VIII. Section 15.247 (C): Spurious Emissions (Radiated)

8.1 Test Condition & Setup

We'd performed the test by the *radiated emission* skill: The EUT was placed in an anechoic chamber, and set the EUT transmitting continuously and scanned at 3-meter distance to determine its emission characteristics. The physical arrangement of the EUT was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude, directivity, and frequency. The exact system configuration, which produced the highest emissions was noted so it could be reproduced later during the final tests. For the measurement above 1GHz, according to the guidance we'd set the spectrum analyzer's 6dB bandwidth RBW to 1MHz.

This was done to ensure that the final measurements would demonstrate the worst-case interference potential of the EUT.

Final radiation measurements were made on a three-meter, anechoic chamber. The EUT system was placed on a nonconductive turntable, which is 0.8 meters height, top surface 1.0 x 1.5 meter.

The spectrum was examined from 30MHz to 1000MHz using an Hewlett Packard 85460A EMI Receiver, SCHWARZECK whole range Small Biconical Antenna (Model No.: UBAA9114 & BBVU9135) is used to measure frequency from 30 MHz to 1GHz. The final test is used the HP 85460A spectrum and 8564E spectrum was examined from 1GHz to 25GHz using an Hewlett Packard Spectrum Analyzer, EMCO/HP Horn Antenna (Model 3115 / 84125-80008) for 1G - 25GHz.

At each frequency, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. There are two spectrum analyzers use on this testing, HP 85460A for frequency 30MHz to 1000MHz, and 8564E for frequency 1GHz to 25GHz. No post-detector video filters were used in the test. The spectrum analyzer's 6dB bandwidth was set to 120KHz (spectrum was examined from 30 MHz to 1000 MHz), the spectrum analyzer's 6 dB bandwidth was set to 1 MHz (spectrum was examined from 1GHz to 25GHz) and the analyzer was operated in the maximum hold mode. There is a test condition applies in this test item, the test procedure description as the following:

Three channels were tested, one in the top, one in the middle and the other in bottom. The setting up procedure is recorded on <1.3>

With the transmitter operating from a AC source and using the internal of EUT, radiates spurious emissions falling within the restricted bands of 15.209 were measured at operating frequencies corresponding to upper, middle and bottom channels in the 2400 ~ 2483.5 MHz band.

The actual field intensity in decibels referenced to 1 microvolt per meter (dBμV/m) is determined by algebraically adding the measured reading in dBμV, the antenna factor (dB), and cable loss (dB) at the appropriate frequency. Since the EUT was set to transmit continuously, no *duty cycle* is present.

For frequency between 30MHz to 1000MHz

FIa (dBuV/m) = FIr (dBμV) + Correction Factors

FIa : Actual Field Intensity

FIr : Reading of the Field Intensity

Correction Factors = Antenna Factor + (Cable Loss – Amplifier Gain) + Switching Box Loss

For frequency between 1GHz to 25GHz

FIa (dBμV/m) = FIr (dBμV) + Correction Factor

FIa : Actual Field Intensity

FIr : Reading of the Field Intensity

Correction Factors = Antenna Factor + (Cable Loss – Amplifier Gain) + Switching Box Loss

8.2 List of Test Instruments

Instrument Name	Model	Brand	Serial No.	Calibration Date Next time
EMI Receiver	8546A	HP	3520A00242	12/01/06
RF Filter Section	85460A	HP	3448A00217	12/01/06
Small Biconical Antenna	UBAA9114 & BBVU9135	SCHWARZECK	127	11/17/06
Pre-amplifier	PA1F	TRC	1FAC	05/20/07
Auto Switch Box (>30MHz)	ASB-01	TRC	9904-01	05/20/07
Coaxial Cable (Double shielded, 15 meter)	A30A30-0058-50FS-15M	JYEBAO	SMA-01	05/20/07
Coaxial Cable (1.1 meter)	A30A30-0058-50FS-1M	JYEBAO	SMA-02	05/20/07
Spectrum Analyzer	8564E	HP	3720A00840	11/07/06
Microwave Preamplifier	84125C	HP	US36433002	11/07/06
Horn Antenna	3115	EMCO	9104-3668	01/23/07
Standard Guide Horn Antenna	84125-80008	HP	18-26.5GHz	11/09/06
Standard Guide Horn Antenna	84125-80001	HP	26.5-40GHz	11/09/06
Horn Antenna	1196E (3115)	HP (EMCO)	9704-5178	01/26/07
Pre-amplifier	PA2F	TRC	2F1GZ	06/20/07
Coaxial Cable (3 miter)	A30A30-0058-50FST118	JYEBAO	MSA-05	06/20/07
Coaxial Cable (1 meter)	A30A30-0058-50FST118	JYEBAO	MSA-04	06/20/07

8.3 Test Result of Spurious Radiated Emissions

The highest peak values of radiated emissions form the EUT at various antenna heights, antenna polarizations, EUT orientation, etc. are recorded on the following.

Test Conditions: Temperature : 25 ° C Humidity : 73 % RH

Test mode: Standby mode for 30MHz to 1GHz [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ( )	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
77.29	22.02	1.00	178	0.90	22.92	40.00	-17.08
335.55	30.55	1.00	284	-2.88	27.67	46.00	-18.33
377.99	30.65	1.00	284	-1.86	28.79	46.00	-17.21
504.09	32.92	1.00	277	2.47	35.39	46.00	-10.61
750.23	24.91	1.00	158	10.19	35.10	46.00	-10.90
1000.00	22.56	1.00	254	17.40	39.96	54.00	-14.04

Test mode: Standby mode for 30MHz to 1GHz [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ( )	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
46.97	30.58	1.00	200	4.32	34.90	40.00	-5.10
289.47	33.58	1.00	336	-3.79	29.79	46.00	-16.21
335.55	33.20	1.00	115	-2.88	30.32	46.00	-15.68
502.87	28.90	1.00	180	2.41	31.31	46.00	-14.69
660.50	24.46	1.00	206	8.34	32.80	46.00	-13.20
750.23	29.25	1.00	72	10.19	39.44	46.00	-6.56

Note:

1. Margin = Amplitude – limit, *if margin is minus means under limit.*
2. Corrected Amplitude = Reading Amplitude + Correction Factors
3. Correction factor = Antenna factor + (Cable Loss – Amplitude gain) + Switching Box Loss

Test mode: Standby mode for 1GHz to 26.5GHz [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude*		*Correction Factor*	*Corrected Amplitude*		*Limit*		*Margin*
			Peak / Ave.			*Peak / Ave.*		*Peak / Ave.*		
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
8140.00	1.00	160	21.57	---	22.70	44.27	---	73.96	53.96	-9.69
11695.83	1.00	54	22.74	---	21.32	44.06	---	73.96	53.96	-9.90
19728.33	1.00	240	46.83	---	1.86	48.69	---	73.96	53.96	-5.27
21672.71	1.00	39	46.82	---	2.87	49.69	---	73.96	53.96	-4.27
24874.37	1.00	75	46.83	---	2.38	49.21	---	73.96	53.96	-4.75

Test mode: Standby mode for 1GHz to 26.5GHz [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude*		*Correction Factor*	*Corrected Amplitude*		*Limit*		*Margin*
			Peak / Ave.			*Peak / Ave.*		*Peak / Ave.*		
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
6213.33	1.00	93	25.91	---	18.49	44.40	---	73.96	53.96	-9.56
9613.33	1.00	0	21.90	---	23.04	44.94	---	73.96	53.96	-9.02
19873.54	1.00	281	45.49	---	1.90	47.39	---	73.96	53.96	-6.57
22444.79	1.00	114	46.99	---	3.79	50.78	---	73.96	53.96	-3.18
24980.62	1.00	308	48.32	---	2.76	51.08	---	73.96	53.96	-2.88

Note:

1. Margin = Corrected - Limit.
2. The EUT utilizes a *permanently attached antenna*. In addition the spurious RF radiated emissions levels do comply with the *20dBc limit* both at its bandedges and other spurious emissions.
3. As stated in Section 15.35(b), for any frequencies above 1000MHz, radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. As the results of our test, the peak amplitudes are already below the FCC limit. Thus the average amplitudes of the rest are omitted.

Test mode: IEEE 802.11b CH01 for 30MHz to 1GHz [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
335.55	37.25	1.00	347	-2.88	34.37	46.00	-11.63
483.47	32.36	1.00	60	1.81	34.17	46.00	-11.83
561.08	29.24	1.00	38	4.96	34.20	46.00	-11.80
641.10	27.39	1.00	69	7.76	35.15	46.00	-10.85
750.23	27.87	1.00	233	10.19	38.06	46.00	-7.94
792.66	24.58	1.00	302	11.73	36.31	46.00	-9.69

Test mode: IEEE 802.11b CH01 for 30MHz to 1GHz [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
69.11	28.17	1.00	77	1.38	29.55	40.00	-10.45
103.96	35.85	1.00	220	-1.25	34.60	43.50	-8.90
660.50	31.69	1.00	41	8.34	40.03	46.00	-5.97
750.23	30.33	1.00	34	10.19	40.52	46.00	-5.48
792.02	26.34	1.00	274	11.71	38.05	46.00	-7.95
924.03	25.43	1.00	302	15.23	40.66	46.00	-5.34

Test mode: IEEE 802.11b CH01 for 1GHz to 26.5GHz [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2337.50	1.00	223	38.00	---	9.03	47.03	---	73.96	53.96	-6.93
2477.08	1.00	223	38.50	---	9.43	47.93	---	73.96	53.96	-6.03
3216.67	1.00	2	37.50	---	11.47	48.97	---	73.96	53.96	-4.99
9650.42	1.00	188	35.44	---	11.47	46.91	---	73.96	53.96	-7.05
12061.04	1.00	294	37.44	---	9.81	47.25	---	73.96	53.96	-6.71
21708.12	1.00	36	47.49	---	2.87	50.36	---	73.96	53.96	-3.60

Test mode: IEEE 802.11b CH01 for 1GHz to 26.5GHz [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2300.00	1.00	355	45.18	35.17	8.93	54.11	41.10	73.96	53.96	-9.86
2543.75	1.00	358	39.84	---	9.57	49.41	---	73.96	53.96	-4.55
3216.67	1.00	355	37.83	---	11.47	49.30	---	73.96	53.96	-4.66
7233.75	1.00	192	36.28	---	10.07	46.35	---	73.96	53.96	-7.61
9650.42	1.00	179	36.61	---	11.47	48.08	---	73.96	53.96	-5.88
21708.12	1.00	23	47.57	---	2.87	50.44	---	73.96	53.96	-3.52

Test mode: IEEE 802.11b CH06 for 30MHz to 1GHz [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
334.34	37.18	1.00	334	-2.90	34.28	46.00	-11.72
504.09	31.98	1.00	69	2.47	34.45	46.00	-11.55
660.50	26.55	1.00	294	8.34	34.89	46.00	-11.11
750.23	26.62	1.00	232	10.19	36.81	46.00	-9.19
792.66	25.13	1.00	301	11.73	36.86	46.00	-9.14
924.83	22.93	1.00	100	15.24	38.17	46.00	-7.83

Test mode: IEEE 802.11b CH06 for 30MHz to 1GHz [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
66.22	28.99	1.00	262	1.60	30.59	40.00	-9.41
103.96	35.92	1.00	205	-1.25	34.67	43.50	-8.83
660.50	30.88	1.00	38	8.34	39.22	46.00	-6.78
750.23	30.56	1.00	17	10.19	40.75	46.00	-5.25
792.66	27.31	1.00	273	11.73	39.04	46.00	-6.96
924.03	25.71	1.00	135	15.23	40.94	46.00	-5.06

Test mode: IEEE 802.11b CH06 for 1GHz to 26.5GHz [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2527.08	1.00	212	37.00	---	9.54	46.54		73.96	53.96	-7.42
3250.00	1.00	297	37.17	---	11.63	48.80	---	73.96	53.96	-5.16
7312.29	1.00	180	36.44	---	10.30	46.74	---	73.96	53.96	-7.22
9747.08	1.00	243	34.94	---	11.89	46.83	---	73.96	53.96	-7.13
12187.92	1.00	150	39.94	---	9.74	49.68	---	73.96	53.96	-4.28
24371.46	1.00	140	46.19	---	3.26	49.45	---	73.96	53.96	-4.51

Test mode: IEEE 802.11b CH06 for 1GHz to 26.5GHz [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2379.99	1.00	250	44.81	34.50	9.15	53.96	43.65	73.96	53.96	-10.31
2500.01	1.00	250	44.34	33.17	9.49	53.83	42.66	73.96	53.96	-11.30
3250.00	1.00	218	36.50	---	11.63	48.13	---	73.96	53.96	-5.83
9747.08	1.00	34	35.10	---	11.89	46.99	---	73.96	53.96	-6.97
12187.92	1.00	206	39.27	---	9.74	49.01	---	73.96	53.96	-4.95
21934.79	1.00	53	46.22	---	3.09	49.31	---	73.96	53.96	-4.65

Test mode: IEEE 802.11b CH11 for 30MHz to 1GHz [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
335.55	37.69	1.00	337	-2.88	34.81	46.00	-11.19
504.09	31.64	1.00	240	2.47	34.11	46.00	-11.89
561.08	28.56	1.00	38	4.96	33.52	46.00	-12.48
750.23	27.33	1.00	233	10.19	37.52	46.00	-8.48
792.66	29.24	1.00	281	11.73	40.97	46.00	-5.03
924.83	23.52	1.00	89	15.24	38.76	46.00	-7.24

Test mode: IEEE 802.11b CH11 for 30MHz to 1GHz [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
66.22	37.67	1.00	180	1.60	30.11	40.00	-9.89
439.82	37.67	1.00	237	0.43	38.10	46.00	-7.90
660.02	31.43	1.00	315	8.32	39.75	46.00	-6.25
750.23	30.10	1.00	21	10.19	40.29	46.00	-5.71
792.66	26.83	1.00	7	11.73	38.56	46.00	-7.44
924.03	25.36	1.00	302	15.23	40.59	46.00	-5.41

Test mode: IEEE 802.11b CH11 for 1GHz to 26.5GHz [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2389.58	1.00	234	37.67	---	9.18	46.85	---	73.96	53.96	-7.11
2533.33	1.00	234	38.84	---	9.55	48.39	---	73.96	53.96	-5.57
3283.33	1.00	274	37.83	---	11.79	49.62	---	73.96	53.96	-4.34
7384.79	1.00	158	35.44	---	10.42	45.86	---	73.96	53.96	-8.10
9849.79	1.00	168	35.11	---	11.93	47.04	---	73.96	53.96	-6.92
19696.46	1.00	52	47.57	---	1.81	49.38	---	73.96	53.96	-4.58

Test mode: IEEE 802.11b CH11 for 1GHz to 26.5GHz [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2259.99	1.00	125	43.66	35.33	8.82	52.48	44.15	73.96	53.96	-9.81
2319.99	1.00	270	43.84	33.50	8.99	52.83	42.49	73.96	53.96	-11.47
2529.74	1.00	290	43.84	32.50	9.55	53.39	42.05	73.96	53.96	-11.91
9849.79	1.00	315	36.11	---	11.93	48.04	---	73.96	53.96	-5.92
12308.75	1.00	73	38.61	---	9.56	48.17	---	73.96	53.96	-5.79
19696.46	1.00	33	47.41	---	1.81	49.22	---	73.96	53.96	-4.74

Test mode: IEEE 802.11g CH01 for 30MHz to 1GHz [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
333.12	37.29	1.00	0	-2.92	34.37	46.00	-11.63
561.08	29.80	1.00	35	4.96	34.76	46.00	-11.24
641.10	28.40	1.00	52	7.76	36.16	46.00	-9.84
750.23	27.28	1.00	232	10.19	37.47	46.00	-8.53
792.83	24.95	1.00	24	11.73	36.68	46.00	-9.32
924.83	24.05	1.00	217	15.24	39.29	46.00	-6.71

Test mode: IEEE 802.11g CH01 for 30MHz to 1GHz [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
66.22	28.72	1.00	160	1.60	30.32	40.00	-9.68
103.96	36.16	1.00	173	-1.25	34.91	43.50	-8.59
504.09	31.47	1.00	170	2.47	33.94	46.00	-12.06
660.50	32.09	1.00	48	8.34	40.43	46.00	-5.57
750.23	30.28	1.00	27	10.19	40.47	46.00	-5.53
924.03	25.20	1.00	14	15.23	40.43	46.00	-5.57

Test mode: IEEE 802.11g CH01 for 1GHz to 26.5GHz [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2245.83	1.00	262	37.33	---	8.78	46.11	---	73.96	53.96	-7.85
2472.92	1.00	57	38.84	---	9.41	48.25	---	73.96	53.96	-5.71
3216.67	1.00	4	37.17	---	11.47	48.64	---	73.96	53.96	-5.32
7233.75	1.00	22	35.78	---	10.07	45.85	---	73.96	53.96	-8.11
9650.42	1.00	240	35.77	---	11.47	47.24	---	73.96	53.96	-6.72
21708.12	1.00	45	47.33	---	2.87	50.20	---	73.96	53.96	-3.76

Test mode: IEEE 802.11g CH01 for 1GHz to 26.5GHz [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2320.00	1.00	90	44.81	33.67	8.99	53.80	42.66	73.96	53.96	-11.30
2459.99	1.00	284	46.99	33.67	9.38	56.37	43.05	73.96	53.96	-10.91
7233.75	1.00	100	35.28	---	10.07	45.35	---	73.96	53.96	-8.61
9650.42	1.00	130	35.11	---	11.47	46.58	---	73.96	53.96	-7.38
12061.04	1.00	198	37.44	---	9.81	47.25	---	73.96	53.96	-6.71
19296.25	1.00	62	47.47	---	1.60	49.07	---	73.96	53.96	-4.89

Test mode: IEEE 802.11g CH06 for 30MHz to 1GHz [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
336.76	37.62	1.00	337	-2.87	34.75	46.00	-11.25
504.09	32.92	1.00	60	2.47	35.39	46.00	-10.61
641.10	27.64	1.00	48	7.76	35.40	46.00	-10.60
750.23	27.75	1.00	233	10.19	37.94	46.00	-8.06
792.66	27.49	1.00	343	11.73	39.22	46.00	-6.78
949.08	23.34	1.00	133	15.72	39.06	46.00	-6.94

Test mode: IEEE 802.11g CH06 for 30MHz to 1GHz [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
66.22	28.75	1.00	296	1.60	30.35	40.00	-9.65
101.54	35.65	1.00	185	-1.01	34.64	43.50	-8.86
660.50	30.62	1.00	204	8.34	38.96	46.00	-7.04
750.23	30.56	1.00	17	10.19	40.75	46.00	-5.25
792.66	26.55	1.00	280	11.73	38.28	46.00	-7.72
924.03	25.66	1.00	156	15.23	40.89	46.00	-5.11

Test mode: IEEE 802.11g CH06 for 1GHz to 26.5GHz [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2258.33	1.00	157	38.00	---	8.81	46.81	---	73.96	53.96	-7.15
2518.75	1.00	221	37.66	---	9.53	47.19	---	73.96	53.96	-6.77
3250.00	1.00	6	38.33	---	11.63	49.96	---	73.96	53.96	-4.00
9747.08	1.00	60	35.27	---	11.89	47.16	---	73.96	53.96	-6.80
12187.92	1.00	325	39.27	---	9.74	49.01	---	73.96	53.96	-4.95
21934.79	1.00	53	46.28	---	3.09	49.37	---	73.96	53.96	-4.59

Test mode: IEEE 802.11g CH06 for 1GHz to 26.5GHz [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2320.00	1.00	128	44.65	32.61	8.99	53.64	41.66	73.96	53.96	-12.30
2520.00	1.00	58	43.66	32.17	9.53	53.19	41.70	73.96	53.96	-12.26
3250.08	1.00	238	36.67	---	11.63	48.30	---	73.96	53.96	-5.66
7312.29	1.00	47	35.44	---	10.30	45.74	---	73.96	53.96	-8.22
9747.08	1.00	127	35.27	---	11.89	47.16	---	73.96	53.96	-6.80
12187.92	1.00	257	39.10	---	9.74	48.84	---	73.96	53.96	-5.12

Test mode: IEEE 802.11g CH11 for 30MHz to 1GHz [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
335.55	37.41	1.00	7	-2.88	34.53	46.00	-11.47
483.47	32.18	1.00	67	1.81	33.99	46.00	-12.01
641.10	26.00	1.00	55	7.76	33.76	46.00	-12.24
750.23	25.93	1.00	240	10.19	36.12	46.00	-9.88
792.66	24.93	1.00	213	11.73	36.66	46.00	-9.34
924.83	24.41	1.00	103	15.24	39.65	46.00	-6.35

Test mode: IEEE 802.11g CH11 for 30MHz to 1GHz [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
66.22	28.85	1.00	153	1.60	30.45	40.00	-9.55
103.96	35.88	1.00	193	-1.25	34.63	43.50	-8.87
660.50	30.76	1.00	267	8.34	39.10	46.00	-6.90
750.23	30.75	1.00	27	10.19	40.94	46.00	-5.06
792.66	26.37	1.00	281	11.73	38.10	46.00	-7.90
924.03	25.33	1.00	158	15.23	40.56	46.00	-5.44

Test mode: IEEE 802.11g CH11 for 1GHz to 26.5GHz [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2250.00	1.00	264	36.17	---	8.79	44.96	---	73.96	53.96	-9.00
2370.83	1.00	157	37.00	---	9.13	46.13	---	73.96	53.96	-7.83
3283.33	1.00	291	37.33	---	11.79	49.12	---	73.96	53.96	-4.84
9849.79	1.00	194	35.11	---	11.93	47.04	---	73.96	53.96	-6.92
12308.75	1.00	300	38.61	---	9.56	48.17	---	73.96	53.96	-5.79
24619.37	1.00	284	46.79	---	3.01	49.80	---	73.96	53.96	-4.16

Test mode: IEEE 802.11g CH11 for 1GHz to 26.5GHz [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2218.75	1.00	234	40.34	---	8.70	49.04	---	73.96	53.96	-4.92
2300.01	1.00	126	43.83	33.00	8.93	52.76	41.93	73.96	53.96	-12.03
2519.98	1.00	187	45.16	33.17	9.53	54.69	42.70	73.96	53.96	-11.26
7384.79	1.00	303	36.78	---	10.42	47.20	---	73.96	53.96	-6.76
9849.79	1.00	310	35.28	---	11.93	47.21	---	73.96	53.96	-6.75
12308.75	1.00	277	38.11	---	9.56	47.67	---	73.96	53.96	-6.29

Test mode: IEEE 802.11n 20M CH01 for 30MHz to 1GHz [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ( )	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
336.76	37.48	1.00	0	-2.87	34.61	46.00	-11.39
399.81	32.40	1.00	137	-1.21	31.19	46.00	-14.81
504.09	31.13	1.00	70	2.47	33.60	46.00	-12.40
660.50	26.62	1.00	295	8.34	34.96	46.00	-11.04
750.23	26.52	1.00	240	10.19	36.71	46.00	-9.29
792.66	25.20	1.00	274	11.73	36.93	46.00	-9.07

Test mode: IEEE 802.11n 20M CH01 for 30MHz to 1GHz [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ( )	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
66.21	28.95	1.00	100	1.60	30.55	40.00	-9.45
103.96	36.28	1.00	213	-1.25	35.03	43.50	-8.47
505.30	32.24	1.00	170	2.52	34.76	46.00	-11.24
660.50	31.04	1.00	41	8.34	39.38	46.00	-6.62
750.23	30.35	1.00	27	10.19	40.54	46.00	-5.46
924.03	25.12	1.00	21	15.23	40.35	46.00	-5.65

Test mode: IEEE 802.11n 20M CH01 for 1GHz to 26.5GHz [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2258.33	1.00	228	37.50	---	8.81	46.31	---	73.96	53.96	-7.65
2522.92	1.00	55	36.84	---	9.53	46.37	---	73.96	53.96	-7.59
3216.67	1.00	6	37.17	---	11.47	48.64	---	73.96	53.96	-5.32
9650.42	1.00	194	34.61	---	11.47	46.08	---	73.96	53.96	-7.88
12061.04	1.00	346	36.77	---	9.81	46.58	---	73.96	53.96	-7.38
21708.12	1.00	46	47.22	---	2.87	50.09	---	73.96	53.96	-3.87

Test mode: IEEE 802.11n 20M CH01 for 1GHz to 26.5GHz [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2320.00	1.00	130	45.34	34.67	8.99	54.33	43.66	73.96	53.96	-10.30
2459.99	1.00	275	46.67	34.67	9.38	56.05	44.05	73.96	53.96	-9.91
3216.67	1.00	252	36.50	---	11.47	47.97	---	73.96	53.96	-5.99
7233.75	1.00	283	35.28	---	10.07	45.35	---	73.96	53.96	-8.61
9650.42	1.00	198	35.27	---	11.47	46.74	---	73.96	53.96	-7.22
12061.04	1.00	159	36.77	---	9.81	46.58	---	73.96	53.96	-7.38

Test mode: IEEE 802.11n 20M CH06 for 30MHz to 1GHz [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
337.97	37.38	1.00	357	-2.85	34.53	46.00	-11.47
399.81	32.96	1.00	147	-1.21	31.75	46.00	-14.25
504.09	32.08	1.00	60	2.47	34.55	46.00	-11.45
641.10	28.17	1.00	66	7.76	35.93	46.00	-10.07
750.23	27.42	1.00	232	10.19	37.61	46.00	-8.39
924.83	24.67	1.00	135	15.24	39.91	46.00	-6.09

Test mode: IEEE 802.11n 20M CH06 for 30MHz to 1GHz [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
64.78	29.67	1.00	120	1.71	31.38	40.00	-8.62
100.32	35.56	1.00	220	-0.88	34.68	43.50	-8.82
504.09	32.01	1.00	157	2.47	34.48	46.00	-11.52
660.50	32.39	1.00	38	8.34	40.73	46.00	-5.27
750.23	30.17	1.00	24	10.19	40.36	46.00	-5.64
924.03	25.15	1.00	339	15.23	40.38	46.00	-5.62

Test mode: IEEE 802.11n 20M CH06 for 1GHz to 26.5GHz [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2258.33	1.00	218	37.17	---	8.81	45.98		73.96	53.96	-7.98
3250.00	1.00	224	36.50	---	11.63	48.13	---	73.96	53.96	-5.83
7312.29	1.00	66	35.11	---	10.30	45.41	---	73.96	53.96	-8.55
9747.08	1.00	167	35.60	---	11.89	47.49	---	73.96	53.96	-6.47
12187.92	1.00	180	38.10	---	9.74	47.84	---	73.96	53.96	-6.12
24371.46	1.00	149	46.37	---	3.26	49.63	---	73.96	53.96	-4.33

Test mode: IEEE 802.11n 20M CH06 for 1GHz to 26.5GHz [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2260.00	1.00	311	43.47	35.33	8.82	52.29	44.15	73.96	53.96	-9.81
2380.01	1.00	269	47.18	35.17	9.15	56.33	44.32	73.96	53.96	-9.64
2500.07	1.00	249	45.16	33.50	9.49	54.65	42.99	73.96	53.96	-10.97
9747.08	1.00	116	35.44	---	11.89	47.33	---	73.96	53.96	-6.63
12187.92	1.00	355	40.60	---	9.74	50.34	---	73.96	53.96	-3.62
21934.79	1.00	39	46.24	---	3.09	49.33	---	73.96	53.96	-4.63

Test mode: IEEE 802.11n 20M CH11 for 30MHz to 1GHz [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
128.21	35.10	1.00	23	-2.58	32.52	43.50	-10.98
336.76	37.50	1.00	343	-2.87	34.63	46.00	-11.37
504.09	32.33	1.00	69	2.47	34.80	46.00	-11.20
561.08	28.63	1.00	35	4.96	33.59	46.00	-12.41
660.50	29.19	1.00	59	8.34	37.53	46.00	-8.47
750.23	26.92	1.00	239	10.19	37.11	46.00	-8.89

Test mode: IEEE 802.11n 20M CH11 for 30MHz to 1GHz [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
64.81	30.27	1.00	153	1.71	31.98	40.00	-8.02
100.32	35.33	1.00	203	-0.88	34.45	43.50	-9.05
504.09	31.98	1.00	170	2.47	34.45	46.00	-11.55
660.50	30.30	1.00	41	8.34	38.64	46.00	-7.36
750.23	30.58	1.00	34	10.19	40.77	46.00	-5.23
924.03	25.10	1.00	21	15.23	40.33	46.00	-5.67

Test mode: IEEE 802.11n 20M CH11 for 1GHz to 26.5GHz [Horizontal]

Frequency	Ant. H.	Table	Amplitude Peak / Ave.		Correction Factor	Corrected Amplitude Peak / Ave.		Limit Peak / Ave.		Margin
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
2237.50	1.00	305	36.17	---	8.75	44.92	---	73.96	53.96	-9.04
2395.83	1.00	230	38.00	---	9.20	47.20	---	73.96	53.96	-6.76
3283.33	1.00	295	38.83	---	11.79	50.62	---	73.96	53.96	-3.34
7384.79	1.00	252	35.44	---	10.42	45.86	---	73.96	53.96	-8.10
9849.79	1.00	181	35.11	---	11.93	47.04	---	73.96	53.96	-6.92
12308.75	1.00	101	37.61	---	9.56	47.17	---	73.96	53.96	-6.79

Test mode: IEEE 802.11n 20M CH11for 1GHz to 26.5GHz [Vertical]

Frequency	Ant. H.	Table	Amplitude Peak / Ave.		Correction Factor	Corrected Amplitude Peak / Ave.		Limit Peak / Ave.		Margin
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
2297.92	1.00	242	42.67	---	8.92	51.59	---	73.96	53.96	-2.37
2519.98	1.00	259	43.85	34.17	9.53	53.38	43.70	73.96	53.96	-10.26
3283.33	1.00	232	36.83	---	11.79	48.62	---	73.96	53.96	-5.34
9849.79	1.00	117	35.28	---	11.93	47.21	---	73.96	53.96	-6.75
12308.75	1.00	68	38.27	---	9.56	47.83	---	73.96	53.96	-6.13
19696.46	1.00	39	47.47	---	1.81	49.28	---	73.96	53.96	-4.68

Test mode: IEEE 802.11n 40M CH03 for 30MHz to 1GHz [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
335.55	37.25	1.00	86	-2.88	34.37	46.00	-11.63
483.47	34.82	1.00	69	1.81	36.63	46.00	-9.37
641.10	33.10	1.00	69	7.76	40.86	46.00	-5.14
750.23	27.01	1.00	240	10.19	37.20	46.00	-8.80
792.66	25.81	1.00	336	11.73	37.54	46.00	-8.46
917.55	22.90	1.00	48	15.10	38.00	46.00	-8.00

Test mode: IEEE 802.11n 40M CH03 for 30MHz to 1GHz [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
64.78	30.99	1.00	208	1.71	32.70	40.00	-7.30
103.96	37.82	1.00	211	-1.25	36.57	43.50	-6.93
660.02	29.99	1.00	38	8.32	38.31	46.00	-7.69
750.23	28.91	1.00	59	10.19	39.10	46.00	-6.90
792.66	26.41	1.00	287	11.73	38.14	46.00	-7.86
924.03	24.89	1.00	315	15.23	40.12	46.00	-5.88

Test mode: IEEE 802.11n 40M CH03 for 1GHz to 26.5GHz [Horizontal]

Frequency	Ant. H.	Table	Amplitude Peak / Ave.		Correction Factor	Corrected Amplitude Peak / Ave.		Limit Peak / Ave.		Margin
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
2258.33	1.00	115	37.34	---	8.81	46.15	---	73.96	53.96	-7.81
2500.00	1.00	74	39.50	---	9.49	48.99	---	73.96	53.96	-4.97
3229.17	1.00	10	37.50	---	11.53	49.03	---	73.96	53.96	-4.93
9686.67	1.00	338	34.60	---	11.63	46.23	---	73.96	53.96	-7.73
12109.37	1.00	276	37.44	---	9.60	47.04	---	73.96	53.96	-6.92
19377.71	1.00	117	46.83	---	1.60	48.43	---	73.96	53.96	-5.53

Test mode: IEEE 802.11n 40M CH03 for 1GHz to 26.5GHz [Vertical]

Frequency	Ant. H.	Table	Amplitude Peak / Ave.		Correction Factor	Corrected Amplitude Peak / Ave.		Limit Peak / Ave.		Margin
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
2259.99	1.00	0	43.14	35.00	8.82	51.96	43.82	73.96	53.96	-10.14
2499.99	1.00	252	43.84	32.67	9.49	53.33	42.16	73.96	53.96	-11.80
7263.96	1.00	1	35.61	---	10.19	45.80	---	73.96	53.96	-8.16
9686.67	1.00	34	35.77	---	11.63	47.40	---	73.96	53.96	-6.56
12109.37	1.00	121	38.78	---	9.60	48.38	---	73.96	53.96	-5.58
24219.17	1.00	218	46.03	---	2.85	48.88	---	73.96	53.96	-5.08

Test mode: IEEE 802.11n 40M CH06 for 30MHz to 1GHz [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
335.55	37.22	1.00	0	-2.88	34.34	46.00	-11.66
483.47	34.47	1.00	60	1.81	36.28	46.00	-9.72
641.10	33.83	1.00	66	7.76	41.59	46.00	-4.41
750.23	25.43	1.00	239	10.19	35.62	46.00	-10.38
792.66	25.50	1.00	211	11.73	37.23	46.00	-8.77
924.83	24.39	1.00	87	15.24	39.63	46.00	-6.37

Test mode: IEEE 802.11n 40M CH06 for 30MHz to 1GHz [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
66.22	29.94	1.00	283	1.60	31.54	40.00	-8.46
100.32	37.49	1.00	202	-0.88	36.61	43.50	-6.89
660.02	30.91	1.00	34	8.32	39.23	46.00	-6.77
750.23	29.18	1.00	27	10.19	39.37	46.00	-6.63
792.66	26.57	1.00	82	11.73	38.30	46.00	-7.70
924.03	24.86	1.00	158	15.23	40.09	46.00	-5.91

Test mode: IEEE 802.11n 40M CH06 for 1GHz to 26.5GHz [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2308.33	1.00	171	38.00	---	8.95	46.95	---	73.96	53.96	-7.01
2506.25	1.00	272	36.17	---	9.50	45.67	---	73.96	53.96	-8.29
3250.00	1.00	25	36.67	---	11.63	48.30	---	73.96	53.96	-5.66
9747.08	1.00	192	35.10	---	11.89	46.99	---	73.96	53.96	-6.97
12187.92	1.00	0	39.27	---	9.74	49.01	---	73.96	53.96	-4.95
21934.79	1.00	57	46.22	---	3.09	49.31	---	73.96	53.96	-4.65

Test mode: IEEE 802.11n 40M CH06 for 1GHz to 26.5GHz [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2260.00	1.00	236	43.67	35.17	8.82	52.49	43.99	73.96	53.96	-9.97
2554.17	1.00	235	39.34	---	9.59	48.93	---	73.96	53.96	-5.03
3250.00	1.00	225	37.33	---	11.63	48.96	---	73.96	53.96	-5.00
7312.29	1.00	82	35.94	---	10.30	46.24	---	73.96	53.96	-7.72
9747.08	1.00	45	35.27	---	11.89	47.16	---	73.96	53.96	-6.80
12187.92	1.00	91	39.44	---	9.74	49.18	---	73.96	53.96	-4.78

Test mode: IEEE 802.11n 40M CH09 for 30MHz to 1GHz [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
335.55	37.66	1.00	17	-2.88	34.78	46.00	-11.22
483.47	33.93	1.00	10	1.81	35.74	46.00	-10.26
641.10	33.10	1.00	66	7.76	40.86	46.00	-5.14
750.23	26.30	1.00	232	10.19	36.49	46.00	-9.51
792.66	24.95	1.00	211	11.73	36.68	46.00	-9.32
924.83	23.47	1.00	100	15.24	38.71	46.00	-7.29

Test mode: IEEE 802.11n 40M CH09 for 30MHz to 1GHz [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
66.22	29.77	1.00	211	1.60	31.37	40.00	-8.63
103.96	37.08	1.00	182	-1.25	35.83	43.50	-7.67
660.02	30.96	1.00	357	8.32	39.28	46.00	-6.72
750.23	28.56	1.00	62	10.19	38.75	46.00	-7.25
792.66	26.25	1.00	267	11.73	37.98	46.00	-8.02
924.03	24.86	1.00	158	15.23	40.09	46.00	-5.91

Test mode: IEEE 802.11n 40M CH09for 1GHz to 26.5GHz [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2318.75	1.00	143	37.50	---	8.98	46.48	---	73.96	53.96	-7.48
2541.67	1.00	85	39.33	---	9.57	48.90	---	73.96	53.96	-5.06
3268.75	1.00	341	38.67	---	11.72	50.39	---	73.96	53.96	-3.57
9807.50	1.00	360	34.27	---	11.92	46.19	---	73.96	53.96	-7.77
12260.42	1.00	248	37.28	---	9.86	47.14	---	73.96	53.96	-6.82
24520.21	1.00	44	46.74	---	2.37	49.11	---	73.96	53.96	-4.85

Test mode: IEEE 802.11n 40M CH09 for 1GHz to 26.5GHz [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2319.99	1.00	130	43.15	34.50	8.99	52.14	43.49	73.96	53.96	-10.47
2566.67	1.00	259	40.83	---	9.62	50.45	---	73.96	53.96	-3.51
3268.75	1.00	232	36.83	---	11.72	48.55	---	73.96	53.96	-5.41
7354.58	1.00	266	35.11	---	10.39	45.50	---	73.96	53.96	-8.46
9807.50	1.00	18	34.77	---	11.92	46.69	---	73.96	53.96	-7.27
24520.21	1.00	40	46.68	---	2.37	49.05	---	73.96	53.96	-4.91

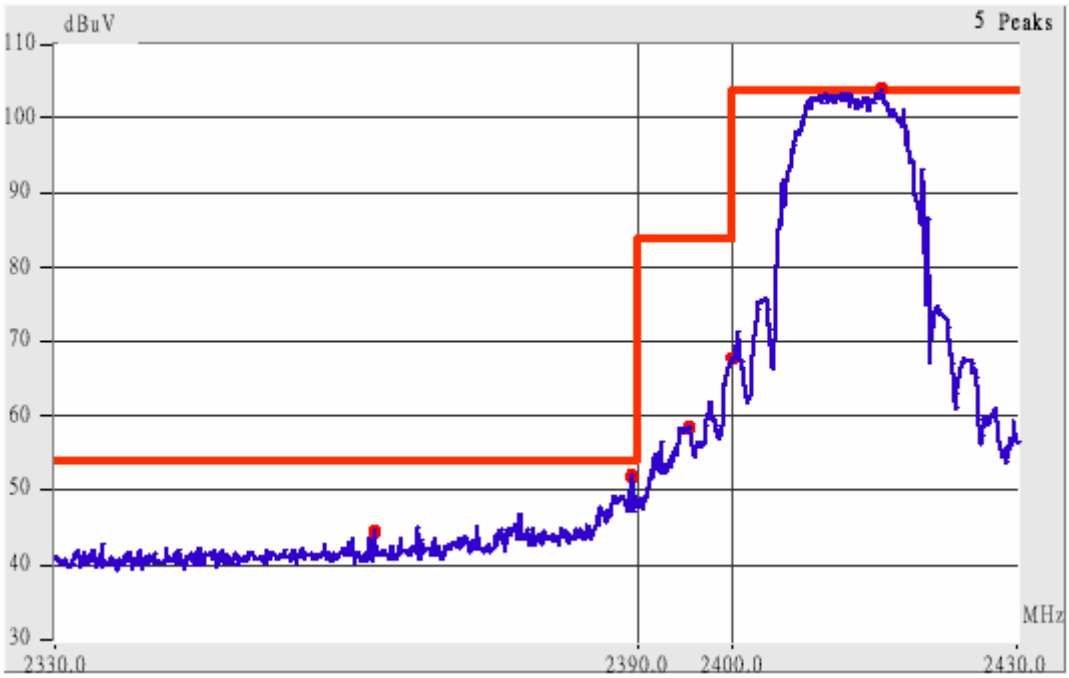
8.4 Test Result of the Bandedge

If any 100 kHz bandwidth outside these frequency bands, the radio frequency power that is produced by the modulation products of the spreading sequence, the information sequence and the carrier frequency shall be either *at least 20 dB below that in any 100 kHz bandwidth within the band that contains the highest level of the desired power or shall not exceed the general levels specified id §15.209(a)*,

We perform this section by the *radiated manner*, the RBW is set to 100kHz and VBW>RBW. We'd made the observation *up to 10th harmonics and the criterion is all the harmonic/spurious emissions must be 20dB below the highest emission level measured.* If the emissions fall in the restricted bands stated in the Part15.205(a) must also *comply with the radiated emission limits specified in Part15.209(a). (Peak mode: RBW=VBW=1MHz, Average mode: RBW=1MHz; VBW=10Hz)*

The following pages show our observations referring to the channel 1 and 11 respectively.
Test Condition & Setup: same as < 8.1 >

Channel 1 of IEEE 802.11b



This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

1. The lobe left by the fundamental side is already 20dB below the highest emission level.
2. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

Radiated Emission					*Corrected Amplitude (dBμV/m)*		*Class B (3m)*		
Frequency (MHz)	*Ant. P.*	*Ant. H. (m)*	*Table ( )*	*Factors (dB)*	*Peak*	*Average*	*Limit (dBμV/m)* *Peak*	*Ave.*	*Margin (dB)*
2387.53	Hor	1.00	201	9.18	51.51	---	73.96	53.96	-2.45
2390.54	Hor	1.00	205	9.18	53.52	42.85	73.96	53.96	-11.11
2386.02	Ver	1.00	214	9.17	59.34	48.00	73.96	53.96	-5.96
2389.48	Ver	1.00	101	9.18	60.35	49.68	73.96	53.96	-4.28

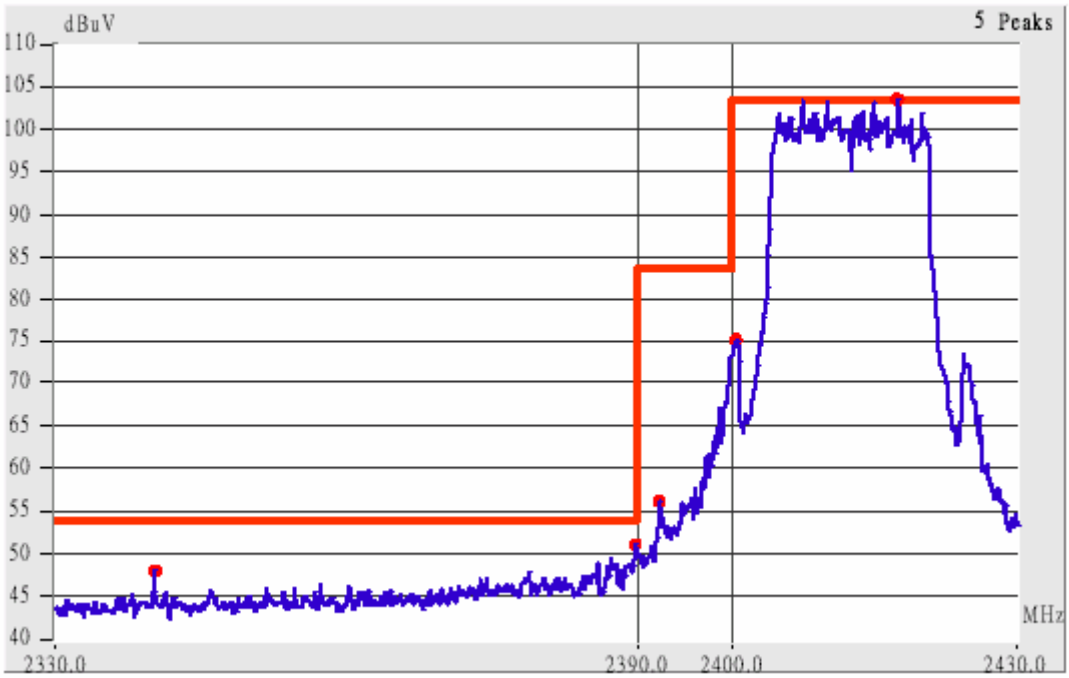
Channel 11 of IEEE 802.11b

This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 11.

3. The lobe right by the fundamental side is already 20dB below the highest emission level.
4. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below

Radiated Emission					***Corrected Amplitude (dBμV/m)***		***Class B (3m)***		
Frequency (MHz)	***Ant. P.***	***Ant. H. (m)***	***Table ( )***	***Factors (dB)***	***Peak***	***Average***	***Limit (dBμV/m)***		***Margin (dB)***
							Peak	***Ave.***	
2482.78	Hor	1.00	306	9.44	52.28	45.77	73.96	53.96	-8.19
2485.01	Hor	1.00	304	9.45	52.95	42.28	73.96	53.96	-11.68
2482.88	Ver	1.00	329	9.44	60.11	51.94	73.96	53.96	-2.02
2487.57	Ver	1.00	29	9.46	57.46	46.63	73.96	53.96	-7.33
2499.97	Ver	1.00	326	9.49	55.66	43.99	73.96	53.96	-9.97
2507.77	Ver	1.00	328	9.50	56.34	43.33	73.96	53.96	-10.63

Channel 1 of IEEE 802.11g

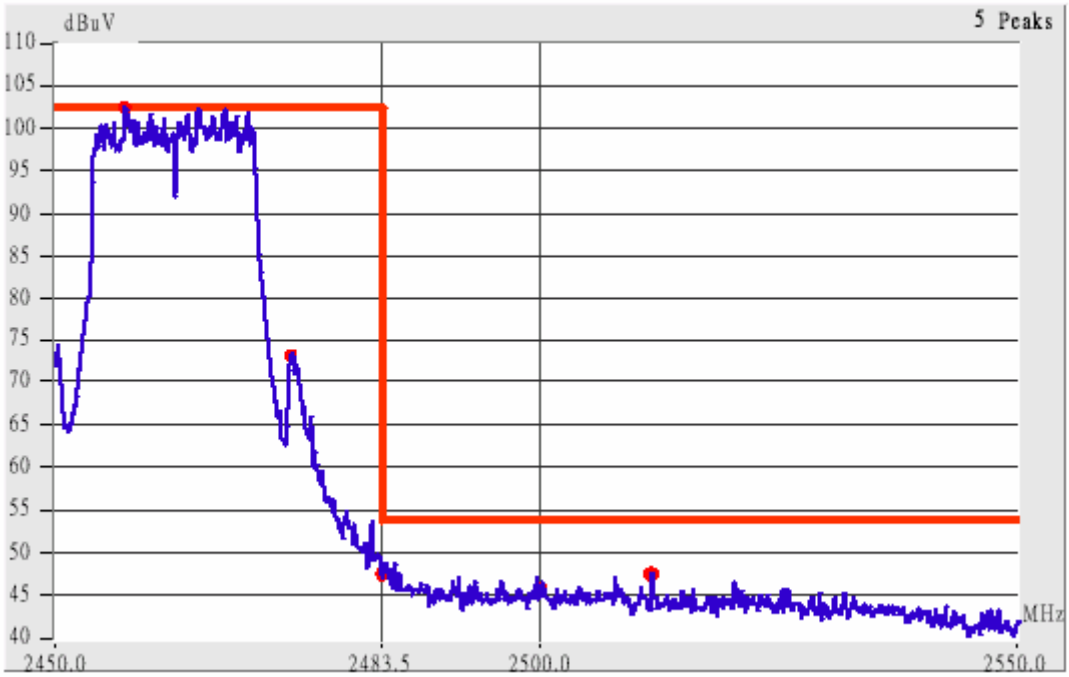


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

5. The lobe left by the fundamental side is already 20dB below the highest emission level.
6. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

Radiated Emission					*Corrected Amplitude (dBμV/m)*		*Class B (3m)*		
Frequency (MHz)	*Ant. P.*	*Ant. H. (m)*	*Table ( )*	*Factors (dB)*	*Peak*	*Average*	*Limit (dBμV/m) Peak*	*Limit (dBμV/m) Ave.*	*Margin (dB)*
2386.17	Hor	1.00	70	9.17	50.84	---	73.96	53.96	-3.12
2390.43	Hor	1.00	68	9.18	53.02	39.51	73.96	53.96	-14.45
2386.11	Ver	1.00	145	9.17	61.00	45.17	73.96	53.96	-8.79
2389.96	Ver	1.00	102	9.18	63.68	46.01	73.96	53.96	-7.95

Channel 11 of IEEE 802.11g

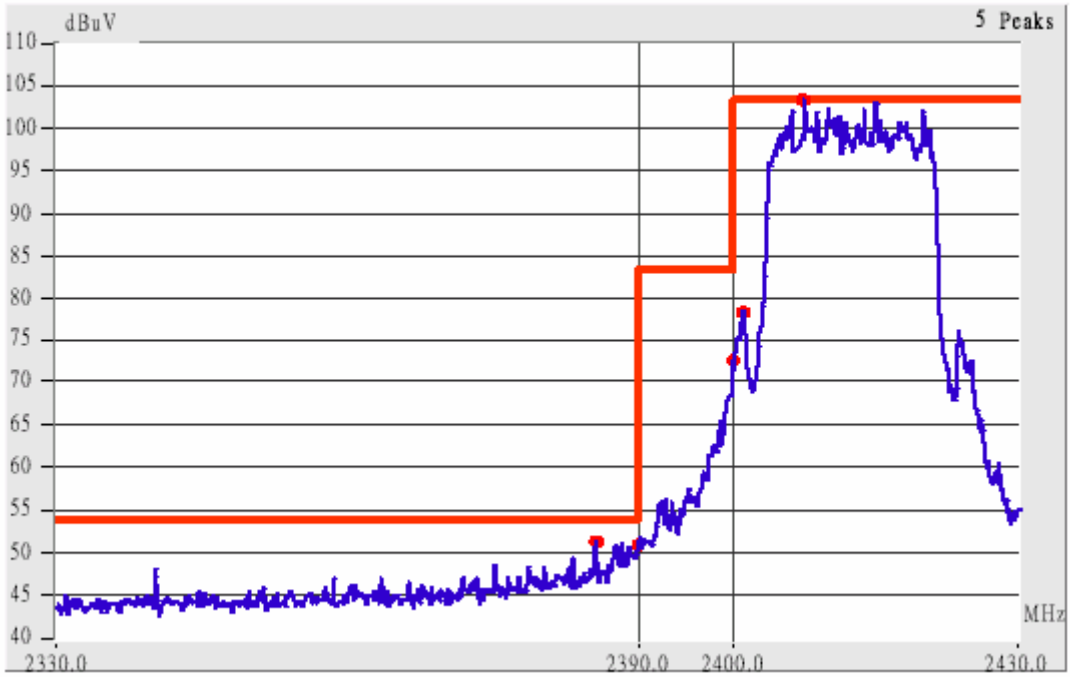


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 11.

7. The lobe right by the fundamental side is already 20dB below the highest emission level.
8. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below

Radiated Emission					*Corrected Amplitude (dBμV/m)*		*Class B (3m)*		
Frequency (MHz)	*Ant. P.*	*Ant. H. (m)*	*Table ( )*	*Factors (dB)*	*Peak*	*Average*	*Limit (dBμV/m)* *Peak*	*Ave.*	*Margin (dB)*
2483.90	Hor	1.00	330	9.44	53.94	39.27	73.96	53.96	-14.69
2486.59	Hor	1.00	195	9.45	49.45	---	73.96	53.96	-4.51
2483.86	Ver	1.00	305	9.44	61.78	45.44	73.96	53.96	-8.52
2487.29	Ver	1.00	310	9.45	60.79	43.78	73.96	53.96	-10.18
2499.99	Ver	1.00	316	9.49	54.99	43.49	73.96	53.96	-10.47
2508.26	Ver	1.00	267	9.51	56.84	42.84	73.96	53.96	-11.12

Channel 01 of IEEE 802.11n 20M

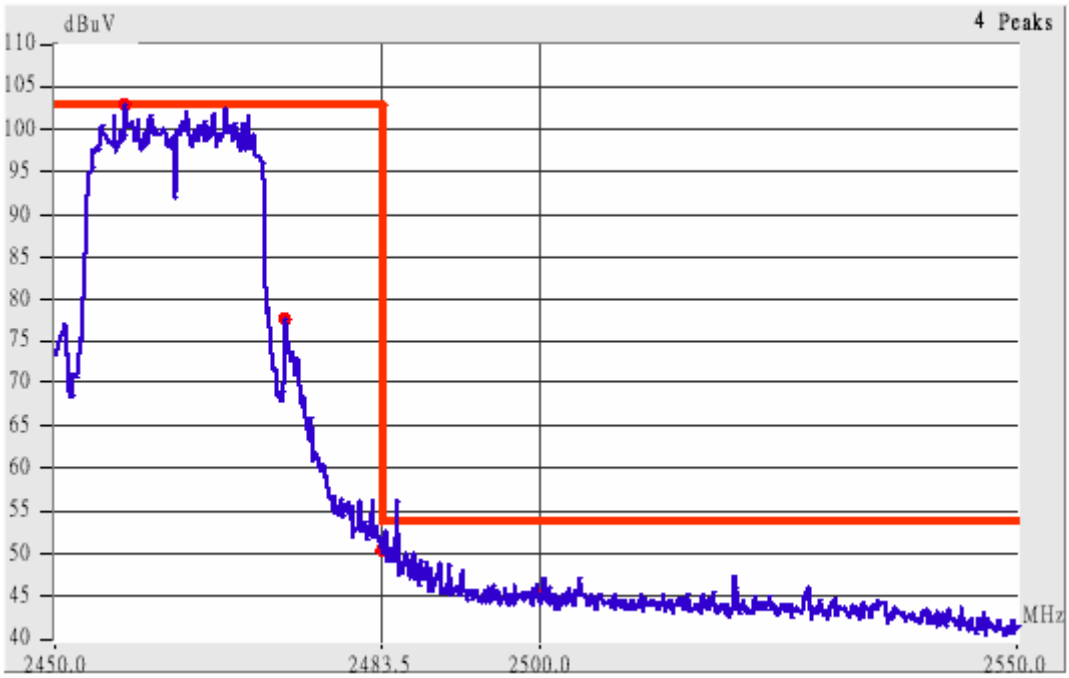


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

9. The lobe left by the fundamental side is already 20dB below the highest emission level.
10. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

Radiated Emission					***Corrected Amplitude (dBμV/m)***		***Class B (3m)***		
Frequency (MHz)	***Ant. P.***	***Ant. H. (m)***	***Table ( )***	***Factors (dB)***	***Peak***	***Average***	***Limit (dBμV/m)***		***Margin (dB)***
							Peak	***Ave.***	
2386.93	Hor	1.00	198	9.18	50.84	---	73.96	53.96	-3.12
2390.40	Hor	1.00	126	9.18	54.68	40.68	73.96	53.96	-13.28
2386.34	Ver	1.00	114	9.17	62.01	46.50	73.96	53.96	-7.46
2390.40	Ver	1.00	94	9.18	63.02	49.18	73.96	53.96	-4.78

Channel 11 of IEEE 802.11n 20M



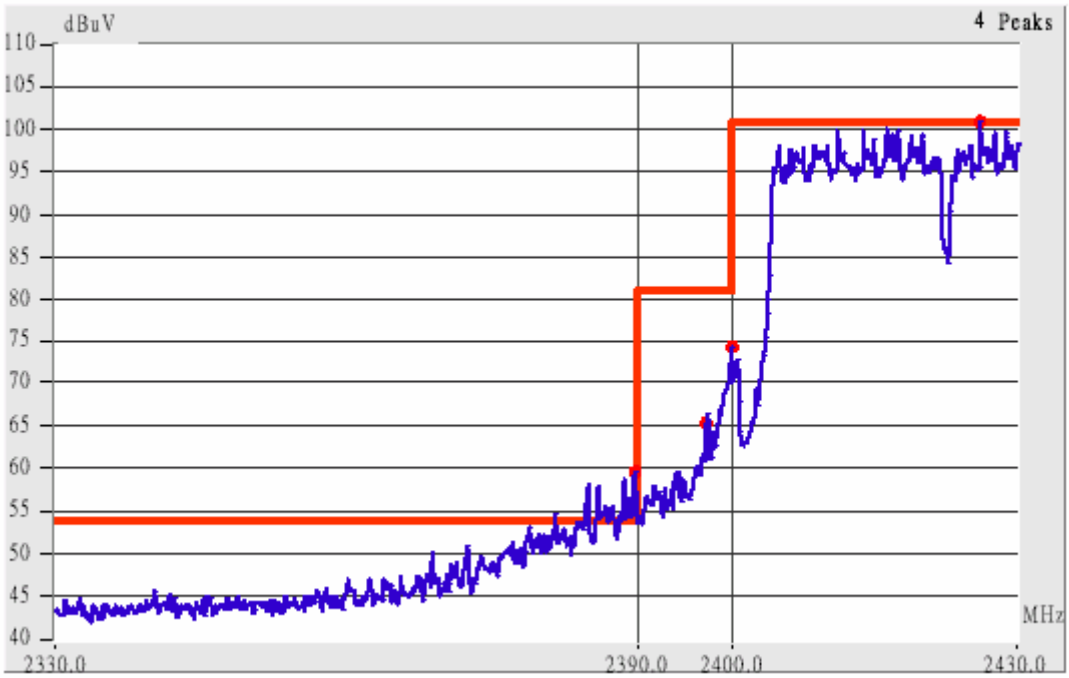
This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 11.

11.The lobe right by the fundamental side is already 20dB below the highest emission level.

12.The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below

Radiated Emission					*Corrected Amplitude (dBμV/m)*		*Class B (3m)*		
Frequency (MHz)	*Ant. P.*	*Ant. H. (m)*	*Table ( )*	*Factors (dB)*	*Peak*	*Average*	*Limit (dBμV/m)* *Peak*	*Ave.*	*Margin (dB)*
2483.15	Hor	1.00	130	9.44	55.28	41.77	73.96	53.96	-12.19
2490.56	Hor	1.00	136	9.46	50.46	---	73.96	53.96	-3.50
2483.01	Ver	1.00	344	9.44	62.94	48.44	73.96	53.96	-5.52
2488.32	Ver	1.00	230	9.46	60.96	44.79	73.96	53.96	-9.17
2500.00	Ver	1.00	316	9.49	54.82	44.32	73.96	53.96	-9.64
2506.77	Ver	1.00	322	9.50	55.84	43.67	73.96	53.96	-10.29

Channel CH03 of IEEE 802.11n 40M



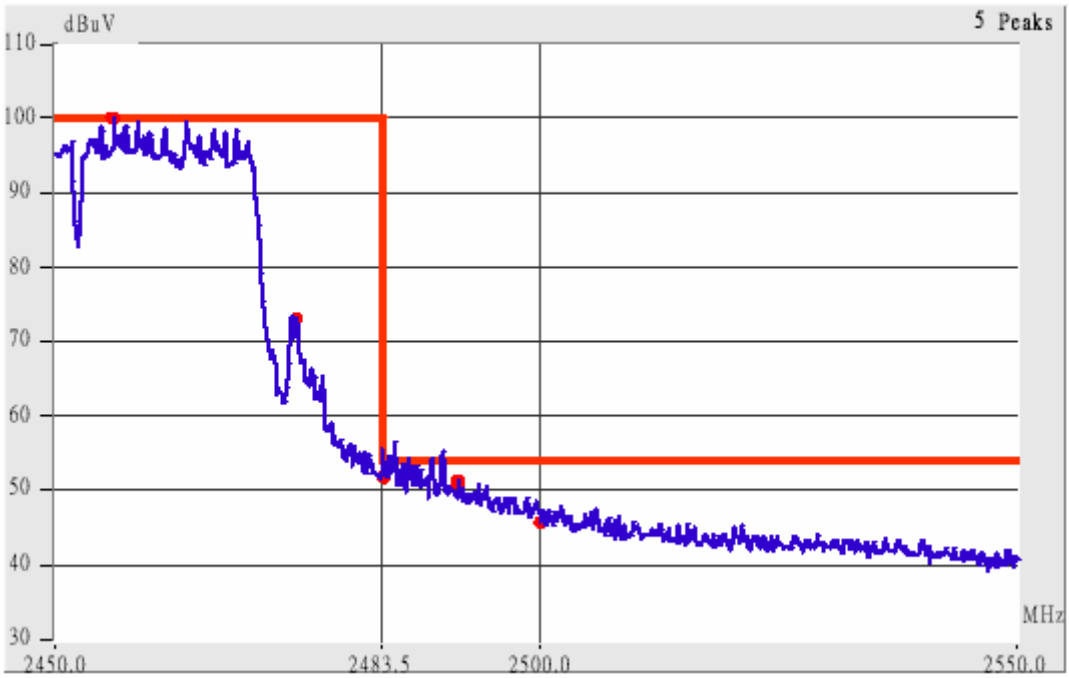
This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 3.

13.The lobe left by the fundamental side is already 20dB below the highest emission level.

14.The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

Radiated Emission					*Corrected Amplitude (dBμV/m)*		*Class B (3m)*		
Frequency (MHz)	*Ant. P.*	*Ant. H. (m)*	*Table ( )*	*Factors (dB)*	*Peak*	*Average*	*Limit (dBμV/m)* *Peak*	*Ave.*	*Margin (dB)*
2386.10	Hor	1.00	213	9.17	56.17	43.17	73.96	53.96	-10.79
2390.43	Hor	1.00	79	9.18	55.35	44.85	73.96	53.96	-9.11
2379.73	Ver	1.00	108	9.15	61.15	49.15	73.96	53.96	-4.81
2385.13	Ver	1.00	283	9.17	63.84	51.50	73.96	53.96	-2.46
2390.49	Ver	1.00	103	9.18	64.85	52.35	73.96	53.96	-1.61

Channel 09 of IEEE 802.11n 40M



This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 09.

15.The lobe right by the fundamental side is already 20dB below the highest emission level.

16.The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below

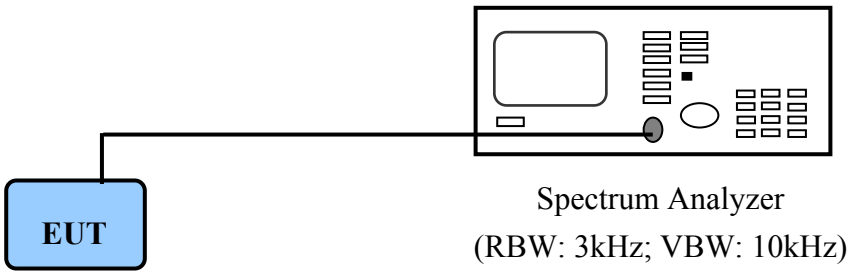
Radiated Emission					***Corrected Amplitude (dBμV/m)***		***Class B (3m)***		
Frequency (MHz)	***Ant. P.***	***Ant. H. (m)***	***Table ( )***	***Factors (dB)***	***Peak***	***Average***	***Limit (dBμV/m)***		***Margin (dB)***
							Peak	***Ave.***	
2483.88	Hor	1.00	166	9.44	53.94	44.11	73.96	53.96	-9.85
2486.36	Hor	1.00	166	9.45	56.45	43.45	73.96	53.96	-10.51
2483.61	Ver	1.00	347	9.44	61.94	50.44	73.96	53.96	-3.52
2486.10	Ver	1.00	0	9.45	65.28	49.62	73.96	53.96	-4.34
2500.01	Ver	1.00	38	9.49	58.99	44.66	73.96	53.96	-9.30
2506.01	Ver	1.00	268	9.50	59.33	43.83	73.96	53.96	-10.13

IX. Section 15.247(d): Power Spectral Density

9.1 Test Condition & Setup

The tests below are running with the EUT transmitter set at high power in TDD mode. The EUT is needed to force selection of output power level and channel number. While testing, the EUT was set to transmit continuously and to be tested by the contact manner with the spectrum analyzer.

9.2 Test Instruments Configuration



PC to control the EUT at maximal power output and channel number and set antenna kit

9.3 List of Test Instruments

Instrument Name	Model No.	Brand	Serial No.	Next time
Spectrum Analyzer	MS2665C	ANRITSU	6200175476	11/15/06

9.4 Test Result of Power spectral density

The following table shows a summary of the test results of the Power Spectral Density.

IEEE 802.11b

Channel	*Ppr (dBm)*	*Cable Loss (dB)*	*Ppq (dBm)*	*Limit (dB)*	*Margin (dB)*
CH 01	-7.87	6.57	-1.30	8.00	-9.30
CH 06	-7.80	6.53	-1.27	8.00	-9.27
CH 11	-8.30	6.74	-1.56	8.00	-9.56

IEEE 802.11g

Channel	*Ppr (dBm)*	*Cable Loss (dB)*	*Ppq (dBm)*	*Limit (dB)*	*Margin (dB)*
CH 01	-12.79	6.57	-6.22	8.00	-14.22
CH 06	-13.94	6.53	-7.41	8.00	-15.41
CH 11	-14.07	6.74	-7.33	8.00	-15.33

Note:

1. The following pages show the results of spectrum reading.
2. Ppr: spectrum read power density (using peak search mode),
   Ppq: actual peak power density in the spread spectrum band.
3. Ppq = Ppr + |Cable Loss|

Formula:

Total PPSD (Ppq) = 10 log (10^ (Ant#1 Ppr + cable loss / 10) + 10^ (Ant#2 Ppr + cable loss/ 10))

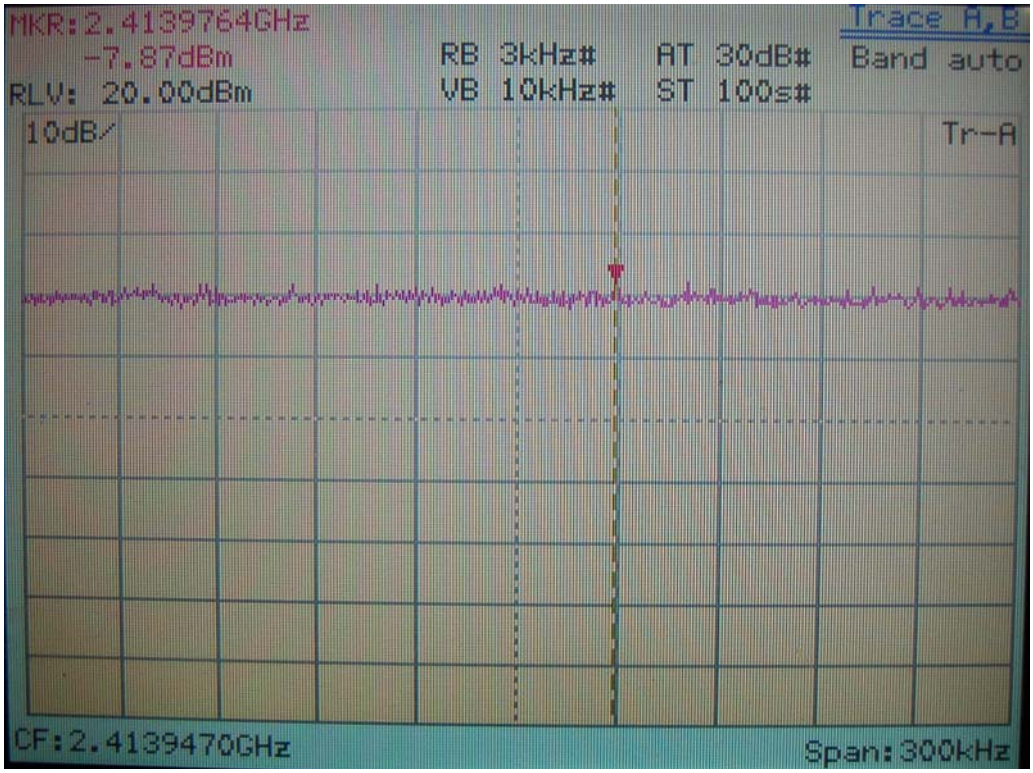
IEEE 802.11n 20M

Channel	*Ant#1 Ppr*	*Ant#2 Ppr*	*Cable Loss*	*Ppq*	*Limit*	*Margin*
	(dBm)		*(dB)*	*(dBm)*	*(dB)*	*(dB)*
CH 01/2412	-16.41	-13.04	6.57	-11.48	8.00	-19.48
CH 06/2437	-16.70	-15.70	6.53	-12.70	8.00	-20.70
CH 11/2462	-16.36	-13.70	6.74	-11.50	8.00	-19.50

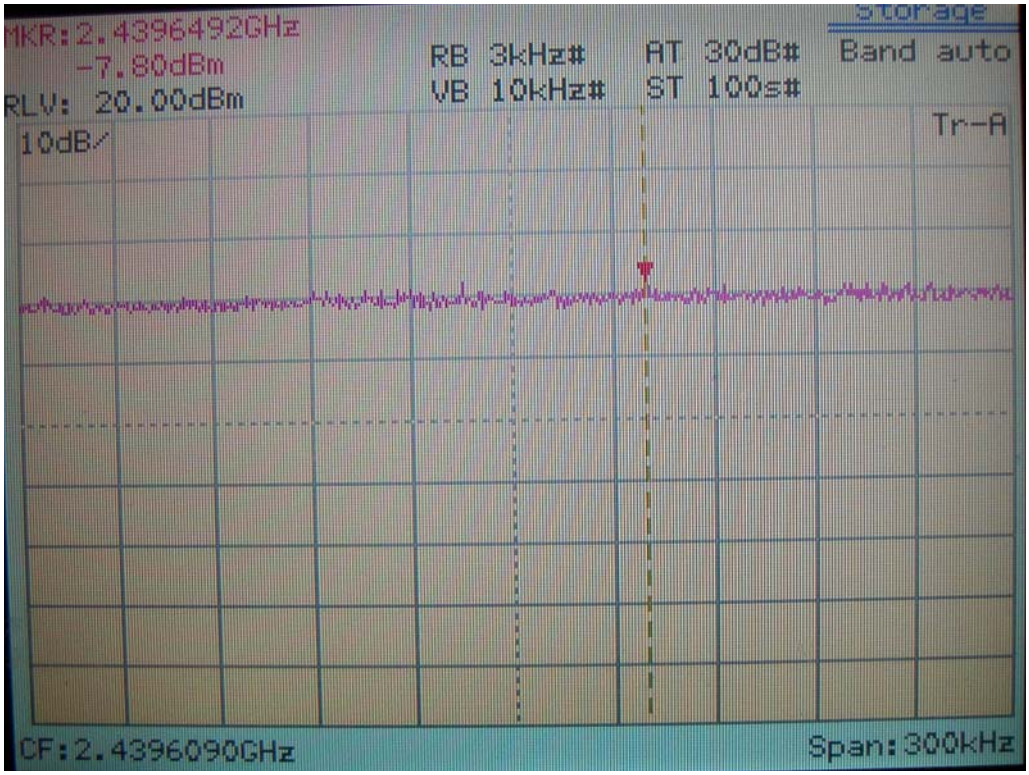
IEEE 802.11n 40M

Channel	*Ant#1 Ppr*	*Ant#2 Ppr*	*Cable Loss*	*Ppq*	*Limit*	*Margin*
	(dBm)		*(dB)*	*(dBm)*	*(dB)*	*(dB)*
CH 03/2412	-20.91	-16.15	6.57	-15.59	8.00	-23.59
CH 06/2437	-19.41	-16.52	6.53	-14.68	8.00	-22.68
CH 09/2452	-18.65	-16.33	6.74	-13.91	8.00	-21.91

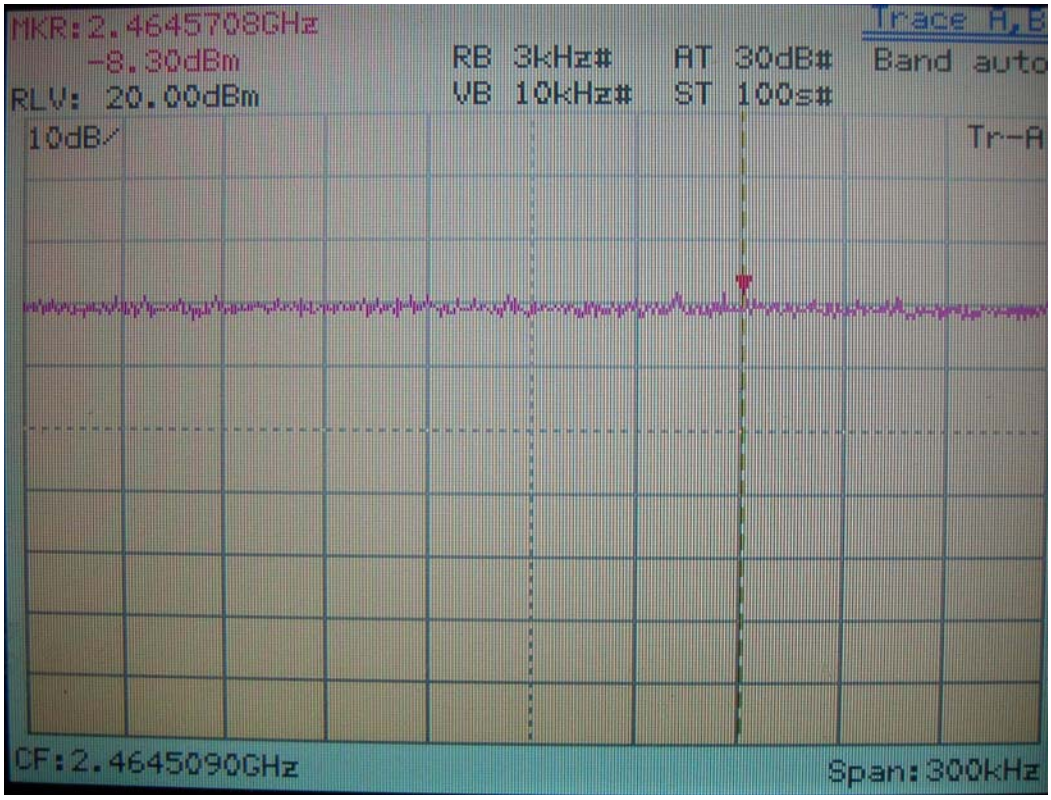
Power Spectral Density for IEEE 802.11b Channel 01, 2412MHz



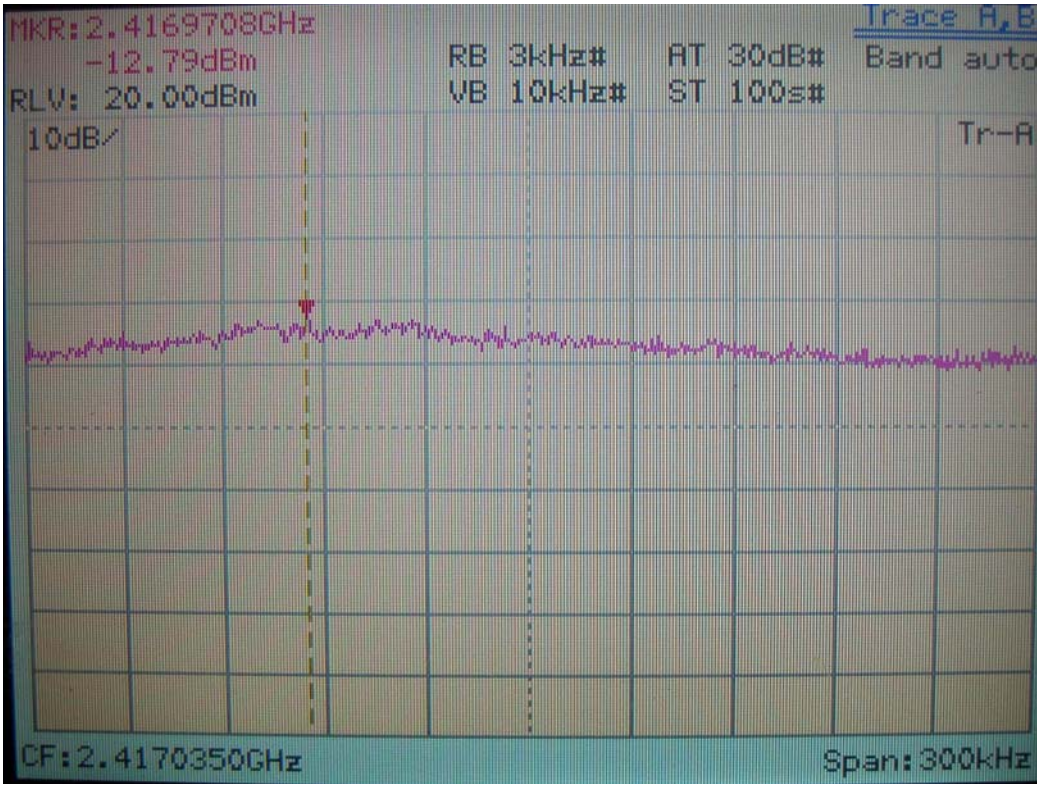
Power Spectral Density for IEEE 802.11b Channel 06 , 2437MHz



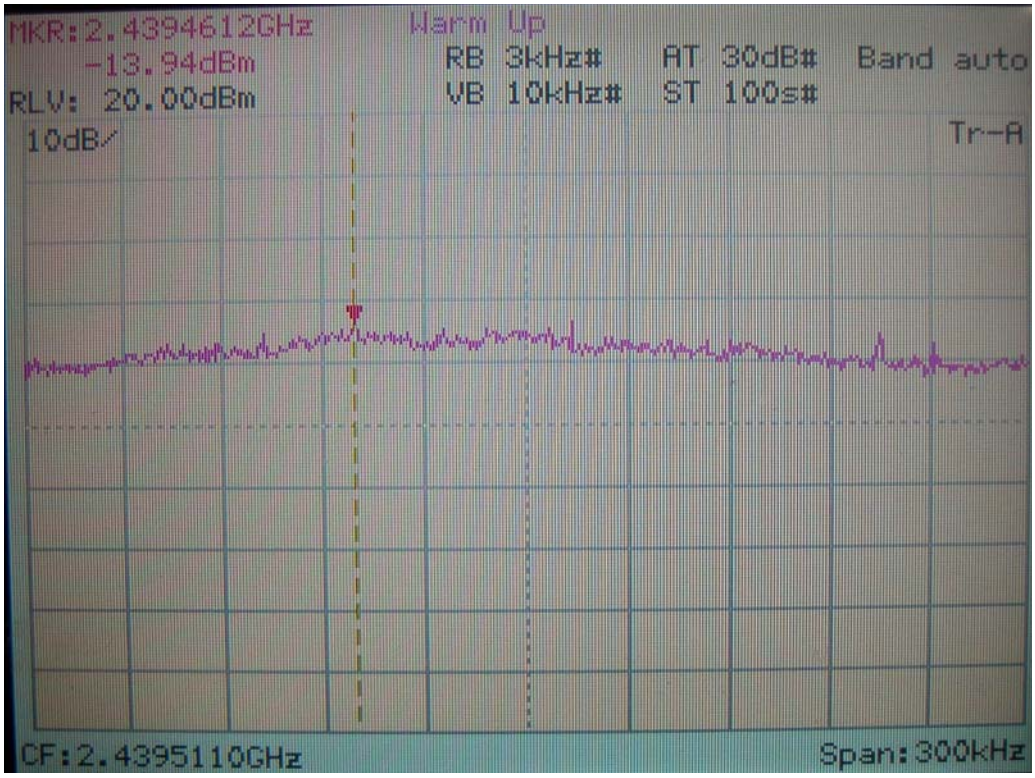
Power Spectral Density for IEEE 802.11b Channel 11, 2462MHz



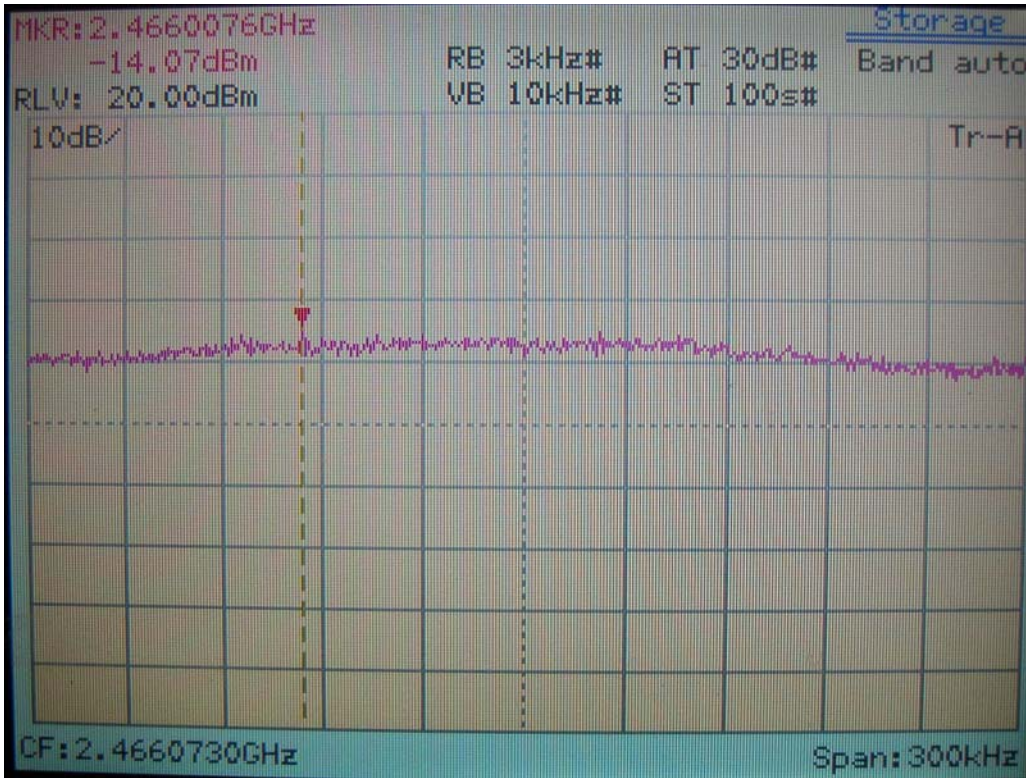
Power Spectral Density for IEEE 802.11g Channel 01 , 2412MHz



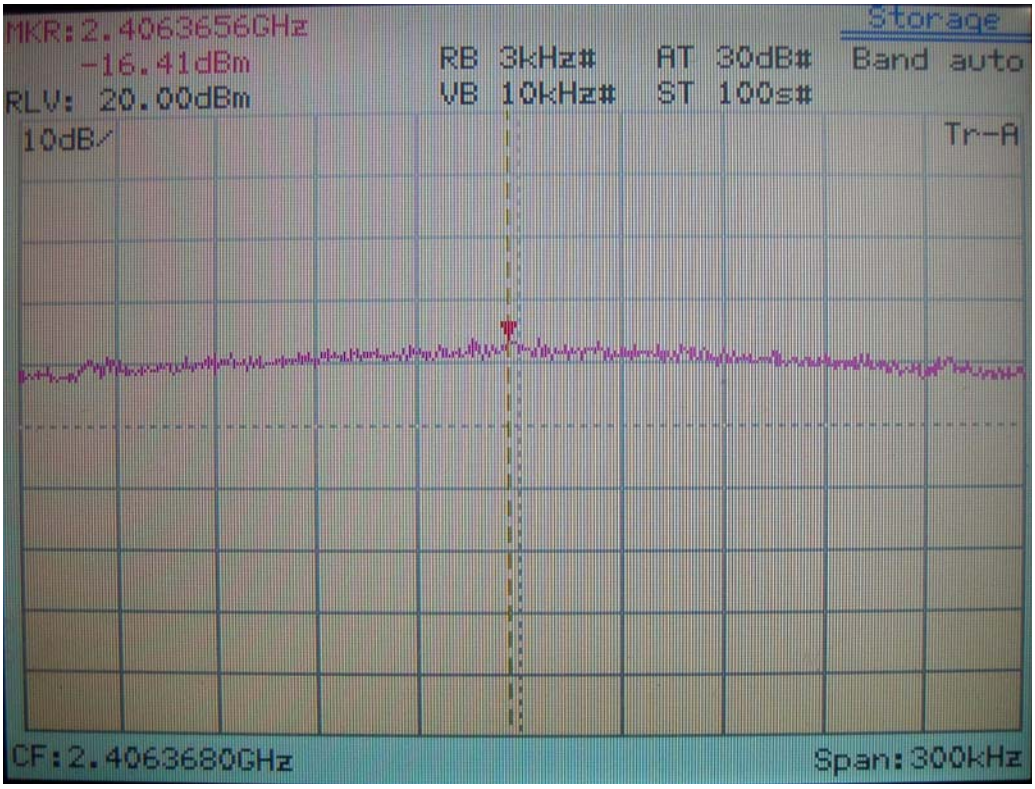
Power Spectral Density for IEEE 802.11g Channel 06, 2437MHz



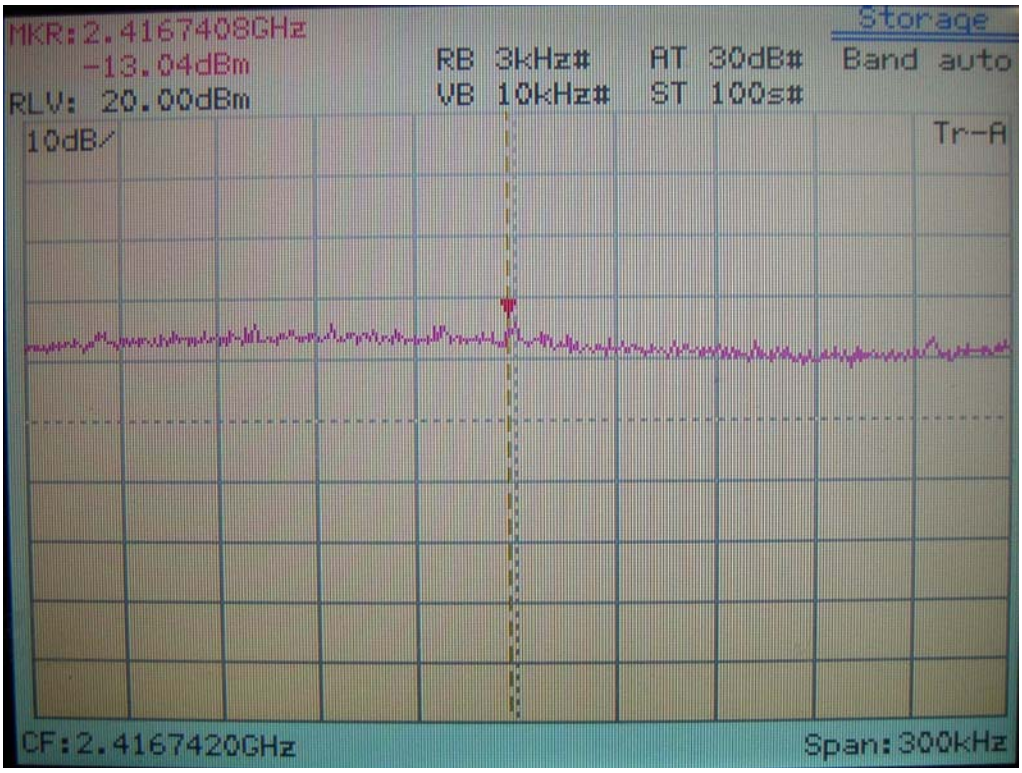
Power Spectral Density for IEEE 802.11g Channel 11, 2462MHz



Power Spectral Density for IEEE 802.11n 20M Channel 01, 2412MHz

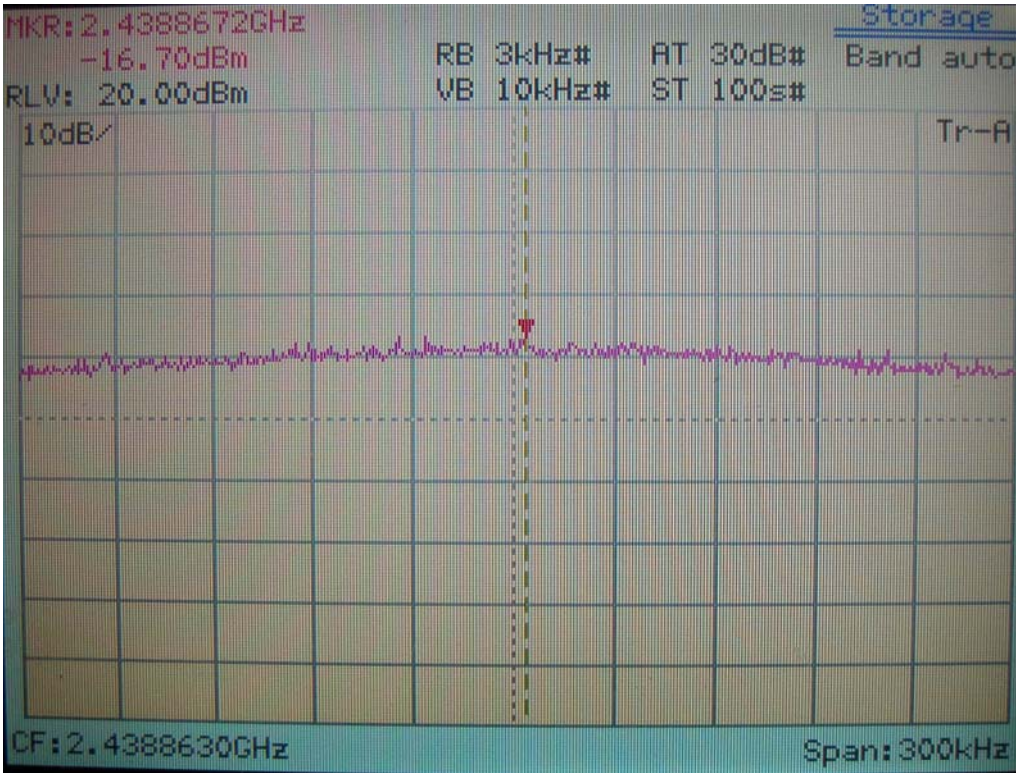


Ant #1



Ant #2

Power Spectral Density for IEEE 802.11n 20M Channel 06, 2437MHz



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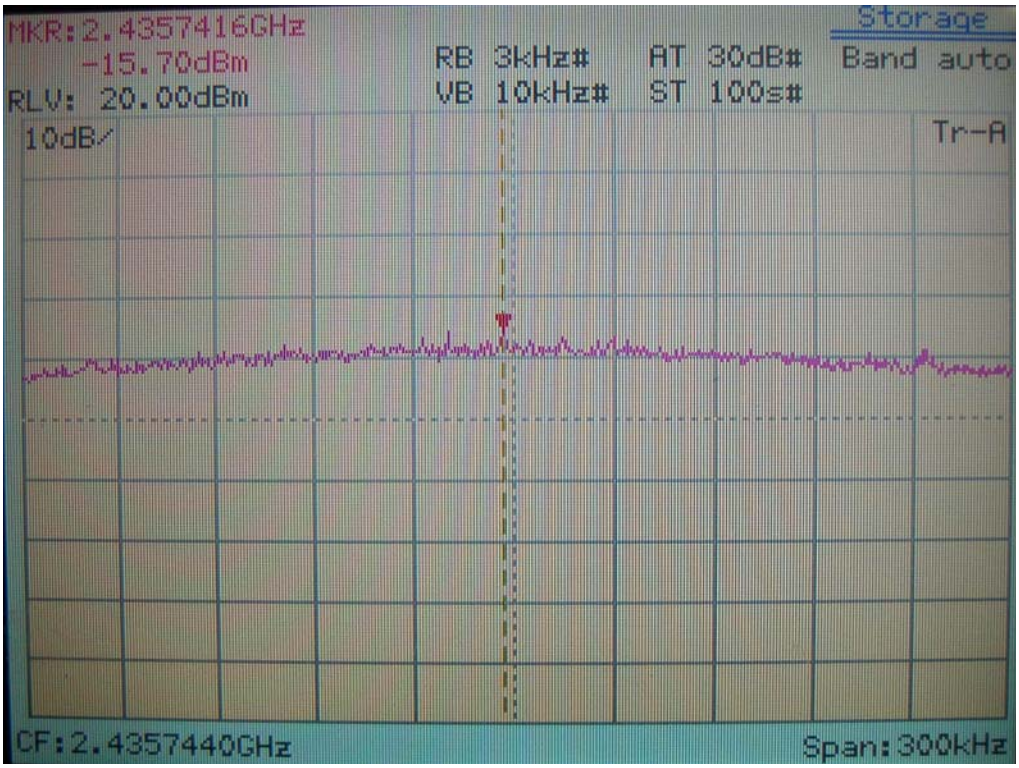
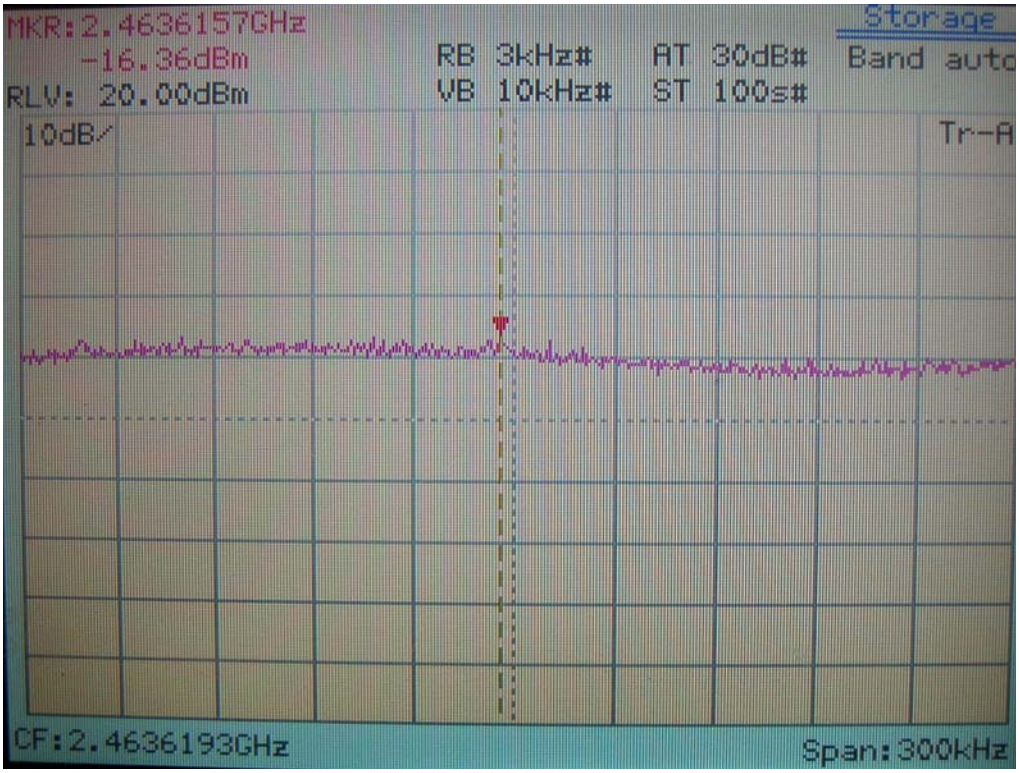
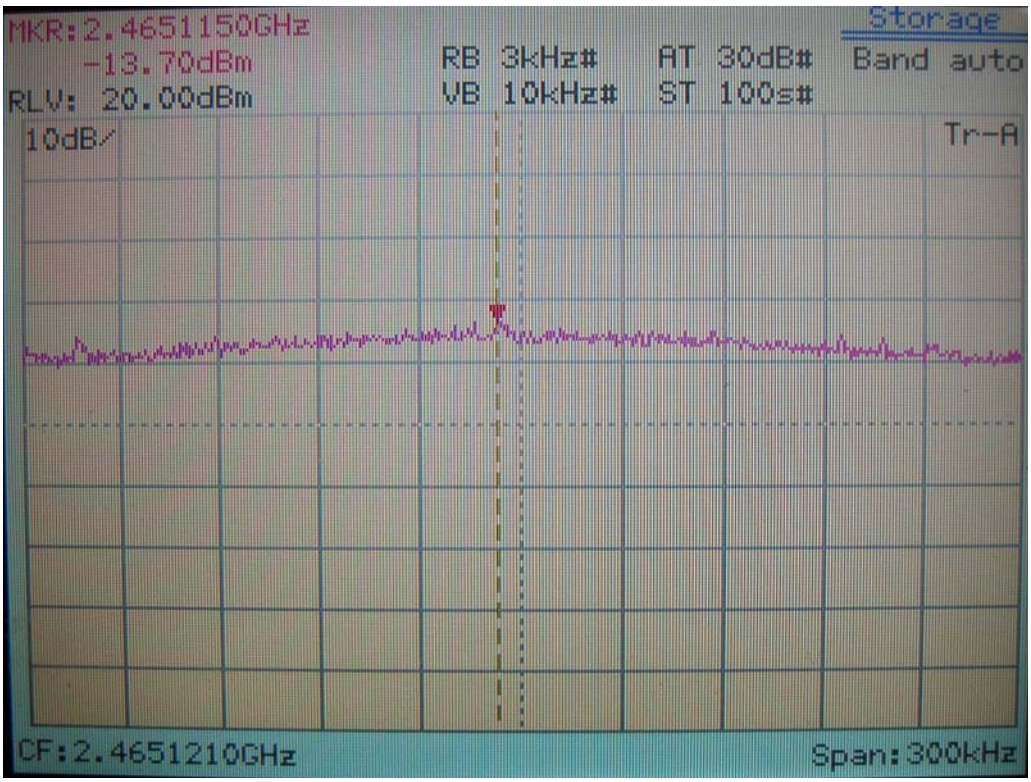


Ant #2

Power Spectral Density for IEEE 802.11n 20M Channel 11, 2462MHz

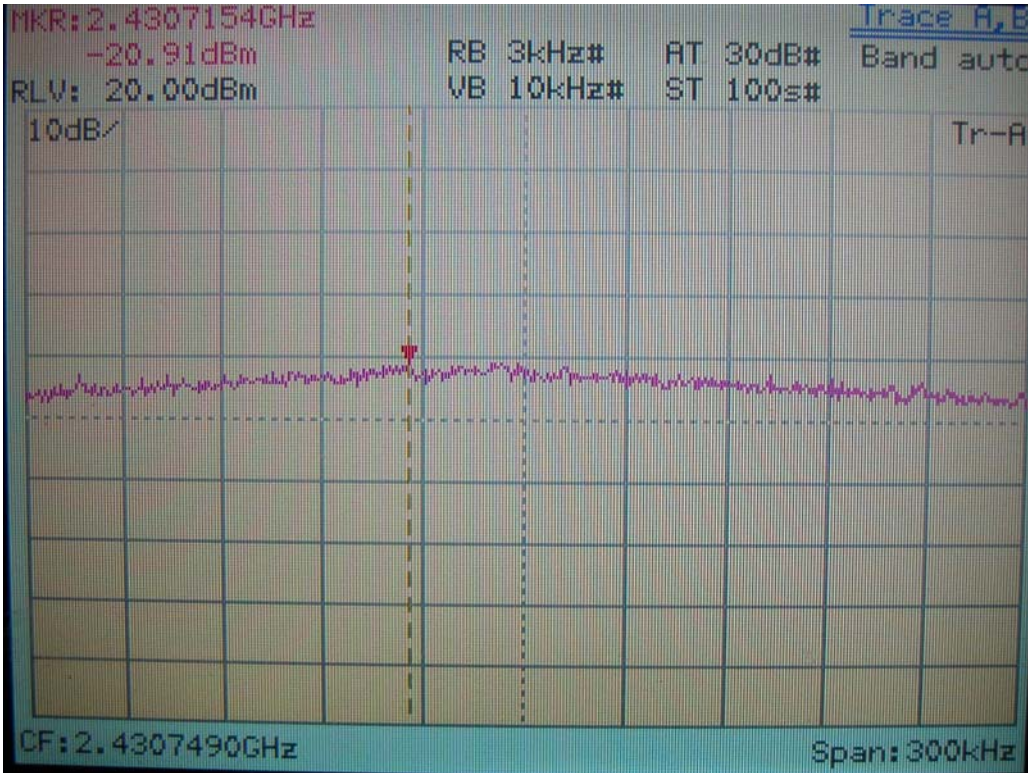


Ant #1

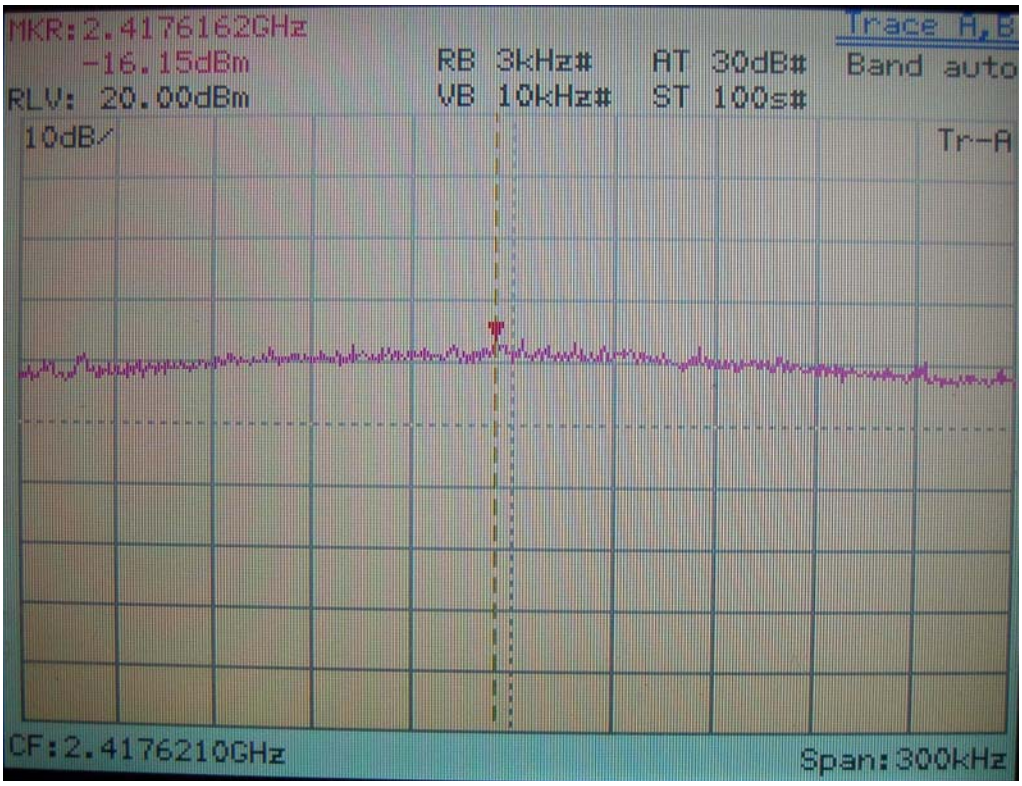


Ant #2

Power Spectral Density for IEEE 802.11n 40M Channel 03, 2422MHz

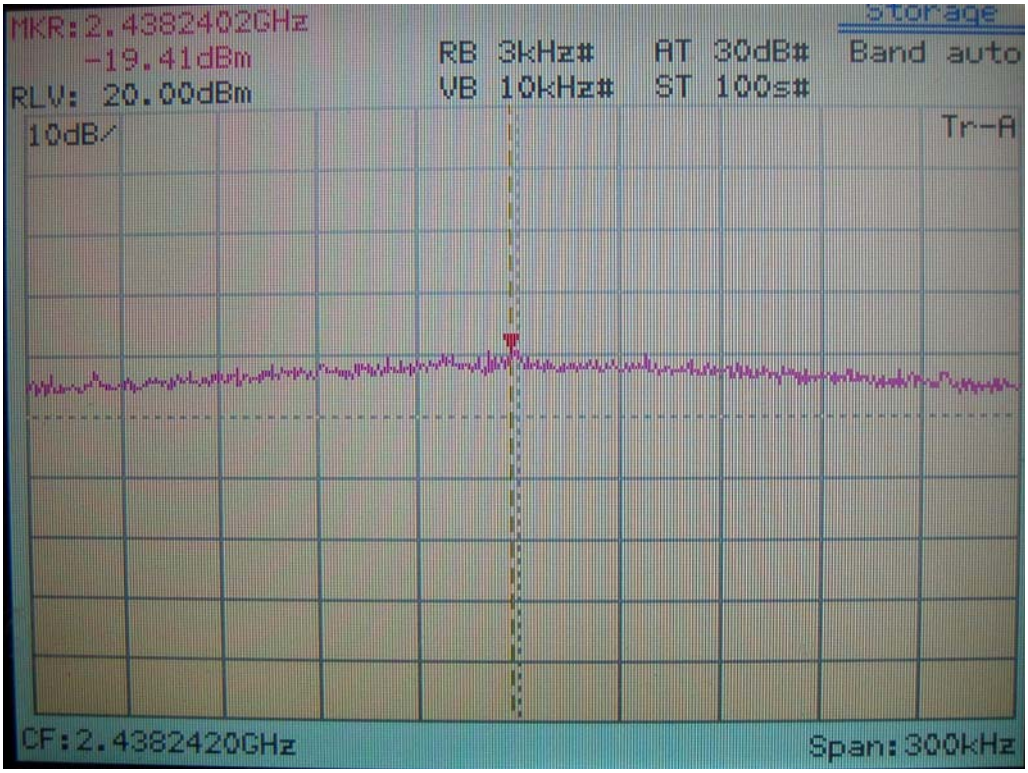


Ant #1



Ant #2

Power Spectral Density for IEEE 802.11n 40M Channel 06, 2437MHz



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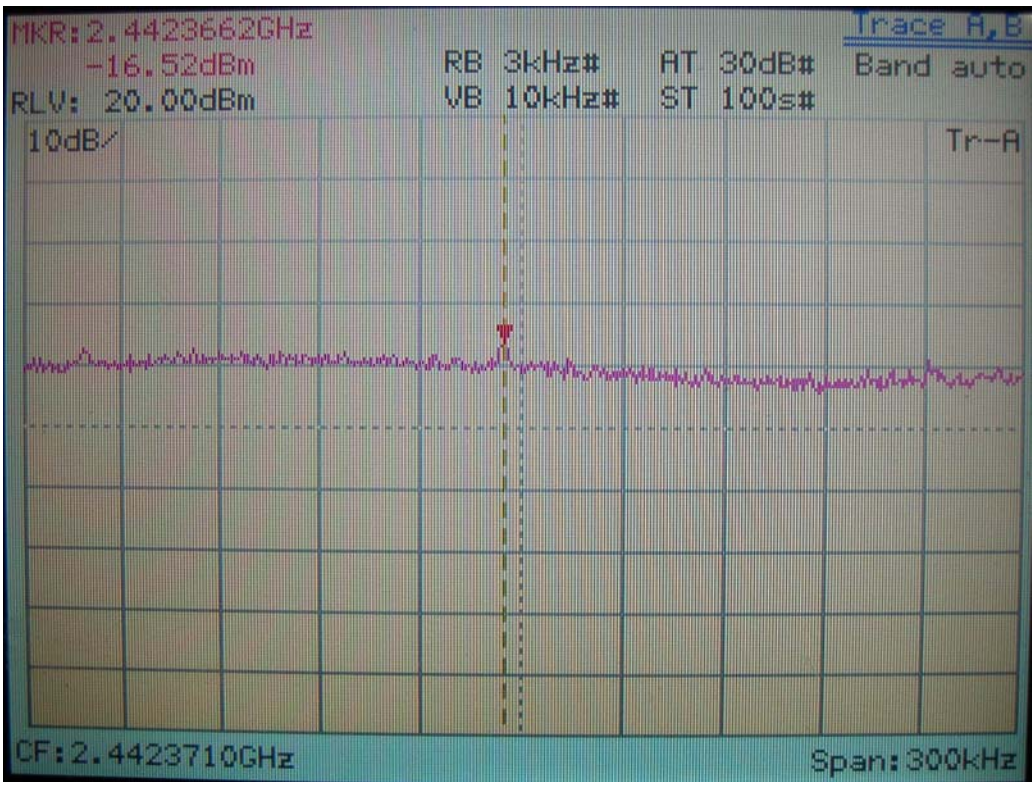
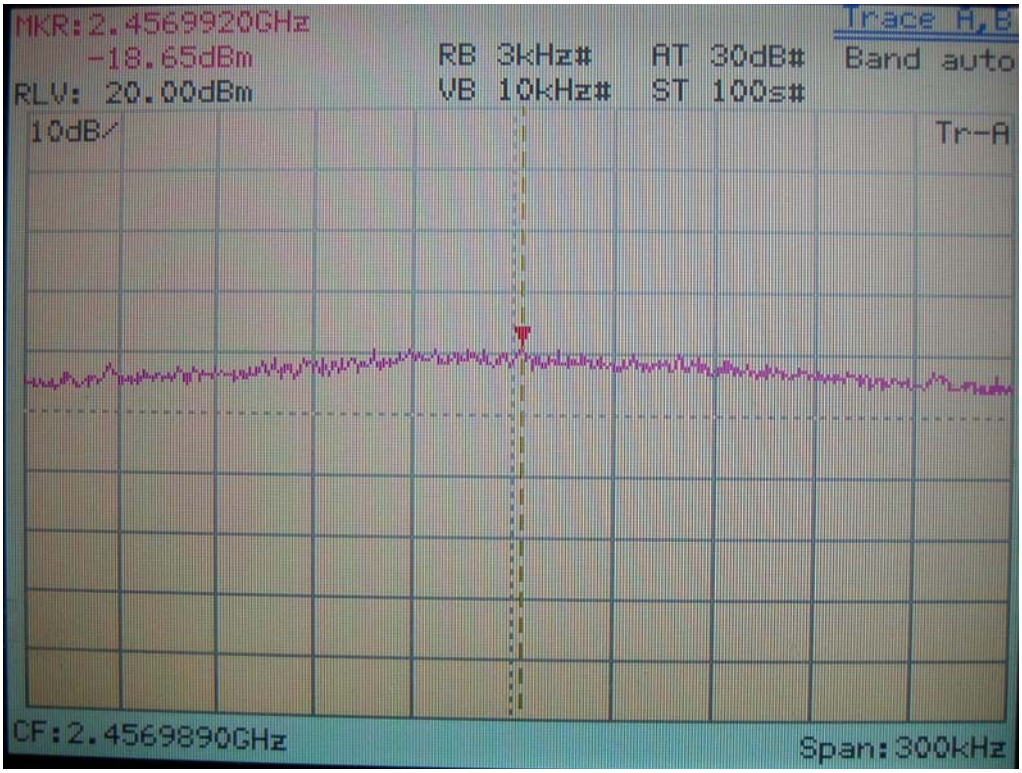
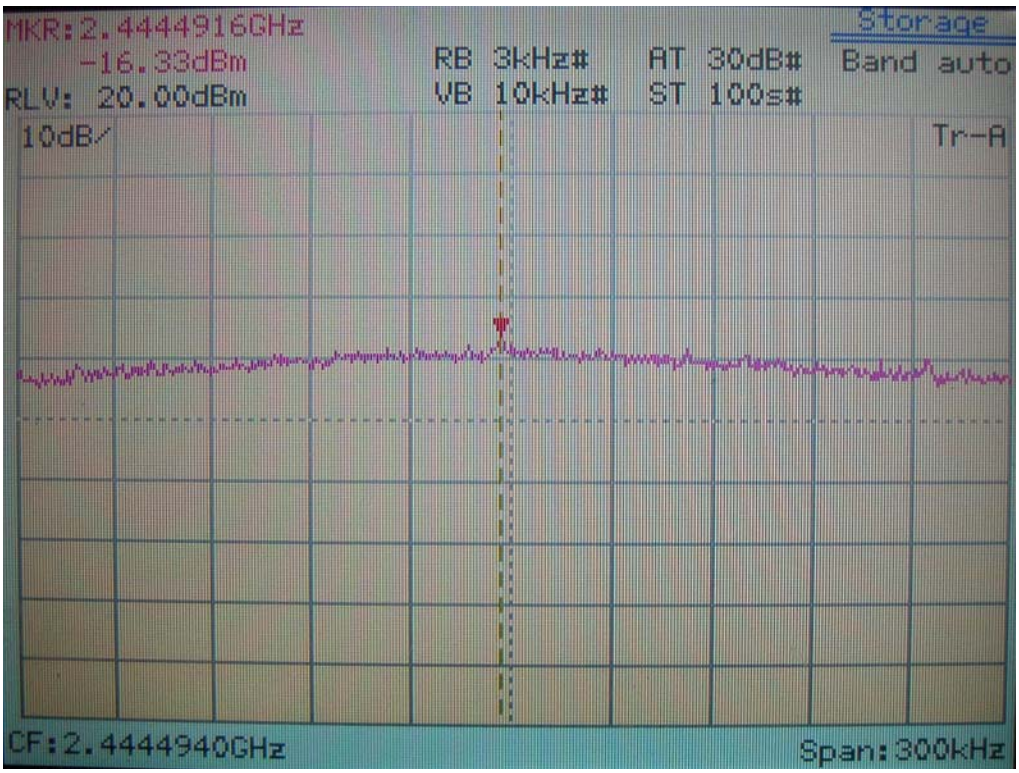


Ant #2

Power Spectral Density for IEEE 802.11n 40M Channel 09, 2452MHz



Ant #1



Ant #2