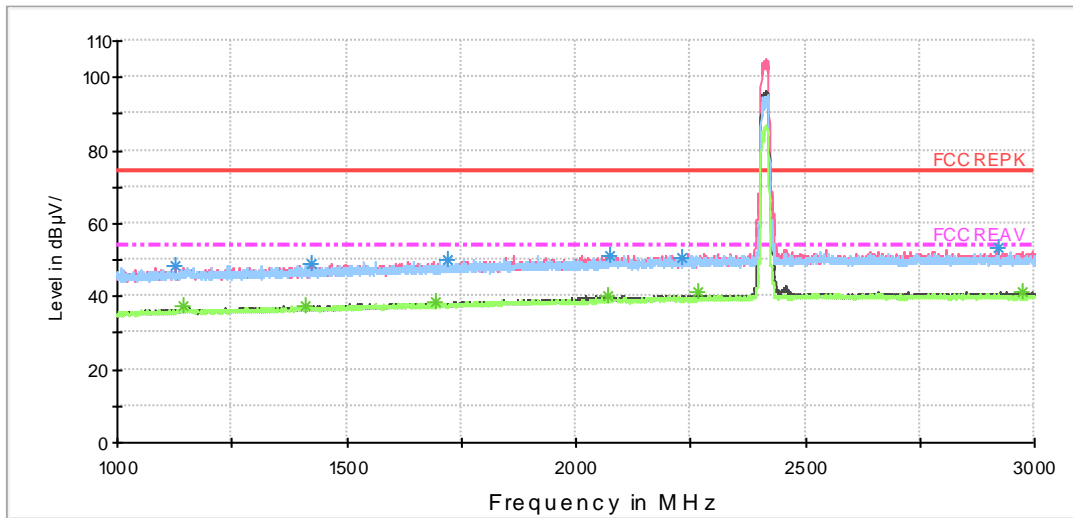


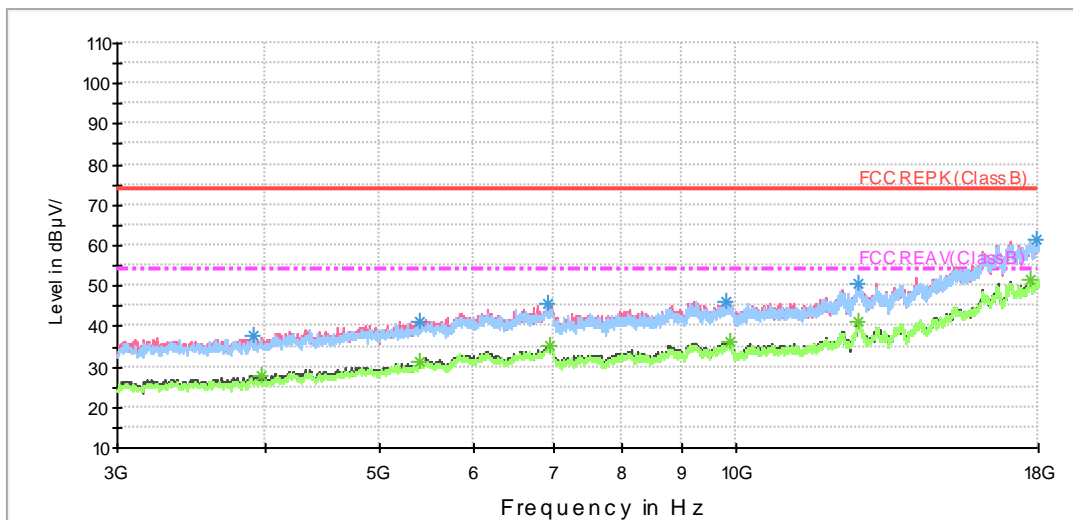
## 802.11g CH1

## FCC RE 1G-3GHz PK+AV Class B



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

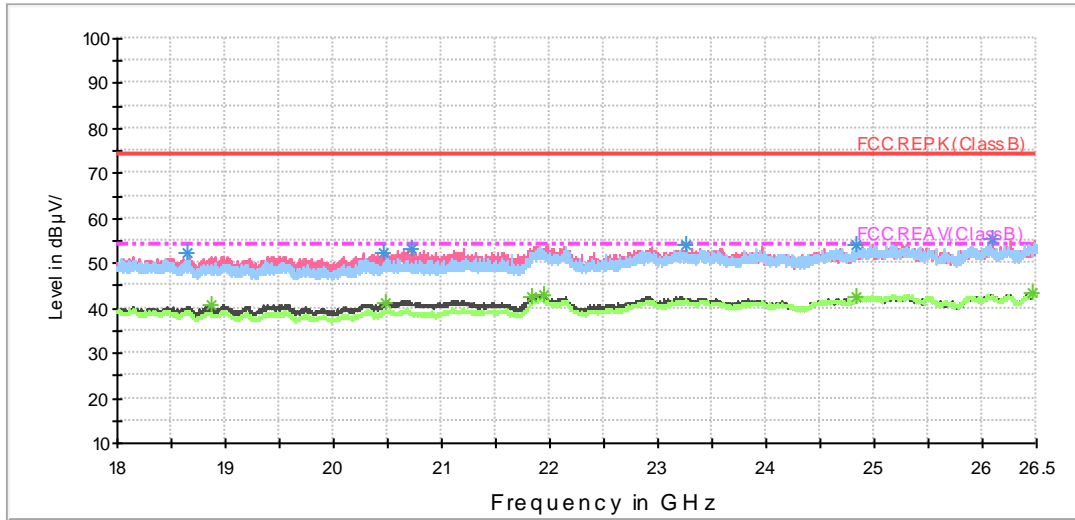
## RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz



BELL\_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1125.000000	48.3	100.0	V	354.0	46.1	2.2	25.7	74
1425.750000	48.7	100.0	V	291.0	45.6	3.1	25.3	74
1719.750000	50.0	100.0	V	0.0	45.8	4.2	24.0	74
2075.500000	51.3	100.0	V	272.0	45.8	5.5	22.7	74
2232.000000	50.6	100.0	V	342.0	44.4	6.2	23.4	74
2919.750000	53.2	100.0	V	336.0	45.7	7.5	20.8	74

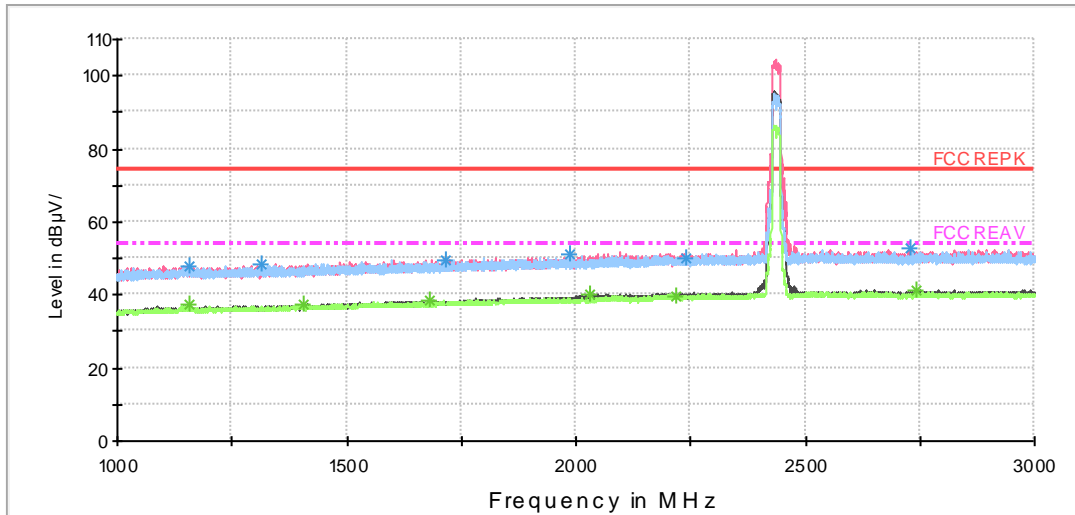
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1144.000000	37.2	100.0	V	187.0	34.9	2.3	16.8	54
1408.750000	37.2	100.0	V	354.0	34.1	3.1	16.8	54
1694.250000	38.2	100.0	V	300.0	34.1	4.1	15.8	54
2071.500000	40.3	100.0	V	291.0	34.8	5.5	13.7	54
2266.000000	41.1	100.0	V	309.0	34.8	6.3	12.9	54
2974.000000	41.3	100.0	V	225.0	33.8	7.5	12.7	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

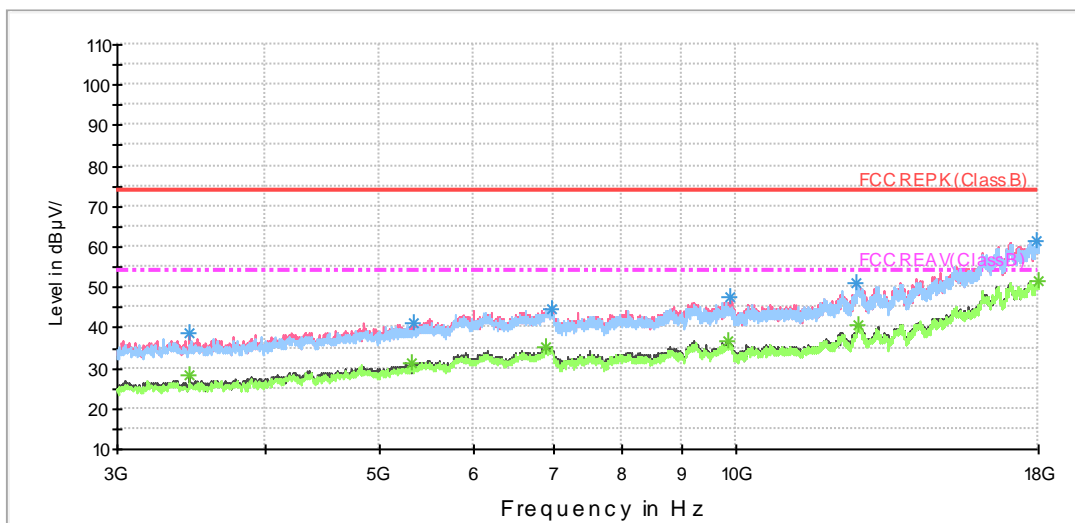
802.11g CH6

FCC RE 1G-3GHz PK+AV Class B



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

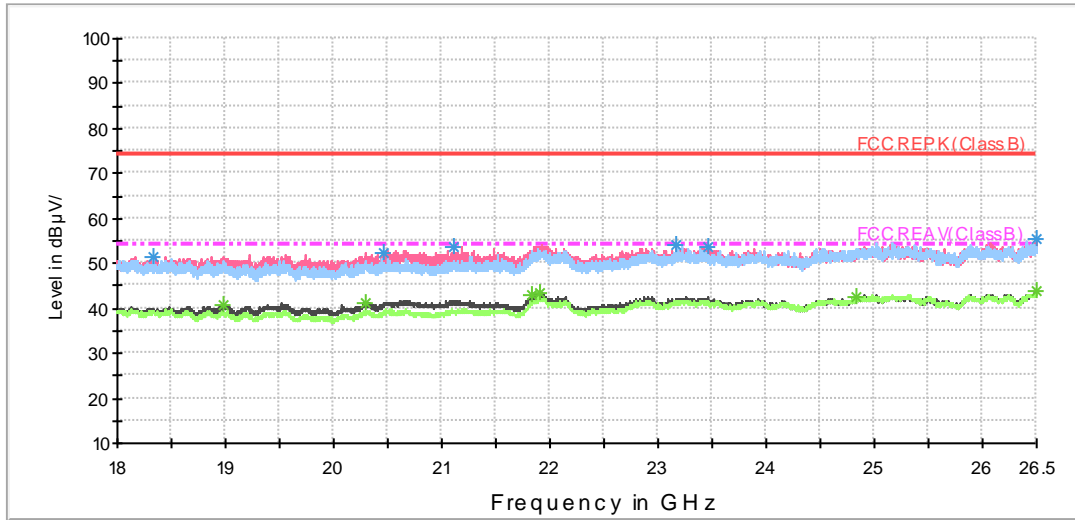
RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz



BELL\_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1158.000000	48.0	100.0	H	6.0	45.7	2.3	26.0	74
1315.250000	48.5	100.0	H	59.0	45.7	2.8	25.5	74
1714.500000	49.7	100.0	H	86.0	45.5	4.2	24.3	74
1987.250000	51.4	100.0	V	352.0	46.3	5.1	22.6	74
2238.750000	50.3	100.0	V	358.0	44.1	6.2	23.7	74
2728.250000	53.1	100.0	V	257.0	45.7	7.4	20.9	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

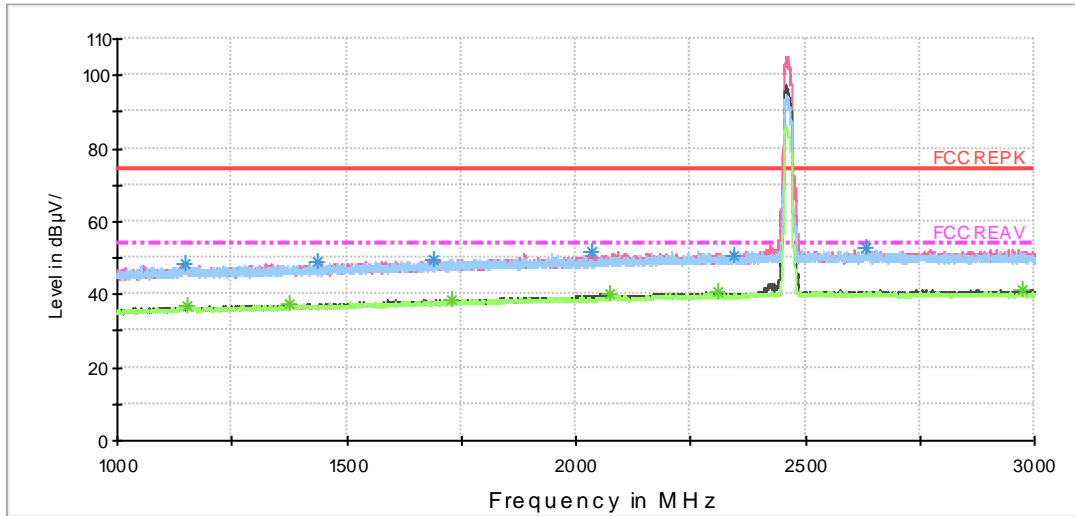
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1155.500000	37.2	100.0	H	151.0	34.9	2.3	16.8	54
1404.500000	37.3	100.0	V	266.0	34.2	3.1	16.7	54
1681.000000	38.5	100.0	V	358.0	34.5	4.0	15.5	54
2030.750000	40.0	100.0	V	0.0	34.7	5.3	14.0	54
2218.250000	39.7	100.0	V	323.0	33.6	6.1	14.3	54
2742.750000	41.3	100.0	V	0.0	33.9	7.4	12.7	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



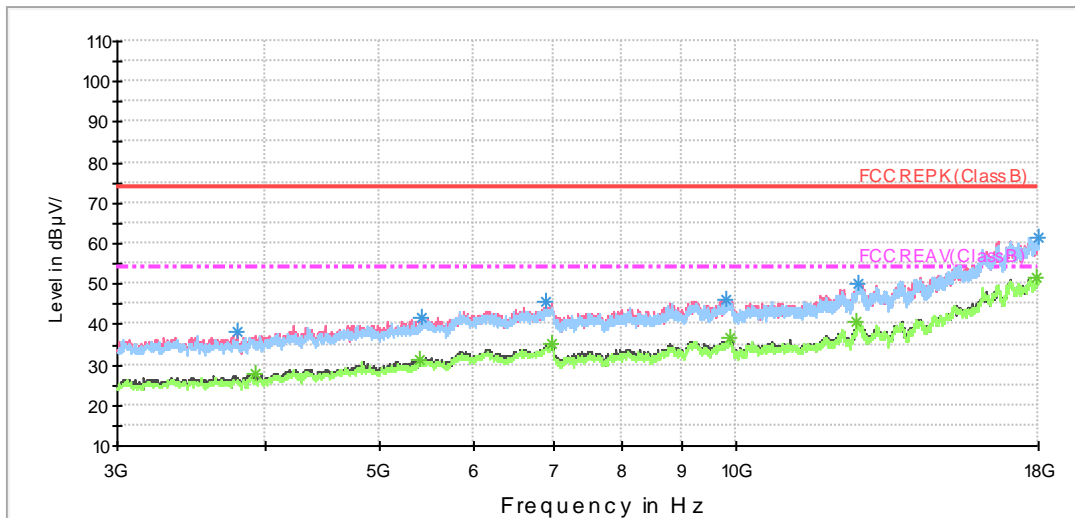
802.11g CH11

FCC RE 1G-3GHz PK+AV Class B



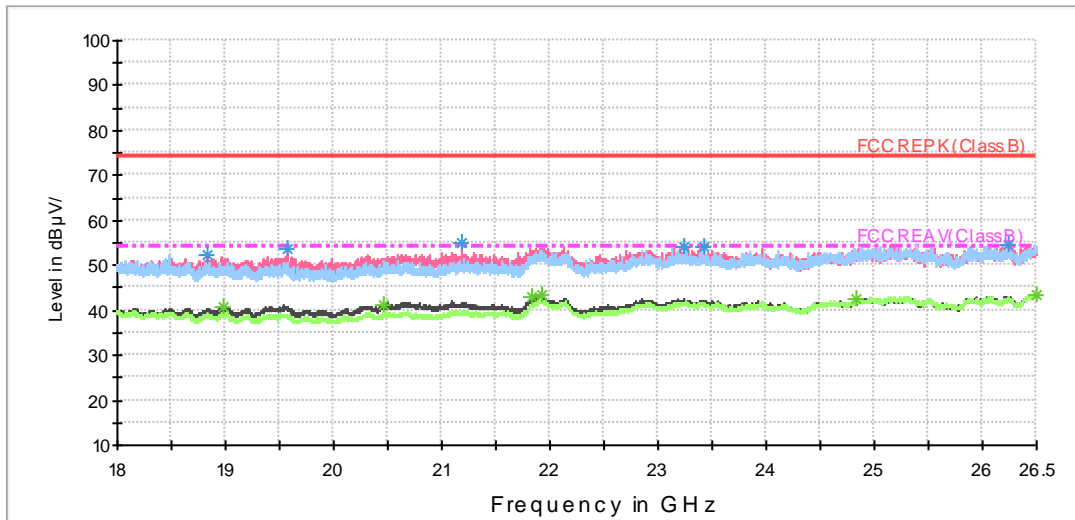
Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL\_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1149.250000	48.4	100.0	H	0.0	46.1	2.3	25.6	74
1437.000000	48.7	100.0	H	35.0	45.5	3.2	25.3	74
1689.750000	49.5	100.0	V	255.0	45.4	4.1	24.5	74
2033.500000	51.5	100.0	V	357.0	46.2	5.3	22.5	74
2344.250000	50.9	100.0	V	0.0	44.3	6.6	23.1	74
2633.000000	53.0	100.0	V	357.0	45.7	7.3	21.0	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

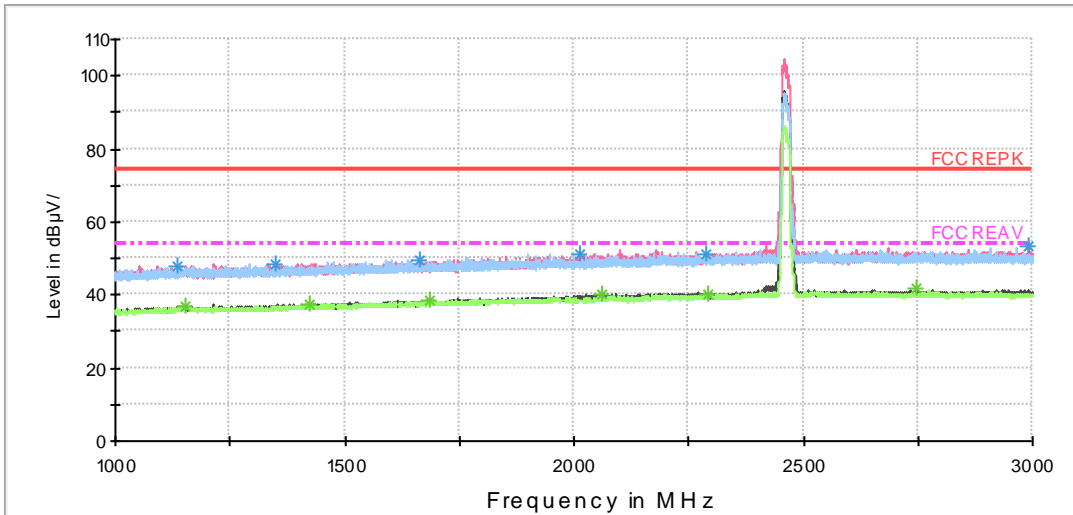
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1153.250000	37.0	100.0	V	179.0	34.7	2.3	17.0	54
1373.750000	37.4	100.0	H	280.0	34.4	3.0	16.6	54
1729.750000	38.5	100.0	V	198.0	34.3	4.2	15.5	54
2074.000000	40.0	100.0	V	357.0	34.5	5.5	14.0	54
2308.500000	40.5	100.0	V	283.0	34.1	6.4	13.5	54
2974.750000	41.5	100.0	V	0.0	34.0	7.5	12.5	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



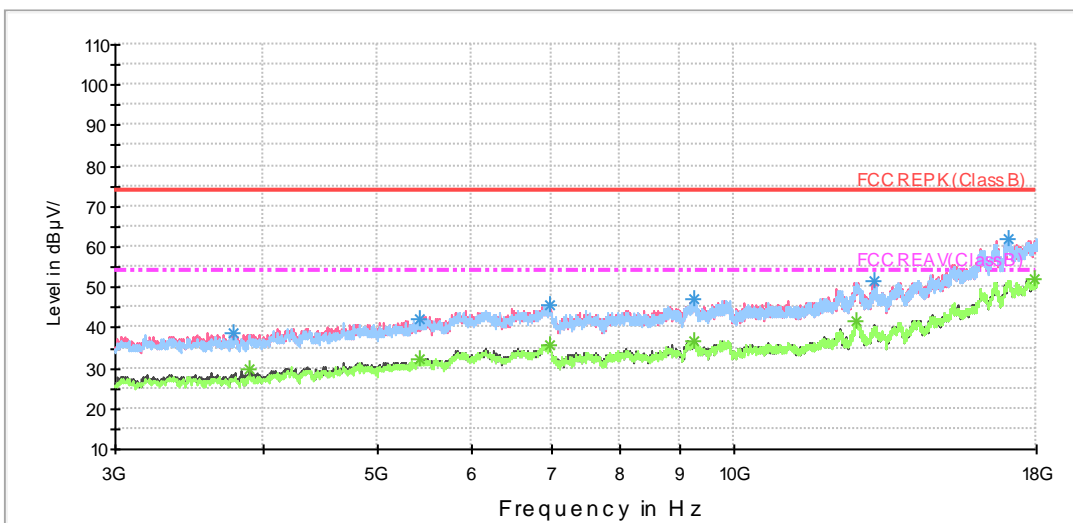
802.11n (HT20) CH1

FCC RE 1G-3GHz PK+AV Class B



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

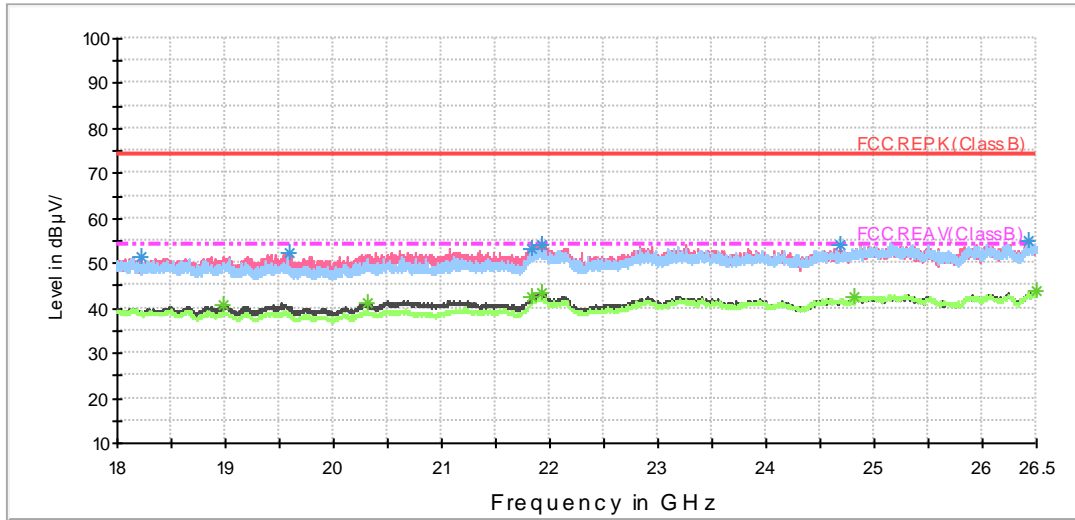
RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz



BELL\_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1134.250000	48.1	100.0	H	256.0	45.9	2.2	25.9	74
1349.250000	48.4	100.0	V	356.0	45.5	2.9	25.6	74
1665.750000	49.5	100.0	V	274.0	45.5	4.0	24.5	74
2014.500000	51.3	100.0	V	356.0	46.0	5.3	22.7	74
2287.000000	51.4	100.0	V	352.0	45.0	6.4	22.6	74
2992.000000	53.4	100.0	V	216.0	45.8	7.6	20.6	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

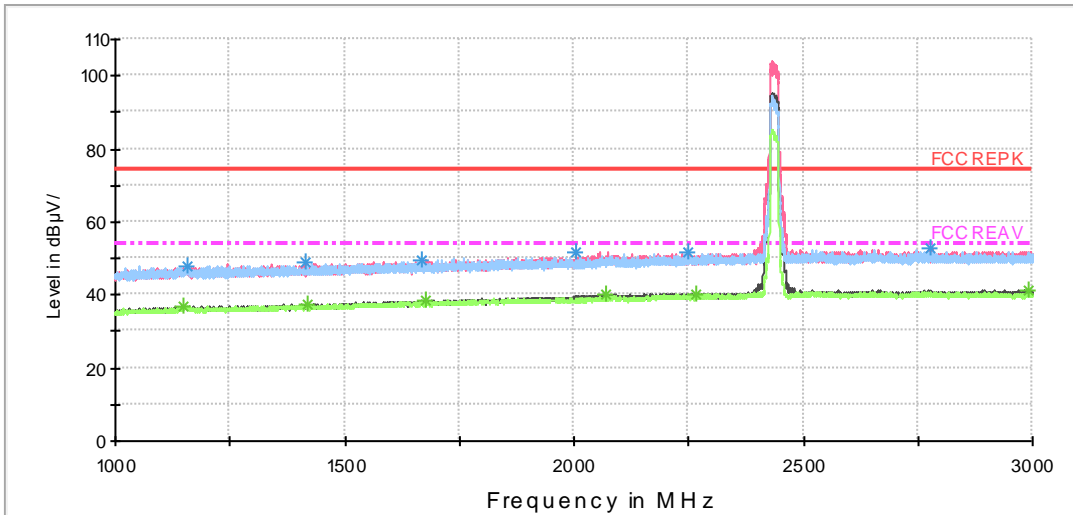
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1152.000000	37.1	100.0	H	16.0	34.8	2.3	16.9	54
1423.750000	37.5	100.0	V	0.0	34.4	3.1	16.5	54
1684.250000	38.5	100.0	V	159.0	34.4	4.1	15.5	54
2061.500000	40.1	100.0	V	0.0	34.6	5.5	13.9	54
2290.500000	40.2	100.0	H	8.0	33.8	6.4	13.8	54
2746.000000	41.5	100.0	V	0.0	34.1	7.4	12.5	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



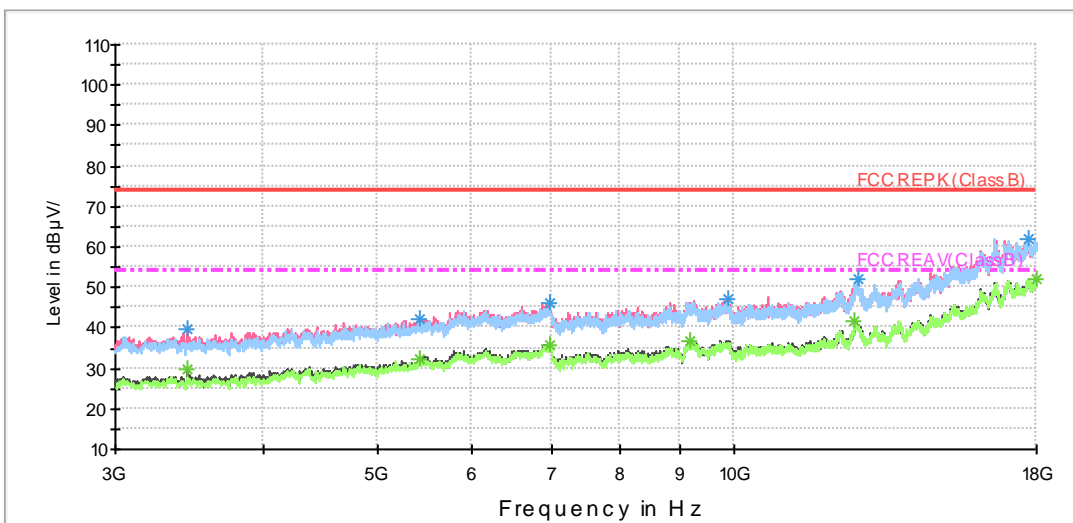
802.11n (HT20) CH6

FCC RE 1G-3GHz PK+AV Class B



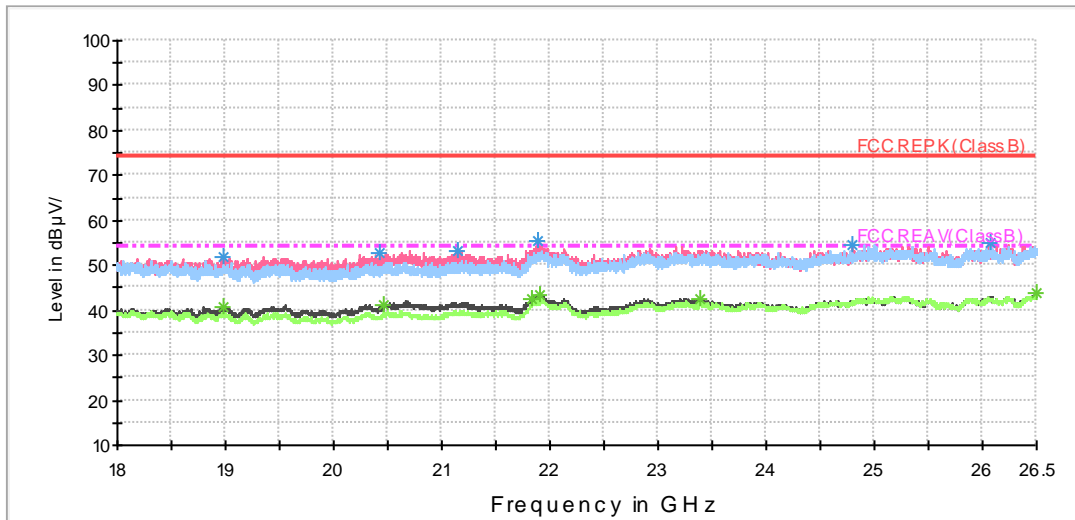
Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL\_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1156.500000	48.0	100.0	V	216.0	45.7	2.3	26.0	74
1416.750000	48.9	100.0	V	264.0	45.8	3.1	25.1	74
1670.250000	49.6	100.0	V	0.0	45.6	4.0	24.4	74
2002.750000	51.9	100.0	V	236.0	46.7	5.2	22.1	74
2249.500000	51.5	100.0	V	358.0	45.3	6.2	22.5	74
2775.500000	52.8	100.0	V	273.0	45.4	7.4	21.2	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

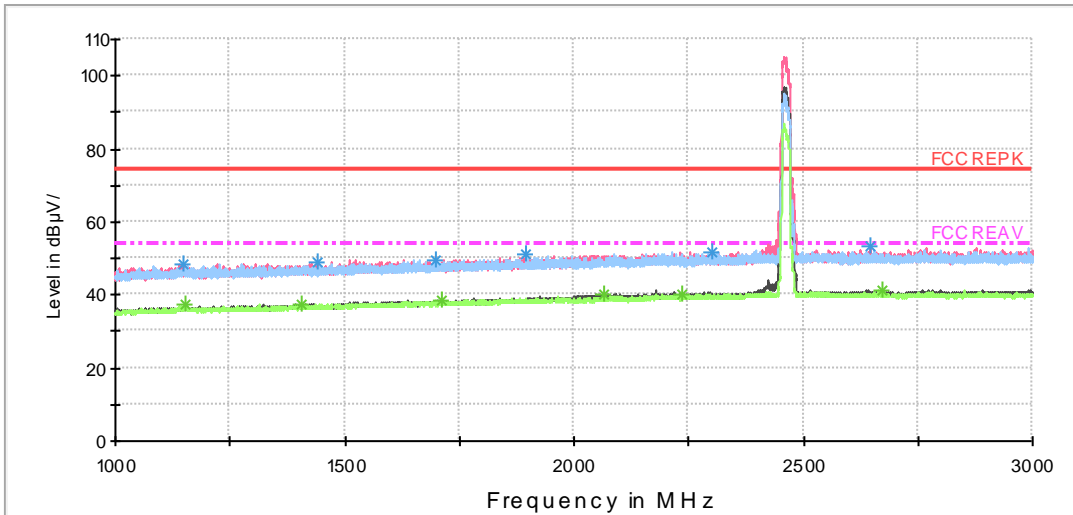
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1147.250000	37.1	100.0	V	106.0	34.8	2.3	16.9	54
1419.250000	37.5	100.0	V	178.0	34.4	3.1	16.5	54
1677.500000	38.7	100.0	V	329.0	34.7	4.0	15.3	54
2069.250000	40.0	100.0	V	357.0	34.5	5.5	14.0	54
2267.000000	40.0	100.0	V	282.0	33.7	6.3	14.0	54
2991.250000	41.2	100.0	V	236.0	33.6	7.6	12.8	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



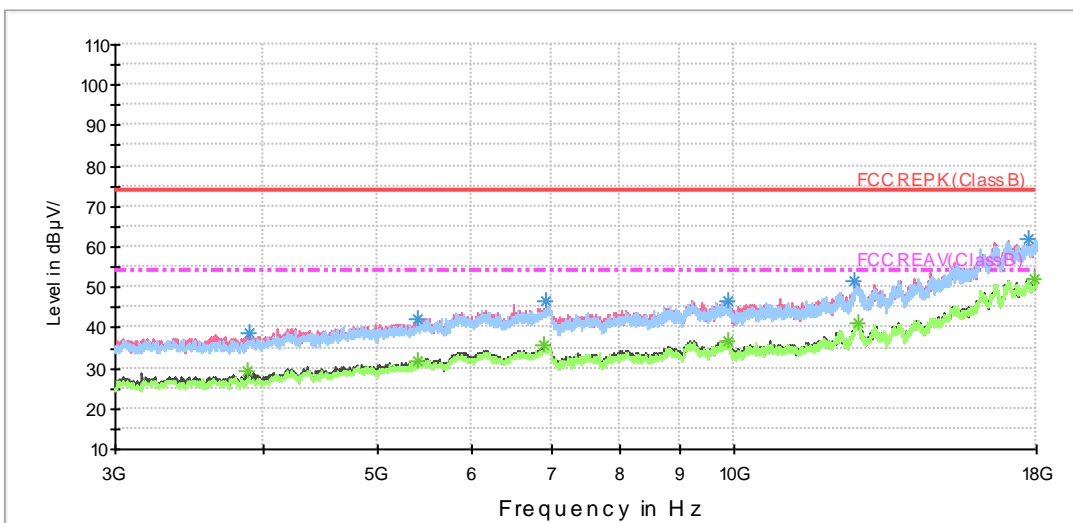
802.11n (HT20) CH11

FCC RE 1G-3GHz PK+AV Class B



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

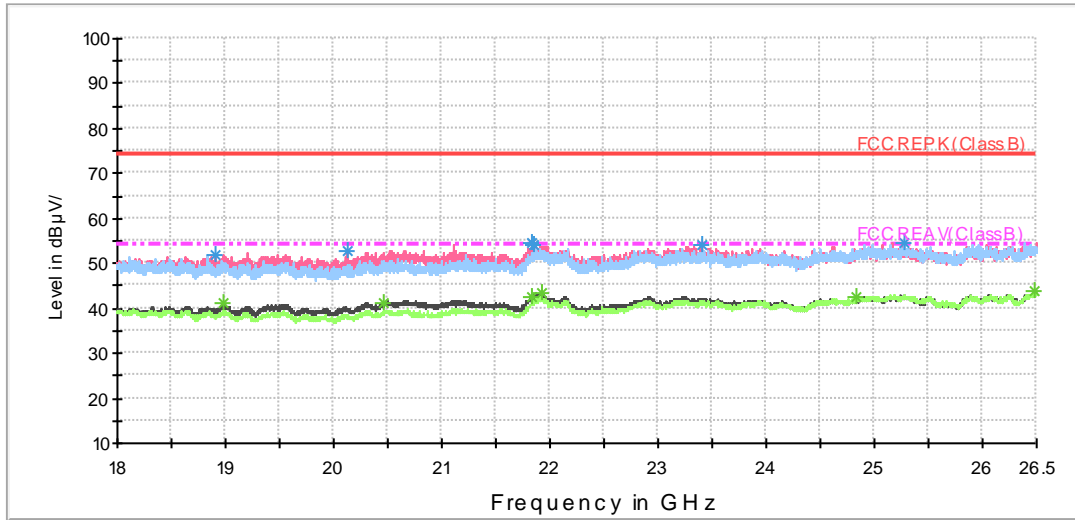
RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz



BELL\_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1149.000000	48.4	100.0	V	354.0	46.1	2.3	25.6	74
1439.500000	48.7	100.0	V	215.0	45.5	3.2	25.3	74
1699.500000	49.7	100.0	V	290.0	45.6	4.1	24.3	74
1897.000000	51.0	100.0	V	0.0	46.2	4.8	23.0	74
2301.750000	51.5	100.0	V	290.0	45.1	6.4	22.5	74
2647.250000	53.2	100.0	V	318.0	45.9	7.3	20.8	74

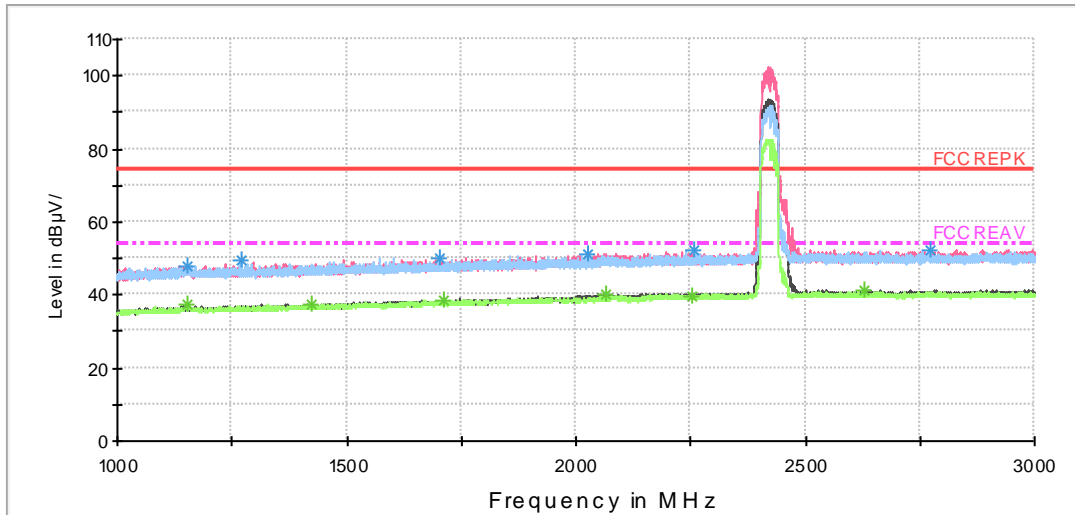
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1151.000000	37.3	100.0	V	357.0	35.0	2.3	16.7	54
1404.250000	37.4	100.0	V	0.0	34.3	3.1	16.6	54
1712.000000	38.5	100.0	V	358.0	34.3	4.2	15.5	54
2066.500000	40.0	100.0	V	355.0	34.5	5.5	14.0	54
2236.250000	40.2	100.0	V	355.0	34.0	6.2	13.8	54
2672.000000	41.3	100.0	V	0.0	34.0	7.3	12.7	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

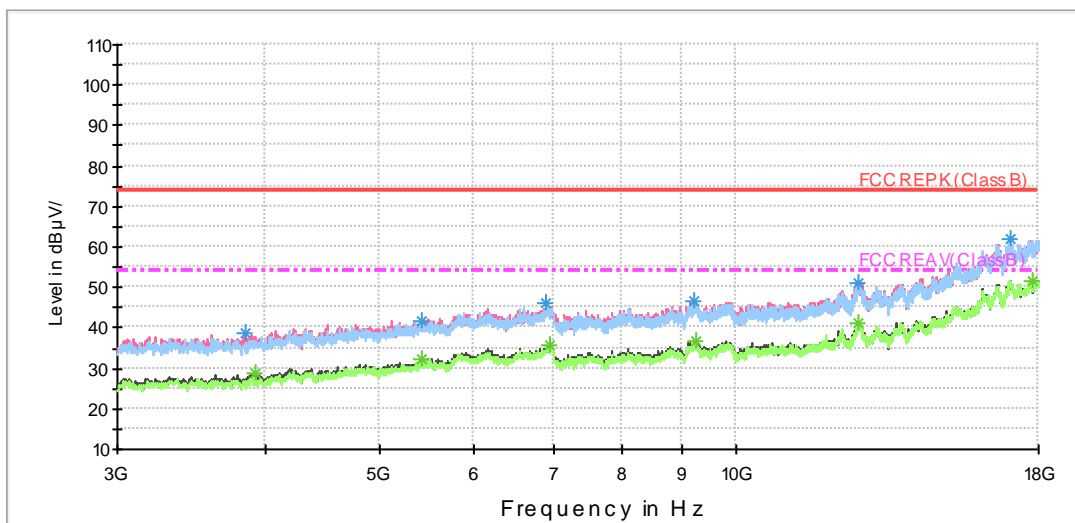
802.11n (HT40) CH3

FCC RE 1G-3GHz PK+AV Class B



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

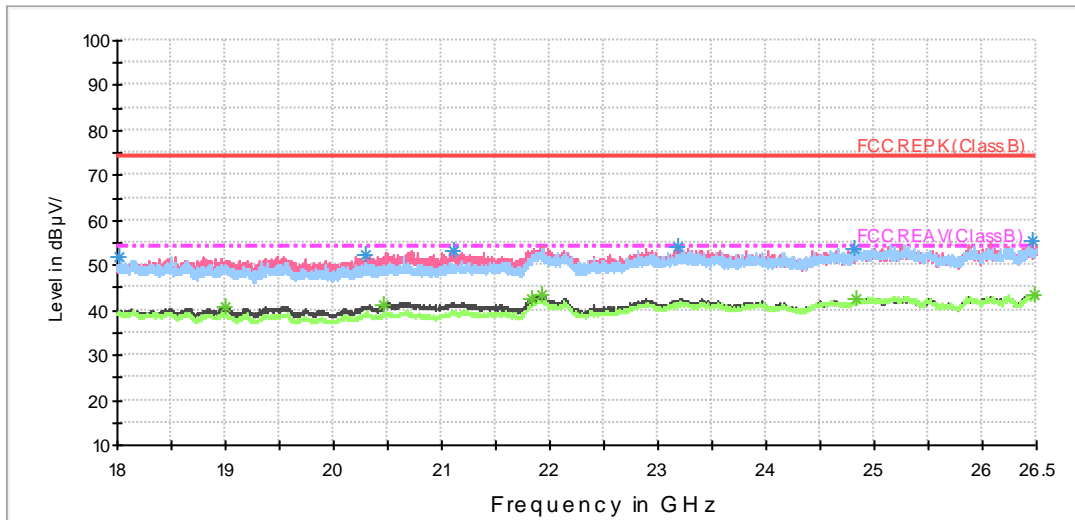
RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz



BELL\_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1154.750000	47.9	100.0	V	358.0	45.6	2.3	26.1	74
1270.000000	49.3	100.0	H	0.0	46.6	2.7	24.7	74
1703.500000	49.8	100.0	H	99.0	45.7	4.1	24.2	74
2025.250000	51.2	100.0	V	0.0	45.9	5.3	22.8	74
2257.750000	52.4	100.0	H	211.0	46.1	6.3	21.6	74
2771.500000	52.4	100.0	V	0.0	45.0	7.4	21.6	74

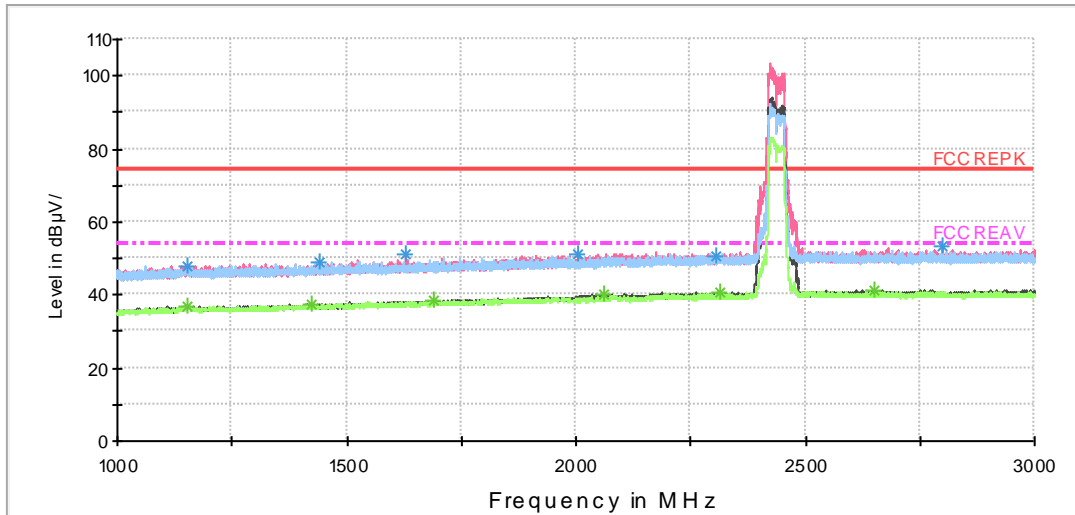
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1152.000000	37.2	100.0	H	52.0	34.9	2.3	16.8	54
1422.250000	37.4	100.0	V	301.0	34.3	3.1	16.6	54
1711.500000	38.4	100.0	V	292.0	34.2	4.2	15.6	54
2064.500000	40.1	100.0	V	263.0	34.6	5.5	13.9	54
2255.000000	39.5	100.0	V	348.0	33.3	6.2	14.5	54
2630.500000	41.3	100.0	V	282.0	34.0	7.3	12.7	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

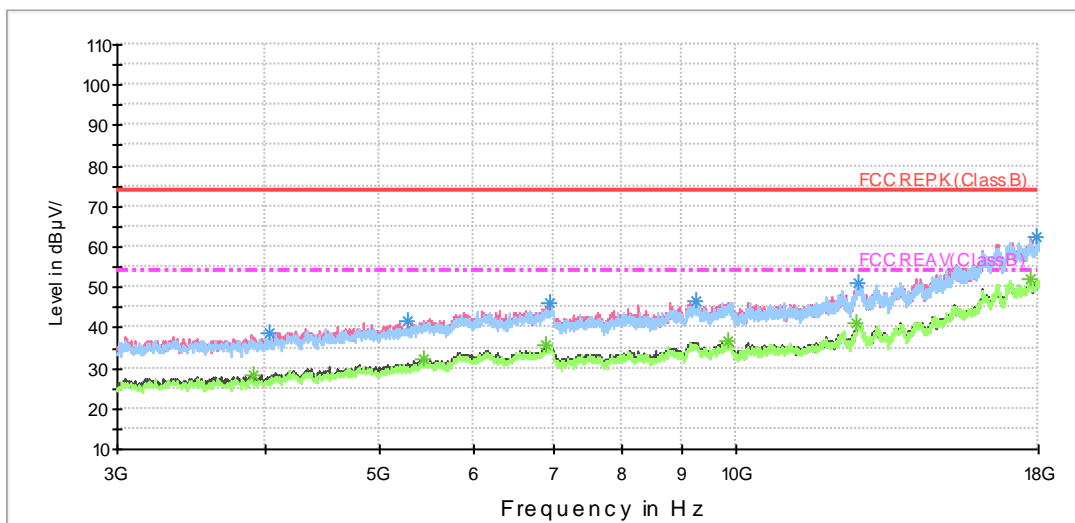
802.11n (HT40) CH6

FCC RE 1G-3GHz PK+AV Class B



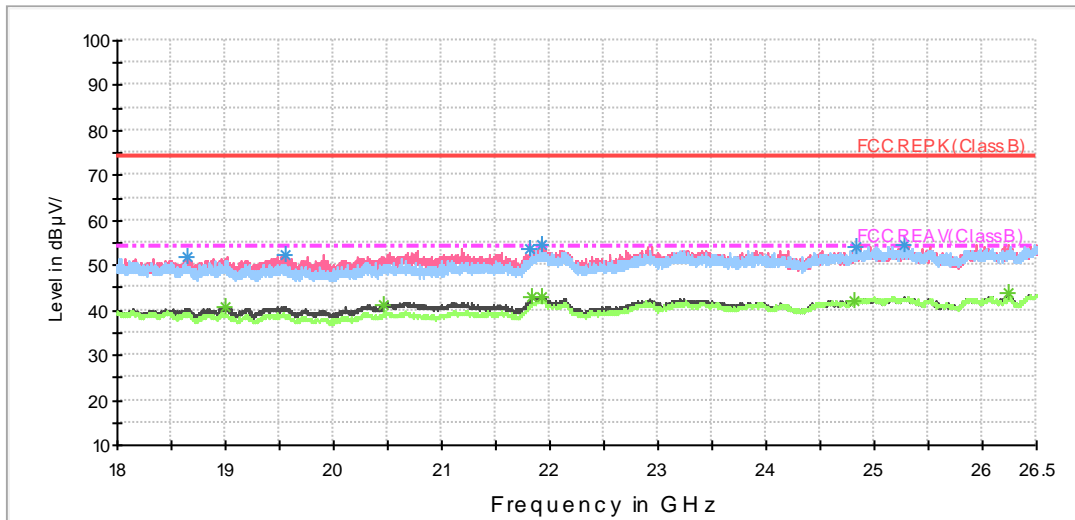
Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL\_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1151.500000	48.1	100.0	V	81.0	45.8	2.3	25.9	74
1439.000000	49.0	100.0	H	2.0	45.8	3.2	25.0	74
1630.750000	50.9	100.0	V	358.0	47.0	3.9	23.1	74
2005.250000	51.2	100.0	V	164.0	46.0	5.2	22.8	74
2305.750000	50.5	100.0	H	26.0	44.1	6.4	23.5	74
2798.250000	53.1	100.0	V	274.0	45.7	7.4	20.9	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

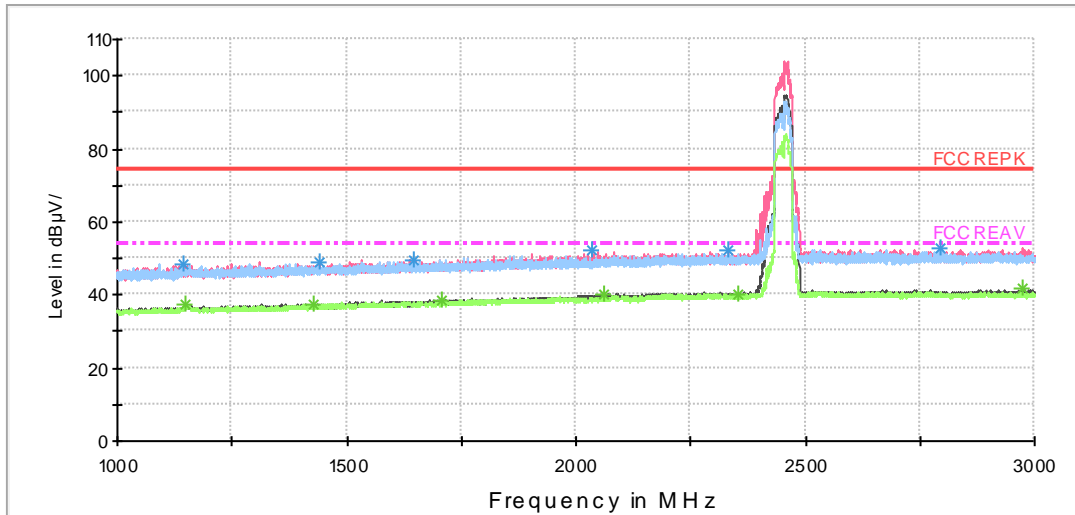
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1152.500000	37.0	100.0	V	226.0	34.7	2.3	17.0	54
1422.250000	37.4	100.0	V	312.0	34.3	3.1	16.6	54
1689.750000	38.5	100.0	V	356.0	34.4	4.1	15.5	54
2062.750000	40.2	100.0	V	359.0	34.7	5.5	13.8	54
2315.750000	40.7	100.0	V	358.0	34.2	6.5	13.3	54
2652.000000	41.3	100.0	V	274.0	34.0	7.3	12.7	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



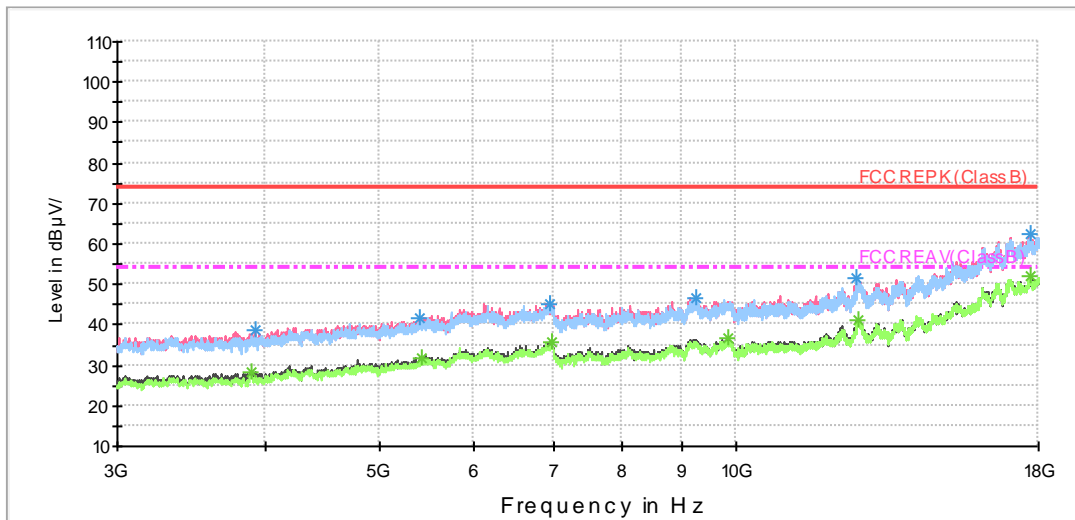
802.11n (HT40) CH9

FCC RE 1G-3GHz PK+AV Class B



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

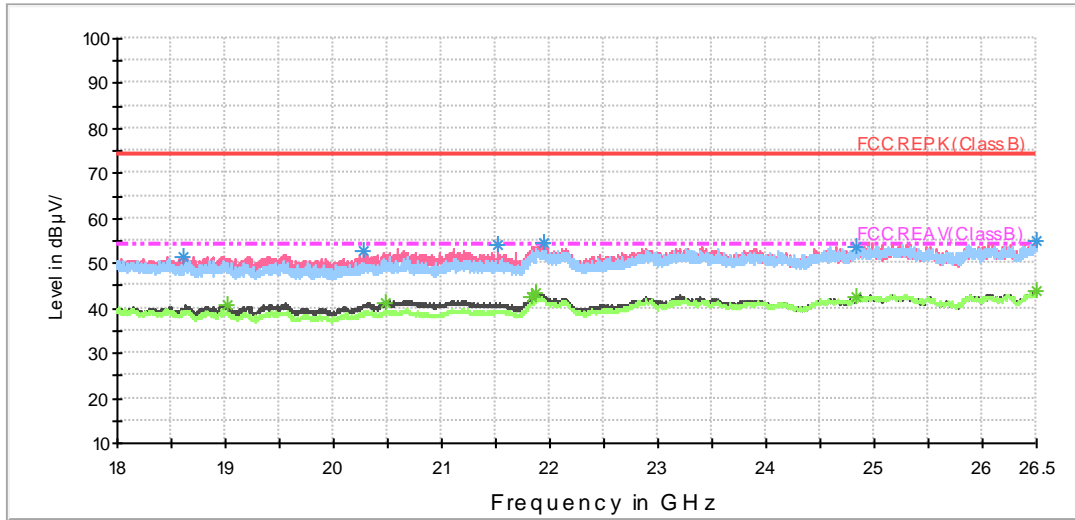
RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz



BELL\_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1145.750000	48.6	100.0	V	293.0	46.3	2.3	25.4	74
1440.750000	48.8	100.0	V	0.0	45.6	3.2	25.2	74
1646.500000	49.8	100.0	V	303.0	45.9	3.9	24.2	74
2034.750000	52.3	100.0	V	236.0	47.0	5.3	21.7	74
2331.750000	52.1	100.0	V	96.0	45.6	6.5	21.9	74
2794.750000	52.8	100.0	H	221.0	45.4	7.4	21.2	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1148.000000	37.2	100.0	H	107.0	34.9	2.3	16.8	54
1429.000000	37.5	100.0	V	0.0	34.4	3.1	16.5	54
1708.250000	38.6	100.0	V	348.0	34.5	4.1	15.4	54
2063.250000	40.1	100.0	V	208.0	34.6	5.5	13.9	54
2352.000000	40.3	100.0	V	312.0	33.7	6.6	13.7	54
2974.250000	41.6	100.0	V	217.0	34.1	7.5	12.4	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

### 5.7. Conducted Emission

#### Ambient condition

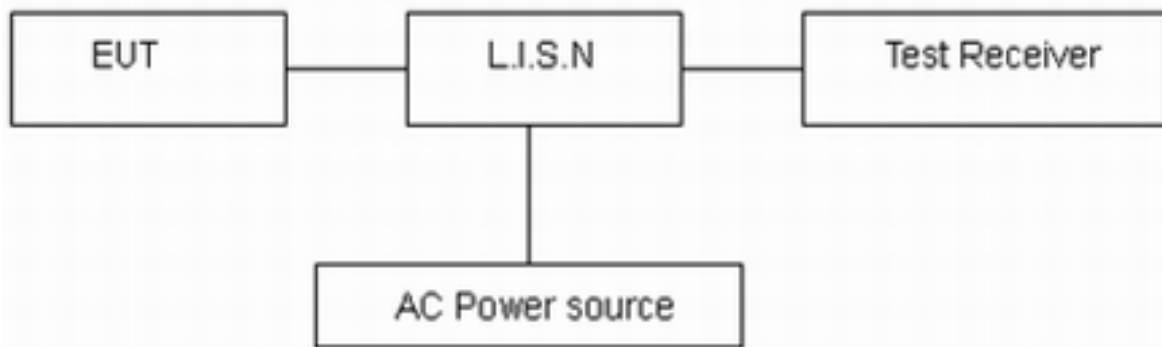
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

#### Methods of Measurement

The EUT is placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.10-2013. Connect the AC power line of the EUT to the L.I.S.N. Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9 kHz, VBW is set to 30kHz. The measurement result should include both L line and N line.

The test is in transmitting mode.

#### Test Setup



Note: AC Power source is used to change the voltage 110V/60Hz.

#### Limits

Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46 *
0.5 - 5	56	46
5 - 30	60	50

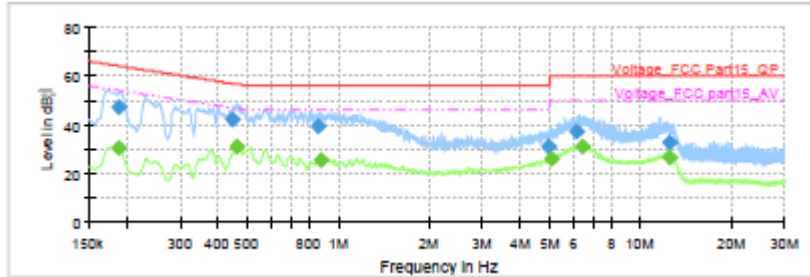
\*: Decreases with the logarithm of the frequency.

#### Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor  $k = 1.96$ ,  $U = 2.69$  dB.

**Test Results:**

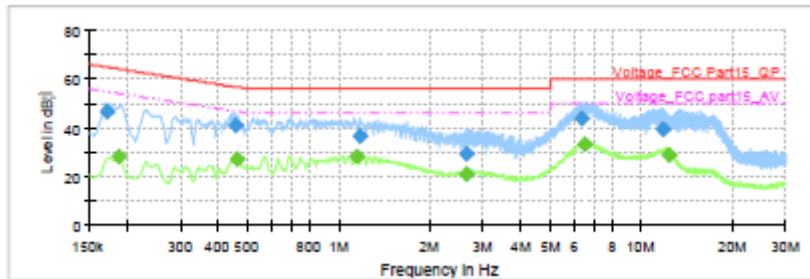
Following plots, Blue trace uses the peak detection and Green trace uses the average detection. During the test, the Conducted Emission was performed in all modes (WIFI 2.4G /BLE) with all channels, 802.11b, Channel 6 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.



Frequency (MHz)	QuasiPeak (dB <sub>i</sub> /V)	Average (dB <sub>i</sub> /V)	Limit (dB <sub>i</sub> /V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter
0.188250	---	30.28	54.11	23.83	1000.0	9.000	L1	ON
0.188250	47.24	---	64.11	16.88	1000.0	9.000	L1	ON
0.447000	42.27	---	56.93	14.66	1000.0	9.000	L1	ON
0.460500	---	31.03	46.68	15.65	1000.0	9.000	L1	ON
0.656500	39.32	---	56.00	16.68	1000.0	9.000	L1	ON
0.874500	---	25.63	46.00	20.37	1000.0	9.000	L1	ON
4.953750	31.07	---	56.00	24.93	1000.0	9.000	L1	ON
5.082000	---	26.16	50.00	23.84	1000.0	9.000	L1	ON
6.162000	37.17	---	60.00	22.83	1000.0	9.000	L1	ON
6.429750	---	30.84	50.00	19.16	1000.0	9.000	L1	ON
12.410250	---	26.72	50.00	23.28	1000.0	9.000	L1	ON
12.482250	32.52	---	60.00	27.48	1000.0	9.000	L1	ON

L line

Conducted Emission from 150 KHz to 30 MHz



Frequency (MHz)	QuasiPeak (dB <sub>i</sub> /V)	Average (dB <sub>i</sub> /V)	Limit (dB <sub>i</sub> /V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter
0.172500	46.43	---	64.84	18.41	1000.0	9.000	N	ON
0.188250	---	28.56	54.11	25.56	1000.0	9.000	N	ON
0.458250	41.25	---	56.72	15.47	1000.0	9.000	N	ON
0.460500	---	27.33	46.68	19.35	1000.0	9.000	N	ON
1.151250	---	28.23	46.00	17.77	1000.0	9.000	N	ON
1.180500	36.43	---	56.00	19.57	1000.0	9.000	N	ON
2.640750	---	21.24	46.00	24.76	1000.0	9.000	N	ON
2.643000	29.26	---	56.00	26.74	1000.0	9.000	N	ON
6.344250	43.66	---	60.00	16.34	1000.0	9.000	N	ON
6.497250	---	33.34	50.00	16.66	1000.0	9.000	N	ON
11.773500	39.19	---	60.00	20.81	1000.0	9.000	N	ON
12.363000	---	29.03	50.00	20.97	1000.0	9.000	N	ON

N line

Conducted Emission from 150 KHz to 30 MHz



## 6. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Spectrum Analyzer	R&S	FSV30	100815	2019-12-15	2020-12-14
EMI Test Receiver	R&S	ESCI	100948	2020-05-18	2021-05-17
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2017-09-26	2020-09-25
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-201	2017-11-18	2020-11-17
Horn Antenna	R&S	HF907	102723	2018-08-11	2021-08-10
Horn Antenna	ETS-Lindgren	3160-09	00102643	2018-06-20	2021-06-19
EMI Test Receiver	R&S	ESR	101667	2020-05-18	2021-05-17
LISN	R&S	ENV216	101171	2018-12-15	2021-12-14
Spectrum Analyzer	Agilent	N9010A	MY47191109	2020-05-18	2021-05-17
Power Meter	R&S	NRP2	104306	2020-05-18	2021-05-17
Power Sensor	R&S	NRP-Z21	104799	2020-05-18	2021-05-17
20dB Attenuator	Star River Highlight	UCL-TS2S-20	18013001	2019-12-15	2020-12-14
RF Cable	Agilent	SMA 15cm	0001	2019-12-13	2020-06-12
Software	R&S	EMC32	9.26.0	/	/

\*\*\*\*\*END OF REPORT \*\*\*\*\*