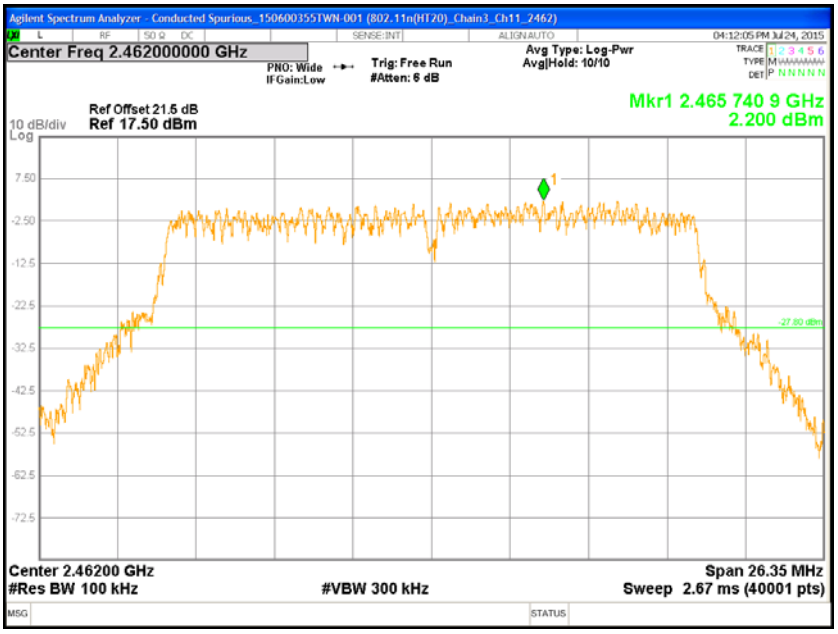
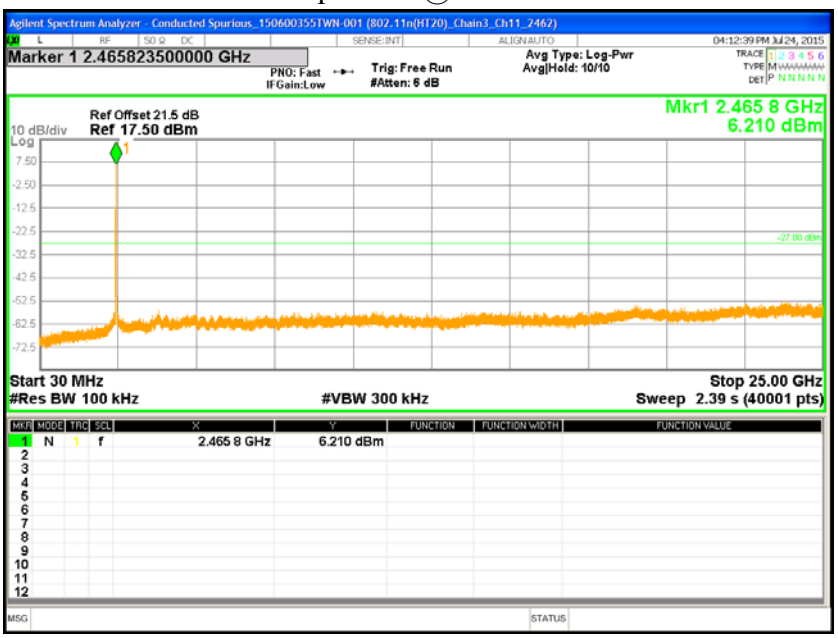
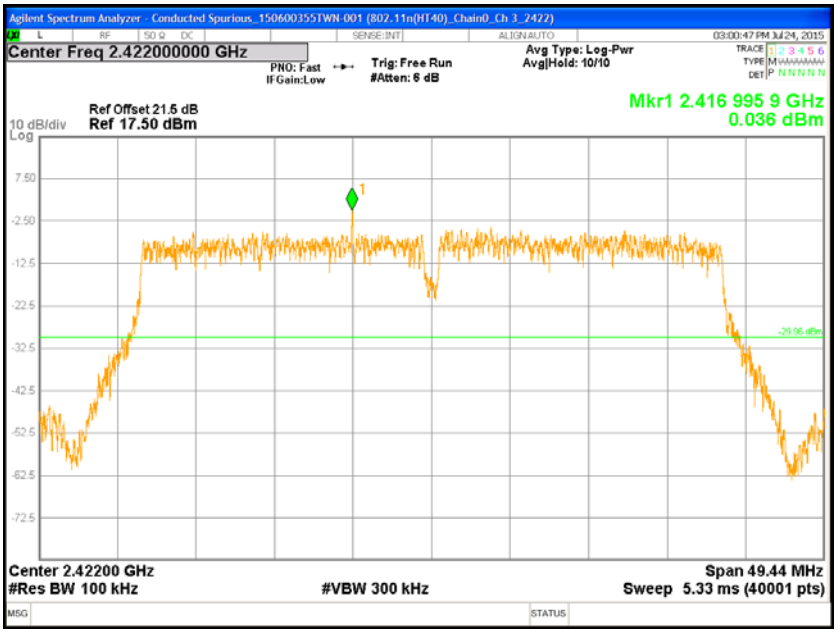
Chain3 : Conducted Spurious @ 802.11n HT20 mode Ch11



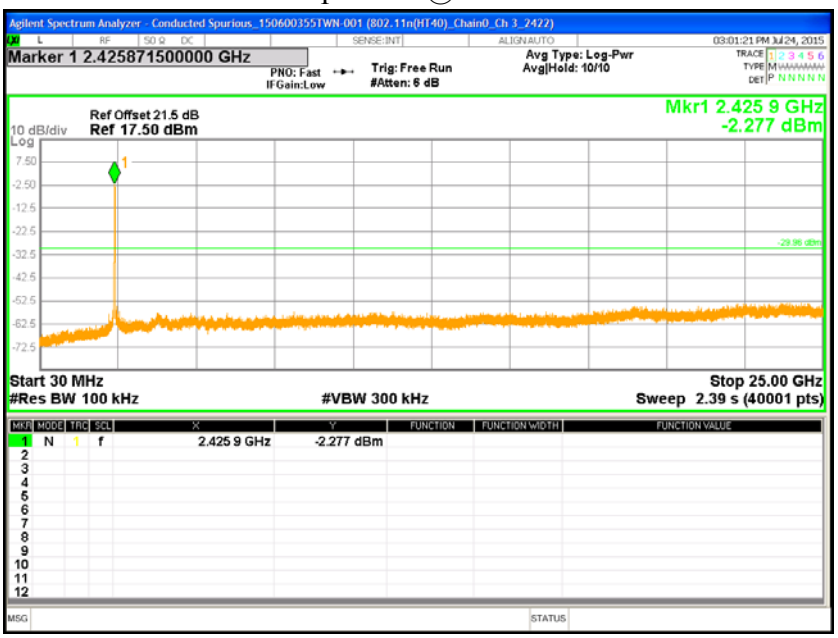
Chain3 : Conducted Spurious @ 802.11n HT20 mode Ch11



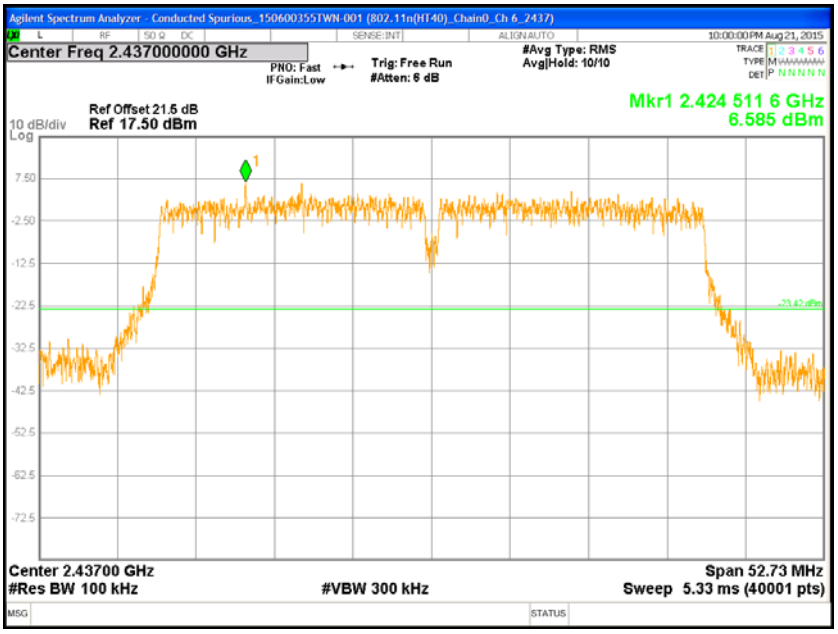
Chain0 : Conducted Spurious @ 802.11n HT40 mode Ch 3



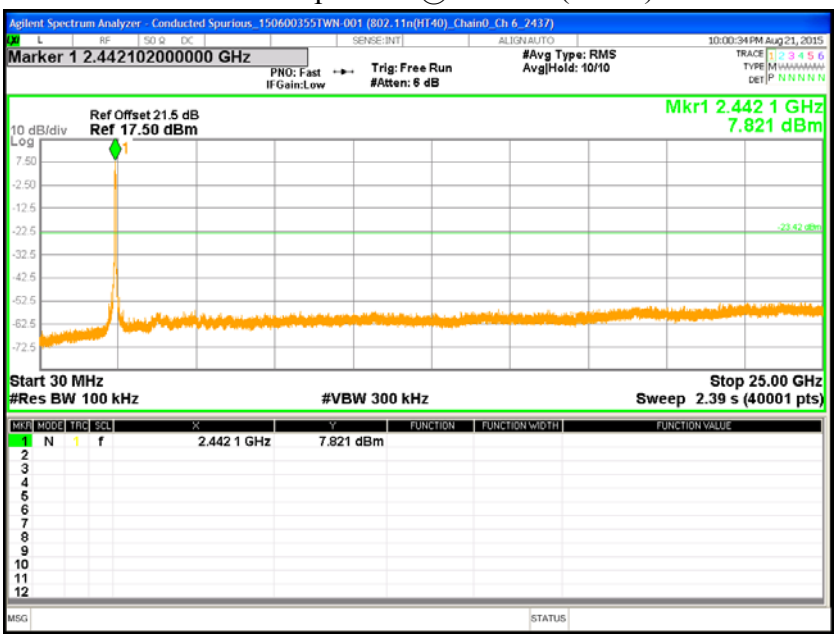
Chain0 : Conducted Spurious @ 802.11n HT40 mode Ch 3



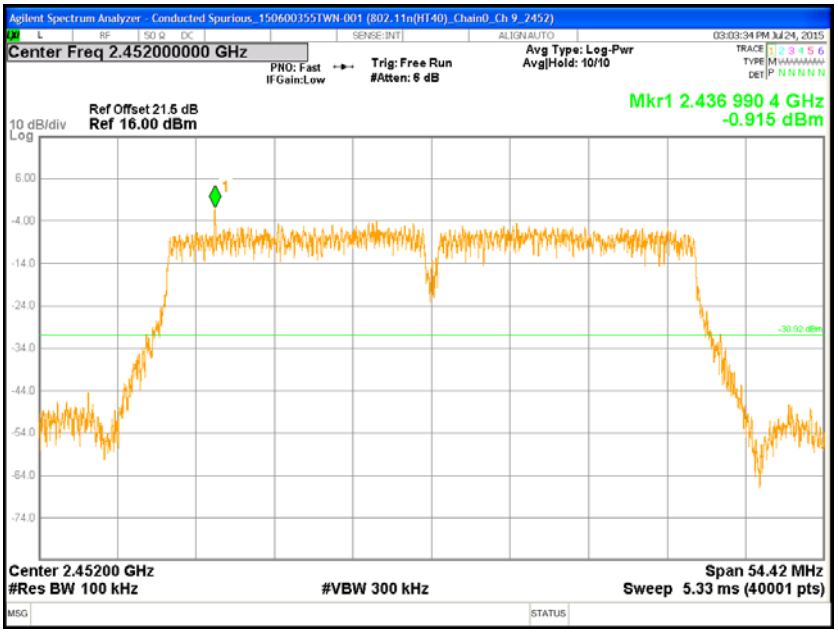
Chain0 : Conducted Spurious @ 802.11n(HT40) mode Ch 6



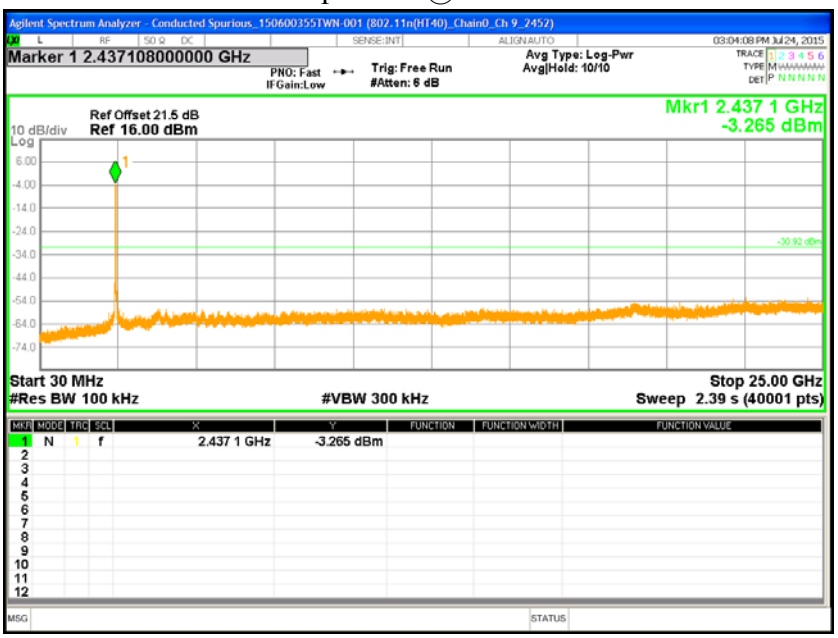
Chain0 : Conducted Spurious @ 802.11n(HT40) mode Ch 6



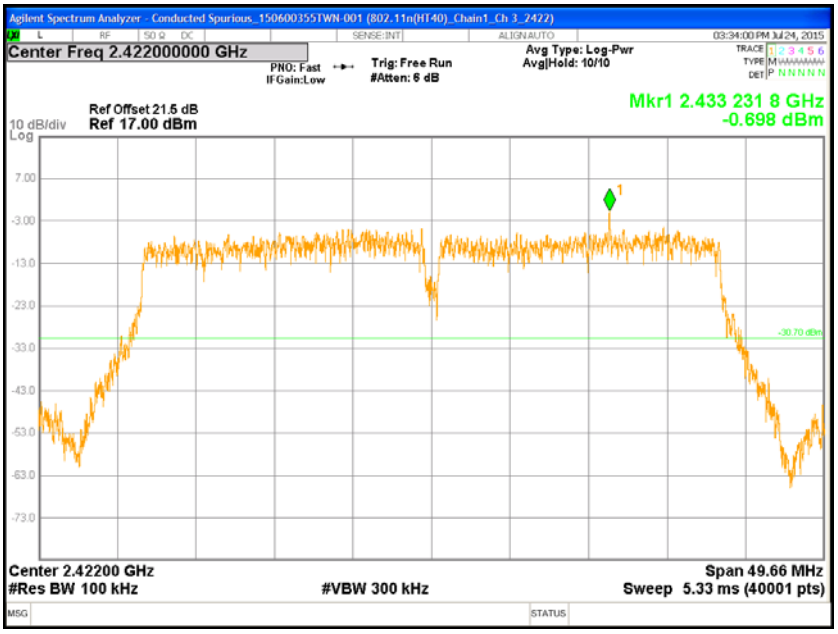
Chain0 : Conducted Spurious @ 802.11n HT40 mode Ch 9



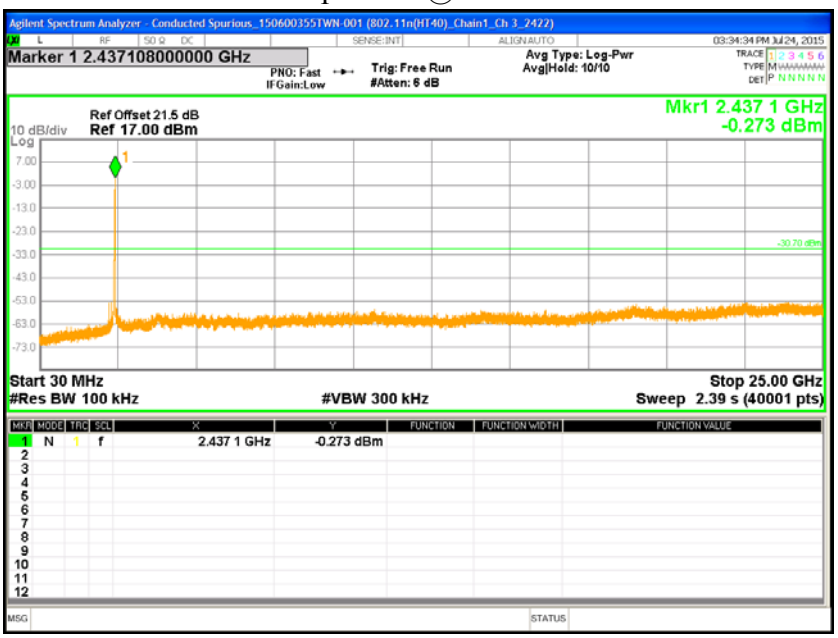
Chain0 : Conducted Spurious @ 802.11n HT40 mode Ch 9



Chain1 : Conducted Spurious @ 802.11n HT40 mode Ch 3

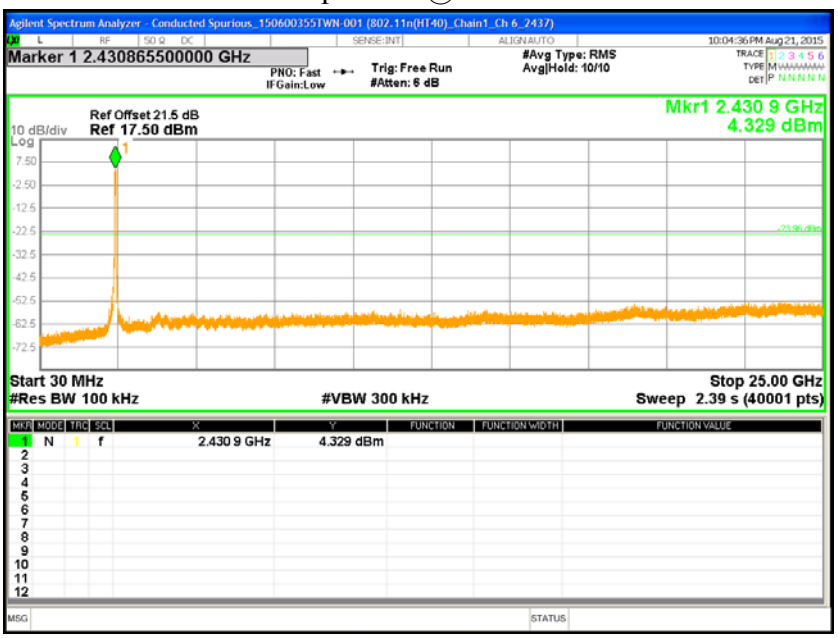


Chain1 : Conducted Spurious @ 802.11n HT40 mode Ch 3

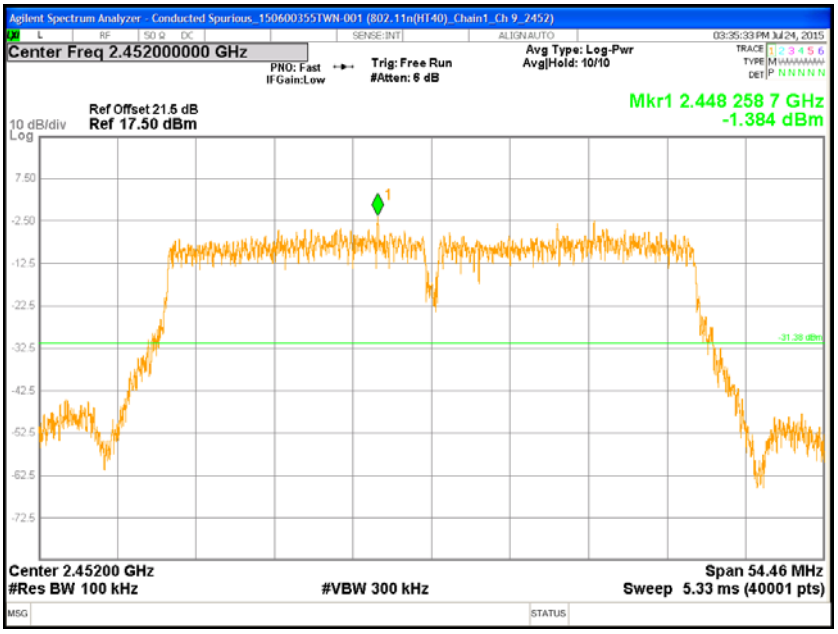


Chain1 : Conducted Spurious @ 802.11n HT40 mode Ch 6

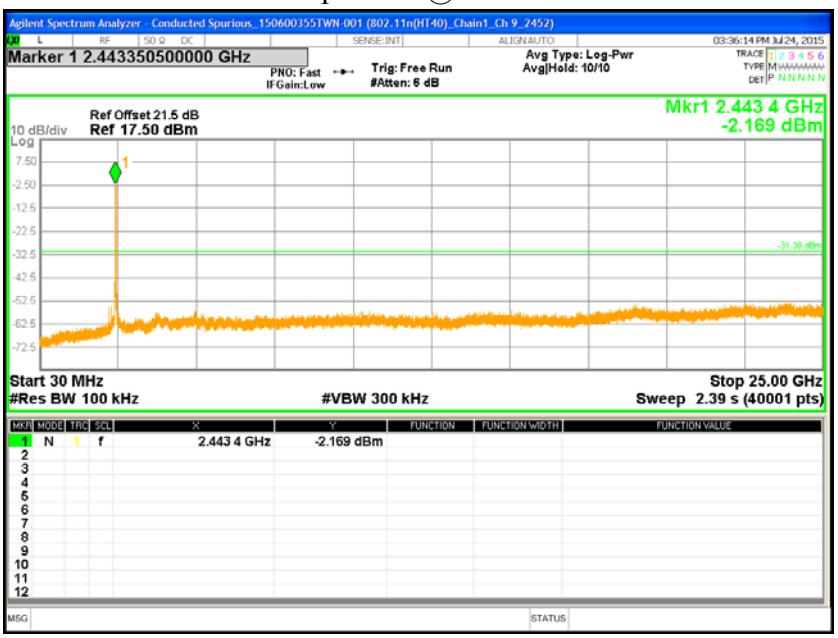
Chain1 : Conducted Spurious @ 802.11n HT40 mode Ch 6



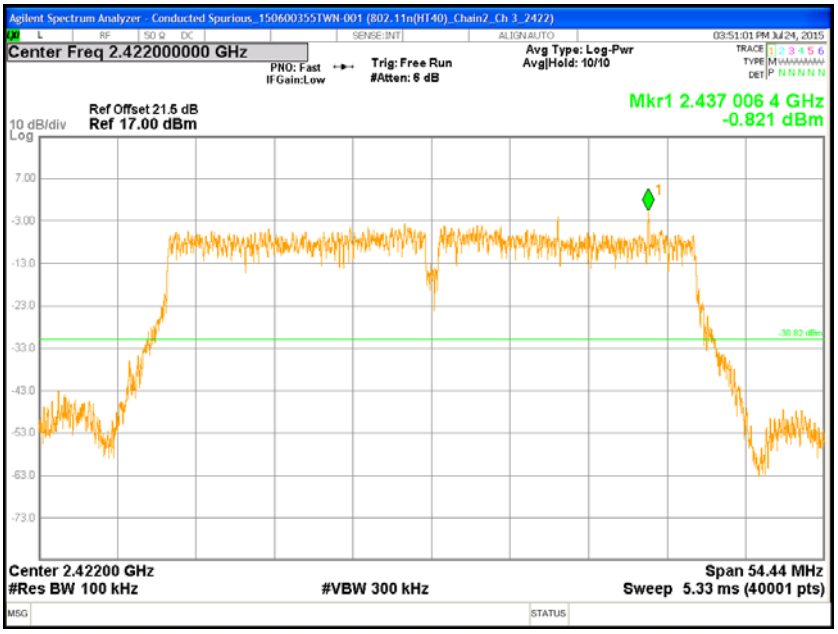
Chain1 : Conducted Spurious @ 802.11n HT40 mode Ch 9



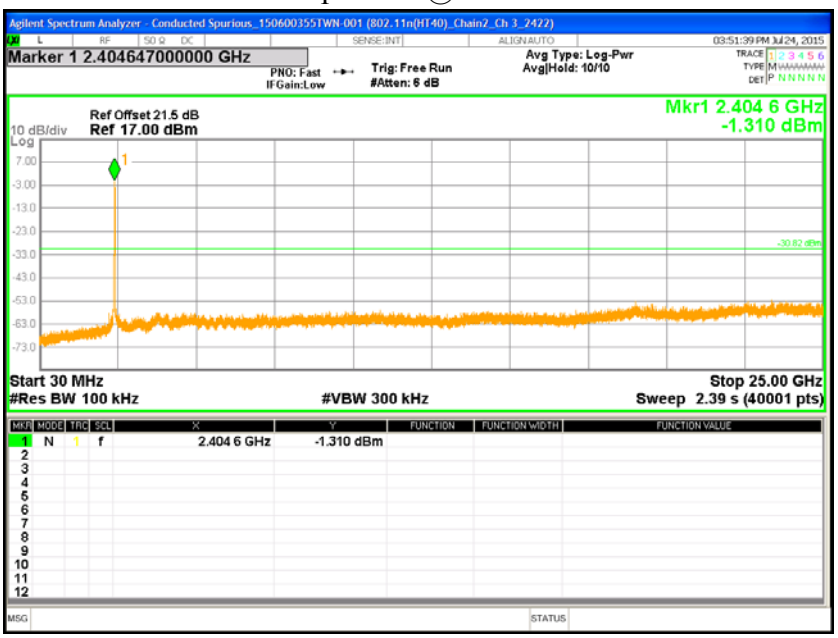
Chain1 : Conducted Spurious @ 802.11n HT40 mode Ch 9



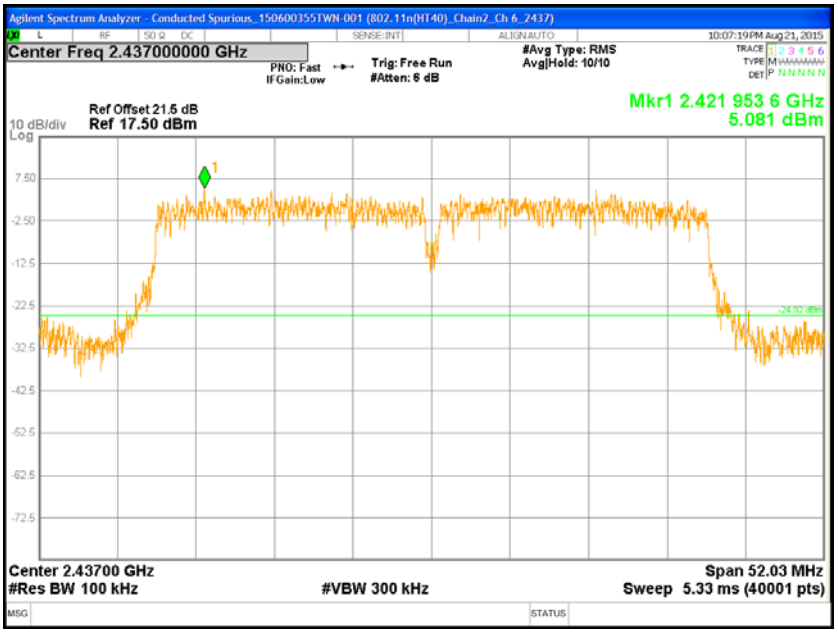
Chain2 : Conducted Spurious @ 802.11n HT40 mode Ch 3



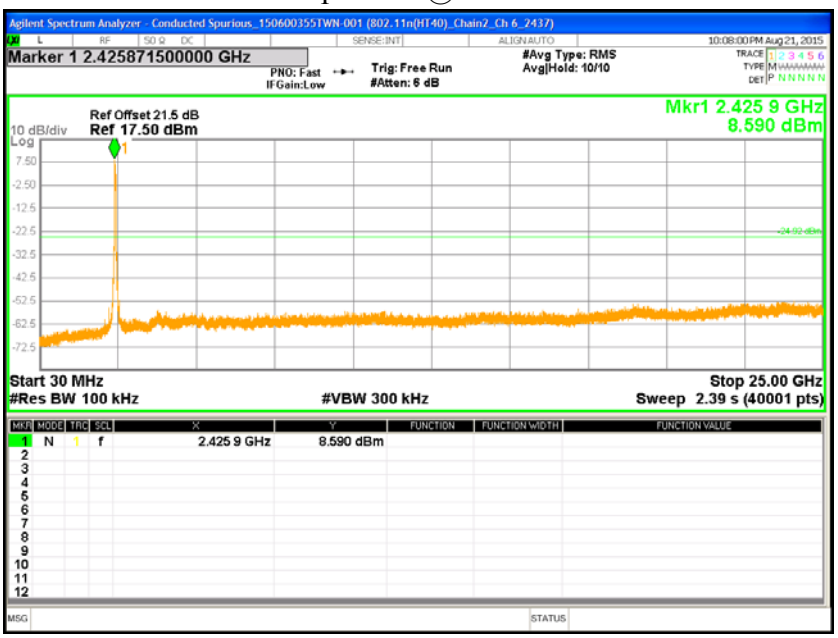
Chain2 : Conducted Spurious @ 802.11n HT40 mode Ch 3



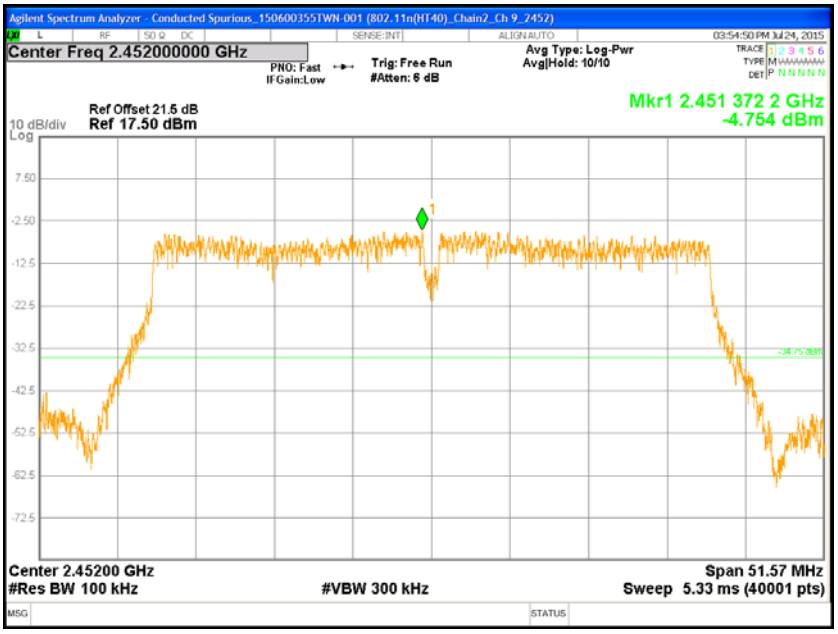
Chain2 : Conducted Spurious @ 802.11n HT40 mode Ch 6



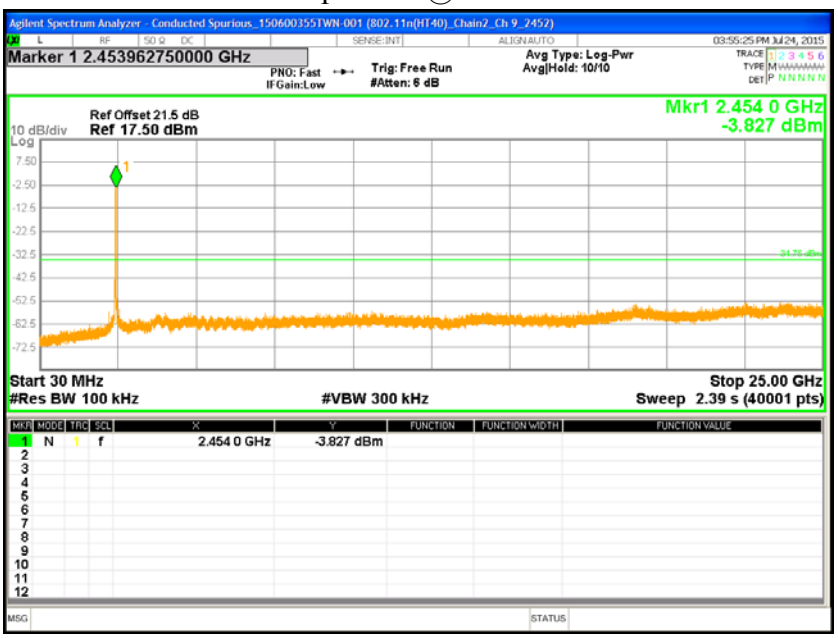
Chain2 : Conducted Spurious @ 802.11n HT40 mode Ch 6



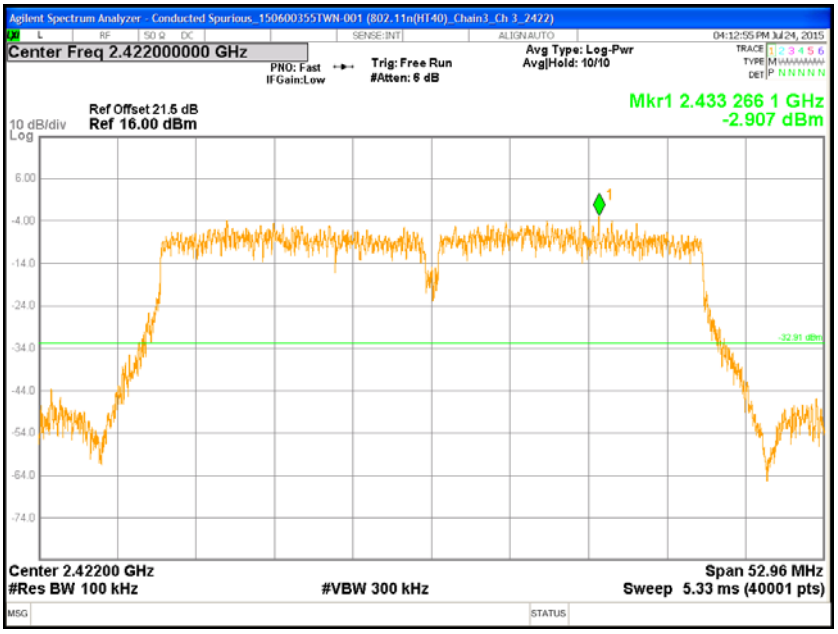
Chain2 : Conducted Spurious @ 802.11n HT40 mode Ch 9



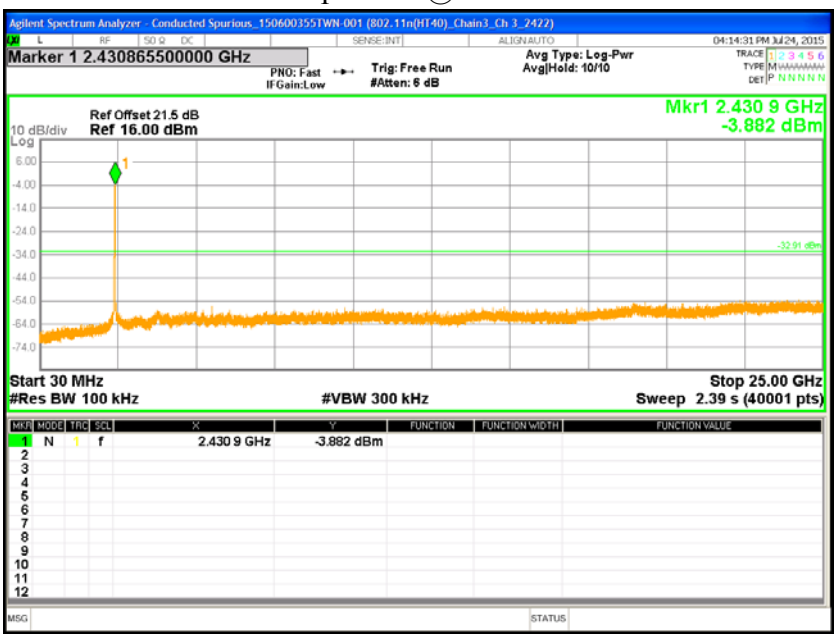
Chain2 : Conducted Spurious @ 802.11n HT40 mode Ch 9



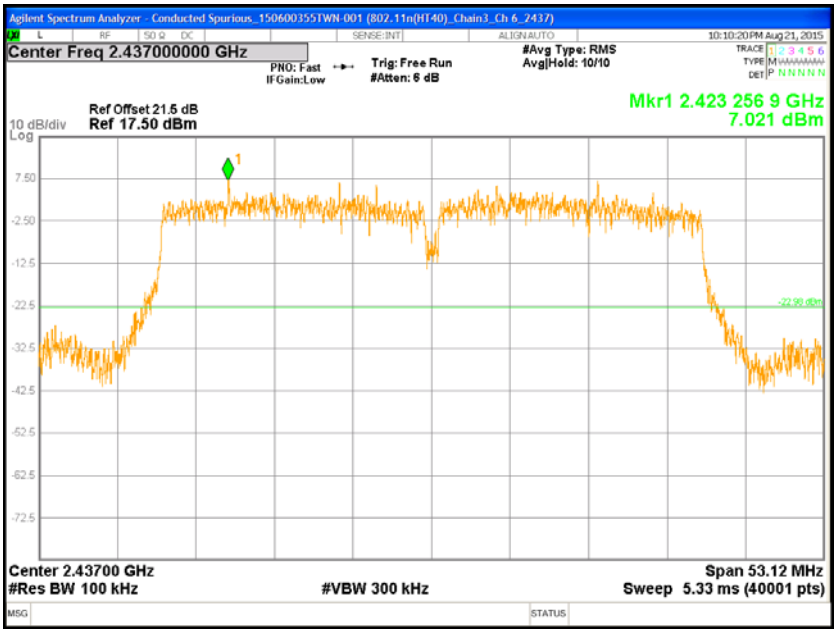
Chain3 : Conducted Spurious @ 802.11n HT40 mode Ch 3



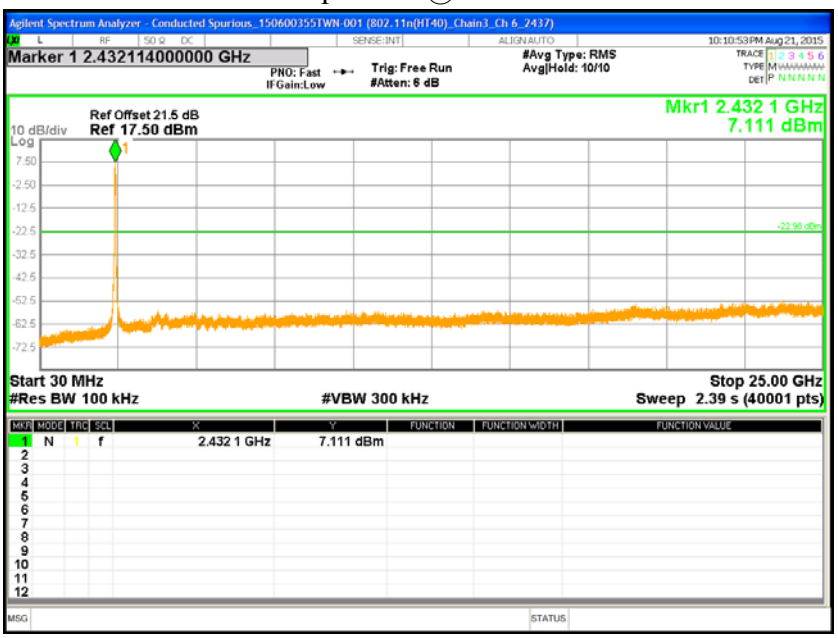
Chain3 : Conducted Spurious @ 802.11n HT40 mode Ch 3



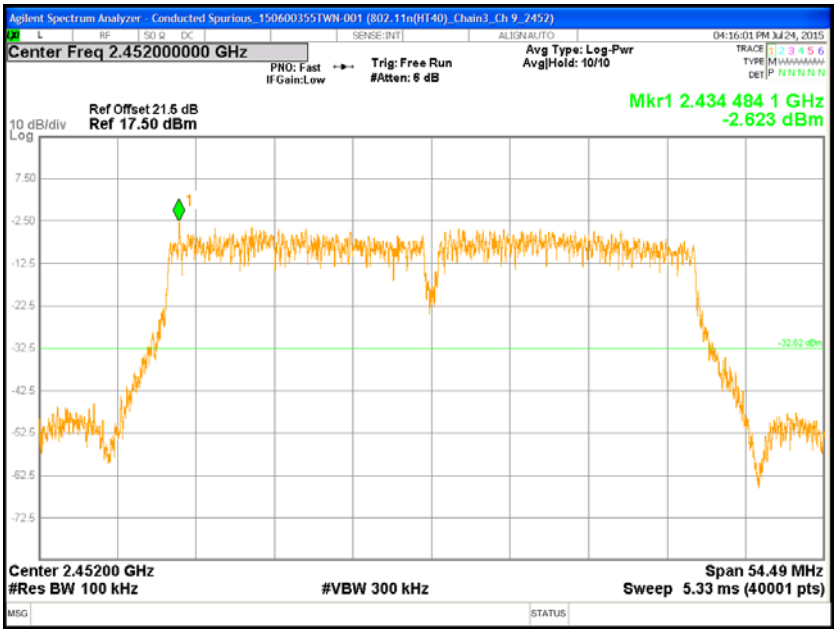
Chain3 : Conducted Spurious @ 802.11n HT40 mode Ch 6



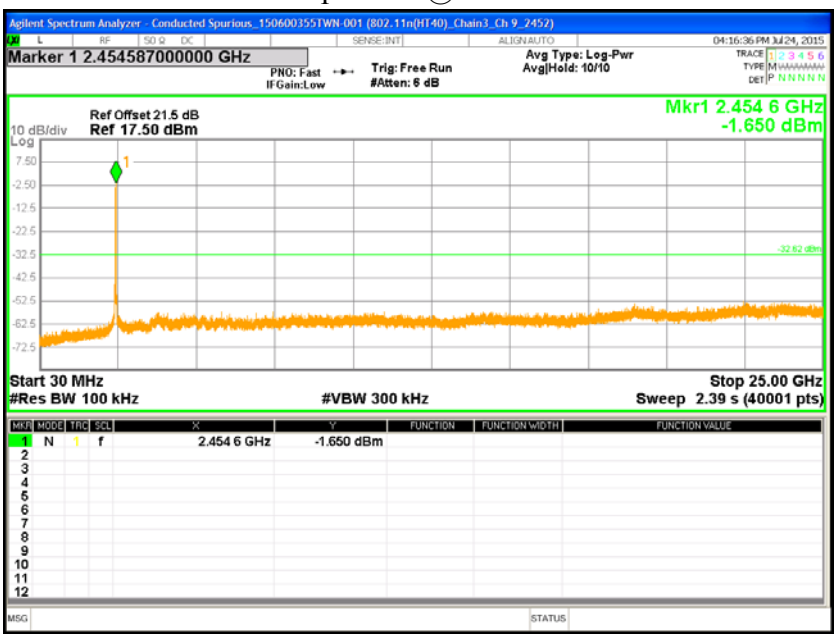
Chain3 : Conducted Spurious @ 802.11n HT40 mode Ch 6



Chain3 : Conducted Spurious @ 802.11n HT40 mode Ch 9



Chain3 : Conducted Spurious @ 802.11n HT40 mode Ch 9



7. Emissions In Restricted Frequency Bands (Radiated emission measurements)

7.1 Operating environment

Temperature:	25	℃
Relative Humidity:	50	%
Atmospheric Pressure	1008	hPa
Requirement	15.247(d), 15.205, 15.209	

7.2 Limit for emission in restricted frequency bands (Radiated emission measurement)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	2400/F(kHz)	30
1.705~30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark:

1. In the above table, the tighter limit applies at the band edges.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

7.3 Measuring instrument setting

Below 1GHz measurement

Receiver settings	
Receiver function	**Setting**
Detector	QP
RBW	9-150 kHz ; 200-300 Hz 0.15-30 MHz; 9-10 kHz 30-1000 MHz; 100-120 kHz
VBW	≧3 x RBW
Sweep	Auto couple
Attenuation	Auto

Above 1GHz measurement

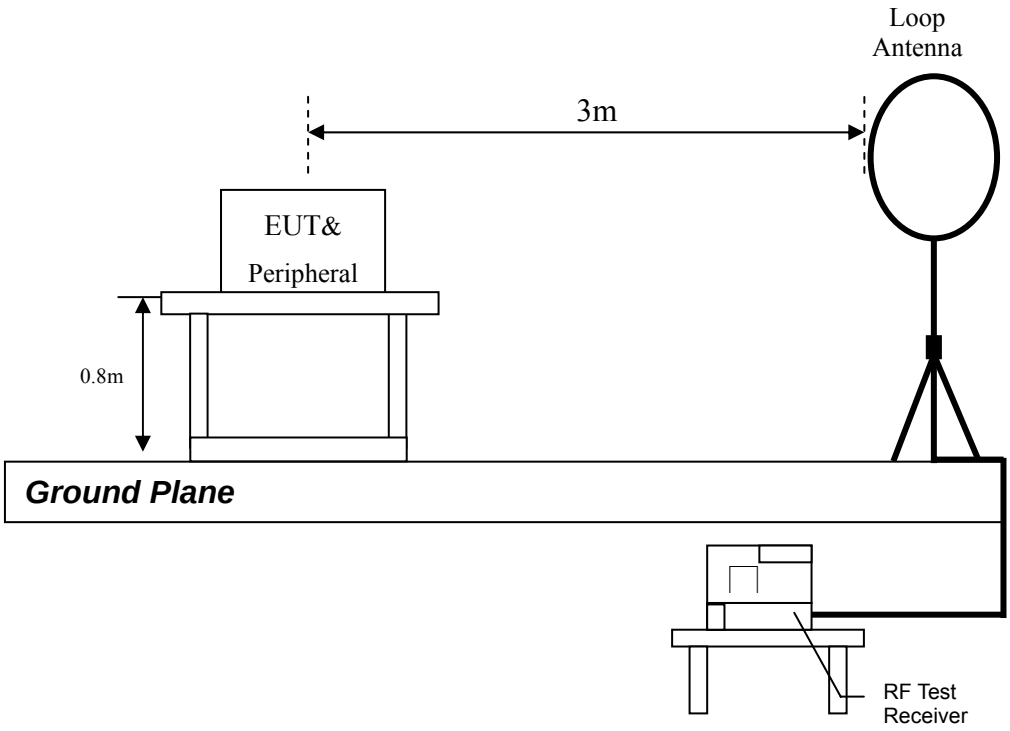
Spectrum analyzer settings	
Spectrum Analyzer function	**Setting**
Detector	Peak or RMS
Trace	Max Hold or Average 100 count
RBW	1MHz
VBW	3MHz
Sweep	Auto couple
Start Frequency	1GHz
Stop Frequency	Tenth harmonic
Attenuation	Auto

7.4 Test procedure

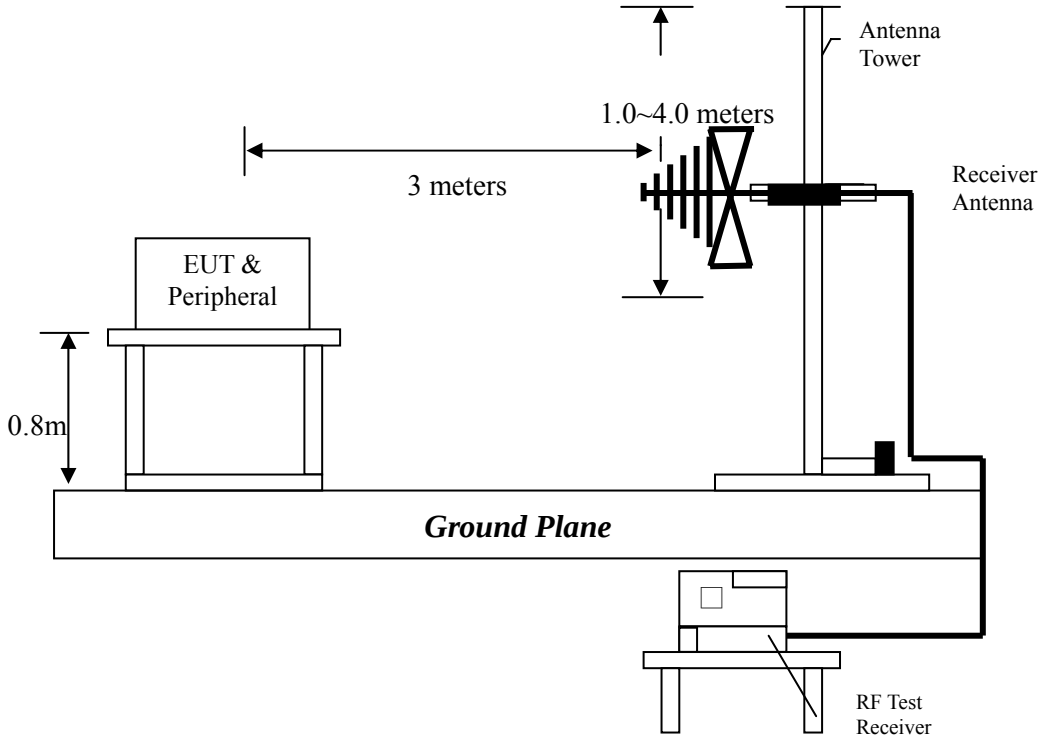
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 1.5 meter above ground. The center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the companion devices. The turntable was rotated by 360 degree to find the position of the maximum emission level.
3. The height of the receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of the both horizontal and vertical polarization
4. If find the frequencies above the limit or below within 3dB, the antenna tower was scan (from 1m to 4m) and then the turntable was rotated to find the maximum reading.
5. Set the test-receiver system to peak or CISPR quasi-peak detector with specified bandwidth under maximum hold mode.
6. For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
   Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response.
7. If the emissions level of the EUT in peak mode was 3dB lower than the average limit specified then testing will be stopped and peak values of the EUT will be reported. Otherwise, the emissions which do not have 3dB margin will be measured using the quasi-peak method for below 1GHz.
8. For testing above 1GHz, The emissions level of the EUT in peak mode was lower than average limit, then testing will be stopped and peak values of the EUT will be reported, otherwise, the emission will be measured in average mode again and reported.
9. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be quasi-peak measured by receiver.

7.5 Test configuration

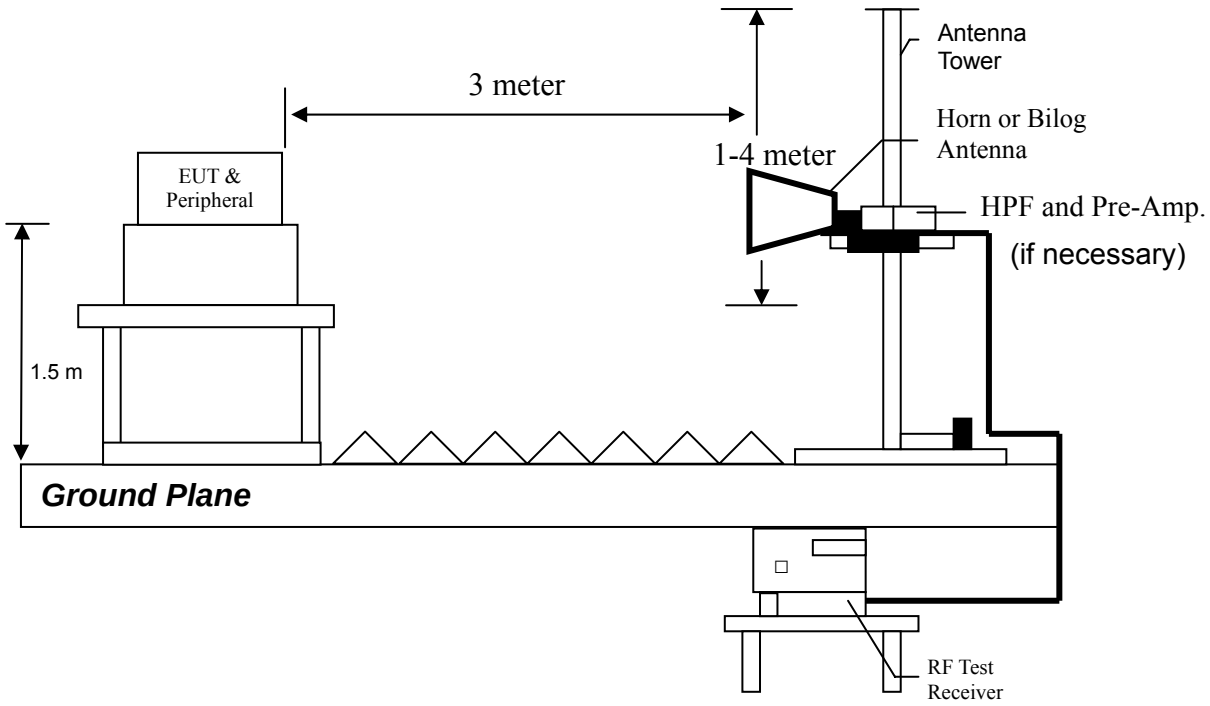
7.5.1 Radiated emission from 9kHz to 30MHz uses Loop Antenna:



7.5.2 Radiated emission below 1GHz using Bi-log Antenna



7.5.3 Radiated emission above 1GHz using Horn Antenna



7.6 Test result

7.6.1 Measurement results: frequencies 9 kHz to 30 MHz

EUT : G10
Test mode : 802.11n HT20 Tx channel 6

Frequency (MHz)	Detection value	Factor (dB/m)	Reading (dBμV)	Value (dBμV/m)	Limit @ 3m (dBμV/m)	Tolerance (dB)
2.16	QP	21.39	34.65	56.04	69.54	-13.50
16.30	QP	22.24	27.35	49.59	69.54	-19.95
20.00	QP	22.19	19.43	41.62	69.54	-27.92
2.06	QP	21.38	34.67	56.05	69.54	-13.49
14.56	QP	22.26	22.96	45.22	69.54	-24.32
21.15	QP	22.19	17.57	39.76	69.54	-29.78

Remark: Corr. Factor = Antenna Factor + Cable Loss

7.6.2 Measurement results: frequencies below 1 GHz

The test was performed on EUT under 802.11b/g/n continuously transmitting mode. The worst case occurred at 802.11n HT20 Tx channel 6.

EUT : G10
Worst Case : 802.11n HT20 Tx channel 6

Antenna Polarized (V/H)	Freq. (MHz)	Receiver Detector	Corr. Factor (dB/m)	Reading (dBµV)	Corrected Level (dBµV/m)	Limit @ 3 m (dBµV/m)	Margin (dB)
Vertical	37.76	QP	16.09	25.06	38.95	40.00	-1.05
Vertical	142.52	QP	16.16	19.23	33.48	43.50	-10.02
Vertical	233.70	QP	15.20	15.67	29.02	46.00	-16.98
Vertical	326.82	QP	18.12	21.70	38.20	46.00	-7.80
Vertical	375.32	QP	19.33	16.75	34.51	46.00	-11.49
Vertical	749.74	QP	26.54	11.30	36.67	46.00	-9.33
Horizontal	101.78	QP	14.43	14.91	24.65	43.50	-18.85
Horizontal	233.70	QP	16.75	15.83	29.18	46.00	-16.82
Horizontal	326.82	QP	18.38	17.59	34.09	46.00	-11.91
Horizontal	375.32	QP	19.23	18.56	36.32	46.00	-9.68
Horizontal	625.58	QP	23.62	11.82	35.01	46.00	-10.99
Horizontal	749.74	QP	25.80	10.96	36.33	46.00	-9.67

Remark: Corr. Factor = Antenna Factor + Cable Loss

7.6.3 Measurement results: frequency above 1GHz to 25GHz

EUT : G10

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Preamp. Gain (dB)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)
802.11b 2412MHz Chain0	4824	PK	V	40.10	-0.04	44.02	43.98	74.00	-30.02
	4980	PK	V	39.81	0.48	42.80	43.28	74.00	-30.72
	3660	PK	H	40.15	-3.21	46.99	43.78	74.00	-30.22
	4824	PK	H	40.10	-0.04	40.49	40.45	74.00	-33.55
	4980	PK	H	39.81	0.48	41.82	42.30	74.00	-31.70
802.11b 2437MHz Chain 0	4874	PK	V	40.00	0.13	45.31	45.44	74.00	-28.56
	4980	PK	V	39.81	0.48	42.79	43.27	74.00	-30.73
	3660	PK	H	40.15	-3.21	45.72	42.51	74.00	-31.49
	4874	PK	H	40.00	0.13	42.58	42.71	74.00	-31.29
	4980	PK	H	39.81	0.48	41.73	42.21	74.00	-31.79
802.11b 2462MHz Chain 0	4924	PK	V	39.91	0.30	45.09	45.39	74.00	-28.61
	4980	PK	V	39.81	0.48	43.63	44.11	74.00	-29.89
	3660	PK	H	40.15	-3.21	47.98	44.77	74.00	-29.23
	4924	PK	H	39.91	0.30	44.31	44.61	74.00	-29.39
802.11b 2412MHz Chain 1	4824	PK	V	40.10	-0.04	40.72	40.68	74.00	-33.32
	4980	PK	V	39.81	0.48	42.78	43.26	74.00	-30.74
	3660	PK	H	40.15	-3.21	45.97	42.76	74.00	-31.24
	4824	PK	H	40.10	-0.04	45.39	45.35	74.00	-28.65
	4980	PK	H	39.81	0.48	43.05	43.53	74.00	-30.47
802.11b 2437MHz Chain 1	4874	PK	V	40.00	0.13	41.27	41.40	74.00	-32.60
	4980	PK	V	39.81	0.48	43.87	44.35	74.00	-29.65
	3660	PK	H	40.15	-3.21	46.48	43.27	74.00	-30.73
	4874	PK	H	40.00	0.13	46.53	46.66	74.00	-27.34
802.11b 2462MHz Chain 1	4924	PK	V	39.91	0.30	43.44	43.74	74.00	-30.26
	3660	PK	H	40.15	-3.21	45.60	42.39	74.00	-31.61
	4924	PK	H	39.91	0.30	47.09	47.39	74.00	-26.61

Remark: Correction Factor = Antenna Factor + Cable Loss + Filter Loss - Pre_Amplifier Gain

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Preamp. Gain (dB)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)
802.11b 2412MHz Chain 2	4980	PK	V	39.81	0.48	42.53	43.01	74.00	-30.99
	3660	PK	H	40.15	-3.21	47.21	44.00	74.00	-30.00
	4824	PK	H	40.10	-0.04	43.67	43.63	74.00	-30.37
	4980	PK	H	39.81	0.48	42.12	42.60	74.00	-31.40
802.11b 2437MHz Chain 2	4980	PK	V	39.81	0.48	42.92	43.40	74.00	-30.60
	3660	PK	H	40.15	-3.21	46.06	42.85	74.00	-31.15
	4874	PK	H	40.00	0.13	45.33	45.46	74.00	-28.54
802.11b 2462MHz Chain 2	4924	PK	V	39.91	0.30	42.90	43.20	74.00	-30.80
	3660	PK	H	40.15	-3.21	46.57	43.36	74.00	-30.64
	4924	PK	H	39.91	0.30	44.37	44.67	74.00	-29.33
802.11b 2412MHz Chain 3	4824	PK	V	40.10	-0.04	41.48	41.44	74.00	-32.56
	4980	PK	V	39.81	0.48	42.66	43.14	74.00	-30.86
	3660	PK	H	40.15	-3.21	45.85	42.64	74.00	-31.36
	4824	PK	H	40.10	-0.04	45.57	45.53	74.00	-28.47
	4980	PK	H	39.81	0.48	42.49	42.97	74.00	-31.03
802.11b 2437MHz Chain 3	3660	PK	V	40.15	-3.21	44.14	40.93	74.00	-33.07
	4874	PK	H	40.00	0.13	41.96	42.09	74.00	-31.91
	4980	PK	H	39.81	0.48	42.71	43.19	74.00	-30.81
	3660	PK	H	40.15	-3.21	46.21	43.00	74.00	-31.00
	4874	PK	H	40.00	0.13	47.31	47.44	74.00	-26.56
802.11b 2462MHz Chain 3	4924	PK	V	39.91	0.30	42.80	43.10	74.00	-30.90
	3660	PK	H	40.15	-3.21	46.41	43.20	74.00	-30.80
	4924	PK	H	39.91	0.30	49.06	49.36	74.00	-24.64

Remark: Correction Factor = Antenna Factor + Cable Loss + Filter Loss - Pre_Amplifier Gain

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Preamp. Gain (dB)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)
802.11g 2412MHz Chain 0	4824	PK	V	40.10	-0.04	40.44	40.40	74.00	-33.60
	4980	PK	V	39.81	0.48	42.22	42.70	74.00	-31.30
	3660	PK	H	40.15	-3.21	46.70	43.49	74.00	-30.51
	4824	PK	H	40.10	-0.04	39.46	39.42	74.00	-34.58
802.11g 2437MHz Chain 0	4874	PK	V	40.00	0.13	41.33	41.46	74.00	-32.54
	4980	PK	V	39.81	0.48	44.02	44.50	74.00	-29.50
	3660	PK	H	40.15	-3.21	46.50	43.29	74.00	-30.71
	4874	PK	H	40.00	0.13	40.45	40.58	74.00	-33.42
	4980	PK	H	39.81	0.48	42.15	42.63	74.00	-31.37
802.11g 2462MHz Chain 0	4924	PK	V	39.91	0.30	41.97	42.27	74.00	-31.73
	3660	PK	H	40.15	-3.21	46.71	43.50	74.00	-30.50
	4980	PK	H	39.81	0.48	41.65	42.13	74.00	-31.87
802.11g 2412MHz Chain 1	4824	PK	V	40.10	-0.04	39.54	39.50	74.00	-34.50
	4980	PK	V	39.81	0.48	42.73	43.21	74.00	-30.79
	3660	PK	H	40.15	-3.21	45.93	42.72	74.00	-31.28
	4824	PK	H	40.10	-0.04	43.98	43.94	74.00	-30.06
	4980	PK	H	39.81	0.48	42.49	42.97	74.00	-31.03
802.11g 2437MHz Chain 1	4874	PK	V	40.00	0.13	39.51	39.64	74.00	-34.36
	4980	PK	V	39.81	0.48	42.49	42.97	74.00	-31.03
	3660	PK	H	40.15	-3.21	46.30	43.09	74.00	-30.91
	4874	PK	H	40.00	0.13	43.34	43.47	74.00	-30.53
	4980	PK	H	39.81	0.48	42.38	42.86	74.00	-31.14
802.11g 2462MHz Chain 1	4980	PK	V	39.81	0.48	43.23	43.71	74.00	-30.29
	3660	PK	H	40.15	-3.21	46.62	43.41	74.00	-30.59
	4924	PK	H	39.91	0.30	41.87	42.17	74.00	-31.83
	4980	PK	H	39.81	0.48	42.82	43.30	74.00	-30.70

Remark: Correction Factor = Antenna Factor + Cable Loss + Filter Loss - Pre_Amplifier Gain

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Preamp. Gain (dB)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)
802.11g 2412MHz Chain 2	4824	PK	V	40.10	-0.04	39.64	39.60	74.00	-34.40
	4980	PK	V	39.81	0.48	43.60	44.08	74.00	-29.92
	3660	PK	H	40.15	-3.21	45.82	42.61	74.00	-31.39
	4824	PK	H	40.10	-0.04	42.02	41.98	74.00	-32.02
	4980	PK	H	39.81	0.48	42.84	43.32	74.00	-30.68
802.11g 2437MHz Chain 2	4980	PK	V	39.81	0.48	42.34	42.82	74.00	-31.18
	3660	PK	H	40.15	-3.21	46.49	43.28	74.00	-30.72
	4874	PK	H	40.00	0.13	40.76	40.89	74.00	-33.11
	4980	PK	H	39.81	0.48	42.25	42.73	74.00	-31.27
802.11g 2462MHz Chain 2	4980	PK	V	39.81	0.48	43.78	44.26	74.00	-29.74
	3660	PK	H	40.15	-3.21	45.88	42.67	74.00	-31.33
	4924	PK	H	39.91	0.30	40.13	40.43	74.00	-33.57
	4980	PK	H	39.81	0.48	43.84	44.32	74.00	-29.68
802.11g 2412MHz Chain 3	4980	PK	V	39.81	0.48	43.32	43.80	74.00	-30.20
	3660	PK	H	40.15	-3.21	46.99	43.78	74.00	-30.22
	4824	PK	H	40.10	-0.04	42.68	42.64	74.00	-31.36
	4980	PK	H	39.81	0.48	41.84	42.32	74.00	-31.68
802.11g 2437MHz Chain 3	3660	PK	V	40.15	-3.21	44.30	41.09	74.00	-32.91
	4874	PK	V	40.00	0.13	40.47	40.60	74.00	-33.40
	4980	PK	V	39.81	0.48	42.48	42.96	74.00	-31.04
	3660	PK	H	40.15	-3.21	46.66	43.45	74.00	-30.55
	4874	PK	H	40.00	0.13	44.48	44.61	74.00	-29.39
	4980	PK	H	39.81	0.48	43.03	43.51	74.00	-30.49
802.11g 2462MHz Chain 3	4980	PK	V	39.81	0.48	43.38	43.86	74.00	-30.14
	3660	PK	H	40.15	-3.21	46.41	43.20	74.00	-30.80
	4924	PK	H	39.91	0.30	45.71	46.01	74.00	-27.99

Remark 1: Correction Factor = Antenna Factor + Cable Loss + Filter Loss - Pre_Amplifier Gain

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Preamp. Gain (dB)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)
802.11g 2412MHz Chain 0123	4824	PK	V	40.10	-0.04	44.57	44.53	74.00	-29.47
	4980	PK	V	39.81	0.48	42.45	42.93	74.00	-31.07
	3660	PK	H	40.15	-3.21	45.64	42.43	74.00	-31.57
	4824	PK	H	40.10	-0.04	48.13	48.09	74.00	-25.91
	4980	PK	H	39.81	0.48	41.52	42.00	74.00	-32.00
802.11g 2437MHz Chain 0123	3660	PK	V	40.15	-3.21	42.79	39.58	74.00	-34.42
	4874	PK	V	40.00	0.13	44.41	44.54	74.00	-29.46
	4980	PK	V	39.81	0.48	42.38	42.86	74.00	-31.14
	3660	PK	H	40.15	-3.21	46.50	43.29	74.00	-30.71
	4874	PK	H	40.00	0.13	47.68	47.81	74.00	-26.19
	4980	PK	H	39.81	0.48	41.85	42.33	74.00	-31.67
802.11g 2462MHz Chain 0123	4924	PK	V	39.91	0.30	43.76	48.78	74.00	-25.22
	4980	PK	V	39.81	0.48	42.52	43.29	74.00	-30.71
	3660	PK	H	40.15	-3.21	42.93	43.29	74.00	-30.71
	4924	PK	H	39.91	0.30	47.38	50.95	74.00	-23.05
802.11n HT20 2412MHz	4824	PK	V	40.10	-0.04	46.46	46.42	74.00	-27.58
	4980	PK	V	39.81	0.48	42.55	43.03	74.00	-30.97
	3660	PK	H	40.15	-3.21	46.26	43.05	74.00	-30.95
	4824	PK	H	40.10	-0.04	48.93	48.89	74.00	-25.11
	4980	PK	H	39.81	0.48	42.00	42.48	74.00	-31.52
802.11n HT20 2437MHz	4874	PK	V	40.00	0.13	45.65	45.78	74.00	-28.22
	4980	PK	V	39.81	0.48	42.61	43.09	74.00	-30.91
	3660	PK	H	40.15	-3.21	46.30	43.09	74.00	-30.91
	4874	PK	H	40.00	0.13	51.83	51.96	74.00	-22.04
	4980	PK	H	39.81	0.48	42.82	43.30	74.00	-30.70
802.11n HT20 2462MHz	4924	PK	V	39.91	0.30	48.48	48.78	74.00	-25.22
	3660	PK	H	40.15	-3.21	46.50	43.29	74.00	-30.71
	4924	PK	H	39.91	0.30	50.65	50.95	74.00	-23.05

Remark 1: Correction Factor = Antenna Factor + Cable Loss + Filter Loss - Pre_Amplifier Gain

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Preamp. Gain (dB)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)
802.11n HT40 2422MHz	4980	PK	V	39.81	0.48	42.95	43.43	74.00	-30.57
	3660	PK	H	40.15	-3.21	46.43	43.22	74.00	-30.78
	4844	PK	H	40.06	0.03	44.19	44.22	74.00	-29.78
	4980	PK	H	39.81	0.48	43.67	44.15	74.00	-29.85
802.11n HT40 2437MHz	4980	PK	V	39.81	0.48	42.70	43.18	74.00	-30.82
	3660	PK	H	40.15	-3.21	46.83	43.62	74.00	-30.38
	4874	PK	H	40.00	0.13	43.15	43.28	74.00	-30.72
802.11n HT40 2452MHz	4980	PK	V	39.81	0.48	44.13	44.61	74.00	-29.39
	3660	PK	H	40.15	-3.21	47.56	44.35	74.00	-29.65
	4904	PK	H	39.95	0.23	41.92	42.15	74.00	-31.85
	4980	PK	H	39.81	0.48	42.65	43.13	74.00	-30.87

Remark 1: Correction Factor = Antenna Factor + Cable Loss + Filter Loss - Pre_Amplifier Gain

Remark 2: All of the antenna chains are on in the test mode of 802.11nHT20 & 802.11nHT40.

8. Emission On Band Edge

8.1 Operating environment

Temperature:	25	℃
Relative Humidity:	50	%
Atmospheric Pressure	1008	hPa
Requirement	15.247(d), 15.205,	

8.2 Measuring instrument setting

Spectrum analyzer settings	
Spectrum Analyzer function	**Setting**
Detector	Peak
RBW	1MHz
VBW	3MHz for Peak; 10Hz for Average
Sweep	Auto couple
Restrict bands	2310~2390MHz
	2483.5 ~2500MHz
Attenuation	Auto

8.3 Test procedure

The test procedure is the same as clause 7.4

8.4 Test results

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)	Restricted band (MHz)
802.11b Chain 0	2387.84	PK	V	33.84	32.91	66.75	74	-7.25	2310~2390
	2365.76	AV	V	33.74	18.93	52.67	54	-1.33	
	2485.18	PK	V	34.31	28.98	63.29	74	-10.71	2483.5~2500
	2483.50	AV	V	34.30	14.85	49.15	54	-4.85	
802.11b Chain 1	2385.20	PK	V	33.83	25.14	58.97	74	-15.03	2310~2390
	2390.00	AV	V	33.85	13.86	47.71	54	-6.29	
	2484.58	PK	V	34.31	25.39	59.70	74	-14.30	2483.5~2500
	2483.50	AV	V	34.30	13.69	47.99	54	-6.01	
802.11b Chain 2	2389.76	PK	V	33.85	34.85	68.70	74	-5.30	2310~2390
	2390.00	AV	V	33.85	15.82	49.67	54	-4.33	
	2485.78	PK	V	34.31	31.75	66.06	74	-7.94	2483.5~2500
	2483.50	AV	V	34.30	15.45	49.75	54	-4.25	
802.11b Chain 3	2389.44	PK	V	33.85	33.04	66.89	74	-7.11	2310~2390
	2390.00	AV	V	33.85	17.88	51.73	54	-2.27	
	2483.96	PK	V	34.30	33.52	67.82	74	-6.18	2483.5~2500
	2483.50	AV	V	34.30	16.99	51.29	54	-2.71	

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)	Restricted band (MHz)
802.11g Chain 0	2390.00	PK	V	33.85	30.47	64.32	74	-9.68	2310~2390
	2389.49	AV	V	33.85	16.66	50.51	54	-3.49	
	2483.50	PK	V	34.30	29.59	63.89	74	-10.11	2483.5~2500
	2483.50	AV	V	34.30	17.48	51.78	54	-2.22	
802.11g Chain 1	2390.00	PK	V	33.85	24.88	58.73	74	-15.27	2310~2390
	2390.00	AV	V	33.85	13.79	47.64	54	-6.36	
	2483.50	PK	V	34.30	24.62	58.92	74	-15.08	2483.5~2500
	2483.50	AV	V	34.30	13.72	48.02	54	-5.98	
802.11g Chain 2	2390.00	PK	V	33.85	28.62	62.47	74	-11.53	2310~2390
	2390.00	AV	V	33.85	16.57	50.42	54	-3.58	
	2492.74	PK	V	34.35	29.57	63.92	74	-10.08	2483.5~2500
	2483.50	AV	V	34.30	16.85	51.15	54	-2.85	
802.11g Chain 3	2390.00	PK	V	33.85	29.81	63.66	74	-10.34	2310~2390
	2390.00	AV	V	33.85	16.94	50.79	54	-3.21	
	2484.34	PK	V	34.30	31.01	65.31	74	-8.69	2483.5~2500
	2483.50	AV	V	34.30	17.37	51.67	54	-2.33	
802.11n (HT20)	2390.00	PK	V	33.85	31.37	65.22	74	-8.78	2310~2390
	2390.00	AV	V	33.85	18.62	52.47	54	-1.53	
	2484.67	PK	V	34.31	27.58	61.89	74	-12.11	2483.5~2500
	2484.57	AV	V	34.31	18.20	52.51	54	-1.49	
802.11n (HT40)	2390.00	PK	V	33.85	32.38	66.23	74	-7.77	2310~2390
	2390.00	AV	V	33.85	19.06	52.91	54	-1.09	
	2485.10	PK	V	34.31	26.33	60.64	74	-13.36	2483.5~2500
	2483.50	AV	V	34.30	14.08	48.38	54	-5.62	

Remark: All of the antenna chains are on in the test mode of 802.11nHT20 & 802.11nHT40.

9. AC Power Line Conducted Emission

9.1 Operating environment

Temperature:	25	℃
Relative Humidity:	50	%
Atmospheric Pressure	1008	hPa
Test Voltage	120V, 60Hz	
Requirement	15.207	
Date of test	Jul. 08, 2015	

9.2 Limit for AC power line conducted emission

Freq. (MHz)	Conducted Limit (dBuV)	
	Q.P.	Ave.
0.15~0.50	66 – 56*	56 – 46*
0.50~5.00	56	46
5.00~30.0	60	50

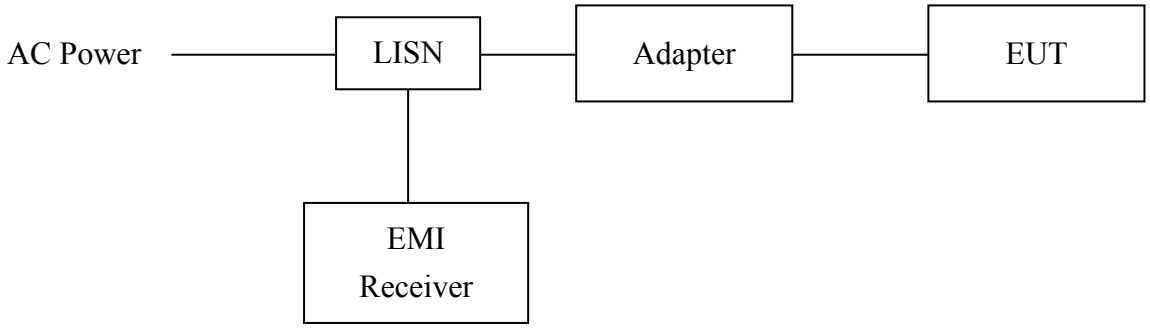
9.3 Measuring instrument setting

Receiver settings	
Receiver function	**Setting**
Detector	QP
Start frequency	0.15MHz
Stop frequency	30MHz
IF bandwidth	9 kHz
Attenuation	10dB

9.4 Test procedure

1. Configure the EUT according to ANSI C63.10. The EUT or host of EHT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network.
3. All the companion devices are connected to the other LISN. The LISN should provide 50Uh/50ohms coupling impedance.
4. The frequency range from 150 kHz to 30MHz was searched
5. Set the test-receiver system to peak detector and specified bandwidth with maximum hold mode.
6. The measurement has to be done between each power line and ground at the power terminal.

9.5 Test diagram



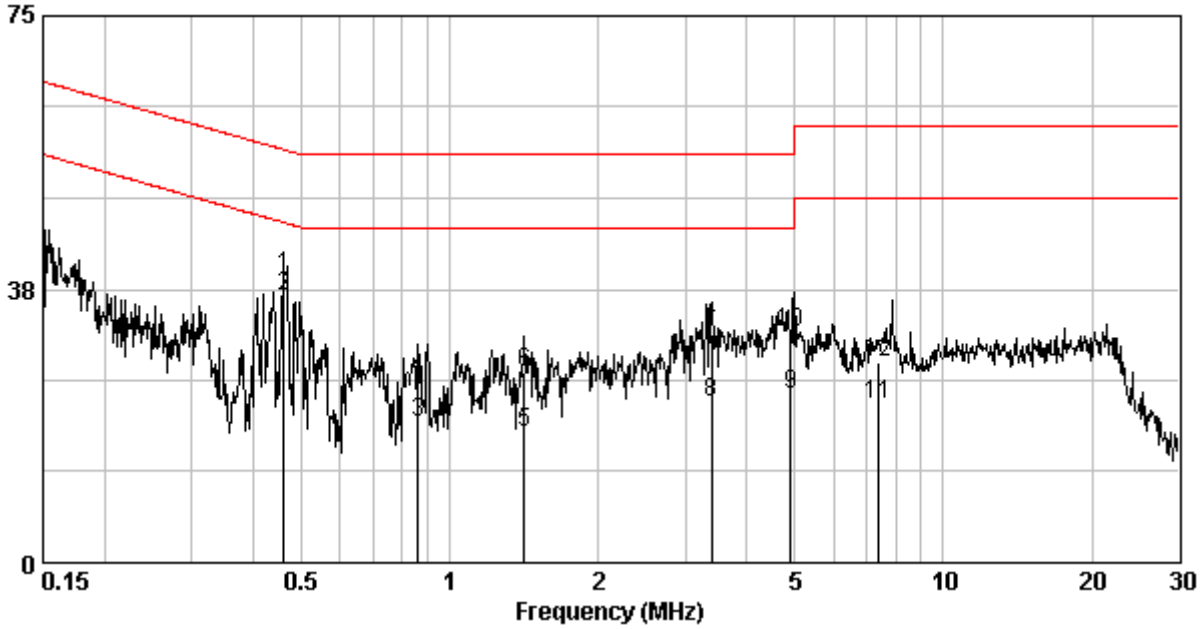
Note: The EUT was tested while in normal communication mode.

9.6 Test results

Phase : Line
EUT : G10
Test Condition : 2.4GHz Normal communication mode

Frequency (MHz)	Corr. Factor (dB)	Level Qp (dBuV)	Limit Qp (dBuV)	Level Av (dBuV)	Limit Av (dBuV)	Over Limit (dB) Qp	Over Limit (dB) Av
0.462	9.73	39.29	56.65	36.64	46.65	-17.36	-10.02
0.862	9.82	25.25	56.00	19.17	46.00	-30.75	-26.83
1.418	9.85	26.10	56.00	17.89	46.00	-29.90	-28.11
3.399	9.86	31.27	56.00	22.00	46.00	-24.73	-24.00
4.918	9.87	31.70	56.00	22.98	46.00	-24.30	-23.02
7.392	9.89	27.36	60.00	21.80	50.00	-32.64	-28.20

Remark:
1. Correction Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Over Limit (dB) = Level (dBuV) – Limit (dBuV)

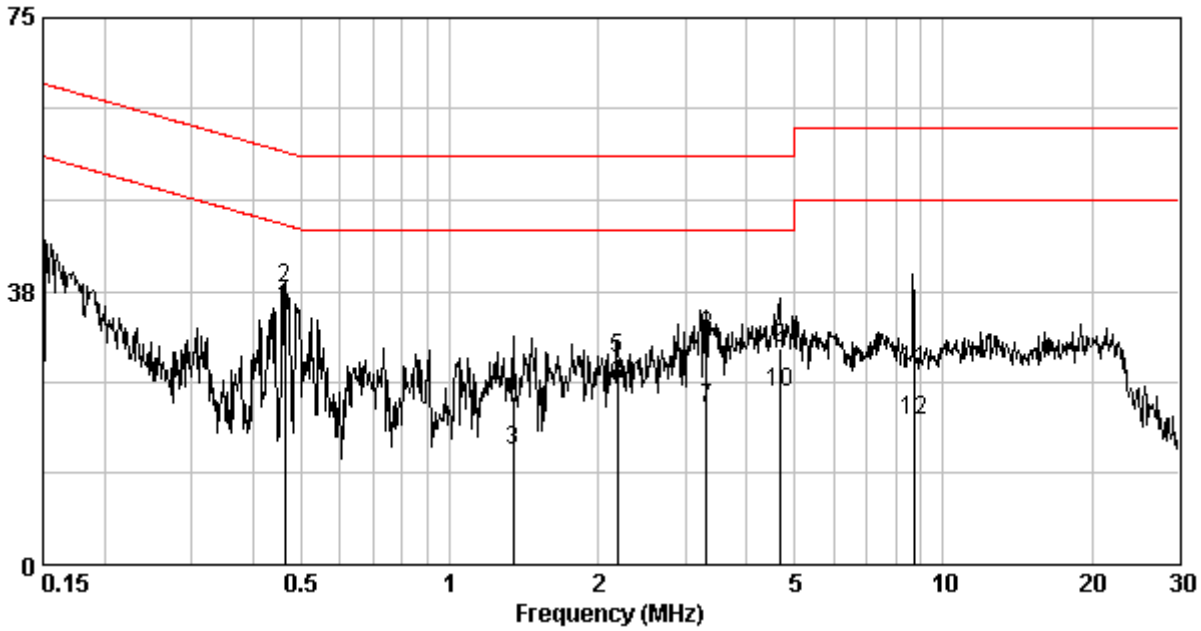


Phase : Neutral
EUT : G10
Test Condition : 2.4GHz Normal communication mode

Frequency (MHz)	Corr. Factor (dB)	Level Qp (dBuV)	Limit Qp (dBuV)	Level Av (dBuV)	Limit Av (dBuV)	Over Limit (dB) Qp	Over Limit (dB) Av
0.464	9.73	37.78	56.63	35.20	46.63	-18.85	-11.43
1.345	9.84	23.14	56.00	15.61	46.00	-32.86	-30.39
2.190	9.85	28.28	56.00	24.41	46.00	-27.72	-21.59
3.310	9.86	31.32	56.00	21.42	46.00	-24.68	-24.58
4.672	9.87	29.64	56.00	23.72	46.00	-26.36	-22.28
8.741	9.92	26.61	60.00	19.87	50.00	-33.39	-30.13

Remark:

1. Correction Factor (dB)= LISN Factor (dB) + Cable Loss (dB)
2. Over Limit (dB) = Level (dBuV) – Limit (dBuV)



Appendix A: Test equipment list

Equipment	Brand	Model No.	Serial No.	Calibration Date	Next Calibration Date
ESCI EMI Test Receiver	Rohde & Schwarz	ESCI	100018	2014/12/02	2015/12/01
Spectrum Analyzer	Rohde & Schwarz	FSP30	100137	2015/01/14	2016/01/13
Horn Antenna (1-18G)	Schwarzbeck	BBHA 9120 D	9120D-456	2014/08/29	2017/08/27
Horn Antenna (14-42G)	SHWARZBECK	BBHA 9170	BBHA9170159	2014/09/16	2017/09/14
Broadband Antenna	Schwarzbeck	VULB 9168	9168-172	2013/08/08	2016/08/07
Loop Antenna	RolfHeine	LA-285	02/10033	2014/03/18	2016/03/16
Pre-Amplifier	MITEQ	JS4-26004000--27-8A	828825	2014/09/15	2015/09/14
Power Meter	Anritsu	ML2495A	0844001	2014/11/12	2015/11/11
Power Senor	Anritsu	MA2411B	0738452	2014/11/12	2015/11/11
Two-Line V-Network	Rohde & Schwarz	ESH3-Z5	838979/014	2014/10/05	2015/10/04
Signal Analyzer	Agilent	N9030A	MY51380492	2014/09/19	2015/09/18
966-2_3m Semi-Anechoic Chamber	966_2	CEM-966_2	N/A	2015/02/24	2016/02/23
966-2(A) Cable 9kHz~26.5GHz	SUHNER	SMA / EX 100	N/A	2015/05/06	2016/05/05
966-2(B) Cable 9kHz~26.5GHz	JUNFLON	SMA / J12J100880-00	AUG-26-08-002	2015/05/06	2016/05/05
RF Cable 9kHz~26.5GHz	SUHNER	SUCOFLEX 102	CB0006	2015/05/06	2016/05/05

Brand	Software	Version
ADT	Radiated test system	7.5.14
Audix	e3	4.2004-1-12k

Appendix B: Measurement Uncertainty

This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of *k*=2.

Item	Uncertainty
Vertically polarized radiated disturbances from 30MHz~1GHz in a semi-anechoic chamber at a distance of 3m	5.15 dB
Horizontally polarized radiated disturbances from 30MHz~1GHz in a semi-anechoic chamber at a distance of 3m	5.23 dB
Vertically polarized Radiated disturbances from 1GHz~18GHz in a semi-anechoic chamber at a distance of 3m	4.19 dB
Horizontally polarized Radiated disturbances from 1GHz~18GHz in a semi-anechoic chamber at a distance of 3m	4.3 dB
Vertically polarized Radiated disturbances from 18GHz~40GHz in a semi-anechoic chamber at a distance of 3m	4.19 dB
Horizontally polarized Radiated disturbances from 18GHz~40GHz in a semi-anechoic chamber at a distance of 3m	4.3 dB
Conducted Output power	0.86 dB
Radiated electromagnetic disturbances in the frequency range from 9kHz to 30MHz	2.92 dB
Conducted disturbance measurements at a mains port from 9 kHz to 30 MHz using a 50 Ω/50 μH +5Ω artificial mains network (AMN)	2.5dB