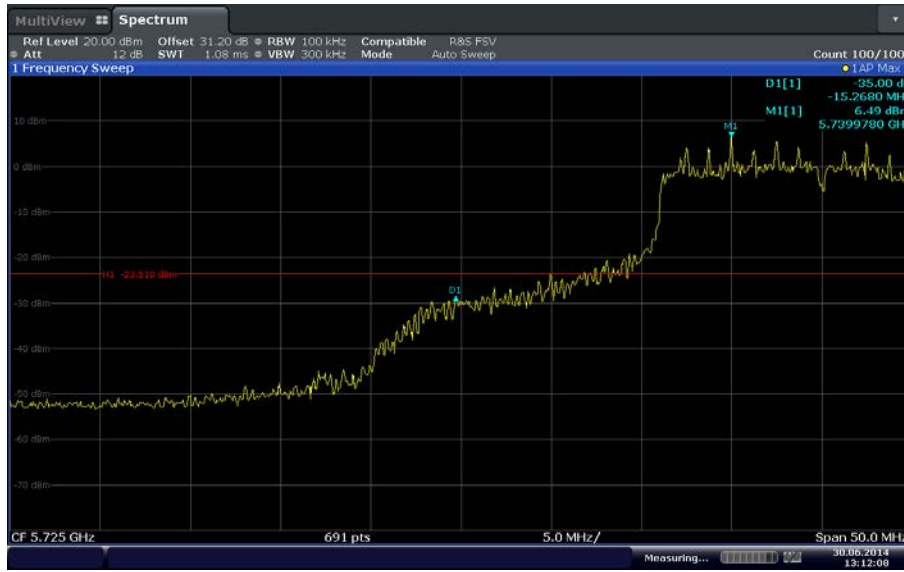


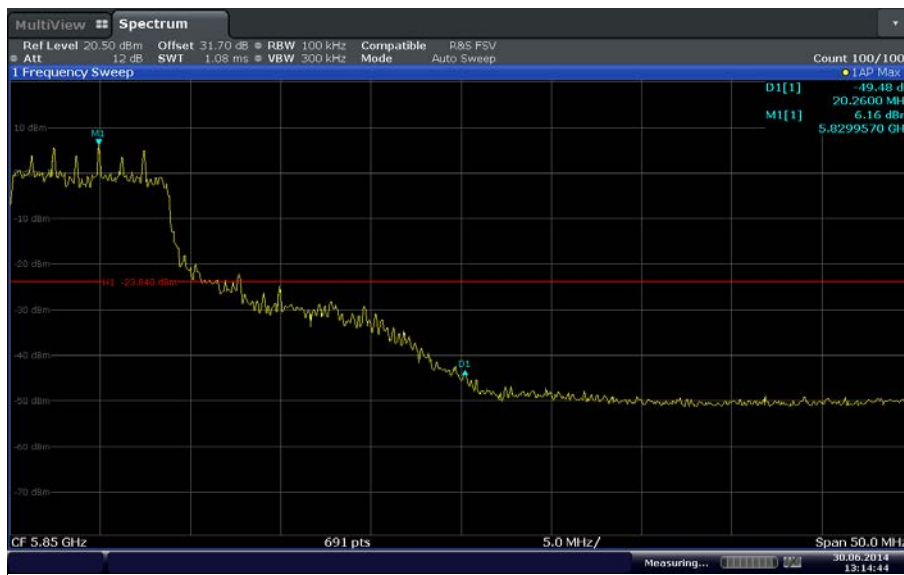


802.11n (HT20)\_Lower Band Edge of 5725 MHz Band



Date: 30 JUN 2014 13:12:08

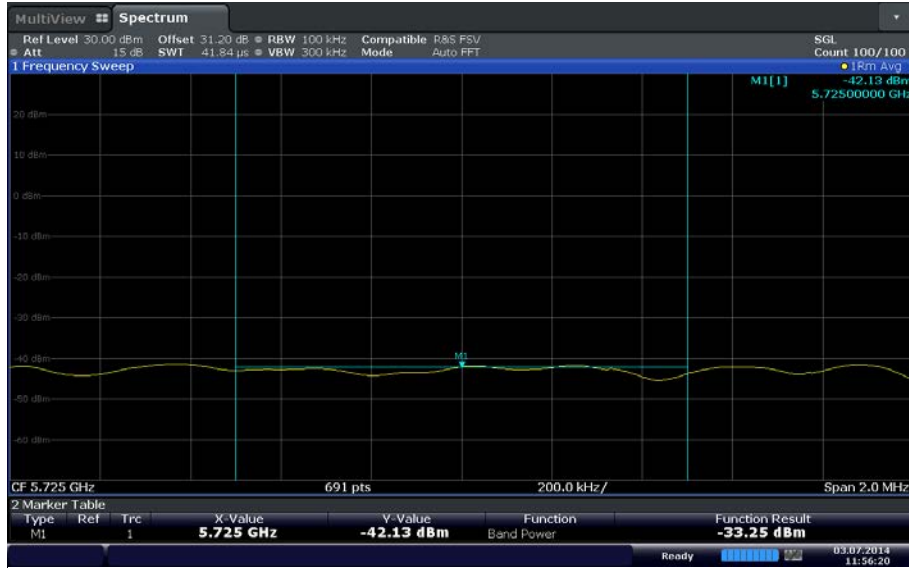
802.11n (HT20)\_Higher Band Edge of 5850 MHz Band



Date: 30 JUN 2014 13:14:45

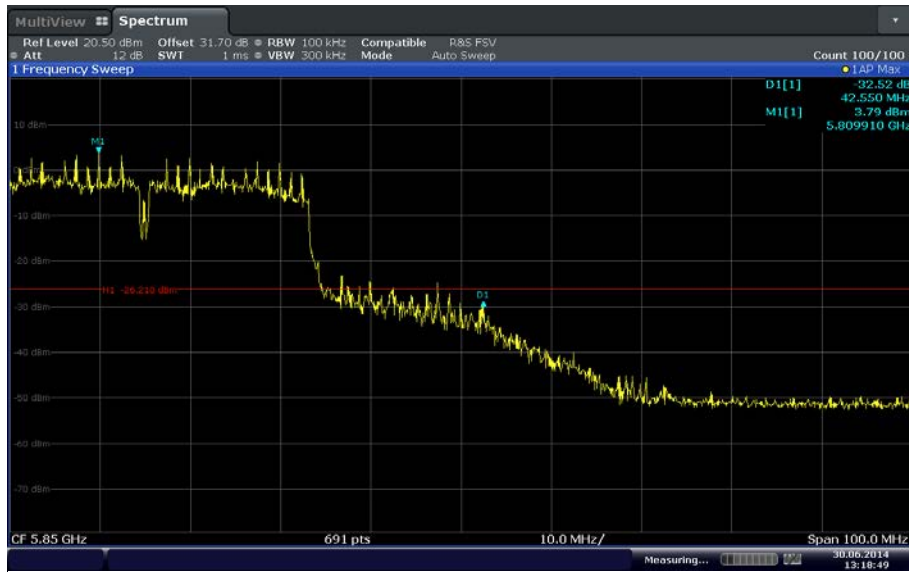


**802.11n (HT40)\_Lower Band Edge of 5725 MHz Band (Integration test method)**



Date: 3 JUL 2014 11:56:20

**802.11n (HT40)\_Higher Band Edge of 5850 MHz Band**



Date: 30 JUN 2014 13:18:49



## **2.6 SPURIOUS RADIATED EMISSIONS**

### **2.6.1 Specification Reference**

Part 15 Subpart C §15.247(d)

### **2.6.2 Standard Applicable**

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

### **2.6.3 Equipment Under Test and Modification State**

Serial No: SS220414800525 / Test Configuration B

### **2.6.4 Date of Test/Initial of test personnel who performed the test**

June 28, 30, July 01, 02, and 03, 2014 / AC

### **2.6.5 Test Equipment Used**

The major items of test equipment used for the above tests are identified in Section 3.1.

### **2.6.6 Environmental Conditions / Test Location**

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature	25.8°C
Relative Humidity	47.3%
ATM Pressure	98.7 kPa

### **2.6.7 Additional Observations**

- This is a radiated test. The spectrum was searched from 30MHz to the 10<sup>th</sup> harmonic.
- There are no emissions found that do not comply to the restricted bands defined in FCC Part 15 Subpart C, 15.205 or Part 15.247(d).
- Test procedure is consistent with those specified under C63.10.
- Measurement was done using EMC32 automated software. Reported level is the actual level with all the correction factors factored in. Correction Factor column is for informational purposes only. See Section 2.7.8 for sample computation.



**2.6.8 Sample Computation (Radiated Emission)**

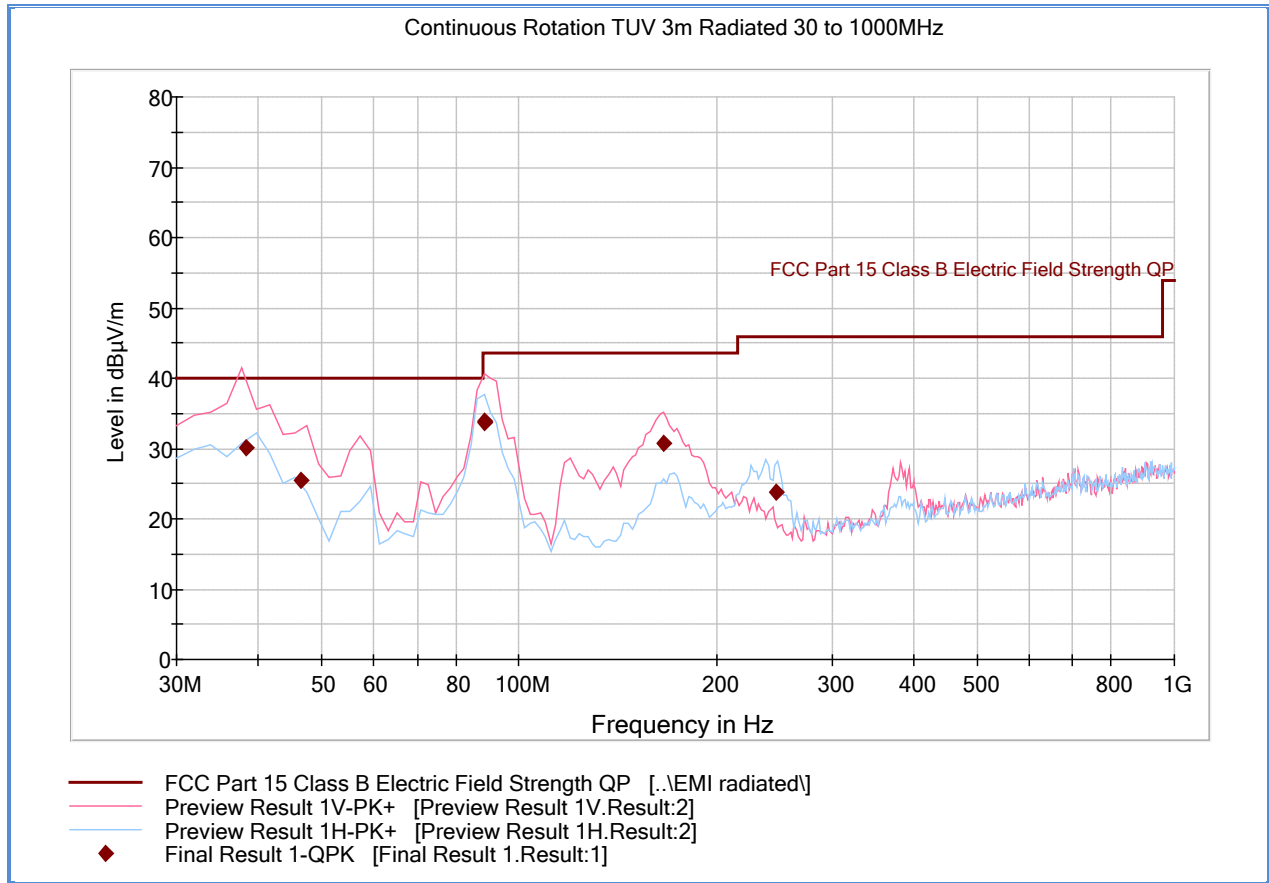
Measuring equipment raw measurement (db $\mu$ V) @ 30 MHz		24.4
Correction Factor (dB)	Asset# 1066 (cable)	0.3
	Asset# 1172 (cable)	0.3
	Asset# 1016 (preamplifier)	-30.7
	Asset# 1175(cable)	0.3
	Asset# 1002 (antenna)	17.2
<b>Reported QuasiPeak Final Measurement (db<math>\mu</math>V/m) @ 30MHz</b>		<b>11.8</b>

**2.6.9 Test Results**

See attached plots.



**2.6.10 Test Results Below 1GHz (Tx – MIMO Mode)\_Worst Case Configuration  
 802.11n 2.4GHz(HT20)\_Mid(6) Channel (2437MHz)\_6.5Mbps Data Rate**



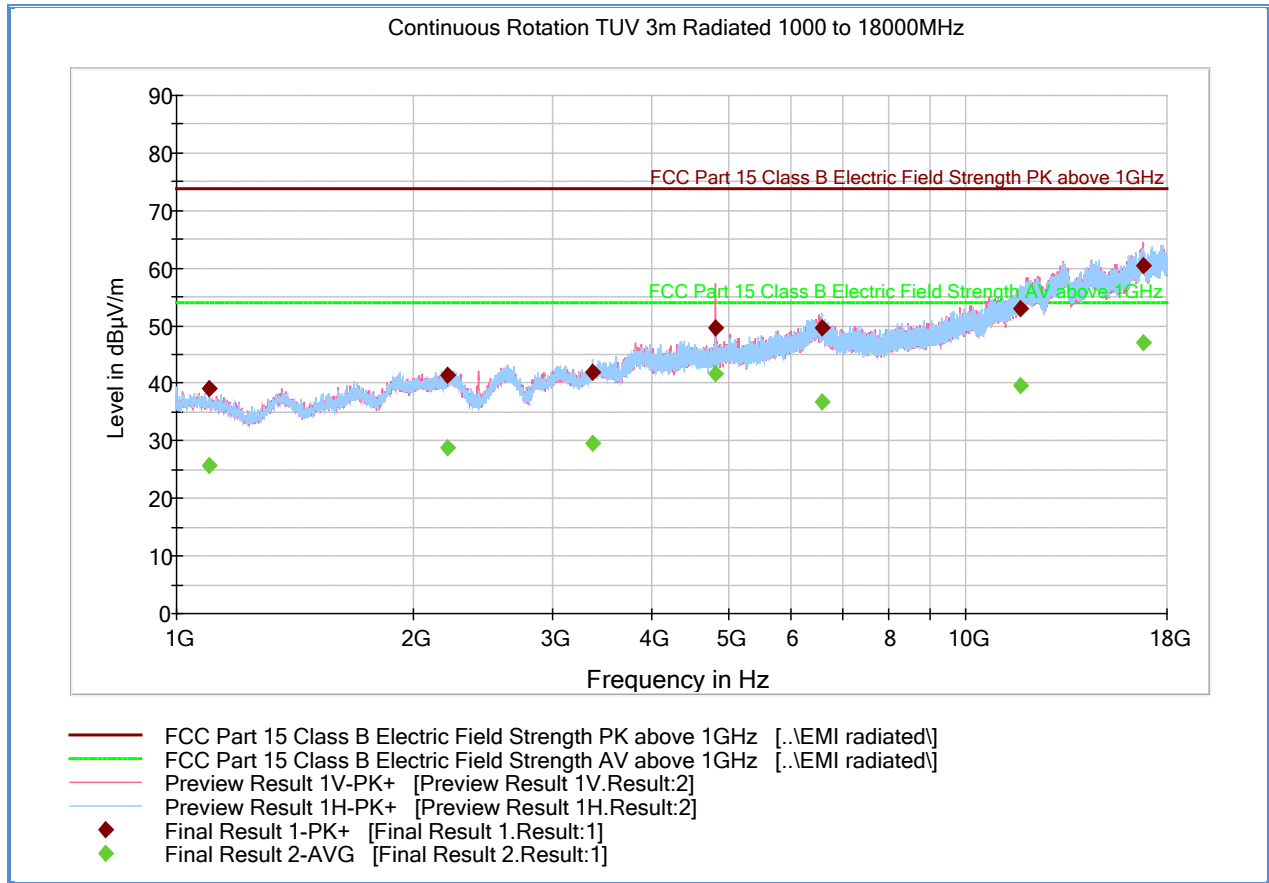
**Quasi Peak Data**

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
38.215551	30.2	1000.0	120.000	100.0	V	30.0	-14.9	9.8	40.0
46.494990	25.6	1000.0	120.000	105.0	V	150.0	-17.9	14.4	40.0
88.396633	33.9	1000.0	120.000	106.0	V	88.0	-20.2	9.6	43.5
88.532745	33.7	1000.0	120.000	106.0	V	118.0	-20.2	9.8	43.5
166.232144	30.8	1000.0	120.000	105.0	V	135.0	-17.4	12.7	43.5
246.515431	23.7	1000.0	120.000	127.0	H	349.0	-13.4	22.3	46.0

**Test Notes:** Only worst case channel presented for spurious emissions below 1GHz.



**2.6.11 Test Results Above 1GHz (Tx - SISO Mode)\_Worst Case Configuration  
 802.11b 2.4GHz\_Low(1) Channel (2412MHz)\_1Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1099.300000	39.0	1000.0	1000.000	215.5	V	112.0	-6.7	34.9	73.9
2203.233333	41.5	1000.0	1000.000	197.5	V	139.0	-0.9	32.4	73.9
3365.866667	41.9	1000.0	1000.000	284.3	H	164.0	2.5	32.0	73.9
4824.066667	49.5	1000.0	1000.000	154.7	V	120.0	6.9	24.4	73.9
6582.466667	49.7	1000.0	1000.000	130.7	H	225.0	12.8	24.2	73.9
11756.466666	52.9	1000.0	1000.000	274.3	H	138.0	18.5	21.0	73.9

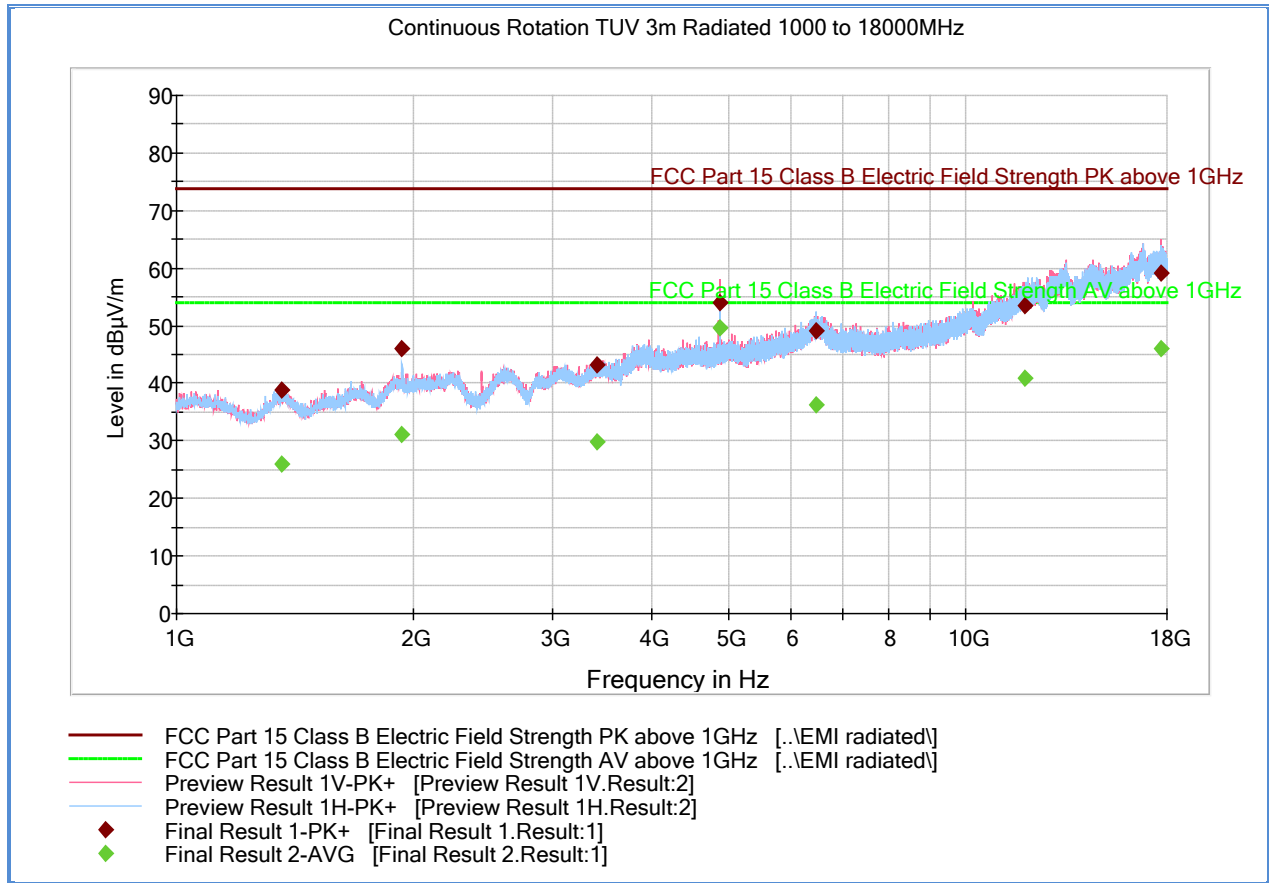
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1099.300000	25.6	1000.0	1000.000	215.5	V	112.0	-6.7	28.3	53.9
2203.233333	28.7	1000.0	1000.000	197.5	V	139.0	-0.9	25.2	53.9
3365.866667	29.7	1000.0	1000.000	284.3	H	164.0	2.5	24.2	53.9
4824.066667	41.6	1000.0	1000.000	154.7	V	120.0	6.9	12.3	53.9
6582.466667	36.8	1000.0	1000.000	130.7	H	225.0	12.8	17.1	53.9
11756.466666	39.7	1000.0	1000.000	274.3	H	138.0	18.5	14.2	53.9

**Test Notes:** Measurement was performed with a 2.4GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



**2.6.12 Test Results Above 1GHz (Tx - SISO Mode)\_Worst Case Configuration  
 802.11b 2.4GHz\_Mid(6) Channel (2437MHz)\_1Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1358.833333	38.8	1000.0	1000.000	202.3	V	161.0	-5.0	35.1	73.9
1932.566667	46.1	1000.0	1000.000	102.7	H	234.0	-1.4	27.8	73.9
3411.166667	43.3	1000.0	1000.000	101.7	H	327.0	2.4	30.6	73.9
4873.933333	54.0	1000.0	1000.000	138.7	V	90.0	7.1	19.9	73.9
6464.566667	49.2	1000.0	1000.000	101.7	H	130.0	12.7	24.7	73.9
11877.933333	53.6	1000.0	1000.000	99.7	V	118.0	19.5	20.3	73.9
17707.600000	59.1	1000.0	1000.000	300.6	V	331.0	25.6	14.8	73.9

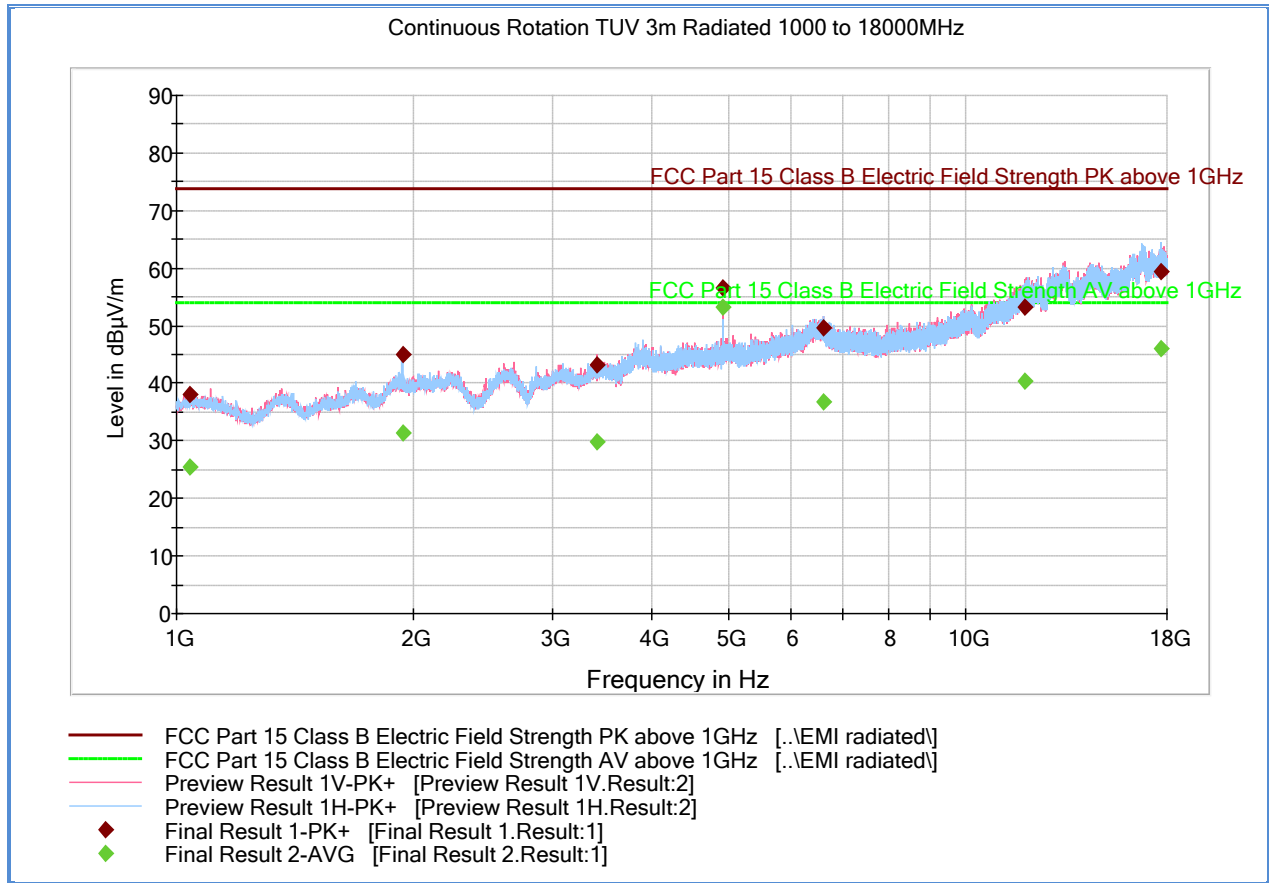
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1358.833333	25.9	1000.0	1000.000	202.3	V	161.0	-5.0	28.0	53.9
1932.566667	31.1	1000.0	1000.000	102.7	H	234.0	-1.4	22.8	53.9
3411.166667	29.8	1000.0	1000.000	101.7	H	327.0	2.4	24.1	53.9
4873.933333	49.5	1000.0	1000.000	138.7	V	90.0	7.1	4.4	53.9
6464.566667	36.3	1000.0	1000.000	101.7	H	130.0	12.7	17.6	53.9
11877.933333	40.8	1000.0	1000.000	99.7	V	118.0	19.5	13.1	53.9
17707.600000	46.0	1000.0	1000.000	300.6	V	331.0	25.6	7.9	53.9

**Test Notes:** Measurement was performed with a 2.4GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



**2.6.13 Test Results Above 1GHz (Tx - SISO Mode)\_Worst Case Configuration  
 802.11b 2.4GHz\_High(11) Channel (2462MHz)\_1Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1039.800000	38.1	1000.0	1000.000	216.4	H	184.0	-6.8	35.8	73.9
1932.766667	45.0	1000.0	1000.000	102.7	H	1.0	-1.4	28.9	73.9
3413.666667	43.3	1000.0	1000.000	145.7	V	289.0	2.4	30.6	73.9
4923.966667	56.6	1000.0	1000.000	146.7	V	91.0	7.3	17.3	73.9
6605.133333	49.7	1000.0	1000.000	144.7	V	208.0	12.8	24.2	73.9
11874.133333	53.2	1000.0	1000.000	245.3	V	54.0	19.4	20.7	73.9
17693.233333	59.4	1000.0	1000.000	101.7	H	129.0	25.5	14.5	73.9

**Average Data**

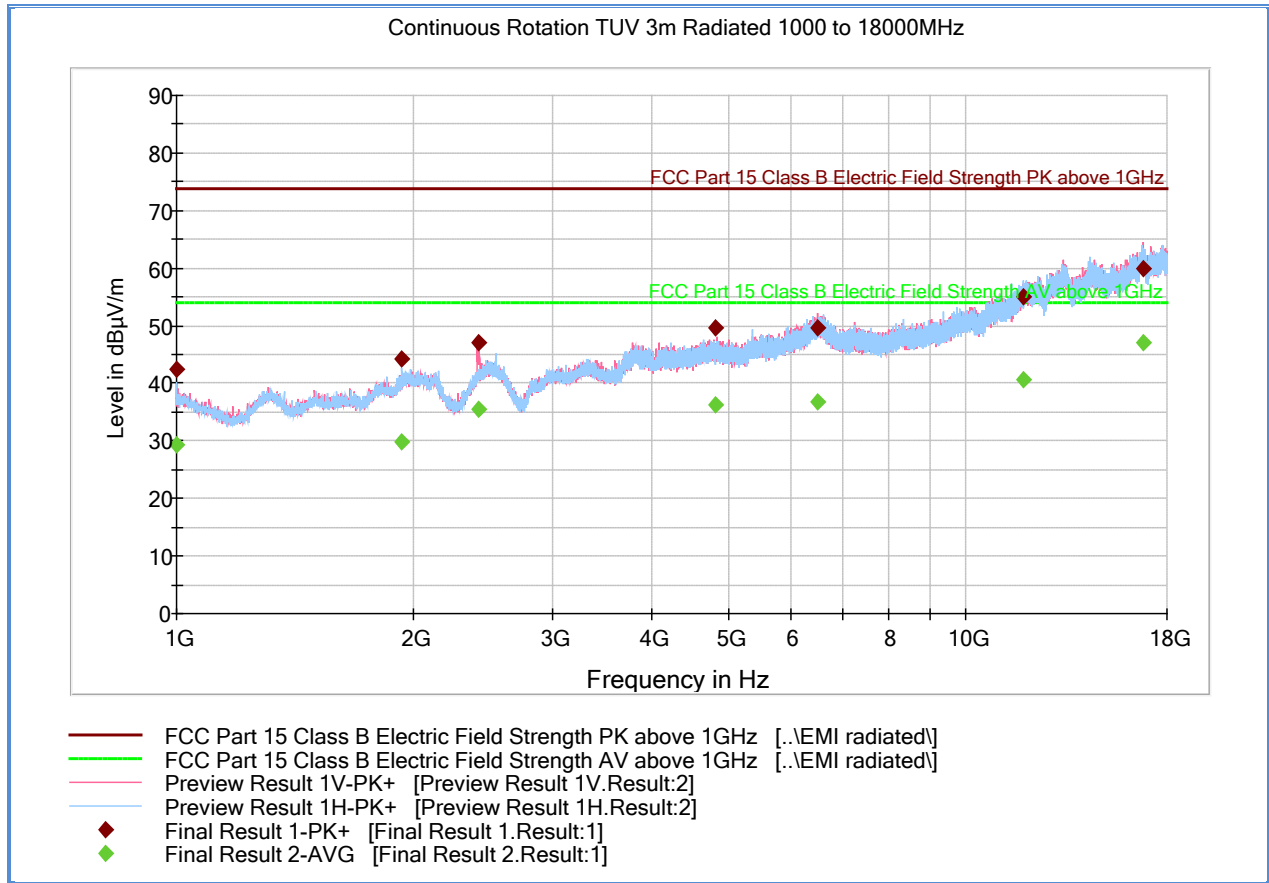
Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1039.800000	25.4	1000.0	1000.000	216.4	H	184.0	-6.8	28.5	53.9
1932.766667	31.4	1000.0	1000.000	102.7	H	1.0	-1.4	22.5	53.9
3413.666667	29.8	1000.0	1000.000	145.7	V	289.0	2.4	24.1	53.9
4923.966667	53.3	1000.0	1000.000	146.7	V	91.0	7.3	0.6	53.9
6605.133333	36.8	1000.0	1000.000	144.7	V	208.0	12.8	17.1	53.9
11874.133333	40.4	1000.0	1000.000	245.3	V	54.0	19.4	13.5	53.9
17693.233333	45.9	1000.0	1000.000	101.7	H	129.0	25.5	8.0	53.9

**Test Notes:** Measurement was performed with a 2.4GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.





**2.6.14 Test Results Above 1GHz (Tx - SISO Mode)\_Worst Case Configuration  
 802.11g 2.4GHz\_Low(1) Channel (2412MHz)\_6Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	42.5	1000.0	1000.000	103.7	H	357.0	-7.0	31.4	73.9
1932.000000	44.3	1000.0	1000.000	101.7	H	16.0	-1.4	29.6	73.9
2418.166667	47.0	1000.0	1000.000	99.7	V	59.0		Fundamental	
4829.666667	49.7	1000.0	1000.000	146.7	V	82.0	6.9	24.2	73.9
6501.566667	49.6	1000.0	1000.000	206.5	V	184.0	12.7	24.3	73.9
11851.633333	55.0	1000.0	1000.000	146.7	H	218.0	19.2	18.9	73.9
16770.333333	59.8	1000.0	1000.000	188.5	V	-9.0	25.9	14.1	73.9

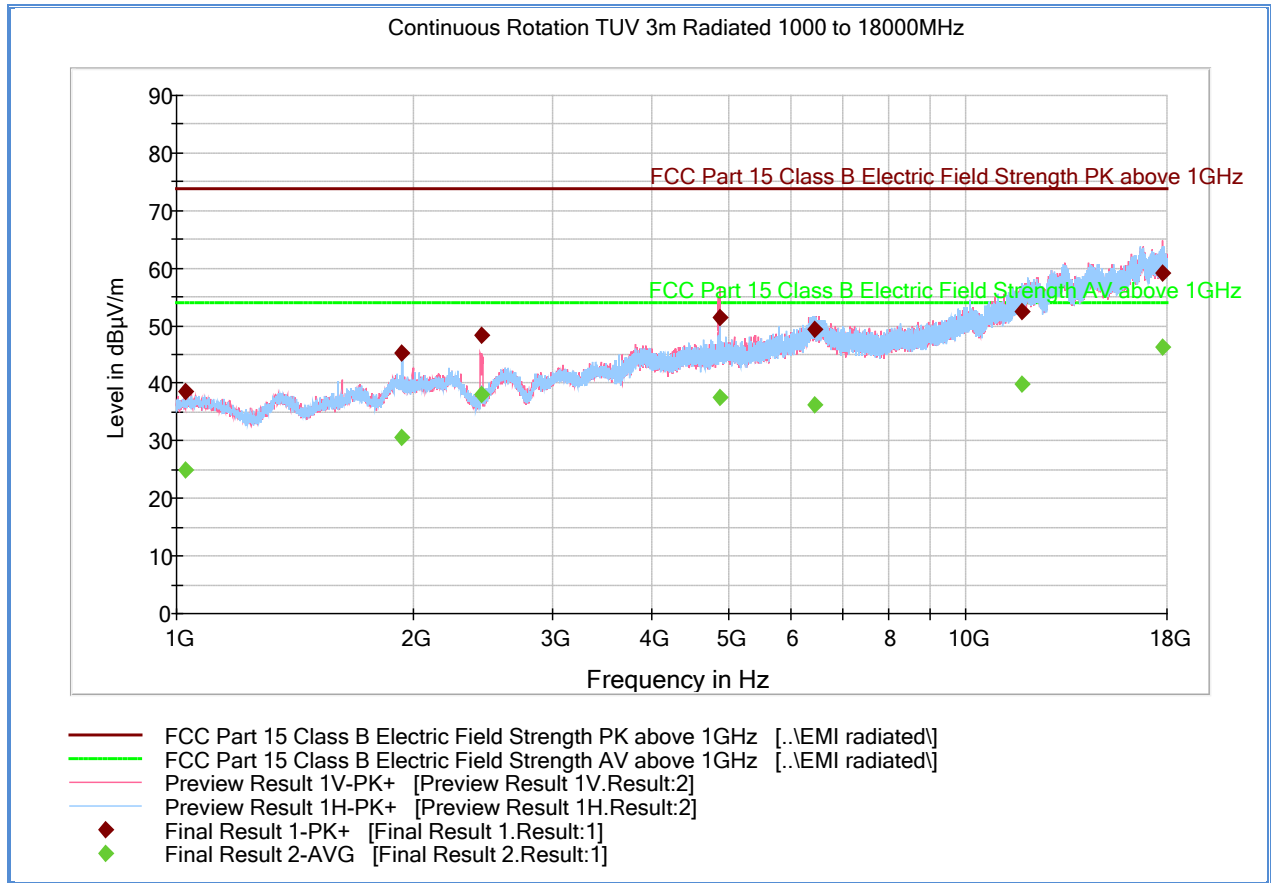
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	29.2	1000.0	1000.000	103.7	H	357.0	-7.0	24.7	53.9
1932.000000	29.9	1000.0	1000.000	101.7	H	16.0	-1.4	24.0	53.9
2418.166667	35.5	1000.0	1000.000	99.7	V	59.0		Fundamental	
4829.666667	36.4	1000.0	1000.000	146.7	V	82.0	6.9	17.5	53.9
6501.566667	36.8	1000.0	1000.000	206.5	V	184.0	12.7	17.1	53.9
11851.633333	40.8	1000.0	1000.000	146.7	H	218.0	19.2	13.1	53.9
16770.333333	47.0	1000.0	1000.000	188.5	V	-9.0	25.9	6.9	53.9

**Test Notes:** Measurement was performed with a 2.4GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



**2.6.15 Test Results Above 1GHz (Tx - SISO Mode)\_Worst Case Configuration  
 802.11g 2.4GHz\_Mid(6) Channel (2437MHz)\_9Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1027.900000	38.7	1000.0	1000.000	153.7	V	262.0	-6.9	35.2	73.9
1932.566667	45.2	1000.0	1000.000	120.7	H	222.0	-1.4	28.7	73.9
2431.200000	48.3	1000.0	1000.000	99.7	V	101.0		Fundamental	
4876.200000	51.4	1000.0	1000.000	154.6	V	127.0	7.1	22.5	73.9
6441.000000	49.4	1000.0	1000.000	300.6	H	244.0	12.7	24.5	73.9
11764.433333	52.4	1000.0	1000.000	103.7	H	298.0	18.6	21.5	73.9
17802.433333	59.1	1000.0	1000.000	99.7	V	98.0	25.8	14.8	73.9

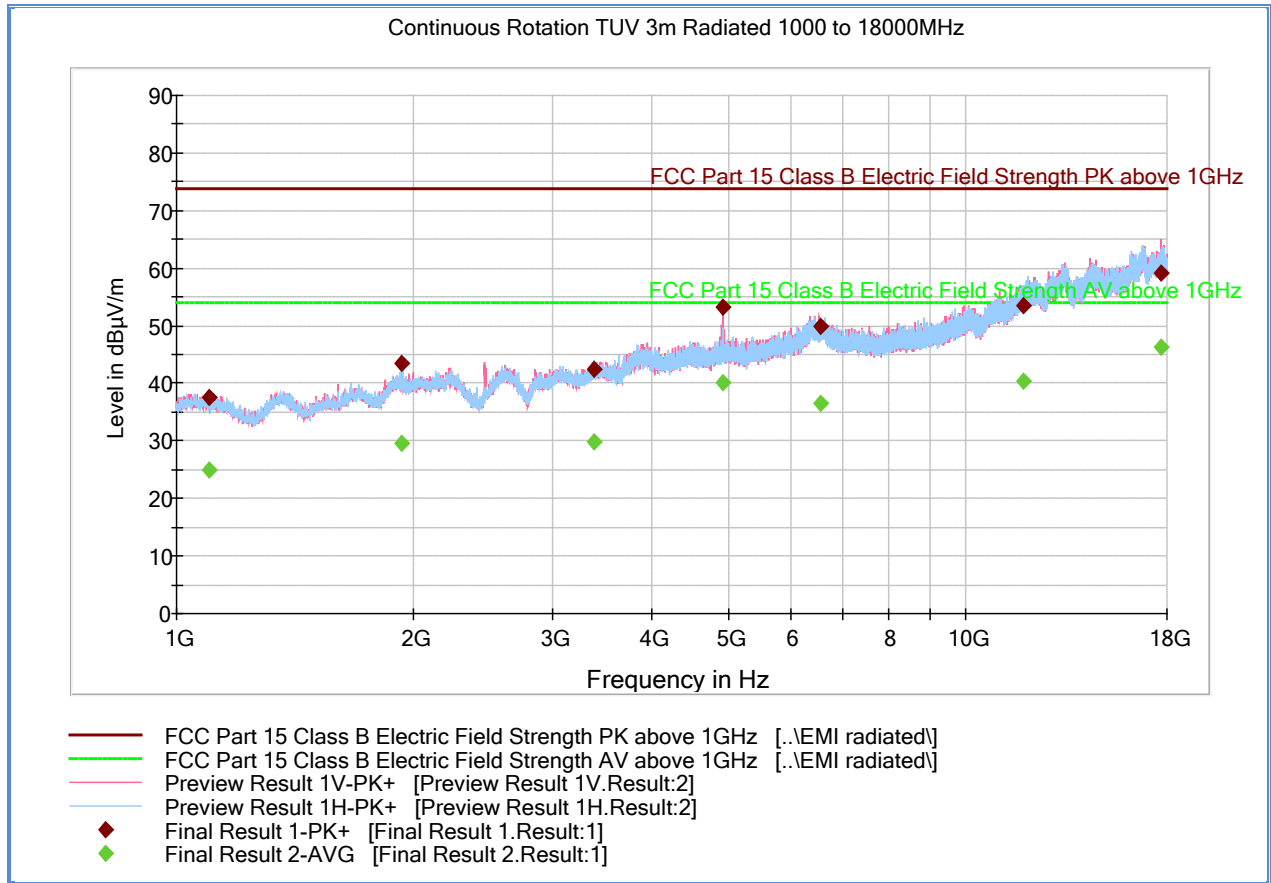
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1027.900000	25.0	1000.0	1000.000	153.7	V	262.0	-6.9	28.9	53.9
1932.566667	30.5	1000.0	1000.000	120.7	H	222.0	-1.4	23.4	53.9
2431.200000	38.1	1000.0	1000.000	99.7	V	101.0		Fundamental	
4876.200000	37.6	1000.0	1000.000	154.6	V	127.0	7.1	16.3	53.9
6441.000000	36.2	1000.0	1000.000	300.6	H	244.0	12.7	17.7	53.9
11764.433333	39.8	1000.0	1000.000	103.7	H	298.0	18.6	14.1	53.9
17802.433333	46.3	1000.0	1000.000	99.7	V	98.0	25.8	7.6	53.9

**Test Notes:** Measurement was performed with a 2.4GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



**2.6.16 Test Results Above 1GHz (Tx - SISO Mode)\_Worst Case Configuration  
 802.11g 2.4GHz\_High(11) Channel (2462MHz)\_6Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1099.300000	37.6	1000.0	1000.000	143.7	V	282.0	-6.7	36.3	73.9
1932.166667	43.5	1000.0	1000.000	112.7	H	252.0	-1.4	30.4	73.9
3387.366667	42.4	1000.0	1000.000	144.7	H	127.0	2.5	31.5	73.9
4925.533333	53.1	1000.0	1000.000	138.7	V	127.0	7.3	20.8	73.9
6536.000000	49.9	1000.0	1000.000	162.6	V	10.0	12.8	24.0	73.9
11859.000000	53.6	1000.0	1000.000	172.6	H	171.0	19.3	20.3	73.9
17727.066666	59.0	1000.0	1000.000	123.7	V	49.0	25.7	14.9	73.9

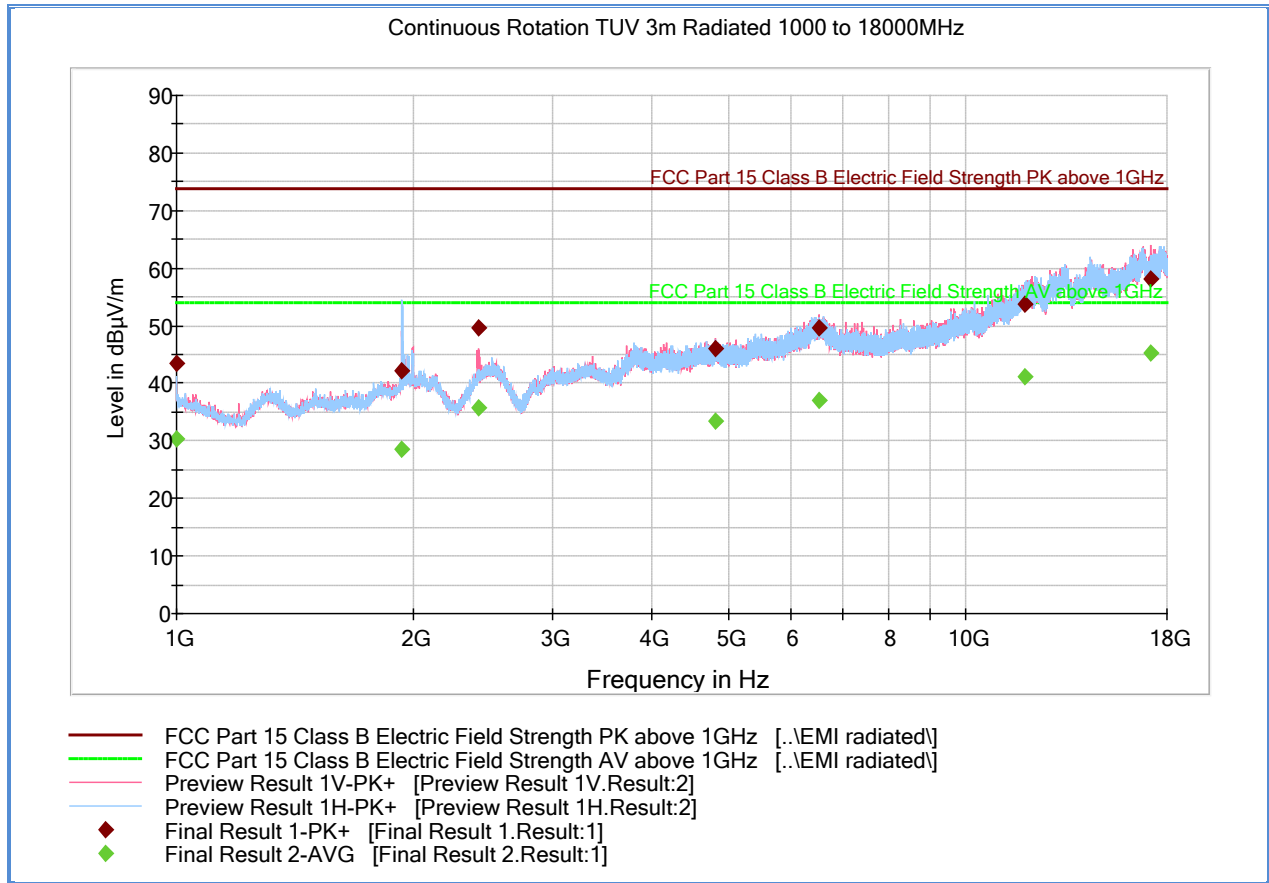
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1099.300000	25.0	1000.0	1000.000	143.7	V	282.0	-6.7	28.9	53.9
1932.166667	29.6	1000.0	1000.000	112.7	H	252.0	-1.4	24.3	53.9
3387.366667	29.9	1000.0	1000.000	144.7	H	127.0	2.5	24.0	53.9
4925.533333	40.2	1000.0	1000.000	138.7	V	127.0	7.3	13.7	53.9
6536.000000	36.4	1000.0	1000.000	162.6	V	10.0	12.8	17.5	53.9
11859.000000	40.4	1000.0	1000.000	172.6	H	171.0	19.3	13.5	53.9
17727.066666	46.2	1000.0	1000.000	123.7	V	49.0	25.7	7.7	53.9

**Test Notes:** Measurement was performed with a 2.4GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



**2.6.17 Test Results Above 1GHz (Tx - MIMO Mode)\_Worst Case Configuration  
 802.11n 2.4GHz(HT20)\_Low(1) Channel (2412MHz)\_6.5Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	43.4	1000.0	1000.000	170.6	H	131.0	-7.0	30.5	73.9
1932.366667	42.2	1000.0	1000.000	114.7	H	41.0	-1.4	31.7	73.9
2415.200000	49.7	1000.0	1000.000	99.7	V	55.0		Fundamental	
4821.066667	46.0	1000.0	1000.000	138.7	V	190.0	6.9	27.9	73.9
6526.900000	49.7	1000.0	1000.000	186.5	V	197.0	12.8	24.2	73.9
11895.900000	53.8	1000.0	1000.000	300.6	H	159.0	19.6	20.1	73.9
17201.233333	58.2	1000.0	1000.000	265.3	V	45.0	24.7	15.7	73.9

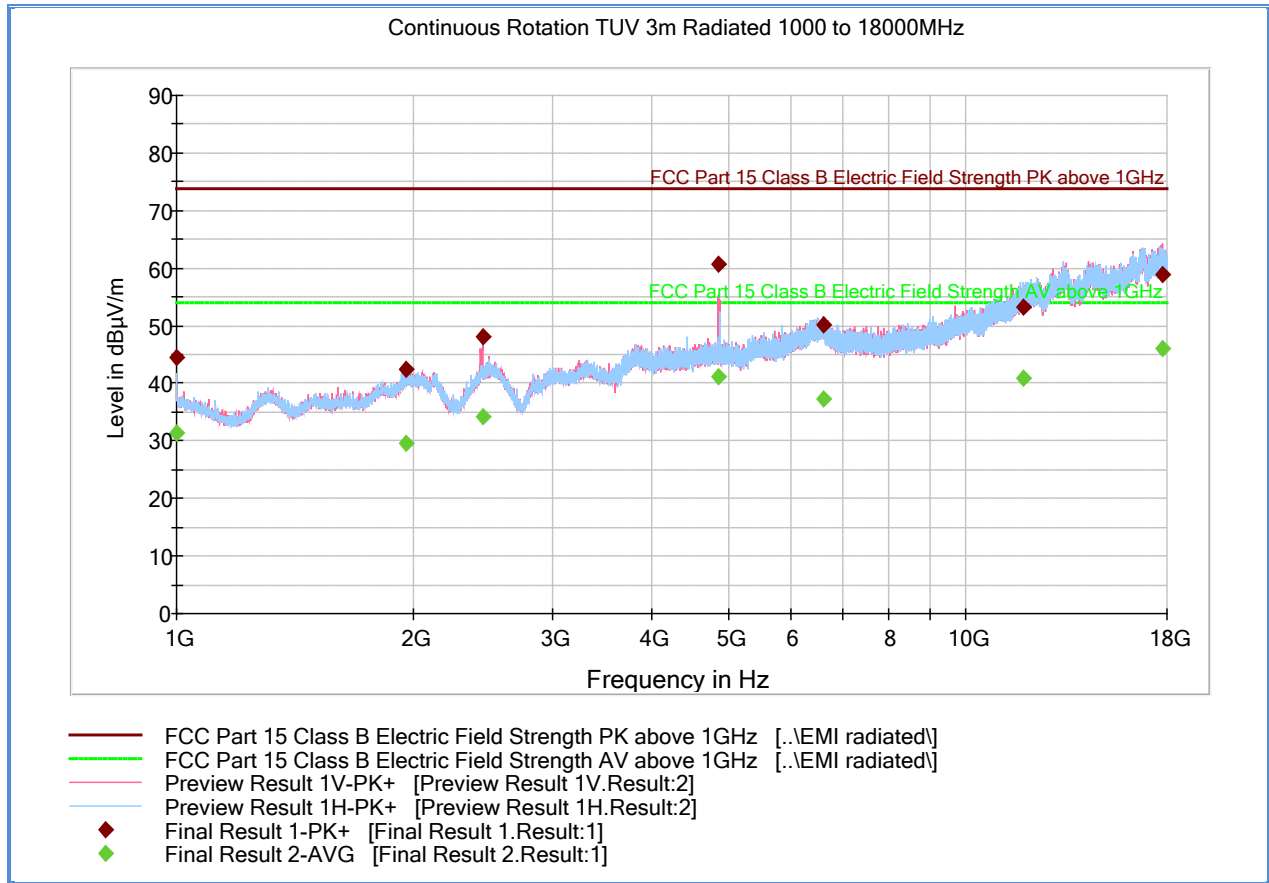
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	30.3	1000.0	1000.000	170.6	H	131.0	-7.0	23.6	53.9
1932.366667	28.7	1000.0	1000.000	114.7	H	41.0	-1.4	25.2	53.9
2415.200000	35.6	1000.0	1000.000	99.7	V	55.0		Fundamental	
4821.066667	33.5	1000.0	1000.000	138.7	V	190.0	6.9	20.4	53.9
6526.900000	37.0	1000.0	1000.000	186.5	V	197.0	12.8	16.9	53.9
11895.900000	41.1	1000.0	1000.000	300.6	H	159.0	19.6	12.8	53.9
17201.233333	45.3	1000.0	1000.000	265.3	V	45.0	24.7	8.6	53.9

**Test Notes:** Measurement was performed with a 2.4GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



**2.6.18 Test Results Above 1GHz (Tx - MIMO Mode)\_Worst Case Configuration  
 802.11n 2.4GHz(HT20)\_Mid(6) Channel (2437MHz)\_6.5Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	44.4	1000.0	1000.000	180.6	V	-2.0	-7.0	29.5	73.9
1957.066667	42.4	1000.0	1000.000	99.7	V	196.0	-1.2	31.5	73.9
2441.600000	48.0	1000.0	1000.000	99.7	V	58.0		Fundamental	
4870.533333	60.7	1000.0	1000.000	121.7	V	65.0	7.1	13.2	73.9
6597.533333	50.2	1000.0	1000.000	155.6	V	-16.0	12.8	23.7	73.9
11860.000000	53.1	1000.0	1000.000	120.7	H	185.0	19.3	20.8	73.9
17730.800000	59.0	1000.0	1000.000	287.2	V	46.0	25.7	14.9	73.9

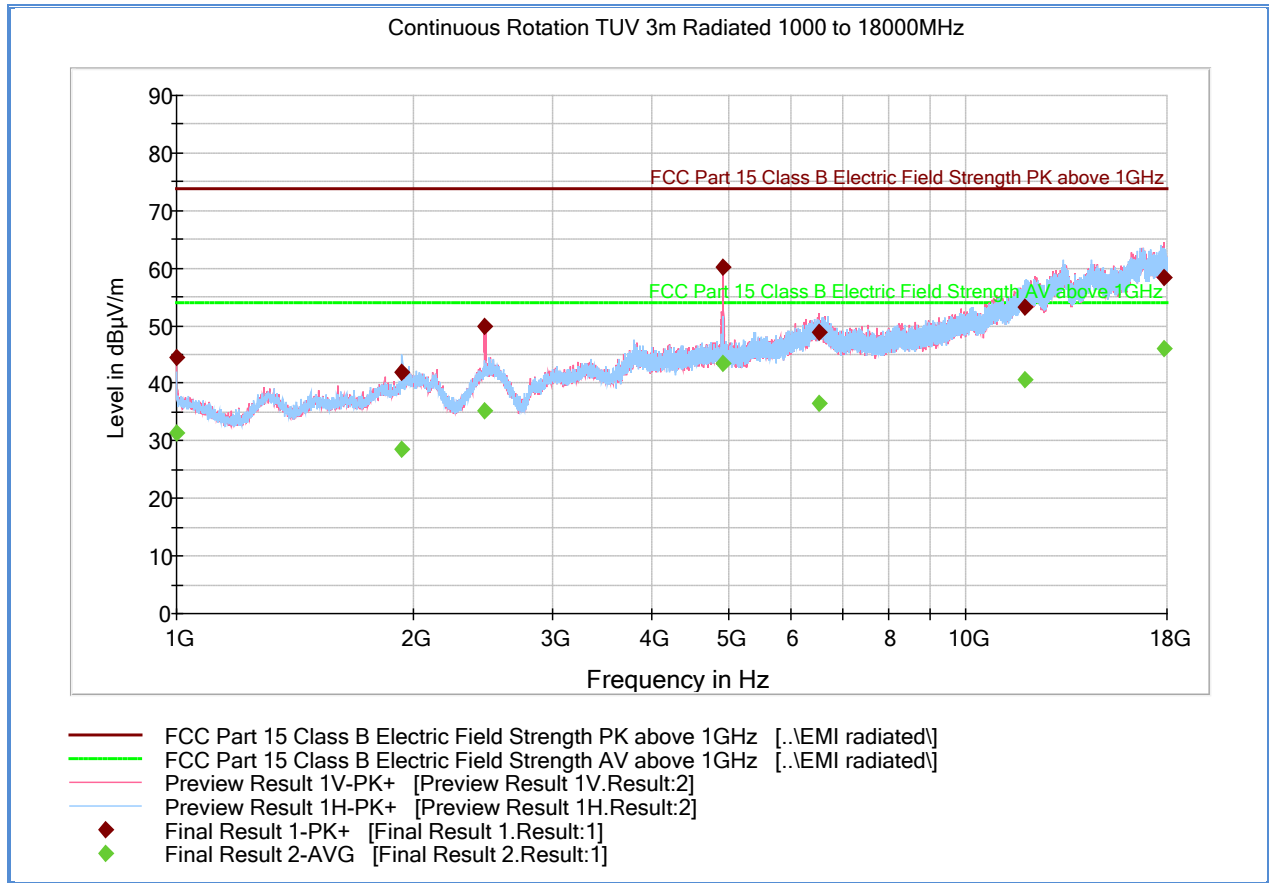
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	31.3	1000.0	1000.000	180.6	V	-2.0	-7.0	22.6	53.9
1957.066667	29.6	1000.0	1000.000	99.7	V	196.0	-1.2	24.3	53.9
2441.600000	34.2	1000.0	1000.000	99.7	V	58.0		Fundamental	
4870.533333	41.1	1000.0	1000.000	121.7	V	65.0	7.1	12.8	53.9
6597.533333	37.3	1000.0	1000.000	155.6	V	-16.0	12.8	16.6	53.9
11860.000000	40.8	1000.0	1000.000	120.7	H	185.0	19.3	13.1	53.9
17730.800000	46.1	1000.0	1000.000	287.2	V	46.0	25.7	7.8	53.9

**Test Notes:** Measurement was performed with a 2.4GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



**2.6.19 Test Results Above 1GHz (Tx - MIMO Mode)\_Worst Case Configuration  
 802.11n 2.4GHz(HT20)\_High(11) Channel (2462MHz)\_65Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	44.4	1000.0	1000.000	180.5	V	289.0	-7.0	29.5	73.9
1932.166667	42.0	1000.0	1000.000	130.7	H	316.0	-1.4	31.9	73.9
2454.266667	50.0	1000.0	1000.000	99.7	V	58.0		Fundamental	
4918.333333	60.1	1000.0	1000.000	287.2	V	46.0	7.3	13.8	73.9
6533.066667	48.9	1000.0	1000.000	168.6	V	4.0	12.8	25.0	73.9
11874.366666	53.4	1000.0	1000.000	99.7	H	17.0	19.4	20.5	73.9
17808.333333	58.5	1000.0	1000.000	101.7	V	-3.0	25.8	15.4	73.9

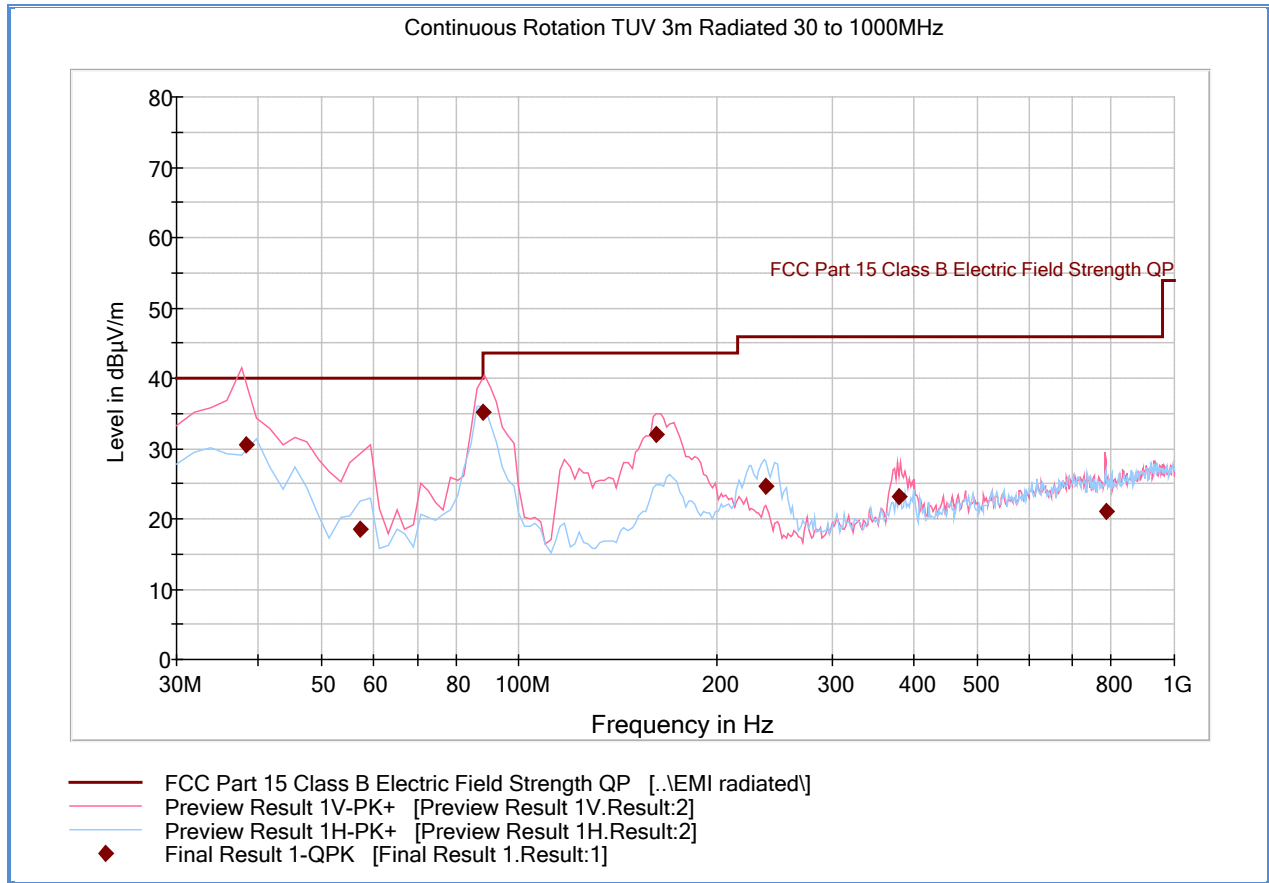
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	31.3	1000.0	1000.000	180.5	V	289.0	-7.0	22.6	53.9
1932.166667	28.6	1000.0	1000.000	130.7	H	316.0	-1.4	25.3	53.9
2454.266667	35.2	1000.0	1000.000	99.7	V	58.0		Fundamental	
4918.333333	43.5	1000.0	1000.000	287.2	V	46.0	7.3	10.4	53.9
6533.066667	36.4	1000.0	1000.000	168.6	V	4.0	12.8	17.5	53.9
11874.366666	40.6	1000.0	1000.000	99.7	H	17.0	19.4	13.3	53.9
17808.333333	45.9	1000.0	1000.000	101.7	V	-3.0	25.8	8.0	53.9

**Test Notes:** Measurement was performed with a 2.4GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



**2.6.20 Test Results Below 1GHz (Tx – MIMO Mode)\_Worst Case Configuration  
 802.11n 5GHz(HT20)\_High(165) Channel (5825MHz)\_6.5Mbps Data Rate**



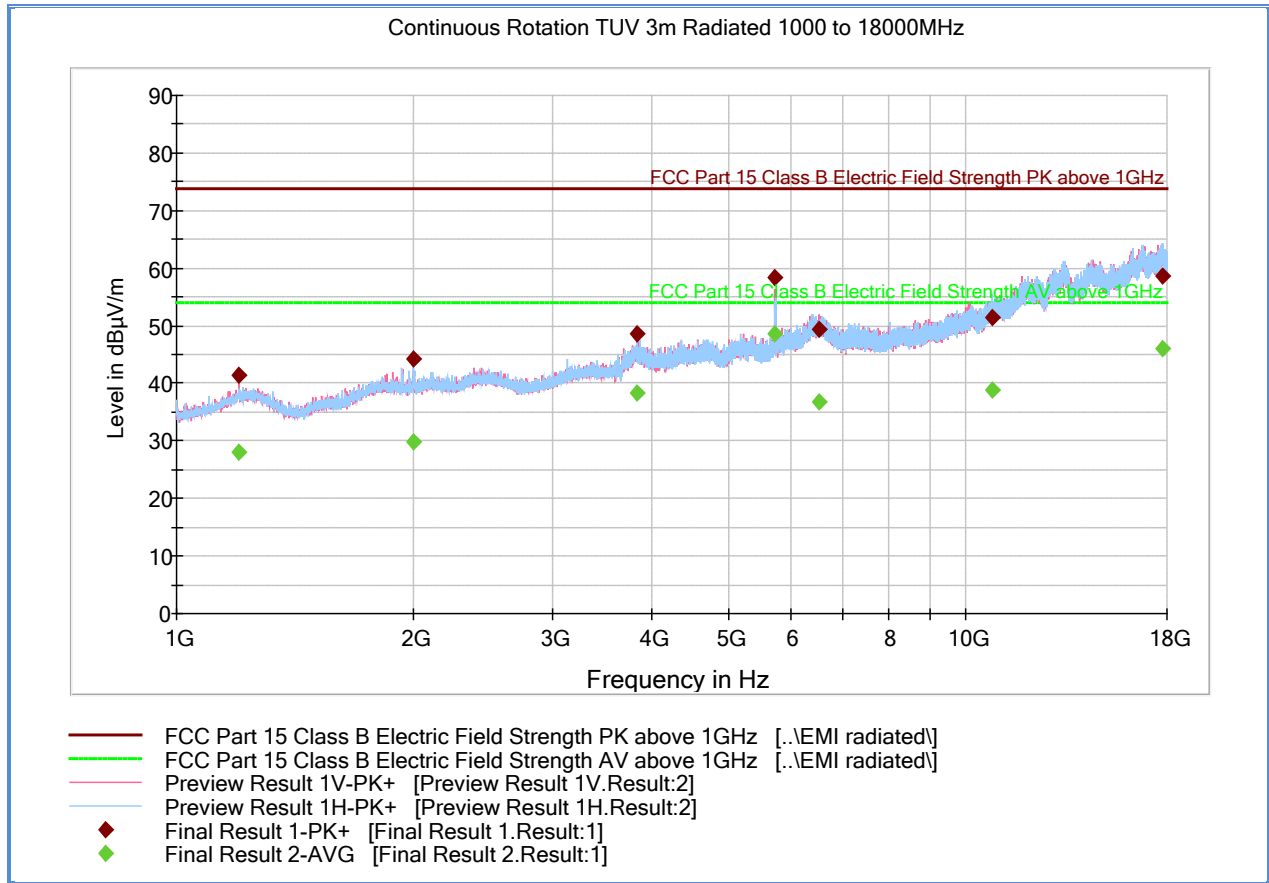
**Quasi Peak Data**

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
38.295551	30.5	1000.0	120.000	100.0	V	214.0	-14.9	9.5	40.0
57.038317	18.5	1000.0	120.000	105.0	V	103.0	-20.3	21.5	40.0
88.156633	35.1	1000.0	120.000	100.0	V	100.0	-20.3	8.4	43.5
162.064369	32.0	1000.0	120.000	100.0	V	138.0	-17.3	11.5	43.5
237.652104	24.7	1000.0	120.000	122.0	H	-8.0	-13.5	21.3	46.0
379.723687	23.2	1000.0	120.000	100.0	V	220.0	-8.6	22.8	46.0
786.028457	21.0	1000.0	120.000	183.0	V	84.0	-0.1	25.0	46.0

**Test Notes:** Only worst case channel presented for spurious emissions below 1GHz.



**2.6.21 Test Results Above 1GHz (Tx – SISO Mode)\_Worst Case Configuration  
 802.11a 5GHz\_Low(149) Channel (5745MHz)\_6Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1199.833333	41.4	1000.0	1000.000	131.7	V	271.0	-5.7	32.5	73.9
2000.400000	44.2	1000.0	1000.000	300.2	H	310.0	-1.0	29.7	73.9
3830.166667	48.5	1000.0	1000.000	189.5	V	70.0	6.1	25.4	73.9
5739.466667	58.5	1000.0	1000.000	300.2	V	8.0		Fundamental	
6520.100000	49.4	1000.0	1000.000	144.7	V	37.0	12.8	24.5	73.9
10826.40000	51.5	1000.0	1000.000	205.5	H	275.0	16.5	22.4	73.9
17764.13333	58.7	1000.0	1000.000	302.2	H	91.0	25.8	15.2	73.9

**Average Data**

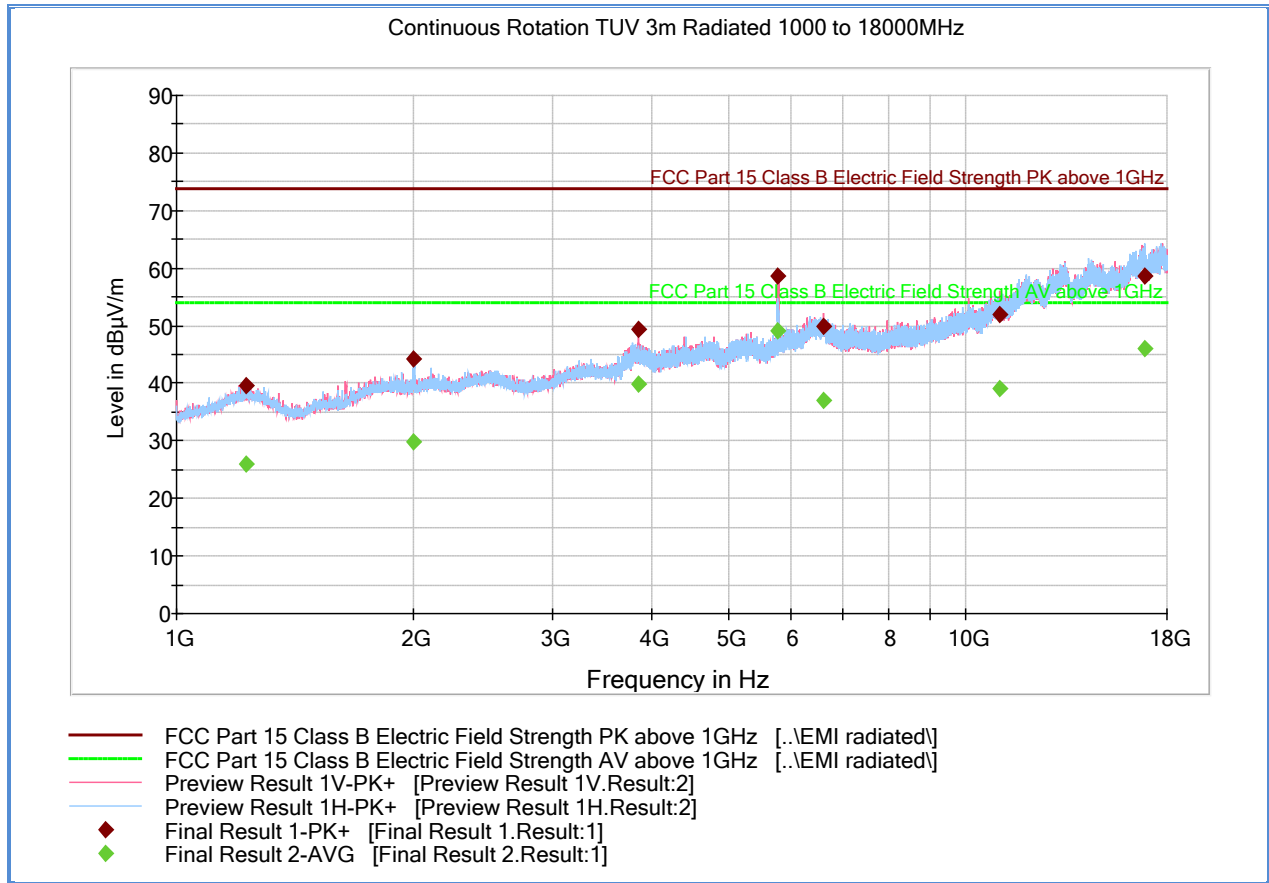
Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1199.833333	28.0	1000.0	1000.000	131.7	V	271.0	-5.7	25.9	53.9
2000.400000	29.9	1000.0	1000.000	300.2	H	310.0	-1.0	24.0	53.9
3830.166667	38.3	1000.0	1000.000	189.5	V	70.0	6.1	15.6	53.9
5739.466667	48.6	1000.0	1000.000	300.2	V	8.0		Fundamental	
6520.100000	36.8	1000.0	1000.000	144.7	V	37.0	12.8	17.1	53.9
10826.40000	38.7	1000.0	1000.000	205.5	H	275.0	16.5	15.2	53.9
17764.13333	46.1	1000.0	1000.000	302.2	H	91.0	25.8	7.8	53.9

**Test Notes:** Measurement was performed with a 5GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.





**2.6.22 Test Results Above 1GHz (Tx – SISO Mode)\_Worst Case Configuration  
 802.11a 5GHz\_Mid(157) Channel (5785MHz)\_6Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1226.333333	39.5	1000.0	1000.000	404.1	V	141.0	-5.5	34.4	73.9
2000.533333	44.1	1000.0	1000.000	299.2	H	242.0	-1.0	29.8	73.9
3856.766667	49.3	1000.0	1000.000	267.3	V	351.0	6.0	24.6	73.9
5786.500000	58.7	1000.0	1000.000	302.2	V	124.0	Fundamental		
6606.566667	50.0	1000.0	1000.000	402.7	V	7.0	12.8	23.9	73.9
11056.03333	52.0	1000.0	1000.000	276.3	V	0.0	16.8	21.9	73.9
16834.16666	58.5	1000.0	1000.000	201.3	H	132.0	25.3	15.4	73.9

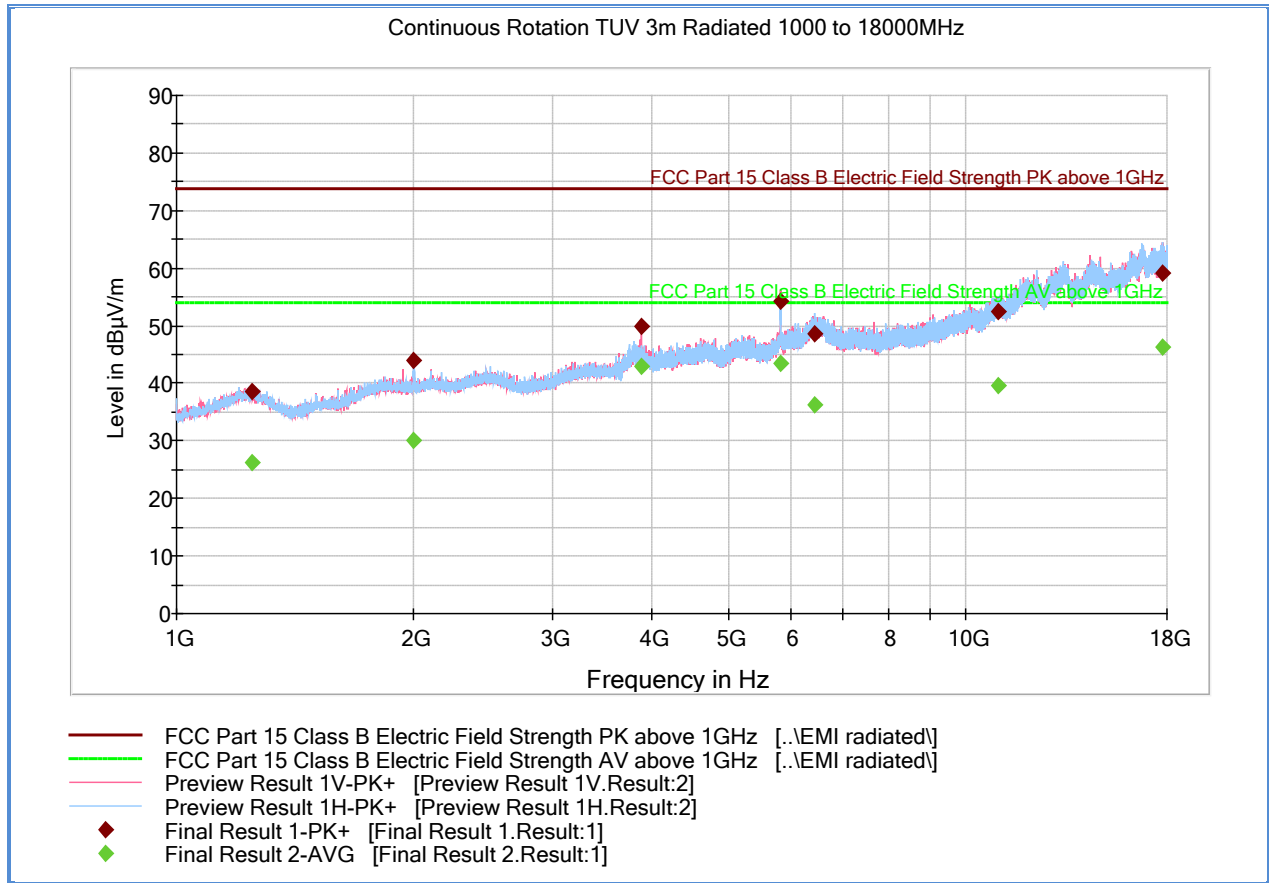
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1226.333333	26.0	1000.0	1000.000	404.1	V	141.0	-5.5	27.9	53.9
2000.533333	29.9	1000.0	1000.000	299.2	H	242.0	-1.0	24.0	53.9
3856.766667	39.8	1000.0	1000.000	267.3	V	351.0	6.0	14.1	53.9
5786.500000	49.1	1000.0	1000.000	302.2	V	124.0	Fundamental		
6606.566667	37.1	1000.0	1000.000	402.7	V	7.0	12.8	16.8	53.9
11056.03333	39.0	1000.0	1000.000	276.3	V	0.0	16.8	14.9	53.9
16834.16666	46.1	1000.0	1000.000	201.3	H	132.0	25.3	7.8	53.9

**Test Notes:** Measurement was performed with a 5GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



**2.6.23 Test Results Above 1GHz (Tx – SISO Mode)\_Worst Case Configuration  
 802.11a 5GHz\_High(165) Channel (5825MHz)\_6Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1245.933333	38.6	1000.0	1000.000	177.6	V	165.0	-5.3	35.3	73.9
2000.400000	44.0	1000.0	1000.000	299.3	H	242.0	-1.0	29.9	73.9
3883.033333	49.9	1000.0	1000.000	299.2	V	20.0	6.0	24.0	73.9
5827.800000	54.2	1000.0	1000.000	341.1	V	125.0		Fundamental	
6429.066667	48.6	1000.0	1000.000	267.3	H	10.0	12.6	25.3	73.9
10980.533333	52.6	1000.0	1000.000	169.6	H	-3.0	17.0	21.3	73.9
17738.000000	59.1	1000.0	1000.000	302.2	H	74.0	25.8	14.8	73.9

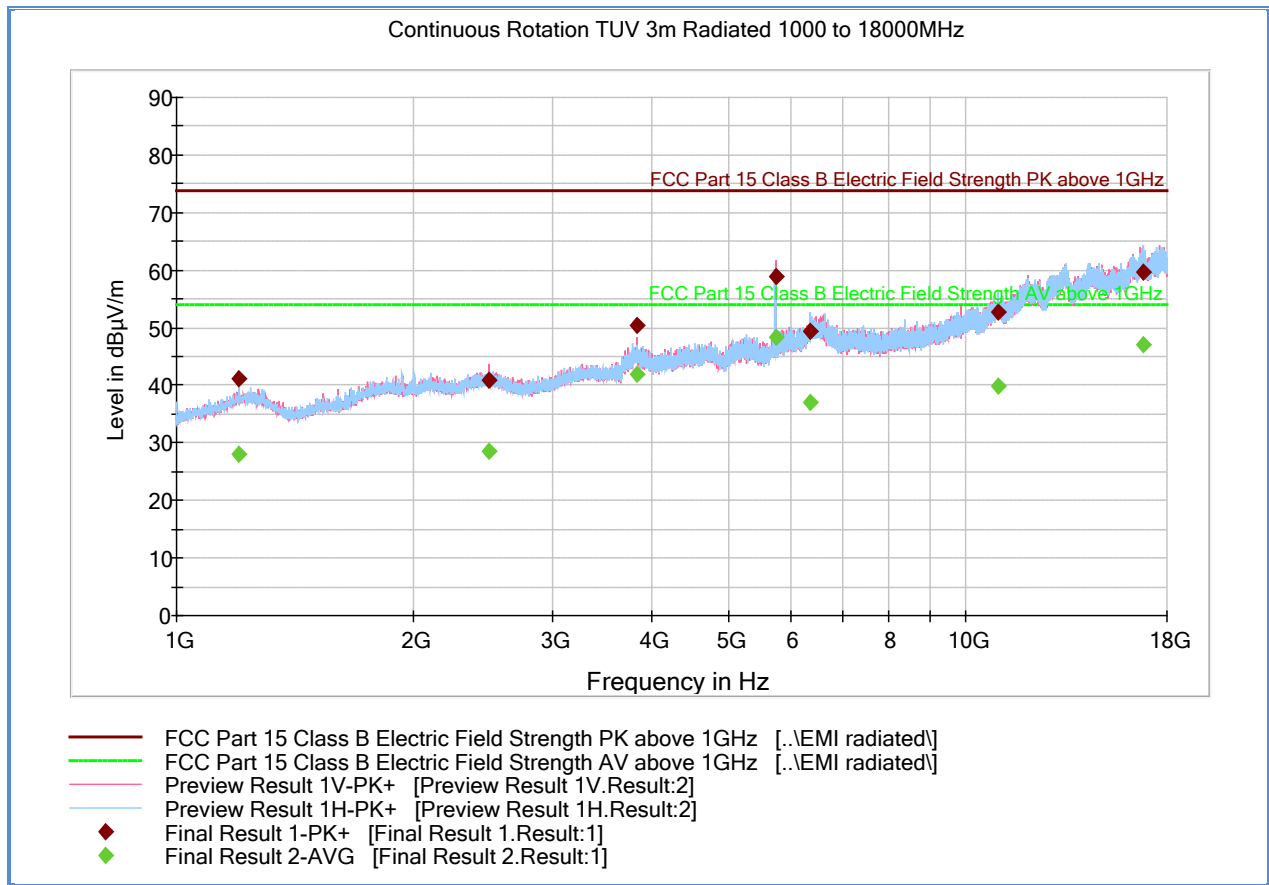
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1245.933333	26.1	1000.0	1000.000	177.6	V	165.0	-5.3	27.8	53.9
2000.400000	30.1	1000.0	1000.000	299.3	H	242.0	-1.0	23.8	53.9
3883.033333	42.9	1000.0	1000.000	299.2	V	20.0	6.0	11.0	53.9
5827.800000	43.5	1000.0	1000.000	341.1	V	125.0		Fundamental	
6429.066667	36.3	1000.0	1000.000	267.3	H	10.0	12.6	17.6	53.9
10980.533333	39.6	1000.0	1000.000	169.6	H	-3.0	17.0	14.3	53.9
17738.000000	46.4	1000.0	1000.000	302.2	H	74.0	25.8	7.5	53.9

**Test Notes:** Measurement was performed with a 5GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



**2.6.24 Test Results Above 1GHz (Tx – MIMO Mode)\_Worst Case Configuration  
 802.11n 5GHz(HT20)\_Low(149) Channel (5745MHz)\_6.5Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1199.866667	41.2	1000.0	1000.000	146.7	V	19.0	-5.7	32.7	73.9
2491.500000	41.0	1000.0	1000.000	216.4	V	3.0	0.2	32.9	73.9
3829.766667	50.3	1000.0	1000.000	302.2	V	343.0	6.1	23.6	73.9
5747.200000	59.0	1000.0	1000.000	312.2	V	19.0		Fundamental	
6367.100000	49.4	1000.0	1000.000	201.3	H	160.0	12.6	24.5	73.9
11009.066666	52.7	1000.0	1000.000	404.1	H	266.0	17.0	21.2	73.9
16795.966666	59.7	1000.0	1000.000	201.3	H	261.0	25.9	14.2	73.9

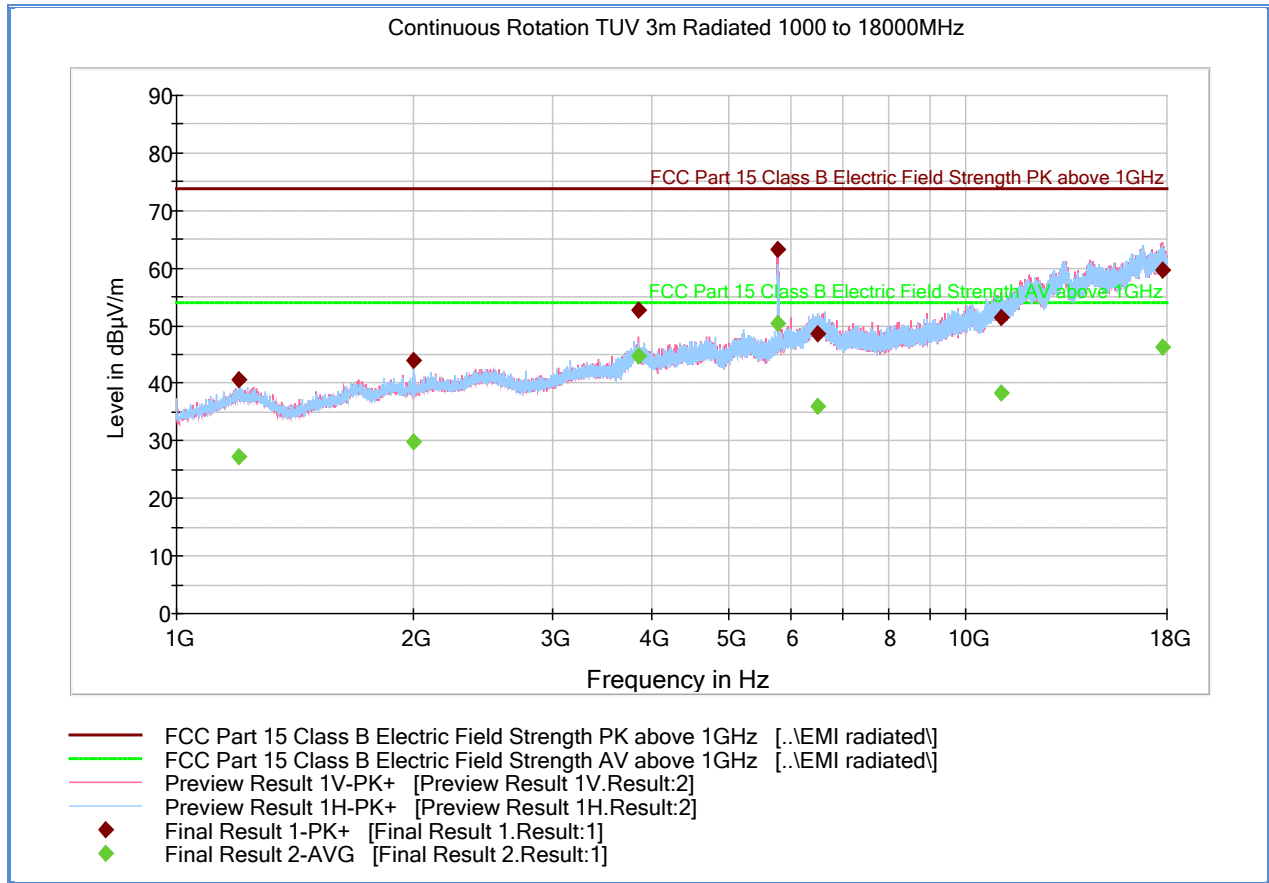
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1199.866667	28.1	1000.0	1000.000	146.7	V	19.0	-5.7	25.8	53.9
2491.500000	28.7	1000.0	1000.000	216.4	V	3.0	0.2	25.2	53.9
3829.766667	42.0	1000.0	1000.000	302.2	V	343.0	6.1	11.9	53.9
5747.200000	48.3	1000.0	1000.000	312.2	V	19.0		Fundamental	
6367.100000	37.0	1000.0	1000.000	201.3	H	160.0	12.6	16.9	53.9
11009.066666	39.8	1000.0	1000.000	404.1	H	266.0	17.0	14.1	53.9
16795.966666	46.9	1000.0	1000.000	201.3	H	261.0	25.9	7.0	53.9

**Test Notes:** Measurement was performed with a 5GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



**2.6.25 Test Results Above 1GHz (Tx – MIMO Mode)\_Worst Case Configuration  
 802.11n 5GHz(HT20)\_Mid(157) Channel (5785MHz)\_19.5Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1199.466667	40.6	1000.0	1000.000	164.6	V	69.0	-5.7	33.3	73.9
1999.633333	44.0	1000.0	1000.000	321.1	H	192.0	-1.0	29.9	73.9
3856.400000	52.6	1000.0	1000.000	155.6	V	-7.0	6.0	21.3	73.9
5783.066667	63.1	1000.0	1000.000	302.2	V	15.0		Fundamental	
6480.600000	48.7	1000.0	1000.000	226.4	H	49.0	12.7	25.2	73.9
11112.70000	51.4	1000.0	1000.000	288.2	V	67.0	16.5	22.5	73.9
17744.00000	59.7	1000.0	1000.000	131.7	V	307.0	25.8	14.2	73.9

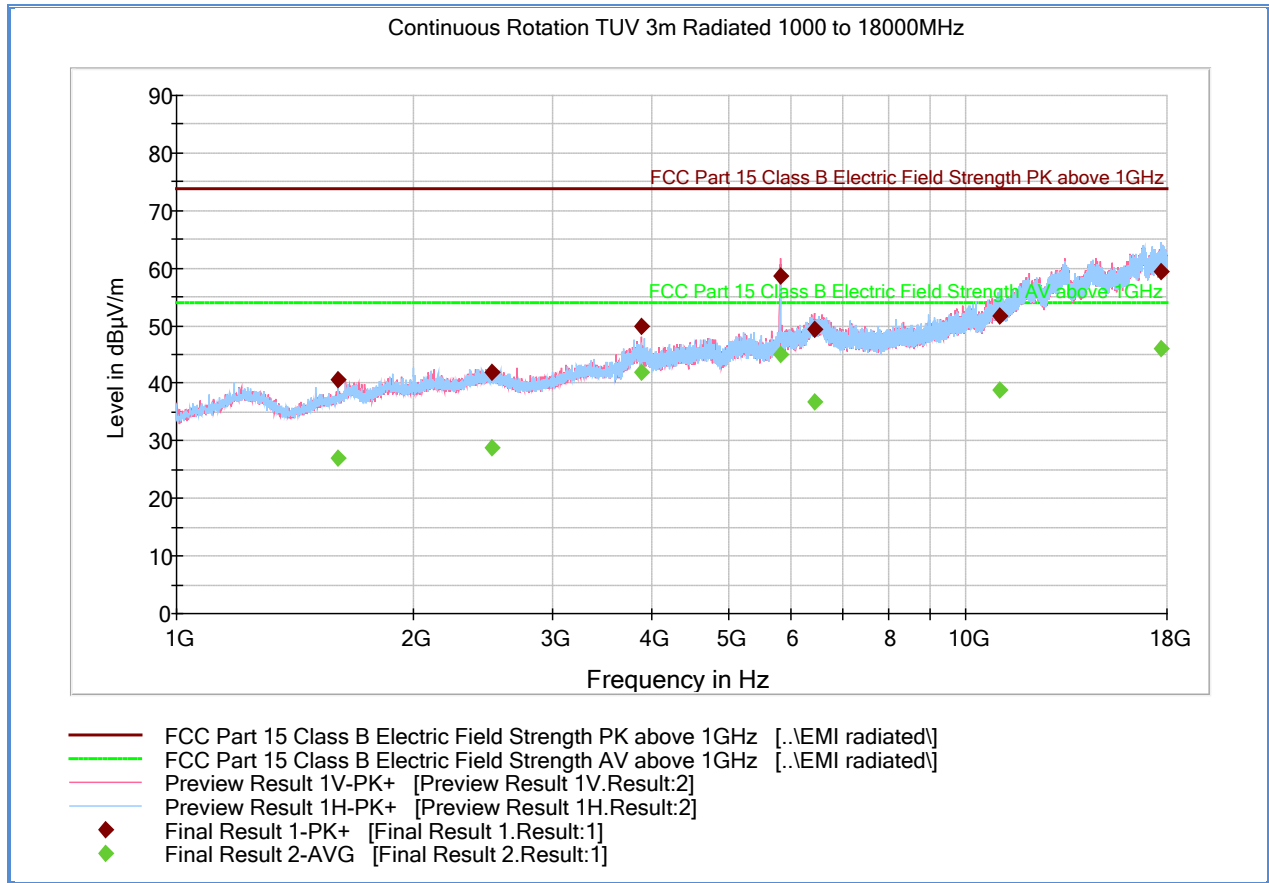
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1199.466667	27.2	1000.0	1000.000	164.6	V	69.0	-5.7	26.7	53.9
1999.633333	29.7	1000.0	1000.000	321.1	H	192.0	-1.0	24.2	53.9
3856.400000	44.7	1000.0	1000.000	155.6	V	-7.0	6.0	9.2	53.9
5783.066667	50.3	1000.0	1000.000	302.2	V	15.0		Fundamental	
6480.600000	36.1	1000.0	1000.000	226.4	H	49.0	12.7	17.8	53.9
11112.70000	38.3	1000.0	1000.000	288.2	V	67.0	16.5	15.6	53.9
17744.00000	46.2	1000.0	1000.000	131.7	V	307.0	25.8	7.7	53.9

**Test Notes:** Measurement was performed with a 5GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



**2.6.26 Test Results Above 1GHz (Tx – MIMO Mode)\_Worst Case Configuration  
 802.11n 5GHz(HT20)\_High(165) Channel (5825MHz)\_6.5Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1600.300000	40.5	1000.0	1000.000	146.7	H	268.0	-4.9	33.4	73.9
2506.200000	41.9	1000.0	1000.000	359.1	V	108.0	0.2	32.0	73.9
3883.400000	49.8	1000.0	1000.000	347.1	V	24.0	6.0	24.1	73.9
5826.733333	58.7	1000.0	1000.000	153.7	V	61.0		Fundamental	
6423.566667	49.5	1000.0	1000.000	277.2	V	77.0	12.7	24.4	73.9
11068.733333	51.6	1000.0	1000.000	404.1	H	150.0	16.7	22.3	73.9
17704.233333	59.4	1000.0	1000.000	170.6	H	101.0	25.6	14.5	73.9

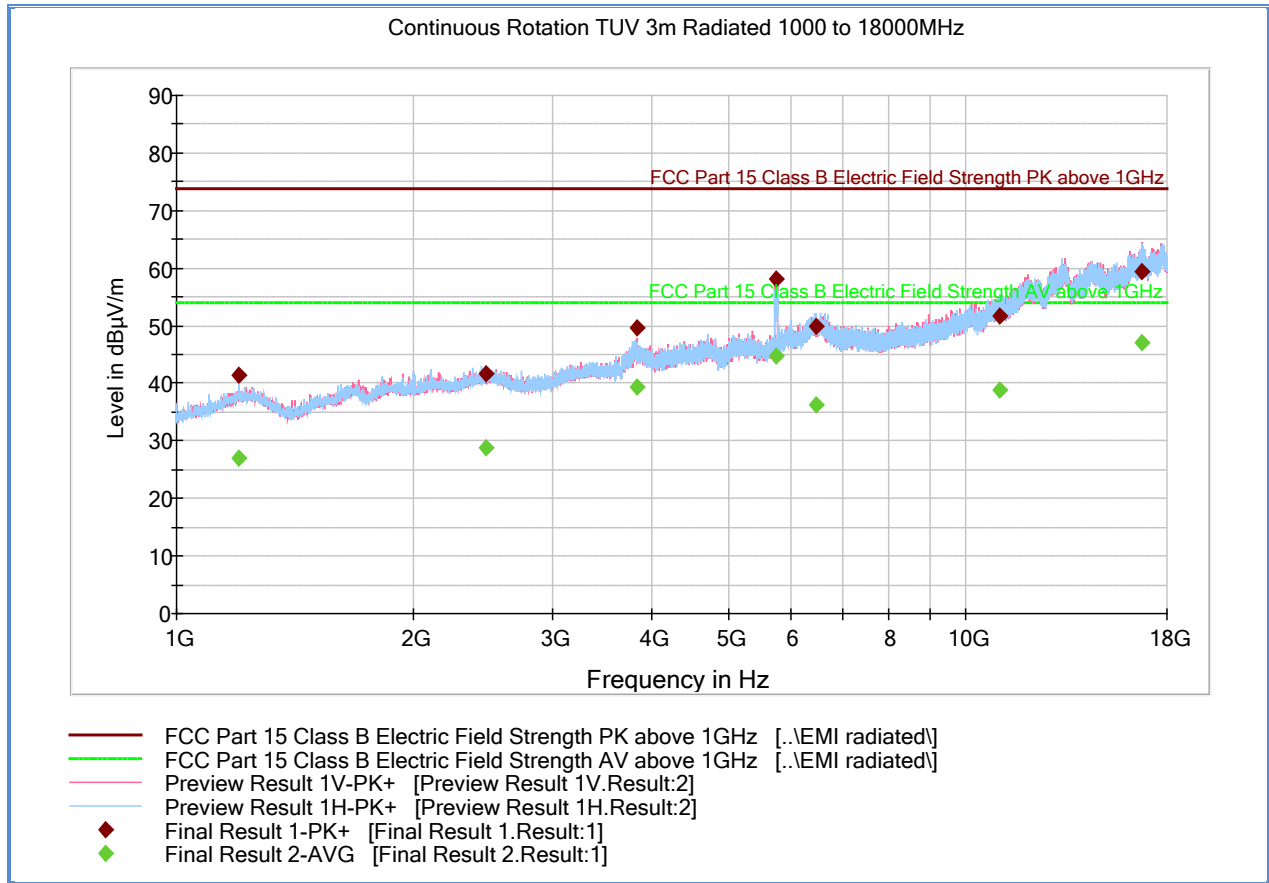
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1600.300000	27.1	1000.0	1000.000	146.7	H	268.0	-4.9	26.8	53.9
2506.200000	28.8	1000.0	1000.000	359.1	V	108.0	0.2	25.1	53.9
3883.400000	41.9	1000.0	1000.000	347.1	V	24.0	6.0	12.0	53.9
5826.733333	45.1	1000.0	1000.000	153.7	V	61.0		Fundamental	
6423.566667	36.7	1000.0	1000.000	277.2	V	77.0	12.7	17.2	53.9
11068.733333	38.8	1000.0	1000.000	404.1	H	150.0	16.7	15.1	53.9
17704.233333	46.1	1000.0	1000.000	170.6	H	101.0	25.6	7.8	53.9

**Test Notes:** Measurement was performed with a 5GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



**2.6.27 Test Results Above 1GHz (Tx – MIMO Mode)\_Worst Case Configuration  
 802.11n 5GHz(HT40)\_Low(151) Channel (5755MHz)\_13.5Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1199.266667	41.3	1000.0	1000.000	287.2	H	315.0	-5.7	32.6	73.9
2469.500000	41.8	1000.0	1000.000	404.1	H	157.0	0.1	32.1	73.9
3836.933333	49.5	1000.0	1000.000	139.7	V	341.0	6.1	24.4	73.9
5743.566667	58.2	1000.0	1000.000	368.1	H	309.0		Fundamental	
6465.633333	49.9	1000.0	1000.000	170.6	H	130.0	12.7	24.0	73.9
11066.966666	51.6	1000.0	1000.000	172.6	H	18.0	16.7	22.3	73.9
16760.533333	59.3	1000.0	1000.000	162.6	V	309.0	25.9	14.6	73.9

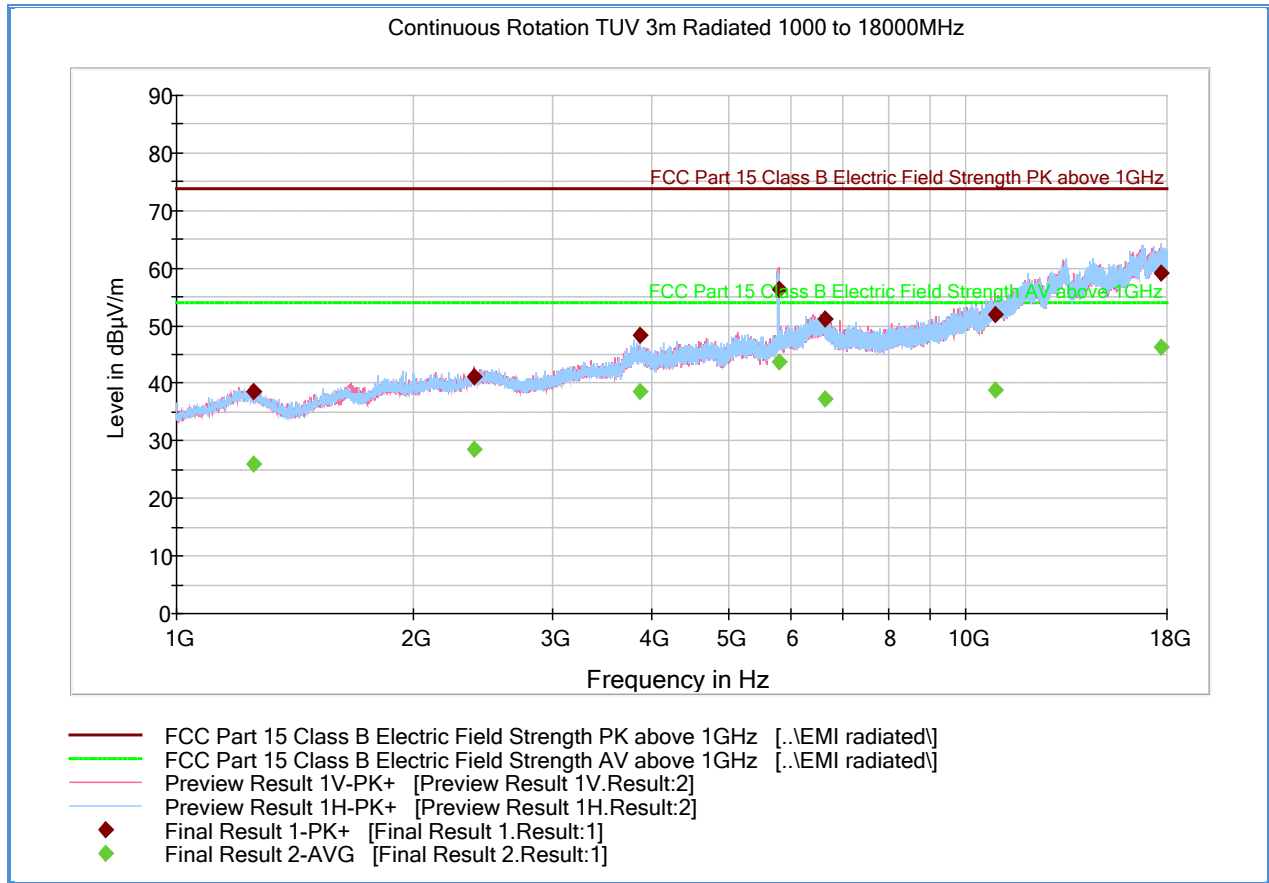
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1199.266667	27.1	1000.0	1000.000	287.2	H	315.0	-5.7	26.8	53.9
2469.500000	28.9	1000.0	1000.000	404.1	H	157.0	0.1	25.0	53.9
3836.933333	39.3	1000.0	1000.000	139.7	V	341.0	6.1	14.6	53.9
5743.566667	44.8	1000.0	1000.000	368.1	H	309.0		Fundamental	
6465.633333	36.4	1000.0	1000.000	170.6	H	130.0	12.7	17.5	53.9
11066.966666	38.9	1000.0	1000.000	172.6	H	18.0	16.7	15.0	53.9
16760.533333	47.0	1000.0	1000.000	162.6	V	309.0	25.9	6.9	53.9

**Test Notes:** Measurement was performed with a 5GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



**2.6.28 Test Results Above 1GHz (Tx – MIMO Mode)\_Worst Case Configuration  
 802.11n 5GHz(HT40)\_Mid(157) Channel (5785MHz)\_13.5Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1253.133333	38.5	1000.0	1000.000	404.1	H	241.0	-5.3	35.4	73.9
2386.300000	41.2	1000.0	1000.000	268.3	V	307.0	-0.2	32.7	73.9
3863.400000	48.4	1000.0	1000.000	333.1	H	-20.0	6.0	25.5	73.9
5797.833333	56.2	1000.0	1000.000	121.7	V	87.0		Fundamental	
6622.300000	51.2	1000.0	1000.000	103.7	V	90.0	12.7	22.7	73.9
10924.066666	51.8	1000.0	1000.000	202.5	V	315.0	16.8	22.1	73.9
17726.166666	59.1	1000.0	1000.000	99.7	H	339.0	25.7	14.8	73.9

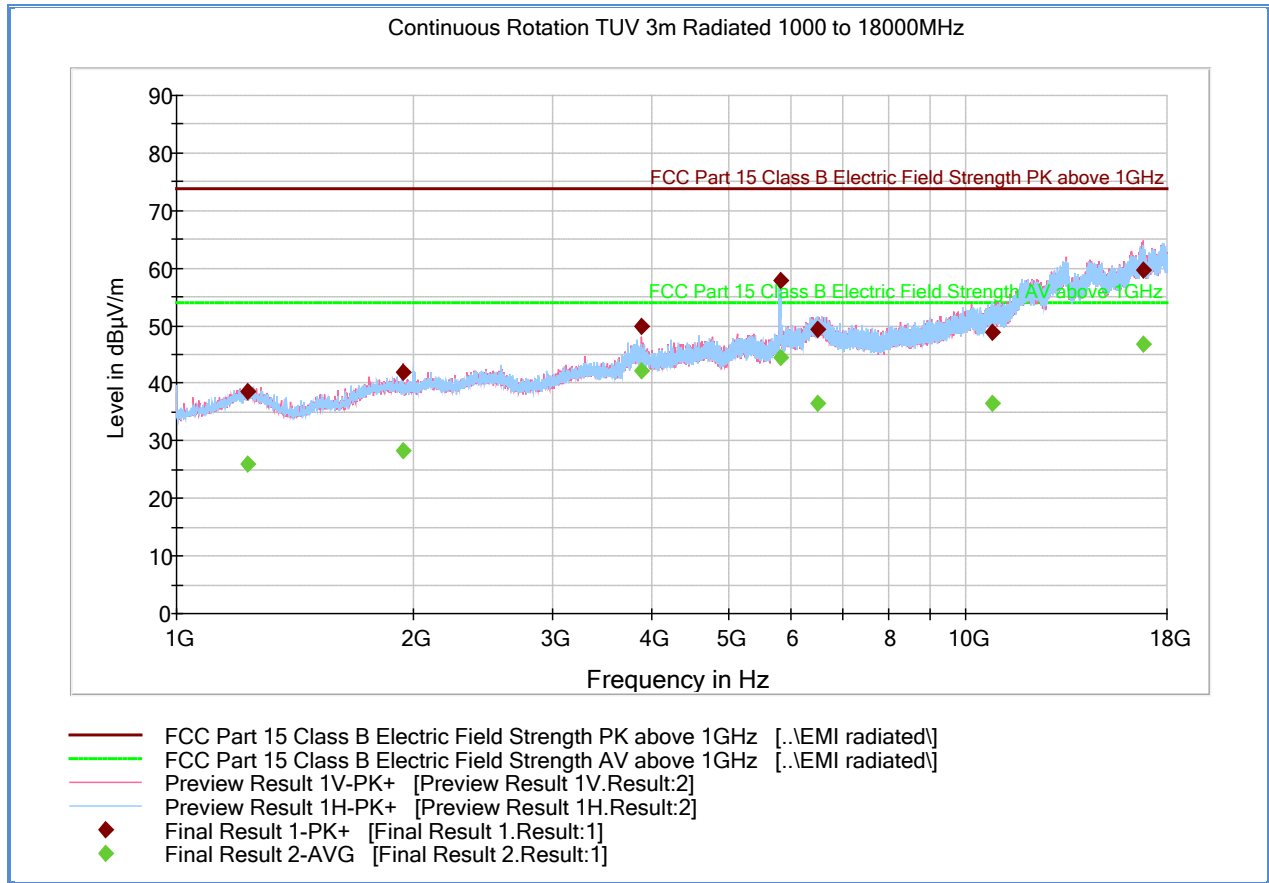
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1253.133333	25.9	1000.0	1000.000	404.1	H	241.0	-5.3	28.0	53.9
2386.300000	28.6	1000.0	1000.000	268.3	V	307.0	-0.2	25.3	53.9
3863.400000	38.6	1000.0	1000.000	333.1	H	-20.0	6.0	15.3	53.9
5797.833333	43.8	1000.0	1000.000	121.7	V	87.0		Fundamental	
6622.300000	37.3	1000.0	1000.000	103.7	V	90.0	12.7	16.6	53.9
10924.066666	38.9	1000.0	1000.000	202.5	V	315.0	16.8	15.0	53.9
17726.166666	46.2	1000.0	1000.000	99.7	H	339.0	25.7	7.7	53.9

**Test Notes:** Measurement was performed with a 5GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



**2.6.29 Test Results Above 1GHz (Tx – MIMO Mode)\_Worst Case Configuration  
 802.11n 5GHz(HT40)\_High(163) Channel (5815MHz)\_13.5Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1232.766667	38.6	1000.0	1000.000	303.2	V	278.0	-5.5	35.3	73.9
1937.100000	41.8	1000.0	1000.000	219.4	V	151.0	-1.4	32.1	73.9
3876.600000	49.9	1000.0	1000.000	403.9	V	0.0	6.0	24.0	73.9
5824.000000	57.8	1000.0	1000.000	333.1	H	290.0		Fundamental	
6495.766667	49.3	1000.0	1000.000	238.4	H	186.0	12.7	24.6	73.9
10831.233333	48.9	1000.0	1000.000	102.7	H	113.0	16.5	25.0	73.9
16801.133333	59.7	1000.0	1000.000	116.7	V	94.0	25.9	14.2	73.9

**Average Data**

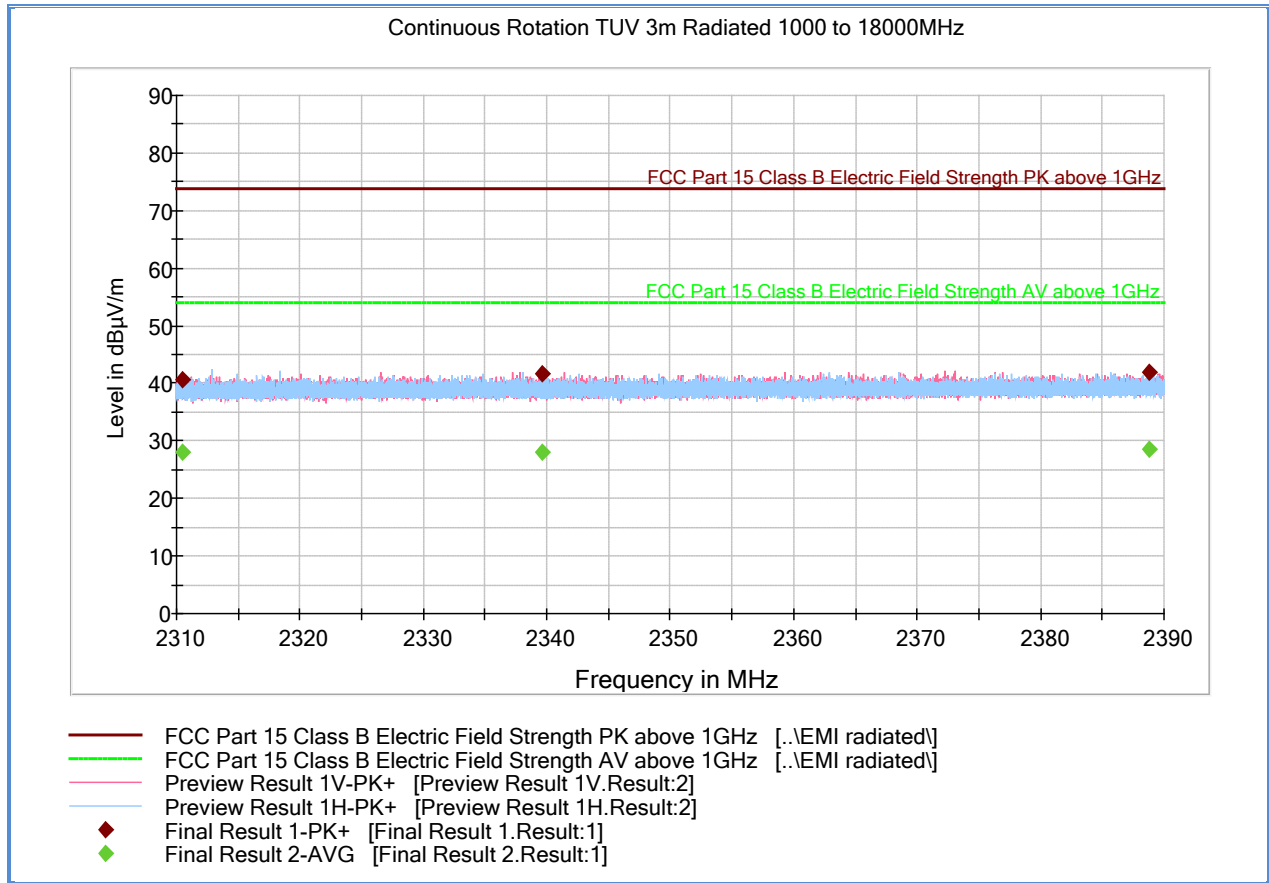
Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1232.766667	26.1	1000.0	1000.000	303.2	V	278.0	-5.5	27.8	53.9
1937.100000	28.2	1000.0	1000.000	219.4	V	151.0	-1.4	25.7	53.9
3876.600000	42.3	1000.0	1000.000	403.9	V	0.0	6.0	11.6	53.9
5824.000000	44.6	1000.0	1000.000	333.1	H	290.0		Fundamental	
6495.766667	36.4	1000.0	1000.000	238.4	H	186.0	12.7	17.5	53.9
10831.233333	36.4	1000.0	1000.000	102.7	H	113.0	16.5	17.5	53.9
16801.133333	46.8	1000.0	1000.000	116.7	V	94.0	25.9	7.1	53.9

**Test Notes:** Measurement was performed with a 5GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.





**2.6.30 Test Results Restricted Band 2310MHz to 2390MHz (Tx – SISO Mode)\_Worst Case Configuration 802.11b 2.4GHz\_Low(1) Channel (2412MHz)\_1Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2310.500000	40.6	1000.0	1000.000	201.3	V	208.0	-0.5	33.3	73.9
2339.650667	41.8	1000.0	1000.000	194.5	H	336.0	-0.4	32.1	73.9
2388.840000	42.0	1000.0	1000.000	174.6	V	242.0	-0.2	31.9	73.9

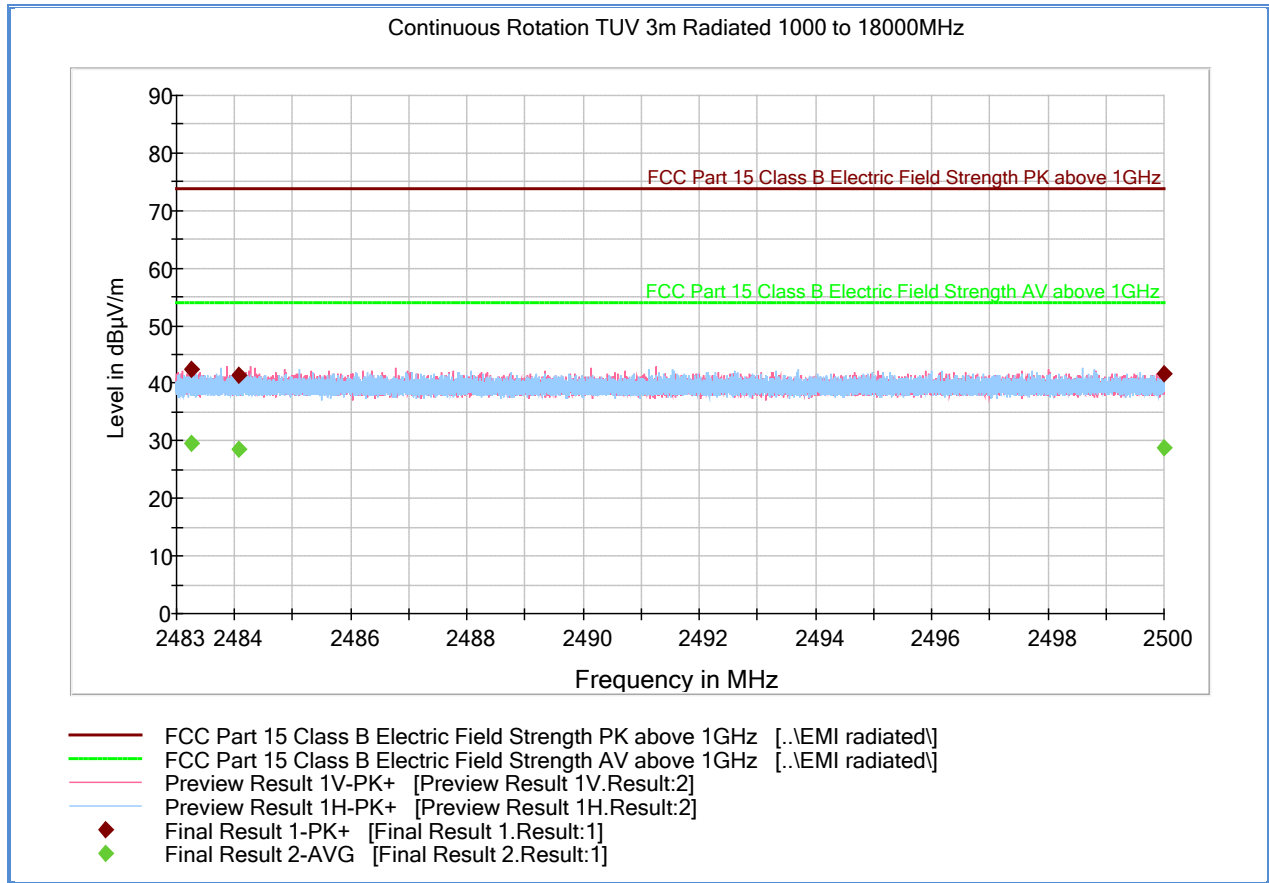
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2310.500000	28.0	1000.0	1000.000	201.3	V	208.0	-0.5	25.9	53.9
2339.650667	28.1	1000.0	1000.000	194.5	H	336.0	-0.4	25.8	53.9
2388.840000	28.4	1000.0	1000.000	174.6	V	242.0	-0.2	25.5	53.9

**Test Notes:** 2.4GHz notch filter removed for this test.



**2.6.31 Test Results Restricted Band 2483.5MHz to 2500MHz (Tx – SISO Mode)\_Worst Case Configuration 802.11b 2.4GHz\_High(11) Channel (2462MHz)\_1Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2483.265367	42.5	1000.0	1000.000	178.6	V	62.0	0.1	31.4	73.9
2484.065367	41.5	1000.0	1000.000	99.7	V	188.0	0.1	32.4	73.9
2500.000000	41.6	1000.0	1000.000	403.8	V	1.0	0.2	32.3	73.9

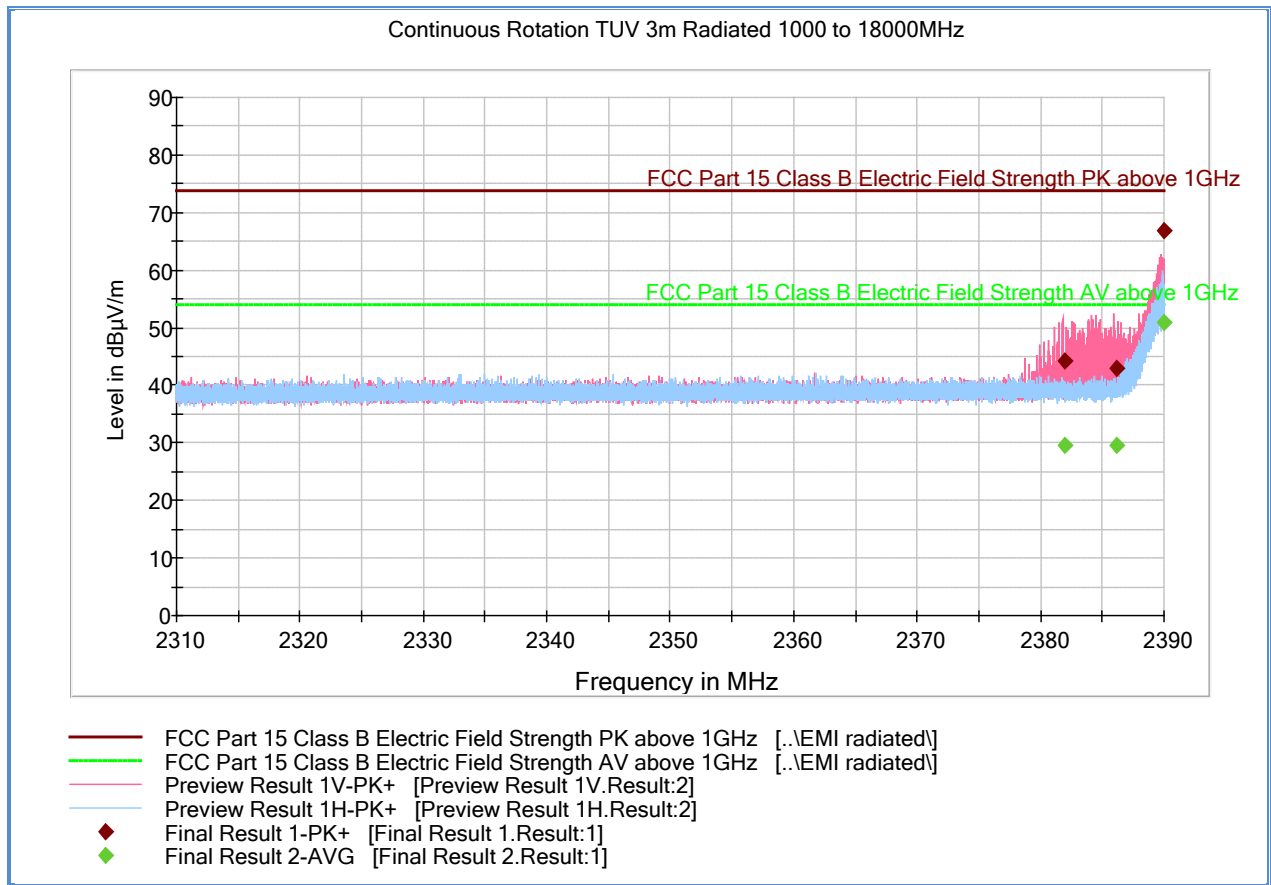
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2483.265367	29.7	1000.0	1000.000	178.6	V	62.0	0.1	24.2	53.9
2484.065367	28.6	1000.0	1000.000	99.7	V	188.0	0.1	25.3	53.9
2500.000000	28.7	1000.0	1000.000	403.8	V	1.0	0.2	25.2	53.9

**Test Notes:** 2.4GHz notch filter removed for this test.



**2.6.32 Test Results Restricted Band 2310MHz to 2390MHz (Tx – SISO Mode)\_Worst Case Configuration 802.11g 2.4GHz\_Low(1) Channel (2412MHz)\_6Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2381.984000	44.3	1000.0	1000.000	114.7	V	287.0	-0.3	29.6	73.9
2386.109333	42.8	1000.0	1000.000	113.7	V	288.0	-0.2	31.1	73.9
2390.000000	67.0	1000.0	1000.000	102.8	V	284.0	-0.2	6.9	73.9

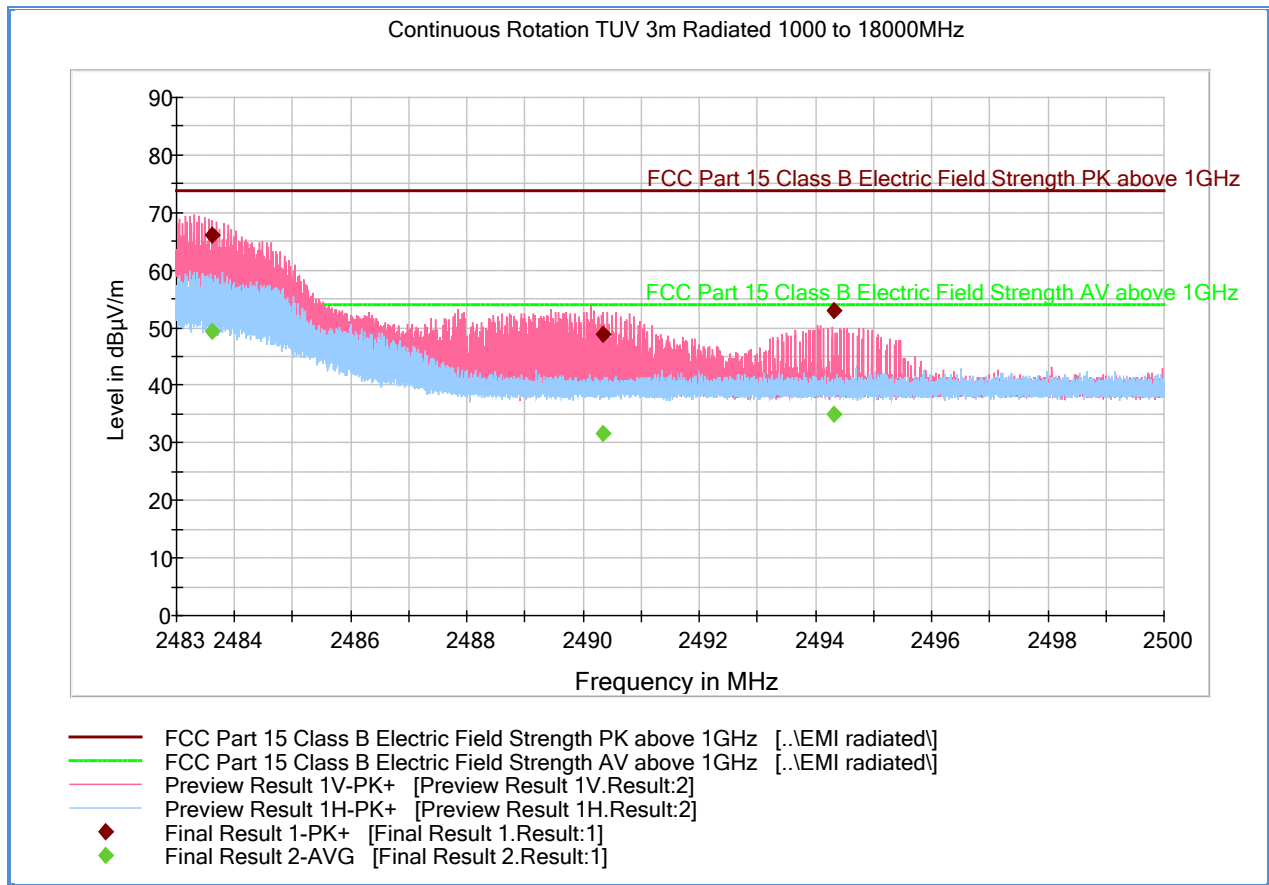
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2381.984000	29.7	1000.0	1000.000	114.7	V	287.0	-0.3	24.2	53.9
2386.109333	29.6	1000.0	1000.000	113.7	V	288.0	-0.2	24.3	53.9
2390.000000	50.8	1000.0	1000.000	102.8	V	284.0	-0.2	3.1	53.9

**Test Notes:** 2.4GHz notch filter removed for this test.



**2.6.33 Test Results Restricted Band 2483.5MHz to 2500MHz (Tx – SISO Mode)\_Worst Case Configuration 802.11g 2.4GHz\_High(11) Channel (2462MHz)\_6Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2483.600000	66.1	1000.0	1000.000	104.8	V	287.0	0.1	7.8	73.9
2490.328100	49.0	1000.0	1000.000	105.7	V	287.0	0.2	24.9	73.9
2494.305600	53.0	1000.0	1000.000	103.7	V	281.0	0.2	20.9	73.9

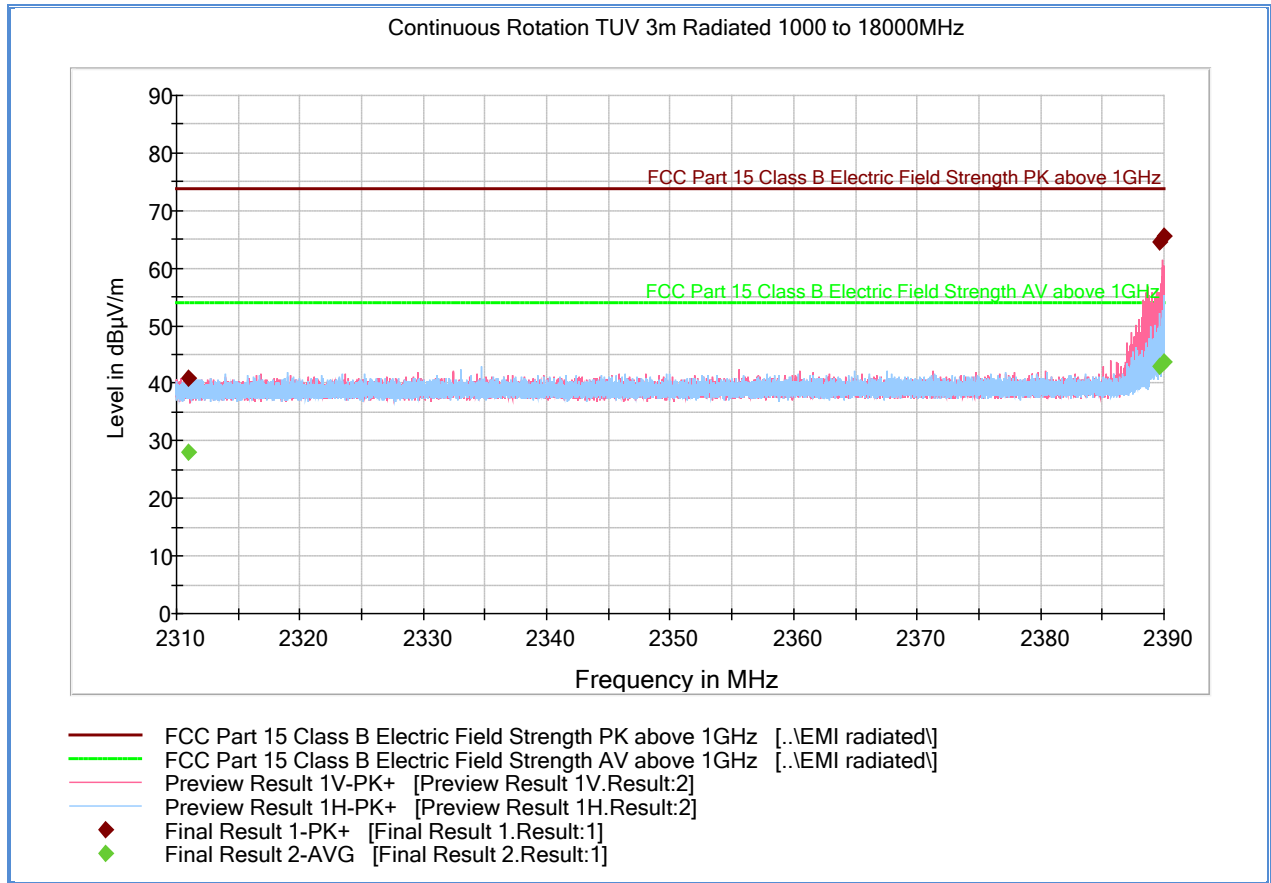
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2483.600000	49.3	1000.0	1000.000	104.8	V	287.0	0.1	4.6	53.9
2490.328100	31.6	1000.0	1000.000	105.7	V	287.0	0.2	22.3	53.9
2494.305600	35.0	1000.0	1000.000	103.7	V	281.0	0.2	18.9	53.9

**Test Notes:** 2.4GHz notch filter removed for this test.



**2.6.34 Test Results Restricted Band 2310MHz to 2390MHz (Tx – MIMO Mode)\_Worst Case Configuration 802.11n 2.4GHz(HT20)\_Low(1) Channel (2412MHz)\_6.5Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2310.900000	40.9	1000.0	1000.000	197.5	V	24.0	-0.5	33.0	73.9
2389.653333	64.6	1000.0	1000.000	99.7	V	69.0	-0.2	9.3	73.9
2390.000000	65.5	1000.0	1000.000	100.7	V	69.0	-0.2	8.4	73.9

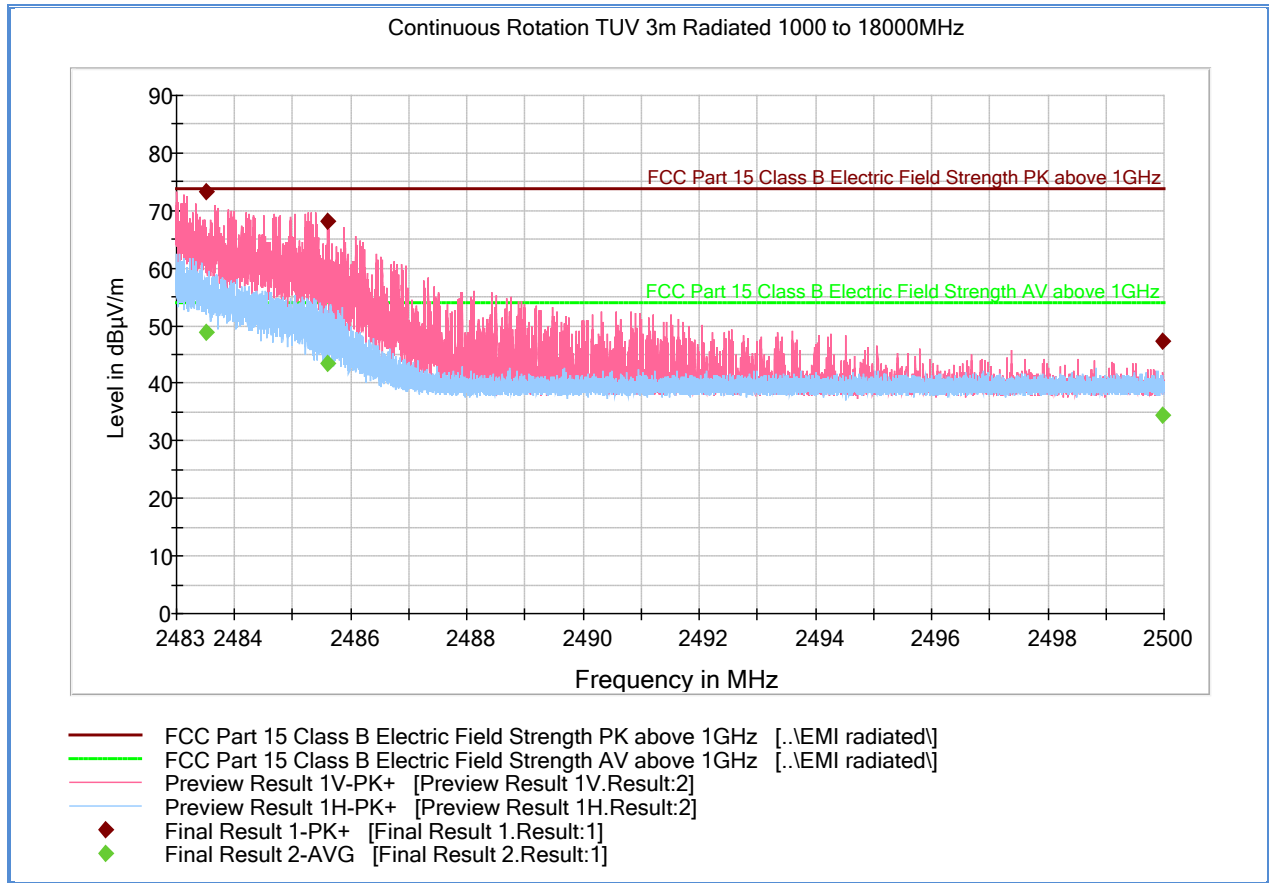
**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2310.900000	28.0	1000.0	1000.000	197.5	V	24.0	-0.5	25.9	53.9
2389.653333	43.0	1000.0	1000.000	99.7	V	69.0	-0.2	10.9	53.9
2390.000000	43.7	1000.0	1000.000	100.7	V	69.0	-0.2	10.2	53.9

**Test Notes:** 2.4GHz notch filter removed for this test.



**2.6.35 Test Results Restricted Band 2483.5MHz to 2500MHz (Tx – MIMO Mode)\_Worst Case Configuration 802.11n 2.4GHz(HT20)\_High(11) Channel (2462MHz)\_65Mbps Data Rate**



**Peak Data**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2483.500000	73.4	1000.0	1000.000	99.7	V	75.0	0.2	0.5	73.9
2485.596833	68.0	1000.0	1000.000	101.7	V	73.0	0.2	5.9	73.9
2499.986967	47.3	1000.0	1000.000	100.7	V	73.0	0.2	26.6	73.9

**Average Data**

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2483.500000	48.9	1000.0	1000.000	99.7	V	75.0	0.2	5.0	53.9
2485.596833	43.5	1000.0	1000.000	101.7	V	73.0	0.2	10.4	53.9
2499.986967	34.5	1000.0	1000.000	100.7	V	73.0	0.2	19.4	53.9

**Test Notes:** 2.4GHz notch filter removed for this test.



## 2.7 POWER SPECTRAL DENSITY

### 2.7.1 Specification Reference

Part 15 Subpart C §15.247(e)

### 2.7.2 Standard Applicable

(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

### 2.7.3 Equipment Under Test and Modification State

Serial No: SS220414800525 / Test Configuration A

### 2.7.4 Date of Test/Initial of test personnel who performed the test

June 30, 2014 / AC

### 2.7.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

### 2.7.6 Environmental Conditions / Test Location

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature      25.8°C  
Relative Humidity          47.3%  
ATM Pressure                98.7 kPa

### 2.7.7 Additional Observations

- This is a conducted test.
- Test procedure is per section 10.2 of KDB 558074 D01 DTS Meas Guidance v03r02 (Compliance Measurement Guidance for 15.247 Digital Transmission Systems, June 05, 2014).
- The offset table below to the power meter was used to compensate for the power splitter, external attenuator and cable used.

Channel (#)	Frequency (MHz)	Offset (dB)
1	2412	27.5
6	2437	27.6
11	2462	27.6
149	5745	31.2
157	5785	31.0
165	5825	31.7

- Conducted antenna port 0 and 1 were verified and found transmit port 1 was worst case scenario when in SISO mode. Therefore, only transmit port 1 was reported.



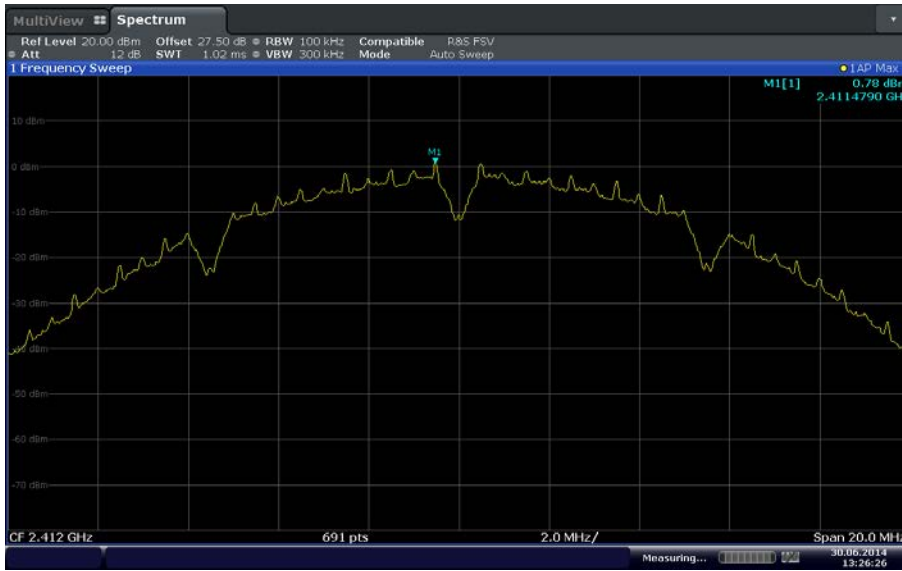
- Detector is Peak.
- Trace mode is Max Hold.
- Sweep time is Auto Couple.
- Bandwidth Correction Factor BWCF is from  $10\log(3\text{kHz}/100\text{kHz}) = (-15.228)$





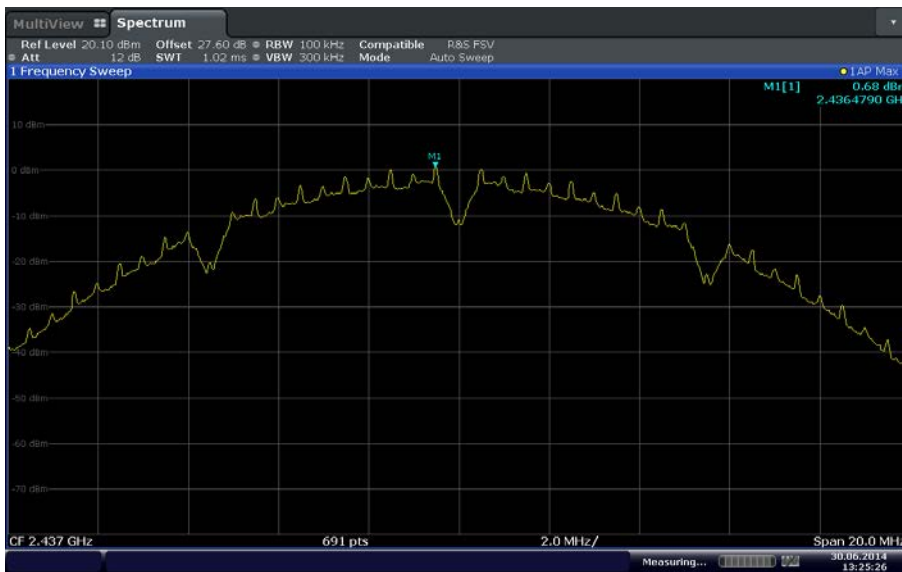
2.7.8 Test Results/Plots

802.11b_Low Channel Power Spectral Density						
Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11b (SISO)	1 (2412 MHz)	0.78	-15.228	-14.448	8	Complies



Date: 30 JUN 2014 13:26:26

802.11b_Mid Channel Power Spectral Density						
Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11b (SISO)	6 (2437 MHz)	0.68	-15.228	-14.548	8	Complies

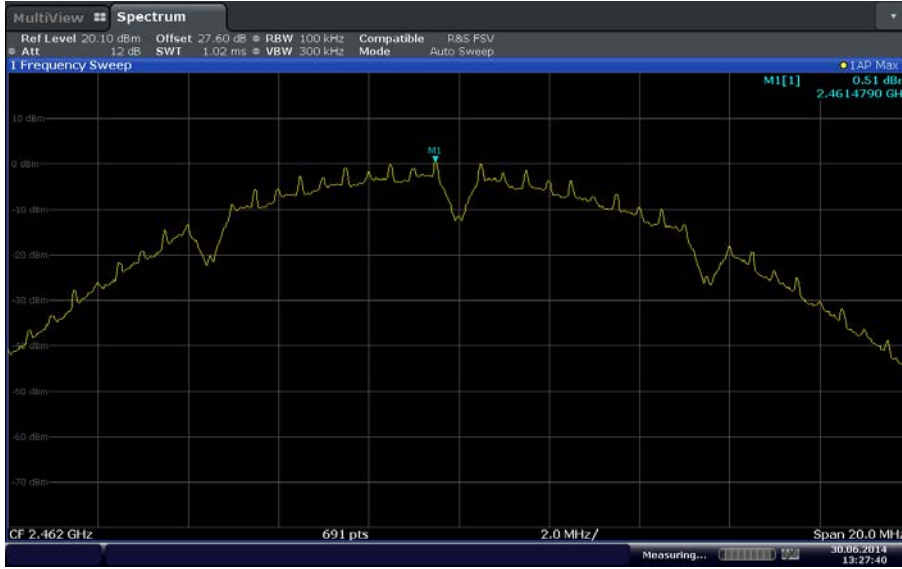


Date: 30 JUN 2014 13:25:26



**802.11b\_High Channel Power Spectral Density**

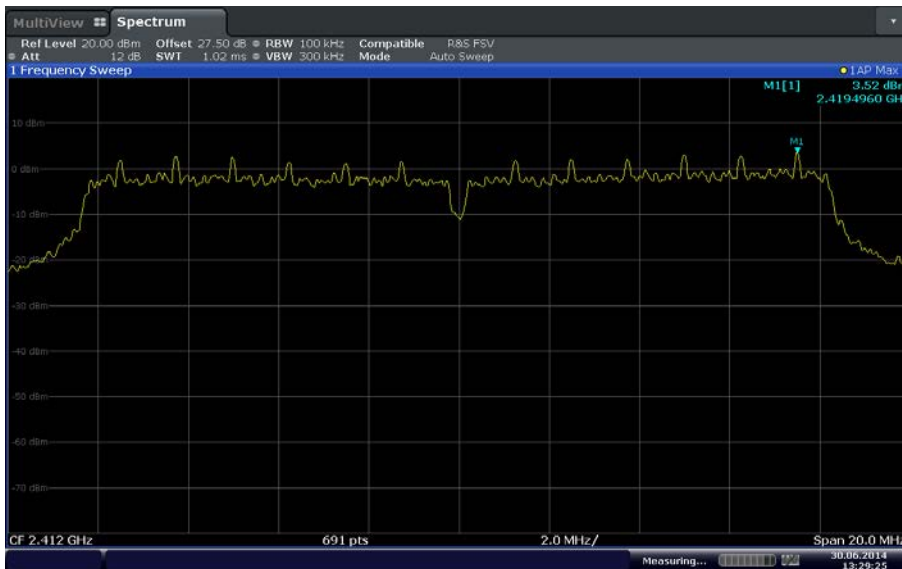
Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11b (SISO)	11 (2462 MHz)	0.51	-15.228	-14.718	8	Complies



Date: 30 JUN 2014 13:27:40

**802.11g\_Low Channel Power Spectral Density**

Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11g (SISO)	1 (2412 MHz)	3.52	-15.228	-11.708	8	Complies

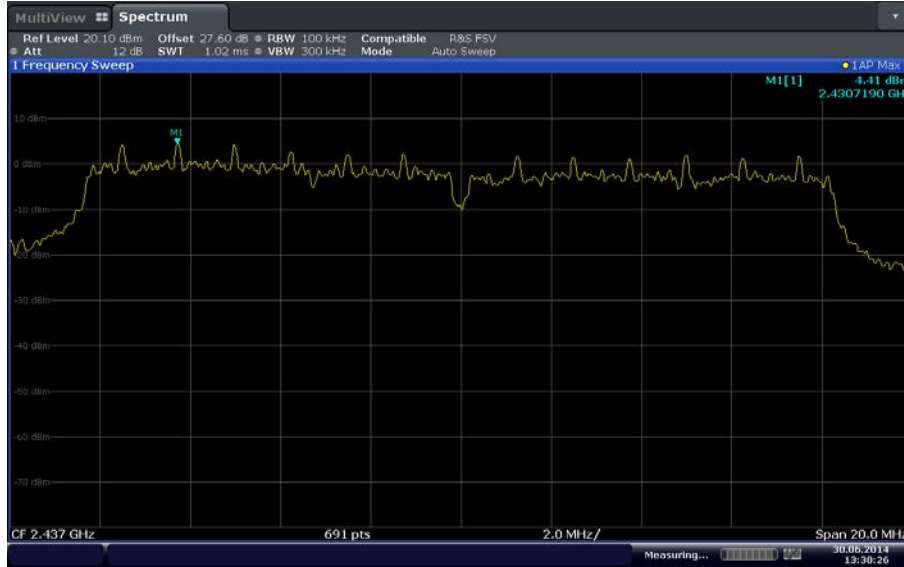


Date: 30 JUN 2014 13:29:25



**802.11g\_Mid Channel Power Spectral Density**

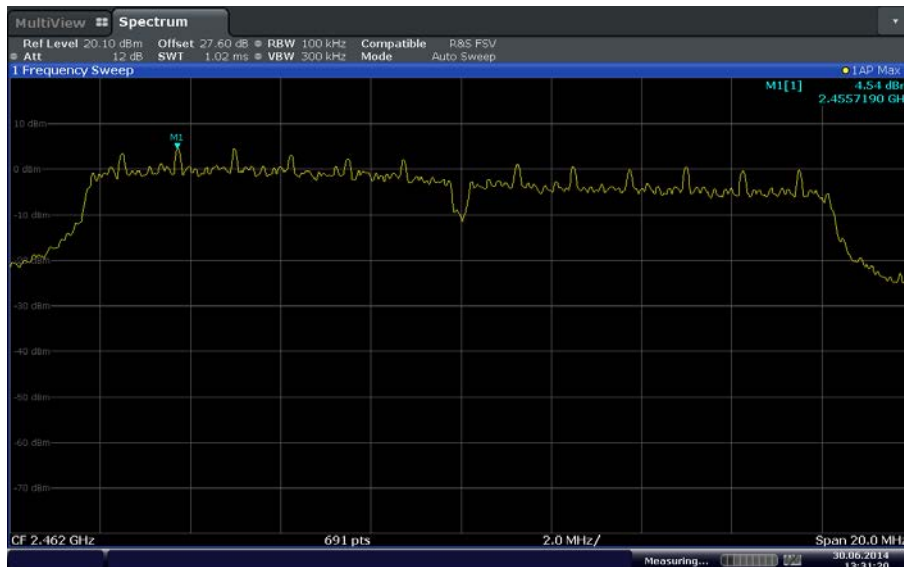
Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11g (SISO)	6 (2437 MHz)	4.41	-15.228	-10.818	8	Complies



Date: 30 JUN 2014 13:30:26

**802.11g\_High Channel Power Spectral Density**

Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11g (SISO)	11 (2462 MHz)	4.54	-15.228	-10.688	8	Complies



Date: 30 JUN 2014 13:31:20



**802.11n (HT20)\_Low Channel Power Spectral Density**

Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11n (HT20) (MIMO)	1 (2412 MHz)	6.16	-15.228	-9.068	8	Complies



Date: 30 JUN 2014 13:32:49

**802.11n (HT20)\_Mid Channel Power Spectral Density**

Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11n (HT20) (MIMO)	6 (2437 MHz)	7.19	-15.228	-8.038	8	Complies



Date: 30 JUN 2014 13:35:00



**802.11n (HT20)\_High Channel Power Spectral Density**

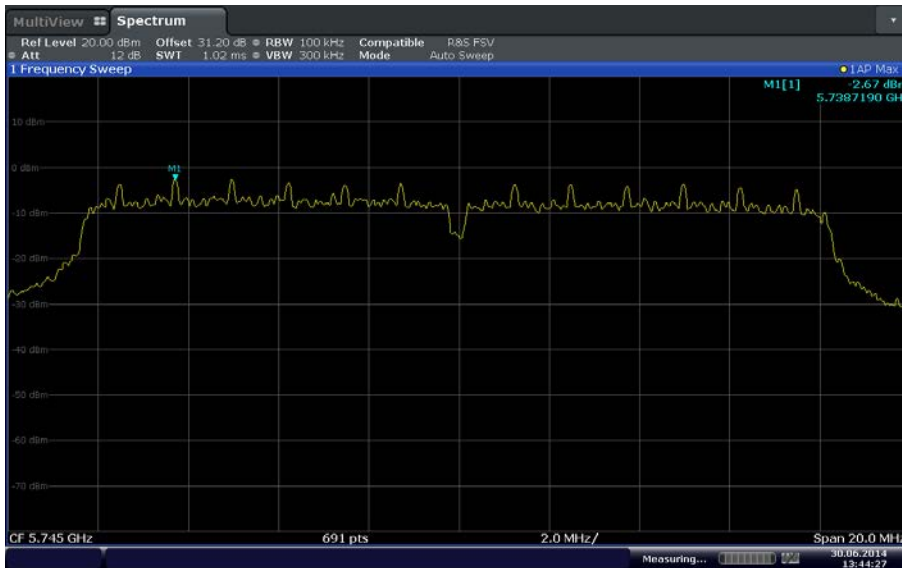
Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11n (HT20) (MIMO)	11 (2462 MHz)	9.31	-15.228	-5.918	8	Complies



Date: 30 JUN 2014 13:36:04

**802.11a\_Low Channel Power Spectral Density**

Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11a (SISO)	149 (5745 MHz)	-2.67	-15.228	-17.898	8	Complies

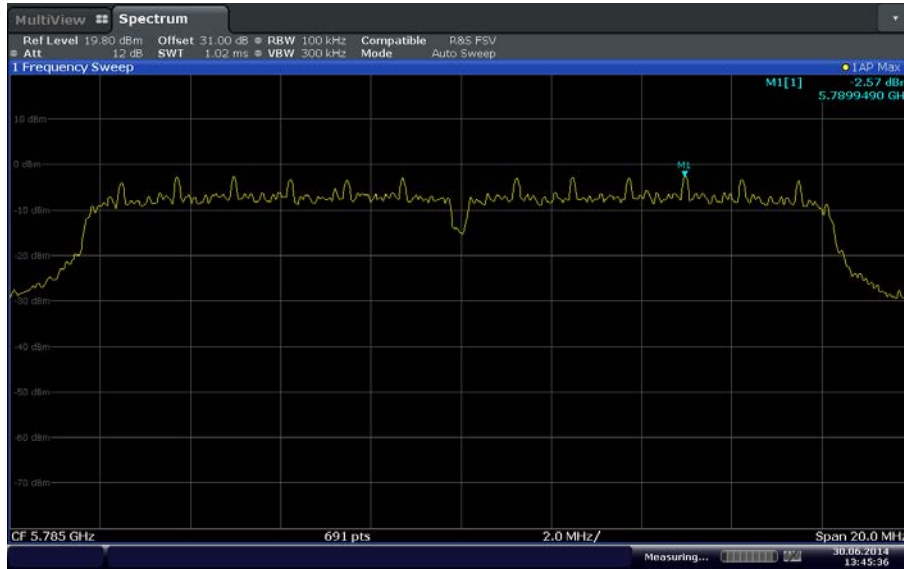


Date: 30 JUN 2014 13:44:27



**802.11a\_Mid Channel Power Spectral Density**

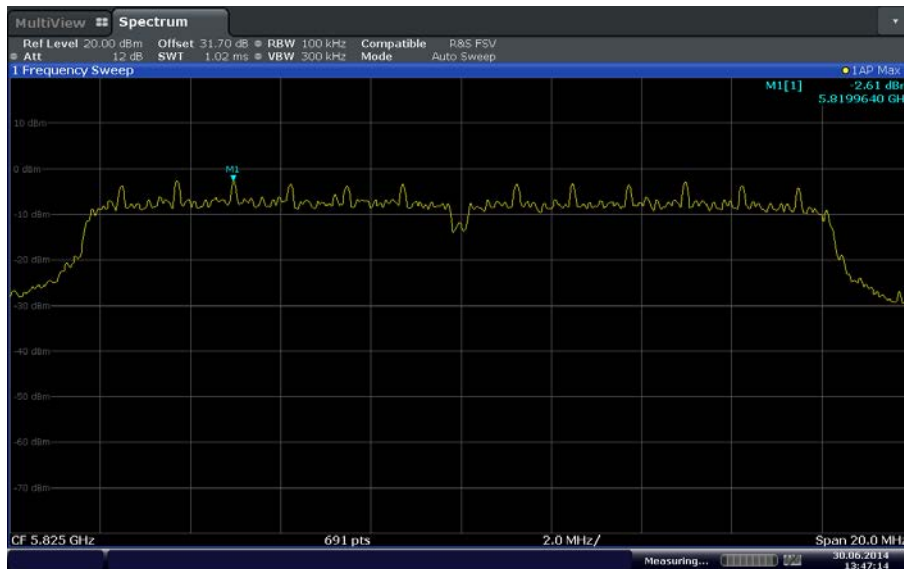
Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11a (SISO)	157 (5785 MHz)	-2.57	-15.228	-17.798	8	Complies



Date: 30 JUN 2014 13:45:37

**802.11a\_High Channel Power Spectral Density**

Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11a (SISO)	165 (5825 MHz)	-2.61	-15.228	-17.838	8	Complies



Date: 30 JUN 2014 13:47:15



802.11n (HT20)\_Low Channel Power Spectral Density

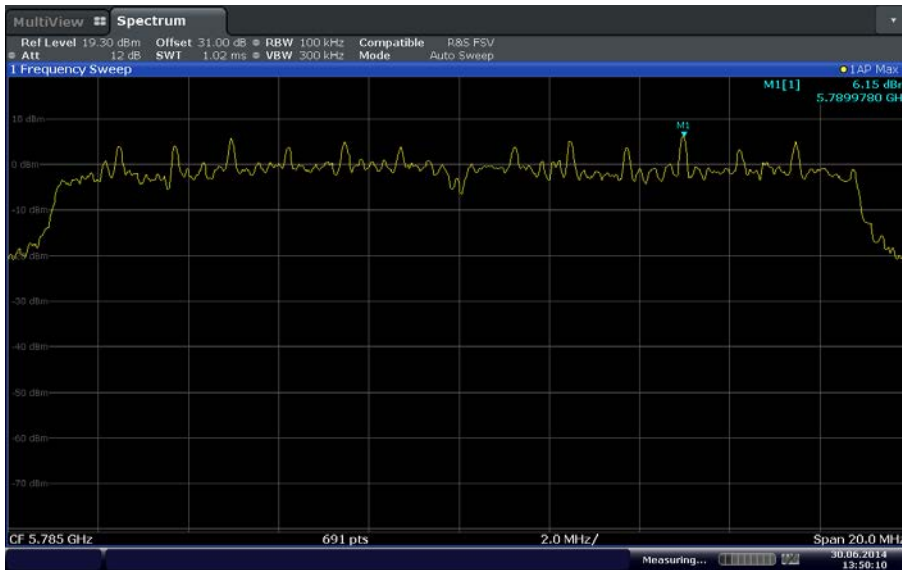
Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11n (HT20) (MIMO)	149 (5745 MHz)	6.58	-15.228	-8.648	8	Complies



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802.11n (HT20)\_Mid Channel Power Spectral Density

Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11n (HT20) (MIMO)	157 (5785 MHz)	6.15	-15.228	-9.078	8	Complies

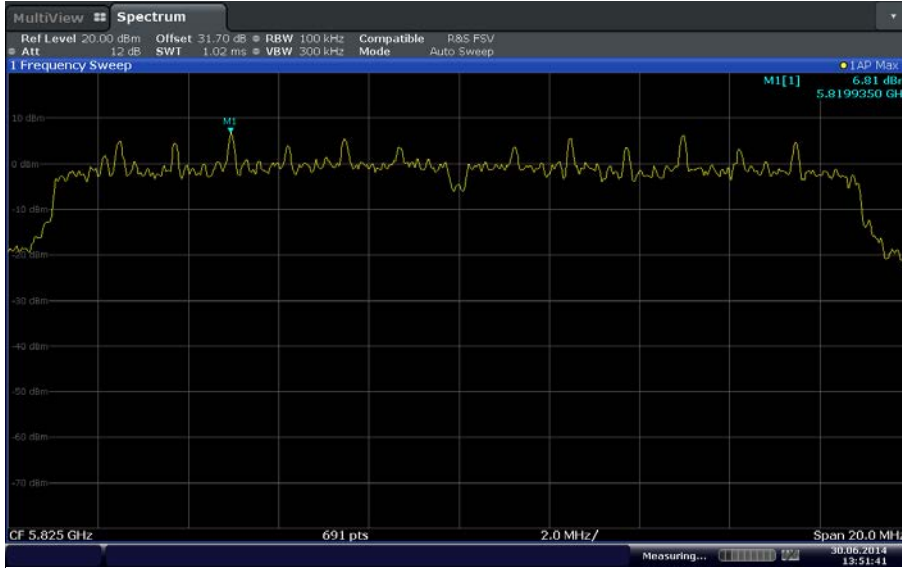


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**802.11n (HT20)\_High Channel Power Spectral Density**

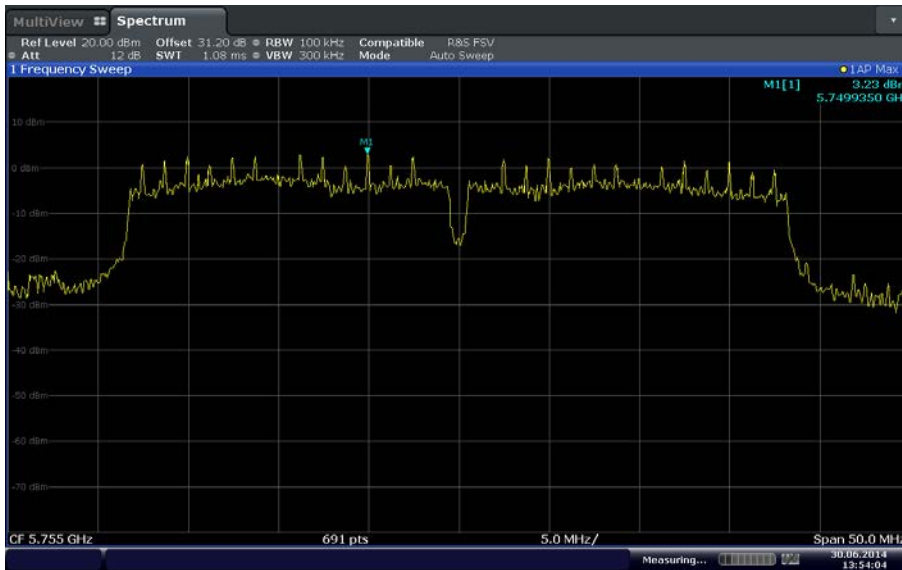
Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11n (HT20) (MIMO)	165 (5825 MHz)	6.81	-15.228	-8.418	8	Complies



Date: 30 JUN 2014 13:51:42

**802.11n (HT40)\_Low Channel Power Spectral Density**

Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11n (HT40) (MIMO)	151 (5755 MHz)	3.23	-15.228	-11.998	8	Complies



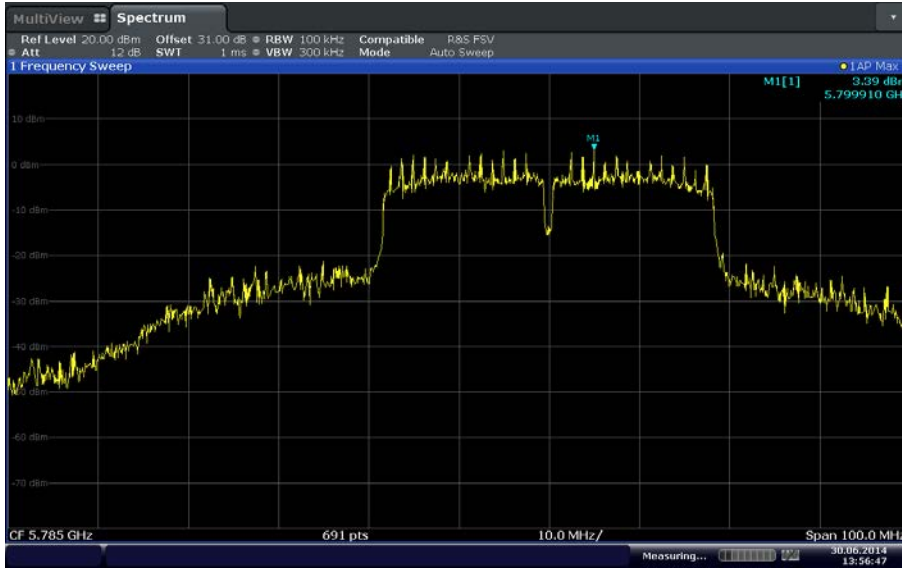
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**802.11n (HT40)\_Mid Channel Power Spectral Density**

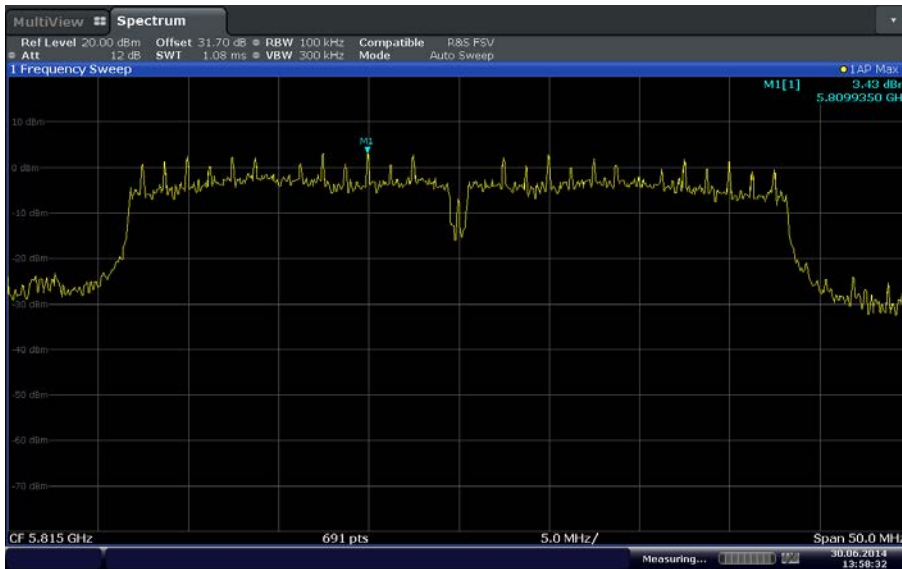
Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11n (HT40) (MIMO)	157 (5785 MHz)	3.39	-15.228	-11.838	8	Complies



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**802.11n (HT40)\_High Channel Power Spectral Density**

Mode	Channel	Marker Reading (dBm)	Bandwidth Correction Factor (BWCF)	PSD Level (dBm)	Limit (dBm)	Compliance
802.11n (HT40) (MIMO)	163 (5815 MHz)	3.43	-15.228	-11.798	8	Complies



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### **SECTION 3**

#### **TEST EQUIPMENT USED**



### 3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

ID Number (SDGE/SDRB)	Test Equipment	Type	Serial Number	Manufacturer	Cal Date	Cal Due Date
<b>Conducted Port Setup</b>						
7570	50MHz-18GHz Wideband Power Sensor	N1921A	MY45240588	Agilent	04/09/14	04/09/15
7582	Signal/Spectrum Analyzer	FSW26	101614	Rhode & Schwarz	11/19/13	11/19/14
7569	Series Power Meter	N1911A P-	MY45100625	Agilent	04/22/14	04/22/15
<b>Radiated Test Setup</b>						
1051	Double-ridged waveguide horn antenna	3115	9408-4329	EMCO	02/28/14	02/28/16
1150	Horn antenna	3160-09	012054-004	ETS	04/26/13	04/26/15
1040	EMI Test Receiver	ESIB40	100292	Rhode & Schwarz	07/31/13	07/31/14
1002	Bilog Antenna	3142C	00058717	ETS-Lindgren	01/30/14	01/30/16
1016	Pre-amplifier	PAM-0202	187	PAM	10/08/13	10/08/14
1049	EMI Test Receiver	ESU	100133	Rhode & Schwarz	03/17/14	03/17/15
7575	Double-ridged waveguide horn antenna	3117	00155511	EMCO	04/08/14	04/08/15
8628	Pre-amplifier	QLJ 01182835-JO	8986002	QuinStar Technologies Inc.	04/03/14	04/03/15
<b>Conducted Emissions</b>						
1024	EMI Test Receiver	ESCS 30	847793/001	Rhode & Schwarz	04/05/14	04/05/15
7568	LISN	FCC-LISN-50-25-2-10	120305	Fischer Custom Comm.	07/10/13	07/10/14
8822	20dB Attenuator	34-20-34	N/A	MCE / Weinschel	01/30/14	01/30/15
8824	20dB Attenuator	34-20-34	N/A	MCE / Weinschel	01/30/14	01/30/15
<b>Miscellaneous</b>						
	Test Software	EMC32	V8.53	Rhode & Schwarz	N/A	
1072	DC Power Supply	E3610A	KR51311519	Hewlett Packard	Verified by 6452	
6452	Multimeter	3478A	2911A52177	Hewlett Packard	08/02/13	08/02/14
7562	Wideband Radio Communication Tester	CMW 500	1201.0002k50/103829	Rhode & Schwarz	10/09/13	10/09/15
7579	Temperature Chamber	115	151617	TestQuity	07/16/13	07/16/14
7560	Barometer/Temperature /Humidity Transmitter	iBTHX-W	1240476	Omega	01/30/14	01/30/15



### 3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:

#### 3.2.1 Radiated Emission Measurements (Below 1GHz)

Contribution		Probability Distribution Type	Probability Distribution $x_i$	Standard Uncertainty $u(x_i)$	$[u(x_i)]^2$
1	Receiver/Spectrum Analyzer	Rectangular	0.45	0.26	0.07
2	Cables	Rectangular	0.50	0.29	0.08
3	Preamp	Rectangular	0.50	0.29	0.08
4	Antenna	Rectangular	0.75	0.43	0.19
5	Site	Rectangular	3.89	2.25	5.04
6	EUT Setup	Rectangular	1.00	0.58	0.33
Combined Uncertainty ( $u_c$ ):					2.41
Coverage Factor (k):					2
Expanded Uncertainty:					4.82

#### 3.2.2 Radiated Emission Measurements (Above 1GHz)

Contribution		Probability Distribution Type	Probability Distribution $x_i$	Standard Uncertainty $u(x_i)$	$[u(x_i)]^2$
1	Receiver/Spectrum Analyzer	Rectangular	0.57	0.33	0.11
2	Cables	Rectangular	0.70	0.40	0.16
3	Preamp	Rectangular	0.50	0.29	0.08
4	Antenna	Rectangular	0.37	0.21	0.05
5	Site	Rectangular	3.89	2.25	5.04
6	EUT Setup	Rectangular	1.00	0.58	0.33
Combined Uncertainty ( $u_c$ ):					2.40
Coverage Factor (k):					2
Expanded Uncertainty:					4.81

#### 3.2.3 Conducted Antenna Port Measurement

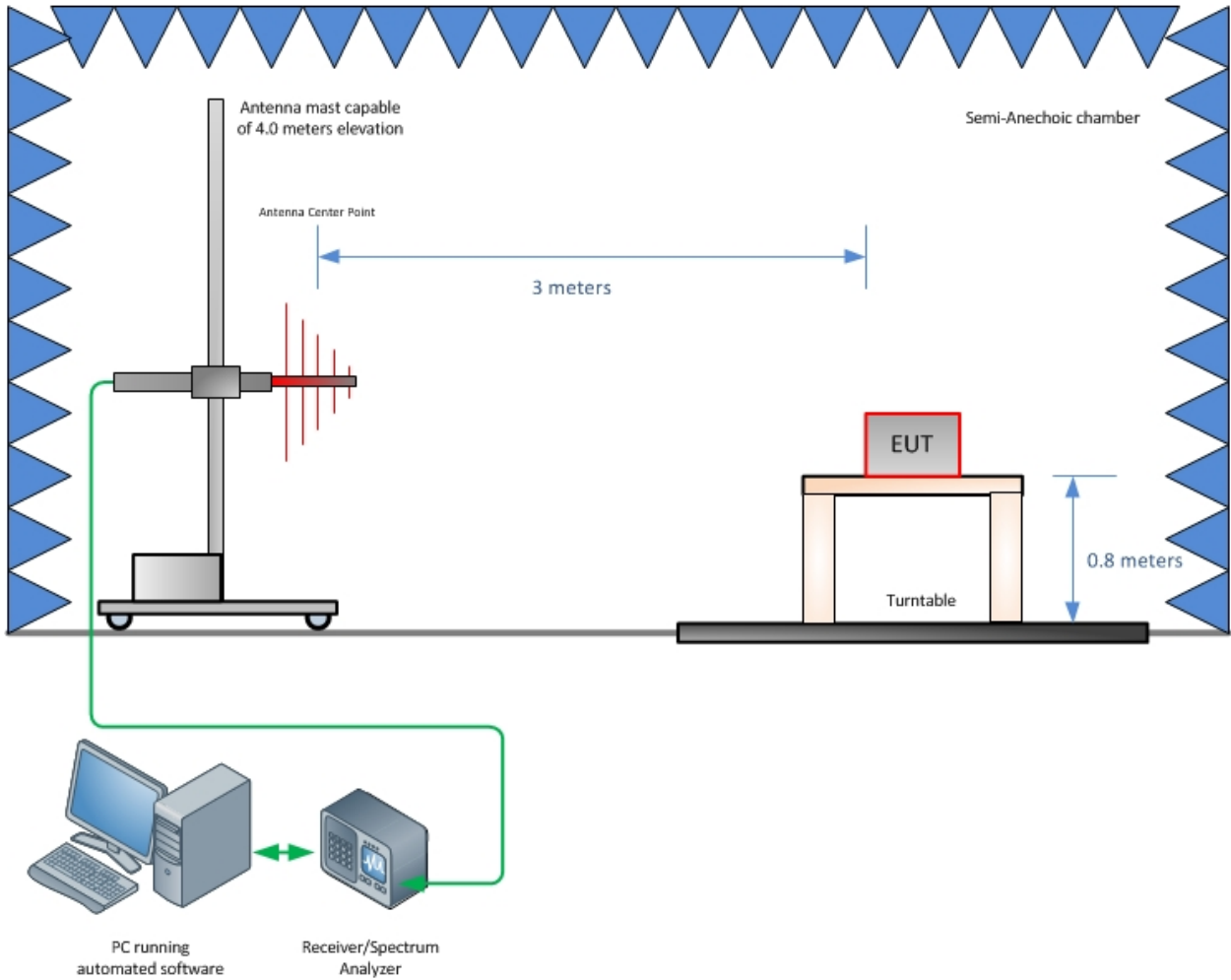
Contribution		Probability Distribution Type	Probability Distribution $x_i$	Standard Uncertainty $u(x_i)$	$[u(x_i)]^2$
1	Receiver/Spectrum Analyzer	Rectangular	0.57	0.33	0.11
2	Cables	Rectangular	0.50	0.29	0.08
3	EUT Setup	Rectangular	1.00	0.58	0.33
Combined Uncertainty ( $u_c$ ):					0.72
Coverage Factor (k):					2
Expanded Uncertainty:					1.45



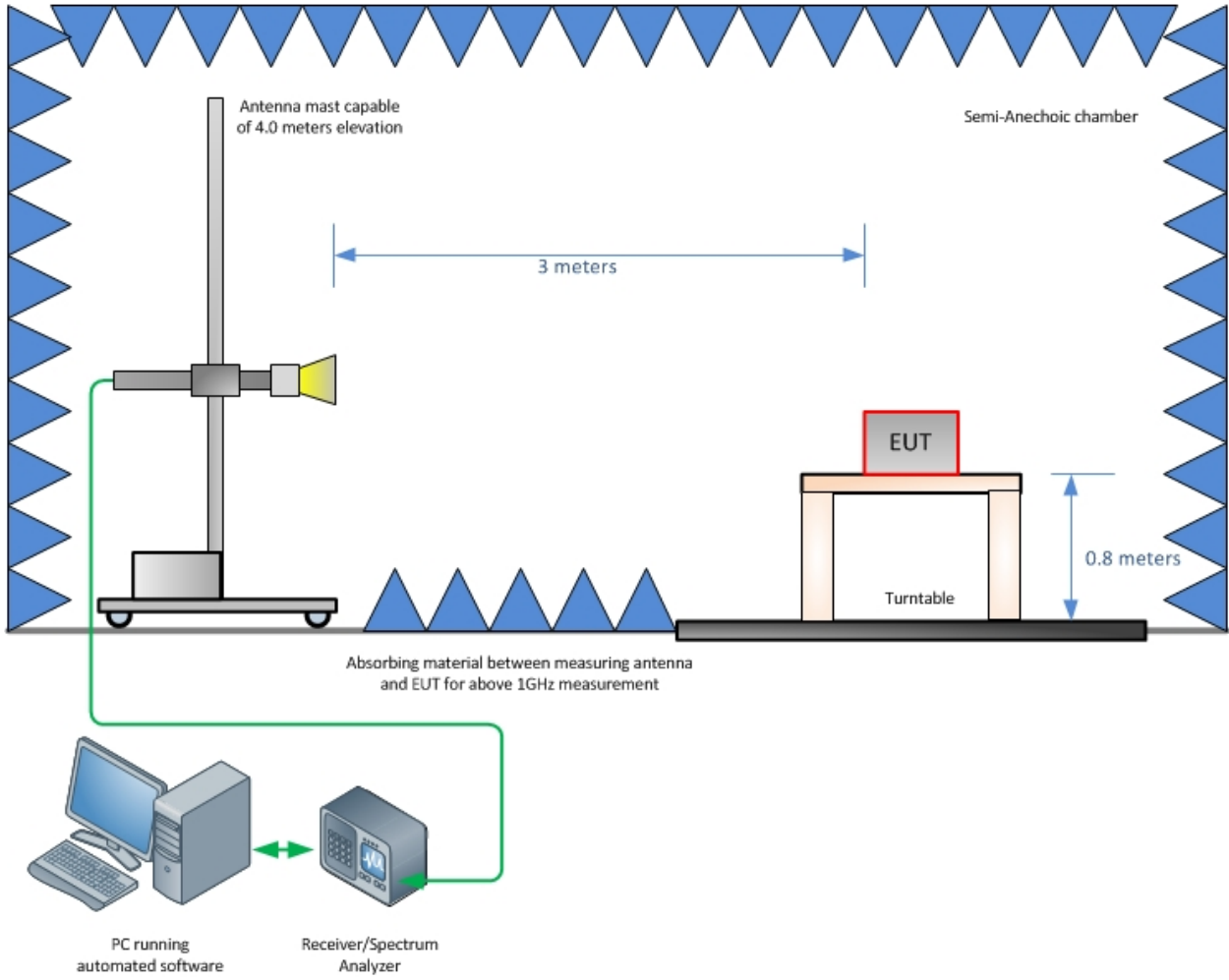
## SECTION 4

### DIAGRAM OF TEST SETUP

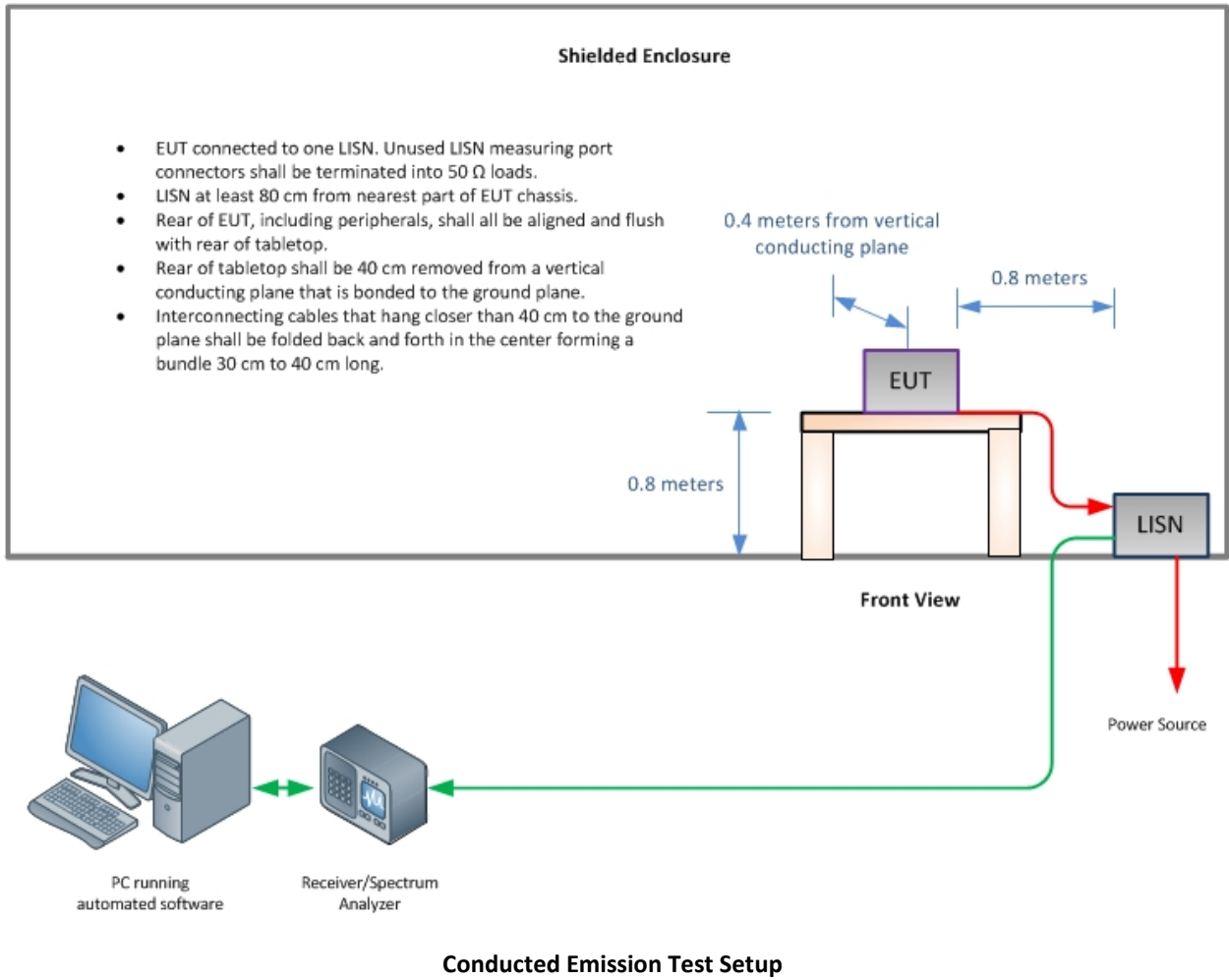
#### 4.1 TEST SETUP DIAGRAM



**Radiated Emission Test Setup (Below 1GHz)**



**Radiated Emission Test Setup (Above 1GHz)**







## SECTION 5

### ACCREDITATION, DISCLAIMERS AND COPYRIGHT



## 5.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT

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