V
802.11g CH 06 2437MHz		2364.36	58.92	-15.08	74	59.67	27.1	6.71	34.56	100	136	P	H
		2364.63	49.39	-4.61	54	50.14	27.1	6.71	34.56	100	136	A	H
	*	2437	114.19	-	-	114.61	27.29	6.84	34.55	100	136	P	H
	*	2437	106.38	-	-	106.8	27.29	6.84	34.55	100	136	A	H
		2487.76	57.12	-16.88	74	57.33	27.4	6.94	34.55	100	136	P	H
		2483.64	46.09	-7.91	54	46.34	27.36	6.94	34.55	100	136	A	H
		2362.83	52.12	-21.88	74	52.87	27.1	6.71	34.56	259	328	P	V
		2362.65	42.57	-11.43	54	43.32	27.1	6.71	34.56	259	328	A	V
	*	2437	105.9	-	-	106.32	27.29	6.84	34.55	259	328	P	V
	*	2437	98.35	-	-	98.77	27.29	6.84	34.55	259	328	A	V
		2484.04	50.92	-23.08	74	51.17	27.36	6.94	34.55	259	328	P	V
		2483.8	38.96	-15.04	54	39.21	27.36	6.94	34.55	259	328	A	V

802.11g CH 11 2462MHz	*	2468	116.01	-	-	116.3	27.32	6.94	34.55	162	147	P	H
	*	2458	105.66	-	-	106.05	27.32	6.84	34.55	162	147	A	H
		2483.8	69.74	-4.26	74	69.99	27.36	6.94	34.55	162	147	P	H
		2483.52	53.32	-0.68	54	53.57	27.36	6.94	34.55	162	147	A	H
													H
													H
	*	2462	108.45	-	-	108.84	27.32	6.84	34.55	150	325	P	V
	*	2462	98.35	-	-	98.74	27.32	6.84	34.55	150	325	A	V
		2485	54.21	-19.79	74	54.46	27.36	6.94	34.55	150	325	P	V
		2485.56	40.74	-13.26	54	40.99	27.36	6.94	34.55	150	325	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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	39.73	-34.27	74	57.19	31.22	11.01	59.69	100	0	P	H
													H
													H
													H
		4824	39.63	-34.37	74	57.09	31.22	11.01	59.69	100	0	P	V
													V
													V
													V
802.11g CH 06 2437MHz		4874	40.44	-33.56	74	57.53	31.31	11.06	59.46	100	0	P	H
		7311	50.12	-23.88	74	62.82	36.02	11.71	60.43	100	0	P	H
		12185	50.9	-23.1	74	54.75	38.79	16.4	59.04	100	0	P	H
													H
		4874	41.05	-32.95	74	58.14	31.31	11.06	59.46	100	0	P	V
		7311	46.96	-27.04	74	59.66	36.02	11.71	60.43	100	0	P	V
		12185	47.7	-26.3	74	51.55	38.79	16.4	59.04	100	0	P	V
													V
802.11g CH 11 2462MHz		4924	41.51	-32.49	74	58.17	31.39	11.17	59.22	100	0	P	H
		7386	45.03	-28.97	74	57.77	36.17	11.55	60.46	100	0	P	H
													H
													H
		4924	41.87	-32.13	74	58.53	31.39	11.17	59.22	100	0	P	V
		7386	43.5	-30.5	74	56.21	36.1	11.63	60.44	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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2389.65	66.29	-7.71	74	66.93	27.17	6.75	34.56	122	145	P	H
		2390	53.25	-0.75	54	53.89	27.17	6.75	34.56	122	145	A	H
	*	2412	112.75	-	-	113.35	27.21	6.75	34.56	122	145	P	H
	*	2412	101	-	-	101.59	27.21	6.75	34.55	122	145	A	H
802.11n													H
HT20													H
CH 01		2389.65	56.63	-17.37	74	57.27	27.17	6.75	34.56	127	325	P	V
2412MHz		2390	43.63	-10.37	54	44.27	27.17	6.75	34.56	127	325	A	V
	*	2412	105.82	-	-	106.42	27.21	6.75	34.56	127	325	P	V
	*	2412	94.39	-	-	94.99	27.21	6.75	34.56	127	325	A	V
													V
													V
		2363.1	58.3	-15.7	74	59.05	27.1	6.71	34.56	100	137	P	H
		2363.19	48.81	-5.19	54	49.56	27.1	6.71	34.56	100	137	A	H
	*	2437	112.92	-	-	113.34	27.29	6.84	34.55	100	137	P	H
	*	2437	103.71	-	-	104.13	27.29	6.84	34.55	100	137	A	H
802.11n		2484.52	58.47	-15.53	74	58.72	27.36	6.94	34.55	100	137	P	H
HT20		2483.84	46.93	-7.07	54	47.18	27.36	6.94	34.55	100	137	A	H
CH 06		2359.32	52.55	-21.45	74	53.3	27.1	6.71	34.56	226	328	P	V
2437MHz		2361.93	42.31	-11.69	54	43.06	27.1	6.71	34.56	226	328	A	V
	*	2437	105.7	-	-	106.12	27.29	6.84	34.55	226	328	P	V
	*	2438	96.54	-	-	96.96	27.29	6.84	34.55	226	328	A	V
		2486.76	51.14	-22.86	74	51.39	27.36	6.94	34.55	226	328	P	V
		2488.08	41.31	-12.69	54	41.52	27.4	6.94	34.55	226	328	A	V

	*	2462	113.3	-	-	113.59	27.32	6.94	34.55	164	149	P	H
	*	2462	101.76	-	-	102.15	27.32	6.84	34.55	164	149	A	H
		2483.92	67	-7	74	67.25	27.36	6.94	34.55	164	149	P	H
		2483.68	53.59	-0.41	54	53.84	27.36	6.94	34.55	164	149	A	H
802.11n													H
HT20													H
CH 11	*	2462	103.78	-	-	104.17	27.32	6.84	34.55	153	333	P	V
2462MHz	*	2462	93.41	-	-	93.7	27.32	6.94	34.55	153	333	A	V
		2485.44	50.14	-23.86	74	50.39	27.36	6.94	34.55	153	333	P	V
		2483.68	39.93	-14.07	54	40.18	27.36	6.94	34.55	153	333	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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4824	39.8	-34.2	74	57.26	31.22	11.01	59.69	100	0	P	H
													H
802.11n													H
HT20													H
CH 01		4824	39.54	-34.46	74	57	31.22	11.01	59.69	100	0	P	V
2412MHz													V
													V
													V
		4874	40.25	-33.75	74	57.34	31.31	11.06	59.46	100	0	P	H
		7311	54.56	-19.44	74	67.29	35.98	11.71	60.42	281	106	P	H
802.11n		7311	41.37	-12.63	54	54.1	35.98	11.71	60.42	281	106	A	H
HT20													H
CH 06		4874	41.46	-32.54	74	58.55	31.31	11.06	59.46	100	0	P	V
2437MHz		7311	51.44	-22.56	74	64.17	35.98	11.71	60.42	157	106	P	V
		7311	37.64	-16.36	54	50.37	35.98	11.71	60.42	157	106	A	V
													V
		4924	40.58	-33.42	74	57.24	31.39	11.17	59.22	100	0	P	H
		7386	47.94	-26.06	74	60.68	36.17	11.55	60.46	100	0	P	H
802.11n													H
HT20													H
CH 11		4924	40.53	-33.47	74	57.19	31.39	11.17	59.22	100	0	P	V
2462MHz		7386	44.84	-29.16	74	57.58	36.17	11.55	60.46	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 HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2386.32	65.78	-8.22	74	66.42	27.17	6.75	34.56	187	140	P	H
		2388.84	53.33	-0.67	54	53.97	27.17	6.75	34.56	187	140	A	H
	*	2422	108.32	-	-	108.78	27.25	6.84	34.55	187	140	P	H
	*	2422	97.22	-	-	97.68	27.25	6.84	34.55	187	140	A	H
802.11n		2488.04	55.04	-18.96	74	55.25	27.4	6.94	34.55	187	140	P	H
HT40		2485.16	45.15	-8.85	54	45.4	27.36	6.94	34.55	187	140	A	H
CH 03		2388.84	55.43	-18.57	74	56.07	27.17	6.75	34.56	150	329	P	V
2422MHz		2390	44.31	-9.69	54	44.95	27.17	6.75	34.56	150	329	A	V
	*	2422	99.98	-	-	100.57	27.21	6.75	34.55	150	329	P	V
	*	2422	89.12	-	-	89.71	27.21	6.75	34.55	150	329	A	V
		2493.2	49.99	-24.01	74	50.2	27.4	6.94	34.55	150	329	P	V
		2484.52	39.96	-14.04	54	40.21	27.36	6.94	34.55	150	329	A	V
		2389.92	64.11	-9.89	74	64.75	27.17	6.75	34.56	161	150	P	H
		2389.65	52.1	-1.9	54	52.74	27.17	6.75	34.56	161	150	A	H
	*	2437	110.97	-	-	111.39	27.29	6.84	34.55	161	150	P	H
	*	2437	99.93	-	-	100.35	27.29	6.84	34.55	161	150	A	H
802.11n		2485.12	67.72	-6.28	74	67.97	27.36	6.94	34.55	161	150	P	H
HT40		2483.64	53.9	-0.1	54	54.15	27.36	6.94	34.55	161	150	A	H
CH 06		2389.47	56.15	-17.85	74	56.79	27.17	6.75	34.56	163	332	P	V
2437MHz		2389.83	43.64	-10.36	54	44.28	27.17	6.75	34.56	163	332	A	V
	*	2437	102.41	-	-	102.83	27.29	6.84	34.55	163	332	P	V
	*	2437	91.58	-	-	92	27.29	6.84	34.55	163	332	A	V
		2499.56	50.13	-23.87	74	50.34	27.4	6.94	34.55	163	332	P	V
		2499.84	39.91	-14.09	54	40.12	27.4	6.94	34.55	163	332	A	V

802.11n HT40 CH 09 2452MHz		2388.84	54.16	-19.84	74	54.8	27.17	6.75	34.56	160	148	P	H
		2388.93	43.45	-10.55	54	44.09	27.17	6.75	34.56	160	148	A	H
	*	2452	109.41	-	-	109.8	27.32	6.84	34.55	160	148	P	H
	*	2452	97.99	-	-	98.41	27.29	6.84	34.55	160	148	A	H
		2485.92	66.58	-7.42	74	66.83	27.36	6.94	34.55	160	148	P	H
		2483.52	53.08	-0.92	54	53.33	27.36	6.94	34.55	160	148	A	H
		2370.12	48.94	-25.06	74	49.66	27.13	6.71	34.56	225	317	P	V
		2389.83	38.74	-15.26	54	39.38	27.17	6.75	34.56	225	317	A	V
	*	2452	100.6	-	-	101.02	27.29	6.84	34.55	225	317	P	V
	*	2452	90.02	-	-	90.44	27.29	6.84	34.55	225	317	A	V
		2484.36	50.55	-23.45	74	50.8	27.36	6.94	34.55	225	317	P	V
		2483.52	40.14	-13.86	54	40.39	27.36	6.94	34.55	225	317	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4844	39.57	-34.43	74	56.87	31.25	11.06	59.61	100	0	P	H
		7266	46.4	-27.6	74	59.12	35.91	11.78	60.41	100	0	P	H
802.11n													H
HT40													H
CH 03		4844	39.38	-34.62	74	56.68	31.25	11.06	59.61	100	0	P	V
2422MHz		7266	43.27	-30.73	74	55.99	35.91	11.78	60.41	100	0	P	V
													V
													V
		4874	39.99	-34.01	74	57.08	31.31	11.06	59.46	100	0	P	H
		7311	47.54	-26.46	74	60.27	35.98	11.71	60.42	100	0	P	H
802.11n													H
HT40													H
CH 06		4874	40.39	-33.61	74	57.48	31.31	11.06	59.46	100	0	P	V
2437MHz		7311	47.64	-26.36	74	60.37	35.98	11.71	60.42	100	0	P	V
													V
													V
		4904	40.02	-33.98	74	56.85	31.36	11.11	59.3	100	0	P	H
		7356	44.1	-29.9	74	56.81	36.1	11.63	60.44	100	0	P	H
802.11n													H
HT40													H
CH 09		4904	41.06	-32.94	74	57.89	31.36	11.11	59.3	100	0	P	V
2452MHz		7356	43.19	-30.81	74	55.9	36.1	11.63	60.44	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Note symbol

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

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

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

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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

<TXBF Modes with AC Adapter>

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		2390	63.41	-10.59	74	64.05	27.17	6.75	34.56	165	210	P	H
		2390	47.01	-6.99	54	47.65	27.17	6.75	34.56	165	210	A	H
	*	2412	110.61	-	-	111.21	27.21	6.75	34.56	165	210	P	H
802.11n	*	2412	103.3	-	-	103.9	27.21	6.75	34.56	165	210	A	H
HT20													H
CH 01		2390	53.65	-20.35	74	54.29	27.17	6.75	34.56	100	324	P	V
2412MHz		2389.905	40.52	-13.48	54	41.16	27.17	6.75	34.56	100	324	A	V
	*	2410	102.47	-	-	103.07	27.21	6.75	34.56	100	324	P	V
	*	2412	97.59	-	-	98.19	27.21	6.75	34.56	100	324	A	V
													V
		2361.94	56.64	-17.36	74	57.39	27.1	6.71	34.56	268	132	P	H
		2364.74	46.75	-7.25	54	47.5	27.1	6.71	34.56	268	132	A	H
	*	2439	115.71	-	-	116.13	27.29	6.84	34.55	268	132	P	H
	*	2439	104.38	-	-	104.8	27.29	6.84	34.55	268	132	A	H
802.11n		2486.14	56.59	-17.41	74	56.84	27.36	6.94	34.55	268	132	P	H
HT20		2483.48	45.69	-8.31	54	45.94	27.36	6.94	34.55	268	132	A	H
CH 06		2355.36	52.16	-21.84	74	52.91	27.1	6.71	34.56	125	316	P	V
2437MHz		2361.38	41.83	-12.17	54	42.58	27.1	6.71	34.56	125	316	A	V
	*	2436	107.42	-	-	107.88	27.25	6.84	34.55	125	316	P	V
	*	2436	97.28	-	-	97.7	27.29	6.84	34.55	125	316	A	V
		2486.14	50.36	-23.64	74	50.61	27.36	6.94	34.55	125	316	P	V
		2484.74	39.77	-14.23	54	40.02	27.36	6.94	34.55	125	316	A	V

	*	2464	109.33	-	-	109.62	27.32	6.94	34.55	259	186	P	H
	*	2464	103.46	-	-	103.75	27.32	6.94	34.55	259	186	A	H
		2484.24	62.31	-11.69	74	62.56	27.36	6.94	34.55	259	186	P	H
		2483.76	45.61	-8.39	54	45.86	27.36	6.94	34.55	259	186	A	H
802.11n													H
HT20													H
CH 11	*	2466	104.63	-	-	104.92	27.32	6.94	34.55	126	323	P	V
2462MHz	*	2466	92.88	-	-	93.17	27.32	6.94	34.55	126	323	A	V
		2487.04	49.44	-24.56	74	49.69	27.36	6.94	34.55	126	323	P	V
		2483.68	37.77	-16.23	54	38.02	27.36	6.94	34.55	126	323	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	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4824	36.62	-37.38	74	54.64	31.22	11.01	60.25	100	0	P	H
													H
802.11n													H
HT20													H
CH 01		4824	37.13	-36.87	74	55.15	31.22	11.01	60.25	100	0	P	V
2412MHz													V
													V
													V
		4874	39.33	-34.67	74	57.05	31.31	11.06	60.09	100	0	P	H
		7311	43.77	-30.23	74	56.22	35.98	11.71	60.14	100	0	P	H
802.11n													H
HT20													H
CH 06		4874	39.34	-34.66	74	57.06	31.31	11.06	60.09	100	0	P	V
2437MHz		7311	41.61	-32.39	74	54.06	35.98	11.71	60.14	100	0	P	V
													V
													V
		4926	37.76	-36.24	74	55.12	31.39	11.17	59.92	100	0	P	H
		7386	43.49	-30.51	74	55.89	36.17	11.55	60.12	100	0	P	H
802.11n													H
HT20													H
CH 11		4926	37.07	-36.93	74	54.43	31.39	11.17	59.92	100	0	P	V
2462MHz		7386	42.36	-31.64	74	54.76	36.17	11.55	60.12	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 HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2382.38	65.2	-8.8	74	65.92	27.13	6.71	34.56	118	125	P	H
		2389.94	53.5	-0.5	54	54.14	27.17	6.75	34.56	118	125	A	H
	*	2421	110.55	-	-	111.1	27.25	6.75	34.55	118	125	P	H
	*	2421	96.56	-	-	97.11	27.25	6.75	34.55	118	125	A	H
802.11n		2488.52	57.13	-16.87	74	57.34	27.4	6.94	34.55	118	125	P	H
HT40		2488.17	50.21	-3.79	54	50.42	27.4	6.94	34.55	118	125	A	H
CH 03		2386.44	53.69	-20.31	74	54.33	27.17	6.75	34.56	103	319	P	V
2422MHz		2389.38	42.99	-11.01	54	43.63	27.17	6.75	34.56	103	319	A	V
	*	2420	102.42	-	-	102.97	27.25	6.75	34.55	103	319	P	V
	*	2420	97.33	-	-	97.88	27.25	6.75	34.55	103	319	A	V
		2485.09	51.74	-22.26	74	51.99	27.36	6.94	34.55	103	319	P	V
		2489.64	41.68	-12.32	54	41.89	27.4	6.94	34.55	103	319	A	V
		2389.66	63.01	-10.99	74	63.65	27.17	6.75	34.56	141	133	P	H
		2389.8	50.9	-3.1	54	51.54	27.17	6.75	34.56	141	133	A	H
	*	2435	112.65	-	-	113.11	27.25	6.84	34.55	141	133	P	H
	*	2435	98.87	-	-	99.33	27.25	6.84	34.55	141	133	A	H
802.11n		2484.18	64.99	-9.01	74	65.24	27.36	6.94	34.55	141	133	P	H
HT40		2483.62	51.59	-2.41	54	51.84	27.36	6.94	34.55	141	133	A	H
CH 06		2386.86	54.72	-19.28	74	55.36	27.17	6.75	34.56	136	309	P	V
2437MHz		2389.66	41.36	-12.64	54	42	27.17	6.75	34.56	136	309	A	V
	*	2436	102.48	-	-	102.94	27.25	6.84	34.55	136	309	P	V
	*	2436	98.59	-	-	99.05	27.25	6.84	34.55	136	309	A	V
		2489.29	51.98	-22.02	74	52.19	27.4	6.94	34.55	136	309	P	V
		2484.6	40.08	-13.92	54	40.33	27.36	6.94	34.55	136	309	A	V

		2386.72	53.39	-20.61	74	54.03	27.17	6.75	34.56	136	129	P	H
		2389.8	44.33	-9.67	54	44.97	27.17	6.75	34.56	136	129	A	H
	*	2444	111.15	-	-	111.57	27.29	6.84	34.55	136	129	P	H
	*	2446	106.04	-	-	106.46	27.29	6.84	34.55	136	129	P	H
802.11n		2489.64	64.28	-9.72	74	64.49	27.4	6.94	34.55	136	129	P	H
HT40		2483.55	53.5	-0.5	54	53.75	27.36	6.94	34.55	136	129	A	H
CH 09		2384.34	48.89	-25.11	74	49.61	27.13	6.71	34.56	126	318	P	V
2452MHz		2359.56	39.99	-14.01	54	40.74	27.1	6.71	34.56	126	318	A	V
	*	2450	104.17	-	-	104.59	27.29	6.84	34.55	126	318	P	V
	*	2450	90.73	-	-	91.19	27.25	6.84	34.55	126	318	A	V
		2486.14	50.15	-23.85	74	50.4	27.36	6.94	34.55	126	318	P	V
		2484.11	40.38	-13.62	54	40.63	27.36	6.94	34.55	126	318	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4844	38.51	-35.49	74	56.4	31.25	11.06	60.2	100	0	P	H
		7266	42.25	-31.75	74	54.7	35.91	11.78	60.14	100	0	P	H
802.11n													H
HT40													H
CH 03		4844	38.82	-35.18	74	56.71	31.25	11.06	60.2	100	0	P	V
2422MHz		7266	42.29	-31.71	74	54.74	35.91	11.78	60.14	100	0	P	V
													V
													V
		4874	39.65	-34.35	74	57.37	31.31	11.06	60.09	100	0	P	H
		7311	42.59	-31.41	74	55.04	35.98	11.71	60.14	100	0	P	H
802.11n													H
HT40													H
CH 06		4874	38.65	-35.35	74	56.37	31.31	11.06	60.09	100	0	P	V
2437MHz		7311	42.38	-31.62	74	54.83	35.98	11.71	60.14	100	0	P	V
													V
													V
		4904	38.88	-35.12	74	56.39	31.36	11.11	59.98	100	0	P	H
		7356	41.57	-32.43	74	53.97	36.1	11.63	60.13	100	0	P	H
802.11n													H
HT40													H
CH 09		4904	39.77	-34.23	74	57.28	31.36	11.11	59.98	100	0	P	V
2452MHz		7356	41.74	-32.26	74	54.14	36.1	11.63	60.13	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Worst Case with AC Adapter

Emission below 1GHz

2.4GHz WIFI 802.11n HT40 (LF)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		31.89	25.97	-14.03	40	31.28	24.58	1.91	31.8	-	-	P	H
		151.5	17.89	-25.61	43.5	30.15	17.33	2.13	31.72	-	-	P	H
		250.05	19.83	-26.17	46	30.62	18.7	2.21	31.7	-	-	P	H
		624.8	33.76	-12.24	46	36.74	25.85	3.19	32.02	100	213	P	H
		875.4	33.39	-12.61	46	32.41	29.26	3.35	31.63	-	-	P	H
		949.6	31.17	-14.83	46	28.48	30.7	3.05	31.06	-	-	P	H
													H
													H
													H
													H
2.4GHz													H
802.11n													H
HT40		31.89	34.29	-5.71	40	39.6	24.58	1.91	31.8	100	102	P	V
LF		41.34	25.65	-14.35	40	36.78	18.88	1.77	31.78	-	-	P	V
		75.09	25.76	-14.24	40	42.42	12.85	2.23	31.74	-	-	P	V
		624.8	36.73	-9.27	46	39.71	25.85	3.19	32.02	-	-	P	V
		875.4	30.17	-15.83	46	29.19	29.26	3.35	31.63	-	-	P	V
		941.9	31.82	-14.18	46	29.36	30.5	3.1	31.14	-	-	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	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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

<Non-TXBF Modes with POE Adapter>

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 06 2437MHz		2389.74	65.26	-8.74	74	65.9	27.17	6.75	34.56	103	119	P	H
		2389.83	53.49	-0.51	54	54.13	27.17	6.75	34.56	103	119	A	H
	*	2437	109.26	-	-	109.68	27.29	6.84	34.55	103	119	P	H
	*	2437	100.43	-	-	100.85	27.29	6.84	34.55	103	119	A	H
		2485.28	66.65	-7.35	74	66.9	27.36	6.94	34.55	103	119	P	H
		2483.68	53.05	-0.95	54	53.3	27.36	6.94	34.55	103	119	A	H
		2385.96	55.75	-18.25	74	56.39	27.17	6.75	34.56	400	212	P	V
		2389.65	44.23	-9.77	54	44.87	27.17	6.75	34.56	400	212	A	V
	*	2437	102.63	-	-	103.05	27.29	6.84	34.55	400	212	P	V
	*	2437	93.9	-	-	94.32	27.29	6.84	34.55	400	212	A	V
		2483.56	54.42	-19.58	74	54.67	27.36	6.94	34.55	400	212	P	V
		2483.52	43.62	-10.38	54	43.87	27.36	6.94	34.55	400	212	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4874	36.93	-37.07	74	54.02	31.31	11.06	59.46	100	0	P	H
		7311	38.97	-35.03	74	51.7	35.98	11.71	60.42	100	0	P	H
802.11n													H
HT40													H
CH 06		4874	36.95	-37.05	74	54.04	31.31	11.06	59.46	100	0	P	V
2437MHz		7311	37.69	-36.31	74	50.42	35.98	11.71	60.42	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 802.11n HT40 (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		174.45	29.07	-14.43	43.5	43.23	15.53	2.03	31.72	-	-	P	H
		190.11	27.49	-16.01	43.5	41.95	15.3	1.96	31.72	-	-	P	H
		250.05	35.41	-10.59	46	46.2	18.7	2.21	31.7	100	222	P	H
		374.9	34.08	-11.92	46	41.73	21.71	2.38	31.74	-	-	P	H
		624.8	31.61	-14.39	46	34.59	25.85	3.19	32.02	-	-	P	H
		958.7	31.57	-14.43	46	28.79	30.7	3.06	30.98	-	-	P	H
													H
													H
													H
													H
2.4GHz													H
802.11n													H
HT40		31.62	28.49	-11.51	40	33.8	24.58	1.91	31.8	-	-	P	V
LF		79.14	29.09	-10.91	40	45.27	13.39	2.17	31.74	100	119	P	V
		190.11	28.22	-15.28	43.5	42.68	15.3	1.96	31.72	-	-	P	V
		624.8	30.56	-15.44	46	33.54	25.85	3.19	32.02	-	-	P	V
		888	29.92	-16.08	46	28.8	29.33	3.37	31.58	-	-	P	V
		948.2	31.12	-14.88	46	28.47	30.67	3.06	31.08	-	-	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	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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

Appendix C. Radiated Spurious Emission Plots

Test Engineer :	Donny Tang	**Temperature :**	19~23°C
		Relative Humidity :	55~60%

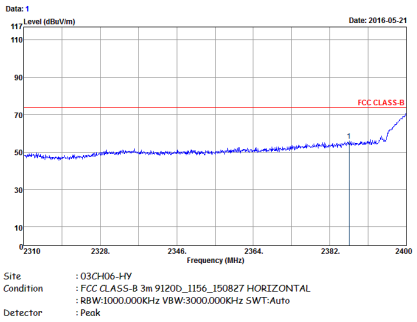
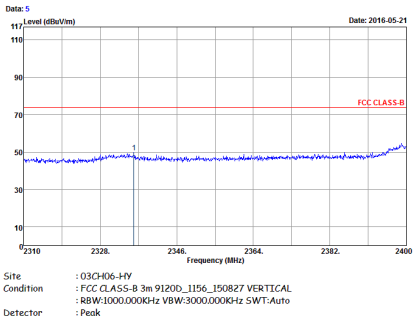
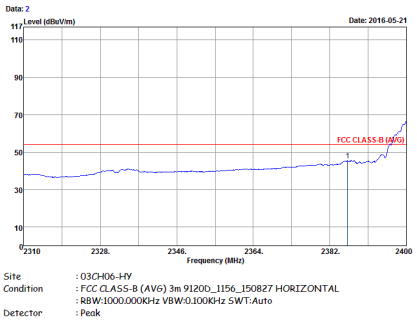
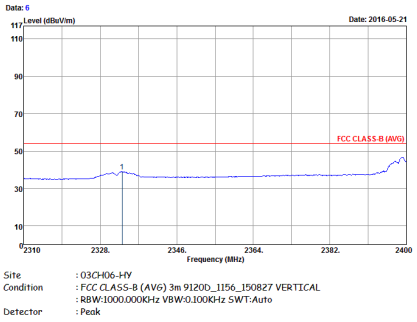
Note symbol

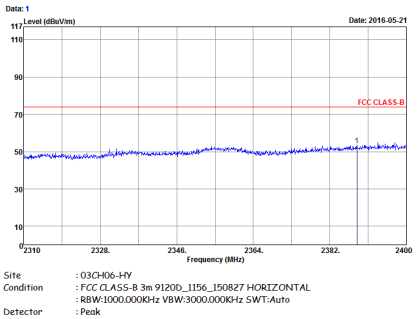
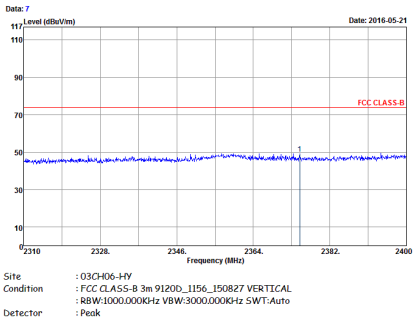
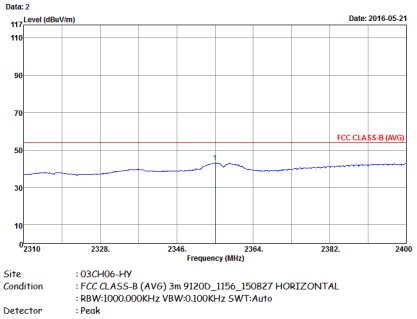
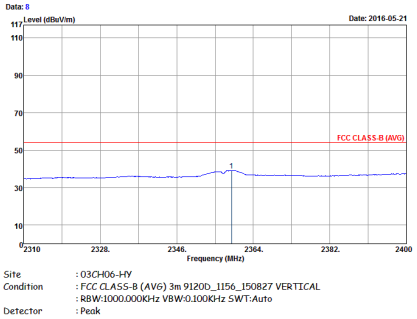
-L	**Low channel location**
-R	**High channel location**

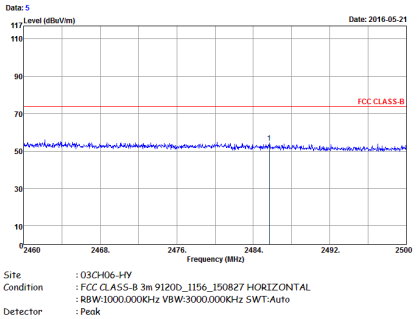
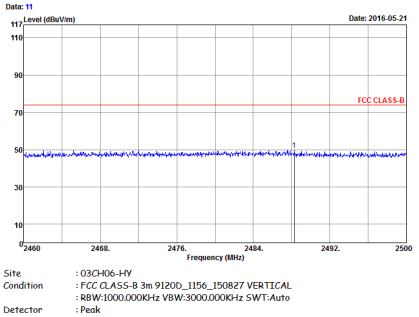
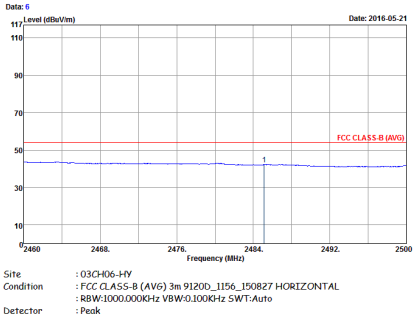
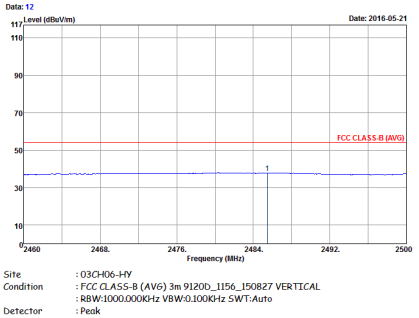
<Non-TXBF Modes with AC Adapter>

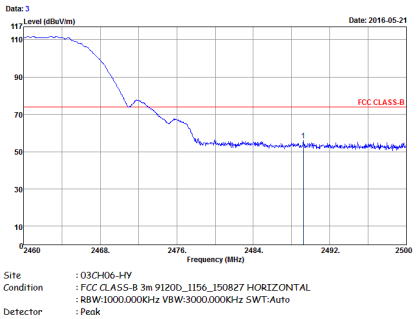
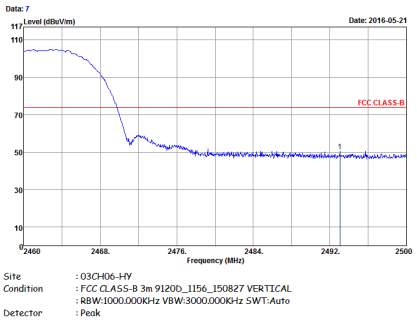
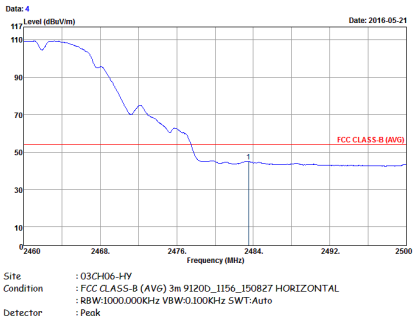
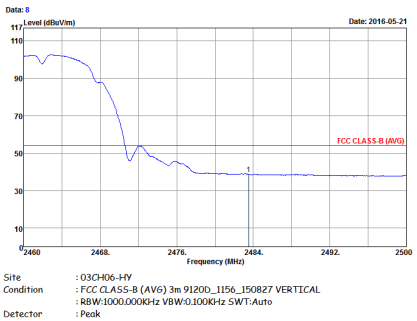
2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

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

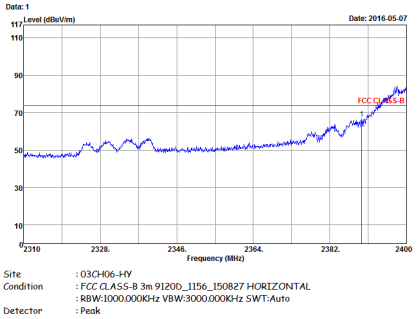
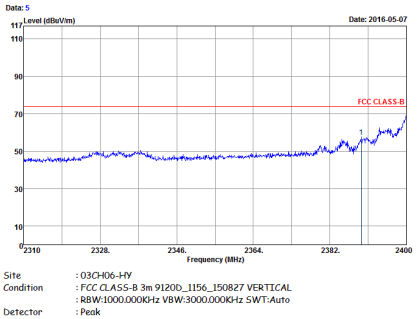
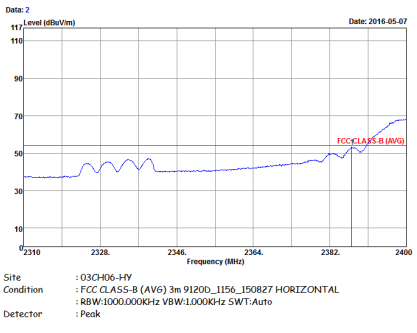
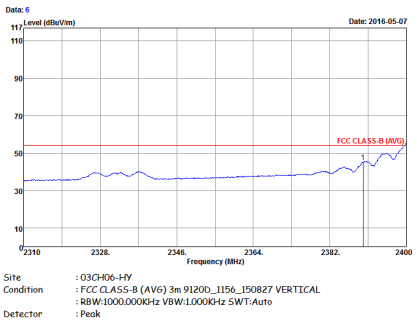
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1+2	Horizontal	Vertical
Peak		
Avg.		

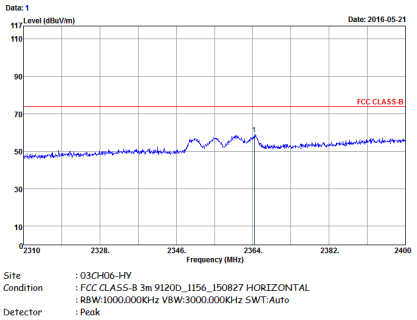
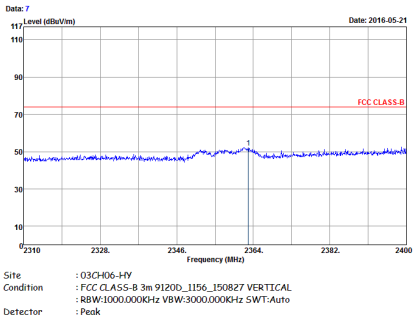
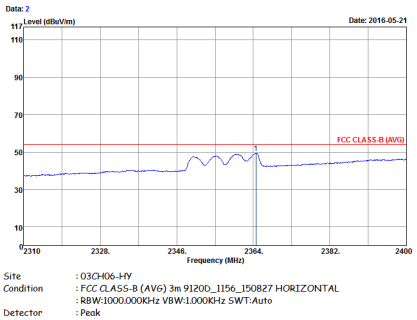
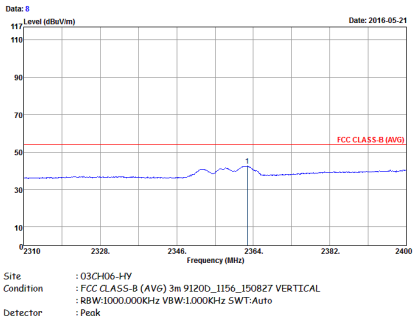
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1+2	Horizontal	Vertical
Peak		
Avg.		

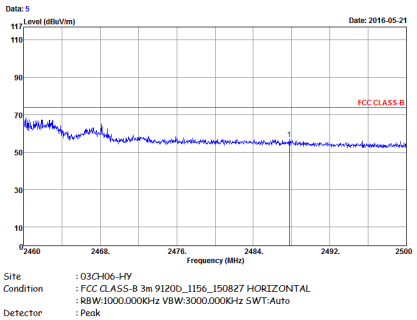
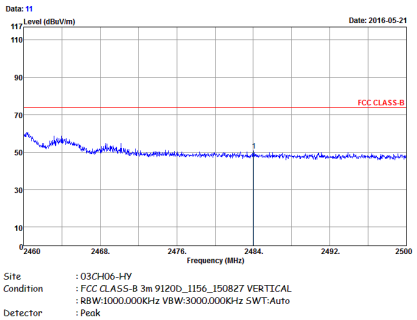
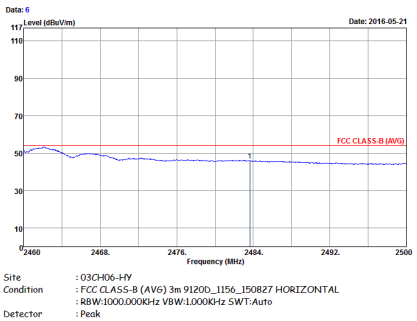
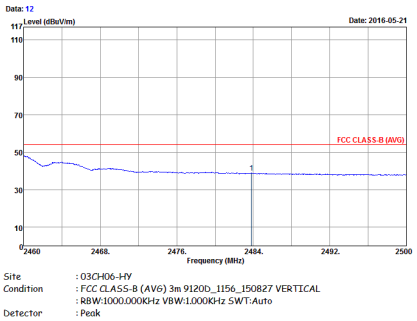
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1+2	Horizontal	Vertical
Peak		
Avg.		

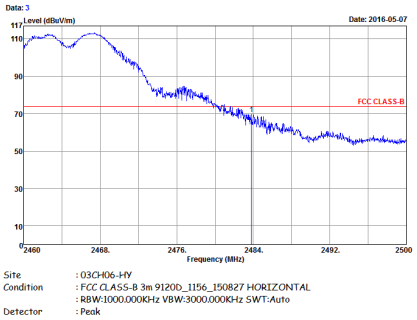
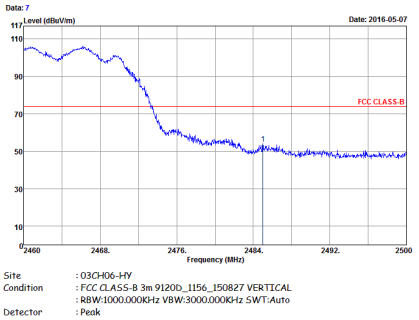
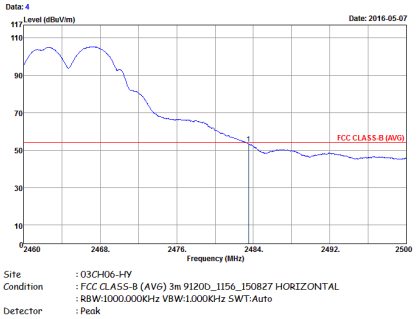
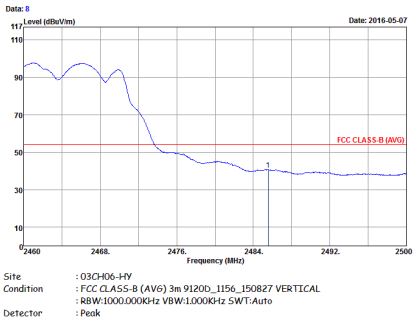
2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

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

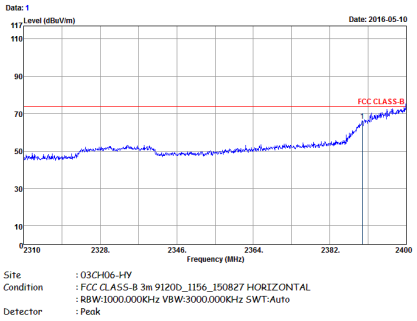
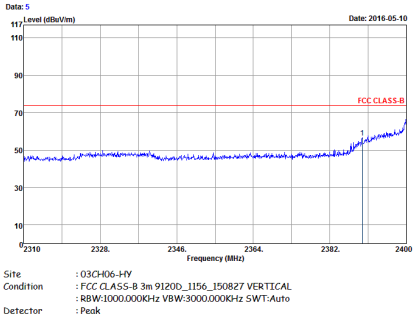
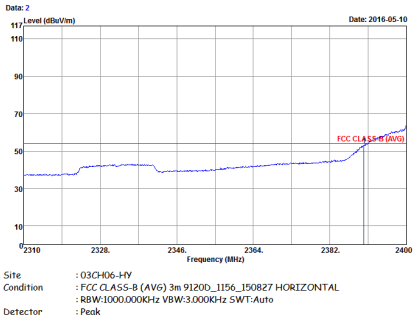
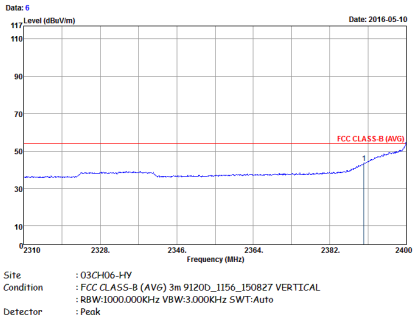
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1+2	Horizontal	Vertical
Peak		
Avg.		

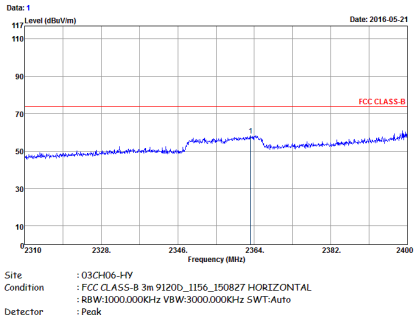
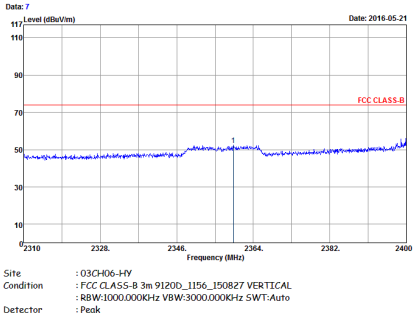
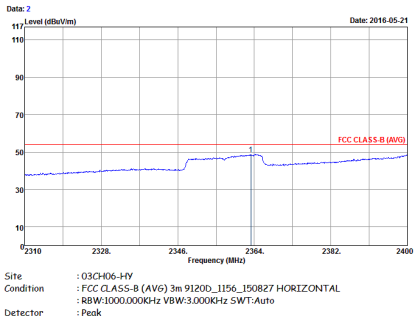
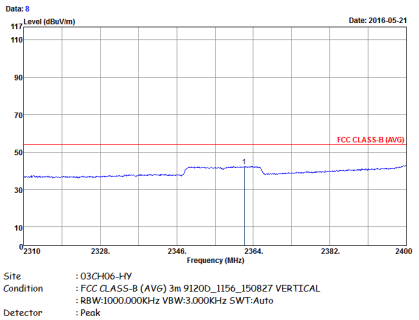
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1+2	Horizontal	Vertical
Peak		
Avg.		

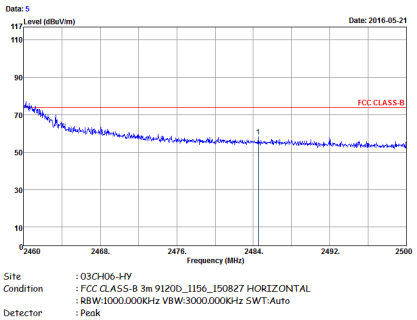
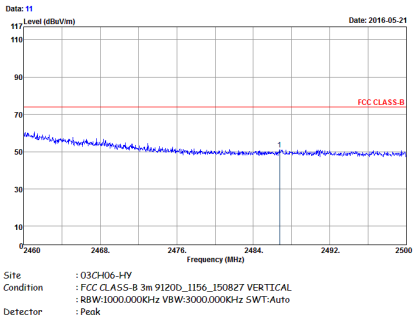
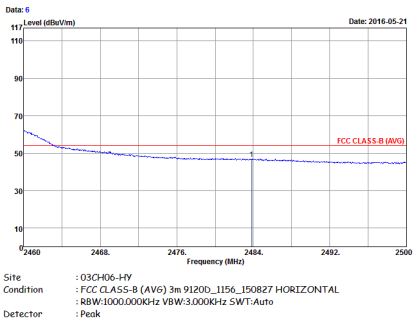
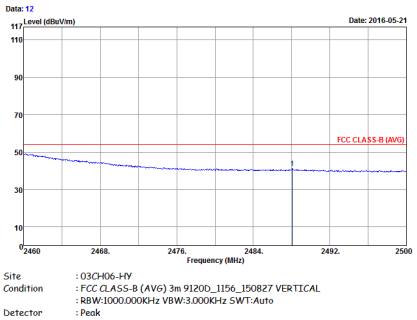
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1+2	Horizontal	Vertical
Peak		
Avg.		

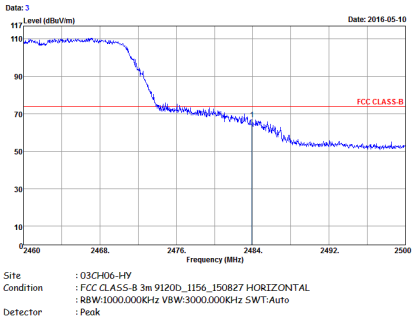
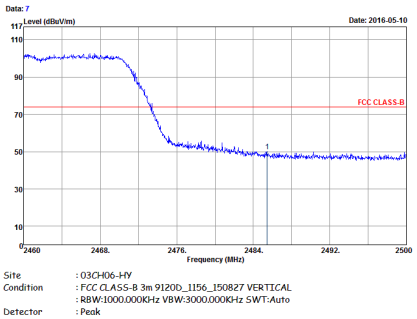
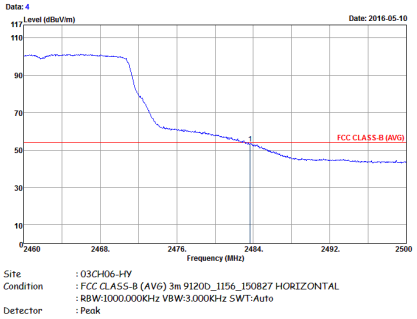
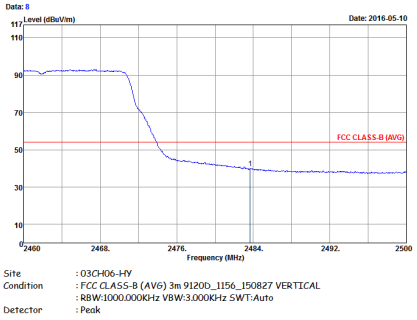
2.4GHz 2400~2483.5MHz

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	Vertical
Peak		
Avg.		

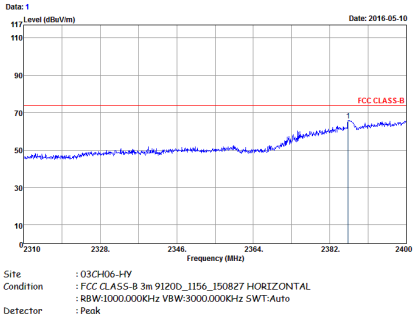
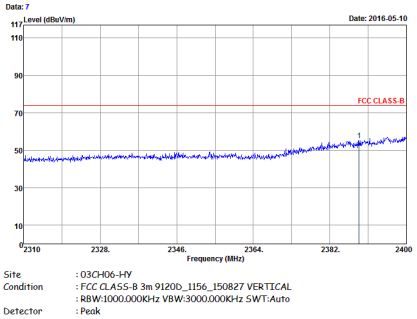
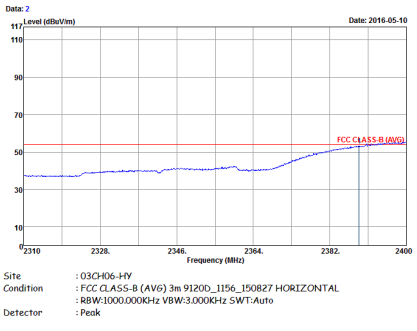
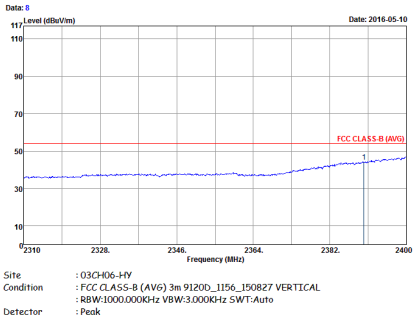
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1+2	Horizontal	Vertical
Peak		
Avg.		

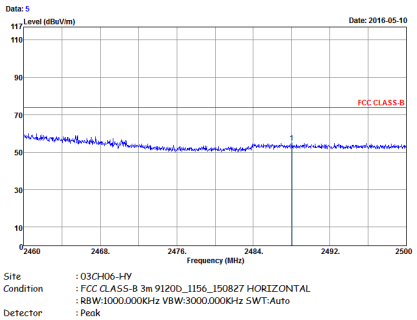
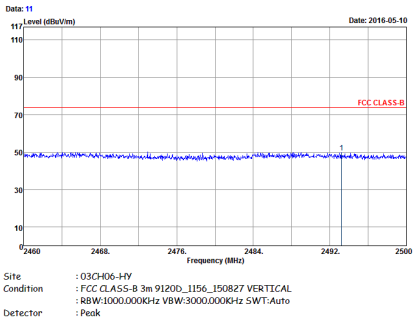
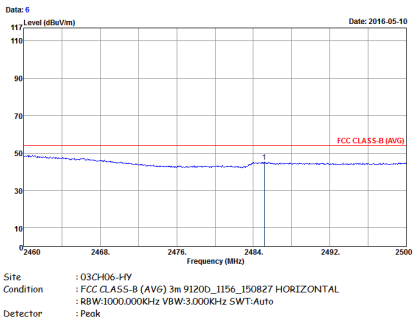
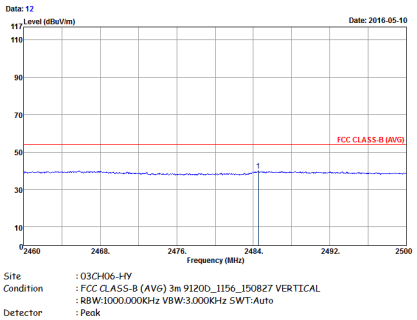
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1+2	Horizontal	Vertical
Peak		
Avg.		

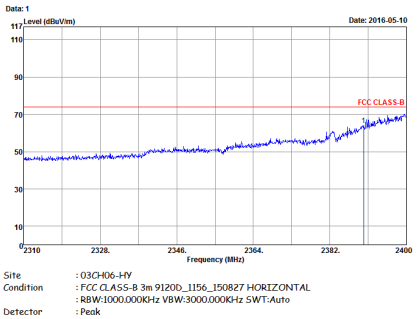
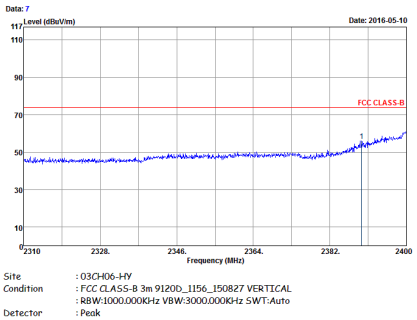
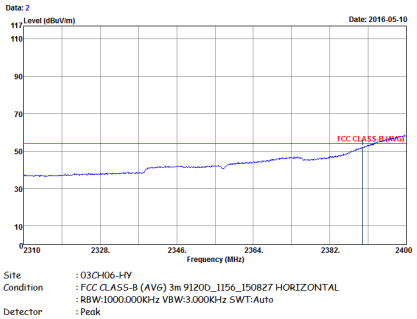
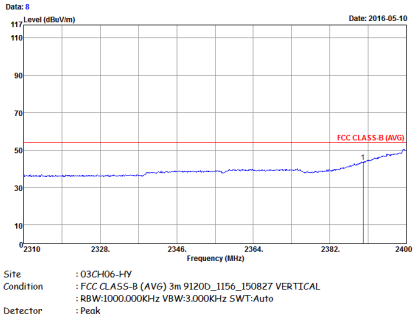
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1+2	Horizontal	Vertical
Peak		
Avg.		

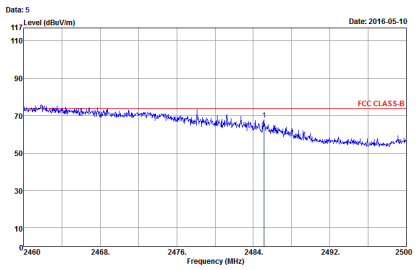
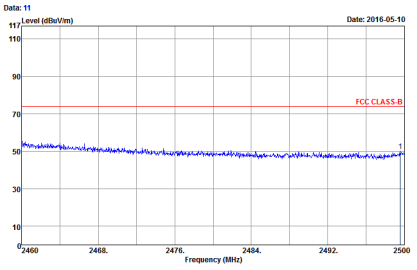
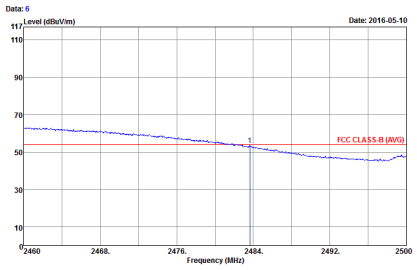
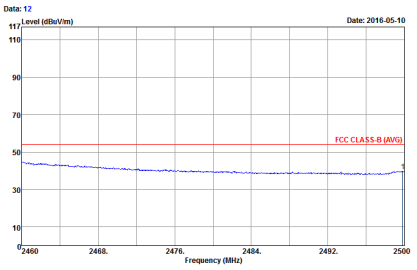
2.4GHz 2400~2483.5MHz

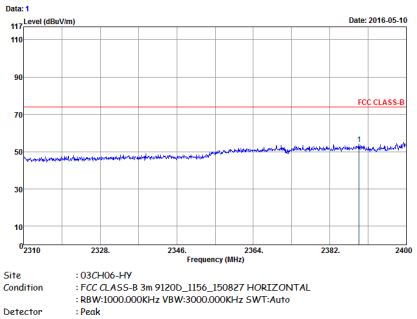
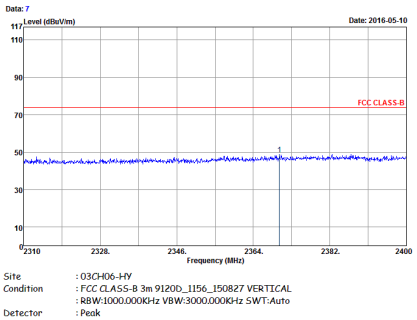
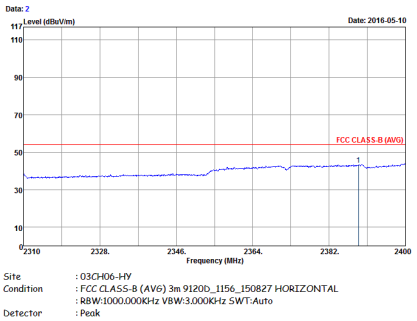
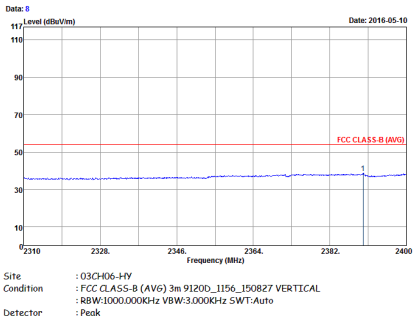
WIFI 802.11n HT40 (Band Edge @ 3m)

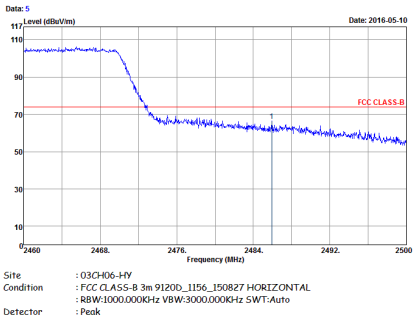
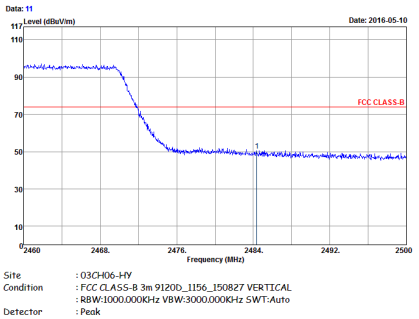
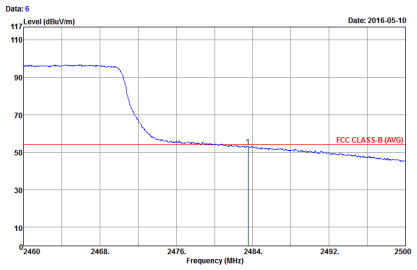
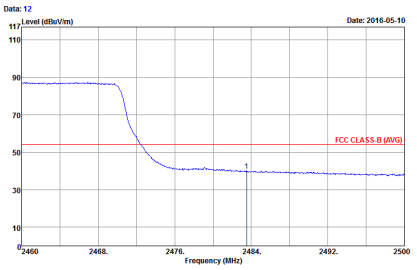
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - L	
1+2	Horizontal	Vertical
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - R	
1+2	Horizontal	Vertical
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - L	
1+2	Horizontal	Vertical
Peak		
Avg.		

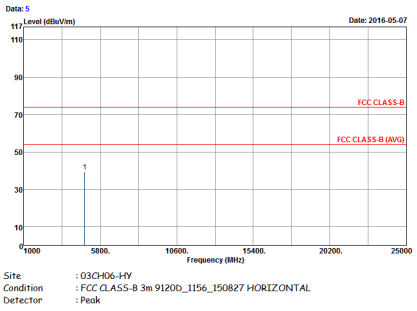
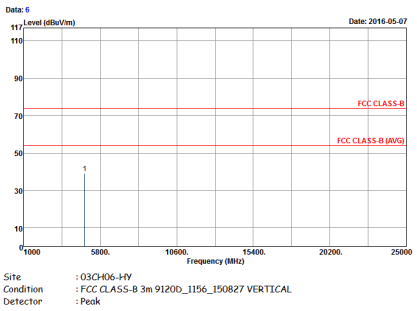
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH06-HY Condition : FCC CLASS-B 3m 9120D_1156_150827 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH06-HY Condition : FCC CLASS-B 3m 9120D_1156_150827 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH06-HY Condition : FCC CLASS-B (AVG) 3m 9120D_1156_150827 HORIZONTAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak	 Site : 03CH06-HY Condition : FCC CLASS-B (AVG) 3m 9120D_1156_150827 VERTICAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak

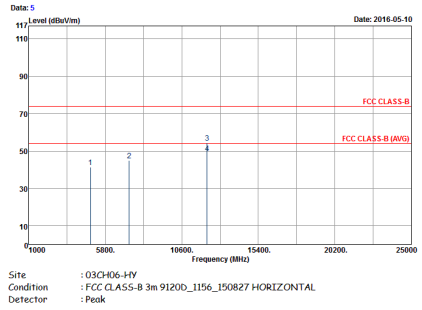
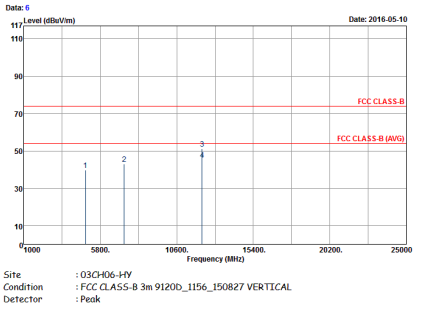
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - L	
1+2	Horizontal	Vertical
Peak		
Avg.		

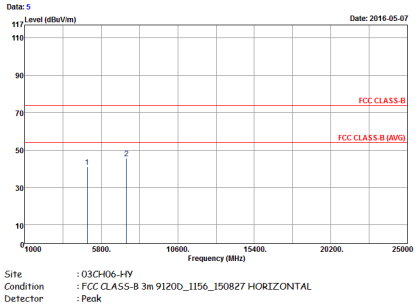
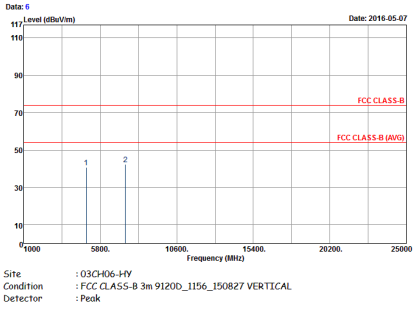
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH06-HY Condition : FCC CLASS-B 3m 9120D_1156_150827 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH06-HY Condition : FCC CLASS-B 3m 9120D_1156_150827 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH06-HY Condition : FCC CLASS-B (AV6) 3m 9120D_1156_150827 HORIZONTAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak	 Site : 03CH06-HY Condition : FCC CLASS-B (AV6) 3m 9120D_1156_150827 VERTICAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

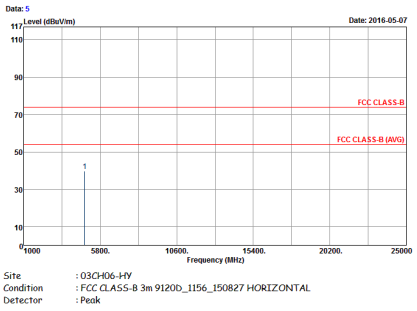
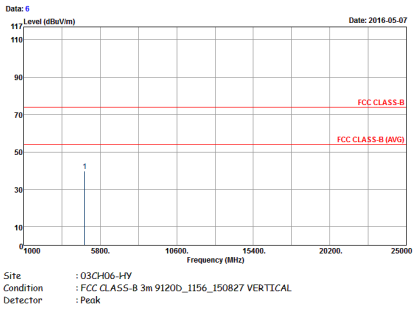
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.		

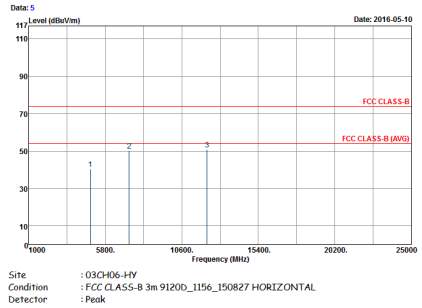
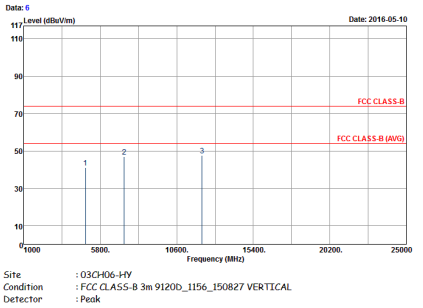
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

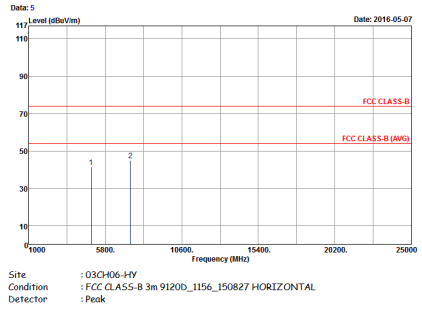
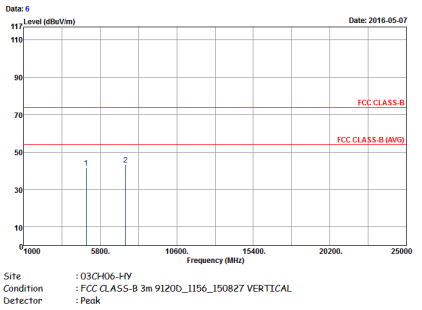
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

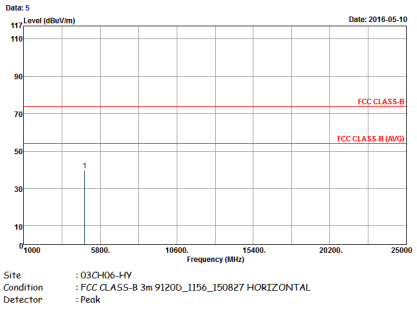
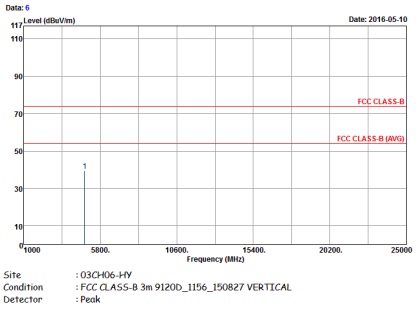
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.		

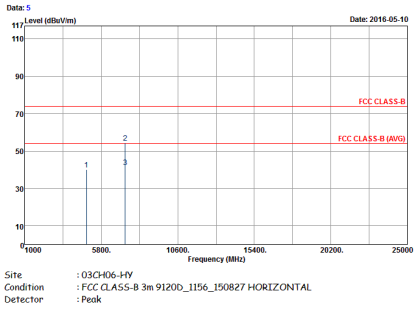
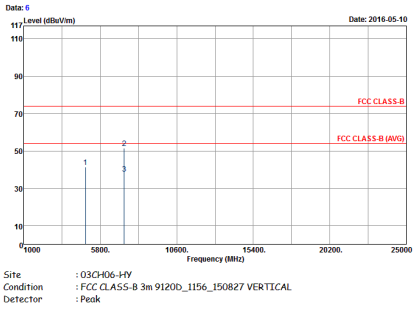
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

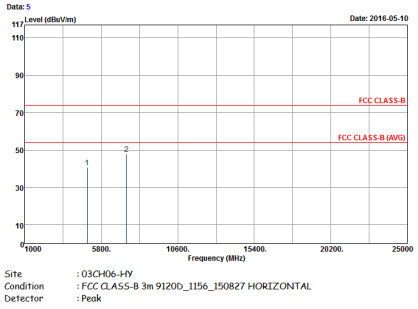
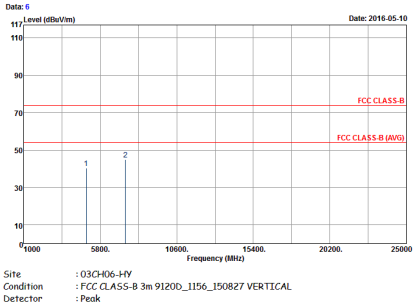
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

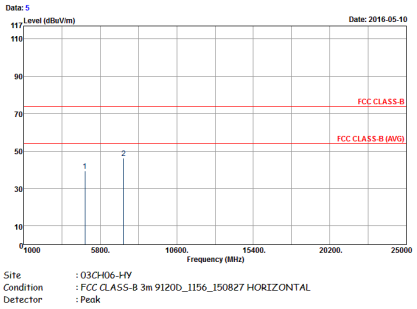
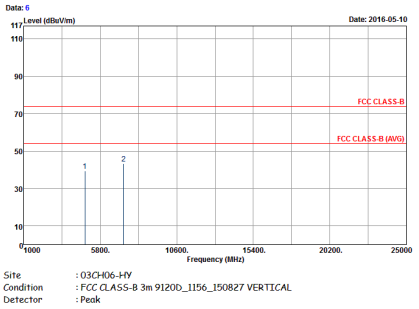
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.		

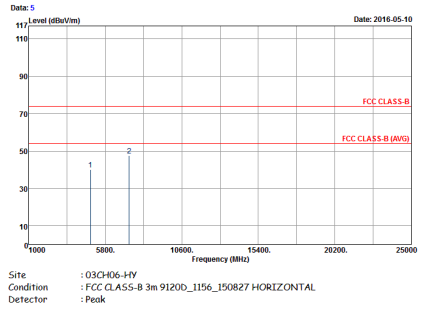
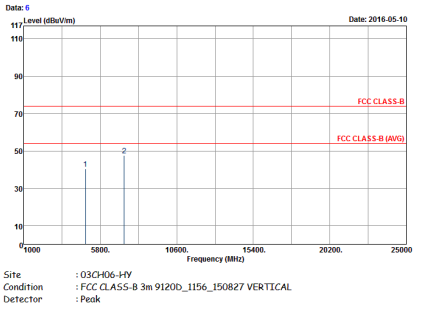
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

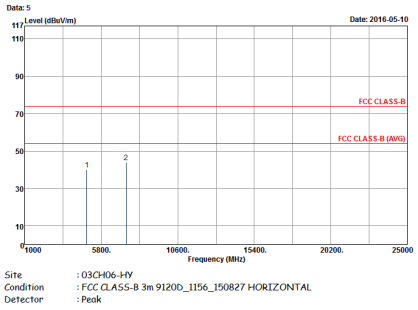
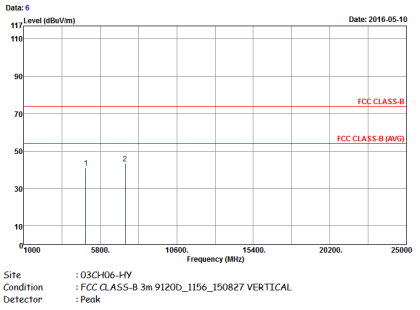
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH03 2422MHz	
1+2	Horizontal	Vertical
Peak Avg.		

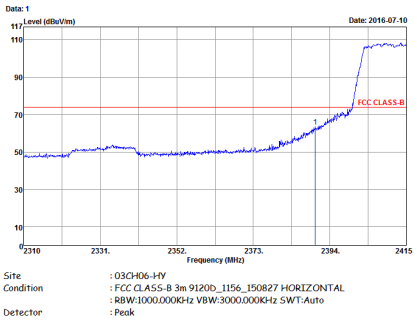
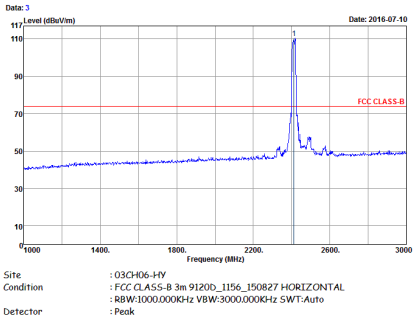
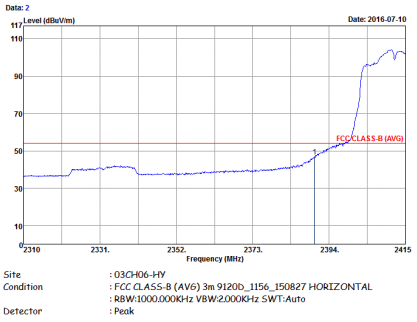
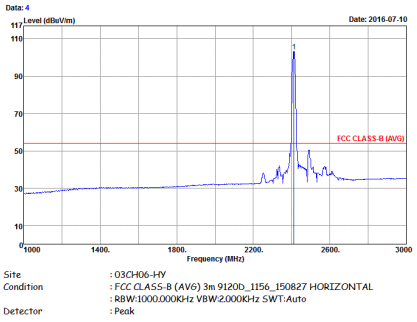
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

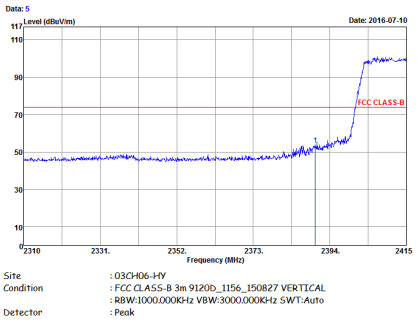
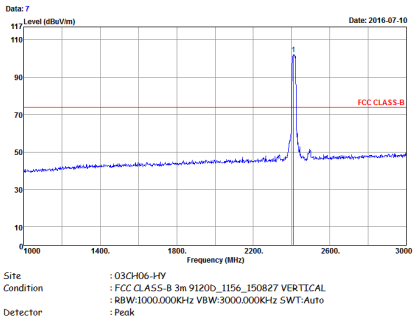
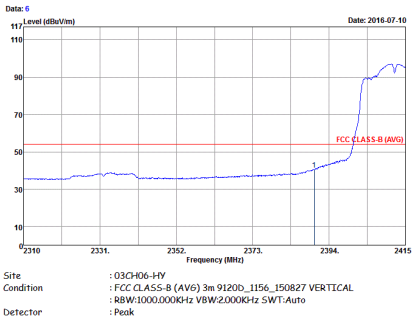
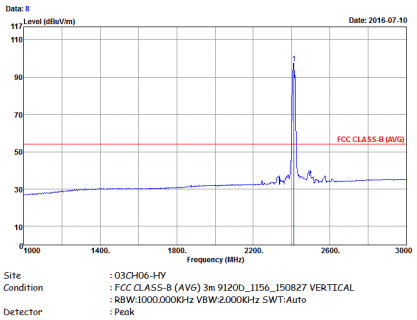
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH09 2452MHz	
1+2	Horizontal	Vertical
Peak Avg.		

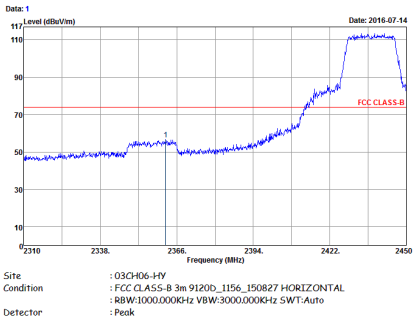
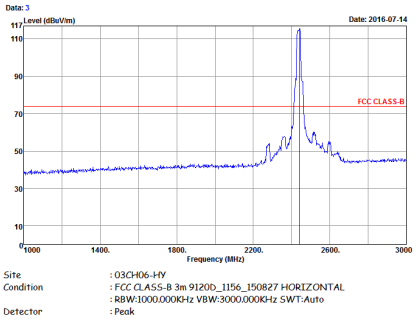
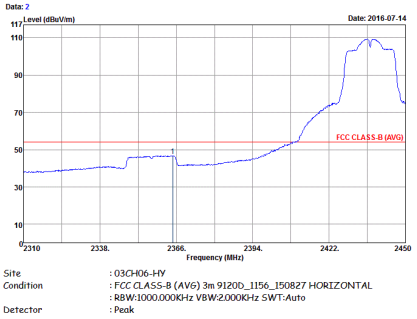
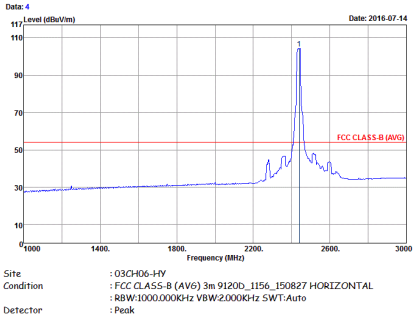
<TXBF Modes with AC Adapter>

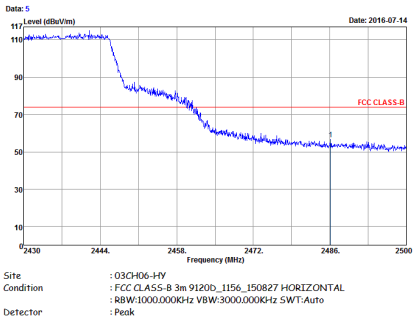
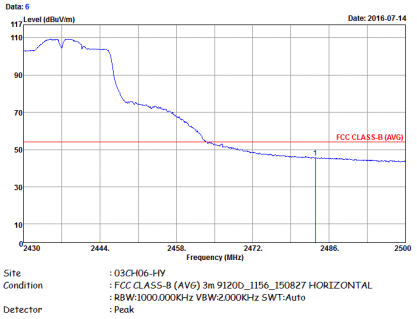
2.4GHz 2400~2483.5MHz

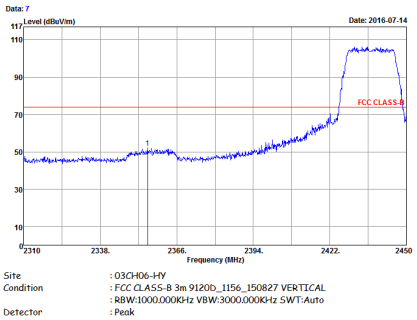
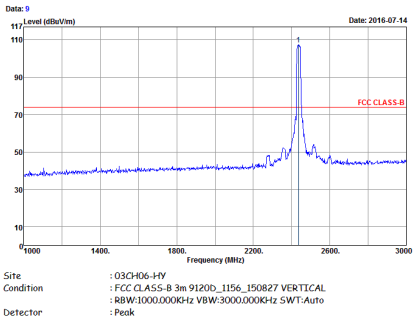
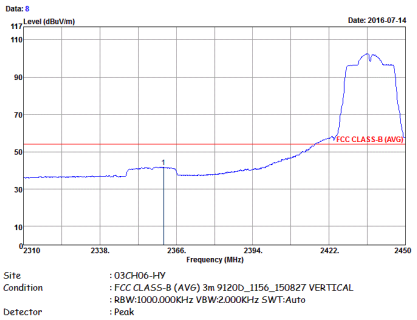
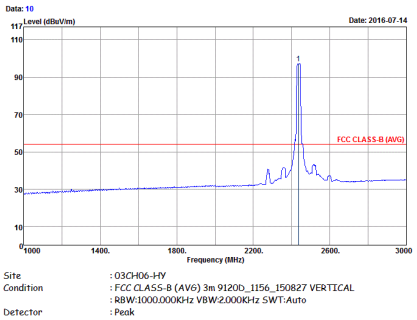
WIFI 802.11n HT20 (Band Edge @ 3m)

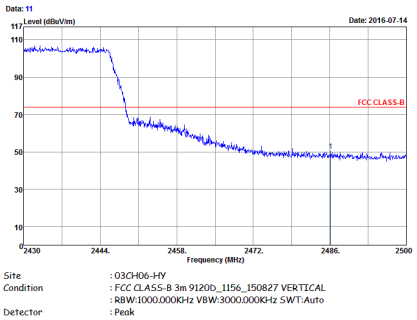
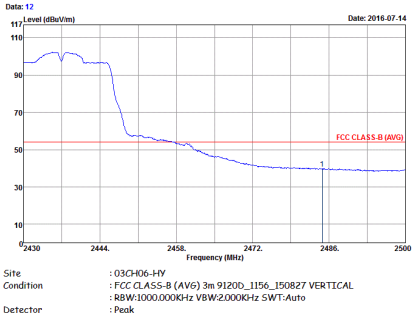
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

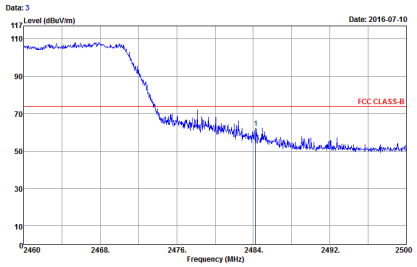
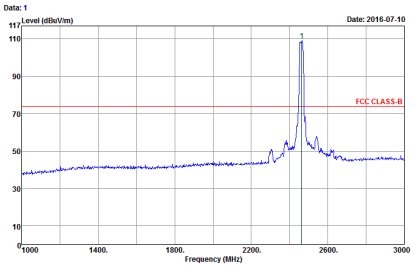
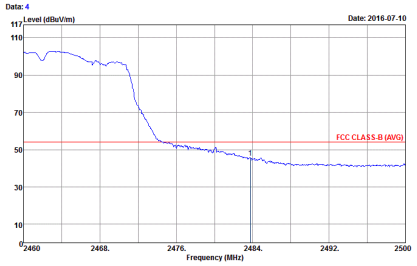
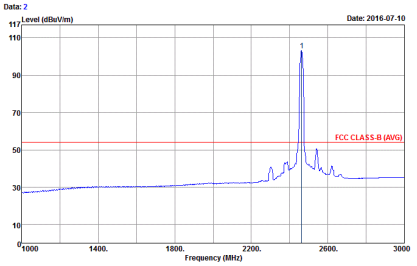
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		

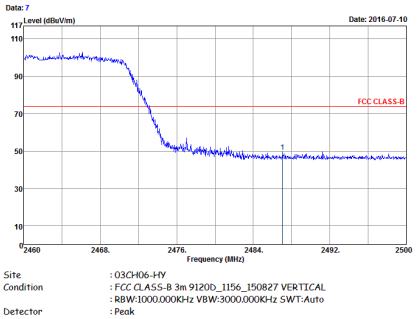
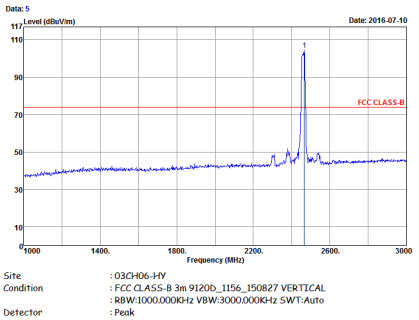
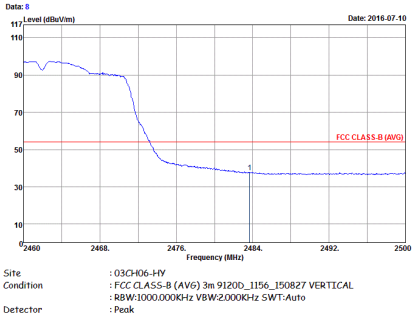
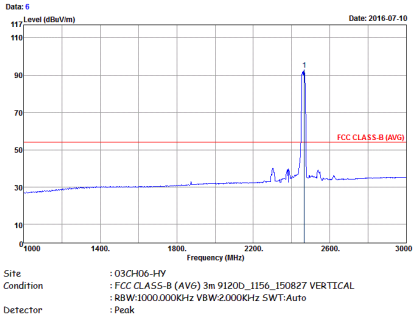
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

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

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

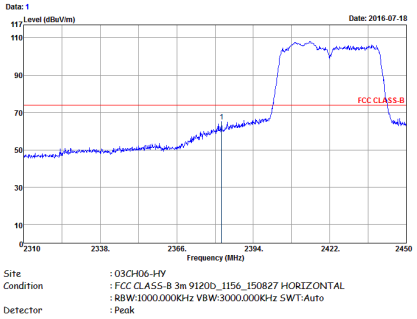
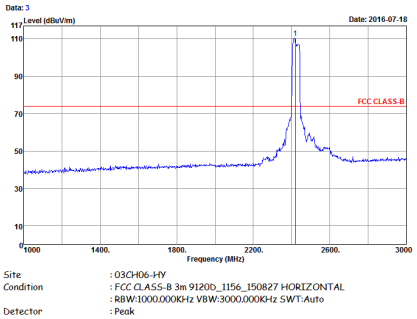
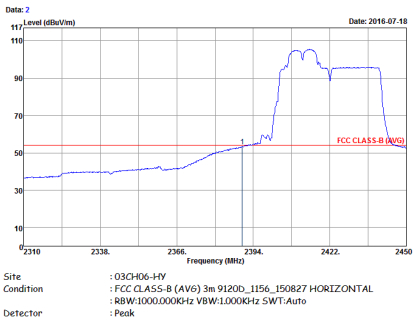
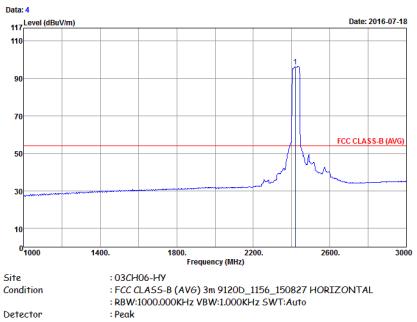
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1+2	Vertical	Fundamental
Peak		
Avg.		

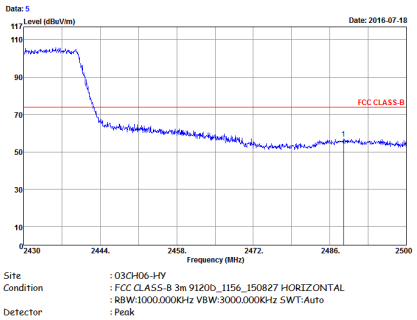
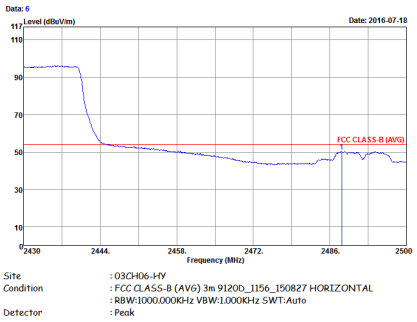
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH06-HY Condition : FCC CLASS-B 3m 9120D_1156_150827 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH06-HY Condition : FCC CLASS-B 3m 9120D_1156_150827 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH06-HY Condition : FCC CLASS-B (AVG) 3m 9120D_1156_150827 HORIZONTAL : RBW:1000.000KHz VBW:2.000KHz SWT:Auto Detector : Peak	 Site : 03CH06-HY Condition : FCC CLASS-B (AVG) 3m 9120D_1156_150827 HORIZONTAL : RBW:1000.000KHz VBW:2.000KHz SWT:Auto Detector : Peak

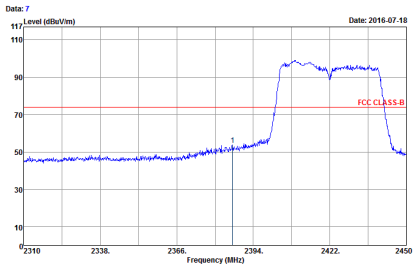
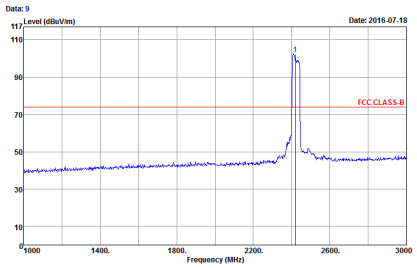
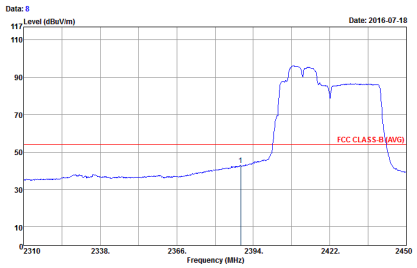
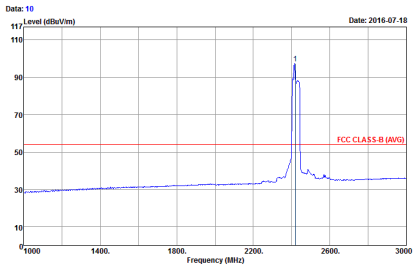
WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		

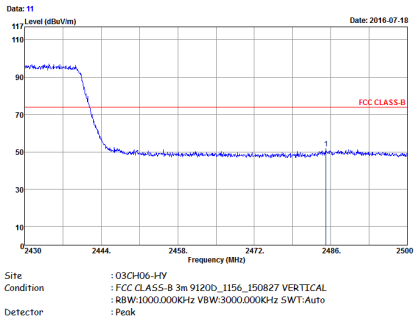
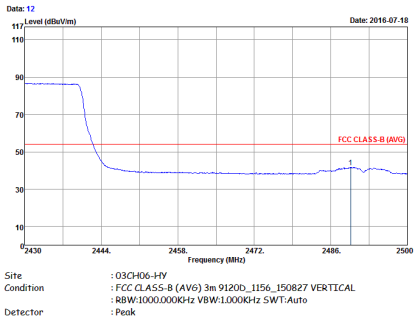
2.4GHz 2400~2483.5MHz

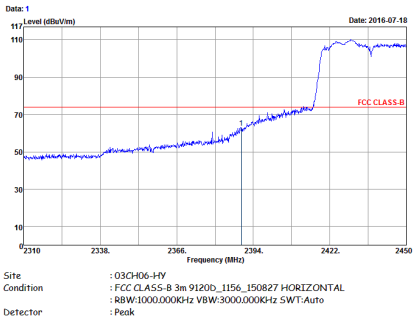
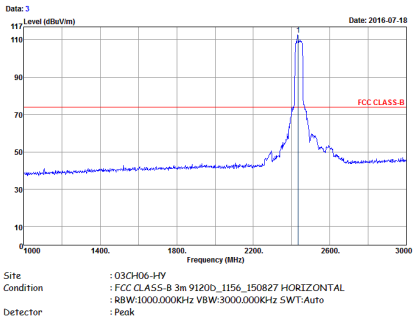
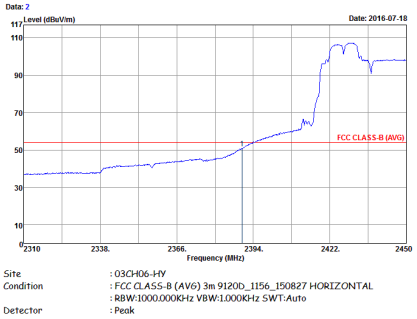
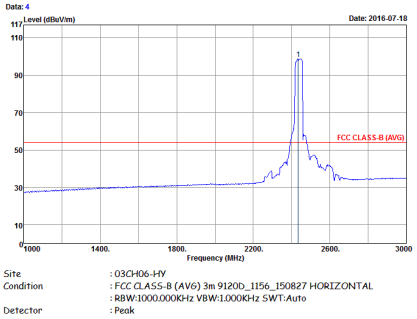
WIFI 802.11n HT40 (Band Edge @ 3m)

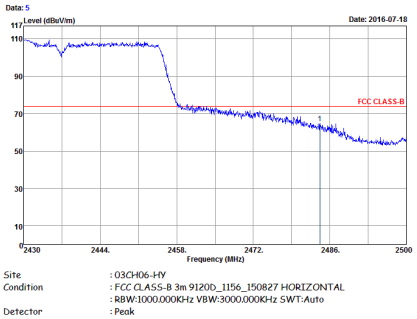
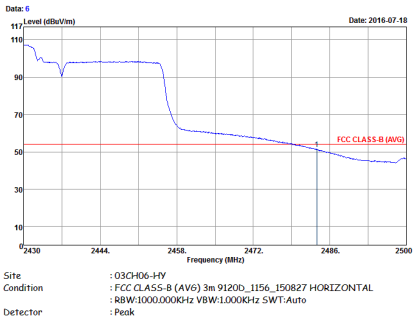
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

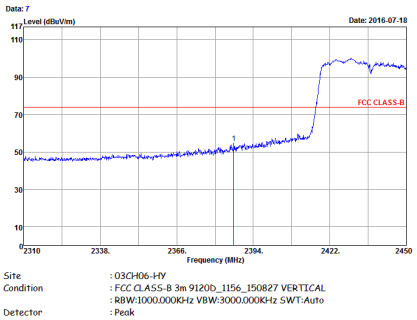
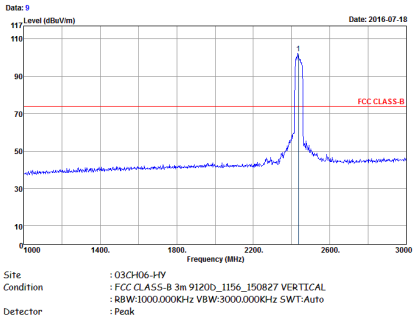
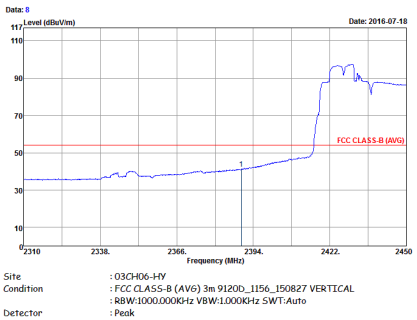
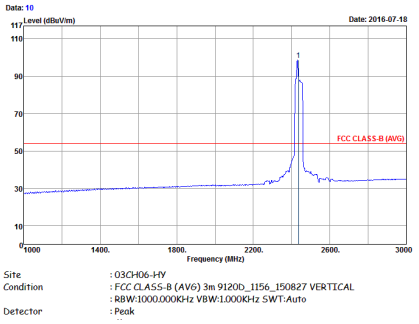
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - R	
1+2	Horizontal	Fundamental
Peak		
Avg.		

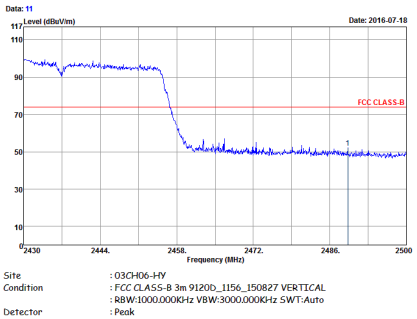
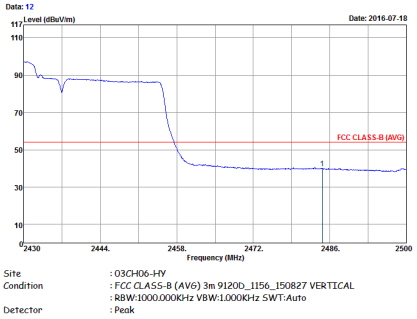
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		

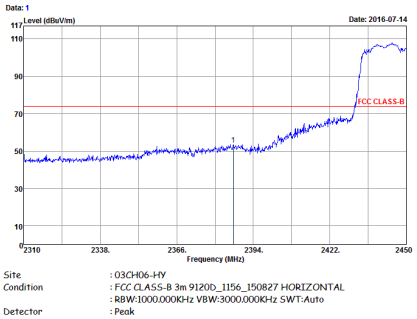
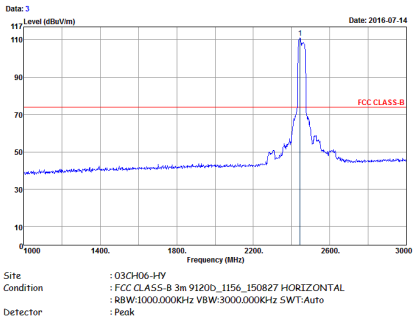
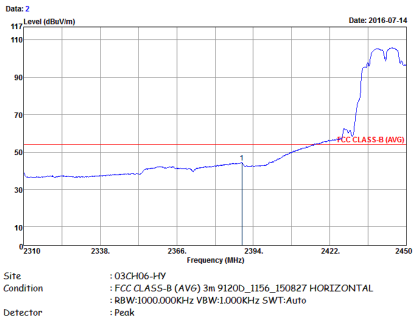
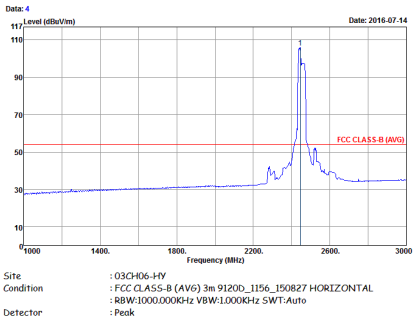
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - R	
1+2	Vertical	Fundamental
Peak		
Avg.		

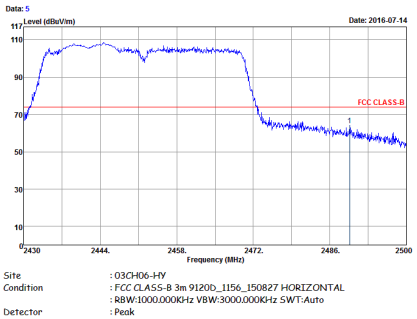
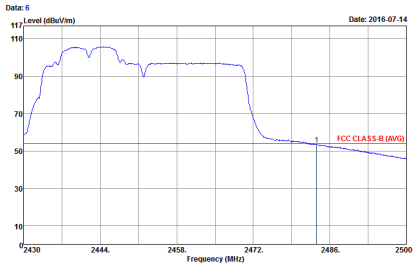
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

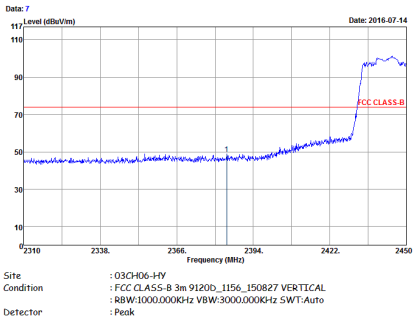
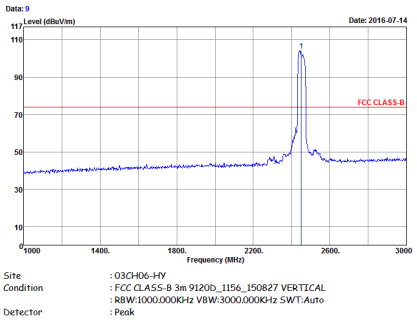
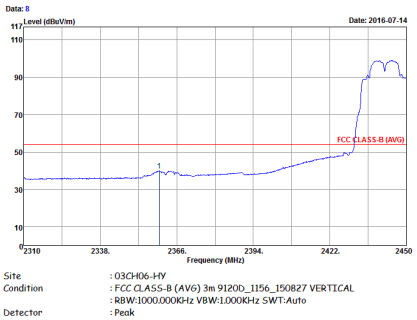
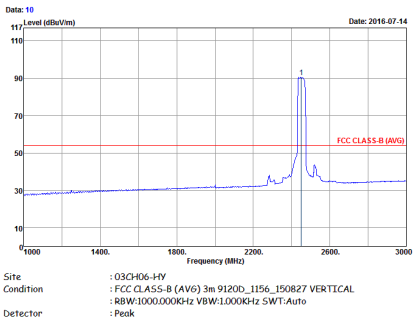
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - R	
1+2	Horizontal	Fundamental
Peak		
Avg.		

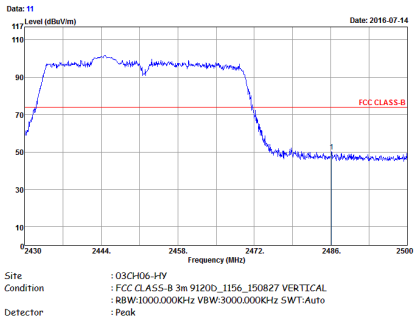
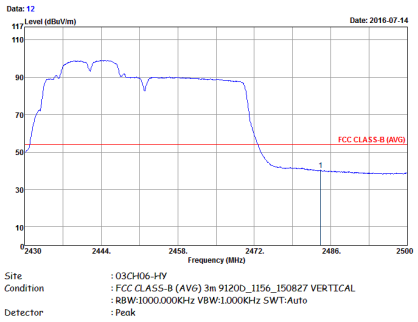
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - R	
1+2	Horizontal	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

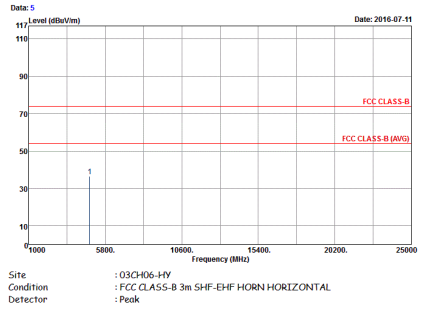
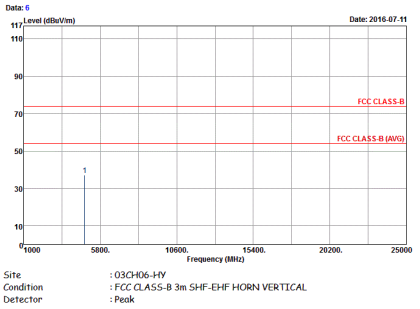
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH06-HY Condition : FCC CLASS-B 3m 9120D_1156_150827 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	
Avg.	 Site : 03CH06-HY Condition : FCC CLASS-B (AVG) 3m 9120D_1156_150827 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak	

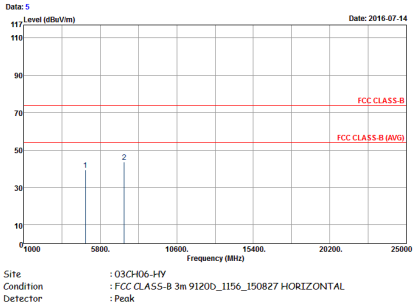
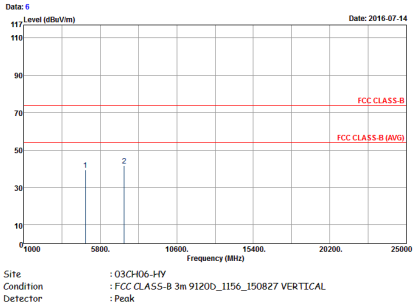
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		

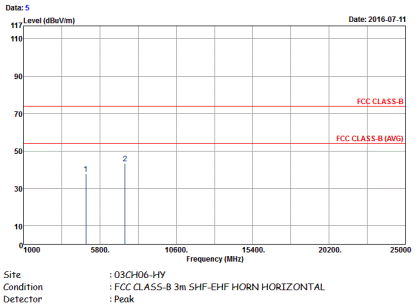
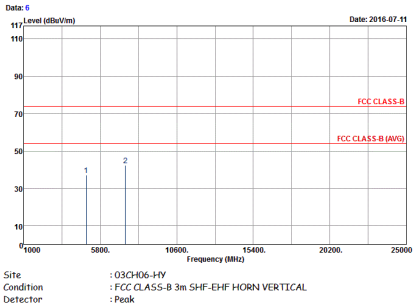
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - R	
1+2	Vertical	Fundamental
Peak		
Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

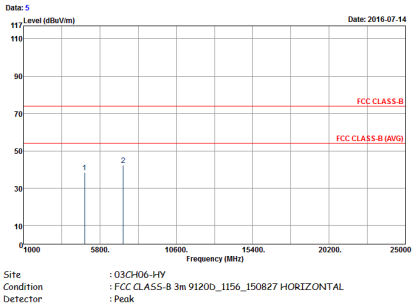
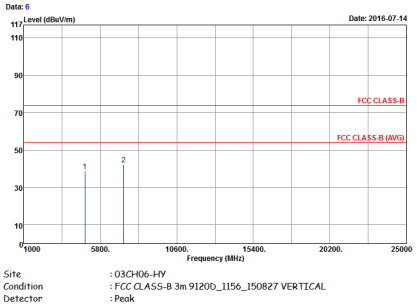
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.		

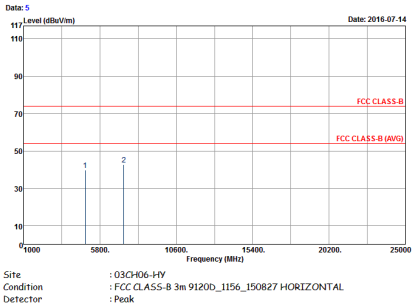
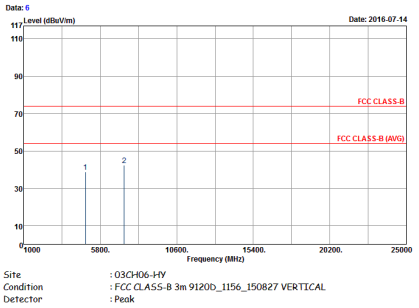
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

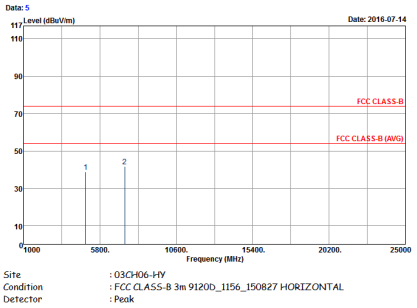
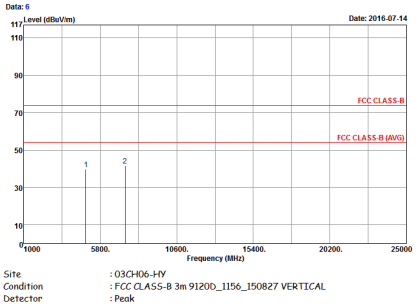
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH03 2422MHz	
1+2	Horizontal	Vertical
Peak Avg.		

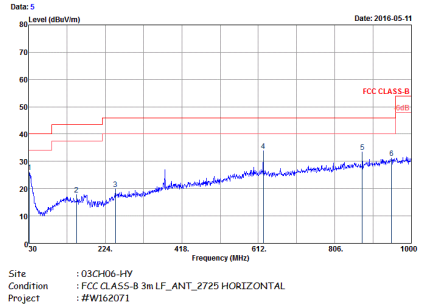
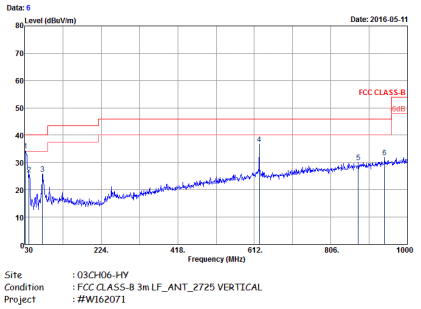
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH09 2452MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Worst Case with AC Adapter

Emission below 1GHz

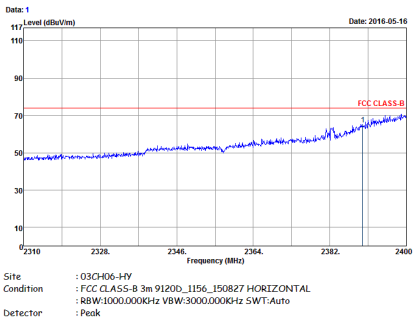
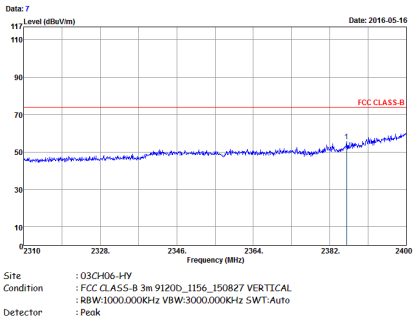
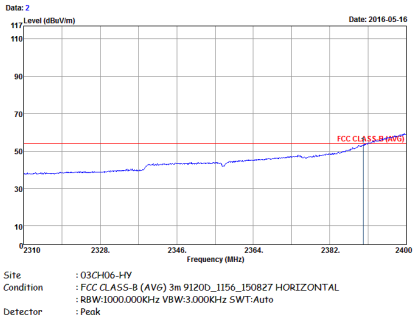
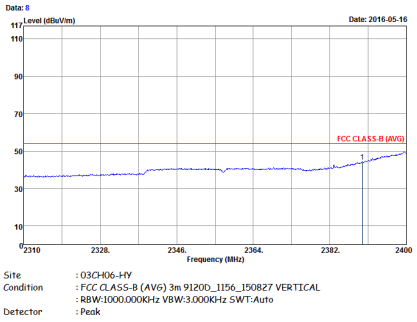
2.4GHz WIFI 802.11n HT40 (LF)

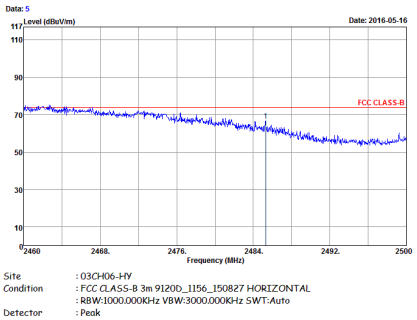
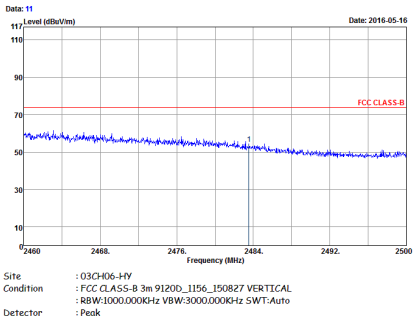
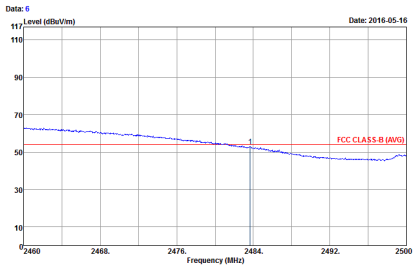
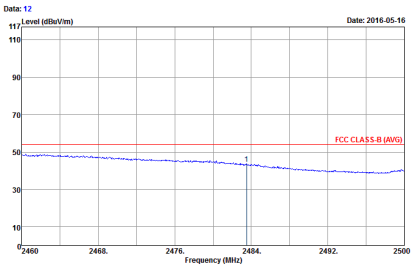
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT40 LF	
1+2	Horizontal	Vertical
QP / Peak		

<Non-TXBF Modes with POE Adapter>

2.4GHz 2400~2483.5MHz

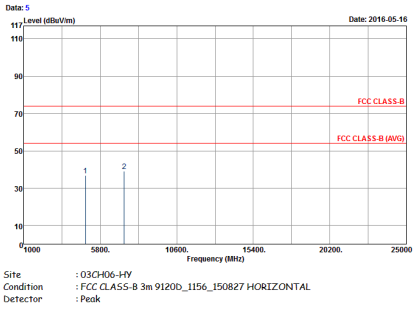
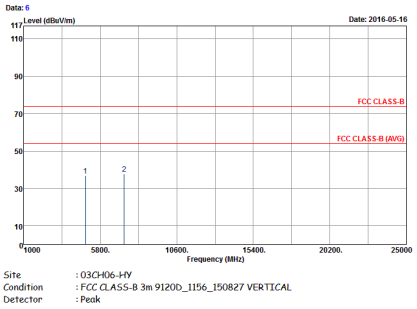
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - L	
1+2	Horizontal	Vertical
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH06-HY Condition : FCC CLASS-B 3m 9120D_1156_150827 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH06-HY Condition : FCC CLASS-B 3m 9120D_1156_150827 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH06-HY Condition : FCC CLASS-B (AVG) 3m 9120D_1156_150827 HORIZONTAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak	 Site : 03CH06-HY Condition : FCC CLASS-B (AVG) 3m 9120D_1156_150827 VERTICAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak

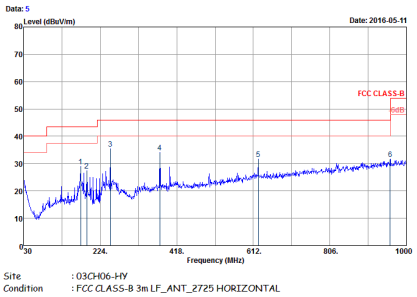
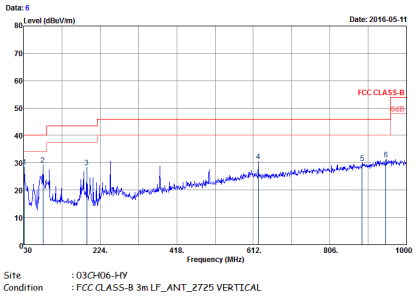
2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

2.4GHz WIFI 802.11n HT40 (LF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT40 LF	
1+2	Horizontal	Vertical
QP / Peak		

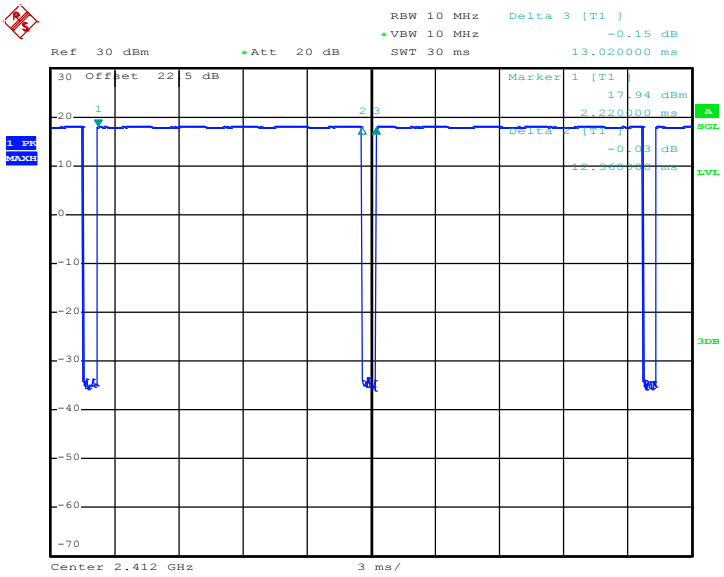
Appendix D. Duty Cycle Plots

<Non-TXBF Modes>

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1+2	2.4GHz 802.11b for Ant 1	94.93	12360	0.08	100Hz
1+2	2.4GHz 802.11b for Ant 2	94.95	12420	0.08	100Hz
1+2	2.4GHz 802.11g for Ant 1	94.06	2060	0.49	1kHz
1+2	2.4GHz 802.11g for Ant 2	94.95	2070	0.48	1kHz
1+2	2.4GHz 802.11n HT20 for Ant 1	90.61	984	1.02	3kHz
1+2	2.4GHz 802.11n HT20 for Ant 2	90.58	981	1.02	3kHz
1+2	2.4GHz 802.11n HT40 for Ant 1	82.55	492	2.03	3kHz
1+2	2.4GHz 802.11n HT40 for Ant 2	83.21	496	2.02	3kHz

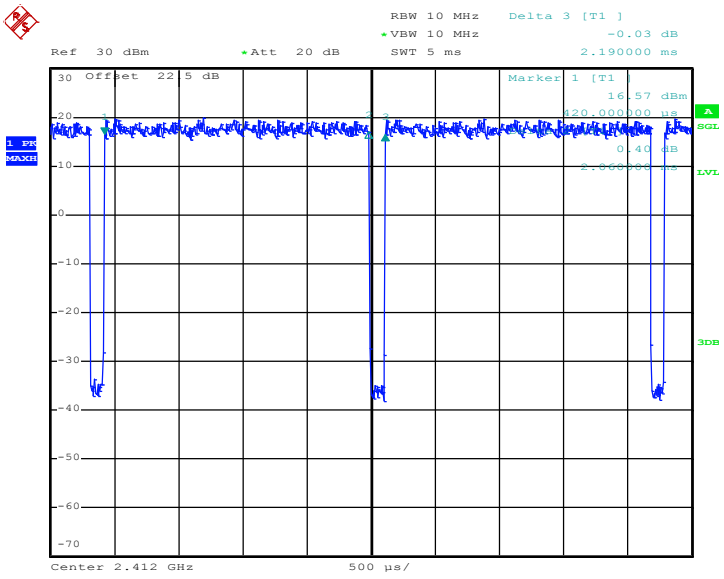
MIMO <Ant. 1+2(1)>

802.11b



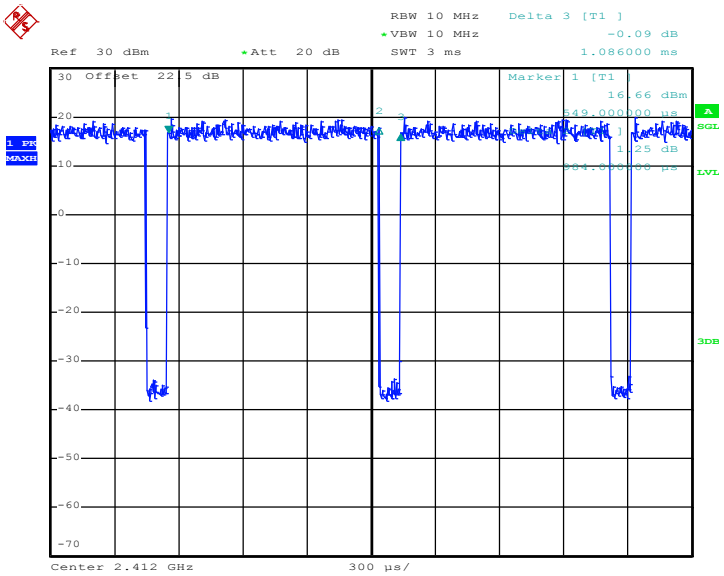
Date: 27.APR.2016 18:18:25

802.11g



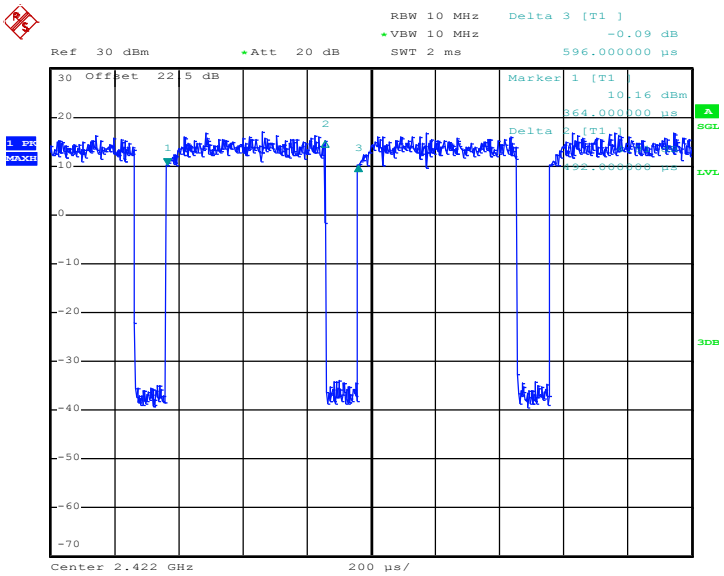
Date: 27.APR.2016 18:24:11

802.11n HT20



Date: 27.APR.2016 18:44:19

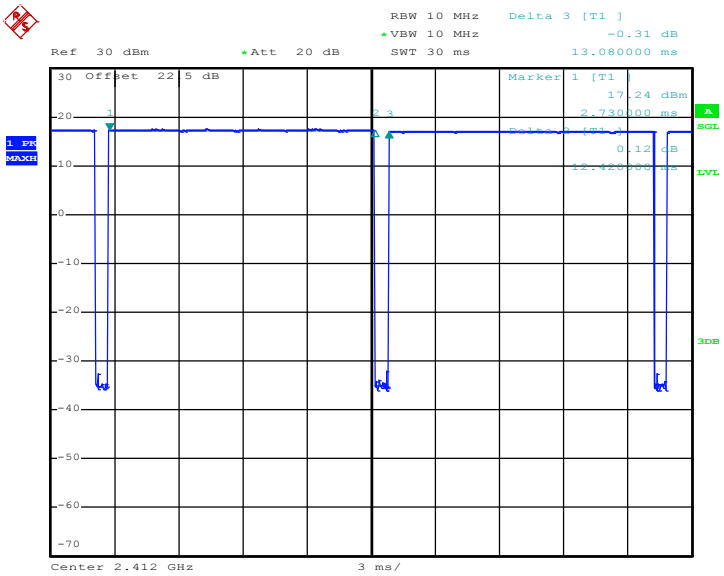
802.11n HT40



Date: 27.APR.2016 18:49:09

MIMO <Ant. 1+2(2)>

802.11b



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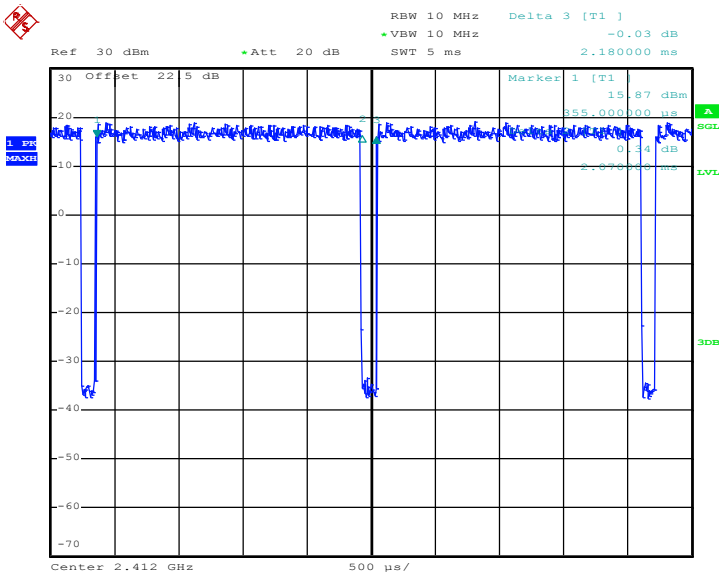
802.11g



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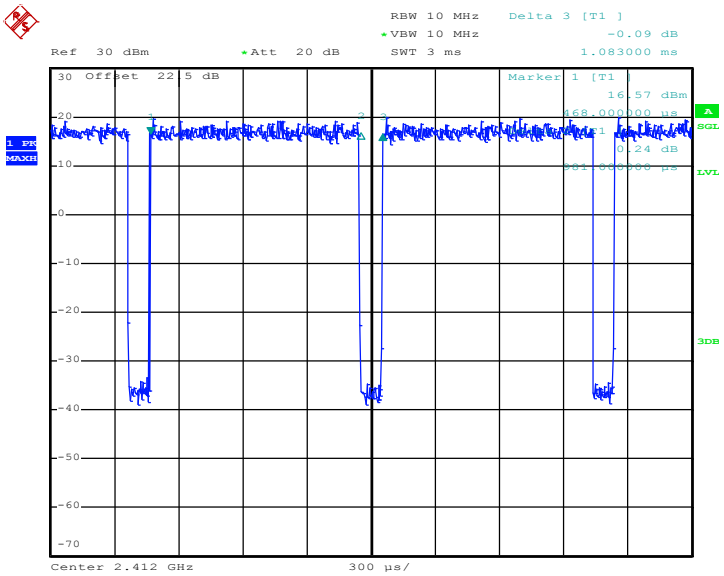
802.11n HT20



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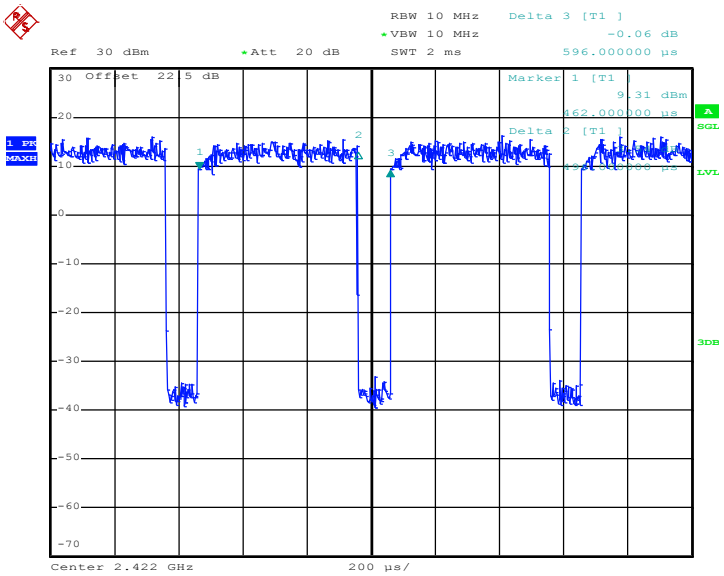
802.11n HT40



Date: 27.APR.2016 18:50:03

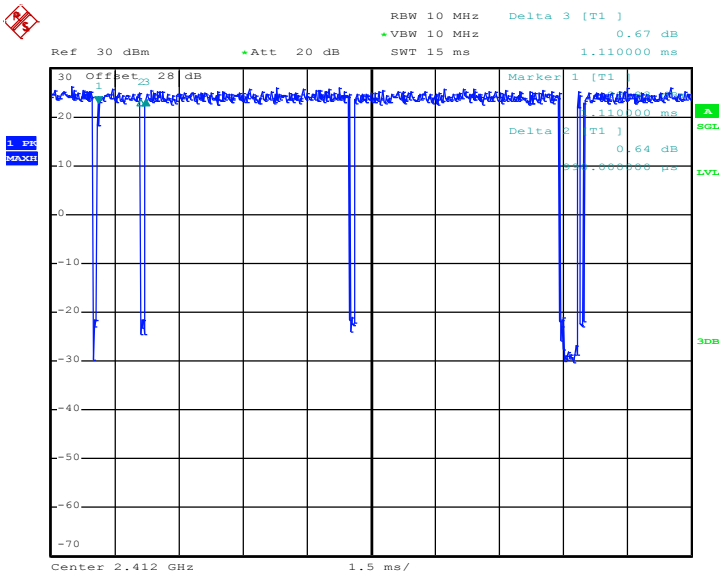
<TXBF Modes>

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1+2	2.4GHz 802.11n HT20	97.55*	990	1.01	2 kHz
1+2	2.4GHz 802.11n HT40	97.75*	1080	0.93	1 kHz

Note *: Duty cycle is not a constant value during the continuous beamforming transmission.

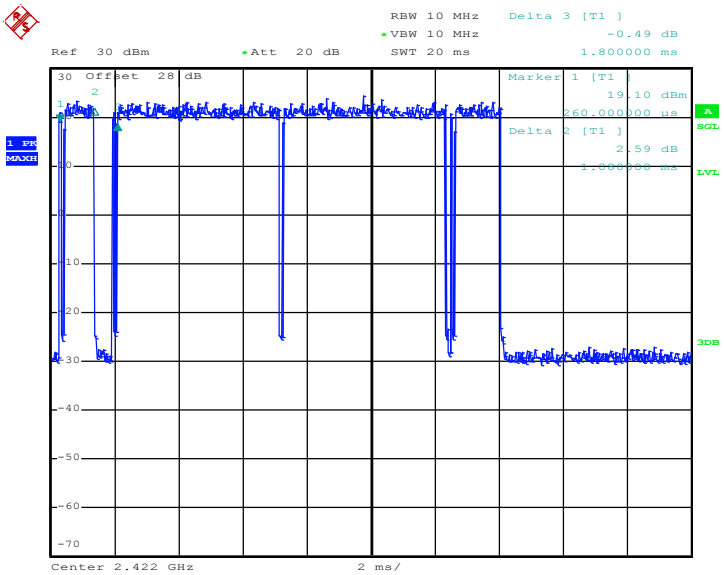
MIMO <Ant. 1+2>

802.11ac VHT20



Date: 19.JUL.2016 17:06:16

802.11ac VHT40



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