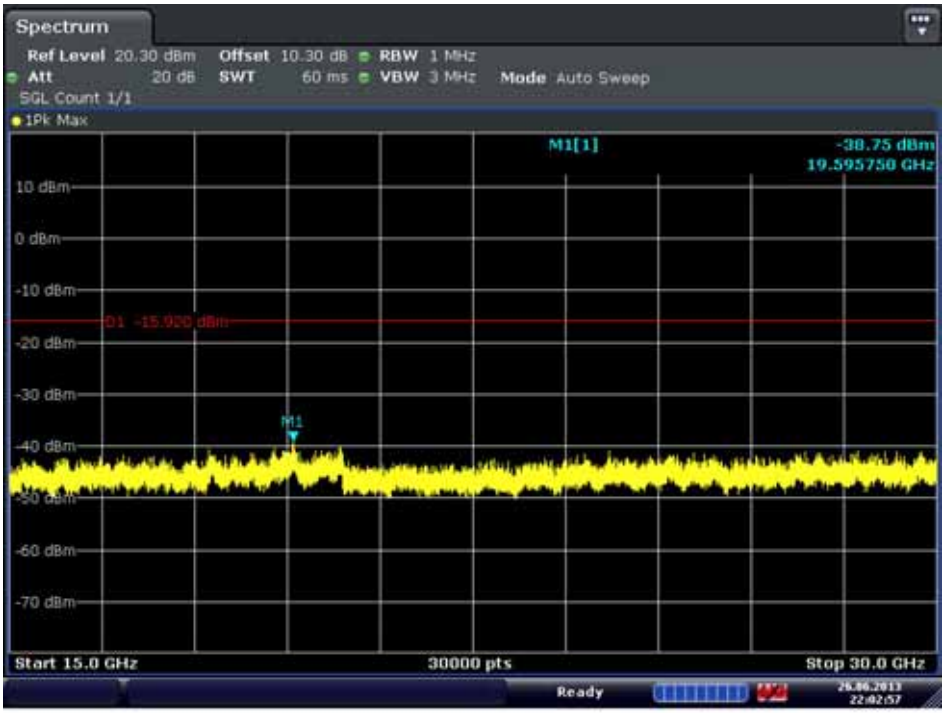
Conducted Spurious Emission (802.11ac-CH165) 20 MHz BW

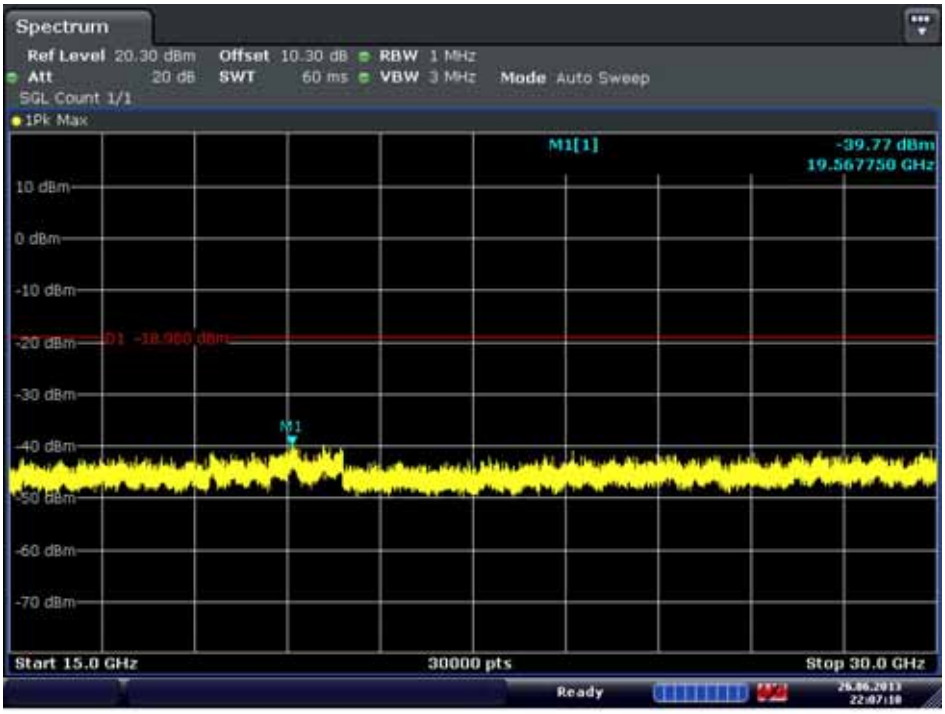


Date: 26.JUN.2013 22:02:58

Conducted Spurious Emission (802.11ac-CH151) 40 MHz BW

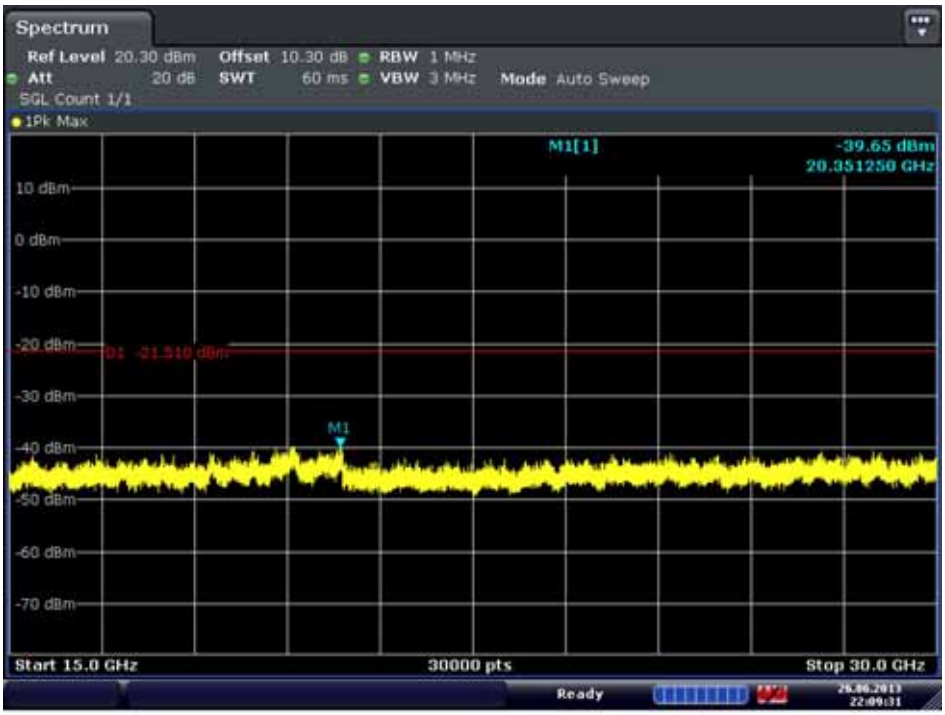
Date: 26.JUN.2013 22:05:21

Conducted Spurious Emission (802.11ac-CH159) 40 MHz BW



Date: 26.JUN.2013 22:07:11

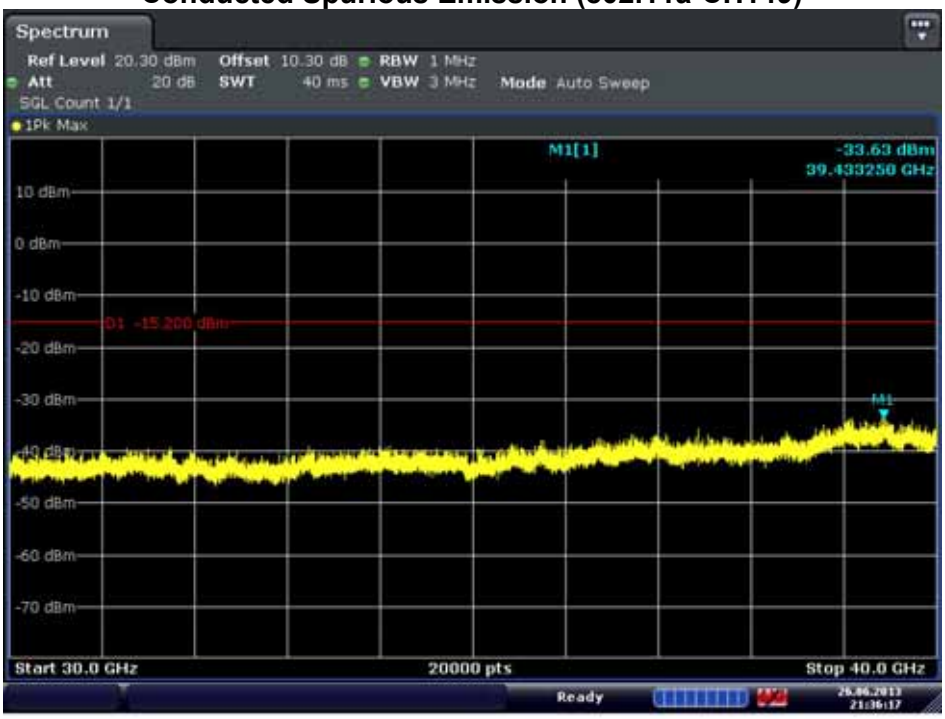
Conducted Spurious Emission (802.11ac-CH155) 80 MHz BW



Date: 26.JUN.2013 22:09:32

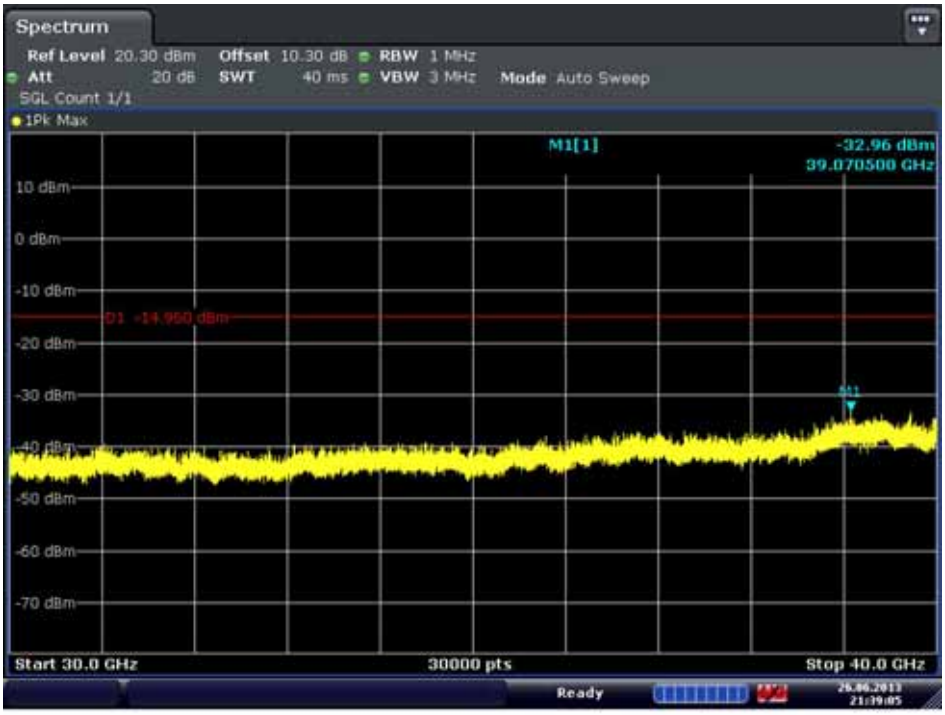
30 GHz ~ 40 GHz

Conducted Spurious Emission (802.11a-CH149)



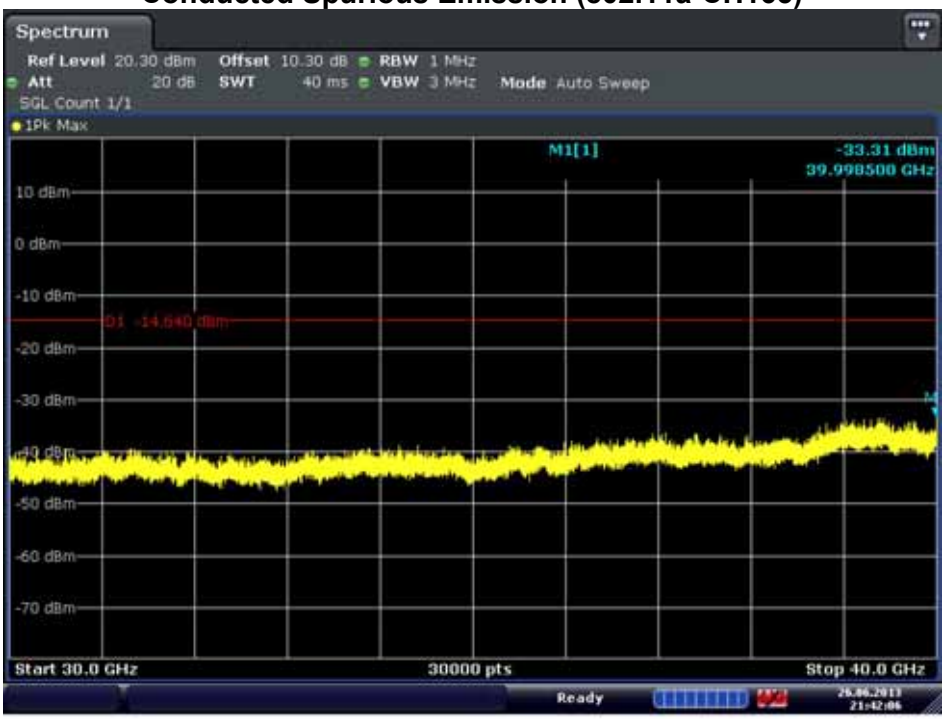
Date: 26.JUN.2013 21:36:18

Conducted Spurious Emission (802.11a-CH157)



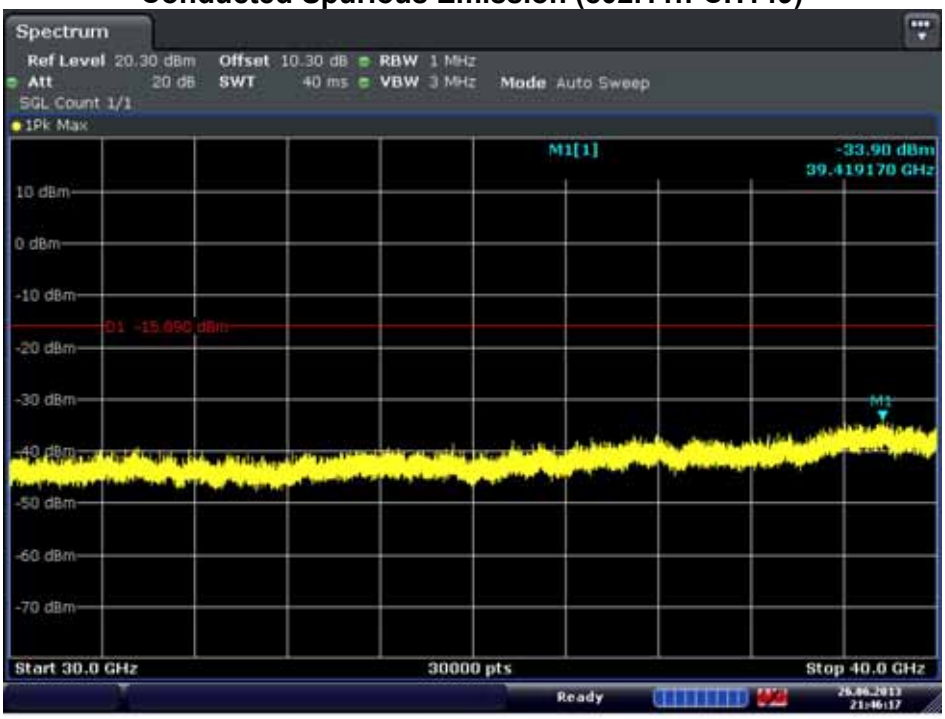
Date: 26.JUN.2013 21:39:05

Conducted Spurious Emission (802.11a-CH165)



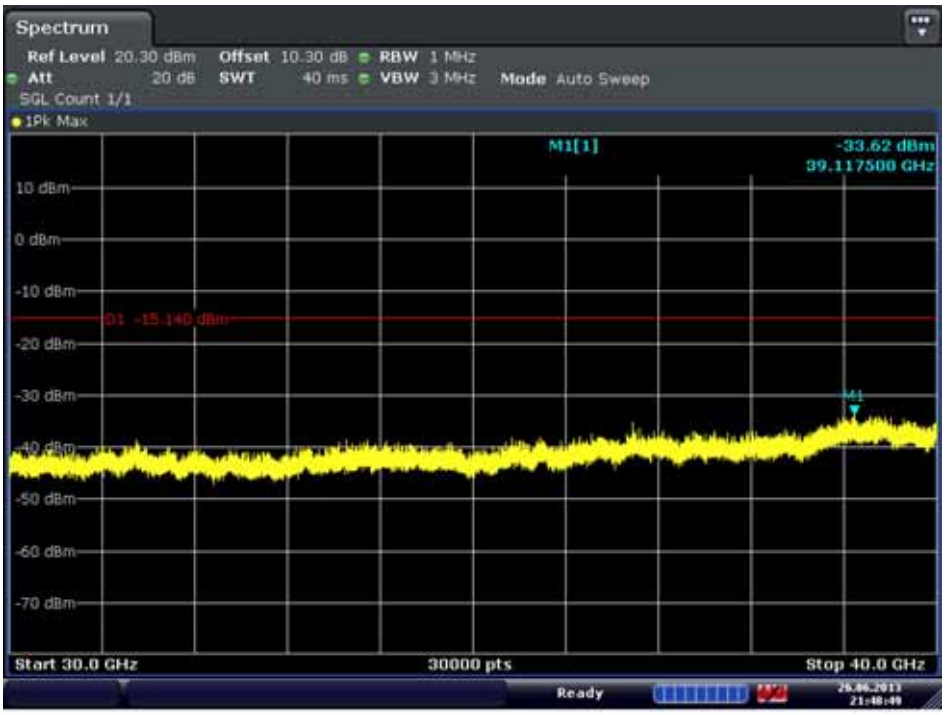
20 MHz BW

Conducted Spurious Emission (802.11n-CH149)



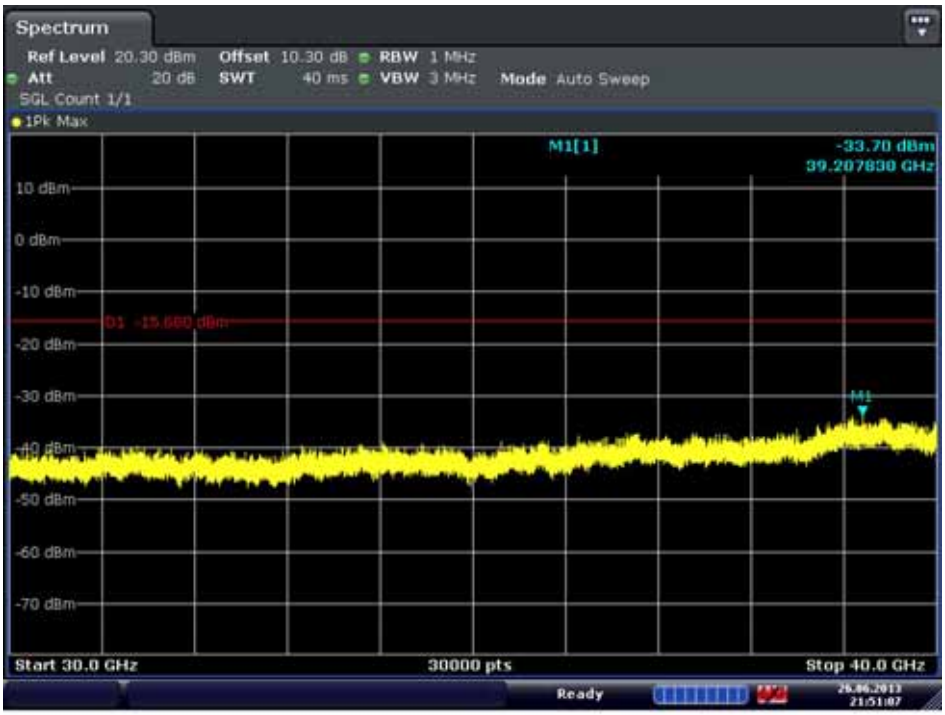
Date: 26.JUN.2013 21:46:18

Conducted Spurious Emission (802.11n-CH157)



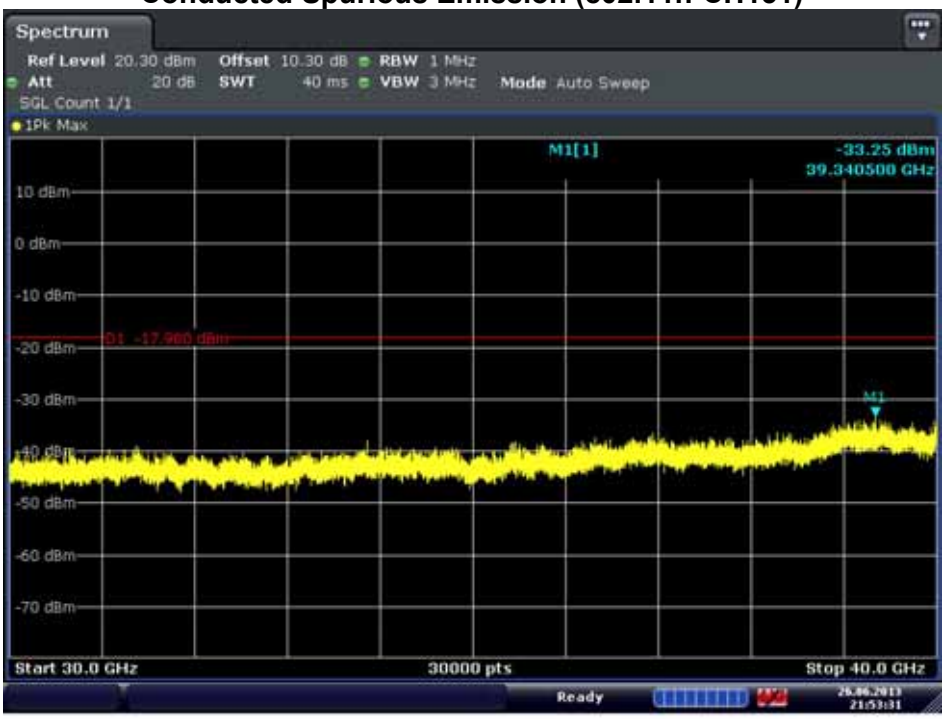
Date: 26.JUN.2013 21:48:50

Conducted Spurious Emission (802.11n-CH165)



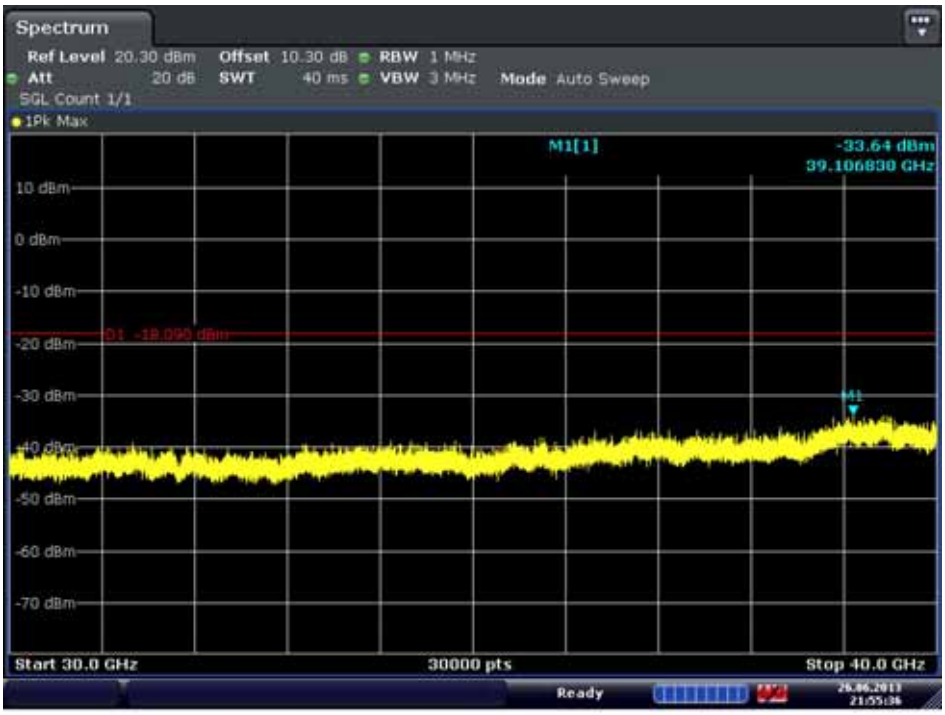
40 MHz BW

Conducted Spurious Emission (802.11n-CH151)



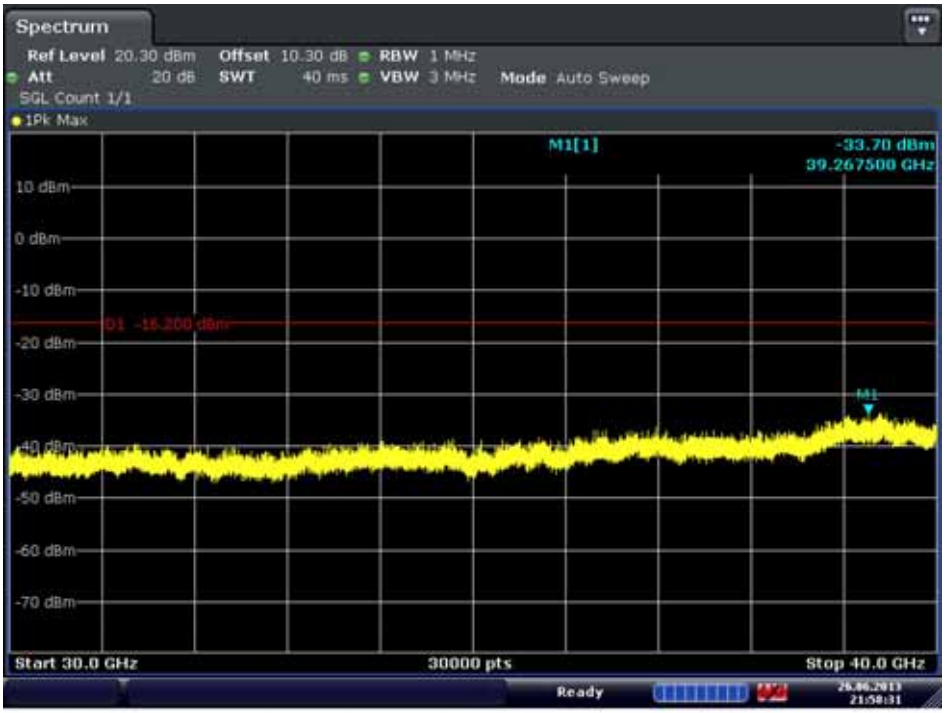
Date: 26.JUN.2013 21:53:31

Conducted Spurious Emission (802.11n-CH159)



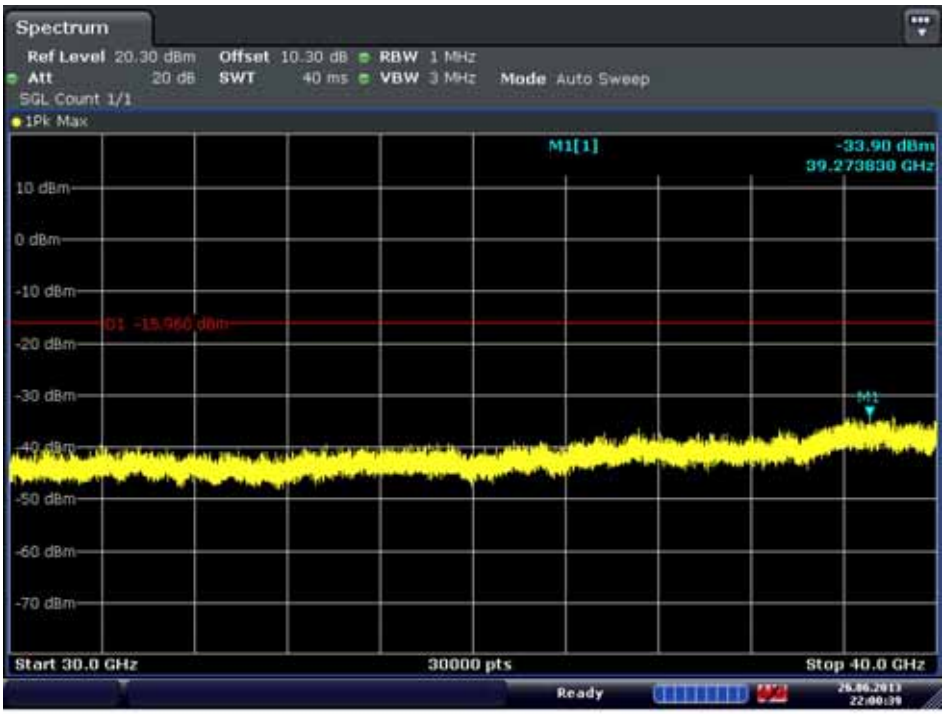
Date: 26.JUN.2013 21:55:36

Conducted Spurious Emission (802.11ac-CH149) 20 MHz BW



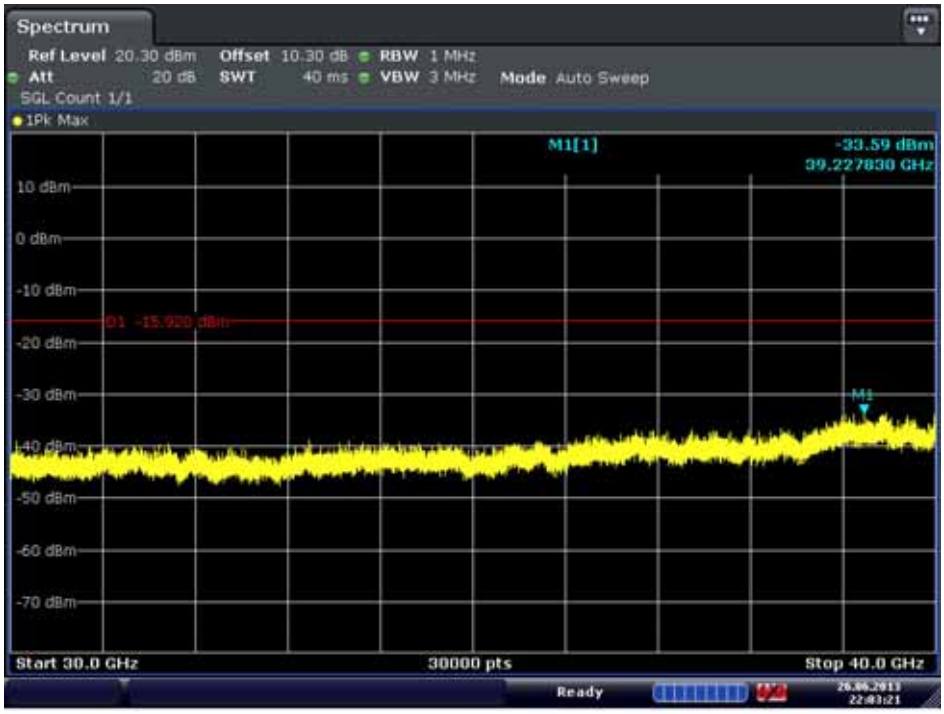
Date: 26.JUN.2013 21:58:32

Conducted Spurious Emission (802.11ac-CH157) 20 MHz BW



Date: 26.JUN.2013 22:00:40

Conducted Spurious Emission (802.11ac-CH165) 20 MHz BW

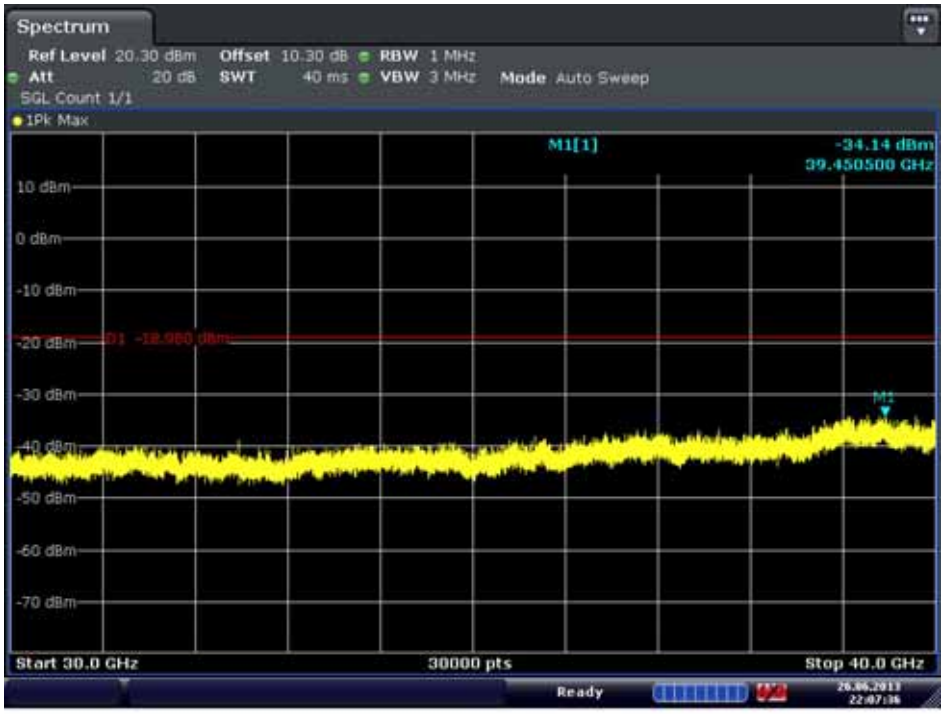


Date: 26.JUN.2013 22:03:22

Conducted Spurious Emission (802.11ac-CH151) 40 MHz BW

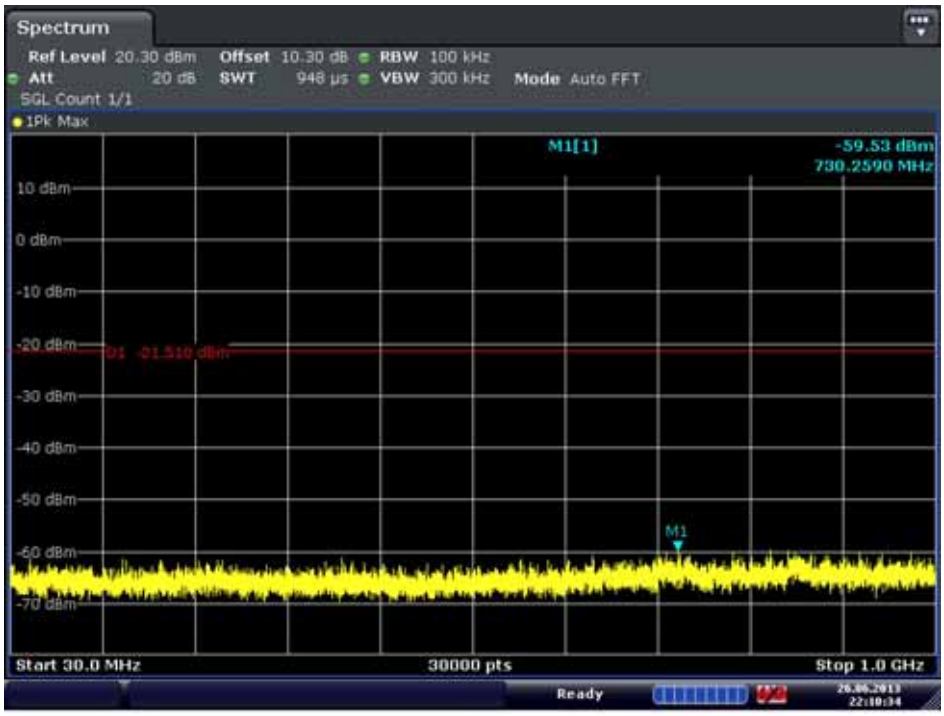
Date: 26.JUN.2013 22:05:43

Conducted Spurious Emission (802.11ac-CH159) 40 MHz BW



Date: 26.JUN.2013 22:07:36

Conducted Spurious Emission (802.11ac-CH155) 80 MHz BW



Date: 26.JUN.2013 22:10:35

8.6 RADIATED MEASUREMENT.

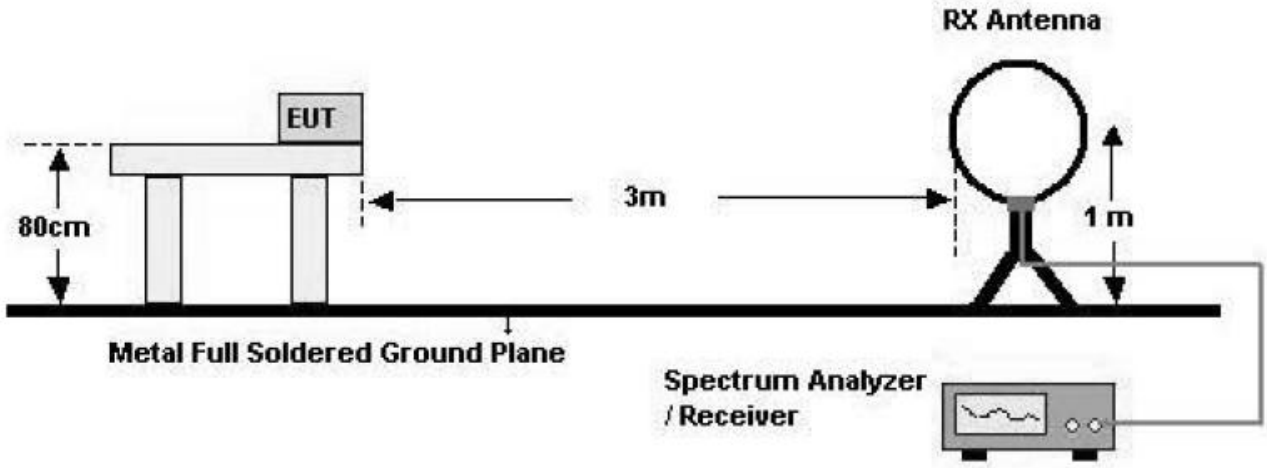
8.6.1 RADIATED SPURIOUS EMISSIONS.

Test Requirements and limit, §15.205, §15.209

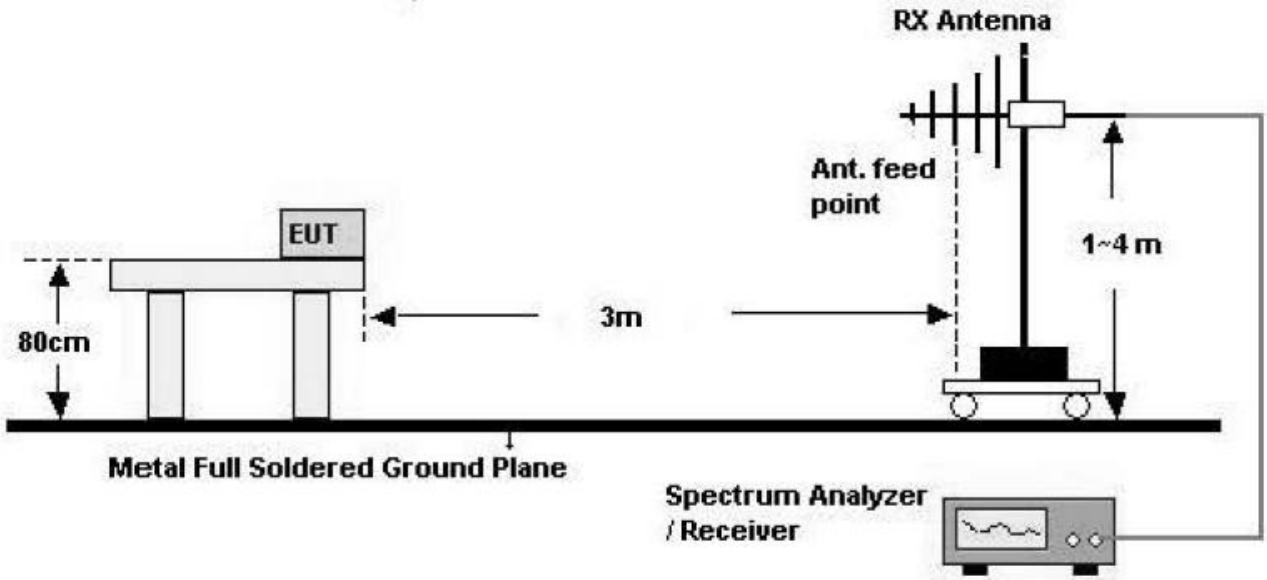
Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

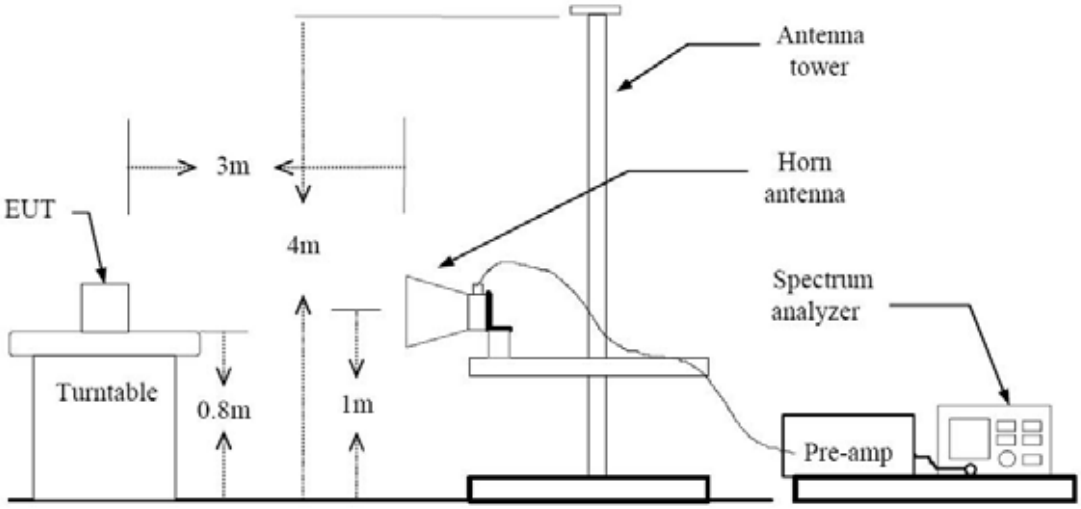
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



TEST PROCEDURE USED

ANSI C63.10(2009)

Method 12.2.4 in KDB 558074, issued 04/09/2013 (Peak)

Method 12.2.5.1 in KDB 558074, issued 04/09/2013(Average Case 1)

Method 12.2.5.3 in KDB 558074, issued 04/09/2013(Average Case 2)

Spectrum Setting

- Peak

Peak emission levels are measured by setting the instrument as follows:

RBW = cf. Table 1.

VBW ≥ 3 x RBW.

Detector = Peak.

Sweep time = auto.

Trace mode = max hold.

Allow sweeps to continue until the trace stabilizes.

(Note that the required measurement time may be longer for low duty cycle applications).

Table 1 —RBW as a function of frequency

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

- Average

Case 1

If the EUT can be configured or modified to transmit continuously (duty cycle ≥ 98 percent then the average emission levels shall be measured using the following method (with EUT transmitting continuously).

RBW = 1 MHz (unless otherwise specified).

VBW ≥3 x RBW.

Detector = RMS, if span/(# of points in sweep) ≤ (RBW/2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.

Averaging type = power (i.e., RMS).

1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
2) Some instruments require linear display mode in order to use linear voltage averaging. Log or dB averaging shall not be used.

Sweep time = auto.

Perform a trace average of at least 100 traces.

Case 2

If continuous transmission of the EUT (i.e., duty cycle ≥ 98 percent) cannot be achieved and the duty cycle is not constant (i.e., duty cycle variations exceed ± 2 percent), then the following procedure shall be used:

Set RBW = 1 MHz.

Set VBW ≥ 1/T.

Video bandwidth mode or display mode

1) The instrument shall be set to ensure that video filtering is applied in the power domain. Typically, this requires setting the detector mode to RMS and setting the Average-VBW Type to Power (RMS).
2) As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to “Voltage” regardless of the display mode.

Detector = Peak.

Sweep time = auto.

Trace mode = max hold.

Allow max hold to run for at least 50 times (1/duty cycle) traces.

Note :

1. We used the case 1 for 802.11b mode and the case 2 for802.11a/g/n_20/n_40/ac_20/ac_40/ac_80 to perform the average filed strength measurements.
2. The actual setting value of VBW for 802.11a/g/n_20/n_40/ac_20/ac_40/ac_80

Mode	Worst Data rate (Mbps)	T_{on} (ms)	T_{total} (ms)	Duty Cycle (%)	VBW(1/T) (Hz)	The actual setting value of VBW (Hz)
a	6	2.064	2.166	95.3	484.5	1000
g	6	2.064	2.166	95.3	484.5	1000
n_20	6.5	1.920	2.025	94.8	520.8	1000
n_40	13.5	0.943	1.042	90.5	1060.4	3000
2.4 GHz band ac_20	6.5	1.932	2.034	95.0	517.6	1000
5.8 GHz band ac_20	6.5	1.924	2.031	94.7	519.8	1000
ac_40	13.5	0.952	1.051	90.6	1050.4	3000
ac_80	29.3	0.460	0.558	82.4	2173.9	3000

9 kHz – 30MHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
㎒	dBμV/m	dBm /m	dBm	(H/V)	dBμV/m	dBμV/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 9 kHz to the 30MHz.
2. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
3. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)
4. Limit line = specific Limits (dBuV) + Distance extrapolation factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

TEST RESULTS

Below 1 GHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
㎒	dBμV/m	dBm /m	dBm	(H/V)	dBμV/m	dBμV/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 30 MHz to the 1 GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Above 1 GHz

Operation Mode:	802.11 b
Transfer Rate:	1 Mbps
Operating Frequency	2412
Channel No.	01 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4824	52.85	-0.79	V	52.06	74	21.94	PK
4824	44.62	-0.79	V	43.83	54	10.17	AV
7236	48.91	9.08	V	57.99	74	16.01	PK
7236	37.45	9.08	V	46.53	54	7.47	AV
4824	53.37	-0.79	H	52.58	74	21.42	PK
4824	45.91	-0.79	H	45.12	54	8.88	AV
7236	49.09	9.08	H	58.17	74	15.83	PK
7236	37.53	9.08	H	46.61	54	7.39	AV

Operation Mode:	802.11 g
Transfer Rate:	6 Mbps
Operating Frequency	2412
Channel No.	01 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4824	49.12	-0.79	V	48.33	74	25.67	PK
4824	36.37	-0.79	V	35.58	54	18.42	AV
7236	48.43	9.08	V	57.51	74	16.49	PK
7236	35.34	9.08	V	44.42	54	9.58	AV
4824	50.49	-0.79	H	49.7	74	24.30	PK
4824	36.54	-0.79	H	35.75	54	18.25	AV
7236	48.27	9.08	H	57.35	74	16.65	PK
7236	35.42	9.08	H	44.5	54	9.50	AV

Operation Mode:	802.11 n
Transfer Rate:	6.5 Mbps
Operating Frequency	2412
Channel No.	01 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4824	49.12	-0.79	V	48.33	74	25.67	PK
4824	36.40	-0.79	V	35.61	54	18.39	AV
7236	48.49	9.08	V	57.57	74	16.43	PK
7236	35.36	9.08	V	44.44	54	9.56	AV
4824	49.03	-0.79	H	48.24	74	25.76	PK
4824	36.32	-0.79	H	35.53	54	18.47	AV
7236	48.23	9.08	H	57.31	74	16.69	PK
7236	35.38	9.08	H	44.46	54	9.54	AV

Operation Mode:	802.11ac
Transfer Rate:	6.5 Mbps
Operating Frequency	2412
Channel No.	01 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4824	49.20	-0.79	V	48.41	74	25.59	PK
4824	36.36	-0.79	V	35.57	54	18.43	AV
7236	48.51	9.08	V	57.59	74	16.41	PK
7236	35.37	9.08	V	44.45	54	9.55	AV
4824	49.17	-0.79	H	48.38	74	25.62	PK
4824	36.38	-0.79	H	35.59	54	18.41	AV
7236	48.44	9.08	H	57.52	74	16.48	PK
7236	35.39	9.08	H	44.47	54	9.53	AV

Notes:

11. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable

limit) and considered that's already beyond the background noise floor.

3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11b/g/n mode and all data rate. Worst data rate is the lowest data of each mode.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Operation Mode:	802.11 b
Transfer Rate:	1 Mbps
Operating Frequency	2437
Channel No.	06 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4874	52.79	-0.37	V	52.42	74	21.58	PK
4874	44.88	-0.37	V	44.51	54	9.49	AV
7311	48.17	8.64	V	56.81	74	17.19	PK
7311	36.82	8.64	V	45.46	54	8.54	AV
4874	53.57	-0.37	H	53.20	74	20.80	PK
4874	46.40	-0.37	H	46.03	54	7.97	AV
7311	48.11	8.64	H	56.75	74	17.25	PK
7311	36.85	8.64	H	45.49	54	8.51	AV

Operation Mode:	802.11 g
Transfer Rate:	6 Mbps
Operating Frequency	2437
Channel No.	06 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4874	49.68	-0.37	V	49.31	74	24.69	PK
4874	36.75	-0.37	V	36.38	54	17.62	AV
7311	47.79	8.64	V	56.43	74	17.57	PK
7311	35.08	8.64	V	43.72	54	10.28	AV
4874	49.85	-0.37	H	49.48	74	24.52	PK
4874	37.08	-0.37	H	36.71	54	17.29	AV
7311	48.17	8.64	H	56.81	74	17.19	PK
7311	35.10	8.64	H	43.74	54	10.26	AV

Operation Mode:	802.11 n
Transfer Rate:	6.5 Mbps
Operating Frequency	2437
Channel No.	06 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4874	49.41	-0.37	V	49.04	74	24.96	PK
4874	36.54	-0.37	V	36.17	54	17.83	AV
7311	47.69	8.64	V	56.33	74	17.67	PK
7311	35.12	8.64	V	43.76	54	10.24	AV
4874	49.01	-0.37	H	48.64	74	25.36	PK
4874	36.82	-0.37	H	36.45	54	17.55	AV
7311	47.42	8.64	H	56.06	74	17.94	PK
7311	35.20	8.64	H	43.84	54	10.16	AV

Operation Mode:	802.11ac
Transfer Rate:	6.5 Mbps
Operating Frequency	2437
Channel No.	06 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4874	49.05	-0.37	V	48.68	74	25.32	PK
4874	36.42	-0.37	V	36.05	54	17.95	AV
7311	47.59	8.64	V	56.23	74	17.77	PK
7311	34.99	8.64	V	43.63	54	10.37	AV
4874	49.03	-0.37	H	48.66	74	25.34	PK
4874	36.60	-0.37	H	36.23	54	17.77	AV
7311	48.01	8.64	H	56.65	74	17.35	PK
7311	34.58	8.64	H	43.22	54	10.78	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable

limit) and considered that's already beyond the background noise floor.

3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11b/g/n mode and all data rate. Worst data rate is the lowest data of each mode.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Operation Mode:	802.11 b
Transfer Rate:	1 Mbps
Operating Frequency	2462
Channel No.	11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4924	50.88	-0.15	V	50.73	74	23.27	PK
4924	40.18	-0.15	V	40.03	54	13.97	AV
7386	49.27	9.06	V	58.33	74	15.67	PK
7386	37.15	9.06	V	46.21	54	7.79	AV
4924	51.96	-0.15	H	51.81	74	22.19	PK
4924	41.33	-0.15	H	41.18	54	12.82	AV
7386	48.48	9.06	H	57.54	74	16.46	PK
7386	37.22	9.06	H	46.28	54	7.72	AV

Operation Mode:	802.11 g
Transfer Rate:	6 Mbps
Operating Frequency	2462
Channel No.	11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4924	50.90	-0.15	V	50.75	74	23.25	PK
4924	37.89	-0.15	V	37.74	54	16.26	AV
7386	49.31	9.06	V	58.37	74	15.63	PK
7386	35.65	9.06	V	44.71	54	9.29	AV
4924	51.03	-0.15	H	50.88	74	23.12	PK
4924	37.38	-0.15	H	37.23	54	16.77	AV
7386	49.79	9.06	H	58.85	74	15.15	PK
7386	35.71	9.06	H	44.77	54	9.23	AV

Operation Mode:	802.11 n
Transfer Rate:	6.5 Mbps
Operating Frequency	2462
Channel No.	11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4924	50.05	-0.15	V	49.90	74	24.10	PK
4924	37.25	-0.15	V	37.10	54	16.90	AV
7386	48.75	9.06	V	57.81	74	16.19	PK
7386	35.70	9.06	V	44.76	54	9.24	AV
4924	50.06	-0.15	H	49.91	74	24.09	PK
4924	37.35	-0.15	H	37.2	54	16.8	AV
7386	48.29	9.06	H	57.35	74	16.65	PK
7386	35.53	9.06	H	44.59	54	9.41	AV

Operation Mode:	802.11ac
Transfer Rate:	6.5 Mbps
Operating Frequency	2462
Channel No.	11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4924	49.77	-0.15	V	49.62	74	24.38	PK
4924	37.12	-0.15	V	36.97	54	17.03	AV
7386	48.46	9.06	V	57.52	74	16.48	PK
7386	36.11	9.06	V	45.17	54	8.83	AV
4924	49.68	-0.15	H	49.53	74	24.47	PK
4924	37.22	-0.15	H	37.07	54	16.93	AV
7386	48.84	9.06	H	57.90	74	16.10	PK
7386	35.89	9.06	H	44.95	54	9.05	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable

limit) and considered that's already beyond the background noise floor.

3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11b/g/n mode and all data rate. Worst data rate is the lowest data of each mode.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	5.8 GHz
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5745 MHz
Channel No.	149 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11490	44.46	11.22	V	55.68	74	18.32	PK
11490	31.80	11.22	V	43.02	54	10.98	AV
11490	46.20	11.22	H	57.42	74	16.58	PK
11490	33.25	11.22	H	44.47	54	9.53	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11b/g/n mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	5.8 GHz
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5785 MHz
Channel No.	157 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11570	43.65	11.71	V	55.36	74	18.64	PK
11570	30.95	11.71	V	42.66	54	11.34	AV
11570	46.41	11.71	H	58.12	74	15.88	PK
11570	33.44	11.71	H	45.15	54	8.85	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11b/g/n mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	5.8 GHz
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11650	44.50	11.34	V	55.84	74	18.16	PK
11650	31.87	11.34	V	43.21	54	10.79	AV
11650	46.18	11.34	H	57.52	74	16.48	PK
11650	33.67	11.34	H	45.01	54	8.99	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11b/g/n mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	5.8 GHz
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5745 MHz
Channel No.	149 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11490	44.30	11.22	V	55.52	74	18.48	PK
11490	31.24	11.22	V	42.46	54	11.54	AV
11490	47.69	11.22	H	58.91	74	15.09	PK
11490	34.07	11.22	H	45.29	54	8.71	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11b/g/n mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	5.8 GHz
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5785 MHz
Channel No.	157 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11570	44.61	11.71	V	56.32	74	17.68	PK
11570	30.49	11.71	V	42.20	54	11.80	AV
11570	46.69	11.71	H	58.40	74	15.60	PK
11570	33.60	11.71	H	45.31	54	8.69	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11b/g/n mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	5.8 GHz
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11650	44.05	11.34	V	55.39	74	18.61	PK
11650	30.85	11.34	V	42.19	54	11.81	AV
11650	46.58	11.34	H	57.92	74	16.08	PK
11650	33.14	11.34	H	44.48	54	9.52	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11b/g/n mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	5.8 GHz
Operation Mode:	802.11 n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5755 MHz
Channel No.	151 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11510	43.30	11.53	V	54.83	74	19.17	PK
11510	29.88	11.53	V	41.41	54	12.59	AV
11510	44.78	11.53	H	56.31	74	17.69	PK
11510	32.36	11.53	H	43.89	54	10.11	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11b/g/n mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	5.8 GHz
Operation Mode:	802.11 n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5795 MHz
Channel No.	159 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11590	43.08	11.64	V	54.72	74	19.28	PK
11590	29.85	11.64	V	41.49	54	12.51	AV
11590	45.08	11.64	H	56.72	74	17.28	PK
11590	32.08	11.64	H	43.72	54	10.28	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11b/g/n mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	5.8 GHz
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5745 MHz
Channel No.	149 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11490	43.47	11.22	V	54.69	74	19.31	PK
11490	29.69	11.22	V	40.91	54	13.09	AV
11490	46.64	11.22	H	57.86	74	16.14	PK
11490	31.93	11.22	H	43.15	54	10.85	AV

Band :	5.8 GHz
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5785 MHz
Channel No.	157 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11570	43.29	11.71	V	55.00	74	19.00	PK
11570	29.50	11.71	V	41.21	54	12.79	AV
11570	46.36	11.71	H	58.07	74	15.93	PK
11570	31.71	11.71	H	43.42	54	10.58	AV

Band :	5.8 GHz
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11650	42.77	11.34	V	54.11	74	19.89	PK
11650	29.41	11.34	V	40.75	54	13.25	AV
11650	46.08	11.34	H	57.42	74	16.58	PK
11650	31.94	11.34	H	43.28	54	10.72	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11ac mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	5.8 GHz
Operation Mode:	802.11 ac_40 MHz BW
Transfer Rate:	MCS0
Operating Frequency	5710 MHz
Channel No.	142 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11420	41.69	10.73	V	52.42	74	21.58	PK
11420	28.17	10.73	V	38.90	54	15.10	AV
11420	42.94	10.73	H	53.67	74	20.33	PK
11420	29.71	10.73	H	40.44	54	13.56	AV

Band :	5.8 GHz
Operation Mode:	802.11 ac_40 MHz BW
Transfer Rate:	MCS0
Operating Frequency	5755 MHz
Channel No.	151 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11510	41.43	11.53	V	52.96	74	21.04	PK
11510	29.16	11.53	V	40.69	54	13.31	AV
11510	44.04	11.53	H	55.57	74	18.43	PK
11510	30.98	11.53	H	42.51	54	11.49	AV

Band :	5.8 GHz
Operation Mode:	802.11 ac_40 MHz BW
Transfer Rate:	MCS0
Operating Frequency	5795 MHz
Channel No.	159 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11590	41.49	11.64	V	53.13	74	20.87	PK
11590	28.53	11.64	V	40.17	54	13.83	AV
11590	43.31	11.64	H	54.95	74	19.05	PK
11590	30.37	11.64	H	42.01	54	11.99	AV

Band :	UNII 4
Operation Mode:	802.11 ac _80 MHz BW
Transfer Rate:	MCS0
Operating Frequency	5775 MHz
Channel No.	155 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11550	39.80	11.50	V	51.30	74	22.70	PK
11550	27.24	11.50	V	38.74	54	15.26	AV
11550	42.55	11.50	H	54.05	74	19.95	PK
11550	29.31	11.50	H	40.81	54	13.19	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11ac mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

8.6.2 RADIATED RESTRICTED BAND EDGES

Test Requirements and limit, §15.247(d) §15.205, §15.209

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a) (See section 15.205(c)).

Operation Mode:	802.11g
Transfer Rate:	6 Mbps
Operating Frequency	2412 MHz, 2462 MHz
Channel No.	01 Ch, 11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2390.0	30.95	33.90	H	64.85	74	9.15	PK
2390.0	13.60	33.90	H	47.50	54	6.50	AV
2390.0	24.99	33.90	V	58.89	74	15.11	PK
2390.0	11.91	33.90	V	45.81	54	8.19	AV
2483.5	30.54	33.99	H	64.53	74	9.47	PK
2483.5	14.67	33.99	H	48.66	54	5.34	AV
2483.5	26.85	33.99	V	60.84	74	13.16	PK
2483.5	12.44	33.99	V	46.43	54	7.57	AV

Operation Mode:	802.11b
Transfer Rate:	1 Mbps
Operating Frequency	2412 MHz, 2462 MHz
Channel No.	01 Ch, 11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2390.0	25.98	33.90	H	59.88	74	14.12	PK
2390.0	12.55	33.90	H	46.45	54	7.55	AV
2390.0	24.53	33.90	V	58.43	74	15.57	PK
2390.0	11.79	33.90	V	45.69	54	8.31	AV
2483.5	24.55	33.99	H	58.54	74	15.46	PK
2483.5	13.48	33.99	H	47.47	54	6.53	AV
2483.5	24.86	33.99	V	58.85	74	15.15	PK
2483.5	12.02	33.99	V	46.01	54	7.99	AV

Operation Mode:	802.11n
Transfer Rate:	6.5 Mbps
Operating Frequency	2412 MHz, 2462 MHz
Channel No.	01 Ch, 11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2390.0	36.92	33.90	H	70.82	74	3.18	PK
2390.0	13.43	33.90	H	47.33	54	6.67	AV
2390.0	29.87	33.90	V	63.77	74	10.23	PK
2390.0	11.88	33.90	V	45.78	54	8.22	AV
2483.5	32.84	33.99	H	66.83	74	7.17	PK
2483.5	14.30	33.99	H	48.29	54	5.71	AV
2483.5	26.59	33.99	V	60.58	74	13.42	PK
2483.5	12.27	33.99	V	46.26	54	7.74	AV

Operation Mode:	802.11ac
Transfer Rate:	6.5 Mbps
Operating Frequency	2412 MHz, 2462 MHz
Channel No.	01 Ch, 11 Ch

Frequency [MHz]	Reading dBuV	AN.+CL [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2390.0	34.51	33.90	H	68.41	74	5.59	PK
2390.0	13.05	33.90	H	46.95	54	7.05	AV
2390.0	26.27	33.90	V	60.17	74	13.83	PK
2390.0	11.78	33.90	V	45.68	54	8.32	AV
2483.5	32.60	33.99	H	66.59	74	7.41	PK
2483.5	13.82	33.99	H	47.81	54	6.19	AV
2483.5	25.64	33.99	V	59.63	74	14.37	PK
2483.5	12.18	33.99	V	46.17	54	7.83	AV

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss
2. We have done 802.11b/g/n/ac mode and all data rate. Worst data rate is the lowest data of each mode.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

8.7 POWERLINE CONDUCTED EMISSIONS

Test Requirements and limit, §15.207

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.
5. We are performed the AC Power Line Conducted Emission test for 11 Mbps, Ch.6 and 802.11b. Because 802.11b mode is worst case.

▣ RESULT PLOTS

Conducted Emissions (Line 1)

HCT

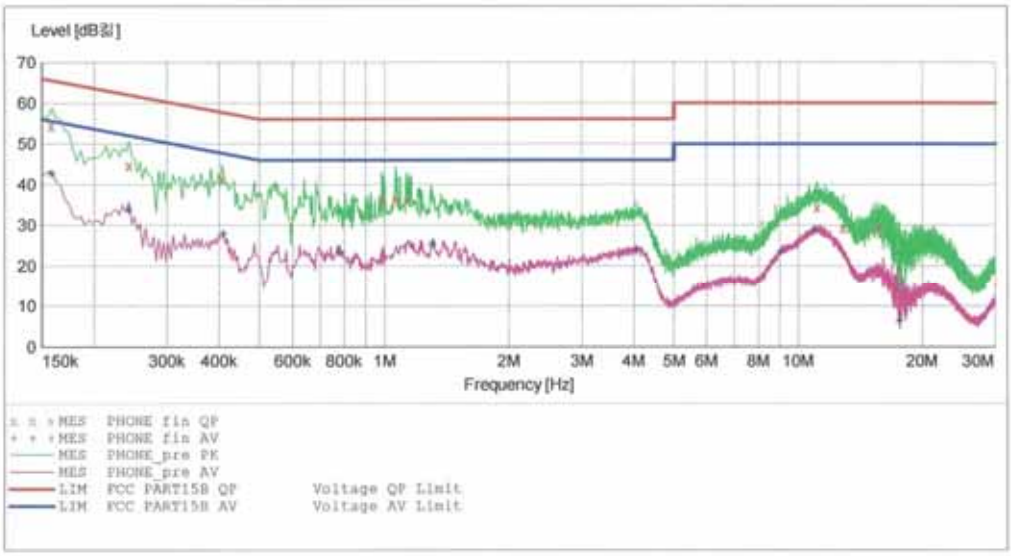
EMC

```
EUT:                  DS1203
Manufacturer:         LG
Operating Condition:  WLAN(DTS) MODE
Test Site:            SHIELD ROOM
Operator:             JC SHIN
Test Specification:   FCC PART15 B
Comment:              H
```

SCAN TABLE: "FCC CLASS B(H)"

Short Description: KN22 CLASS B

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak Average	10.0 ms	9 kHz	None
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak Average	10.0 ms	9 kHz	None
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak Average	10.0 ms	9 kHz	None



MEASUREMENT RESULT: "PHONE_fin QP"

2013-06-05 1:12오후

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.158001	54.40	9.8	66	11.2	---	---
0.242001	44.70	9.8	62	17.3	---	---
0.406001	41.40	9.8	58	16.4	---	---
0.988000	36.50	9.8	56	19.5	---	---
1.064000	36.60	9.8	56	19.4	---	---
1.136000	36.20	9.9	56	19.8	---	---
11.144000	34.40	10.5	60	25.6	---	---
12.840000	29.30	10.6	60	30.7	---	---
15.548000	29.00	10.8	60	31.0	---	---

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MEASUREMENT RESULT: "PHONE_fin AV"

2013-06-05 1:12오후

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.158001	42.60	9.8	56	13.0	---	---
0.242001	33.80	9.8	52	18.2	---	---
0.410001	27.80	9.8	48	19.8	---	---
0.780000	23.50	9.8	46	22.5	---	---
1.308000	25.40	9.9	46	20.6	---	---
4.048000	23.60	10.1	46	22.4	---	---
9.072000	23.50	10.4	50	26.5	---	---
10.916000	28.70	10.5	50	21.3	---	---
17.616000	6.30	10.8	50	43.7	---	---

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Conducted Emissions (Line 2)

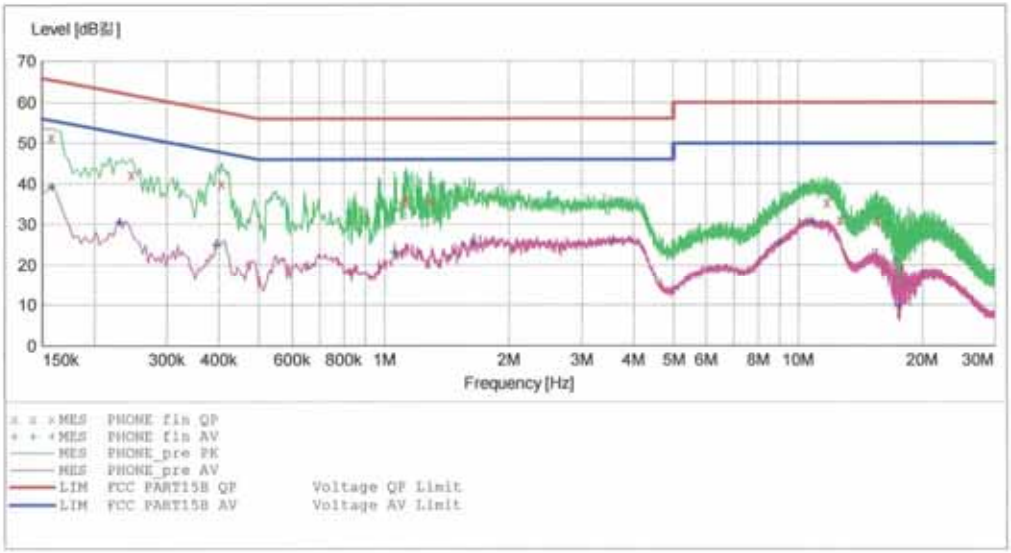
HCT

EMC

```
EUT:                    DS1203
Manufacturer:           LG
Operating Condition:    WLAN(DTS) MODE
Test Site:              SHIELD ROOM
Operator:               JC SHIN
Test Specification:     FCC PART15 B
Comment:                N
```

SCAN TABLE: "FCC CLASS B(N)"

```
  Short Description:                    KN22 CLASS B
  Start       Stop        Step        Detector   Meas.     IF       Transducer
  Frequency   Frequency   Width                  Time      Bandw.
  150.0 kHz   500.0 kHz   4.0 kHz     MaxPeak    10.0 ms   9 kHz    None
                                      Average
  500.0 kHz   5.0 MHz     4.0 kHz     MaxPeak    10.0 ms   9 kHz    None
                                      Average
  5.0 MHz     30.0 MHz    4.0 kHz     MaxPeak    10.0 ms   9 kHz    None
                                      Average
```



MEASUREMENT RESULT: "PHONE_fin QP"

2013-06-05 1:16오후

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.158001	51.40	10.0	66	14.2	---	---
0.246001	42.30	10.0	62	19.6	---	---
0.406001	40.10	10.0	58	17.7	---	---
1.120000	35.50	10.1	56	20.5	---	---
1.128000	36.20	10.1	56	19.8	---	---
1.292000	35.90	10.1	56	20.1	---	---
11.764000	35.40	10.8	60	24.6	---	---
12.664000	31.10	10.9	60	28.9	---	---
15.516000	31.10	11.1	60	28.9	---	---

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MEASUREMENT RESULT: "PHONE_fin AV"

2013-06-05 1:16오후

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.158001	39.20	10.0	56	16.3	---	---
0.230001	30.60	10.0	52	21.8	---	---
0.394001	24.80	10.0	48	23.2	---	---
1.060000	23.10	10.1	46	22.9	---	---
1.644000	25.40	10.1	46	20.6	---	---
3.584000	25.90	10.3	46	20.1	---	---
9.040000	25.60	10.6	50	24.4	---	---
10.788000	30.40	10.8	50	19.6	---	---
17.544000	9.80	11.1	50	40.2	---	---

9. LIST OF TEST EQUIPMENT

Manufacturer	Model / Equipment	Calibration Interval	Calibration Due	Serial No.
Rohde & Schwarz	ENV216/ LISN	Annual	02/06/2014	100073
Schwarzbeck	VULB 9160/ TRILOG Antenna	Biennial	12/17/2014	3150
Rohde & Schwarz	ESI 40 / EMI TEST RECEIVER	Annual	04/16/2014	831564103
Agilent	E4440A/ Spectrum Analyzer	Annual	04/25/2014	US45303008
Agilent	N9020A/ SIGNAL ANALYZER	Annual	05/14/2014	MY51110063
HD	MA240/ Antenna Position Tower	N/A	N/A	556
EMCO	1050/ Turn Table	N/A	N/A	114
HD GmbH	HD 100/ Controller	N/A	N/A	13
HD GmbH	KMS 560/ SlideBar	N/A	N/A	12
Rohde & Schwarz	SCU-18/ Signal Conditioning Unit	Annual	09/11/2013	10094
MITEQ	AMF-6B-180265-35-10P / POWER AMP	Annual	04/16/2014	667624
CERNEX	CBL26405040 / POWER AMP	Annual	04/16/2014	19660
Schwarzbeck	BBHA 9120D/ Horn Antenna	Biennial	10/17/2013	937
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	Biennial	10/30/2014	BBHA9170124
Rohde & Schwarz	FSP / Spectrum Analyzer	Annual	02/08/2014	839117/011
Agilent	E4416A /Power Meter	Annual	11/07/2013	GB41291412
Agilent	E9327A /POWER SENSOR	Annual	04/16/2014	MY4442009
Wainwright Instrument	WHF3.0/18G-10EF / High Pass Filter	Annual	02/08/2014	F6
Wainwright Instrument	WHNX6.0/26.5G-6SS / High Pass Filter	Annual	04/16/2014	1
Wainwright Instrument	WHNX7.0/18G-8SS / High Pass Filter	Annual	04/16/2014	29
Wainwright Instrument	WRCJ2400/2483.5-2370/2520-60/14SS / Band Reject Filter	Annual	03/19/2014	1
Hewlett Packard	11636B/Power Divider	Annual	11/07/2013	11377
Agilent	87300B/Directional Coupler	Annual	12/24/2013	3116A03621
Hewlett Packard	11667B / Power Splitter	Annual	05/29/2014	05001
DIGITAL	EP-3010 /DC POWER SUPPLY	Annual	11/07/2013	3110117
ITECH	IT6720 / DC POWER SUPPLY	Annual	11/07/2013	010002156287001199
TESCOM	TC-3000C / BLUETOOTH TESTER	Annual	04/24/2014	3000C000276
Rohde & Schwarz	CBT / BLUETOOTH TESTER	Annual	04/25/2014	100422
EMCO	6502.LOOP ANTENNA	Biennial	01/11/2014	9009-2536
CERNEX	CBLU1183540 / POWER AMP	Annual	07/27/2013	21691
Agilent	8493C / Attenuator(10 dB)	Annual	07/30/2013	76649
WEINSCHEL	2-3 / Attenuator(3 dB)	Annual	11/07/2013	BR0617