802.11g CH6

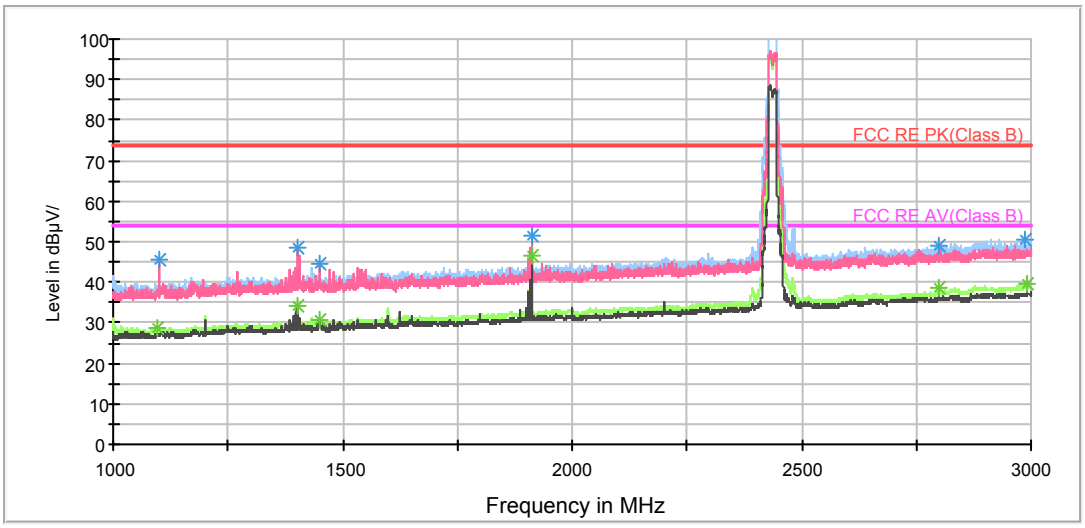
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1099.500000	45.3	202.0	V	151.0	54.2	-8.9	28.7	74
1400.250000	48.3	202.0	V	0.0	55.4	-7.1	25.7	74
1450.250000	44.4	102.0	V	68.0	51.0	-6.6	29.6	74
1912.000000	51.5	102.0	V	25.0	55.2	-3.7	22.5	74
2799.250000	48.9	202.0	H	17.0	47.8	1.1	25.1	74
2986.500000	50.7	102.0	H	294.0	48.5	2.2	23.3	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)
1096.750000	28.5	102.0	H	166.0	37.4	-8.9	25.5	54
1399.750000	33.9	202.0	V	142.0	41.0	-7.1	20.1	54
1451.000000	30.5	102.0	H	0.0	37.1	-6.6	23.5	54
1912.000000	46.4	102.0	V	25.0	50.1	-3.7	7.6	54
2800.250000	38.5	202.0	H	17.0	37.4	1.1	15.5	54
2991.500000	39.6	202.0	H	150.0	37.4	2.2	14.4	54

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

RE 1G-3GHz PK+AV



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

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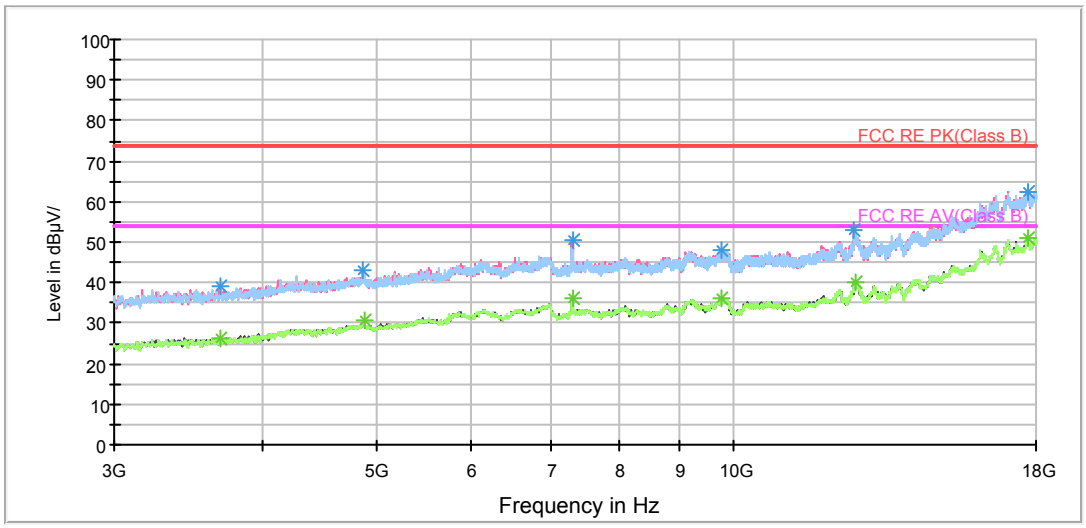
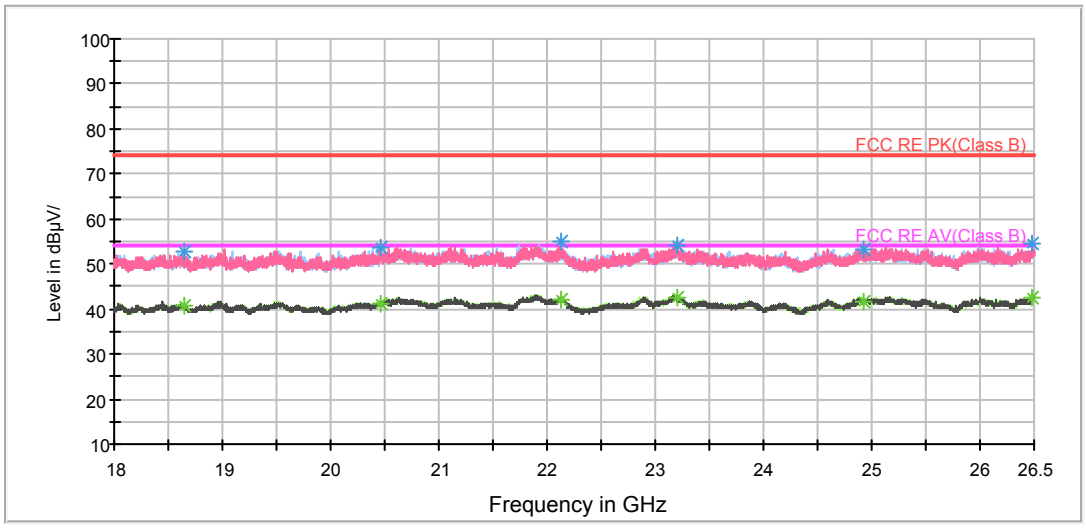
RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

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802.11g CH11

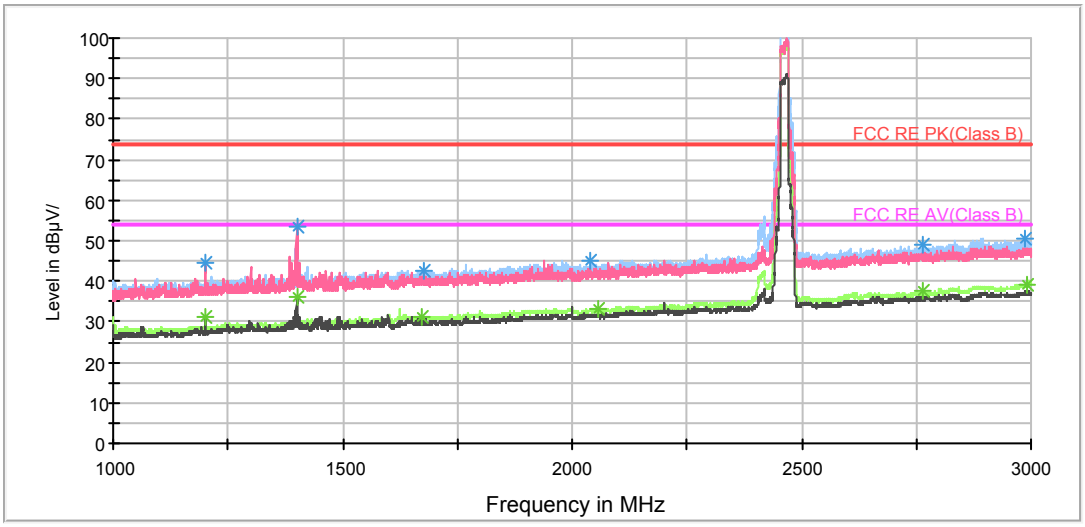
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1200.000000	44.6	202.0	V	0.0	52.8	-8.2	29.4	74
1399.750000	53.3	202.0	V	226.0	60.4	-7.1	20.7	74
1676.250000	42.8	102.0	V	22.0	47.9	-5.1	31.2	74
2040.000000	45.0	102.0	H	266.0	48.2	-3.2	29.0	74
2766.250000	48.9	202.0	H	0.0	48.1	0.8	25.1	74
2985.500000	50.7	102.0	H	0.0	48.5	2.2	23.3	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)
1200.000000	31.4	202.0	H	233.0	39.6	-8.2	22.6	54
1400.250000	36.4	202.0	V	0.0	43.5	-7.1	17.6	54
1672.500000	31.4	102.0	H	266.0	36.5	-5.1	22.6	54
2058.250000	33.0	102.0	H	325.0	36.2	-3.2	21.0	54
2764.250000	37.5	102.0	H	0.0	36.7	0.8	16.5	54
2990.750000	39.3	202.0	H	0.0	37.1	2.2	14.7	54

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

RE 1G-3GHz PK+AV



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

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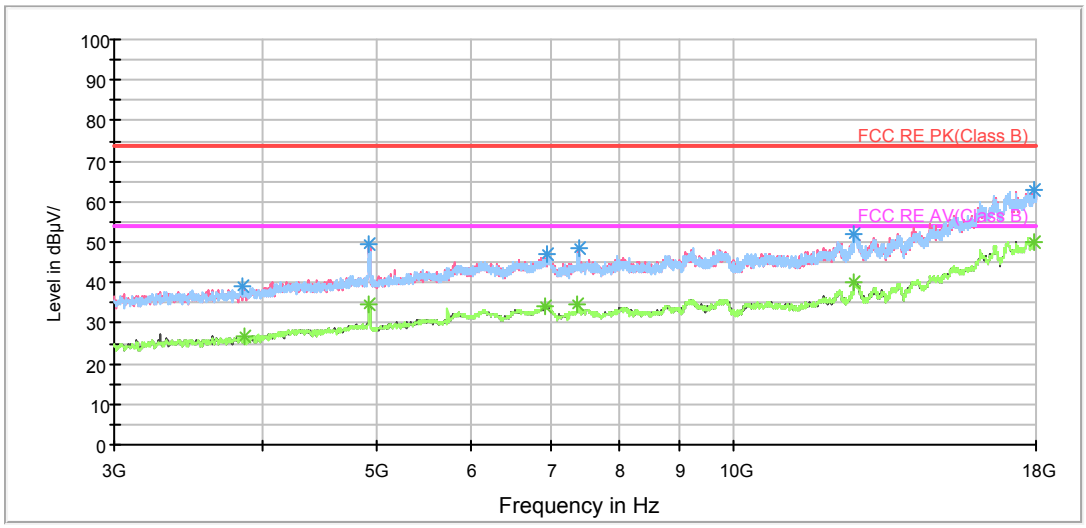
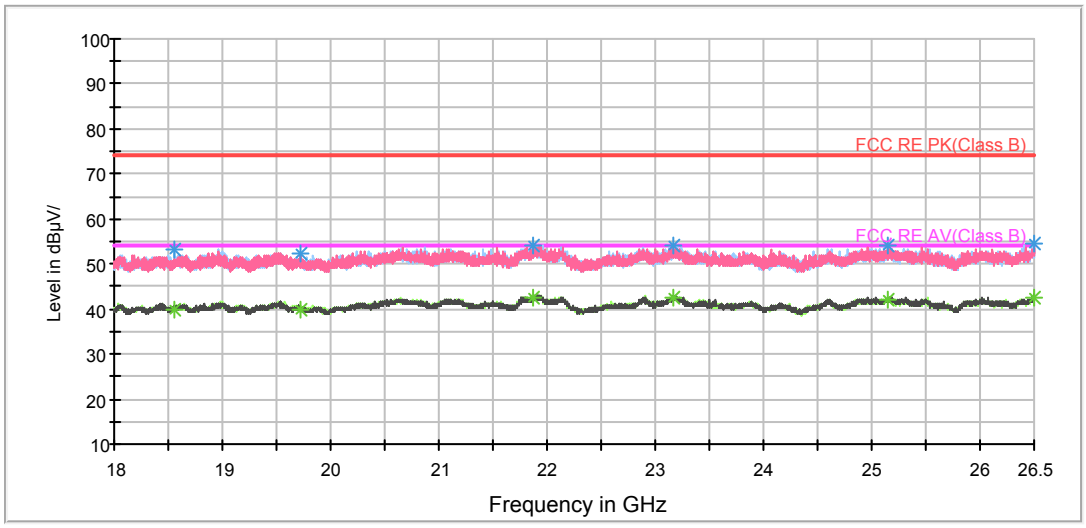
RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

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MIMO

802.11n (HT20) CH1

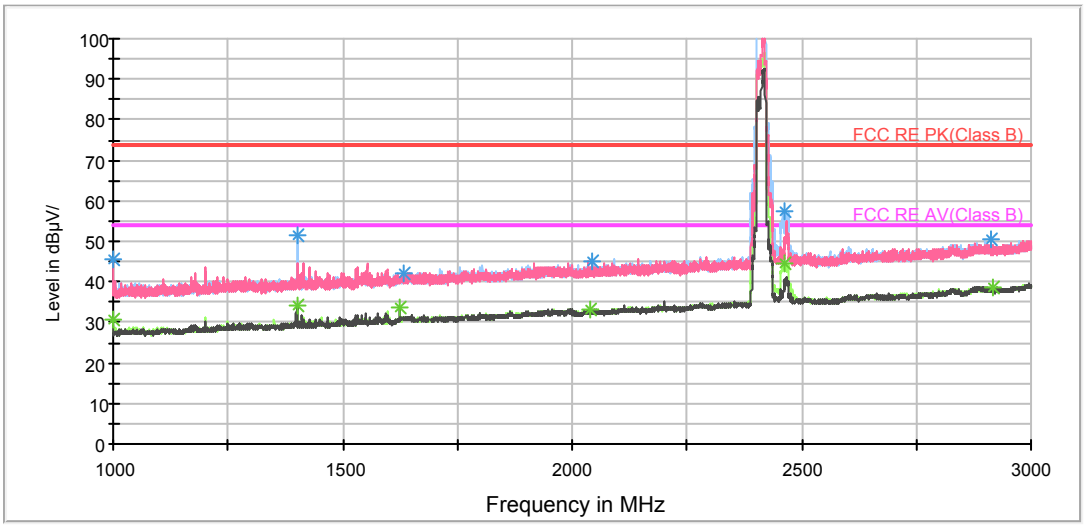
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1000.000000	45.7	102.0	V	0.0	54.9	-9.2	28.3	74
1400.500000	51.7	202.0	H	23.0	58.8	-7.1	22.3	74
1634.250000	42.3	102.0	V	17.0	47.0	-4.7	31.7	74
2044.250000	44.9	102.0	V	0.0	48.1	-3.2	29.1	74
2464.500000	57.3	202.0	H	13.0	57.8	-0.5	16.7	74
2912.750000	50.2	102.0	V	139.0	48.3	1.9	23.8	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)
1000.000000	30.9	202.0	H	152.0	40.1	-9.2	23.1	54
1400.000000	34.0	202.0	V	0.0	41.1	-7.1	20.0	54
1625.500000	33.5	102.0	V	34.0	38.3	-4.8	20.5	54
2039.750000	33.1	202.0	H	85.0	36.3	-3.2	20.9	54
2463.500000	44.6	202.0	H	23.0	45.1	-0.5	9.4	54
2915.000000	38.4	102.0	V	17.0	36.6	1.8	15.6	54

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

RE 1G-3GHz PK+AV



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

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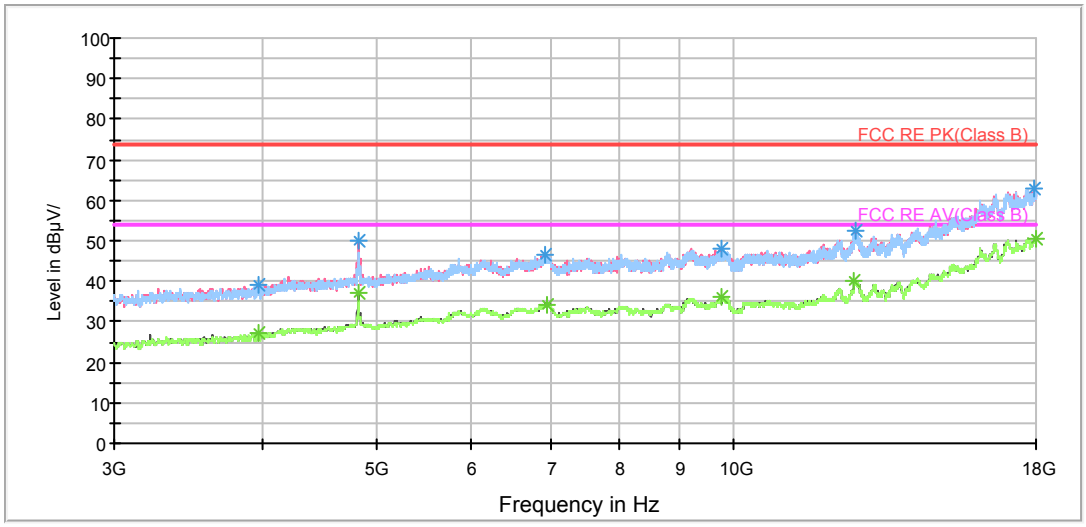
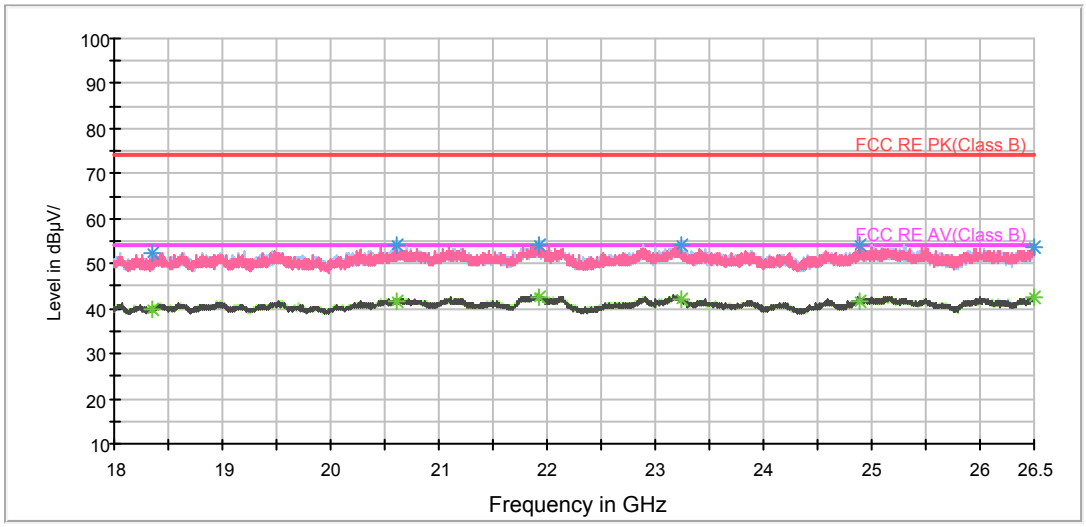
RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

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802.11n (HT20) CH6

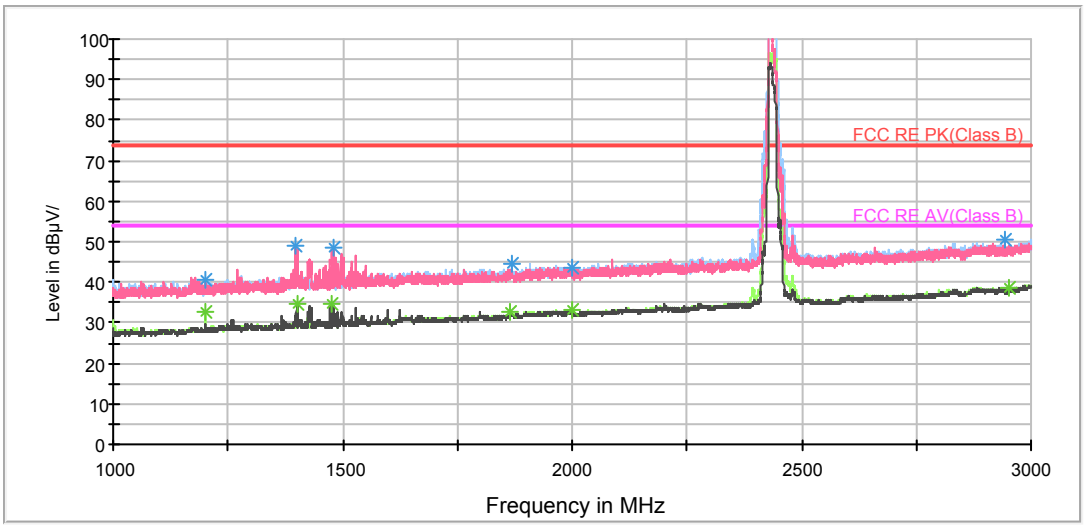
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1199.500000	40.4	102.0	V	152.0	48.6	-8.2	33.6	74
1398.250000	49.3	202.0	V	232.0	56.4	-7.1	24.7	74
1479.250000	48.7	102.0	V	80.0	55.2	-6.5	25.3	74
1868.750000	44.7	202.0	H	80.0	48.4	-3.7	29.3	74
2001.000000	43.8	102.0	H	0.0	47.2	-3.4	30.2	74
2943.250000	50.6	102.0	V	0.0	48.6	2.0	23.4	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)
1200.000000	32.8	202.0	H	154.0	41.0	-8.2	21.2	54
1400.000000	34.7	102.0	V	27.0	41.8	-7.1	19.3	54
1474.250000	34.5	102.0	V	80.0	41.1	-6.6	19.5	54
1864.750000	32.5	102.0	H	0.0	36.1	-3.6	21.5	54
2000.000000	33.4	202.0	H	135.0	36.8	-3.4	20.6	54
2950.000000	38.7	202.0	H	36.0	36.7	2.0	15.3	54

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

RE 1G-3GHz PK+AV



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

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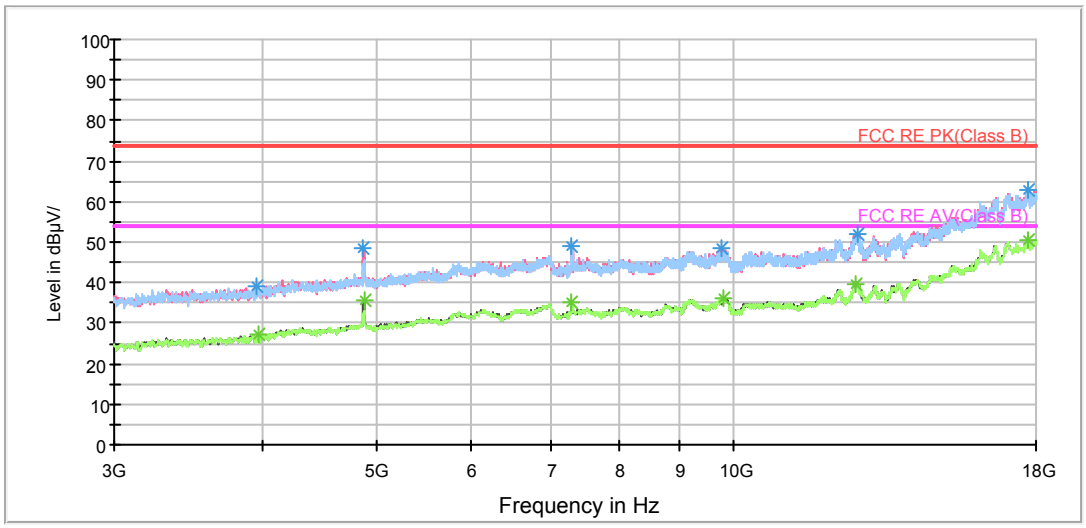
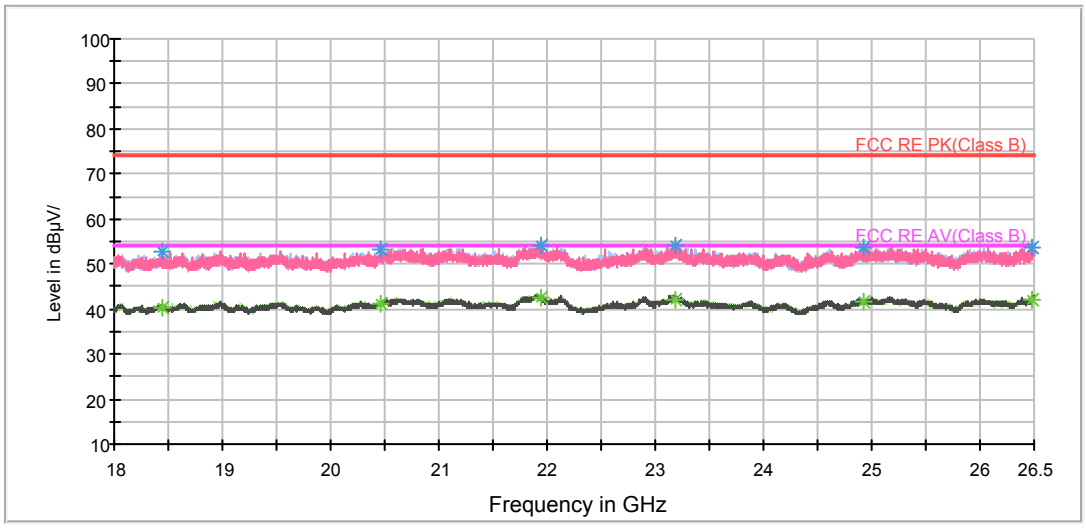
RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

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802.11n (HT20) CH11

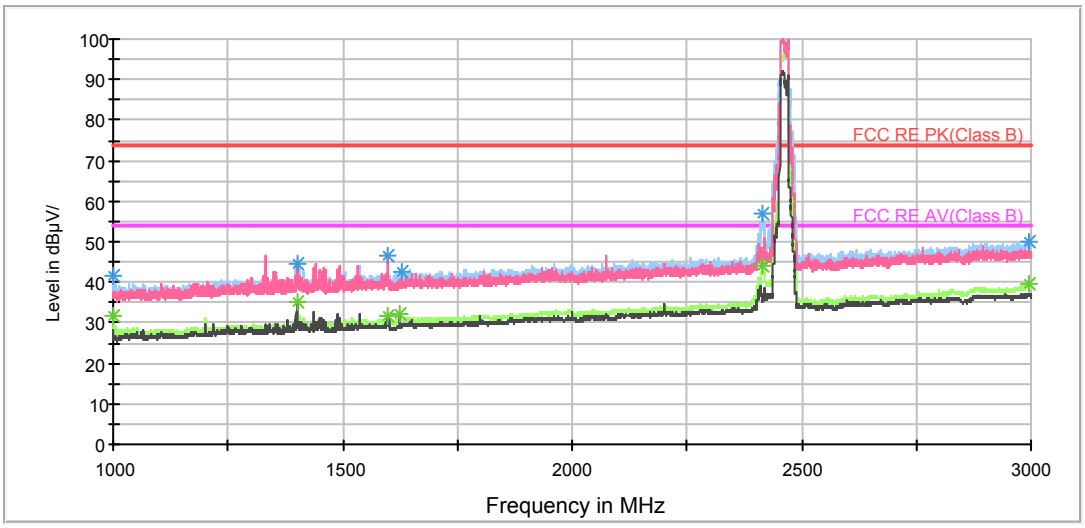
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1001.000000	41.4	202.0	H	155.0	50.6	-9.2	32.6	74
1400.000000	44.6	202.0	H	261.0	51.7	-7.1	29.4	74
1597.250000	46.4	102.0	V	85.0	52.8	-6.4	27.6	74
1627.750000	42.4	102.0	H	147.0	47.2	-4.8	31.6	74
2414.750000	56.7	202.0	H	0.0	57.3	-0.6	17.3	74
2996.750000	50.0	102.0	H	237.0	47.7	2.3	24.0	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)
1000.000000	31.5	202.0	H	155.0	40.7	-9.2	22.5	54
1400.250000	35.1	202.0	H	1.0	42.2	-7.1	18.9	54
1599.750000	31.8	202.0	H	183.0	38.2	-6.4	22.2	54
1625.500000	32.4	202.0	V	359.0	37.2	-4.8	21.6	54
2414.750000	44.2	202.0	H	0.0	44.8	-0.6	9.8	54
2995.750000	39.4	202.0	H	0.0	37.1	2.3	14.6	54

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

RE 1G-3GHz PK+AV



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

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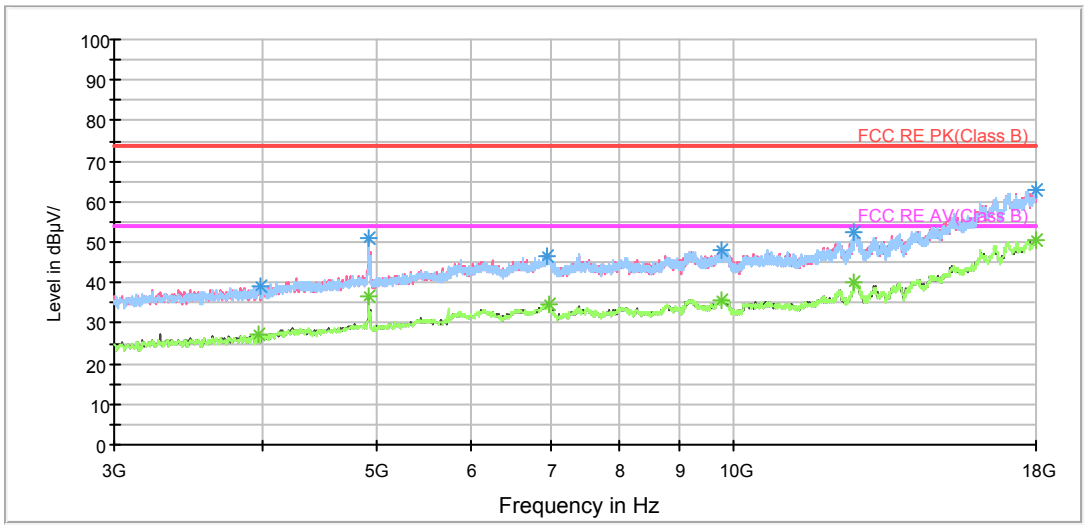
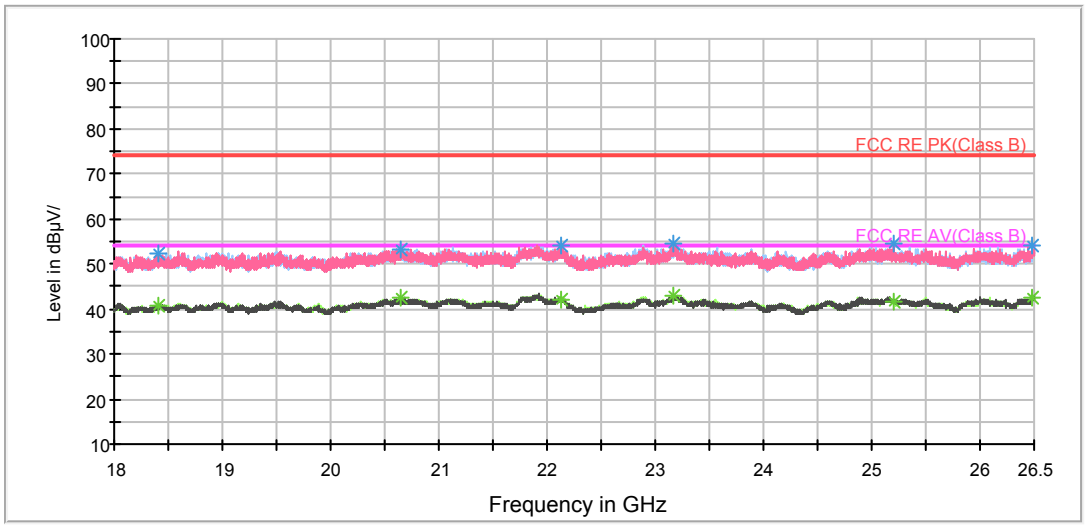
RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

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802.11n (HT40) CH3

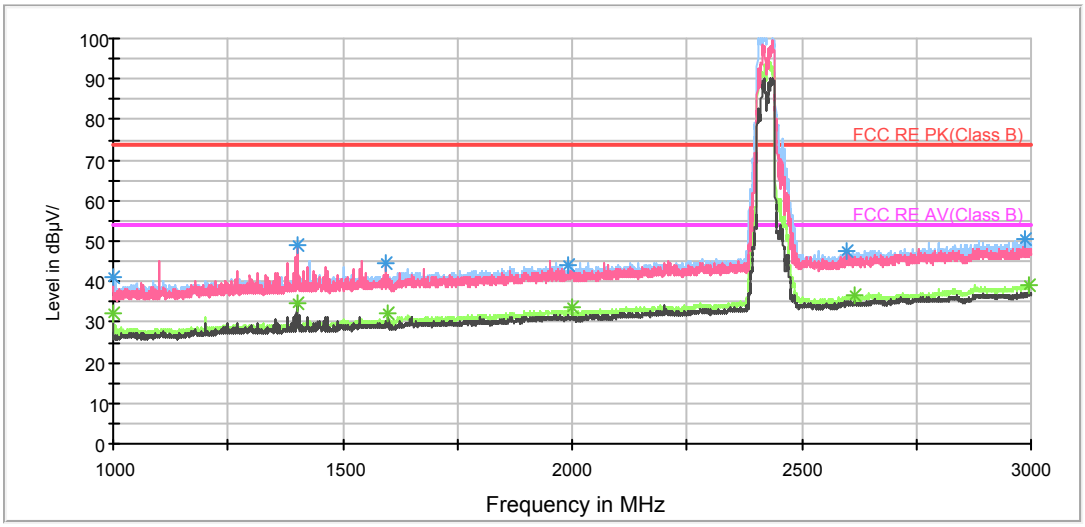
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1000.000000	41.2	202.0	H	169.0	50.4	-9.2	32.8	74
1400.250000	48.9	202.0	V	65.0	56.0	-7.1	25.1	74
1594.250000	44.5	102.0	V	67.0	50.9	-6.4	29.5	74
1993.000000	44.1	202.0	H	13.0	47.4	-3.3	29.9	74
2599.250000	47.5	102.0	H	0.0	47.1	0.4	26.5	74
2987.250000	50.6	102.0	H	0.0	48.4	2.2	23.4	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)
1000.000000	32.4	202.0	H	169.0	41.6	-9.2	21.6	54
1400.250000	34.5	202.0	V	65.0	41.6	-7.1	19.5	54
1599.750000	32.4	202.0	H	169.0	38.8	-6.4	21.6	54
2000.000000	33.4	202.0	H	88.0	36.8	-3.4	20.6	54
2616.500000	36.5	102.0	H	0.0	36.5	0.0	17.5	54
2995.750000	39.3	102.0	H	0.0	37.0	2.3	14.7	54

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

RE 1G-3GHz PK+AV



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

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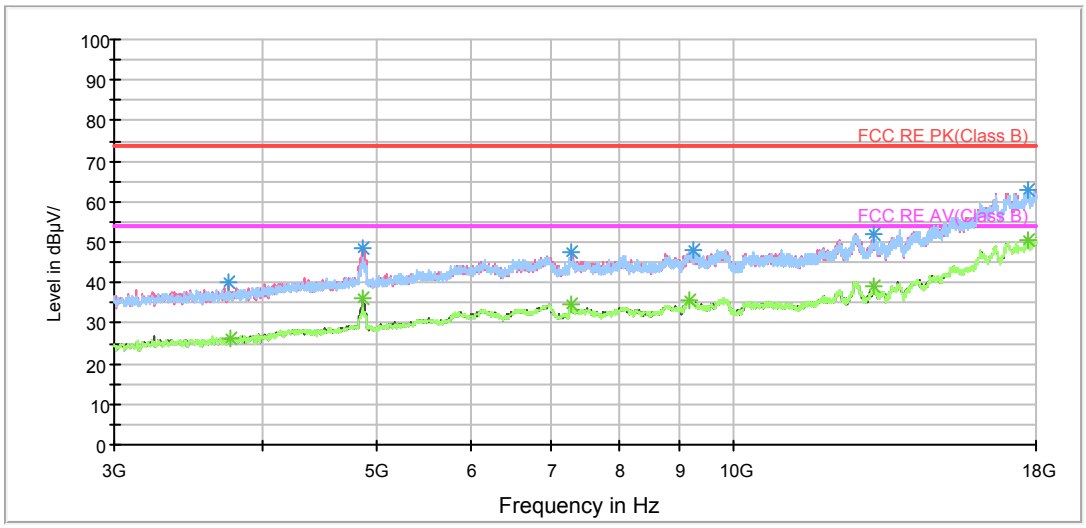
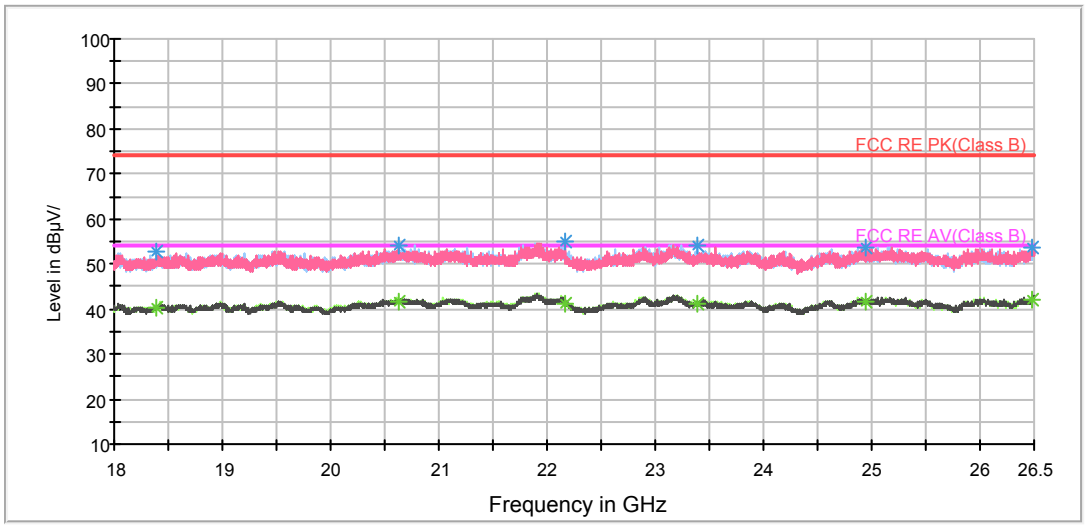
RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

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802.11n (HT40) CH6

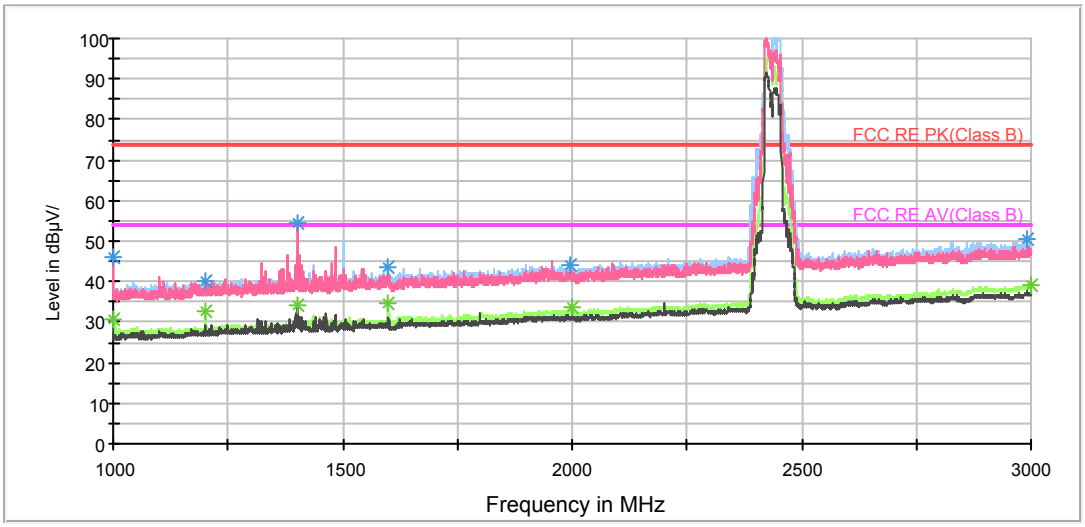
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1000.250000	45.9	102.0	V	30.0	55.1	-9.2	28.1	74
1200.000000	40.0	202.0	H	163.0	48.2	-8.2	34.0	74
1400.250000	54.5	202.0	V	197.0	61.6	-7.1	19.5	74
1600.250000	43.5	202.0	H	177.0	49.9	-6.4	30.5	74
1995.250000	44.0	202.0	H	0.0	47.2	-3.2	30.0	74
2991.750000	50.3	202.0	H	91.0	48.1	2.2	23.7	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)
1000.000000	30.8	202.0	H	163.0	40.0	-9.2	23.2	54
1200.000000	32.9	202.0	H	163.0	41.1	-8.2	21.1	54
1400.000000	34.1	202.0	V	0.0	41.2	-7.1	19.9	54
1600.000000	34.8	202.0	H	177.0	41.2	-6.4	19.2	54
2000.000000	33.4	202.0	H	127.0	36.8	-3.4	20.6	54
2998.500000	39.1	202.0	H	55.0	36.8	2.3	14.9	54

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

RE 1G-3GHz PK+AV



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

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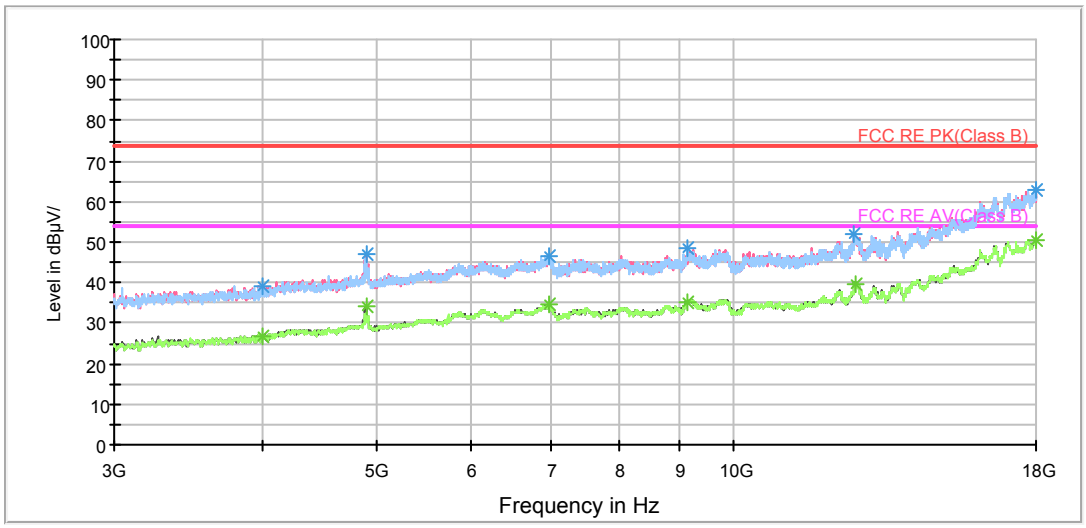
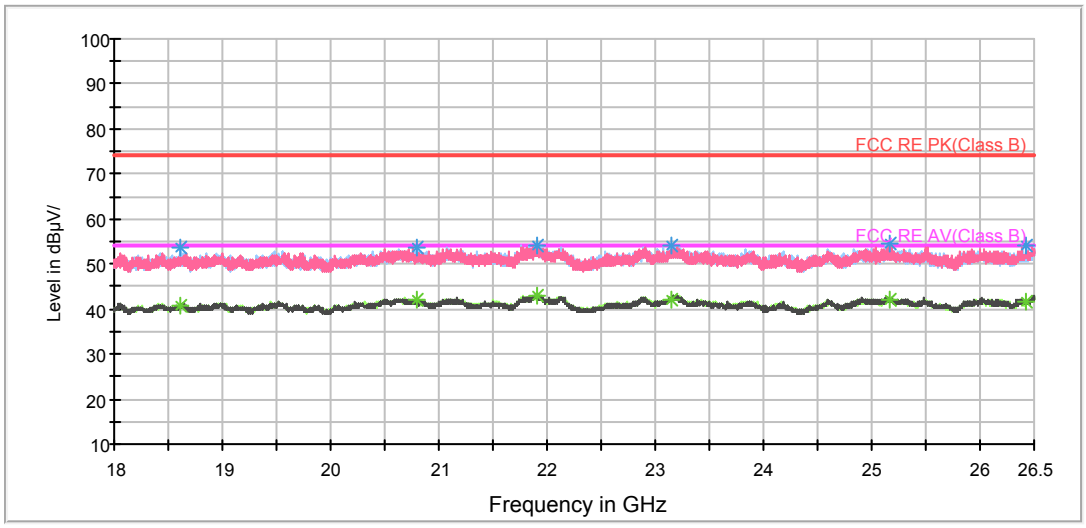
RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

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802.11n (HT40) CH9

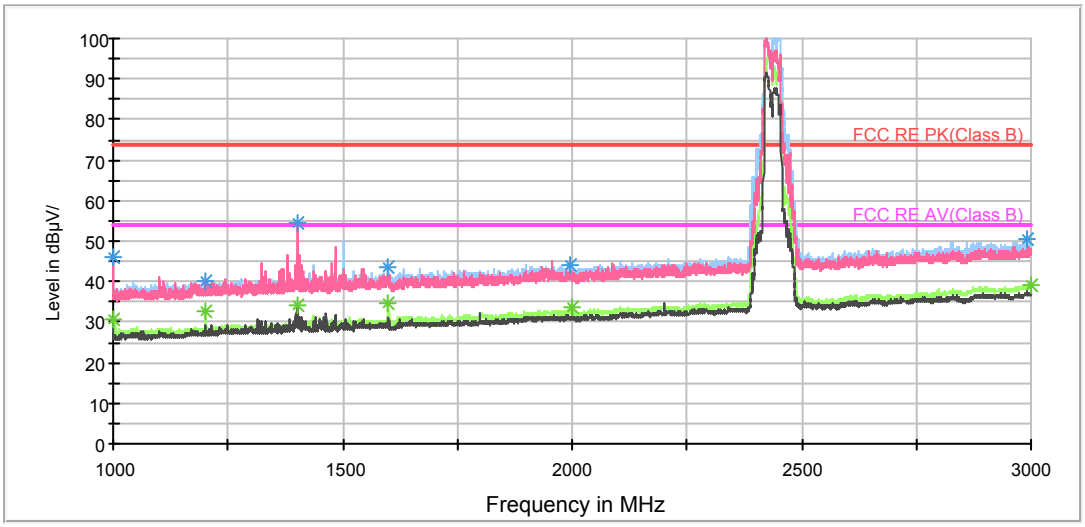
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1000.250000	45.9	102.0	V	30.0	55.1	-9.2	28.1	74
1200.000000	40.0	202.0	H	163.0	48.2	-8.2	34.0	74
1400.250000	54.5	202.0	V	197.0	61.6	-7.1	19.5	74
1600.250000	43.5	202.0	H	177.0	49.9	-6.4	30.5	74
1995.250000	44.0	202.0	H	0.0	47.2	-3.2	30.0	74
2991.750000	50.3	202.0	H	91.0	48.1	2.2	23.7	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)
1000.000000	30.8	202.0	H	163.0	40.0	-9.2	23.2	54
1200.000000	32.9	202.0	H	163.0	41.1	-8.2	21.1	54
1400.000000	34.1	202.0	V	0.0	41.2	-7.1	19.9	54
1600.000000	34.8	202.0	H	177.0	41.2	-6.4	19.2	54
2000.000000	33.4	202.0	H	127.0	36.8	-3.4	20.6	54
2998.500000	39.1	202.0	H	55.0	36.8	2.3	14.9	54

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

RE 1G-3GHz PK+AV



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

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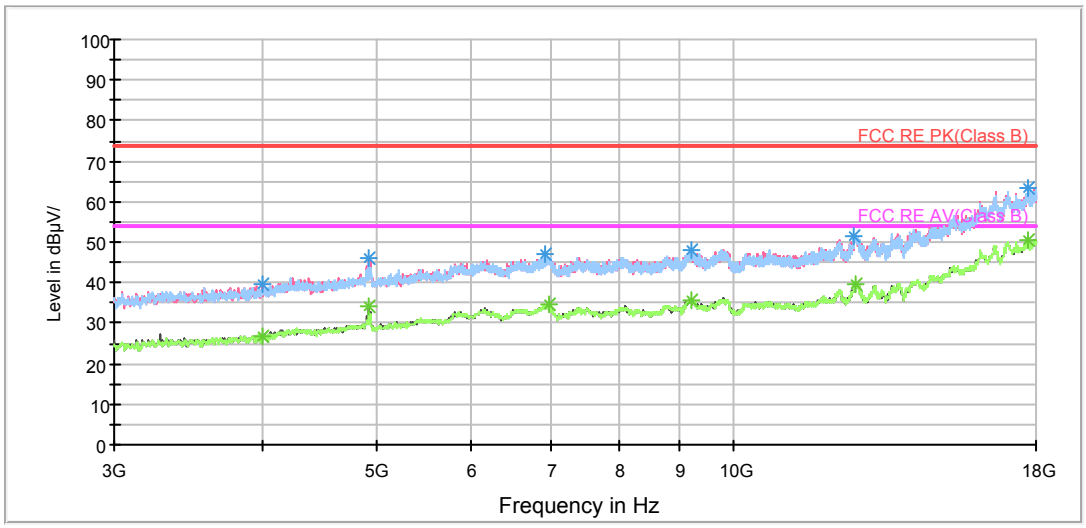
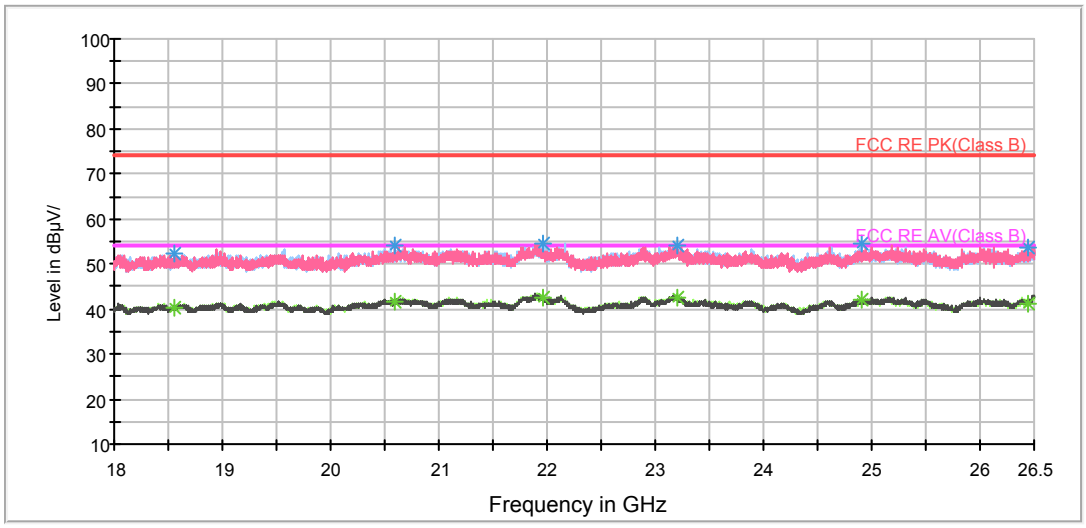
RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

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5.8. Conducted Emission

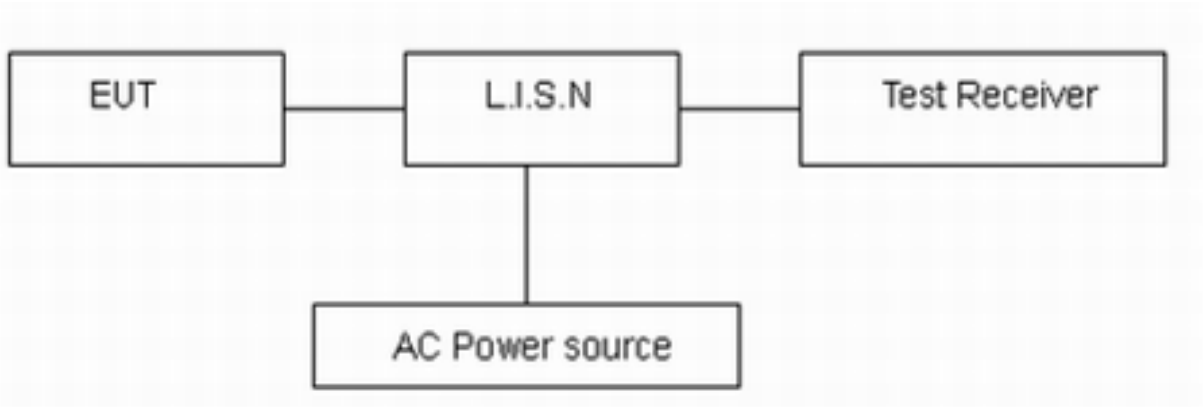
Ambient condition

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.

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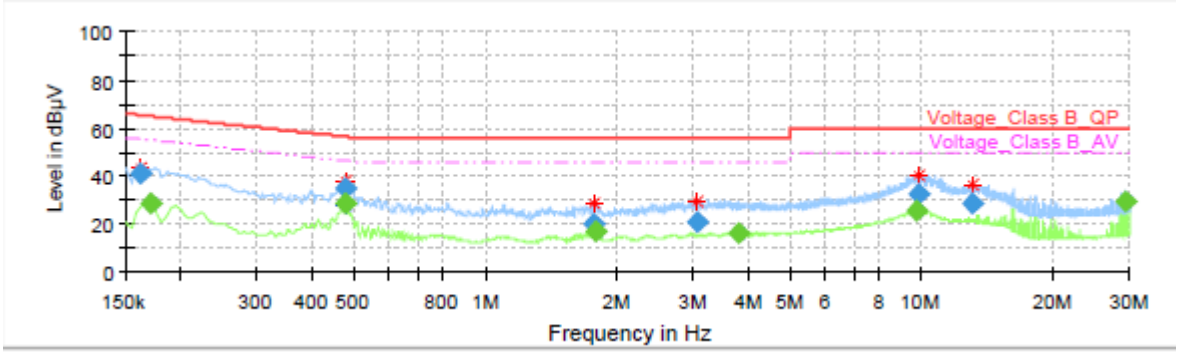
Test Results:

Following plots, Blue trace uses the peak detection and Green trace uses the average detection.



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.161250	40.92	---	65.40	24.48	1000.0	9.000	L1	ON	19.1
0.170250	---	28.47	54.95	26.47	1000.0	9.000	L1	ON	19.1
0.476250	---	28.35	46.40	18.05	1000.0	9.000	L1	ON	19.2
0.476250	35.18	---	56.40	21.22	1000.0	9.000	L1	ON	19.2
1.770000	20.17	---	56.00	35.83	1000.0	9.000	L1	ON	19.2
1.781250	---	17.03	46.00	28.97	1000.0	9.000	L1	ON	19.2
3.059250	21.09	---	56.00	34.91	1000.0	9.000	L1	ON	19.1
3.822000	---	15.95	46.00	30.05	1000.0	9.000	L1	ON	19.0
9.764250	---	25.34	50.00	24.66	1000.0	9.000	L1	ON	19.4
9.804750	32.88	---	60.00	27.12	1000.0	9.000	L1	ON	19.4
13.074000	28.63	---	60.00	31.37	1000.0	9.000	L1	ON	19.5
29.235750	---	29.71	50.00	20.29	1000.0	9.000	L1	ON	19.8

L Line

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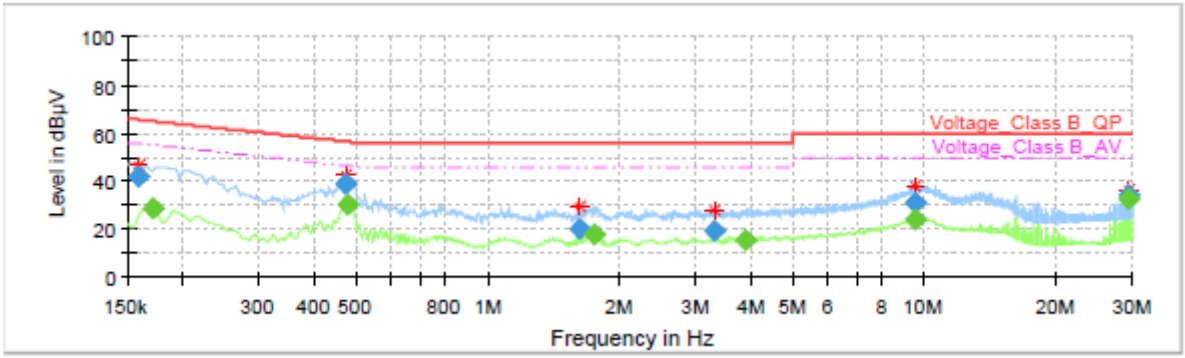

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.159000	41.91	---	65.52	23.60	1000.0	9.000	N	ON	19.1
0.170250	---	28.66	54.95	26.29	1000.0	9.000	N	ON	19.2
0.474000	38.79	---	56.44	17.65	1000.0	9.000	N	ON	19.2
0.476250	---	30.16	46.40	16.25	1000.0	9.000	N	ON	19.2
1.614750	20.50	---	56.00	35.50	1000.0	9.000	N	ON	19.2
1.752000	---	18.19	46.00	27.81	1000.0	9.000	N	ON	19.2
3.293250	19.01	---	56.00	36.99	1000.0	9.000	N	ON	19.1
3.903000	---	15.85	46.00	30.15	1000.0	9.000	N	ON	19.0
9.557250	31.03	---	60.00	28.97	1000.0	9.000	N	ON	19.4
9.577500	---	24.07	50.00	25.93	1000.0	9.000	N	ON	19.4
29.235750	---	32.31	50.00	17.69	1000.0	9.000	N	ON	19.7
29.235750	33.79	---	60.00	26.21	1000.0	9.000	N	ON	19.7

N Line

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6. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Time
Spectrum Analyzer	R&S	FSV30	100815	2016-12-16	2017-12-15
EMI Test Receiver	R&S	ESCI	100948	2017-05-20	2018-05-19
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-201	2014-12-06	2017-12-05
Double Ridged Waveguide Horn Antenna	R&S	HF907	100126	2014-12-06	2017-12-05
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2017-02-18	2020-02-17
Standard Gain Horn	ETS-Lindgren	3160-09	00102644	2015-01-30	2018-01-29
EMI Test Receiver	R&S	ESCS30	100138	2016-12-16	2017-12-15
LISN	R&S	ENV216	101171	2016-12-16	2019-12-15
Spectrum Analyzer	Agilent	N9010A	MY47191109	2017-05-20	2018-05-19
RF Cable	Agilent	SMA 15cm	0001	2017-02-06	2017-08-05

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

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ANNEX A: EUT Appearance and Test Setup

A.1 EUT Appearance

a: EUT

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Adapter 1

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Adapter 2

b: Adapter

Picture 1 EUT and Accessory

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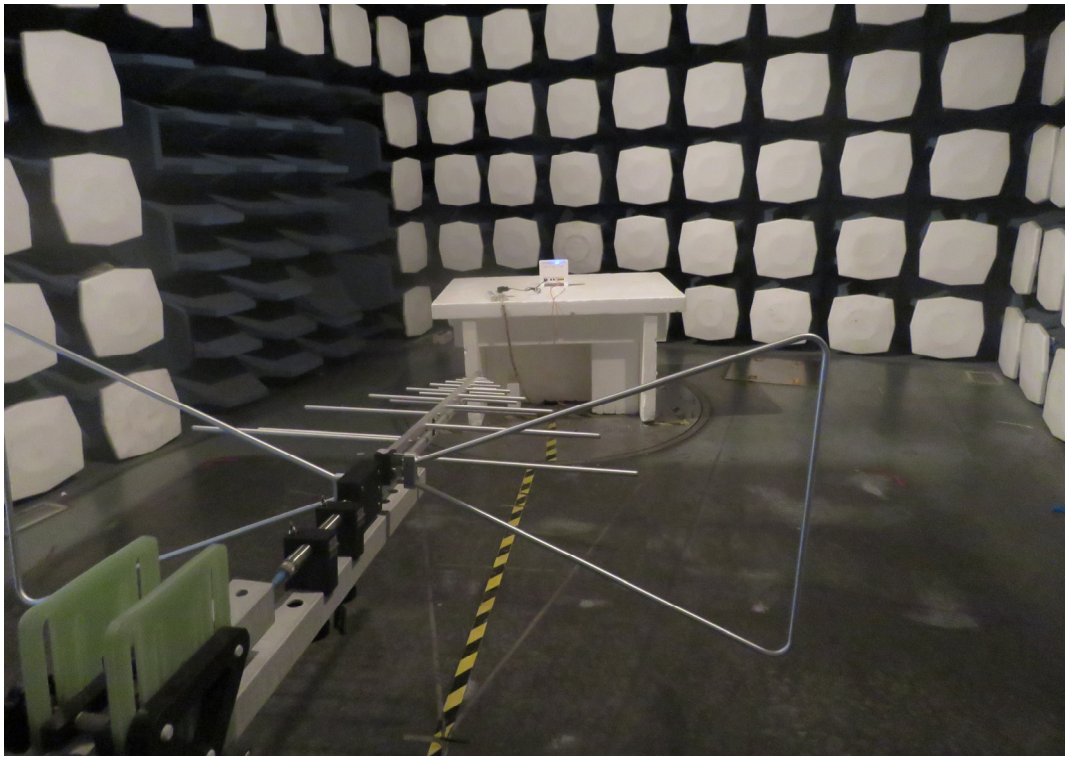
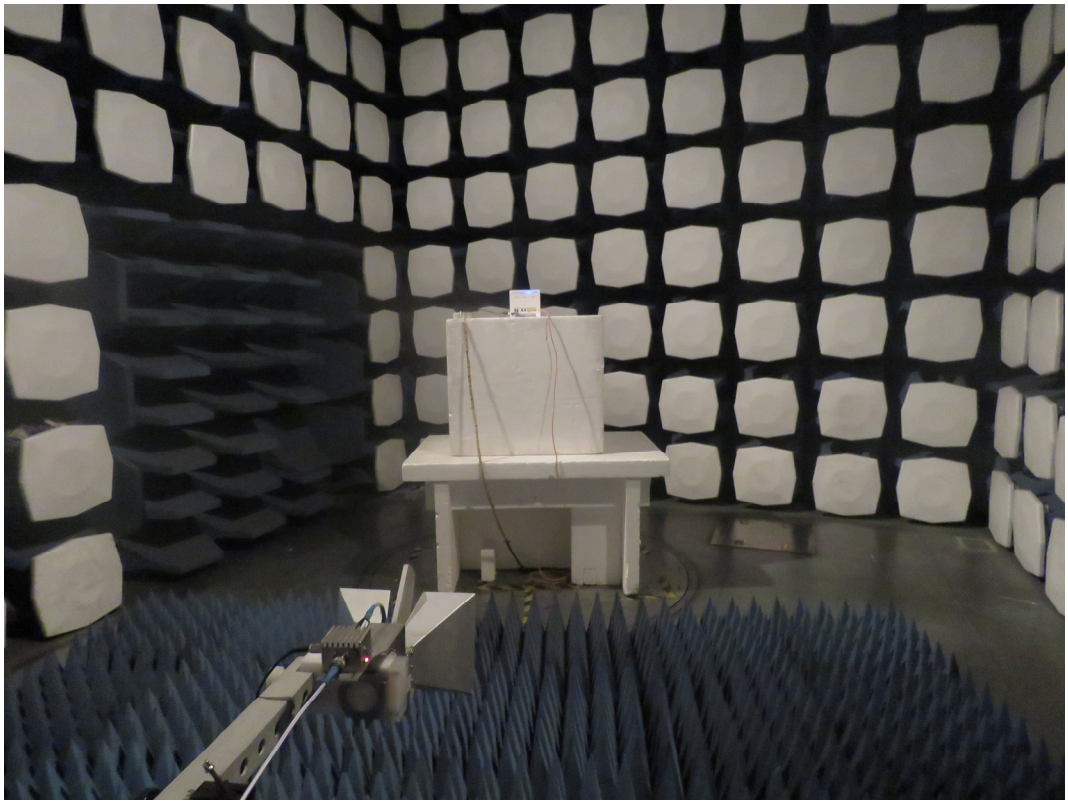
A.2 Test Setup



30M Hz-1GHz



Above 1GHz

Picture 2 Radiated Emission Test Setup

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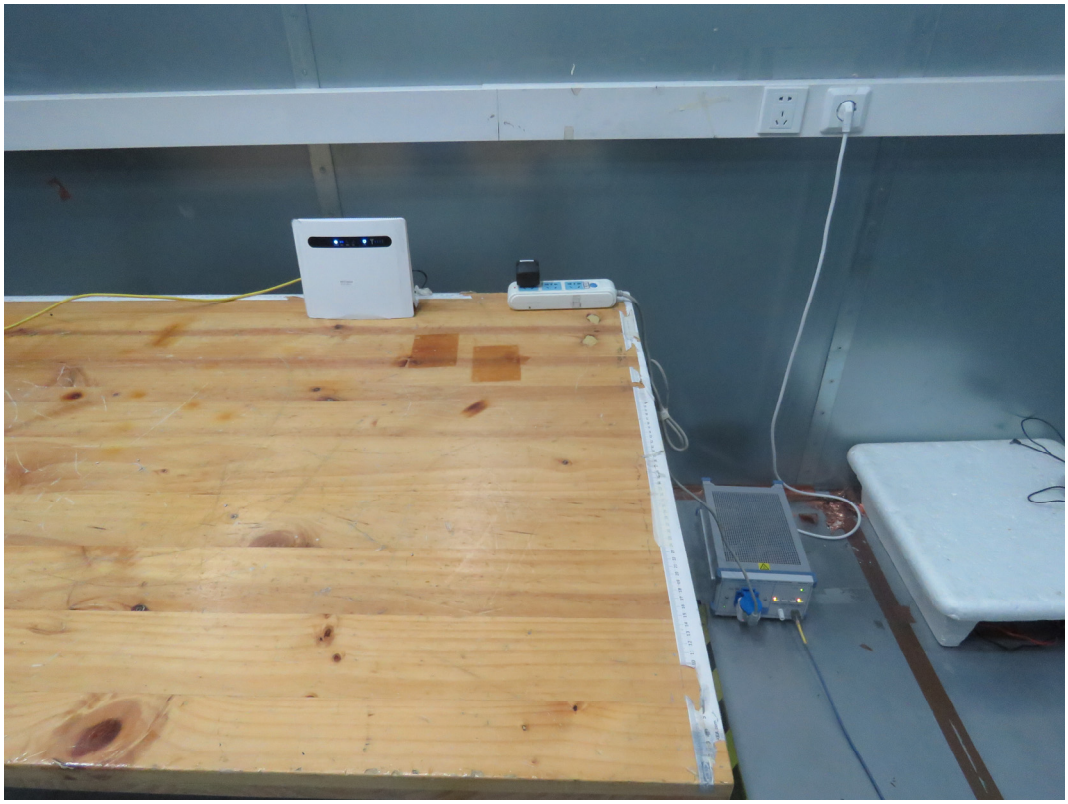

Picture 3 Conducted Emission Test Setup

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