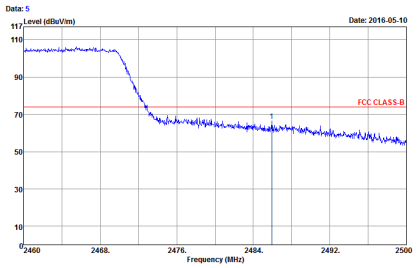
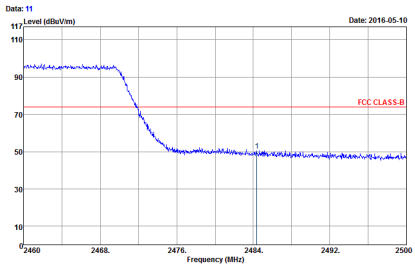
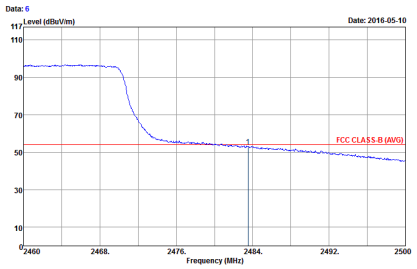
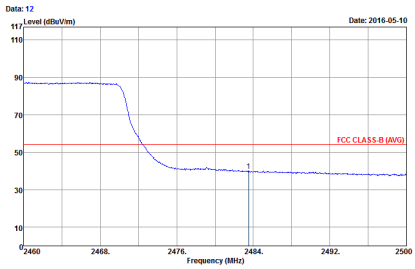
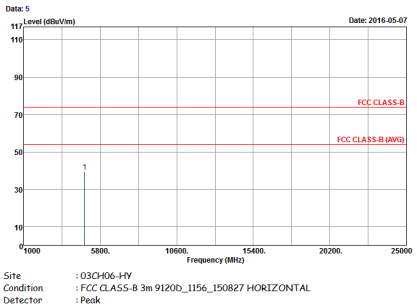
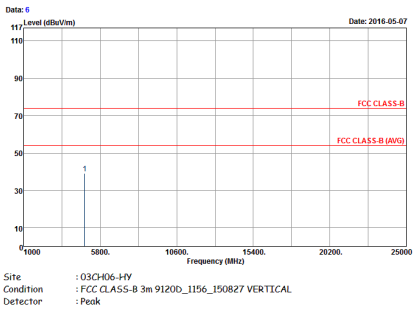
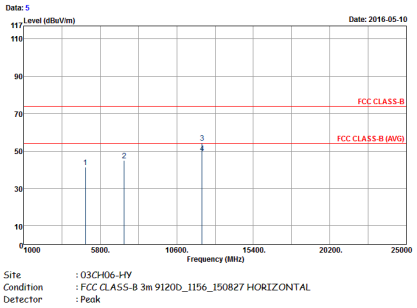
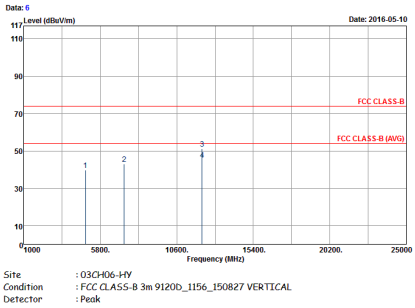
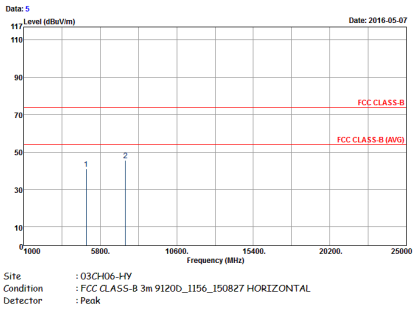
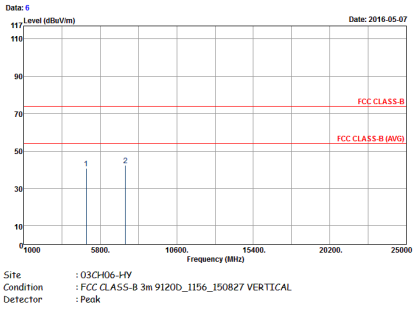
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH06-HY Condition : FCC CLASS-B 3m 9120D_1156_150827 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH06-HY Condition : FCC CLASS-B 3m 9120D_1156_150827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

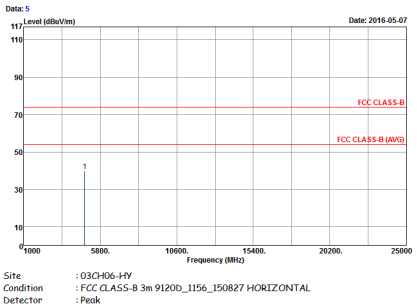
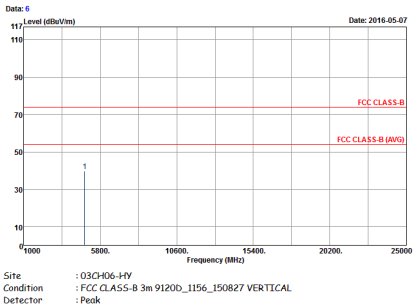
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.		

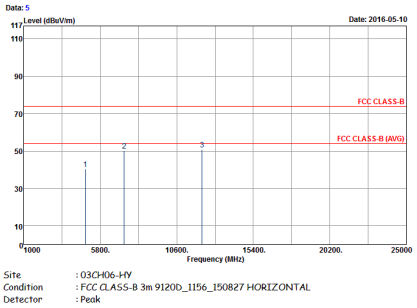
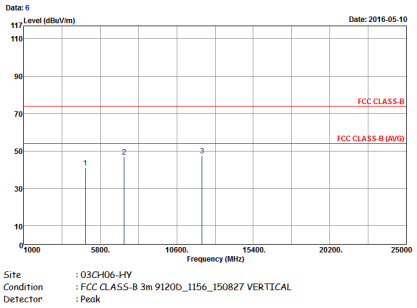
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

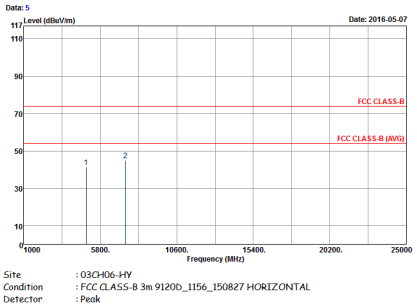
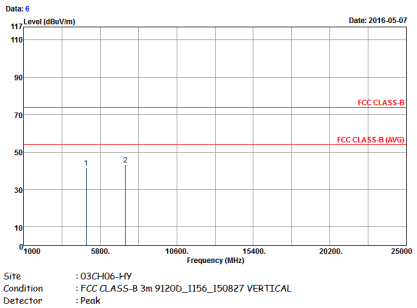
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

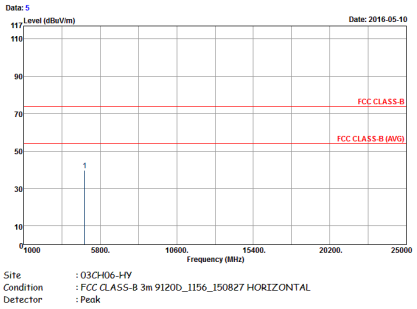
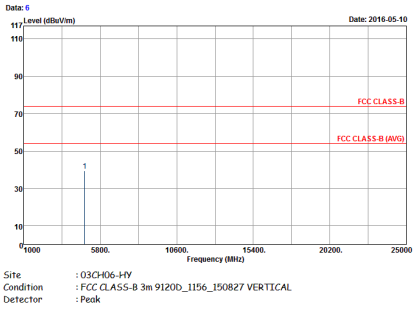
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.		

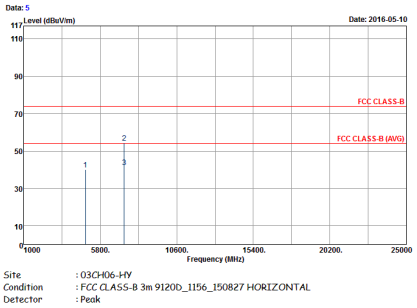
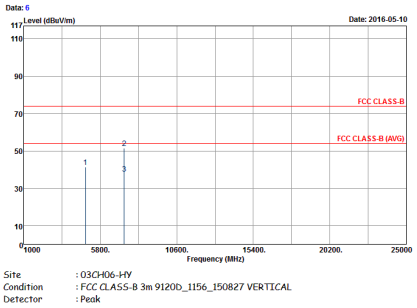
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

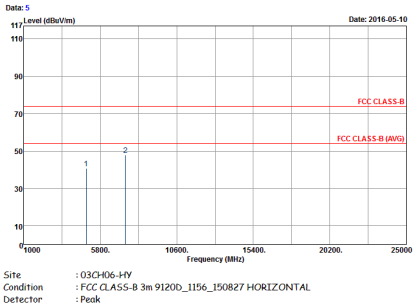
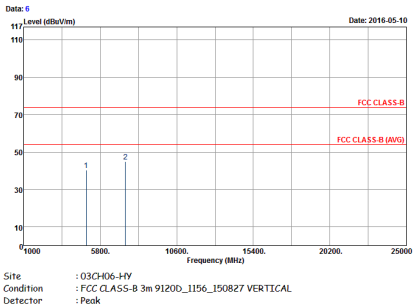
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

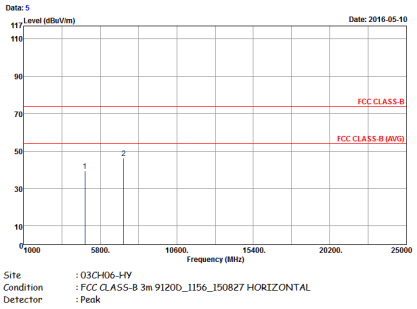
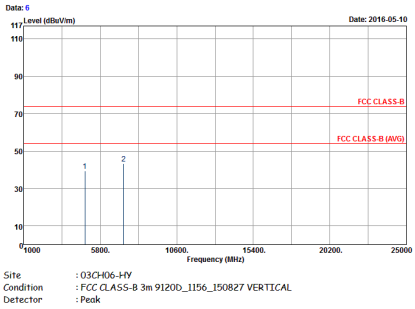
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.		

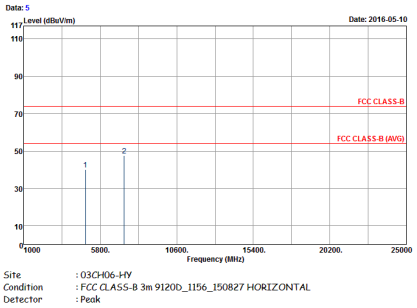
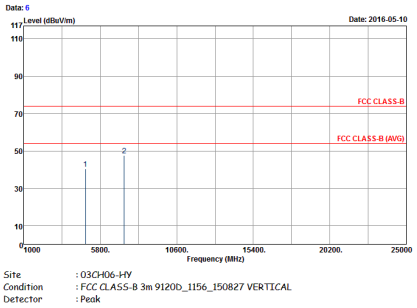
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

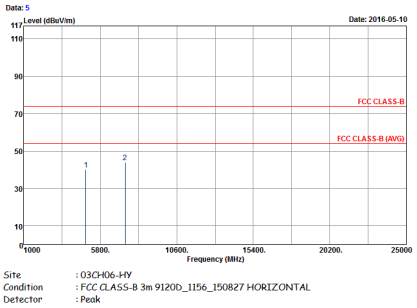
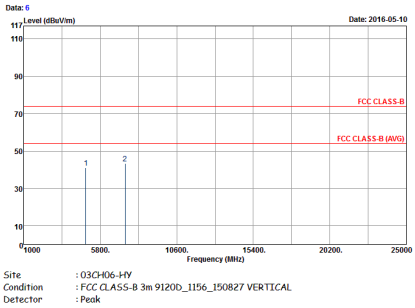
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.		

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.		

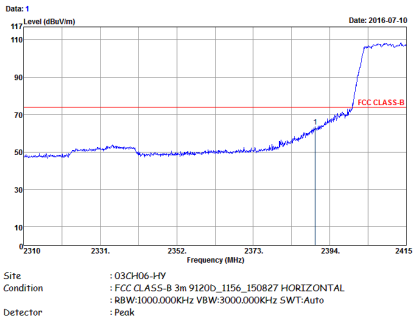
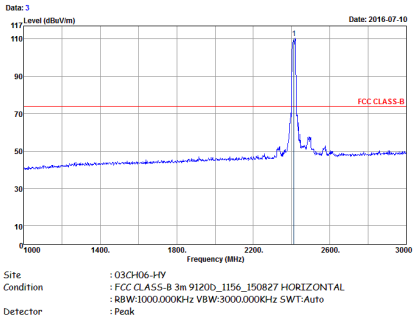
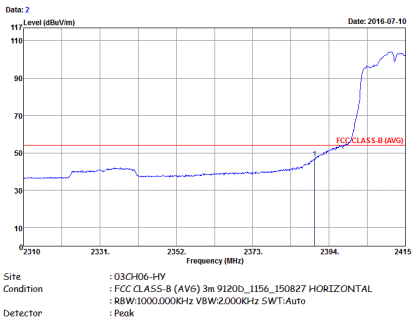
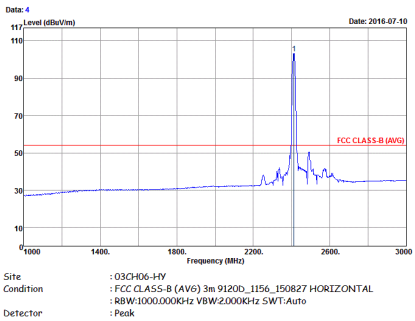
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

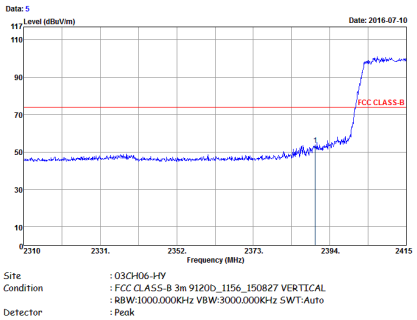
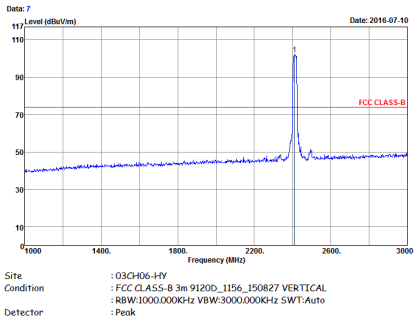
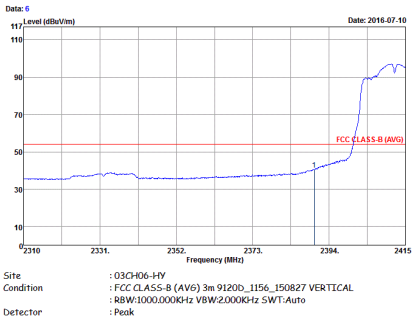
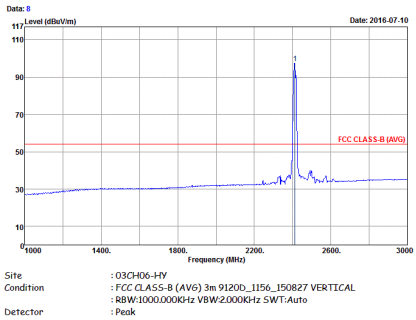
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH09 2452MHz	
1+2	Horizontal	Vertical
Peak Avg.		

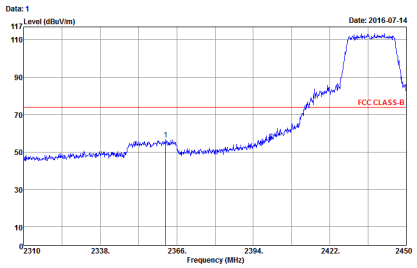
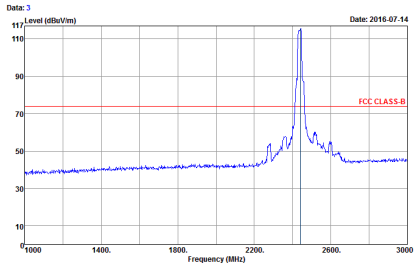
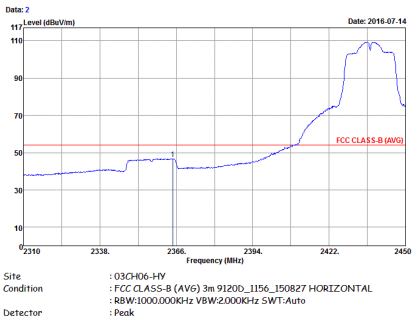
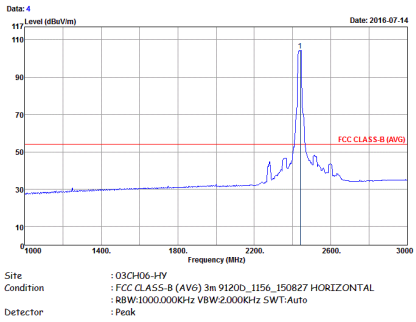
<TXBF Modes with AC Adapter>

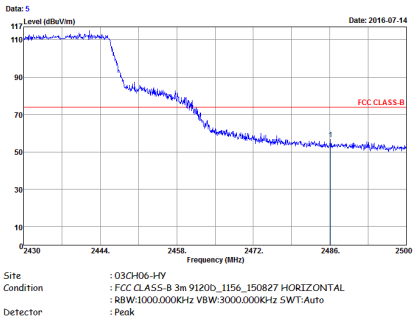
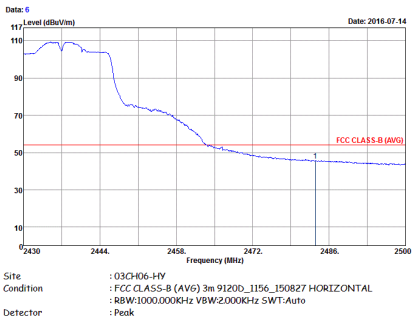
2.4GHz 2400~2483.5MHz

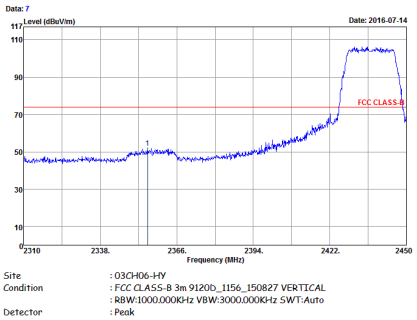
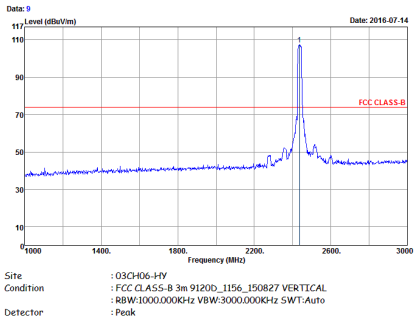
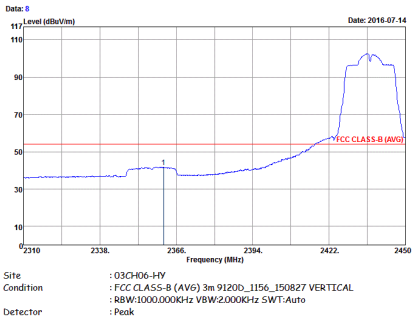
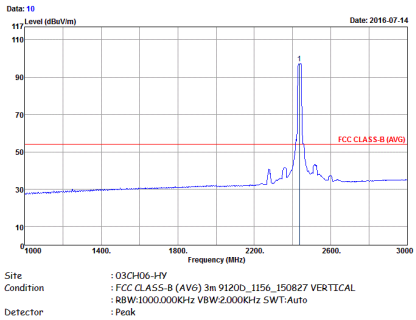
WIFI 802.11n HT20 (Band Edge @ 3m)

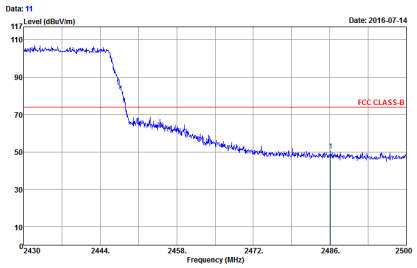
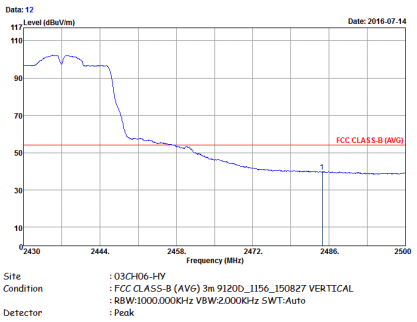
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

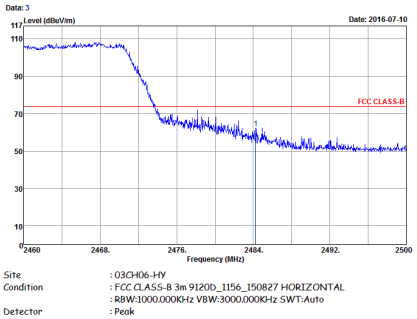
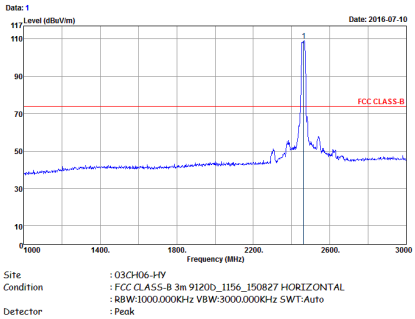
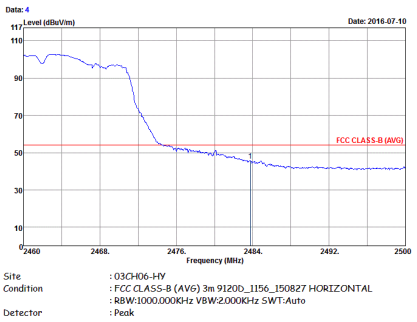
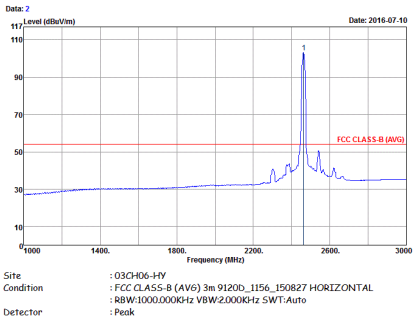
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		

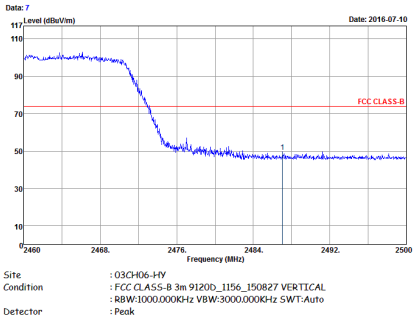
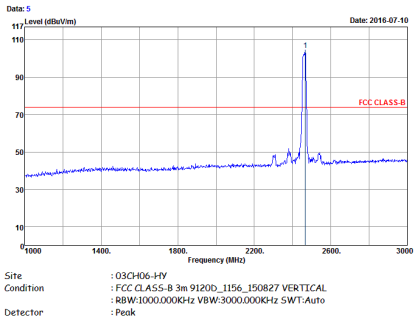
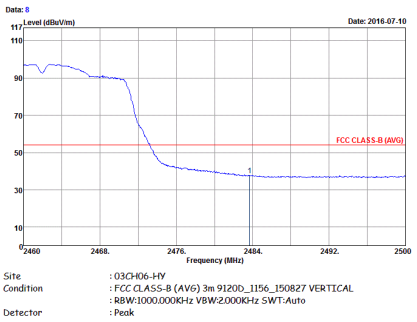
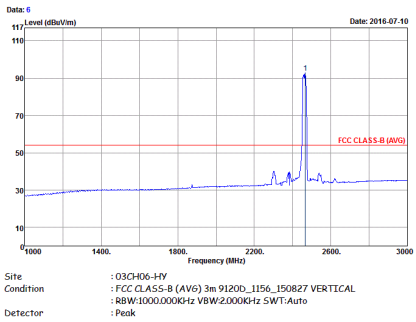
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

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.		

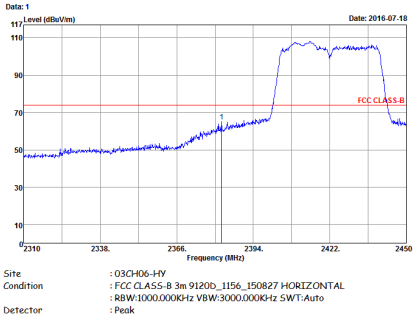
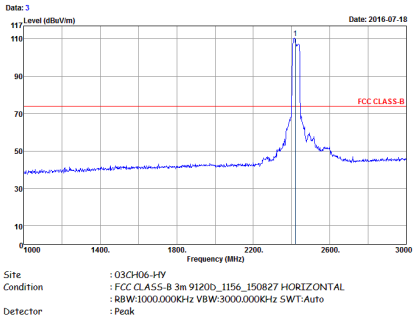
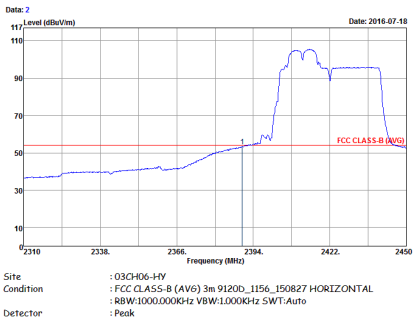
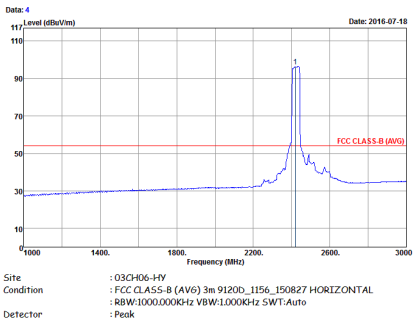
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1+2	Vertical	Fundamental
Peak		
Avg.		

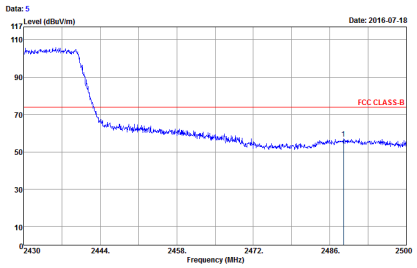
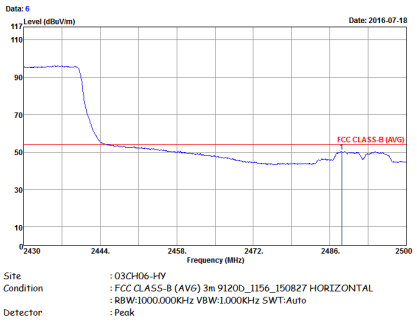
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

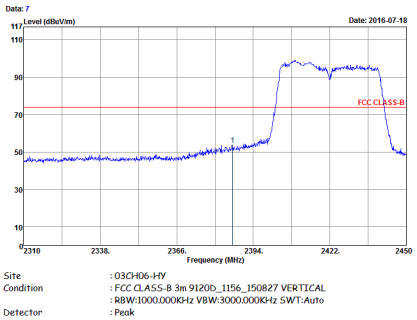
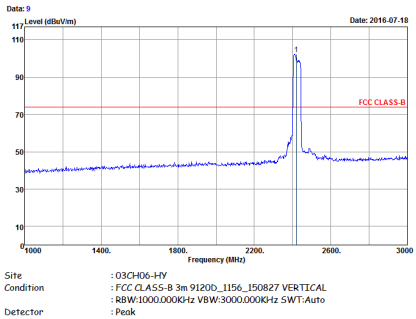
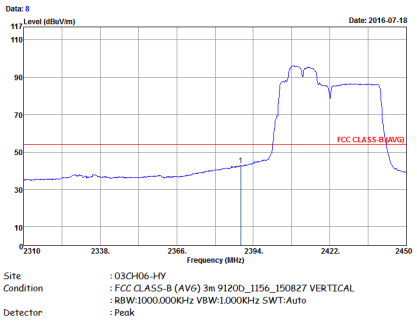
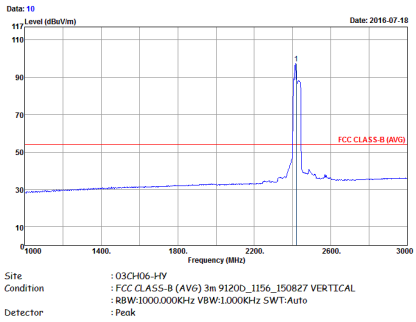
WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		

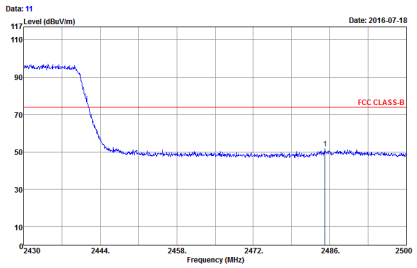
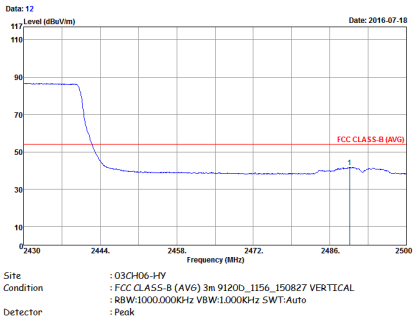
2.4GHz 2400~2483.5MHz

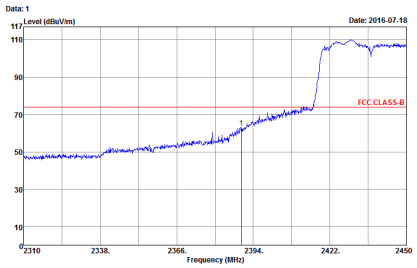
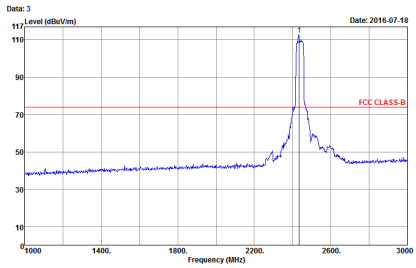
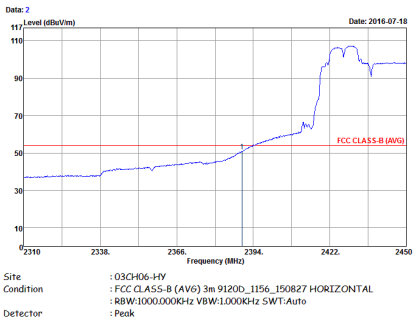
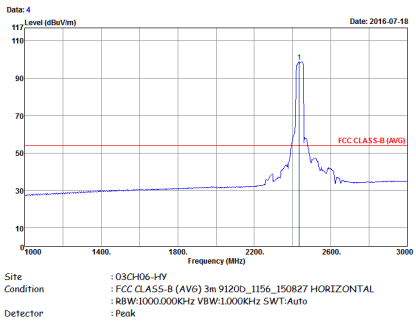
WIFI 802.11n HT40 (Band Edge @ 3m)

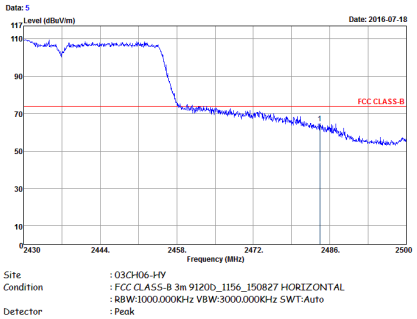
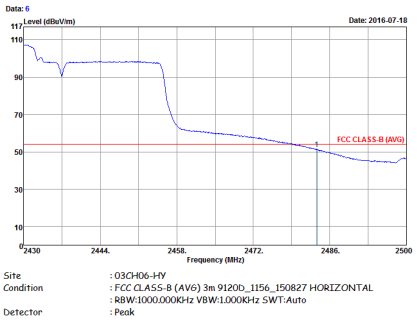
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

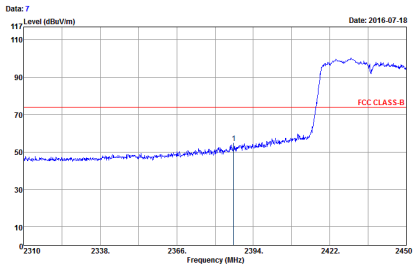
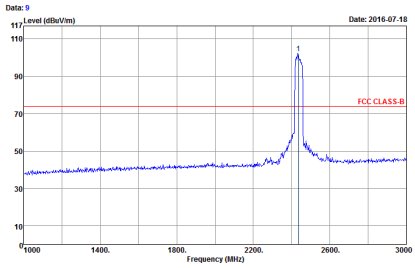
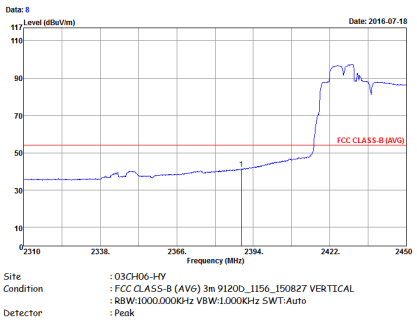
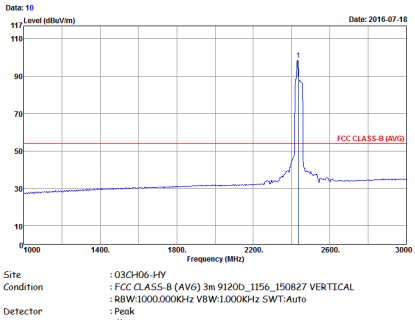
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - R	
1+2	Horizontal	Fundamental
Peak		
Avg.		

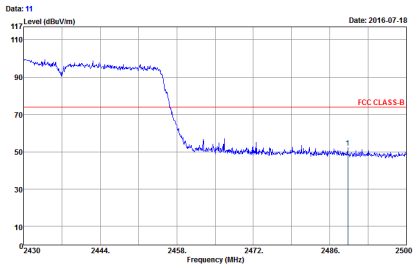
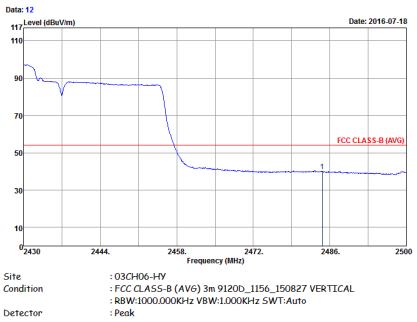
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		

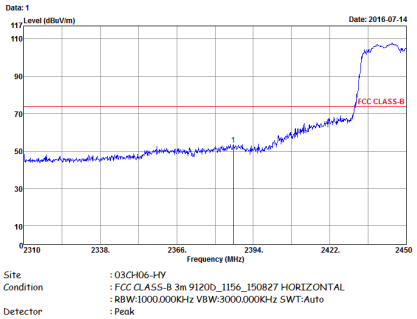
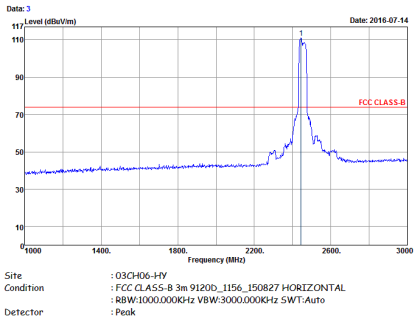
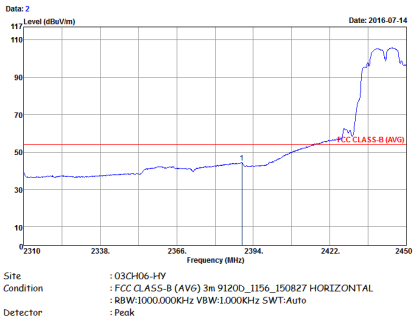
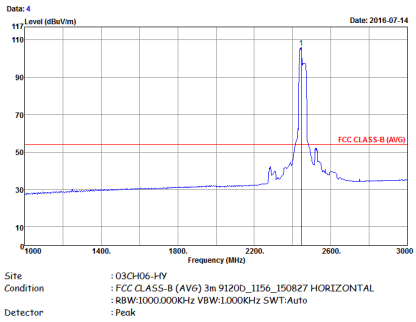
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - R	
1+2	Vertical	Fundamental
Peak		
Avg.		

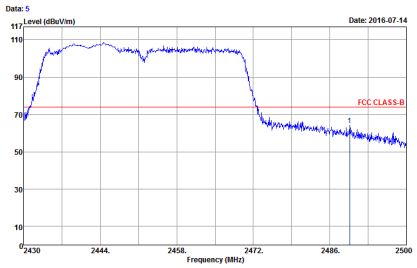
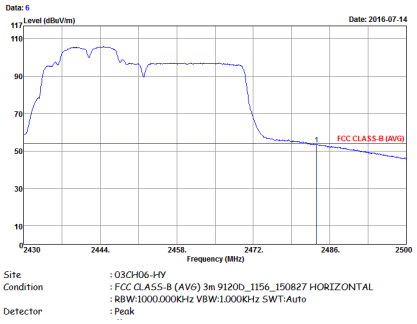
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

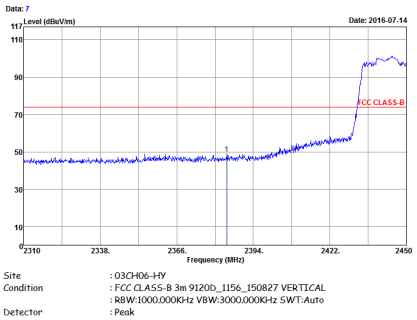
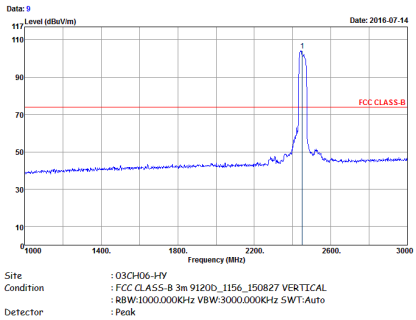
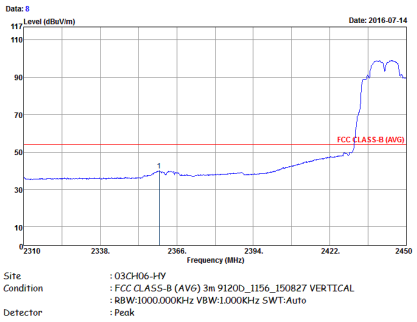
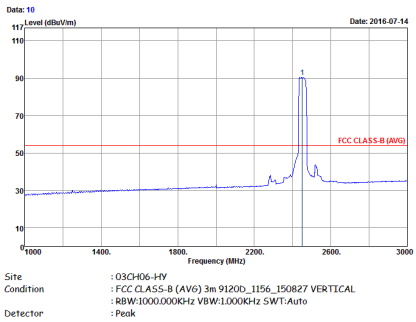
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - R	
1+2	Horizontal	Fundamental
Peak		
Avg.		

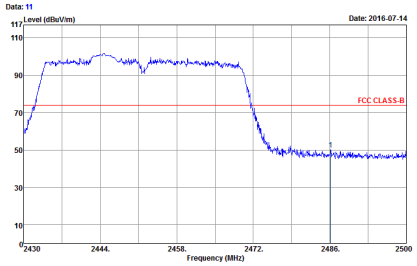
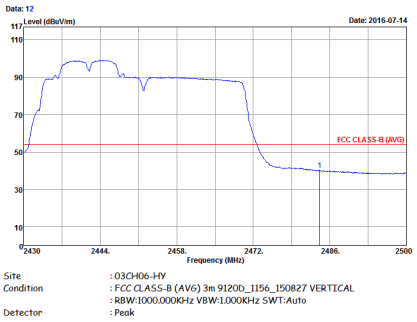
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		

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.		

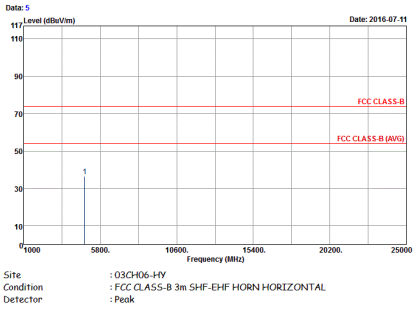
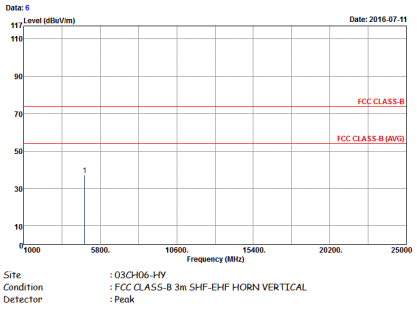
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - R	
1+2	Horizontal	Fundamental
Peak		
Avg.		

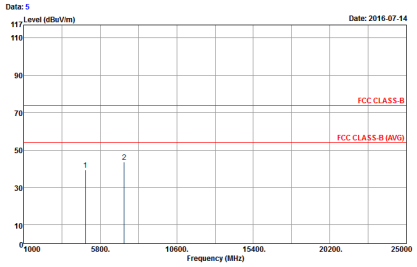
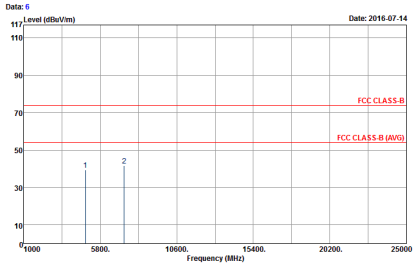
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		

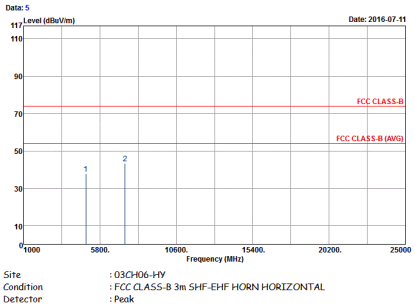
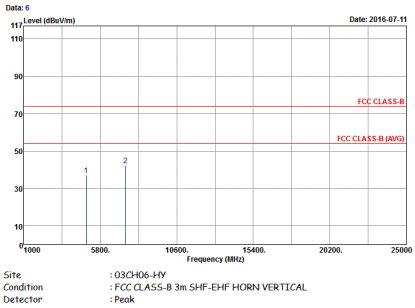
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - R	
1+2	Vertical	Fundamental
Peak		
Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

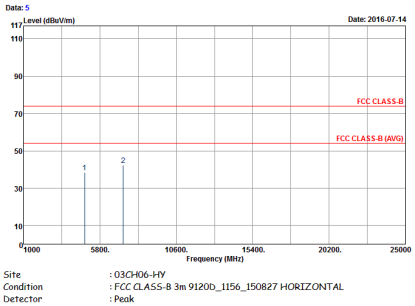
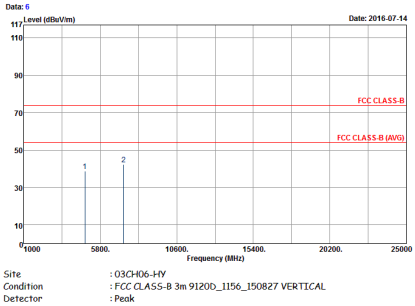
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.		

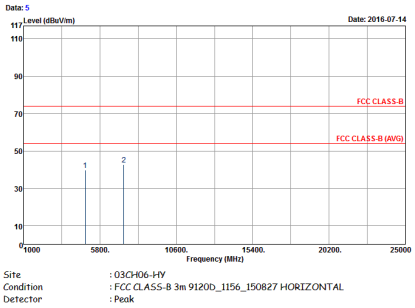
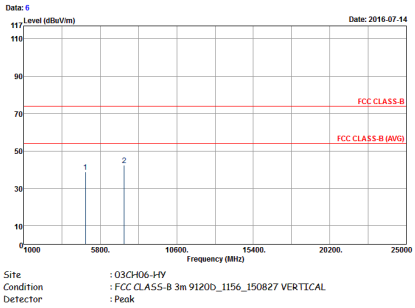
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

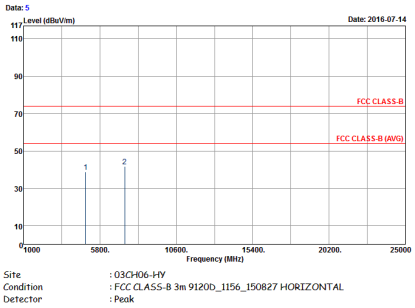
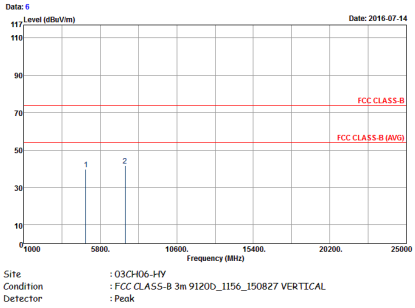
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.		

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.		

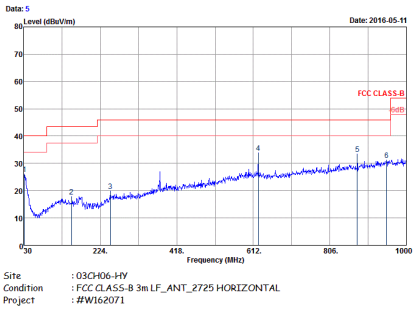
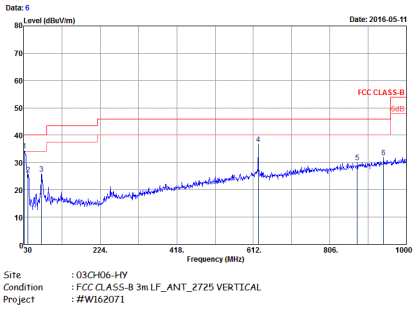
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

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

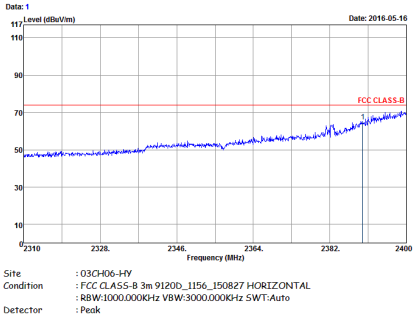
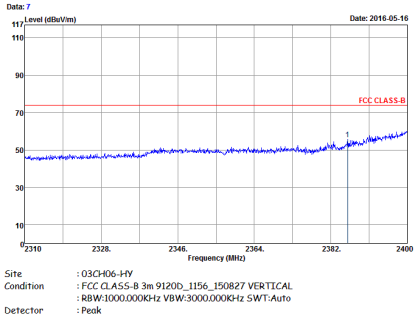
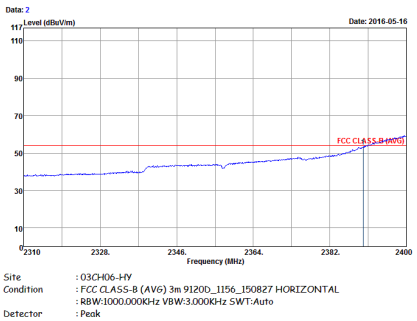
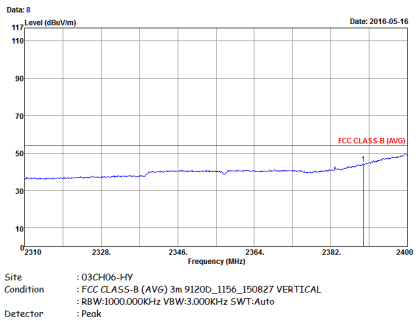
2.4GHz WIFI 802.11n HT40 (LF)

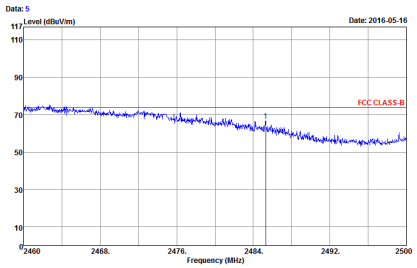
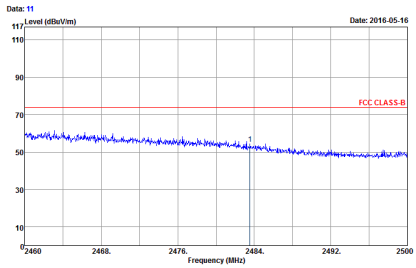
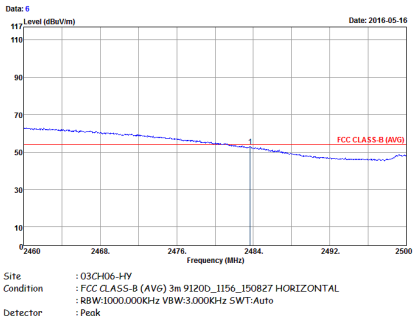
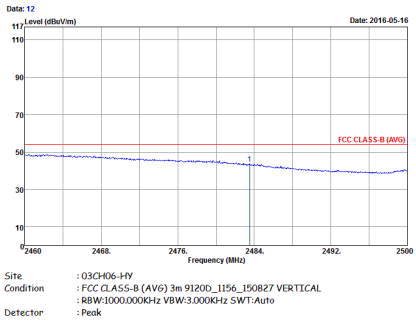
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT40 LF	
1+2	Horizontal	Vertical
QP / Peak		

<Non-TXBF Modes with POE Adapter>

2.4GHz 2400~2483.5MHz

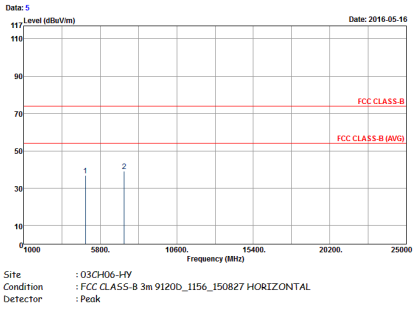
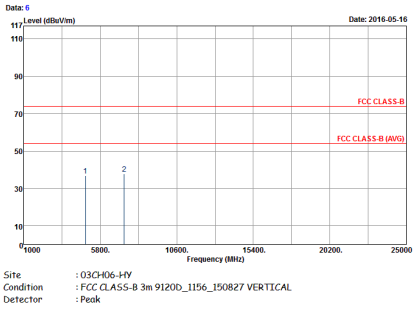
WIFI 802.11n HT40 (Band Edge @ 3m)

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		
Avg.		

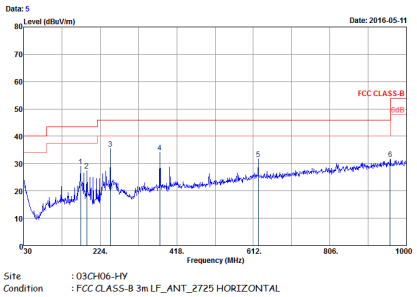
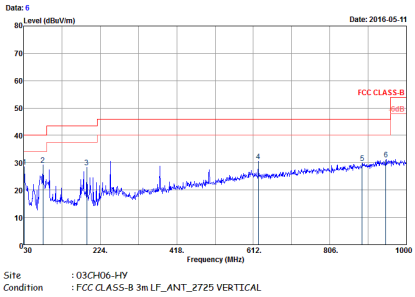
2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

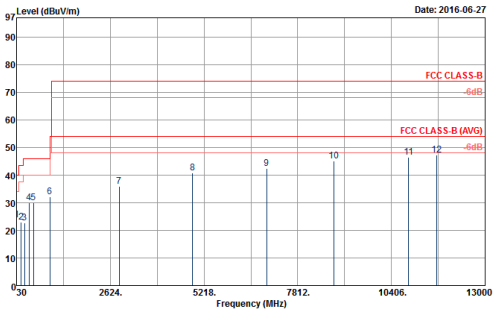
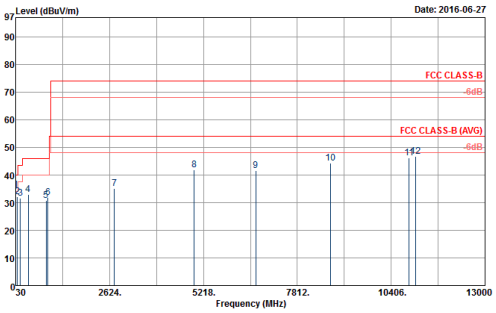
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

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		

Test Engineer :	Daniel Lee	Temperature :	23~24℃
		Relative Humidity :	51~52%

Mode	Horizontal	Vertical
RX	 Site : 03CH06-HY Condition : FCC CLASS-B 3m 9120D_1156_150827 HORIZONTAL Power : 120Vac/60Hz Memo : Mode 1 Plane : Y 1 30.27 23.86 -16.14 40.00 28.06 25.70 1.90 31.80 --- --- Peak 2 158.52 23.10 -20.40 43.50 35.85 16.84 2.13 31.72 --- --- Peak 3 250.05 22.77 -23.23 46.00 33.56 18.70 2.21 31.70 --- --- Peak 4 374.90 29.98 -16.02 46.00 37.63 21.71 2.38 31.74 --- --- Peak 5 500.20 30.11 -15.89 46.00 35.00 24.10 2.90 31.89 --- --- Peak 6 956.60 32.07 -13.93 46.00 29.30 30.70 3.06 30.99 100 133 Peak 7 2868.00 36.04 -37.96 74.00 61.03 28.21 7.59 60.79 --- --- Peak 8 4902.00 40.85 -33.15 74.00 57.68 31.36 11.11 59.30 --- --- Peak 9 6950.00 42.32 -31.68 74.00 55.65 35.18 11.80 60.31 --- --- Peak 10 8822.00 45.25 -28.75 74.00 53.31 37.41 14.50 59.97 --- --- Peak 11 10886.00 46.56 -27.44 74.00 50.68 40.42 14.87 59.41 --- --- Peak 12 11650.00 47.21 -26.79 74.00 49.60 39.87 16.22 58.48 100 0 Peak	 Site : 03CH06-HY Condition : FCC CLASS-B 3m 9120D_1156_150827 VERTICAL Power : 120Vac/60Hz Memo : Mode 1 Plane : Y 1 36.21 34.71 -5.29 40.00 42.29 22.32 1.89 31.79 100 123 Peak 2 74.82 32.28 -7.72 40.00 48.94 12.85 2.23 31.74 --- --- Peak 3 159.06 31.59 -11.91 43.50 44.41 16.77 2.13 31.72 --- --- Peak 4 374.90 33.01 -12.99 46.00 40.66 21.71 2.38 31.74 --- --- Peak 5 874.70 30.94 -15.06 46.00 29.97 29.25 3.35 31.63 --- --- Peak 6 923.00 31.81 -14.19 46.00 29.88 30.01 3.23 31.31 --- --- Peak 7 2762.00 35.18 -38.82 74.00 60.44 27.99 7.46 60.71 --- --- Peak 8 4964.00 42.00 -32.00 74.00 58.40 31.44 11.22 59.06 --- --- Peak 9 6668.00 41.69 -32.31 74.00 55.33 34.47 12.26 60.37 --- --- Peak 10 8728.00 44.29 -29.71 74.00 52.49 37.27 14.35 59.82 --- --- Peak 11 10906.00 46.13 -27.87 74.00 50.12 40.43 14.94 59.36 --- --- Peak 12 11078.00 46.80 -27.20 74.00 50.12 40.45 15.21 58.98 100 0 Peak

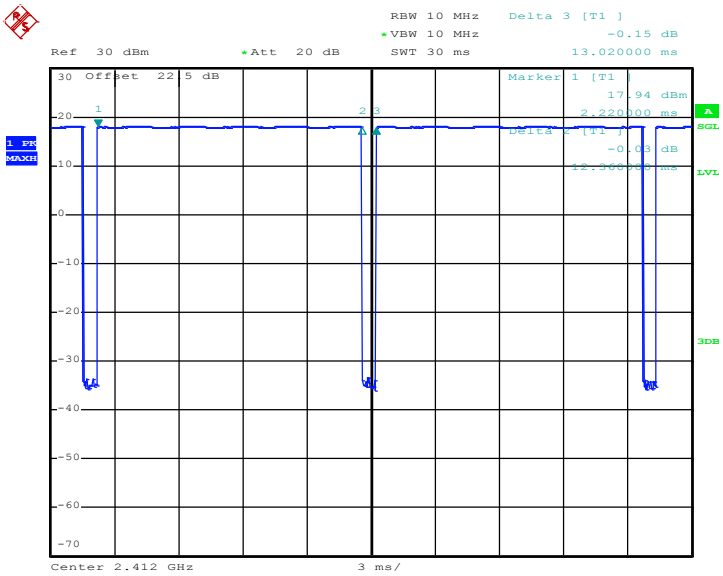
Appendix D. Duty Cycle Plots

<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

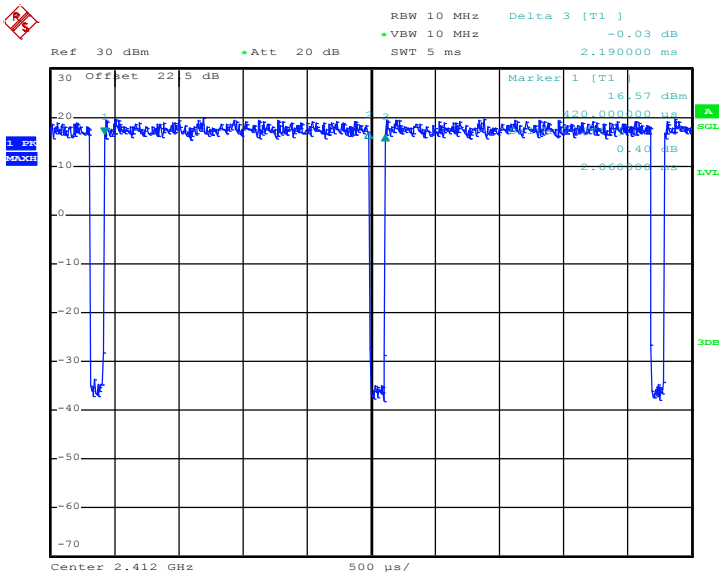
MIMO <Ant. 1+2(1)>

802.11b



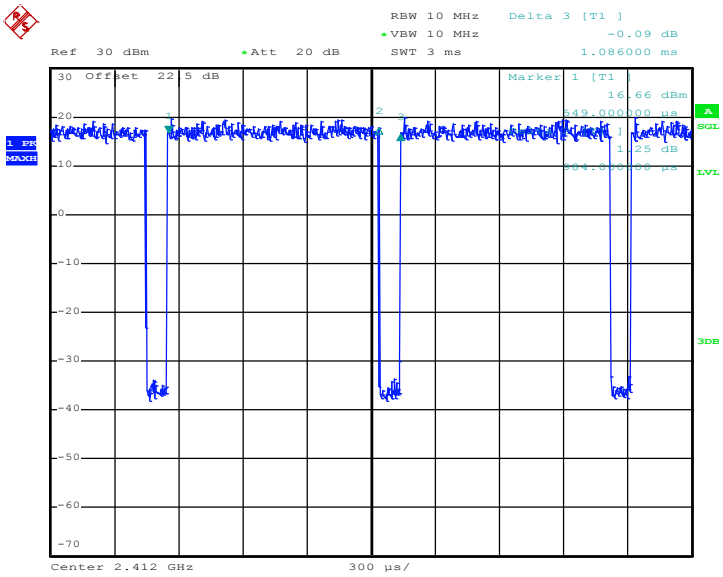
Date: 27.APR.2016 18:18:25

802.11g



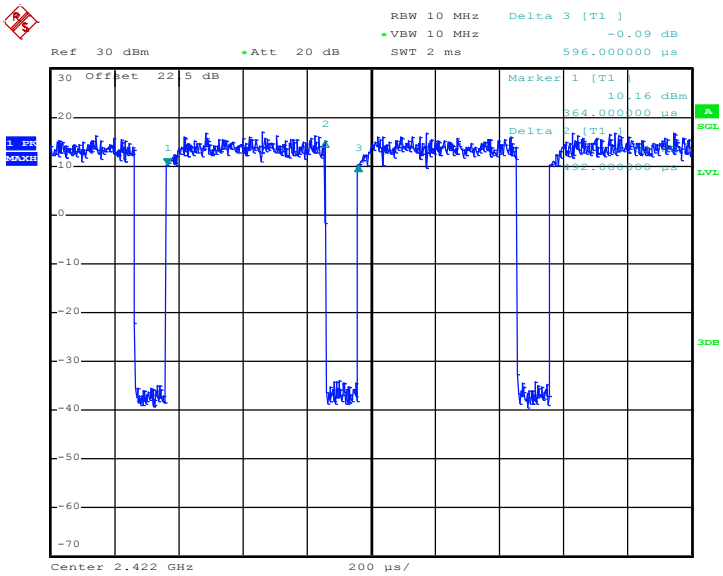
Date: 27.APR.2016 18:24:11

802.11n HT20



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

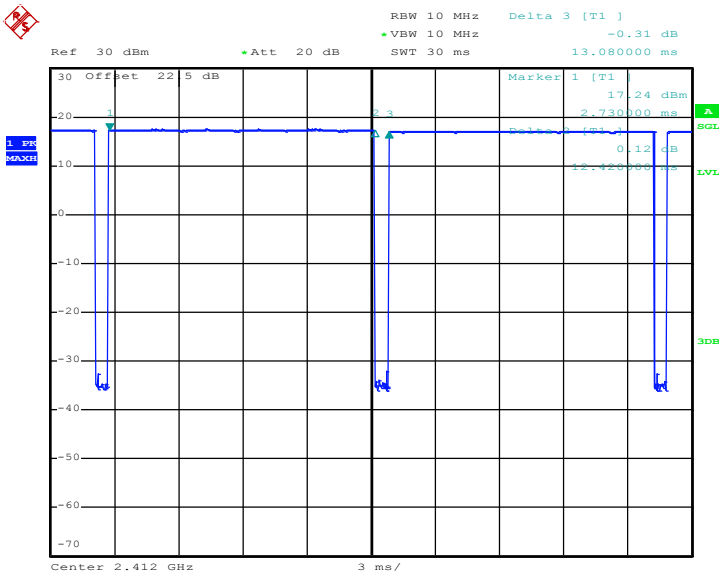
802.11n HT40



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

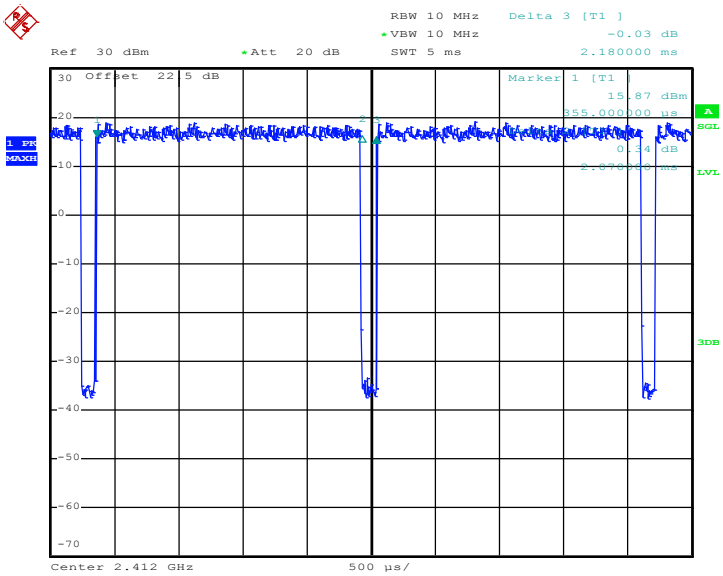
MIMO <Ant. 1+2(2)>

802.11b



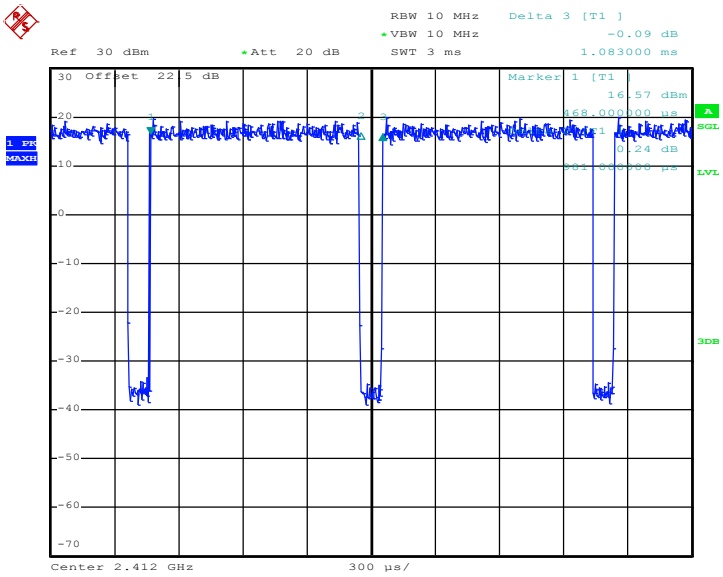
Date: 27.APR.2016 18:19:34

802.11g



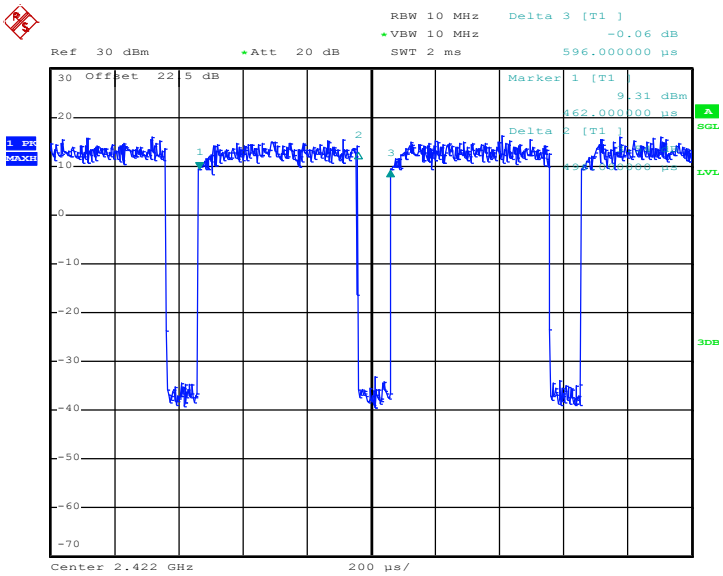
Date: 27.APR.2016 18:23:18

802.11n HT20



Date: 27.APR.2016 18:46:50

802.11n HT40



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

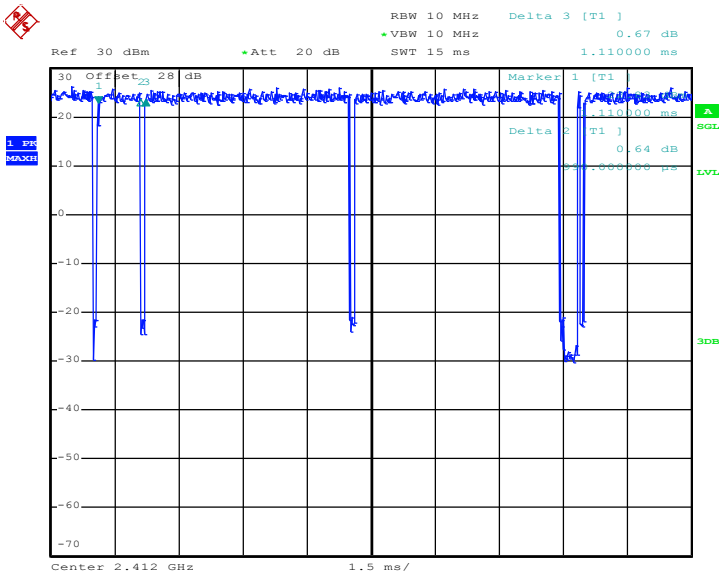
<TXBF Modes>

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.

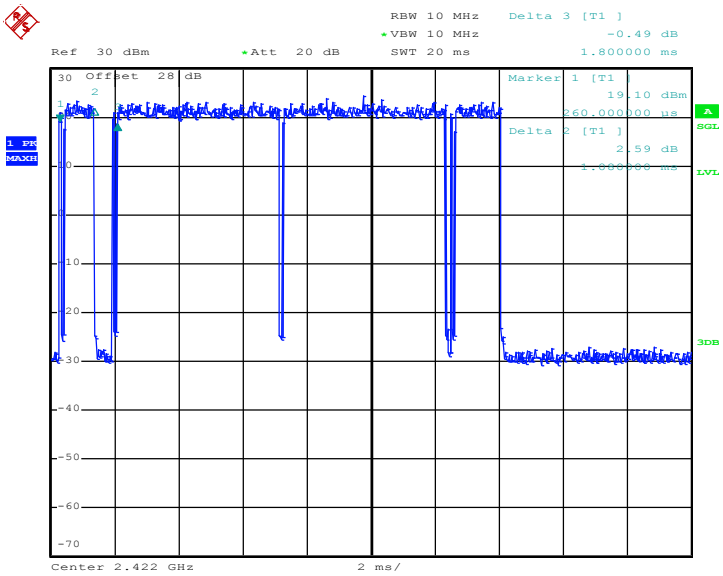
MIMO <Ant. 1+2>

802.11ac VHT20



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

802.11ac VHT40



Date: 19.JUL.2016 16:57:52