

Fig.A.6.1.61 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 7.5 GHz-10 GHz)

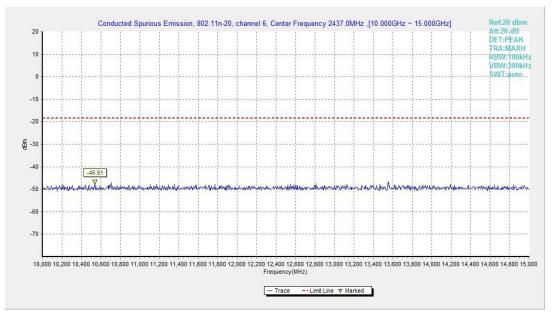


Fig.A.6.1.62 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 10 GHz-15 GHz)



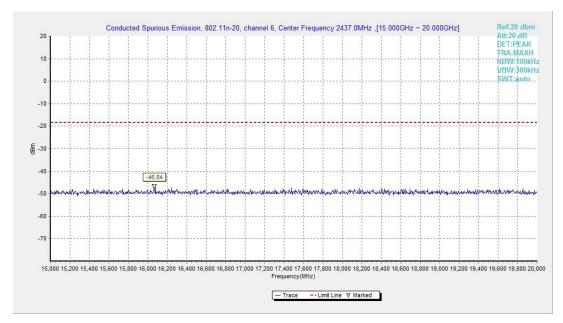


Fig.A.6.1.63 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 15 GHz-20 GHz)

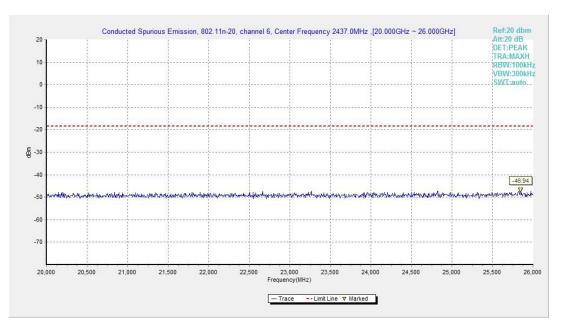


Fig.A.6.1.64 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 20 GHz-26 GHz)



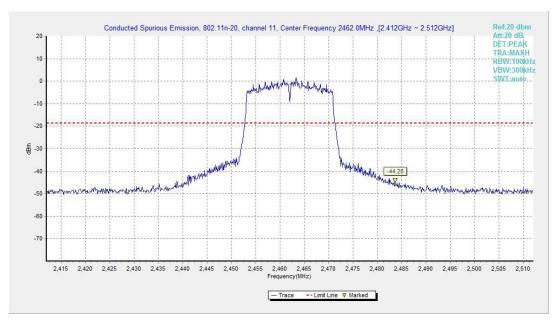


Fig.A.6.1.65 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, Center Frequency)

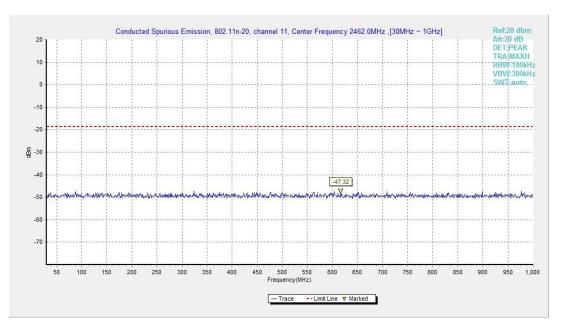


Fig.A.6.1.66 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 30 MHz-1 GHz)



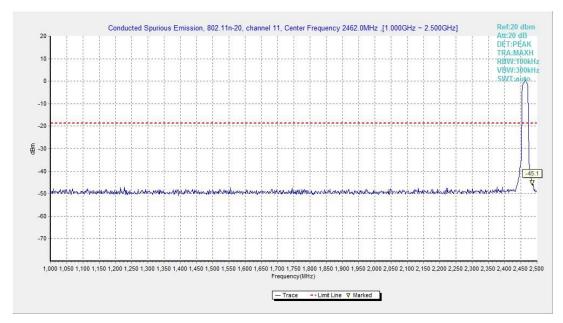


Fig.A.6.1.67 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 1 GHz-2.5 GHz)

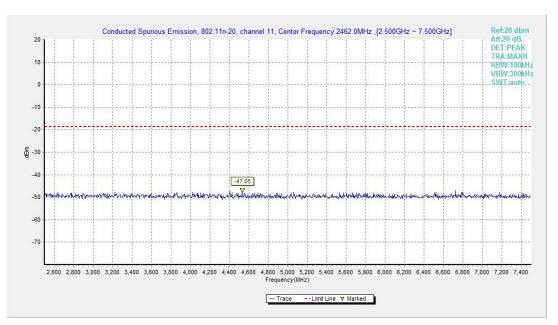


Fig.A.6.1.68 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 2.5 GHz-7.5 GHz)



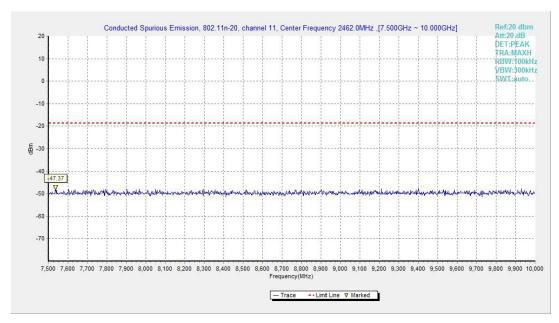


Fig.A.6.1.69 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 7.5 GHz-10 GHz)

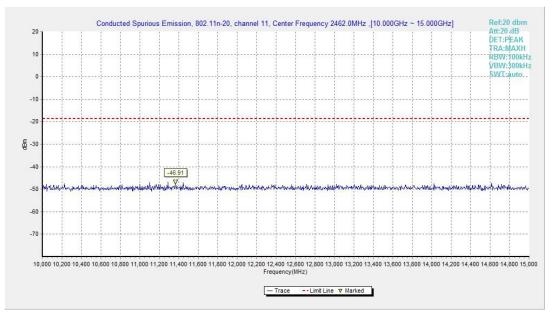


Fig.A.6.1.70 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 10 GHz-15 GHz)



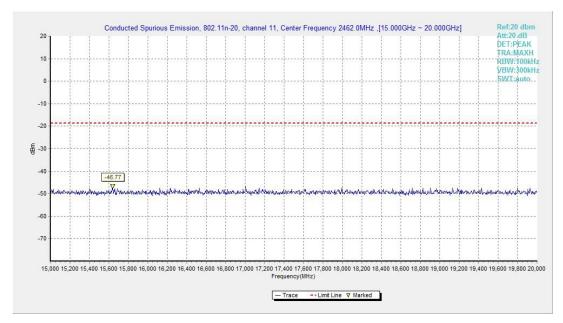


Fig.A.6.1.71 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 15 GHz-20 GHz)

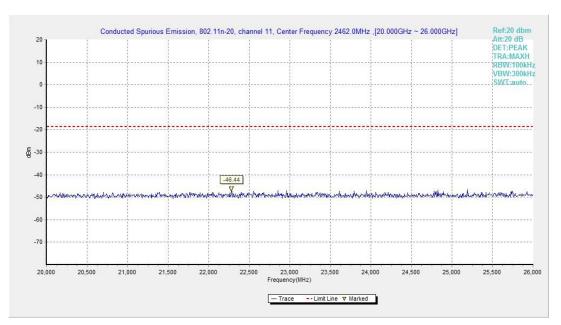


Fig.A.6.1.72 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 20 GHz-26 GHz)



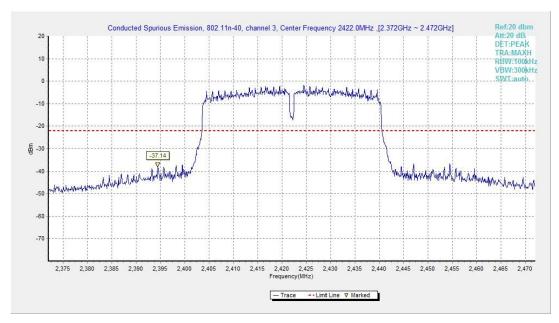


Fig.A.6.1.73 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, Center Frequency)

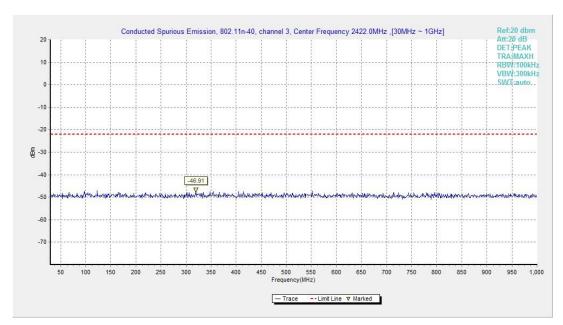


Fig.A.6.1.74 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 30 MHz-1 GHz)



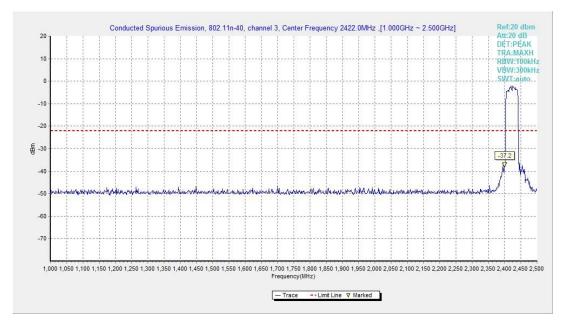


Fig.A.6.1.75 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 1 GHz-2.5 GHz)

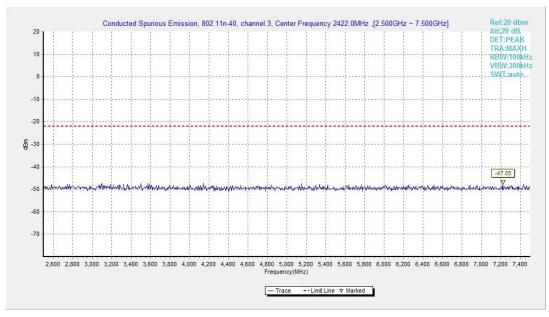


Fig.A.6.1.76 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 2.5 GHz-7.5 GHz)



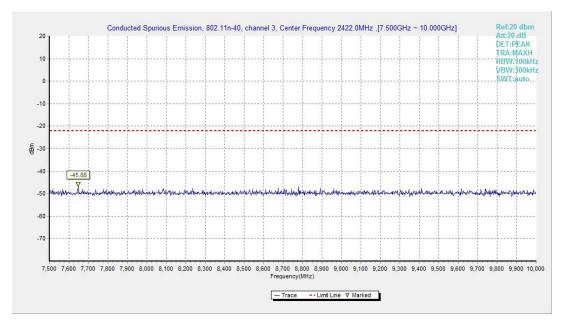


Fig.A.6.1.77 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 7.5 GHz-10 GHz)

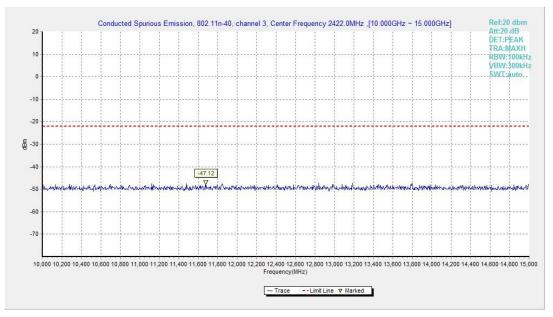


Fig.A.6.1.78 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 10 GHz-15 GHz)



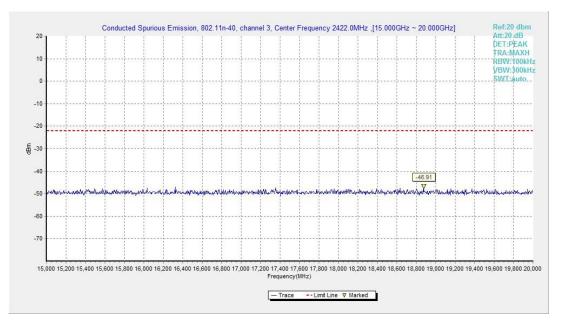


Fig.A.6.1.79 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 15 GHz-20 GHz)

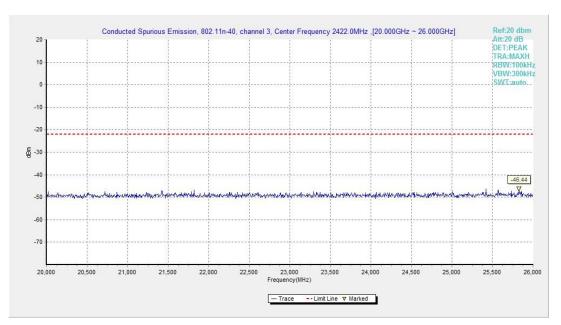


Fig.A.6.1.80 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 20 GHz-26 GHz)



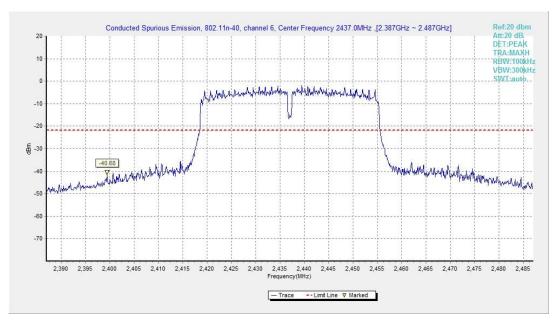


Fig.A.6.1.81 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, Center Frequency)

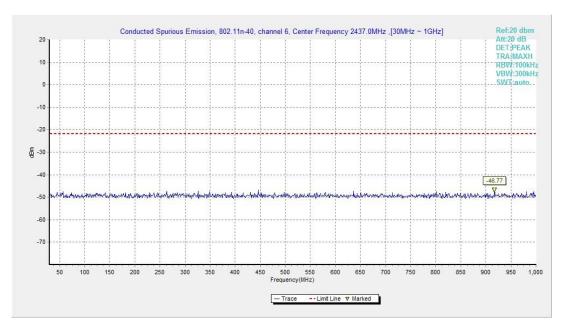


Fig.A.6.1.82 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 30 MHz-1 GHz)



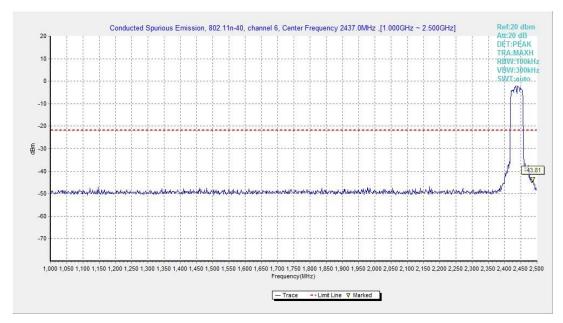


Fig.A.6.1.83 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 1 GHz-2.5 GHz)

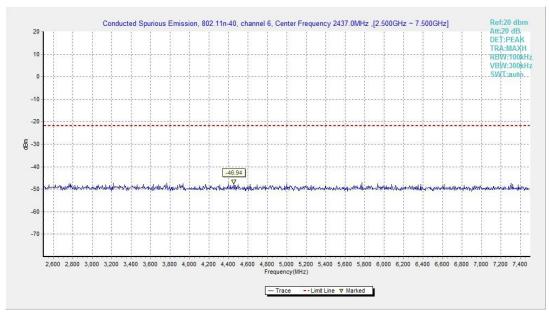


Fig.A.6.1.84 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 2.5 GHz-7.5 GHz)



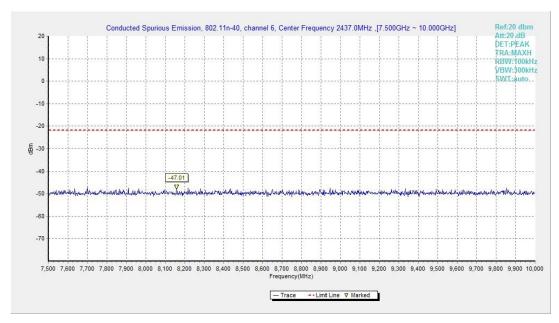


Fig.A.6.1.85 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)

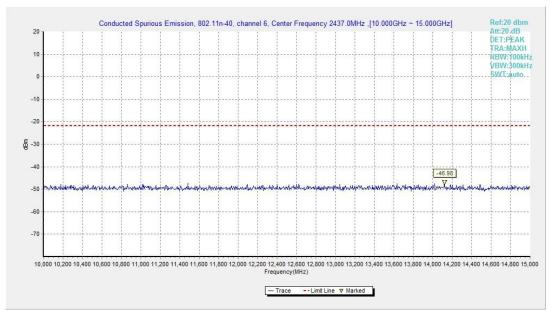


Fig.A.6.1.86 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 10 GHz-15 GHz)



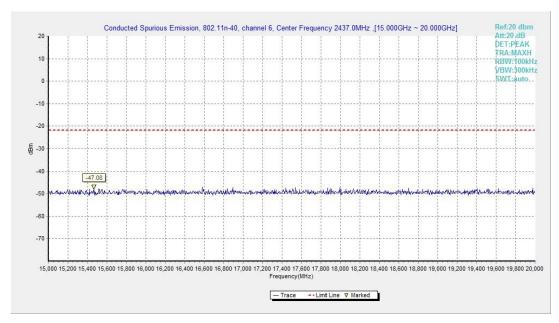


Fig.A.6.1.87 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 15 GHz-20 GHz)

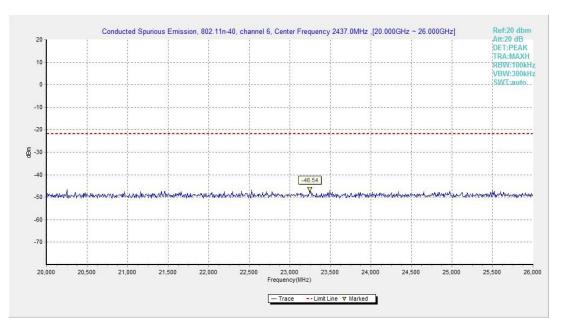


Fig.A.6.1.88 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 20 GHz-26 GHz)



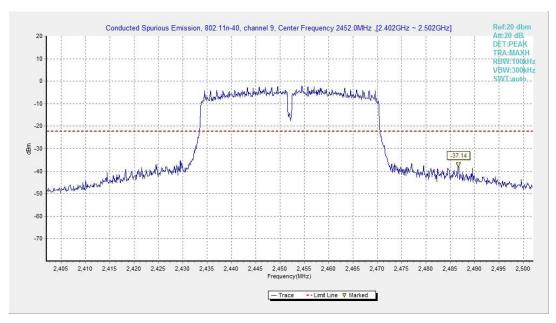


Fig.A.6.1.89 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, Center Frequency)

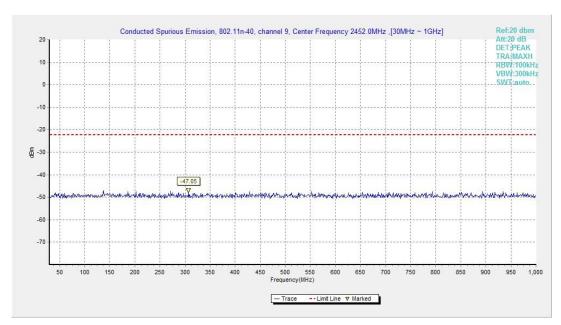


Fig.A.6.1.90 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 30 MHz-1 GHz)



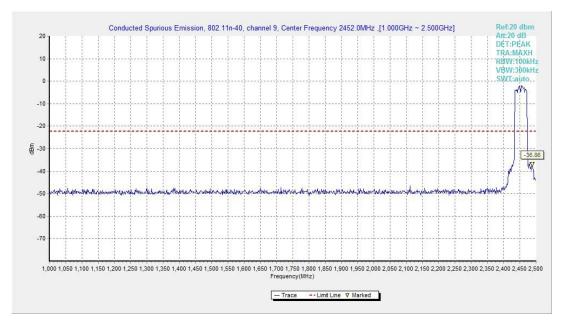


Fig.A.6.1.91 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)

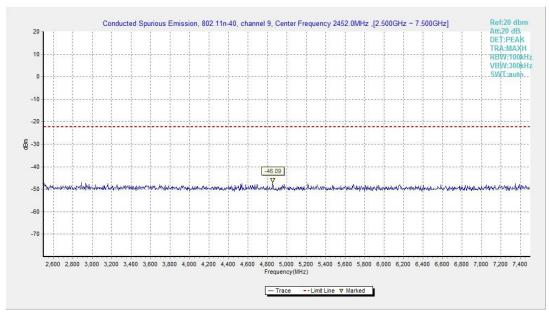


Fig.A.6.1.92 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 2.5 GHz-7.5 GHz)



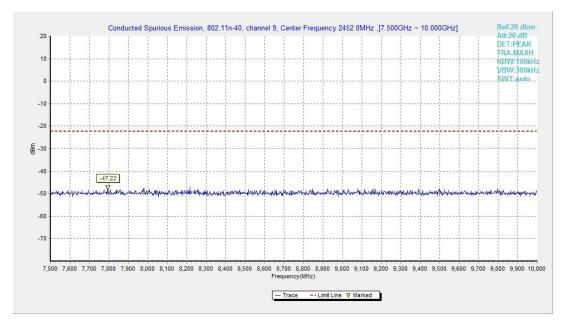


Fig.A.6.1.93 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)

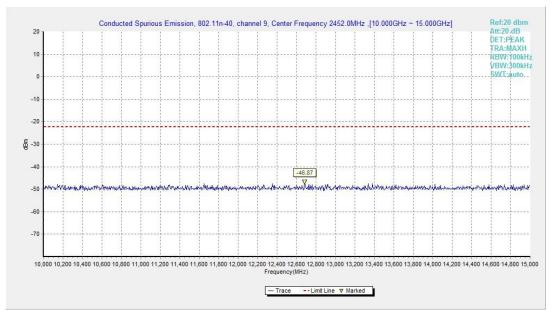


Fig.A.6.1.94 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 10 GHz-15 GHz)



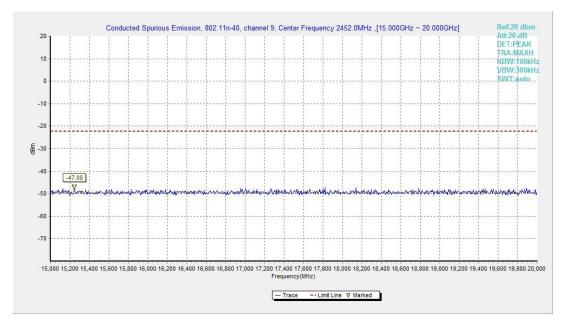


Fig.A.6.1.95 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 15 GHz-20 GHz)

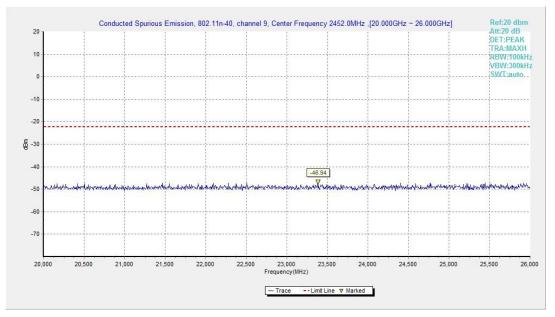


Fig.A.6.1.96 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 20 GHz-26 GHz)



### A.6.2 Transmitter Spurious Emission - Radiated

# Method of Measurement: See ANSI C63.10-2013-clause 6.4 &6.5 & 6.6 Measurement Limit:

Standard	Limit	
FCC 47 CFR Part 15.247, 15.205, 15.209	20dB below peak output power	

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

#### Limit in restricted band:

Frequency of emission	Field strength(uV/m)	Field strength(dBuV/m)
(MHz)		
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Frequency (MHz)	Field strength(µV/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

### **Test Condition**

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Frequency of emission	RBW/VBW	Sweep Time(s)
(MHz)		
30-1000	100KHz/300KHz	5
1000-4000	1MHz/1MHz	15
4000-18000	1MHz/1MHz	40
18000-26500	1MHz/1MHz	20

**EUT ID: EUT1** 



#### **Measurement Results:**

#### 802.11b mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power 2.38GHz ~2.43GHz		Fig.A.6.2.1	Р
002.110	Power	2.45GHz ~2.5GHz	Fig.A.6.2.2	Р

### 802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
902.11a	Power	2.38GHz ~2.43GHz	Fig.A.6.2.3	Р
802.11g	Power	2.45GHz ~2.5GHz	Fig.A.6.2.4	Р

### 802.11n mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n	Power	2.38GHz ~2.43GHz	Fig.A.6.2.5	Р
(20MHz)	Power	2.45GHz ~2.5GHz	Fig.A.6.2.6	Р
802.11n	Power	2.38GHz ~2.43GHz	Fig.A.6.2.7	Р
(40MHz)	Power	2.45GHz ~2.5GHz	Fig.A.6.2.8	Р

**Conclusion: Pass** 

#### Note:

A "reference path loss" is established and the  $A_{Rpl}$  is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

 $P_{\text{Mea}}$  is the field strength recorded from the instrument.

The measurement results are obtained as described below:

Result=P<sub>Mea</sub>+A<sub>Rpl=</sub> P<sub>Mea</sub>+Cable Loss+Antenna Factor

#### **PEAK**

### 802.11b

Fraguenov/MHz)	Result	Cable	Antenna	PMea	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2382.464	59.74	2.9	32.0	24.84	Н
2386.454	59.46	2.9	32.0	24.59	Н
4824.000	43.43	-32.8	34.5	41.68	V
7236.000	41.04	-31.7	36.1	36.67	V
9648.000	43.10	-30.4	37.0	36.42	V
12060.000	46.14	-29.6	39.3	36.46	V



Eroguanov/MHz)	Result	Cable	Antenna	PMea	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2369.800	49.8	-27.0	32.0	44.79	V
2566.400	51.5	-26.8	33.0	45.32	V
4874.250	40.99	-32.7	34.5	39.20	V
7311.000	41.76	-31.9	36.1	37.59	Н
9747.750	43.66	-30.7	37.2	37.14	Н
12185.250	45.79	-29.4	39.2	36.00	V

# Ch11

Fraguenov/MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2486.210	60.49	2.9	32.7	24.87	Н
2488.980	59.93	2.9	32.6	24.39	Н
4923.750	41.05	-33.1	34.5	39.63	Н
7386.000	42.60	-31.8	36.0	38.39	Н
9848.250	44.73	-30.1	37.3	37.48	Н
12310.500	45.46	-29.7	39.2	35.99	V

# 802.11g

# Ch1

Eroguenov/MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2385.082	59.40	2.9	32.0	24.52	П
2386.622	59.03	2.9	32.0	24.16	Н
4824.000	39.61	-32.8	34.5	37.86	V
7236.000	41.45	-31.7	36.1	37.09	П
9648.000	44.96	-30.4	37.0	38.28	Н
12060.000	47.96	-29.6	39.3	38.28	Н

Eroguanov/MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2360.800	49.60	-27.5	31.8	45.29	Н
2533.200	51.50	-26.8	32.8	45.48	Н
4874.250	39.79	-32.7	34.5	38.00	V
7311.000	41.25	-31.9	36.1	37.08	Н
9747.750	44.96	-30.7	37.2	38.44	Н
12185.250	46.39	-29.4	39.2	36.60	Н



Fraguenov/MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2483.790	61.84	2.9	32.8	26.16	Н
2483.990	61.68	2.9	32.7	26.00	Н
4923.750	41.07	-33.1	34.5	39.65	V
7386.000	43.14	-31.8	36.0	38.93	Н
9848.250	45.61	-30.1	37.3	38.35	Н
12310.500	45.13	-29.7	39.2	35.66	Н

### 802.11n-HT20

# Ch1

Eroguenov/MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2381.848	59.81	2.9	32.0	24.91	Н
2387.700	59.38	2.9	32.0	24.52	Н
4824.000	40.37	-32.8	34.5	38.62	V
7236.000	42.33	-31.7	36.1	37.97	Н
9648.000	45.67	-30.4	37.0	38.99	Н
12060.000	46.82	-29.6	39.3	37.14	Н

# Ch6

Fraguenov(MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2370.200	49.40	-27.0	32.0	44.37	Н
2530.200	50.91	-26.8	32.8	44.95	Н
4874.250	40.81	-32.7	34.5	39.02	V
7311.000	41.51	-31.9	36.1	37.34	Н
9747.750	45.03	-30.7	37.2	38.51	V
12185.250	46.07	-29.4	39.2	36.28	П

Frequency(MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
r requericy(ivii iz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2483.560	61.82	2.9	32.8	26.13	Н
2483.660	62.07	2.9	32.8	26.38	V
4923.750	39.58	-33.1	34.5	38.16	Н
7386.000	41.31	-31.8	36.0	37.11	Н
9848.250	45.38	-30.1	37.3	38.12	V
12309.750	46.70	-29.7	39.2	37.22	Н



### 802.11n-HT40

Ch3

Fraguenov/MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2388.050	65.46	2.9	32.0	30.60	Н
2389.688	65.48	2.9	32.0	30.63	Н
4844.250	40.11	-32.7	34.5	38.30	V
7266.000	41.80	-31.9	36.1	37.57	V
9687.750	44.62	-30.7	37.1	38.23	Н
12110.250	45.62	-29.5	39.3	35.85	Н

# Ch6

Fraguenov/MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2376.400	51.38	-26.6	32.1	45.84	Н
2541.800	50.81	-26.8	33.0	44.64	V
4874.250	41.44	-32.7	34.5	39.65	V
7311.000	41.63	-31.9	36.1	37.46	V
9747.750	44.52	-30.7	37.2	37.99	Н
12185.250	46.10	-29.4	39.2	36.31	Н

# Ch9

Fraguenov(MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2483.530	68.88	2.9	32.8	33.18	Н
2484.470	68.99	2.9	32.7	33.33	Н
4904.250	40.59	-32.9	34.5	38.99	П
7356.000	42.02	-31.9	36.1	37.86	Н
9807.750	44.32	-30.4	37.3	37.40	Н
12260.250	47.47	-29.6	39.2	37.85	V

# AVERAGE 802.11b

(NALL=)	Result	Cable	Antenna	$P_{Mea}$	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2385.200	46.48	2.9	32.0	11.60	Н
2386.700	46.57	2.9	32.0	11.70	V
4824.000	37.40	-32.8	34.5	35.65	V
7236.000	37.87	-31.7	36.1	33.50	Н
9648.000	40.45	-30.4	37.0	33.77	V
12060.000	43.35	-29.6	39.3	33.68	Н



Fraguenov(MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2411.100	47.12	2.9	31.8	12.43	V
2463.600	47.83	2.9	32.7	12.20	V
4873.500	35.41	-32.7	34.5	33.62	V
7311.000	37.69	-31.9	36.1	33.53	V
9748.500	40.09	-30.7	37.2	33.56	V
12184.500	43.63	-29.4	39.2	33.83	V

# Ch11

Fragues av/MII=)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2436.700	47.65	2.9	32.0	12.75	Н
2487.300	47.69	2.9	32.7	12.10	Н
4923.000	35.74	-33.1	34.5	34.32	V
7386.000	37.84	-31.8	36.0	33.63	Н
9847.500	40.93	-30.1	37.3	33.68	Н
12310.500	43.46	-29.7	39.2	33.99	Н

# 802.11g

# Ch1

Eroguenov/MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2380.300	46.36	2.9	32.1	11.44	П
2389.100	46.40	2.9	32.0	11.55	V
4824.000	35.30	-32.8	34.5	33.56	V
7236.000	37.86	-31.7	36.1	33.50	П
9648.000	40.31	-30.4	37.0	33.63	V
12060.000	43.35	-29.6	39.3	33.68	V

Fraguera (MIII-)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2412.400	46.49	2.9	31.8	11.80	Н
2474.500	47.38	2.9	33.0	11.47	Н
4873.500	35.41	-32.7	34.5	33.62	V
7311.000	37.71	-31.9	36.1	33.54	Н
9748.500	40.08	-30.7	37.2	33.55	Н
12184.500	43.66	-29.4	39.2	33.87	Н



Fragues av (MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m) Loss(dB) Factor (dBuV/m		(dBuV/m)		
2483.500	47.91	2.9	32.8	12.22	Н
2489.900	47.13	2.9	32.6	11.61	V
4924.500	35.38	-33.1	34.5	33.97	V
7386.000	37.92	-31.8	36.0	33.71	V
9847.500	40.85	-30.1	37.3	33.60	V
12310.500	43.45	-29.7	39.2	33.97	V

# 802.11n-HT20

### Ch1

Eroguenov(MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	m) Loss(dB) Factor (dBuV/m)			
2383.600	46.42	2.9	32.0	11.53	Н
2389.800	46.48	2.9	32.0	11.63	V
4824.000	35.30	-32.8	34.5	33.55	V
7236.000	37.89	-31.7	36.1	33.53	Н
9648.000	40.34	-30.4	37.0	33.66	Н
12060.000	43.40	-29.6	39.3	33.72	V

# Ch6

Frequency(MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
1 requericy(ivii iz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2412.300	46.63	2.9	31.8	11.95	Н
2461.700	47.80	2.9	32.7	12.23	Н
4873.500	35.43	-32.7	34.5	33.64	Н
7311.000	37.64	-31.9	36.1	33.48	٧
9748.500	40.05	-30.7	37.2	33.51	Н
12184.500	43.64	3.64 -29.4 39.2 33.85		V	

Frequency(MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	(dBuV/m) Loss(dB) Factor		(dBuV/m)	
2483.500	47.65	2.9	32.8	11.96	Н
2489.200	47.12	2.9	32.6	11.58	Н
4924.500	35.43	-33.1	34.5	34.02	V
7386.000	37.92	-31.8	36.0	33.72	Н
9847.500	40.81	-30.1	37.3	33.56	Н
12310.500	43.55	-29.7	39.2	34.07	Н



# 802.11n-HT40

# Ch3

Fraguenov/MHz)	Result	Cable	Antenna	$P_{Mea}$	Polarization
Frequency(MHz)	(dBuV/m)	(dBuV/m) Loss(dB) Factor (dBuV/m)		(dBuV/m)	
2388.200	47.58	2.9	32.0	12.72	Н
2390.000	47.68	2.9	32.0	12.83	V
4843.500	35.38	-32.7	34.5	33.57	V
7266.000	37.81	-31.9	36.1	33.58	Н
9688.500	40.08	-30.7	37.1	33.70	Н
12109.500	43.56	-29.5	39.3	33.79	Н

# Ch6

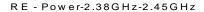
Frequency(MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHZ)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2409.900	49.28	2.9	31.8	14.58	Н
2470.100	50.20	2.9	32.9	14.41	V
4873.500	35.42	-32.7	34.5	33.63	Н
7311.000	37.71	-31.9	36.1	33.55	V
9748.500	40.10	40.10 -30.7 37.2 33.56		V	
12184.500	43.63	-29.4	39.2	33.84	Н

# Ch9

Fragues (MHz)	Result	Cable	Antenna	P <sub>Mea</sub>	Polarization
Frequency(MHz)	(dBuV/m)	Loss(dB)	Factor	(dBuV/m)	
2483.900	49.64	2.9	32.7	13.96	Н
2489.500	48.32	2.9	32.6	12.79	V
4903.500	35.60	-32.9	34.5	33.99	V
7356.000	37.93	-31.9	36.1	33.78	Н
9808.500	40.42	-30.3	37.3	33.50	V
12259.500	43.56	-29.6	39.2	33.94	Н

# Test graphs as below:





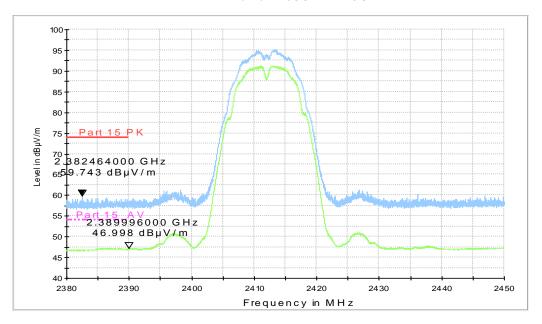
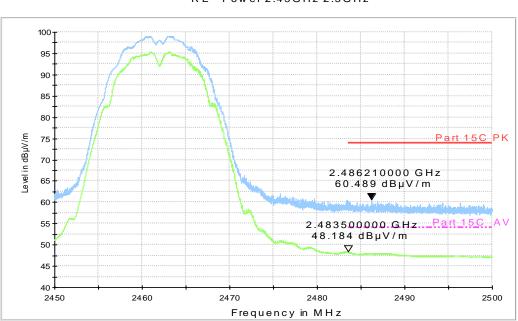


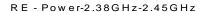
Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.38 GHz - 2.43GHz



RE-Power-2.45GHz-2.5GHz

Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz





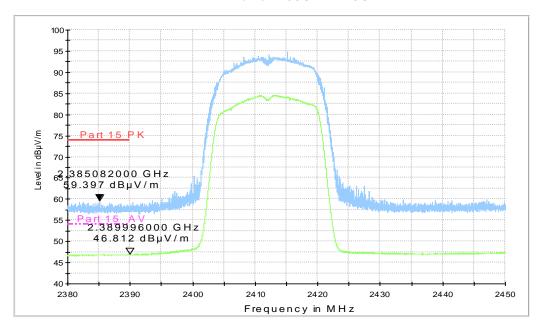
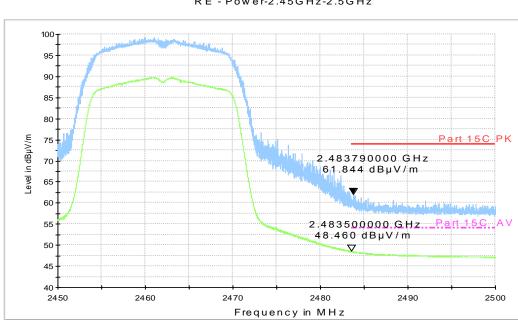


Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.38 GHz - 2.43GHz

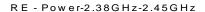


RE-Power-2.45GHz-2.5GHz

Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

3





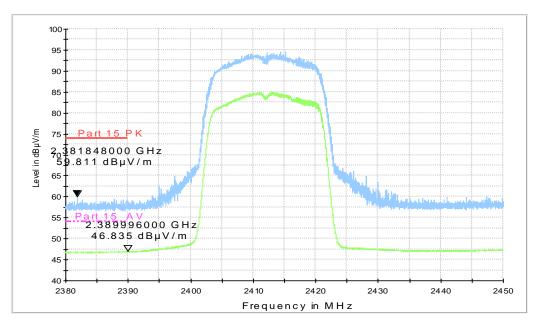


Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.38 GHz - 2.45GHz

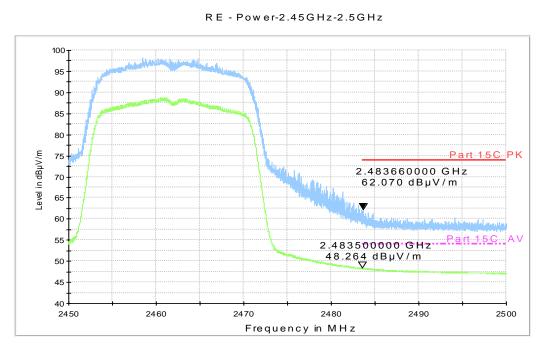
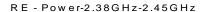
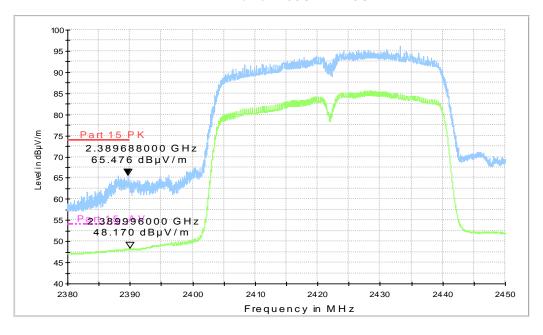


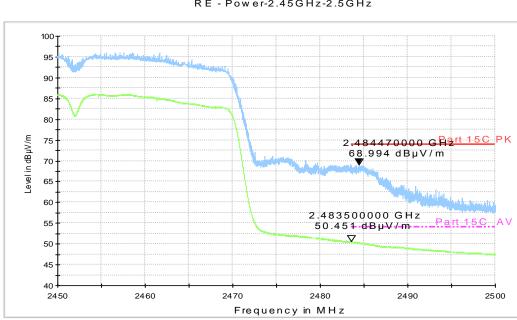
Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz







Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, Fig.A.6.2.7 2.38 GHz - 2.43GHz



RE-Power-2.45GHz-2.5GHz

Fig.A.6.2.8 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz



# A.7. AC Power-line Conducted Emission

#### Method of Measurement: See ANSI C63.10-2013-clause 6.2

- 1 The one EUT cable configuration and arrangement and mode of operation that produced the emission with the highest amplitude relative to the limit is selected for the final measurement, while applying the appropriate modulating signal to the EUT.
- 2 If the EUT is relocated from an exploratory test site to a final test site, the highest emissions shall be remaximized at the final test location before final ac power-line conducted emission measurements are performed.
- 3 The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment in the system) is then performed for the full frequency range for which the EUT is being tested for compliance without further variation of the EUT arrangement, cable positions, or EUT mode of operation.
- If the EUT is comprised of equipment units that have their own separate ac power connections, e.g., floor-standing equipment with independent power cords for each shelf that are able to connect directly to the ac power network, each current-carrying conductor of one unit is measured while the other units are connected to a second (or more) LISN(s). All units shall be separately measured. If a power strip is provided by the manufacturer, to supply all of the units making up the EUT, only the conductors in the power cord of the power strip shall be measured.
- If the EUT uses a detachable antenna, these measurements shall be made with a suitable dummy load connected to the antenna output terminals; otherwise, the tests shall be made with the antenna connected and, if adjustable, fully extended. When measuring the ac conducted emissions from a device that operates between 150 kHz and 30 MHz a non-detachable antenna may be replaced with a dummy load for the measurements within the fundamental emission band of the transmitter, but only for those measurements.36 Record the six highest EUT emissions relative to the limit of each of the current-carrying conductors of the power cords of the equipment that comprises the EUT over the frequency range specified by the procuring or regulatory agency. Diagram or photograph the test setup that was used. See Clause 8 for full reporting requirements.

#### **Test Condition:**

Voltage (V)	Frequency (Hz)
120	60



#### Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV) With charger	Conclusion
(11112)	Ziiiit (αΒμν)	802.11b	
0.15 to 0.5	66 to 56		
0.5 to 5	56	Fig.A.7.1	Р
5 to 30	60		

NOTE: The limit decreases linearly with the logarithm of the frequency in the range  $0.15\,\mathrm{MHz}$  to  $0.5\,\mathrm{MHz}$ .

WLAN (Average Limit)

Frequency range	Average Limit	Result (dBμV) With charger	Conclusion
(MHz)	(dBμV)	802.11b	
0.15 to 0.5	56 to 46		
0.5 to 5	46	Fig.A.7.1	Р
5 to 30	50		

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15~MHz to 0.5~MHz.

**Conclusion: Pass** 

### Test graphs as below:

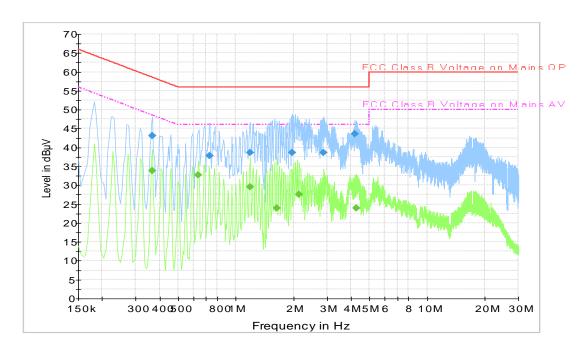


Fig.A.7.1 AC Powerline Conducted Emission-802.11b

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.



### Final Result 1

Frequen	QuasiPe	Mea	Bandwid	Filt	Lin	Cor	Margi	Limit	Comm
СУ	ak	S.	th	er	е	r.	n	(dBµ	ent
0.36600	43.1	200	9.000	On	L1	19.	15.5	58.6	
0.73050	37.8	200	9.000	On	Ν	19.	18.2	56.0	
1.18500	38.6	200	9.000	On	L1	19.	17.4	56.0	
1.96350	38.6	200	9.000	On	L1	19.	17.4	56.0	
2.86800	38.6	200	9.000	On	L1	19.	17.4	56.0	
4.20450	43.6	200	9.000	On	L1	19.	12.4	56.0	

### Final Result 2

Frequen	Avera	Mea	Bandwid	Filt	Lin	Cor	Margi	Limit	Comm
су	ge	s.	th	er	е	r.	n	(dBµ	ent
0.36600	33.8	200	9.000	On	L1	19.	14.8	48.6	
0.63600	32.6	200	9.000	On	L1	19.	13.4	46.0	
1.18500	29.5	200	9.000	On	L1	19.	16.5	46.0	
1.63950	23.9	200	9.000	On	L1	19.	22.1	46.0	
2.14350	27.6	200	9.000	On	L1	19.	18.4	46.0	
4.27650	24.0	200	9.000	On	L1	19.	22.0	46.0	



# **ANNEX B: Accreditation Certificate**

United States Department of Commerce National Institute of Standards and Technology



# Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 600118-0

### **Telecommunication Technology Labs, CAICT**

Beijing China

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

### **Electromagnetic Compatibility & Telecommunications**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2016-09-29 through 2017-09-30

Effective Dates



For the National Voluntary Laboratory Accreditation Program

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