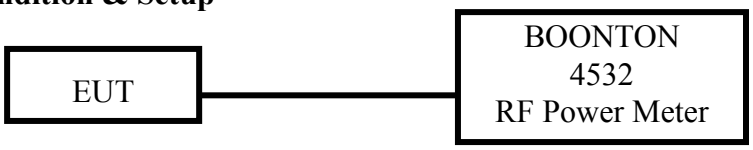
VII. Section 15.247(b): Power Output

7.1 Test Condition & Setup



1. The output of the transmitter is connected to the BOONTON RF Power Meter.
2. The calibration is performed before every test. The values of the output power of the EUT will shown in the dBm directly are the transmitter output peak power. Recording as follows.

7.2 List of Test Instruments

Instrument Name	Model No.	Brand	Serial No.	Last time	Next time
RF Power Meter	4532	BOONTON	117501	04/16/04	04/16/05
Peak Power Sensor	57340	BOONTON	2698	04/16/04	04/16/05

7.3 Test Result

Formula:
RF Output of EUT + |Cable Loss| = Output Peak Power

IEEE 802.11b

Channel	RF Output	Cable Loss	Output Peak Power	
	dBm	dBm	dBm	mW
CH 1	14.46	0.60	15.06	32.063
CH 6	15.47	0.60	16.07	40.458
CH 11	14.42	0.60	15.02	31.769

IEEE 802.11g

Channel	RF Output	Cable Loss	Output Peak Power	
	dBm	dBm	dBm	mW
CH 1	14.59	0.60	15.19	33.037
CH 6	14.39	0.60	14.99	31.550
CH 11	13.43	0.60	14.03	25.293

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 30 MHz to 1000 MHz 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 (CH01), one in the middle (CH06) and the other in bottom (CH11). 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

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

8.2 List of Test Instruments

				Calibration Date
Instrument Name	**Model**	**Brand**	**Serial No.**	**Next time**
EMI Receiver	8546A	HP	3520A00242	08/05/05
RF Filter Section	85460A	HP	3448A00217	08/05/05
Small Biconical Antenna	UBAA9114 & BBVU9135	SCHWARZECK	127	09/21/04
Pre-amplifier	PA1F	TRC	1FAC	05/20/05
Auto Switch Box (>30MHz)	ASB-01	TRC	9904-01	05/20/05
Coaxial Cable (Double shielded, 15 meter)	A30A30-0058-50FS-15M	JYEBAO	SMA-01	05/20/05
Coaxial Cable (1.1 meter)	A30A30-0058-50FS-1M	JYEBAO	SMA-02	05/20/05
Spectrum Analyzer	8564E	HP	3720A00840	08/13/05
Microwave Preamplifier	84125C	HP	US36433002	08/13/05
Horn Antenna	3115	EMCO	9104-3668	12/18/04
Standard Guide Horn Antenna	84125-80008	HP	18-26.5GHz	09/18/04
Standard Guide Horn Antenna	84125-80001	HP	26.5-40GHz	09/18/04
Horn Antenna	1196E (3115)	HP (EMCO)	9704-5178	12/12/04
Pre-amplifier	PA2F	TRC	2F1GZ	03/20/05
Coaxial Cable (3 miter)	A30A30-0058-50FST118	JYEBAO	MSA-05	03/20/05
Coaxial Cable (1 meter)	A30A30-0058-50FST118	JYEBAO	MSA-04	03/20/05

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: RX 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)*
200.96	34.37	1.00	139	-3.82	30.55	43.50	-12.95
301.60	34.14	1.00	273	-3.68	30.46	46.00	-15.54
336.76	33.66	1.00	299	-2.99	30.67	46.00	-15.33
375.56	32.15	1.00	107	-1.85	30.30	46.00	-15.70
401.02	31.15	1.00	134	-0.96	30.19	46.00	-15.81
434.97	31.18	1.00	212	0.41	31.59	46.00	-14.41

Test mode: RX 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)*
39.70	21.96	1.00	181	5.83	27.79	40.00	-12.21
193.69	32.87	1.00	89	-3.72	29.15	43.50	-14.35
287.05	38.92	1.00	187	-3.83	35.09	46.00	-10.91
401.02	30.24	1.00	256	-0.96	29.28	46.00	-16.72
441.04	29.90	1.00	325	0.65	30.55	46.00	-15.45
558.65	25.13	1.00	151	5.30	30.43	46.00	-15.57

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: RX mode for 1GHz to 25GHz [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*
1949.17	1.00	62	35.91	---	3.65	39.56	---	73.96	53.96	-14.40
3953.75	1.00	356	30.24	---	12.28	42.52	---	73.96	53.96	-11.44
4924.17	1.00	182	28.40	---	15.24	43.64	---	73.96	53.96	-10.32
10208.33	1.00	239	26.07	---	22.48	48.55	---	73.96	53.96	-5.41

Test mode: RX mode for 1GHz to 25GHz [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*
1743.75	1.00	184	39.58	---	0.68	40.26	---	73.96	53.96	-13.70
3882.92	1.00	180	30.40	---	11.94	42.34	---	73.96	53.96	-11.62
7120.00	1.00	31	25.24	---	21.09	46.33	---	73.96	53.96	-7.63
8812.92	1.00	84	24.41	---	23.00	47.41	---	73.96	53.96	-6.55

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)
200.96	33.38	1.00	107	-3.82	29.56	43.50	-13.94
255.52	32.84	1.00	66	-4.13	28.71	46.00	-17.29
301.60	35.99	1.00	291	-3.86	32.13	46.00	-13.87
375.56	33.51	1.00	135	-1.85	31.66	46.00	-14.34
434.97	30.42	1.00	291	0.41	30.83	46.00	-15.17
501.66	27.73	1.00	112	2.97	30.70	46.00	-15.30

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)
93.05	26.85	1.00	157	-0.66	26.19	43.50	-17.31
146.40	29.53	1.00	238	-3.04	26.49	43.50	-17.01
193.69	33.41	1.00	81	-3.72	29.69	43.50	-13.81
288.26	38.17	1.00	302	-3.80	34.37	46.00	-11.63
401.02	29.76	1.00	267	-0.96	28.80	46.00	-17.20
441.04	28.32	1.00	319	0.65	28.97	46.00	-17.03

Test mode: IEEE 802.11b CH01 for 1GHz to 25GHz [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*
2279.99	1.00	84	43.50	37.67	8.87	52.37	46.54	73.96	53.96	-7.42
4823.12	1.00	75	40.60	---	3.76	44.36	---	73.96	53.96	-9.60
7233.75	1.00	132	35.28	---	10.07	45.35	---	73.96	53.96	-8.61
9648.00	1.00	193	42.95	39.27	11.46	54.41	50.73	73.96	53.96	-3.23
12061.04	1.00	226	37.44	---	9.81	47.25	---	73.96	53.96	-6.71

Test mode: IEEE 802.11b CH01 for 1GHz to 25GHz [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*
1820.83	1.00	25	36.50	---	10.89	47.39	---	73.96	53.96	-6.57
4823.12	1.00	245	38.10	---	3.76	41.86	---	73.96	53.96	-12.10
7233.75	1.00	24	35.11	---	10.07	45.18	---	73.96	53.96	-8.78
9650.42	1.00	123	36.61	---	11.47	48.08	---	73.96	53.96	-5.88
12061.04	1.00	202	36.94	---	9.81	46.75	---	73.96	53.96	-7.21

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)
200.96	33.36	1.00	89	-3.82	29.54	43.50	-13.96
301.60	34.78	1.00	282	-3.68	31.10	46.00	-14.90
337.97	32.51	1.00	300	-2.97	29.54	46.00	-16.46
376.77	33.01	1.00	135	-1.80	31.21	46.00	-14.79
436.19	30.89	1.00	343	0.45	31.34	46.00	-14.66
500.45	28.69	1.00	121	2.92	31.61	46.00	-14.39

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)
39.70	21.91	1.00	3	5.83	27.74	40.00	-12.26
93.05	26.88	1.00	297	-0.66	26.22	43.50	-17.28
193.69	32.57	1.00	89	-3.72	28.85	43.50	-14.65
288.26	38.15	1.00	317	-3.80	34.35	46.00	-11.65
442.25	28.60	1.00	334	0.70	29.30	46.00	-16.70
558.65	24.85	1.00	139	5.30	30.15	46.00	-15.85

Test mode: IEEE 802.11b CH06 for 1GHz to 25GHz [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*
2360.01	1.00	143	43.67	37.67	9.10	52.77	46.77	73.96	53.96	-7.19
4877.50	1.00	282	38.11	---	3.97	42.08	---	73.96	53.96	-11.88
7312.29	1.00	283	36.11	---	10.30	46.41	---	73.96	53.96	-7.55
9747.08	1.00	225	37.60	---	11.89	49.49	---	73.96	53.96	-4.47
12187.92	1.00	224	38.44		9.74	48.18		73.96	53.96	-5.78

Test mode: IEEE 802.11b CH06 for 1GHz to 25GHz [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*
1820.83	1.00	305	37.83	---	10.89	48.72	---	73.96	53.96	-5.24
1954.17	1.00	36	35.00	---	8.81	43.81	---	73.96	53.96	-10.15
4871.46	1.00	109	40.44	---	3.95	44.39	---	73.96	53.96	-9.57
9747.08	1.00	0	35.10	---	11.89	46.99	---	73.96	53.96	-6.97
12187.92	1.00	258	38.27	---	9.74	48.01	---	73.96	53.96	-5.95

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)
200.96	33.76	1.00	115	-3.82	29.94	43.50	-13.56
242.19	31.56	1.00	81	-4.01	27.55	46.00	-18.45
301.60	35.83	1.00	274	-3.68	32.15	46.00	-13.85
375.56	33.04	1.00	75	-1.85	31.19	46.00	-14.81
433.76	30.42	1.00	291	0.36	30.78	46.00	-15.22
500.45	27.78	1.00	112	2.92	30.70	46.00	-15.30

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)
93.05	27.06	1.00	176	-0.66	26.40	43.50	-17.10
146.40	29.81	1.00	253	-3.04	26.77	43.50	-16.73
193.69	33.18	1.00	107	-3.72	29.46	43.50	-14.04
288.26	38.52	1.00	317	-3.80	34.72	46.00	-11.28
401.02	28.47	1.00	274	-0.96	27.51	46.00	-18.49
558.65	25.30	1.00	81	5.30	30.60	46.00	-15.40

Test mode: IEEE 802.11b CH11 for 1GHz to 25GHz [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*
2501.99	1.00	120	43.50	33.67	9.49	52.99	43.16	73.96	53.96	-10.80
4925.83	1.00	273	38.27	---	4.13	42.40	---	73.96	53.96	-11.56
7384.79	1.00	247	35.11	---	10.42	45.53	---	73.96	53.96	-8.43
9849.79	1.00	152	37.44	---	11.93	49.37	---	73.96	53.96	-4.59
12308.75	1.00	177	37.77	---	9.56	47.33	---	73.96	53.96	-6.63

Test mode: IEEE 802.11b CH11 for 1GHz to 25GHz [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*
1820.83	1.00	116	36.16	---	10.89	47.05	---	73.96	53.96	-6.91
4925.83	1.00	123	39.77	---	4.13	43.90	---	73.96	53.96	-10.06
7384.79	1.00	283	34.78	---	10.42	45.20	---	73.96	53.96	-8.76
9849.79	1.00	134	35.44	---	11.93	47.37	---	73.96	53.96	-6.59
12308.75	1.00	10	36.77	---	9.56	46.33	---	73.96	53.96	-7.63

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)
200.96	33.57	1.00	116	-3.82	29.75	43.50	-13.75
255.52	34.39	1.00	168	-4.13	30.26	46.00	-15.74
301.60	34.66	1.00	282	-3.68	30.98	46.00	-15.02
337.97	33.42	1.00	290	-2.97	30.45	46.00	-15.55
401.02	34.77	1.00	290	-1.85	32.92	46.00	-13.08
433.76	31.71	1.00	110	-0.96	30.75	46.00	-15.25

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)
93.05	26.70	1.00	275	-0.66	26.04	43.50	-17.46
146.40	29.74	1.00	260	-3.04	26.70	43.50	-16.80
193.69	34.70	1.00	64	-3.72	30.98	43.50	-12.52
288.26	38.83	1.00	217	-3.80	35.03	46.00	-10.97
375.56	30.10	1.00	334	-1.85	28.25	46.00	-17.75
441.04	28.58	1.00	351	0.65	29.23	46.00	-16.77

Test mode: IEEE 802.11g CH01 for 1GHz to 25GHz [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*
2280.00	1.00	240	46.83	41.50	8.87	55.70	50.37	73.96	53.96	-3.59
4823.12	1.00	138	38.77	---	3.76	42.53	---	73.96	53.96	-11.43
7233.75	1.00	303	36.11	---	10.07	46.18	---	73.96	53.96	-7.78
9648.41	1.00	237	39.76	26.61	11.46	51.22	38.07	73.96	53.96	-15.89
12061.04	1.00	300	38.44	---	9.81	48.25	---	73.96	53.96	-5.71

Test mode: IEEE 802.11g CH01 for 1GHz to 25GHz [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*
1820.83	1.00	70	36.66	---	10.89	47.55	---	73.96	53.96	-7.26
4823.12	1.00	296	37.44	---	3.76	41.20	---	73.96	53.96	-12.76
7233.75	1.00	321	37.61	---	10.07	47.68	---	73.96	53.96	-6.28
9650.42	1.00	210	35.11	---	11.47	46.58	---	73.96	53.96	-7.38
12061.04	1.00	195	39.10	---	9.81	48.91	---	73.96	53.96	-5.05

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	34.10	1.00	84	-2.99	31.11	46.00	-14.89
375.56	34.40	1.00	92	-1.85	32.55	46.00	-13.45
401.02	32.74	1.00	118	-0.96	31.78	46.00	-14.22
433.76	30.18	1.00	300	0.36	30.54	46.00	-15.46
501.66	27.82	1.00	104	2.97	30.79	46.00	-15.21
659.29	21.69	1.00	316	8.67	30.36	46.00	-15.64

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)
146.40	29.31	1.00	210	-3.04	26.27	43.50	-17.23
194.90	33.38	1.00	55	-3.73	29.65	43.50	-13.85
289.47	38.29	1.00	213	-3.78	34.51	46.00	-11.49
375.56	30.10	1.00	325	-1.85	28.25	46.00	-17.75
433.76	28.09	1.00	161	0.36	28.45	46.00	-17.55
558.65	24.99	1.00	186	5.30	30.29	46.00	-15.71

Test mode: IEEE 802.11g CH06 for 1GHz to 25GHz [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*
2279.87	1.00	183	45.83	40.00	8.87	54.70	48.87	73.96	53.96	-5.09
4877.50	1.00	70	43.61	---	3.97	47.58	---	73.96	53.96	-6.38
7312.29	1.00	306	36.11	---	10.30	46.41	---	73.96	53.96	-7.55
9747.08	1.00	330	37.94	---	11.89	49.83	---	73.96	53.96	-4.13
12187.92	1.00	360	39.44		9.74	49.18		73.96	53.96	-4.78

Test mode: IEEE 802.11g CH06 for 1GHz to 25GHz [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*
1820.83	1.00	315	37.50	---	10.89	48.39	---	73.96	53.96	-5.57
4877.50	1.00	360	39.44	---	3.97	43.41	---	73.96	53.96	-10.55
7312.29	1.00	197	34.94	---	10.30	45.24	---	73.96	53.96	-8.72
9747.08	1.00	336	35.60	---	11.89	47.49	---	73.96	53.96	-6.47
12187.92	1.00	360	39.94	---	9.74	49.68	---	73.96	53.96	-4.28

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)
203.39	34.24	1.00	115	-3.84	30.40	43.50	-13.10
251.89	31.86	1.00	89	-4.05	27.81	46.00	-18.19
295.54	34.08	1.00	66	-3.74	30.34	46.00	-15.66
375.56	33.23	1.00	101	-1.85	31.38	46.00	-14.62
432.55	30.83	1.00	334	0.31	31.14	46.00	-14.86
500.45	29.09	1.00	112	2.92	32.01	46.00	-13.99

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)
146.40	28.96	1.00	226	-3.04	25.92	43.50	-17.58
193.69	33.41	1.00	61	-3.72	29.69	43.50	-13.81
288.26	38.55	1.00	290	-3.80	34.75	46.00	-11.25
402.24	28.80	1.00	290	-0.91	27.89	46.00	-18.11
433.76	27.73	1.00	142	0.36	28.09	46.00	-17.91
558.65	25.13	1.00	209	5.30	30.43	46.00	-15.57

Test mode: IEEE 802.11g CH11 for 1GHz to 25GHz [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*
2391.54	1.00	88	44.33	31.50	9.19	53.52	40.69	73.96	53.96	-13.27
4925.83	1.00	267	42.94	---	4.13	47.07	---	73.96	53.96	-6.89
7384.79	1.00	288	37.28	---	10.42	47.70	---	73.96	53.96	-6.26
9849.79	1.00	317	37.94	---	11.93	49.87	---	73.96	53.96	-4.09
12308.75	1.00	304	36.77	---	9.56	46.33	---	73.96	53.96	-7.63

Test mode: IEEE 802.11g CH11 for 1GHz to 25GHz [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*
1825.00	1.00	0	35.83	---	10.82	46.65	---	73.96	53.96	-7.31
4925.83	1.00	260	39.61	---	4.13	43.74	---	73.96	53.96	-10.22
7384.79	1.00	333	35.44	---	10.42	45.86	---	73.96	53.96	-8.10
9849.79	1.00	310	35.61	---	11.93	47.54	---	73.96	53.96	-6.42
12308.75	1.00	307	36.94	---	9.56	46.50	---	73.96	53.96	-7.46

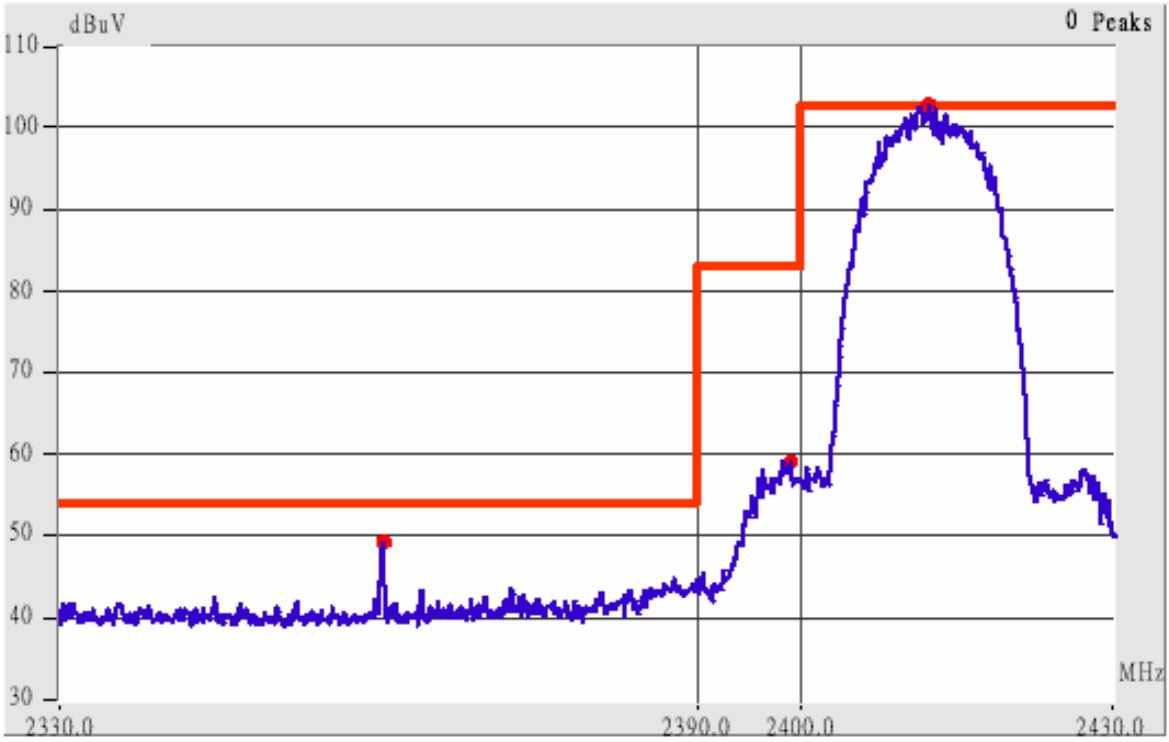
8.5 Test Result of the Bandedge

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

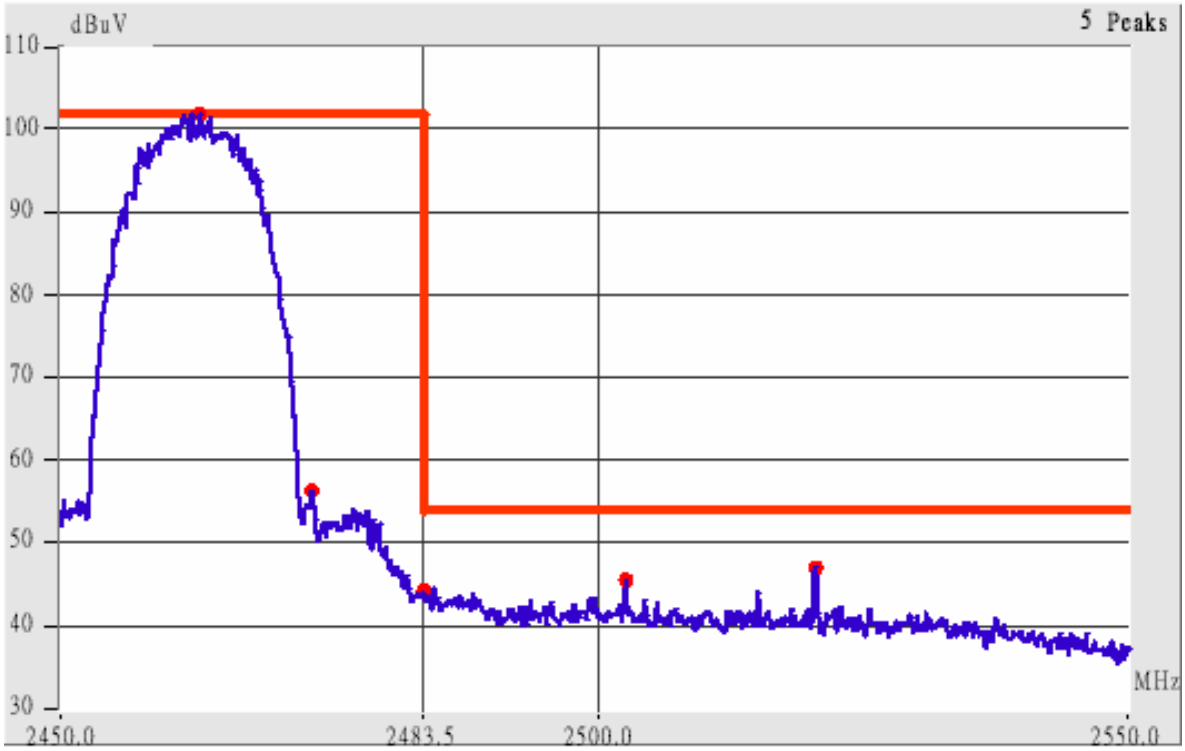


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

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)*
2360.00	Hor	1.00	208	9.10	53.76	46.27	74.00	53.96	-7.69
2387.59	Hor	1.00	98	9.18	55.68	43.85	74.00	53.96	-10.11
2390.17	Hor	1.00	101	9.18	53.52	43.85	74.00	53.96	-10.11
2360.06	Ver	1.00	190	9.10	46.60	---	74.00	53.96	-7.36
2377.99	Ver	1.00	105	9.15	46.32	---	74.00	53.96	-7.64
2390.02	Ver	1.00	109	9.18	46.68	---	74.00	53.96	-7.28

Channel 11 of IEEE 802.11b

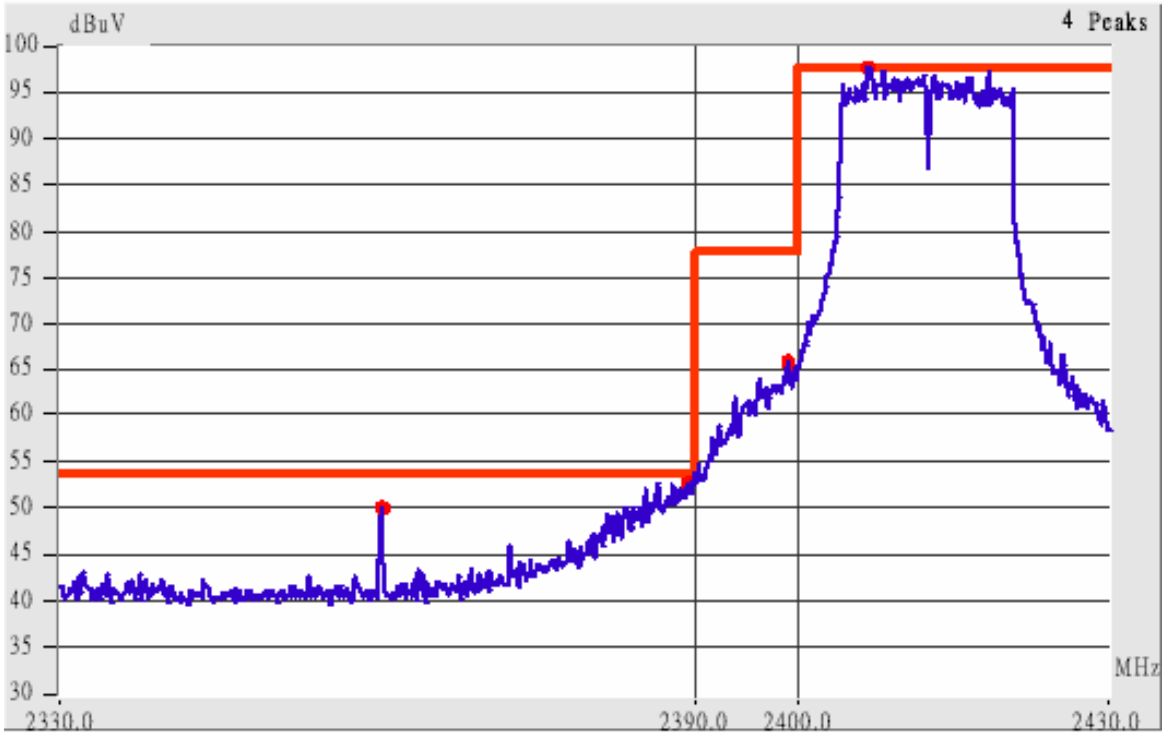


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 11.

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) Peak*	*Ave.*	*Margin (dB)*
2483.76	Hor	1.00	148	9.44	53.44	43.44	74.00	53.96	-10.52
2487.24	Hor	1.00	140	9.45	54.49	42.95	74.00	53.96	-11.01
2504.99	Hor	1.00	150	9.50	54.50	41.33	74.00	53.96	-12.63
2520.00	Hor	1.00	66	9.53	54.19	44.86	74.00	53.96	-9.10
2483.50	Ver	1.00	322	9.45	44.61	---	74.00	53.96	-9.35
2502.34	Ver	1.00	359	9.49	46.99	---	74.00	53.96	-6.97
2519.78	Ver	1.00	16	9.53	46.55	---	74.00	53.96	-7.41

Channel 1 of IEEE 802.11g

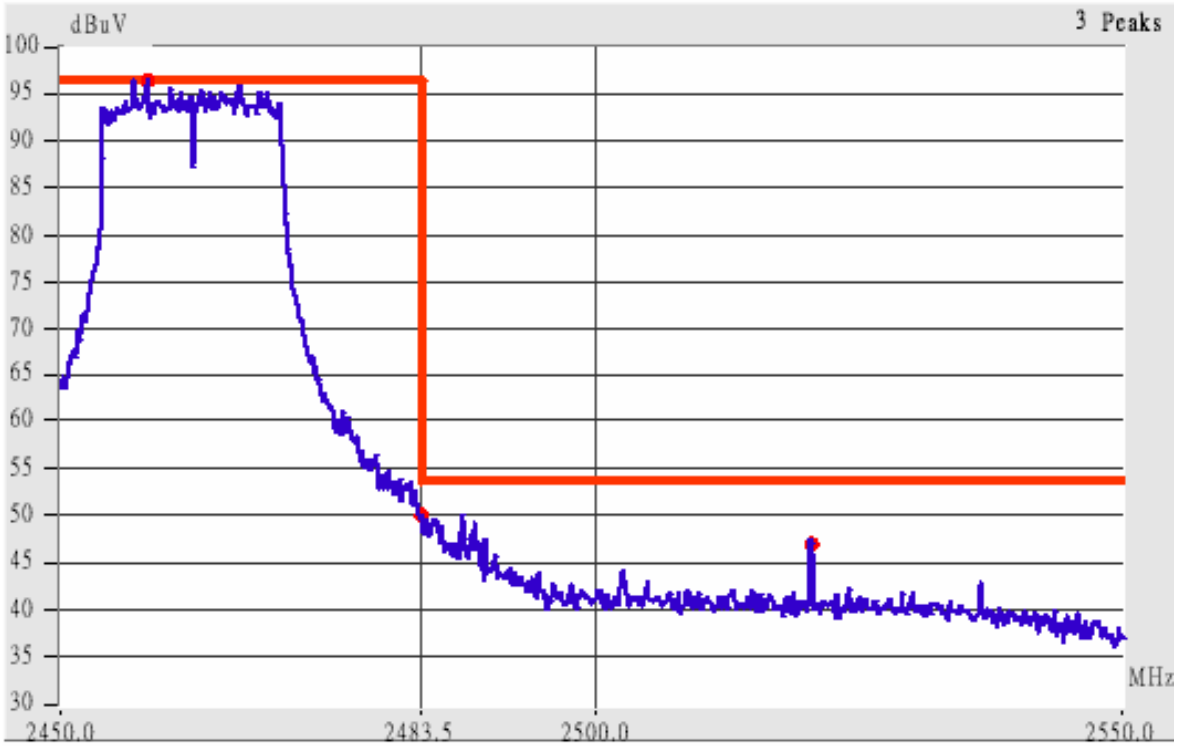


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

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*	*Ave.*	*Margin (dB)*
2360.00	Hor	1.00	214	9.10	55.27	48.10	74.00	53.96	-5.86
2382.65	Hor	1.00	64	9.16	64.33	46.49	74.00	53.96	-7.47
2386.90	Hor	1.00	62	9.17	66.51	49.34	74.00	53.96	-4.62
2390.12	Hor	1.00	64	9.18	66.52	51.85	74.00	53.96	-2.11
2360.01	Ver	1.00	209	9.10	46.43	---	74.00	53.96	-7.53
2383.27	Ver	1.00	124	9.16	54.00	36.66	74.00	53.96	-17.30
2386.40	Ver	1.00	165	9.17	55.67	38.34	74.00	53.96	-15.62
2389.56	Ver	1.00	113	9.18	56.68	42.18	74.00	53.96	-11.78

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

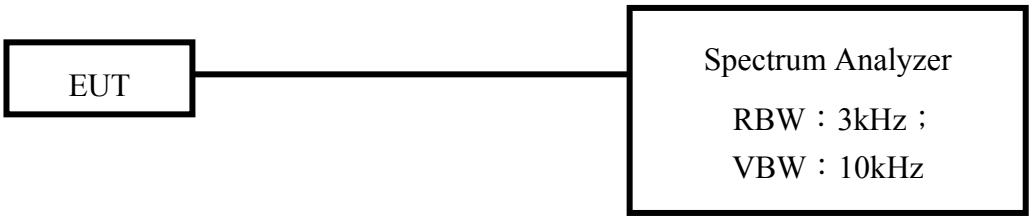
Radiated Emission					*Corrected Amplitude (dBμV/m)*		*Class B (3m)*		
Frequency (MHz)	*Ant. P.*	*Ant. H. (m)*	*Table ( )*	*Factors (dB)*	*Peak*	*Average*	*Limit (dBμV/m) Peak*	*Ave.*	*Margin (dB)*
2482.95	Hor	1.00	128	9.44	61.94	47.44	74.00	53.96	-6.52
2484.88	Hor	1.00	128	9.45	63.78	45.45	74.00	53.96	-8.51
2486.65	Hor	1.00	142	9.45	62.79	44.12	74.00	53.96	-9.84
2520.00	Hor	1.00	57	9.53	54.69	45.86	74.00	53.96	-8.10
2483.89	Ver	1.00	347	9.44	54.94	37.77	74.00	53.96	-16.19
2485.16	Ver	1.00	351	9.45	55.28	36.95	74.00	53.96	-17.01
2489.26	Ver	1.00	347	9.46	52.13	35.63	74.00	53.96	-18.33
2519.49	Ver	1.00	293	9.53	46.86	---	74.00	53.96	-7.10

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



P.S.: Notebook computer 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.	Last time	Next time
Spectrum Analyzer	MS2665C	ANRITSU	6200175476	09/30/03	09/30/04

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	-7.48	1.20	-6.28	8.00	-14.28
CH 06	-11.15	1.20	-9.95	8.00	-17.95
CH 11	-12.25	1.20	-11.05	8.00	-19.05

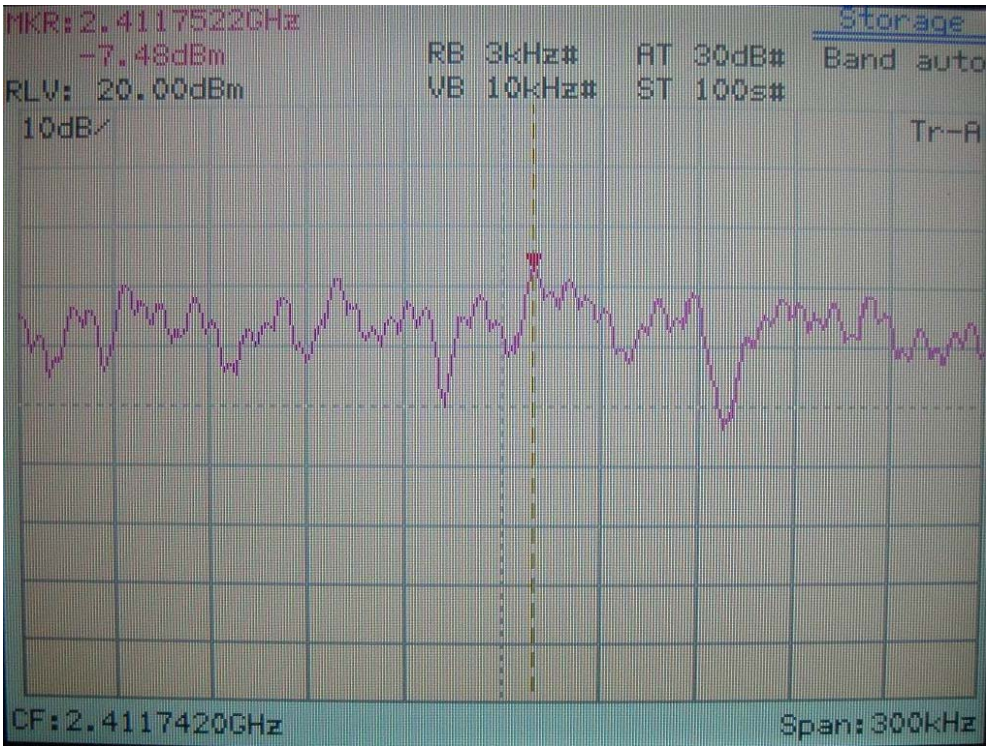
IEEE 802.11g

Channel	*Ppr (dBm)*	*Cable Loss (dB)*	*Ppq (dBm)*	*Limit (dB)*	*Margin (dB)*
CH 01	-15.80	1.20	-14.60	8.00	-22.60
CH 06	-16.31	1.20	-15.11	8.00	-23.11
CH 11	-19.07	1.20	-17.87	8.00	-25.87

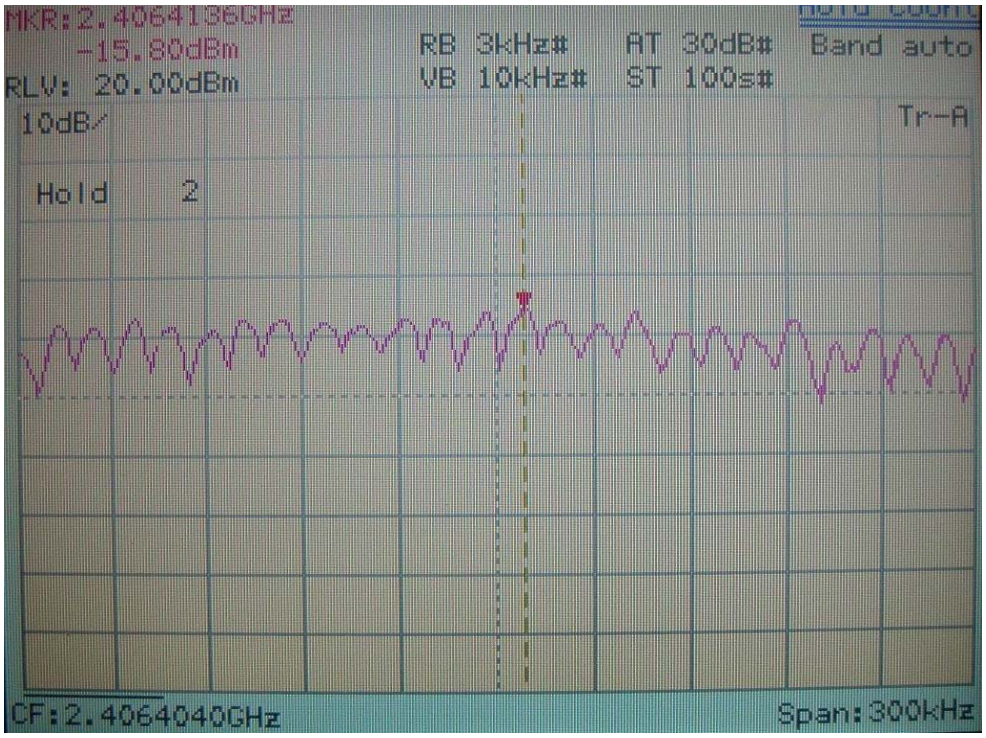
Note:

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|

Channel 01



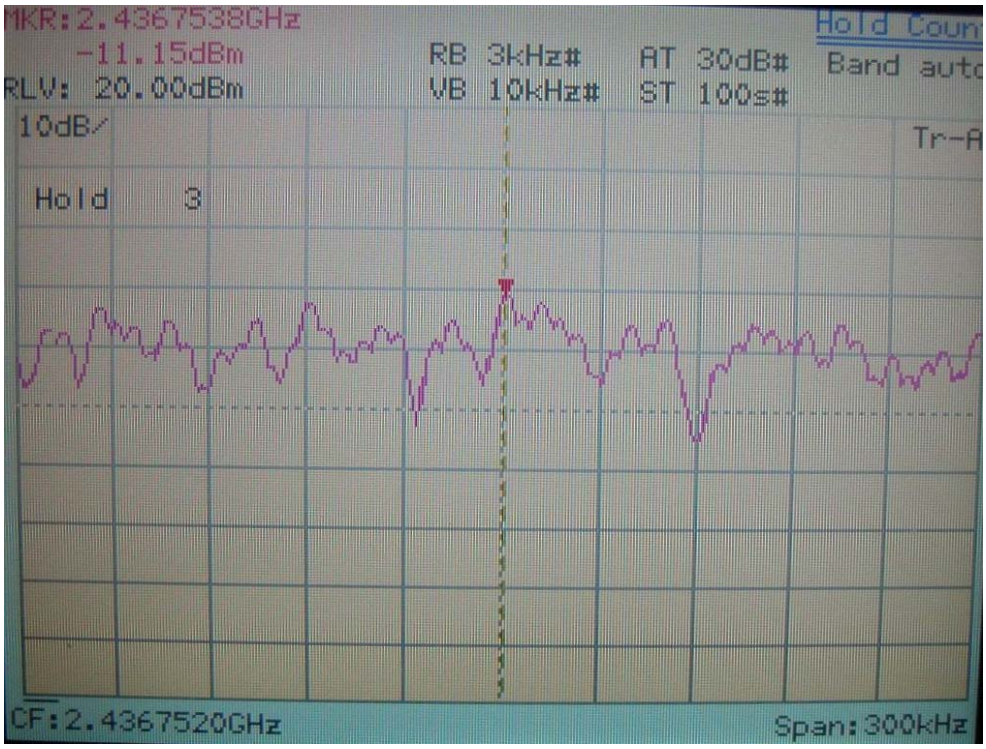
IEEE 802.11b



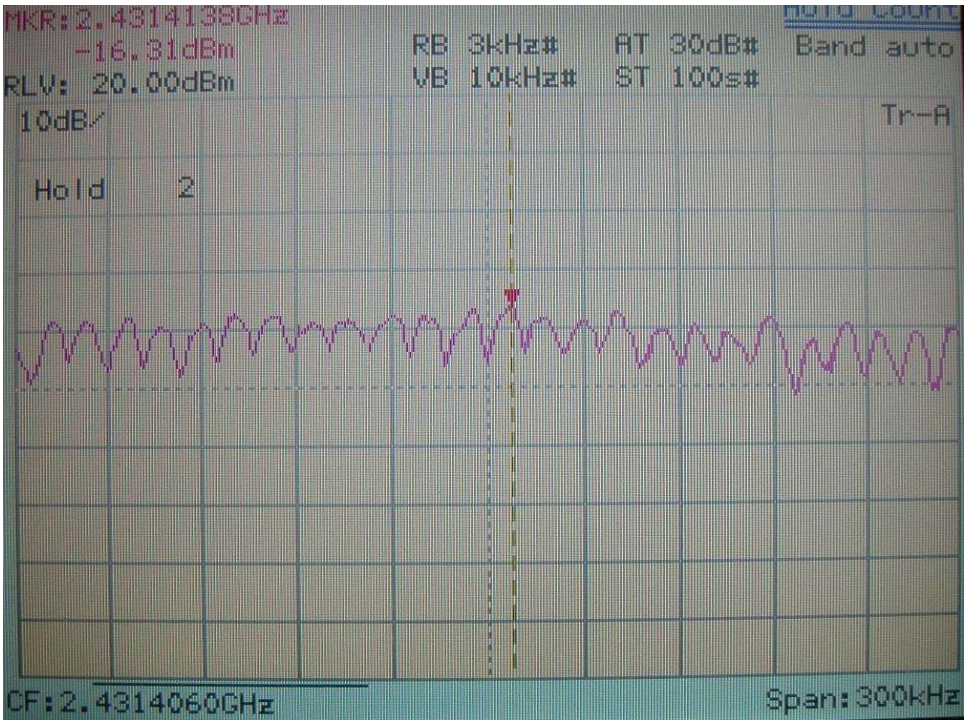
IEEE 802.11g

Channel 6

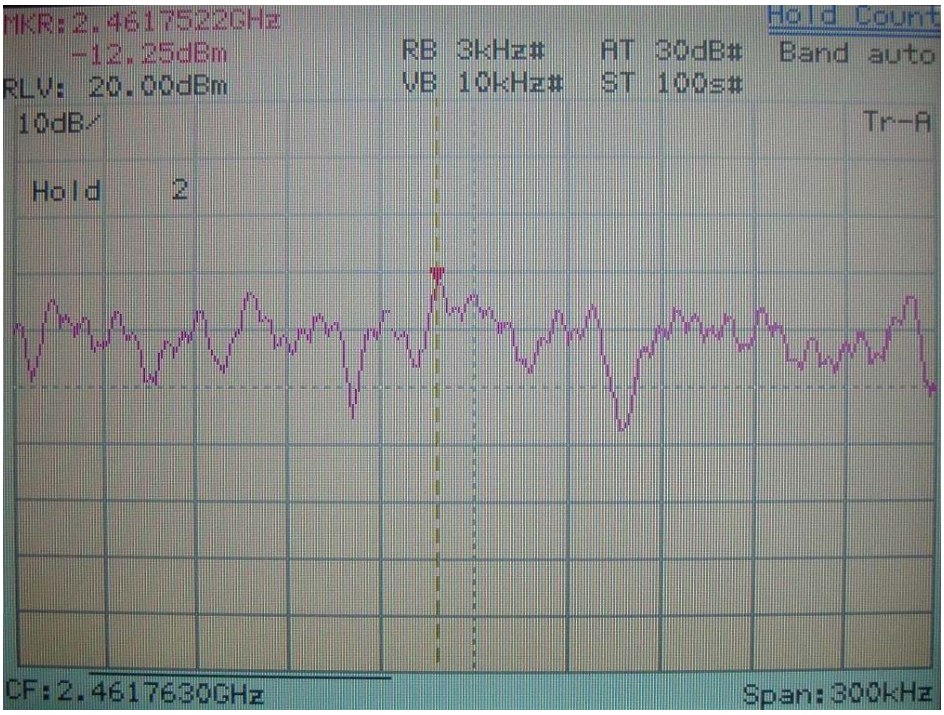
IEEE 802.11b



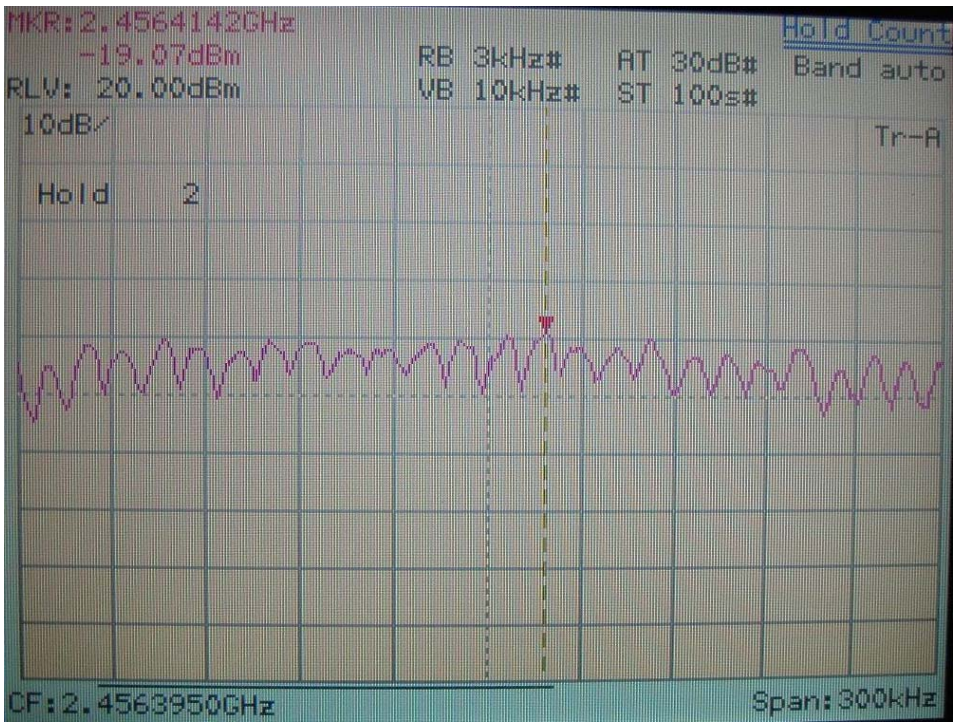
IEEE 802.11g



Channel 11



IEEE 802.11b



IEEE 802.11g