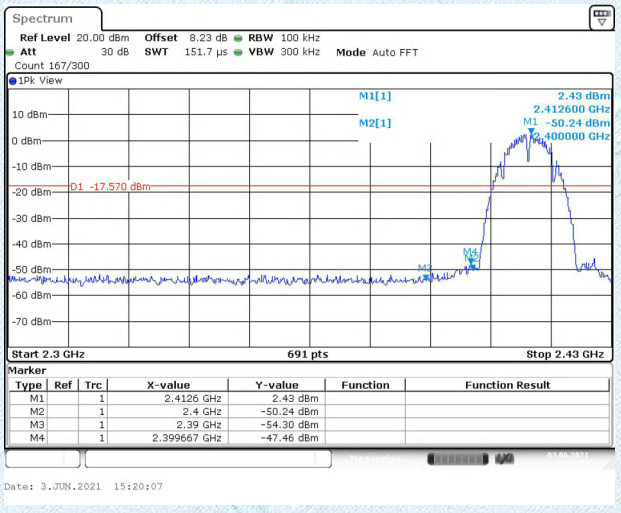
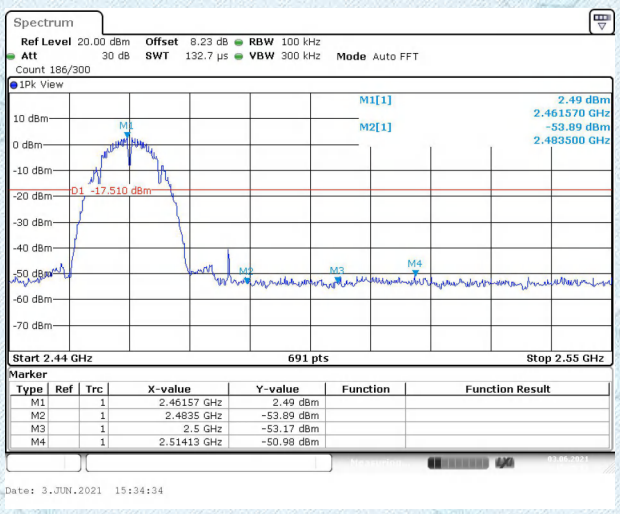
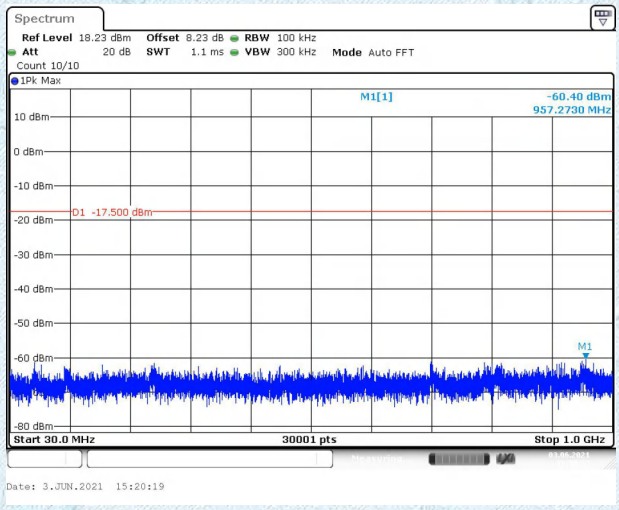
Test Results

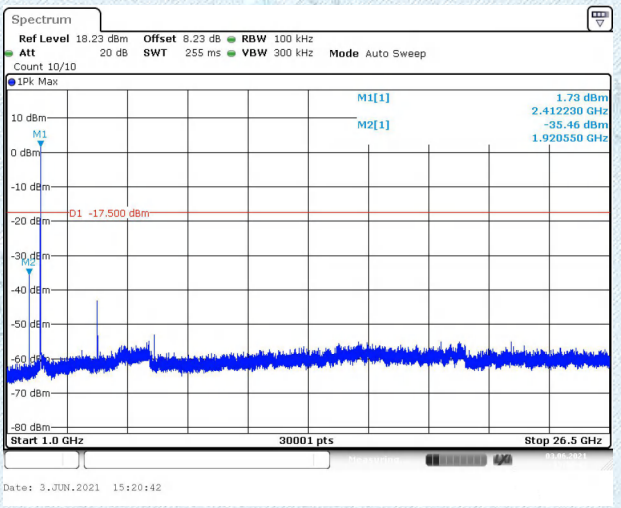
802.11b	
CH01-Bandedge	CH11-Bandedge





802.11b
CH01-SE





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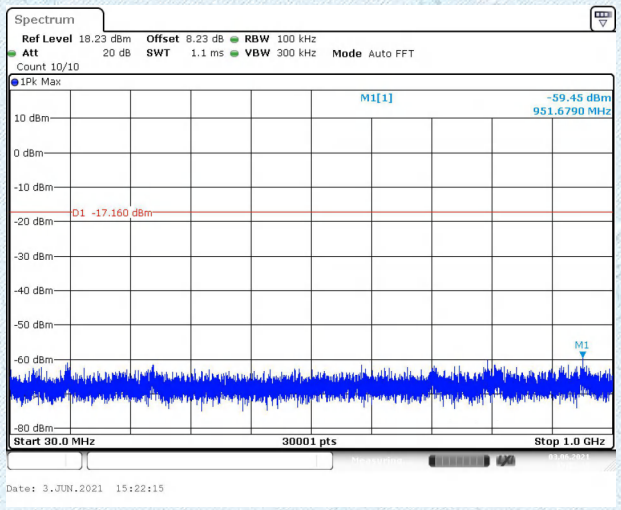
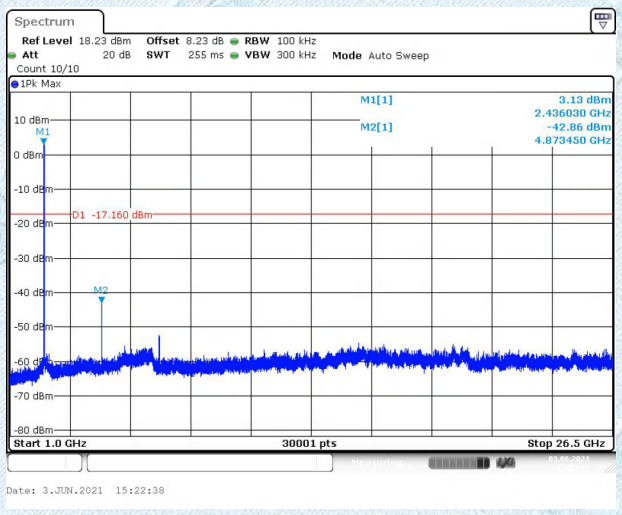
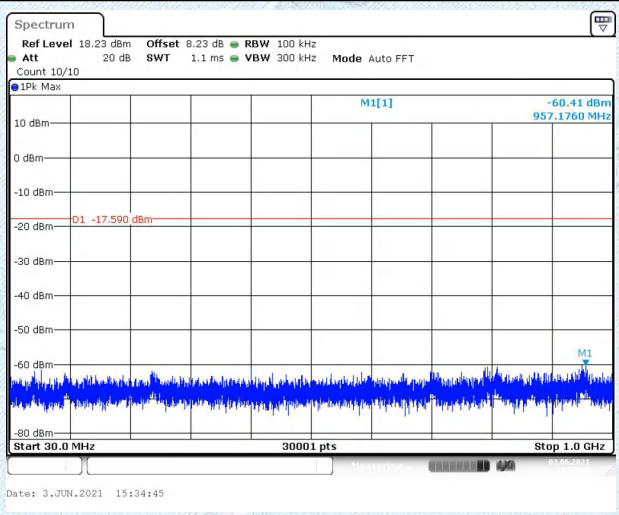
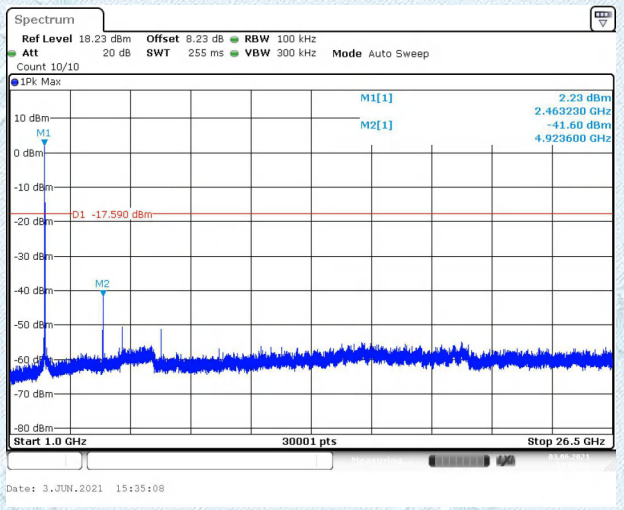
CH06-SE





CH11-SE

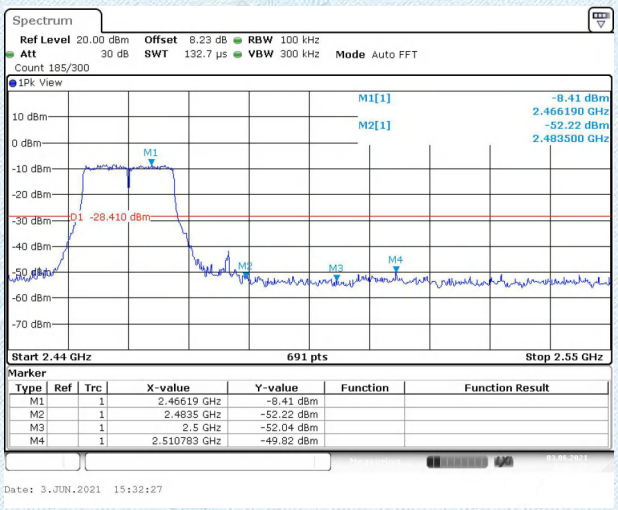




802.11g

CH01-Bandedge

CH11-Bandedge



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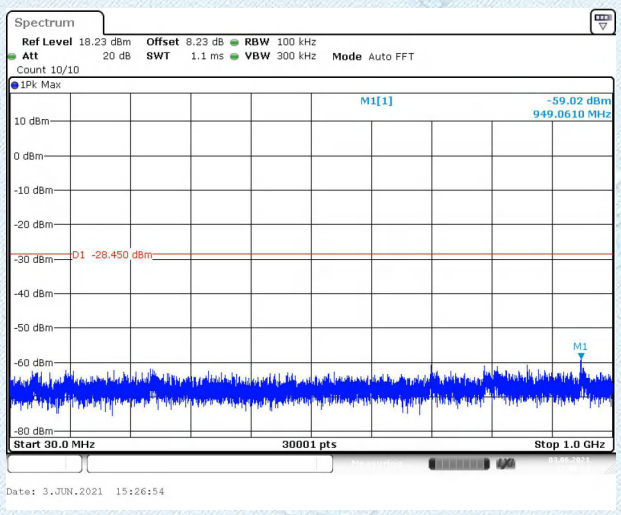
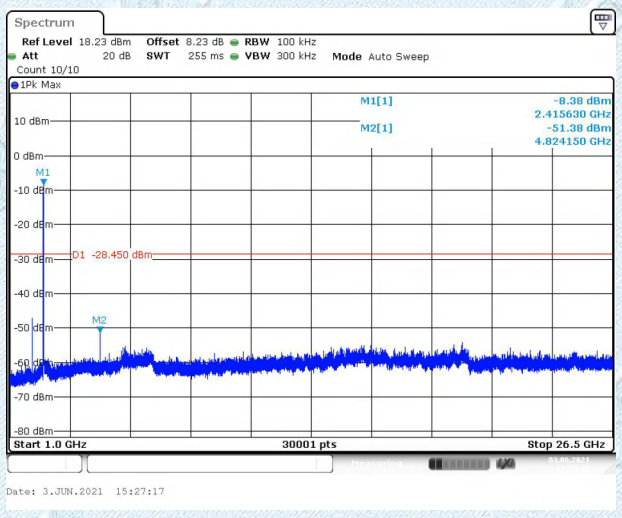
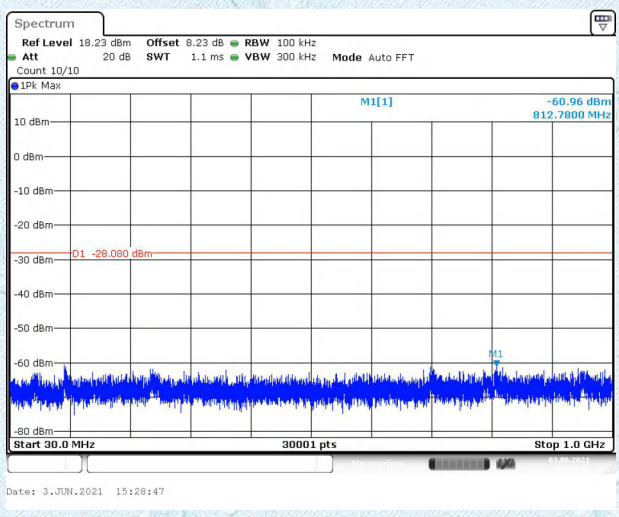
802.11g

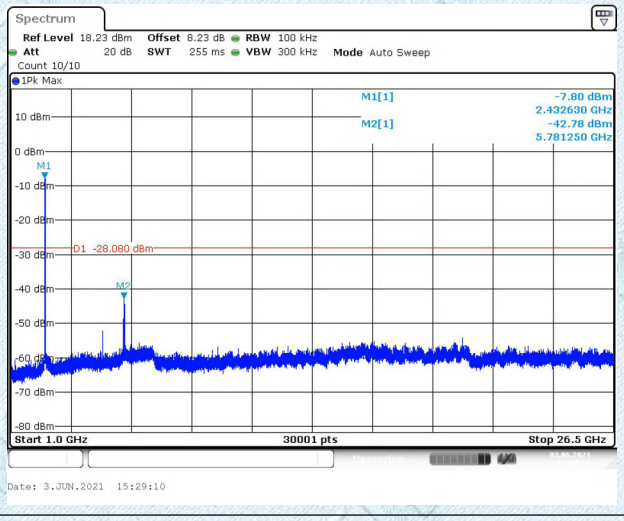
CH01-SE



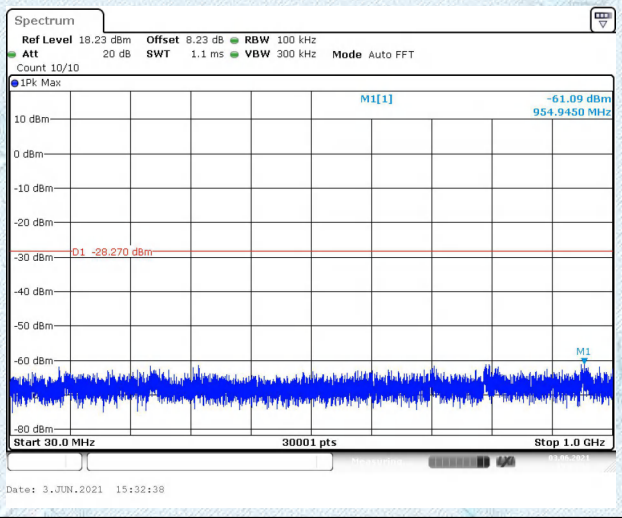


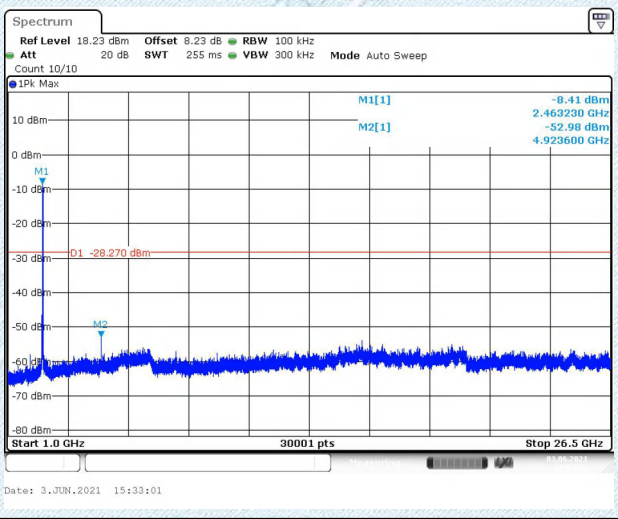
CH06-SE





CH11-SE





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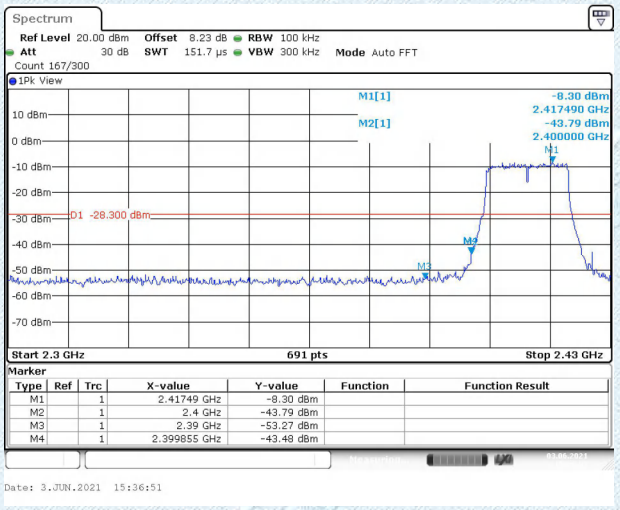
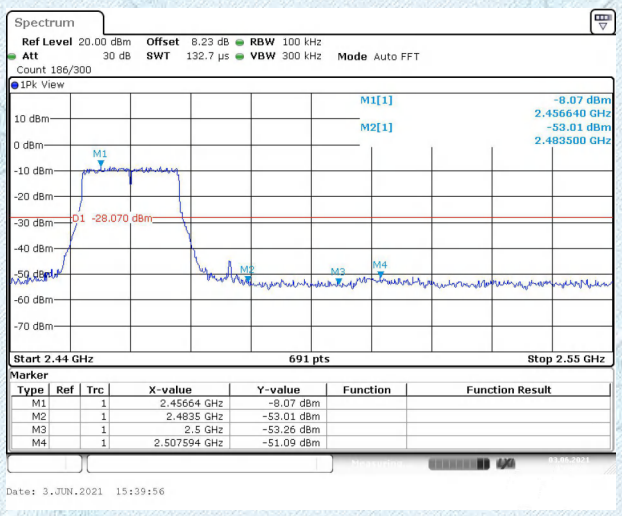
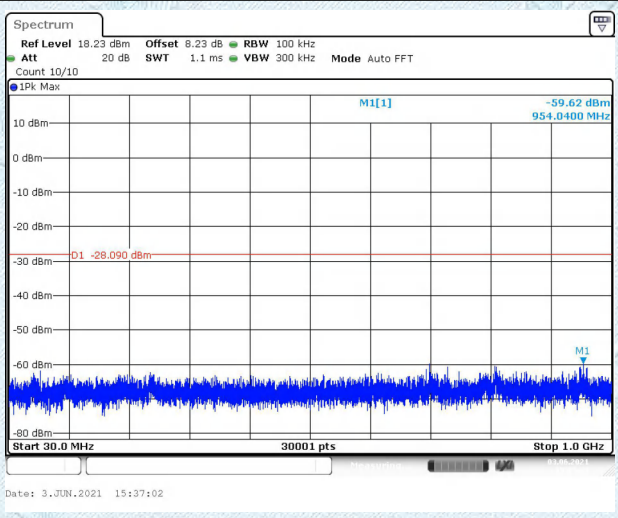
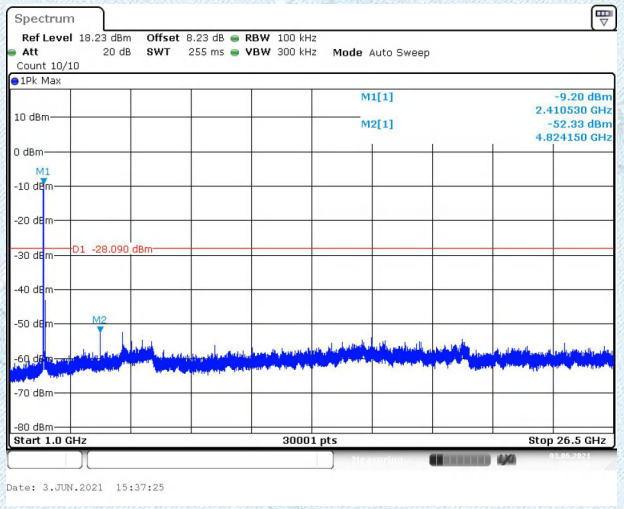
802.11n(HT20)	
CH01-Bandedge	CH11-Bandedge





802.11n(HT20)
CH01-SE





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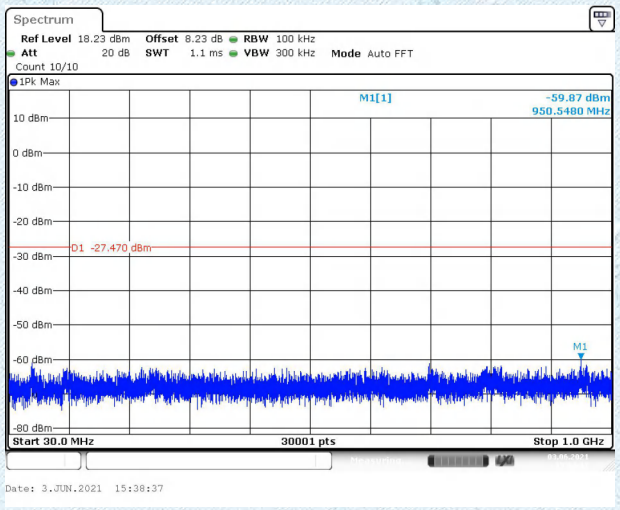
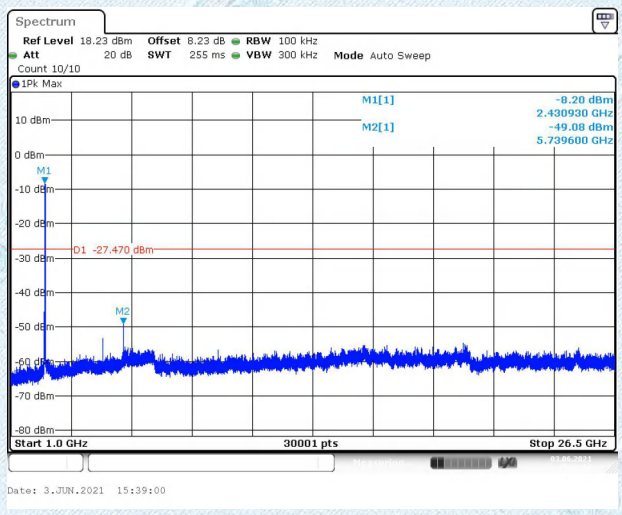
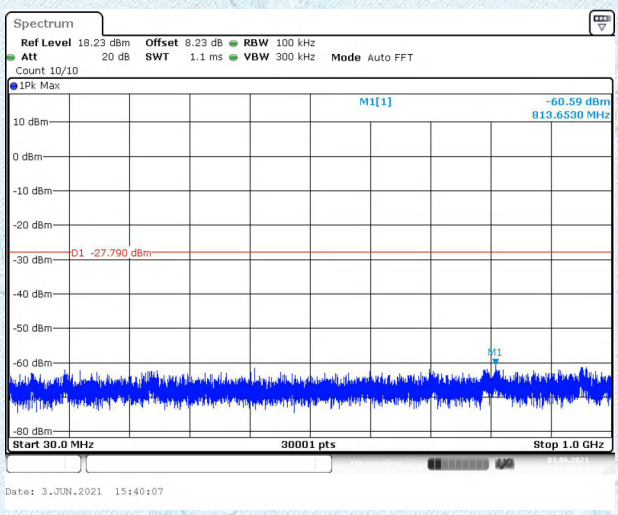
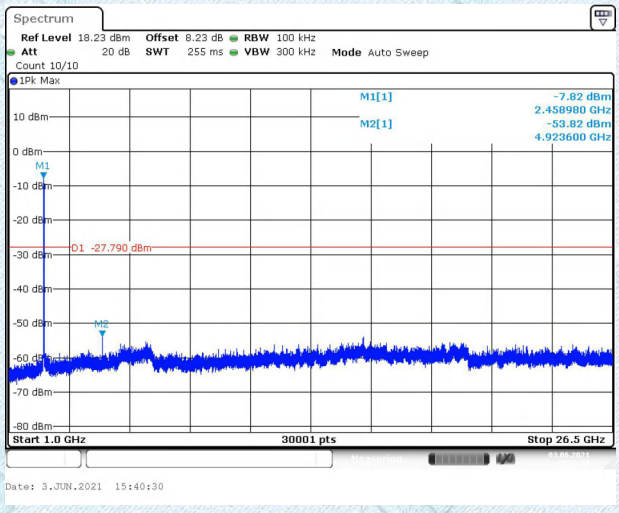
CH06-SE





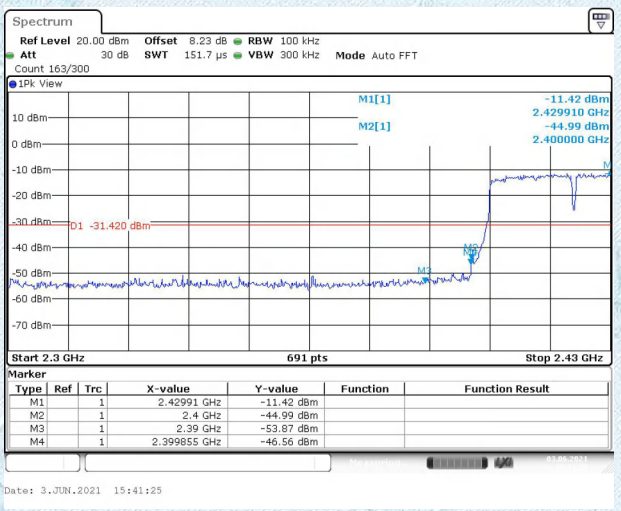
CH11-SE



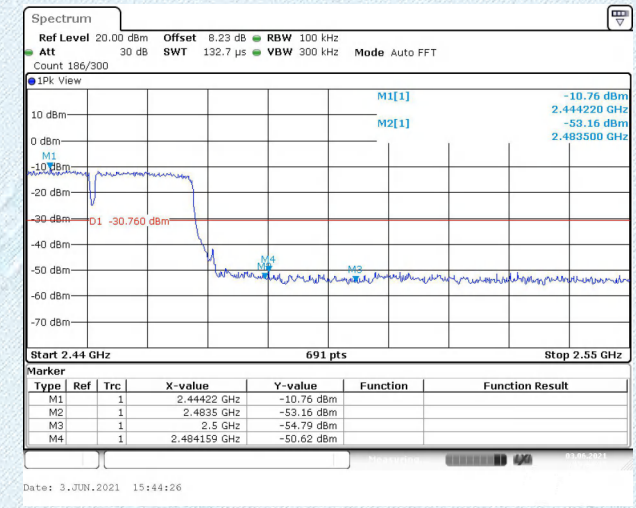


802.11n(HT40)

CH01-Bandedge



CH11-Bandedge



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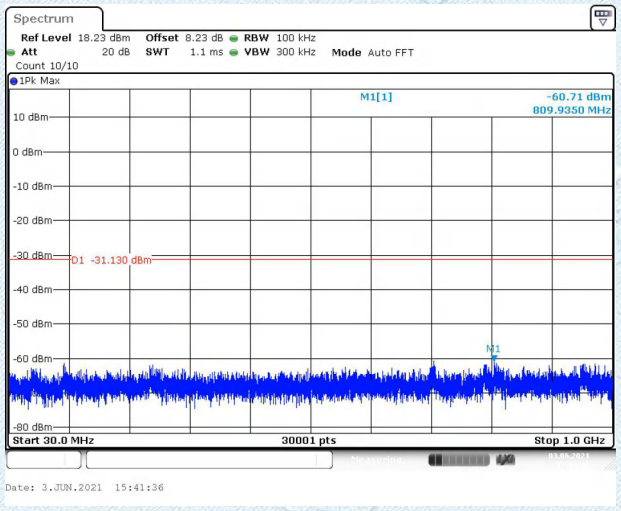
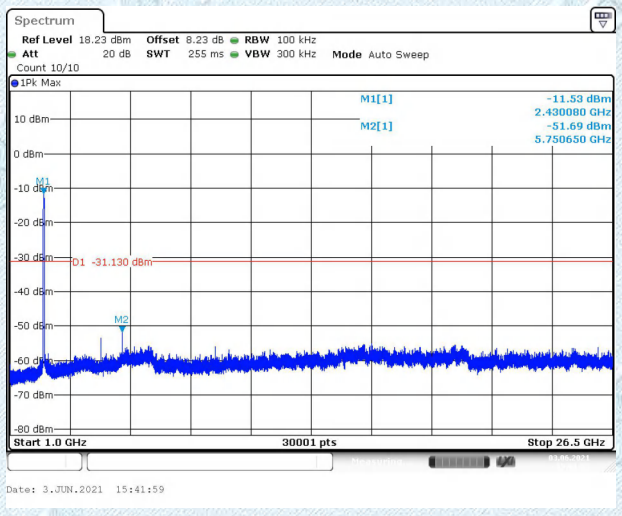
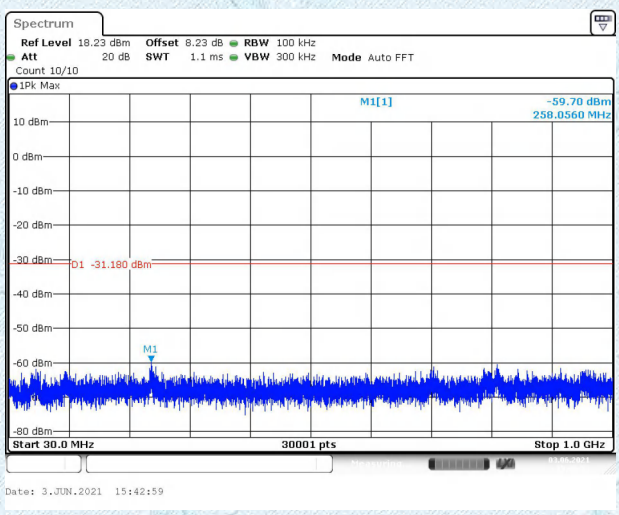
802.11n(HT40)

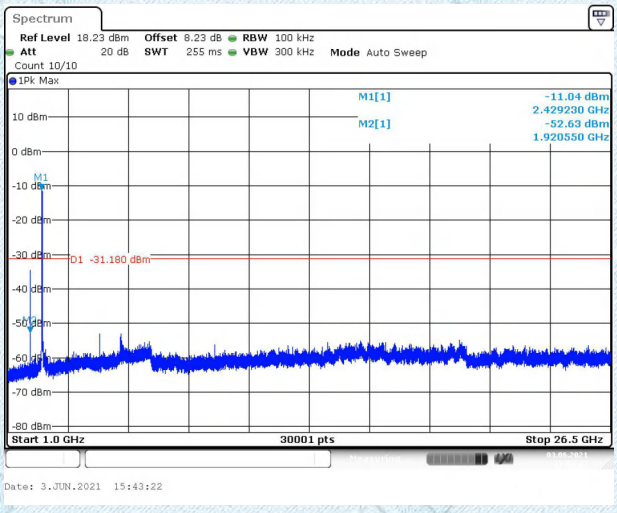
CH03-SE



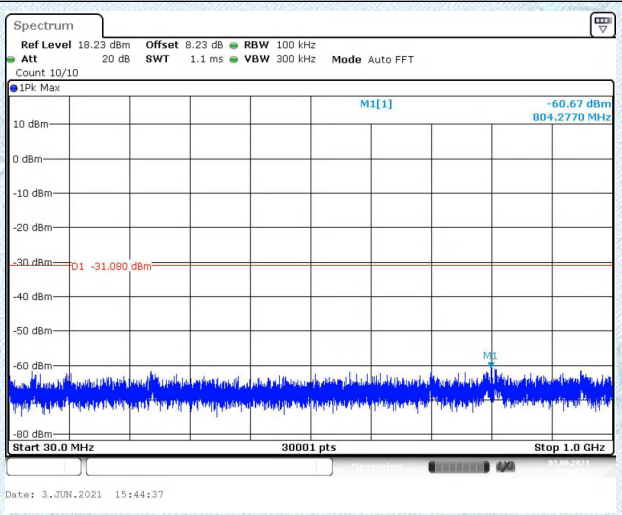


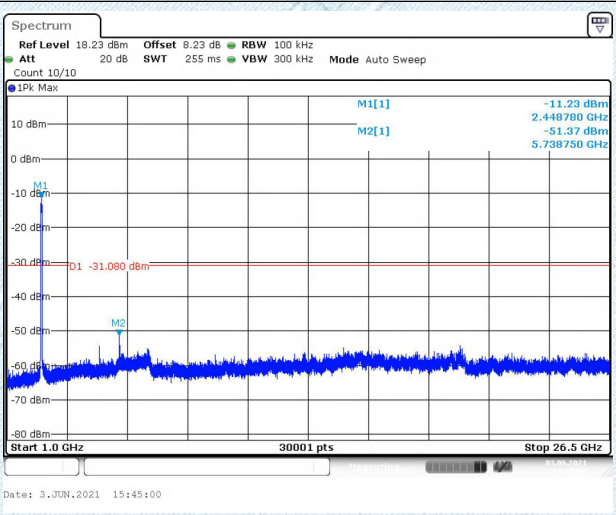
CH06-SE





CH09-SE





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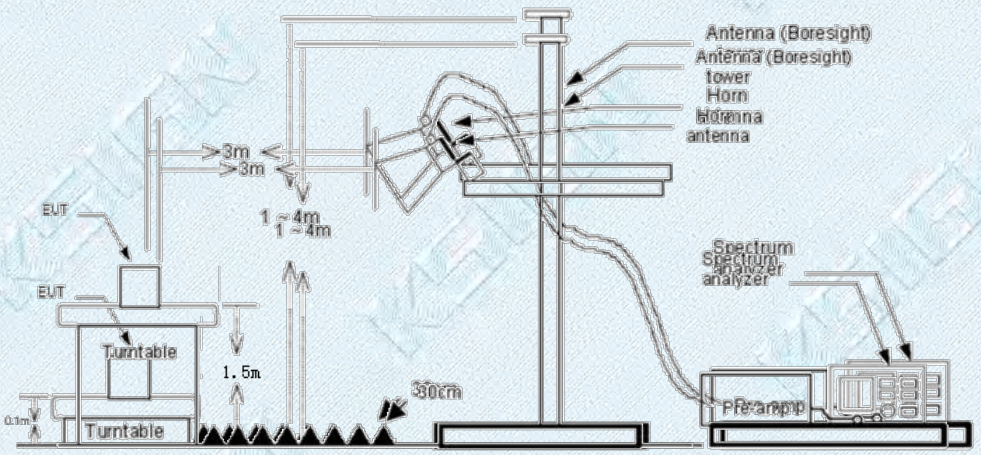
3.6. BAND EDGE EMISSIONS(RADIATED)

Limit

Restricted Frequency Band (MHz)	(dBuV/m)(at 3m)	
	Peak	Average
2310 ~2390	74	54
2483.5 ~2500	74	54
Note: All restriction bands have been tested, only the worst case is reported.		

Test Configuration



Test Procedure

1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.
5. The receiver set as follow:
   RBW=1MHz, VBW=3MHz PEAK detector for Peak value.
   RBW=1MHz, VBW=10Hz with PEAK detector for Average Value.

Test Mode

Please refer to the clause 2.2.

Test Results

Note:

1.Measurement = Reading level + Correct Factor

Correct Factor=Antenna Factor + Cable Loss - Preamplifier Factor

2.Pre-scan 802.11b, 802.11g, 802.11n(HT20) and 802.11n (HT40) mode, and found the 802.11b mode which it is worse case, so only show the test data for worse case.

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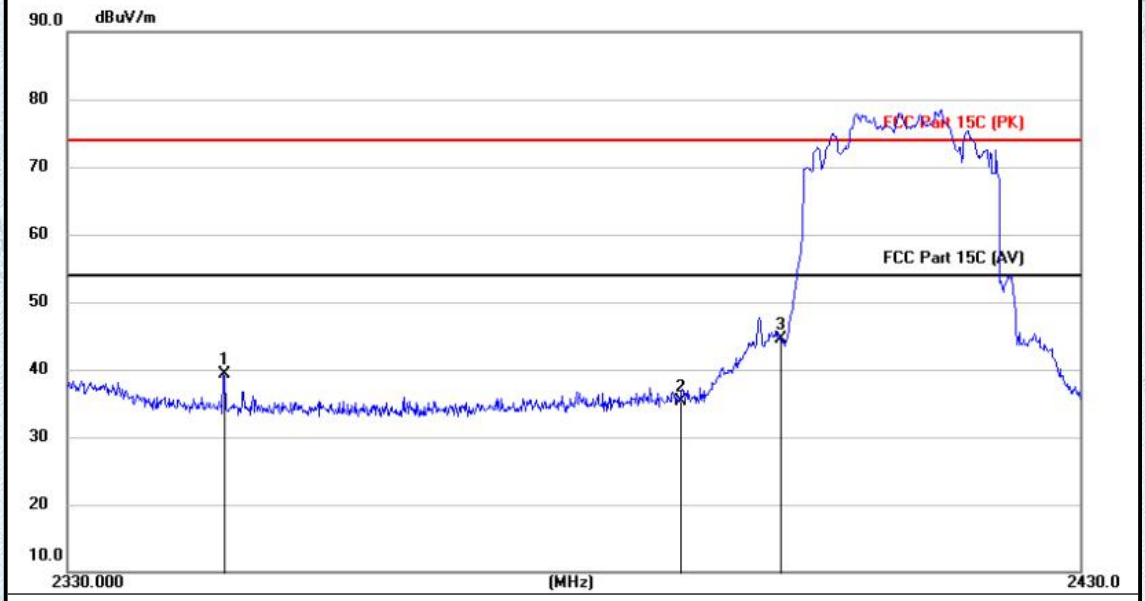
Test Voltage:	AC 120V/60Hz
Ant. Pol.	Horizontal
Test Mode:	TX 802.11b Mode 2412MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		2345.150	50.32	-10.93	39.39	74.00	-34.61	peak
2		2390.000	46.27	-10.92	35.35	74.00	-38.65	peak
3	*	2400.000	55.36	-10.92	44.44	74.00	-29.56	peak

Measurement = Reading level + Correct Factor

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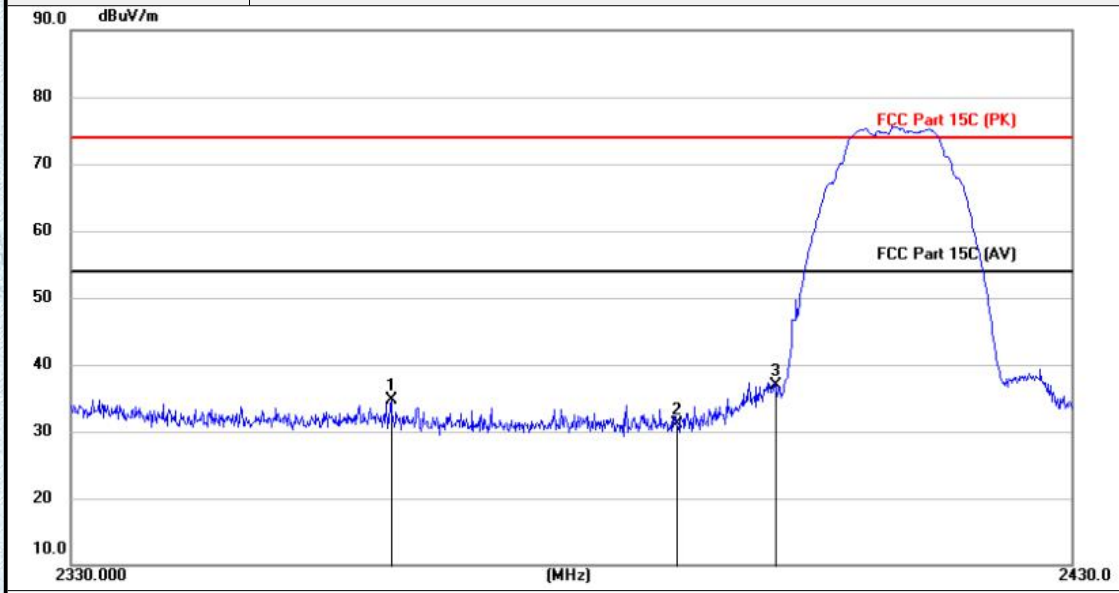
Test Voltage:	AC 120V/60Hz
Ant. Pol.	Vertical
Test Mode:	TX 802.11b Mode 2412 MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		2361.560	45.60	-10.93	34.67	74.00	-39.33	peak
2		2390.000	42.01	-10.92	31.09	74.00	-42.91	peak
3	*	2400.000	47.90	-10.92	36.98	74.00	-37.02	peak

Measurement = Reading level + Correct Factor

Add：West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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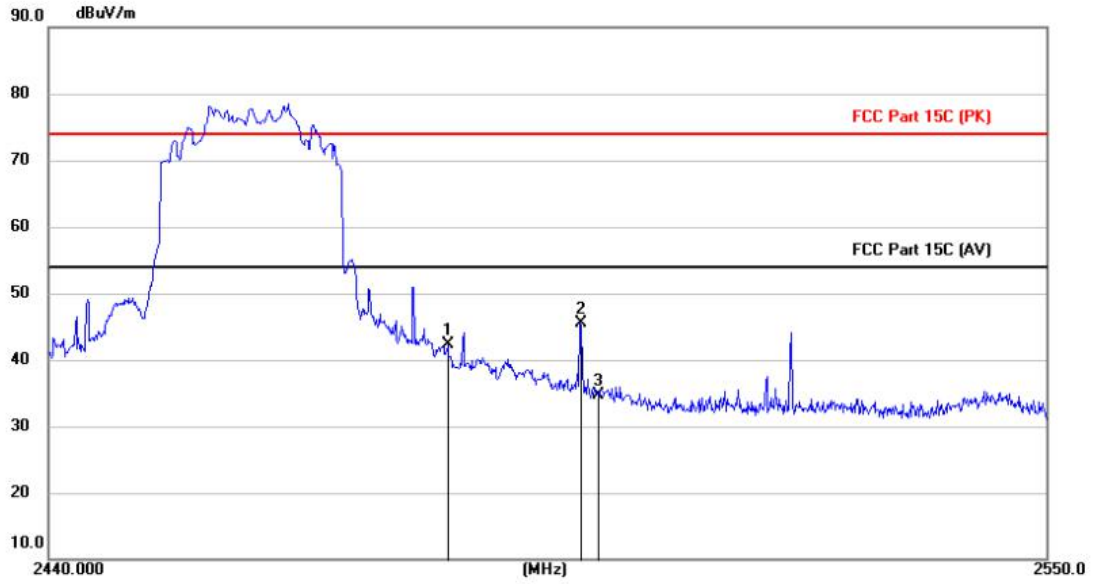
Test Voltage:	AC 120V/60Hz
Ant. Pol.	Horizontal
Test Mode:	TX 802.11b Mode 2462MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		2483.500	53.15	-10.88	42.27	74.00	-31.73	peak
2	*	2498.091	56.47	-10.88	45.59	74.00	-28.41	peak
3		2500.000	45.59	-10.88	34.71	74.00	-39.29	peak

Measurement = Reading level + Correct Factor

Add：West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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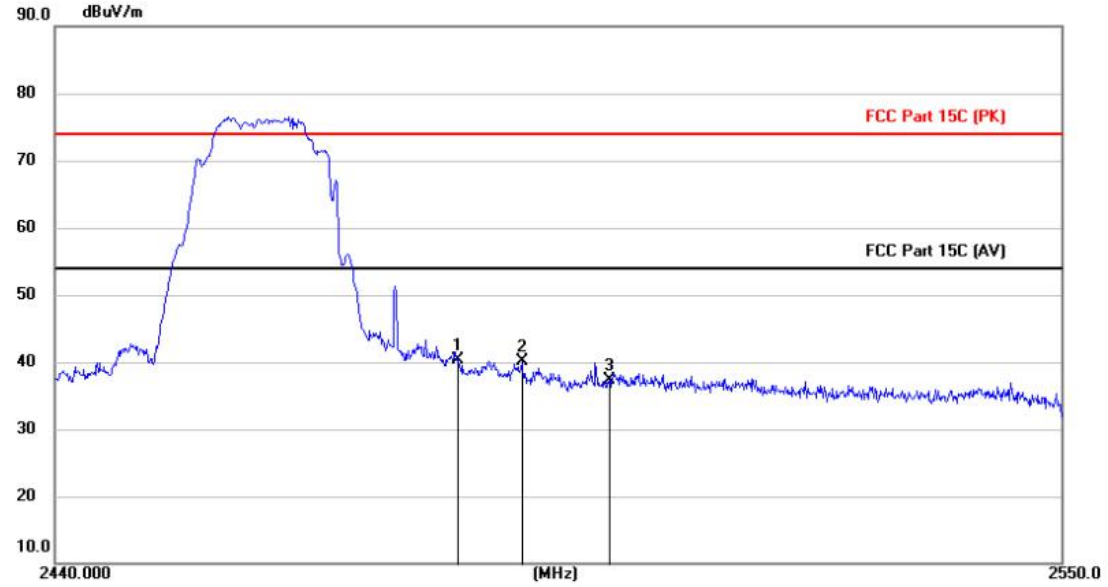
Test Voltage:	AC 120V/60Hz
Ant. Pol.	Vertical
Test Mode:	TX 802.11b Mode 2462MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1	*	2483.500	51.14	-10.88	40.26	74.00	-33.74	peak
2		2490.490	50.95	-10.89	40.06	74.00	-33.94	peak
3		2500.000	48.21	-10.88	37.33	74.00	-36.67	peak

Measurement = Reading level + Correct Factor

Add：West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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3.7. SPURIOUS EMISSION (RADIATED)

Limit

Radiated Emission Limits (9 kHz~1000 MHz)

Frequency (MHz)	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Radiated Emission Limit (Above 1000MHz)

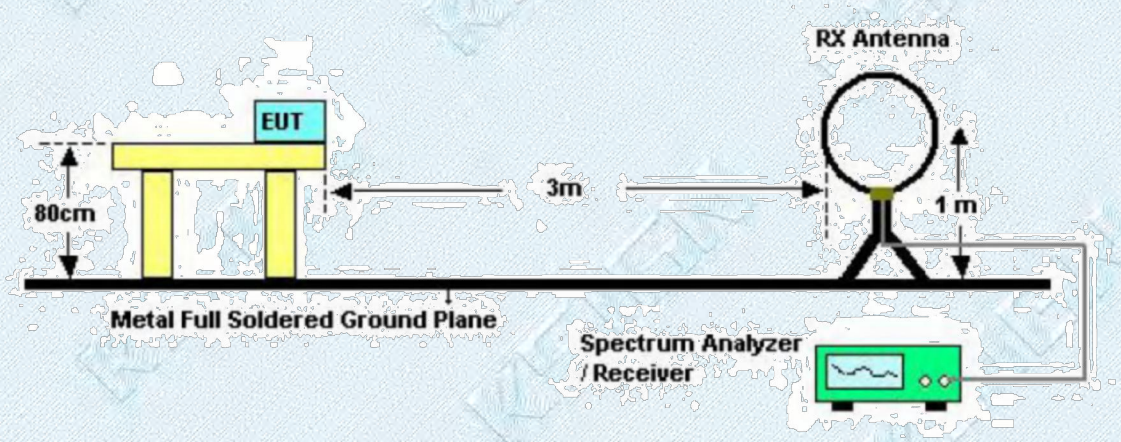
Frequency (MHz)	Distance Meters(at 3m)	
	Peak	Average
Above 1000	74	54

Note:

(1) The tighter limit applies at the band edges.

(2) Emission Level (dBuV/m)=20log Emission Level (uV/m).

Test Configuration



Below 30MHz Test Setup

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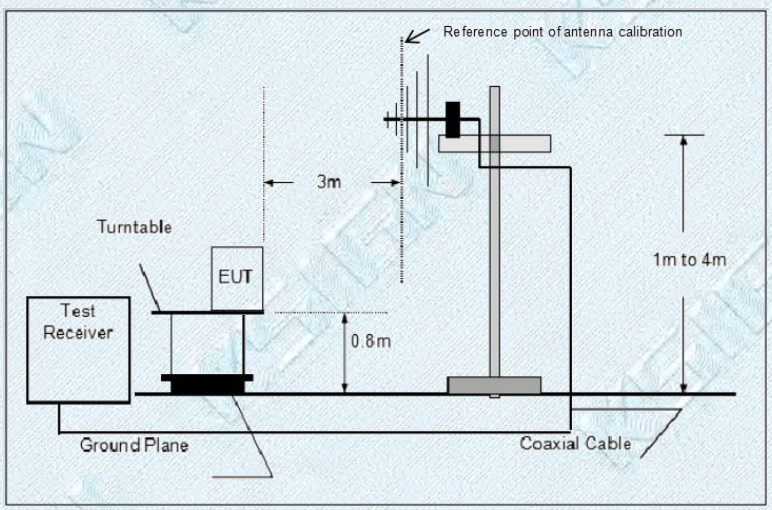
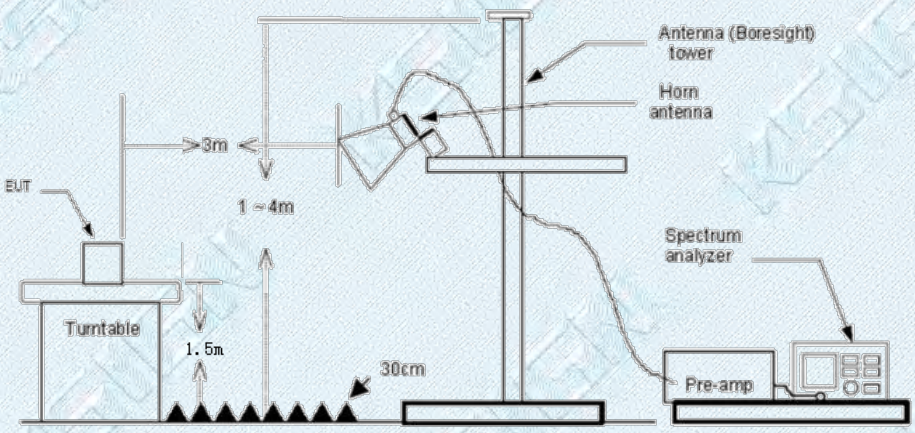


Below 1000MHz Test Setup



Above 1GHz Test Setup

Test Procedure

1. The EUT was setup and tested according to ANSI C63.10:2013
2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
5. Set to the maximum power setting and enable the EUT transmit continuously.
6. Use the following spectrum analyzer settings
   (1) Span shall wide enough to fully capture the emission being measured;

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(2) Below 1 GHz:
RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;
If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
(3) From 1 GHz to 10th harmonic:
RBW=1MHz, VBW=1MHz Peak detector for Peak value.
RBW=1MHz, VBW=10Hz Peak detector for Peak value.

Test Mode

Please refer to the clause 2.2.

Test Result

9 KHz~30 MHz and 18GHz~25GHz

From 9 KHz~30 MHz and 18GHz~25GHz: Conclusion: PASS

Note:

1) Measurement = Reading level + Correct Factor
Correct Factor=Antenna Factor + Cable Loss -Preamplifier Factor
2) The peak level is lower than average limit(54 dBuV/m), this data is the too weak instrument of signal is unable to test.
3) The emission levels of other frequencies are very lower than the limit and not show in test report.
4) The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
5) Pre-scan 802.11b/g/n(HT20,HT40) modulation, and found the 802.11b modulation which it is worse case for above 1GHz, 2412MHz channel which it is worse case for below 1GHz, so only show the test data for worse case.

BELOW 30MHz

No emission found between lowest internal used/generated frequencies to 30MHz.

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30MHz-1GHz

Test Voltage:	AC 120V/60Hz
Ant. Pol.	Horizontal
Test Mode:	TX 802.11b Mode 2412MHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		64.6141	45.78	-18.57	27.21	40.00	-12.79	QP
2		138.3873	50.33	-21.30	29.03	43.50	-14.47	QP
3	*	194.6581	52.61	-18.23	34.38	43.50	-9.12	QP
4		241.5916	50.24	-16.07	34.17	46.00	-11.83	QP
5		287.9904	50.74	-14.96	35.78	46.00	-10.22	QP
6		778.7871	40.47	-6.36	34.11	46.00	-11.89	QP

Measurement = Reading Level+ Correct Factor

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