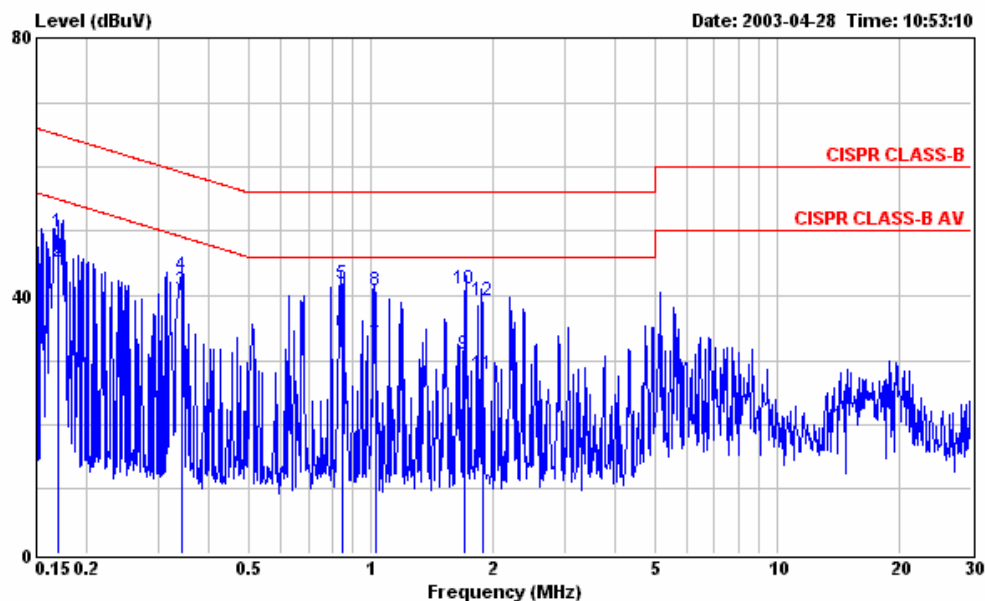


5.8.3. Test Result of Conducted Emission:

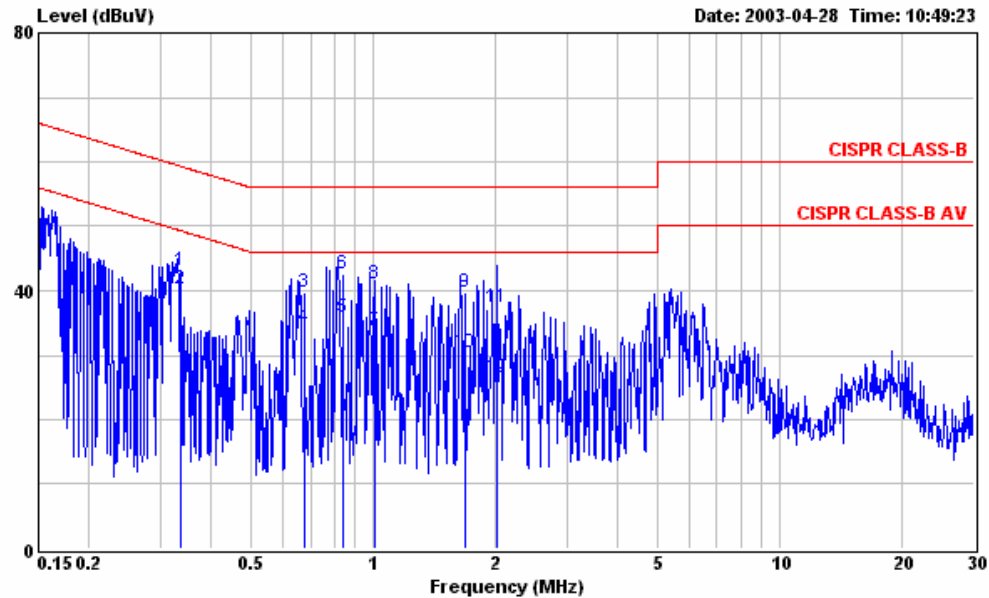
- Test Mode: Mode 7
- Frequency Range of Test: from 150KHz to 30 MHz
- 6dB Bandwidth: 9KHz
- Temperature: 27°C
- Relative Humidity: 63 %

! The test was passed at the minimum margin that marked by a frame in the following data



Site : C001-HY
 Condition : CISPR CLASS-B LISN2001/008 LINE
 EUT : PDA
 Power : 110V/60Hz
 Memo : TX CH00 2402MHz
 : Cradle
 : 342404

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1	0.170	49.85	-15.10	64.95	49.56	0.29	0.10	0.19	QP
2	0.170	45.10	-9.85	54.95	44.81	0.29	0.10	0.19	Average
3	0.341	40.83	-8.35	49.18	40.55	0.28	0.10	0.18	Average
4	0.341	43.08	-16.10	59.18	42.80	0.28	0.10	0.18	QP
5	0.852	41.72	-14.28	56.00	41.44	0.28	0.10	0.18	QP
6	0.852	34.40	-11.60	46.00	34.12	0.28	0.10	0.18	Average
7	1.026	32.55	-13.45	46.00	32.28	0.27	0.10	0.17	Average
8	1.026	40.84	-15.16	56.00	40.57	0.27	0.10	0.17	QP
9	1.700	30.92	-15.08	46.00	30.74	0.18	0.10	0.08	Average
10	1.700	41.11	-14.89	56.00	40.93	0.18	0.10	0.08	QP
11	1.877	27.80	-18.20	46.00	27.64	0.16	0.10	0.06	Average
12	1.877	39.34	-16.66	56.00	39.18	0.16	0.10	0.06	QP



Site : C001-HY
 Condition : CISPR CLASS-B LISN2001/008 NEUTRAL
 EUT : PDA
 Power : 110V/60Hz
 Memo : TX CH00 2402MHz
 : Cradle
 : 342404

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.335	43.21	-16.11	59.32	42.94	0.27	0.10	0.17 QP
2	0.335	40.30	-9.02	49.32	40.03	0.27	0.10	0.17 Average
3	0.675	39.83	-16.17	56.00	39.55	0.28	0.10	0.18 QP
4	0.675	34.39	-11.61	46.00	34.11	0.28	0.10	0.18 Average
5	0.845	35.92	-10.08	46.00	35.64	0.28	0.10	0.18 Average
6	0.845	42.64	-13.36	56.00	42.36	0.28	0.10	0.18 QP
7	1.009	33.67	-12.33	46.00	33.39	0.28	0.10	0.18 Average
8	1.009	41.05	-14.95	56.00	40.77	0.28	0.10	0.18 QP
9	1.682	39.70	-16.30	56.00	39.52	0.18	0.10	0.08 QP
10	1.682	30.38	-15.62	46.00	30.20	0.18	0.10	0.08 Average
11	2.006	37.31	-18.69	56.00	37.16	0.15	0.10	0.05 QP
12	2.006	26.42	-19.58	46.00	26.27	0.15	0.10	0.05 Average

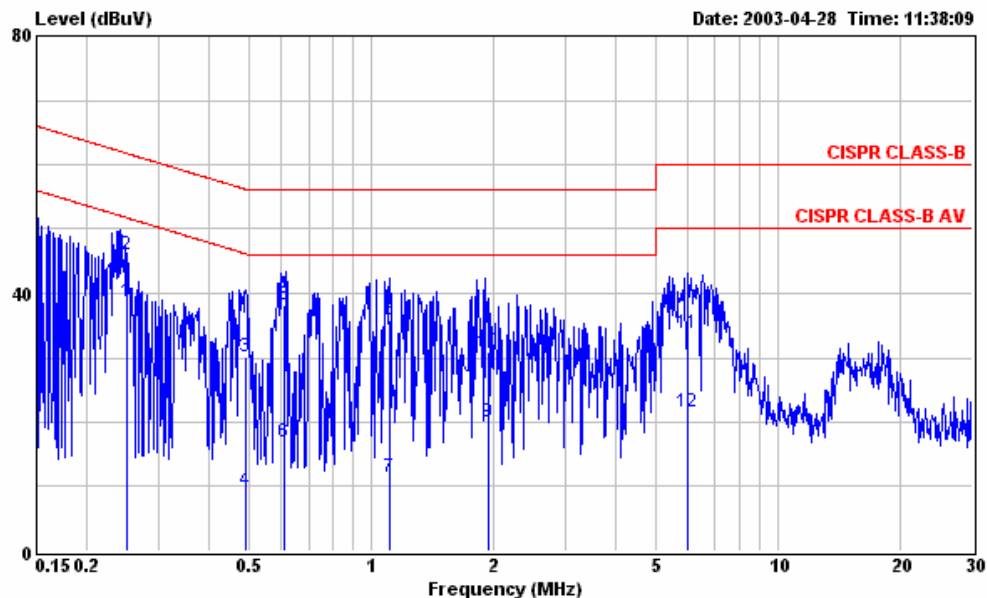
Test Engineer :

Jay

Jay Zhong

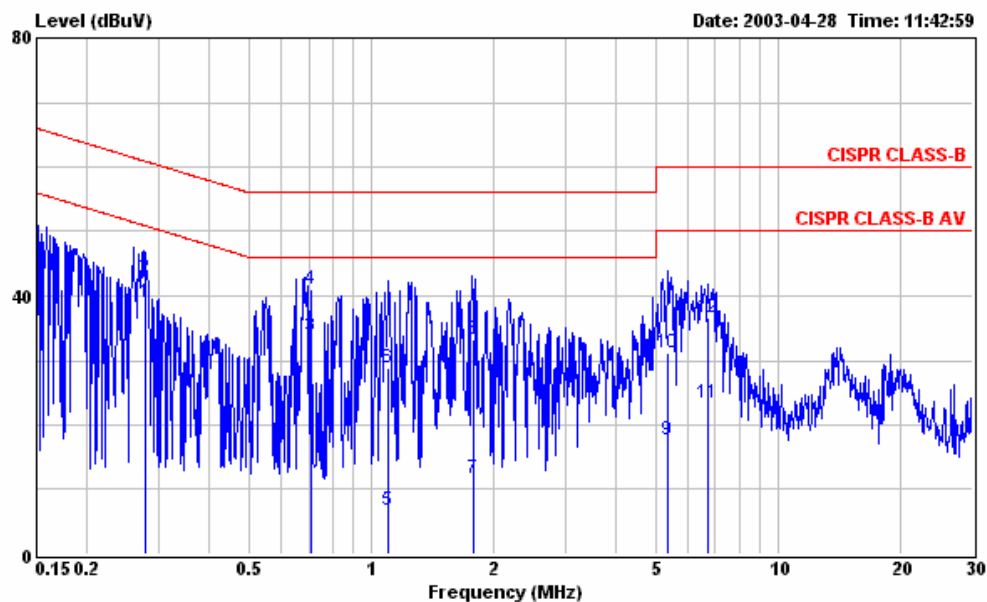
- Test Mode: Mode 8
- Frequency Range of Test: from 150KHz to 30 MHz
- 6dB Bandwidth: 9KHz
- Temperature: 27°C
- Relative Humidity: 63 %

The test was passed at the minimum margin that marked by a frame in the following data



Site : C001-HY
 Condition : CISPR CLASS-B LISN2001/008 NEUTRAL
 EUT : PDA
 Power : 110V/60Hz
 Memo : TX CH39 2441MHz
 : Cradle
 : 342404

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1	0.250	38.67	-13.08	51.75	38.40	0.27	0.10	0.17	Average
2	0.250	46.02	-15.73	61.75	45.75	0.27	0.10	0.17	QP
3	0.491	30.16	-25.99	56.15	29.88	0.28	0.10	0.18	QP
4	0.491	9.38	-36.77	46.15	9.10	0.28	0.10	0.18	Average
5	0.609	38.08	-17.92	56.00	37.80	0.28	0.10	0.18	QP
6	0.609	16.81	-29.19	46.00	16.53	0.28	0.10	0.18	Average
7	1.110	11.33	-34.67	46.00	11.07	0.26	0.10	0.16	Average
8	1.110	35.82	-20.18	56.00	35.56	0.26	0.10	0.16	QP
9	1.936	19.91	-26.09	46.00	19.75	0.16	0.10	0.06	Average
10	1.936	30.90	-25.10	56.00	30.74	0.16	0.10	0.06	QP
11	5.990	33.65	-26.35	60.00	33.32	0.33	0.20	0.13	QP
12	5.990	21.46	-28.54	50.00	21.13	0.33	0.20	0.13	Average



Site : C001-HY
 Condition : CISPR CLASS-B LISN2001/008 LINE
 EUT : PDA
 Power : 110V/60Hz
 Memo : TX CH39 2441MHz
 : Cradle
 : 342404

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Factor	Loss
			dB	dBuV	dBuV	dB	dB	dB
1	0.279	38.95	-11.91	50.86	38.68	0.27	0.10	0.17 Average
2	0.279	42.92	-17.94	60.86	42.65	0.27	0.10	0.17 QP
3	0.711	33.89	-12.11	46.00	33.61	0.28	0.10	0.18 Average
4	0.711	40.98	-15.02	56.00	40.70	0.28	0.10	0.18 QP
5	1.100	6.82	-39.18	46.00	6.56	0.26	0.10	0.16 Average
6	1.100	28.78	-27.22	56.00	28.52	0.26	0.10	0.16 QP
7	1.778	11.56	-34.44	46.00	11.39	0.17	0.10	0.07 Average
8	1.778	33.13	-22.87	56.00	32.96	0.17	0.10	0.07 QP
9	5.330	17.57	-32.43	50.00	17.26	0.31	0.20	0.11 Average
10	5.330	31.08	-28.92	60.00	30.77	0.31	0.20	0.11 QP
11	6.700	23.31	-26.69	50.00	22.96	0.35	0.20	0.15 Average
12	6.700	36.52	-23.48	60.00	36.17	0.35	0.20	0.15 QP

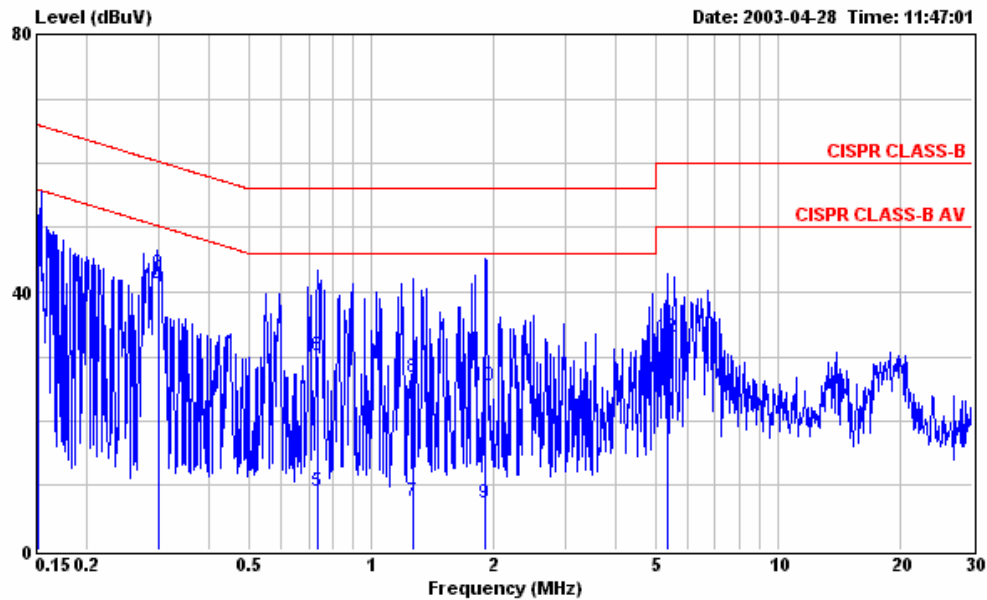
Test Engineer :

Jay

Jay Zhong

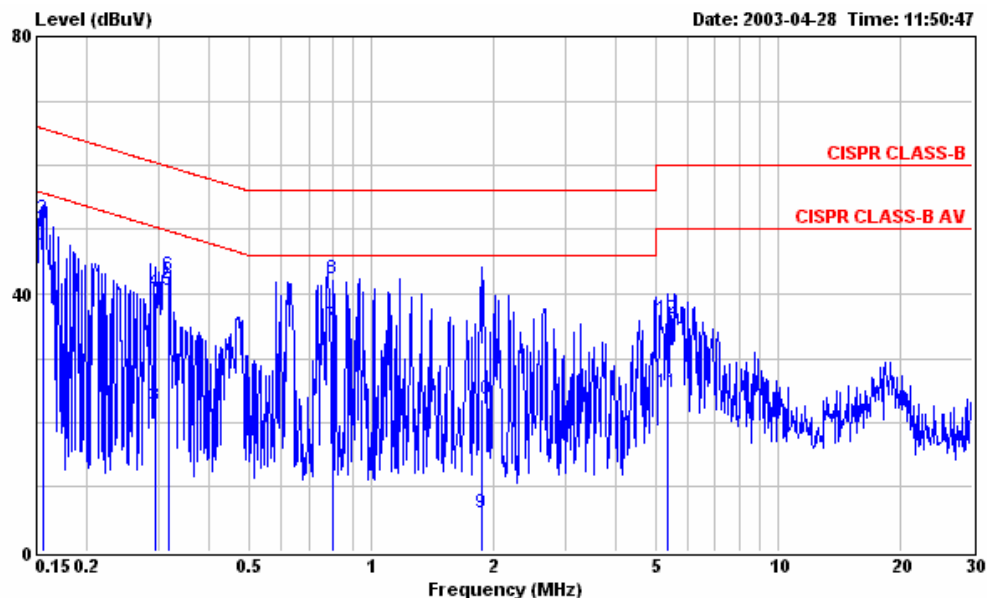
- Test Mode: Mode 9
- Frequency Range of Test: from 150KHz to 30 MHz
- 6dB Bandwidth: 9KHz
- Temperature: 27°C
- Relative Humidity: 63 %

The test was passed at the minimum margin that marked by a frame in the following data



Site : C001-HY
 Condition : CISPR CLASS-B LISN2001/008 LINE
 EUT : PDA
 Power : 110V/60Hz
 Memo : TX CH78 2480MHz
 : Cradle
 : 342404

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
		dBuV	dB	dBuV	dBuV	dB	dB	
1	0.151	52.32	-13.62	65.94	52.01	0.31	0.10	0.21 QP
2	0.151	46.82	-9.12	55.94	46.51	0.31	0.10	0.21 Average
3	0.300	42.97	-17.26	60.23	42.70	0.27	0.10	0.17 QP
4	0.300	40.73	-9.50	50.23	40.46	0.27	0.10	0.17 Average
5	0.735	9.15	-36.85	46.00	8.87	0.28	0.10	0.18 Average
6	0.735	30.18	-25.82	56.00	29.90	0.28	0.10	0.18 QP
7	1.260	7.60	-38.40	46.00	7.36	0.24	0.10	0.14 Average
8	1.260	26.84	-29.16	56.00	26.60	0.24	0.10	0.14 QP
9	1.900	7.33	-38.67	46.00	7.17	0.16	0.10	0.06 Average
10	1.900	25.35	-30.65	56.00	25.19	0.16	0.10	0.06 QP
11	5.360	21.44	-28.56	50.00	21.13	0.31	0.20	0.11 Average
12	5.360	32.86	-27.14	60.00	32.55	0.31	0.20	0.11 QP



Site : C001-HY
 Condition : CISPR CLASS-B LISN2001/008 NEUTRAL
 EUT : PDA
 Power : 110V/60Hz
 Memo : TX CH78 2480MHz
 : Cradle
 : 342404

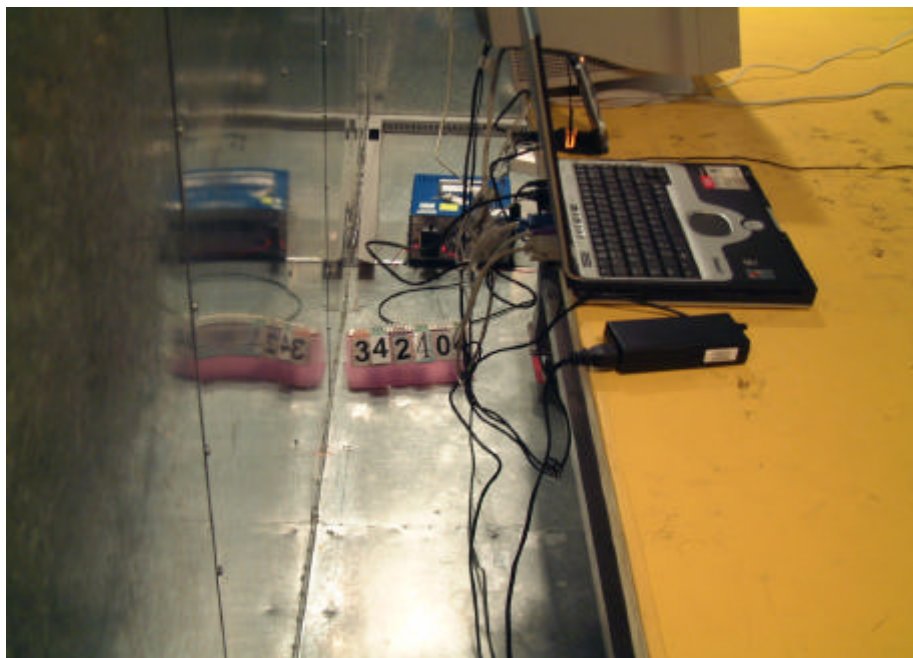
	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1	0.156	45.99	-9.68	55.67	45.68	0.31	0.10	0.21	Average
2	0.156	51.66	-14.01	65.67	51.35	0.31	0.10	0.21	QP
3	0.293	22.61	-27.82	50.43	22.34	0.27	0.10	0.17	Average
4	0.293	40.30	-20.13	60.43	40.03	0.27	0.10	0.17	QP
5	0.318	40.41	-9.35	49.76	40.14	0.27	0.10	0.17	Average
6	0.318	42.97	-16.79	59.76	42.70	0.27	0.10	0.17	QP
7	0.800	34.98	-11.02	46.00	34.70	0.28	0.10	0.18	Average
8	0.800	42.28	-13.72	56.00	42.00	0.28	0.10	0.18	QP
9	1.866	5.98	-40.02	46.00	5.82	0.16	0.10	0.06	Average
10	1.866	23.66	-32.34	56.00	23.50	0.16	0.10	0.06	QP
11	5.330	24.68	-25.32	50.00	24.37	0.31	0.20	0.11	Average
12	5.330	36.02	-23.98	60.00	35.71	0.31	0.20	0.11	QP

Test Engineer :

Jay
 Jay Zhong

5.8.4. Photographs of Conducted Emission Test Configuration

- The photographs show the configuration that generates the maximum emission.

FRONT VIEW**REAR VIEW**

SIDE VIEW



5.9. Test of Radiated Emission

Radiated emissions from 30 MHz to 24.8 GHz were measured according to the methods defines in ANSI C63.4-1992. The EUT was placed on a nonmetallic stand in the open-field site, 0.8 meter above the ground plane, as shown in section 4.6.3. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions

5.9.1. Major Measuring Instruments

- Amplifier (MITEQ AFS44)
 - RF Gain 40 dB
 - Signal Input 100 MHz to 26.5 GHz

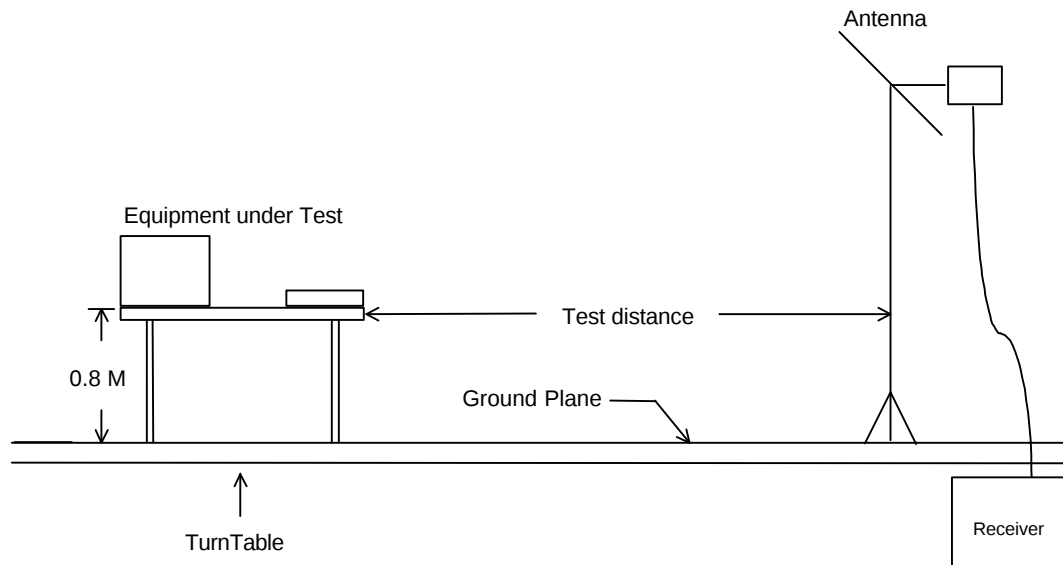
- Amplifier (HP 8447D)
 - RF Gain 30 dB
 - Signal Input 100 KHz to 1.3 GHz

- Spectrum analyzer (R&S FSP40)
 - Attenuation 10 dB
 - Start Frequency 1 GHz
 - Stop Frequency 24 GHz
 - Resolution Bandwidth 1 MHz
 - Video Bandwidth 1 MHz
 - Signal Input 9 KHz to 40 GHz

- Test Receiver (SCHAFFNER SCR3501)
 - Resolution Bandwidth 120 KHz
 - Frequency Band 9 K – 1 GHz
 - Quasi-Peak Detector ON for Quasi-Peak Mode
OFF for Peak Mode

5.9.2. Test Procedures

1. The EUT was placed on a rotatable table top 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
5. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
8. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

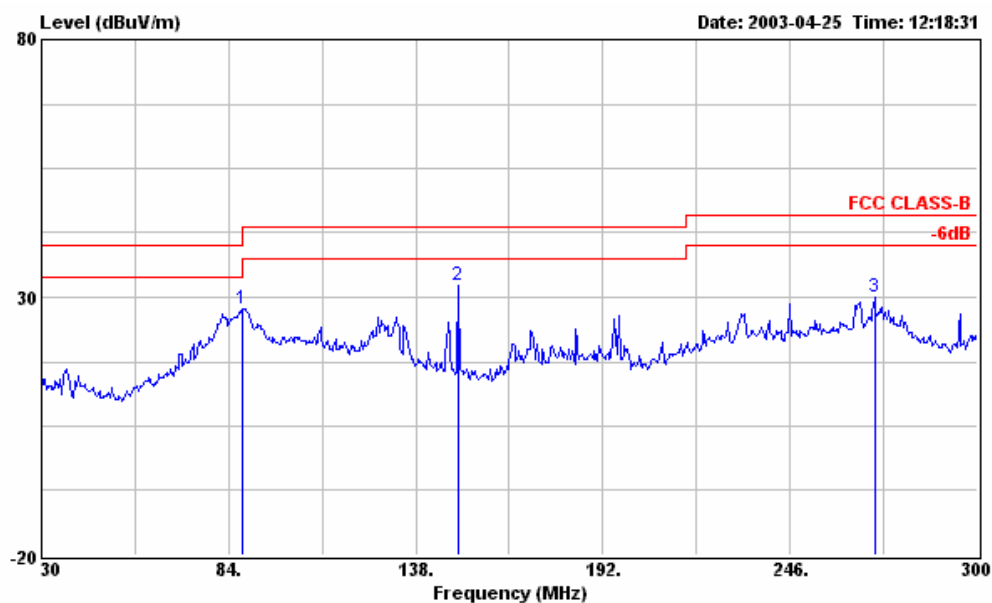
5.9.3. Typical Test Setup Layout of Radiated Emission

5.9.4. Test Result of Radiated Emission

- Test Mode: Mode 1
- Test Distance: 3 M
- Temperature: 27 °C
- Relative Humidity: 63 %
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

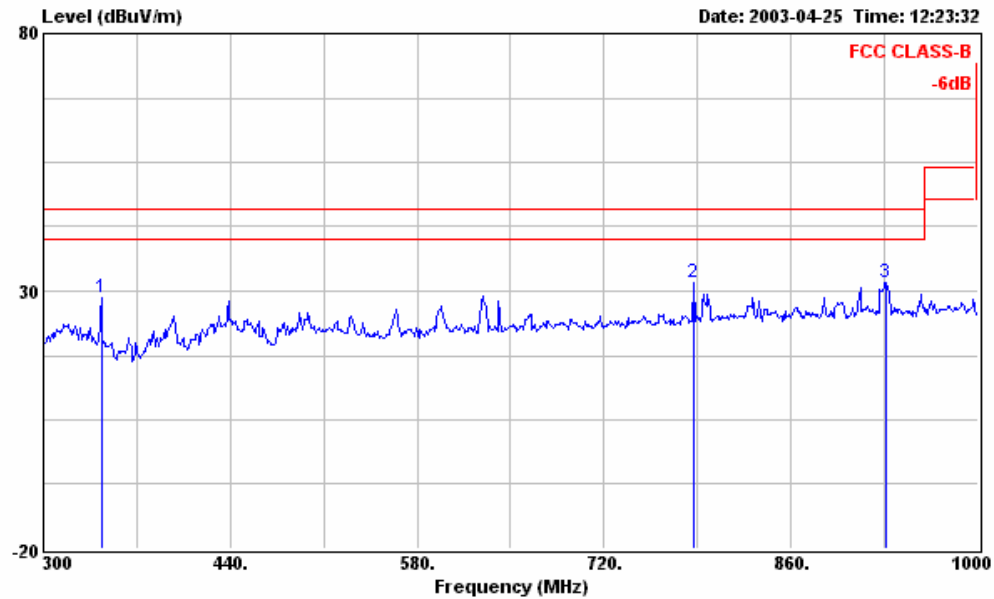
The test was passed at the minimum margin that marked by the frame in the following test record

- Spurious Emission
- For 30MHz to 1GHz



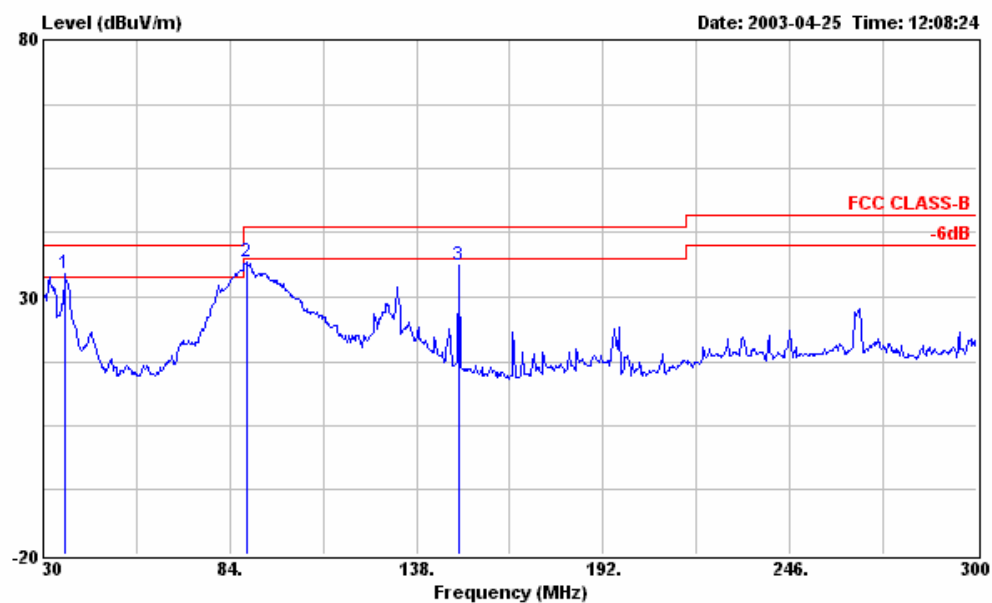
Site : 03CH03-HY
 Condition : 3m 03CH03-MAT HORIZONTAL
 EUT : Wireless PDA
 Power : 110V/60Hz
 MODEL : PE2060
 MEMO : TX CH00 2402MHz
 : Z342404
 : USB Cable-X

	Freq	Level	Over	Limit	Read	Probe	Cable	Preamp		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	88.050	27.79	-15.71	43.50	44.61	8.39	1.81	27.02	Peak	---	---
2	150.420	32.17	-11.33	43.50	47.28	9.35	2.34	26.80	Peak	---	---
3	270.300	30.09	-15.91	46.00	41.74	11.64	3.31	26.60	Peak	---	---



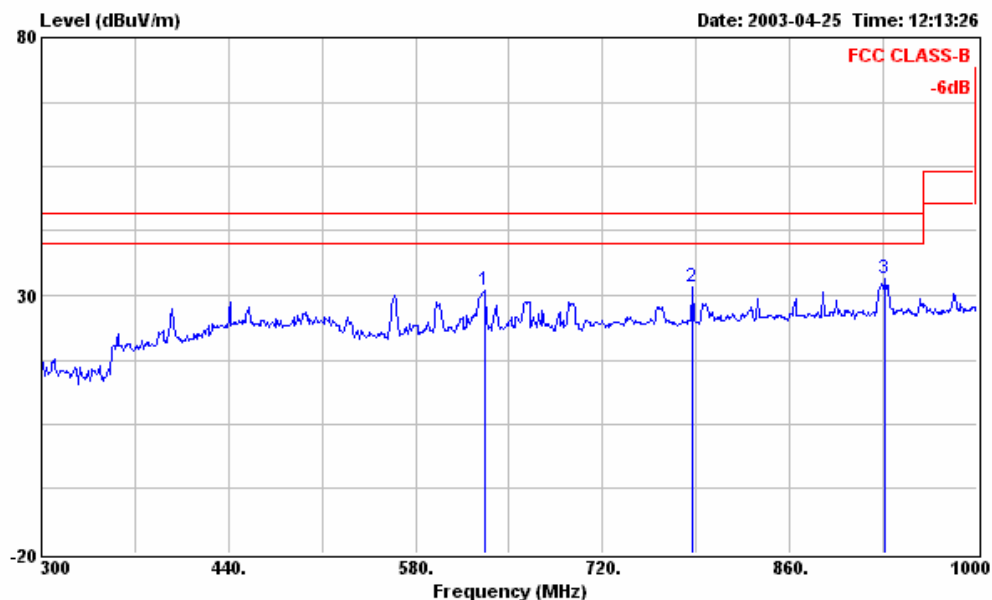
Site : 03CH03-HY
 Condition : 3m 03CH03-MAT HORIZONTAL
 EUT : Wireless PDA
 Power : 110V/60Hz
 MODEL : PE2060
 MEMO : TX CH00 2402MHz
 : Z342404
 : USB Cable-X

	Freq	Level	Over	Limit	Read	Probe	Cable	Preamp		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
			dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	343.400	28.77	-17.23	46.00	39.07	12.79	3.77	26.86	Peak	---	---
2	786.500	31.50	-14.50	46.00	34.48	18.68	6.34	28.00	Peak	---	---
3	931.400	31.59	-14.41	46.00	32.75	19.52	7.03	27.71	Peak	---	---



Site : 03CH03-HY
 Condition : 3m 03CH03-MAT VERTICAL
 EUT : Wireless PDA
 Power : 110V/60Hz
 MODEL : PE2060
 MEMO : TX CH00 2402MHz
 : Z342404
 : USB Cable-X

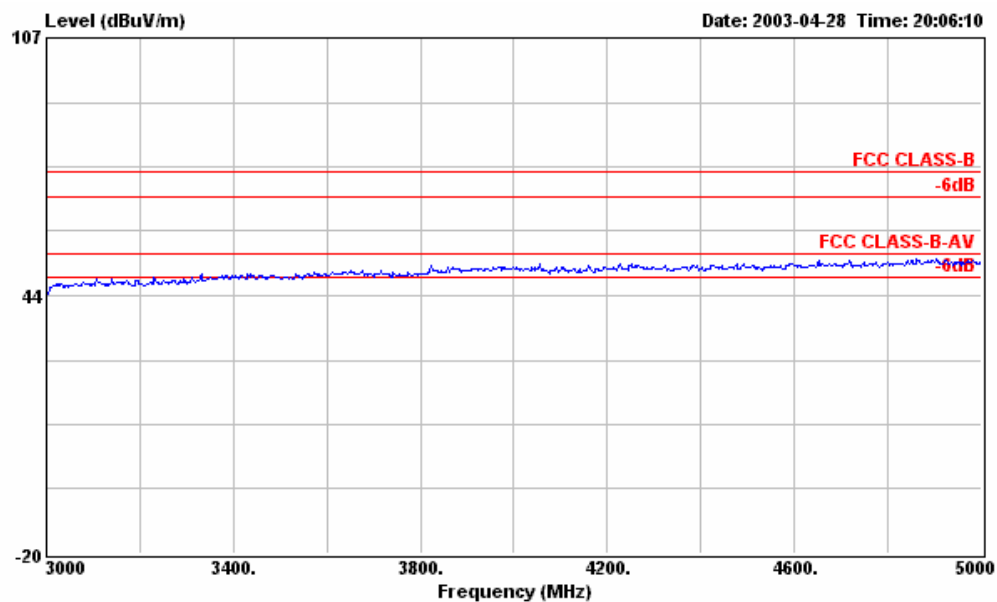
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1 !	36.210	34.68	-5.32	40.00	48.28	12.38	1.12	27.10	Peak	100	68
2	88.860	36.70	-6.80	43.50	53.25	8.65	1.82	27.02	Peak	---	---
3	150.420	36.13	-7.37	43.50	51.24	9.35	2.34	26.80	Peak	---	---



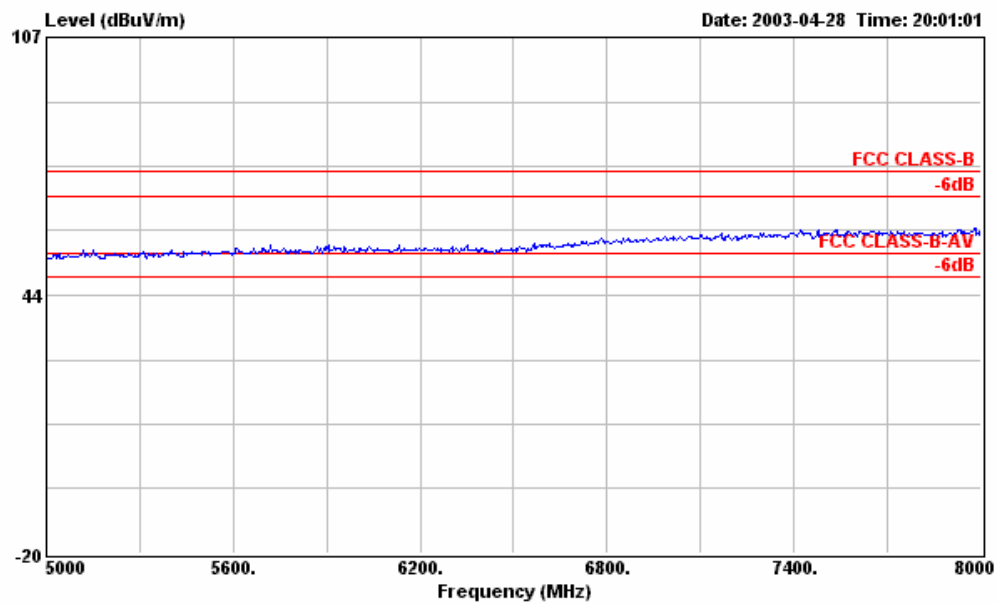
Site : 03CH03-HY
 Condition : 3m 03CH03-MAT VERTICAL
 EUT : Wireless PDA
 Power : 110V/60Hz
 MODEL : PE2060
 MEMO : TX CH00 2402MHz
 : Z342404
 : USB Cable-X

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	631.800	30.97	-15.03	46.00	35.78	17.51	5.68	28.00	Peak	---	---
2	786.500	31.59	-14.41	46.00	34.57	18.68	6.34	28.00	Peak	---	---
3	931.400	33.27	-12.73	46.00	34.43	19.52	7.03	27.71	Peak	---	---

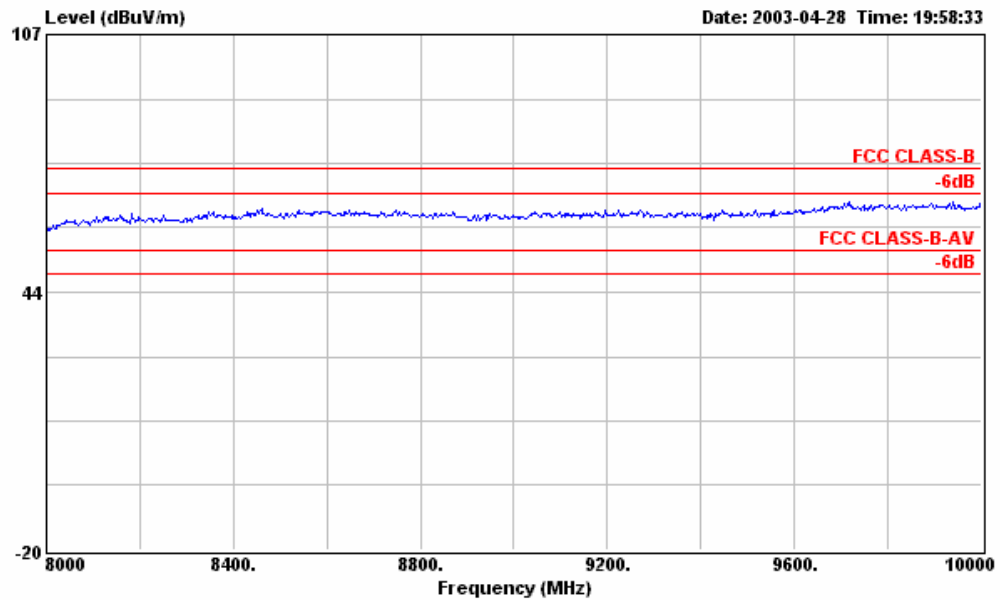
- For above 1GHz



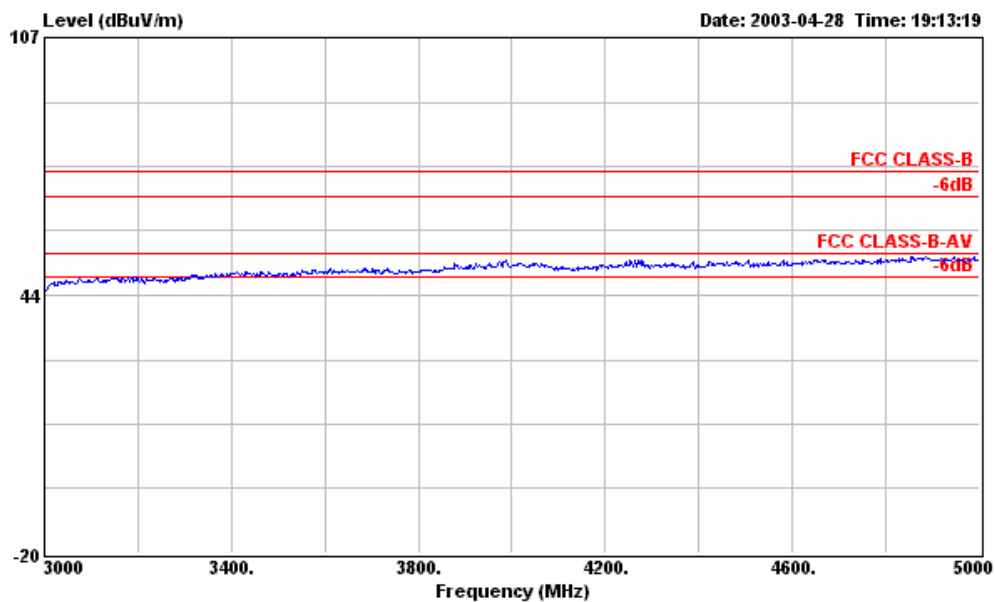
Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 HORIZONTAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH00 2402MHz
: Z342404
: USB Cable-X



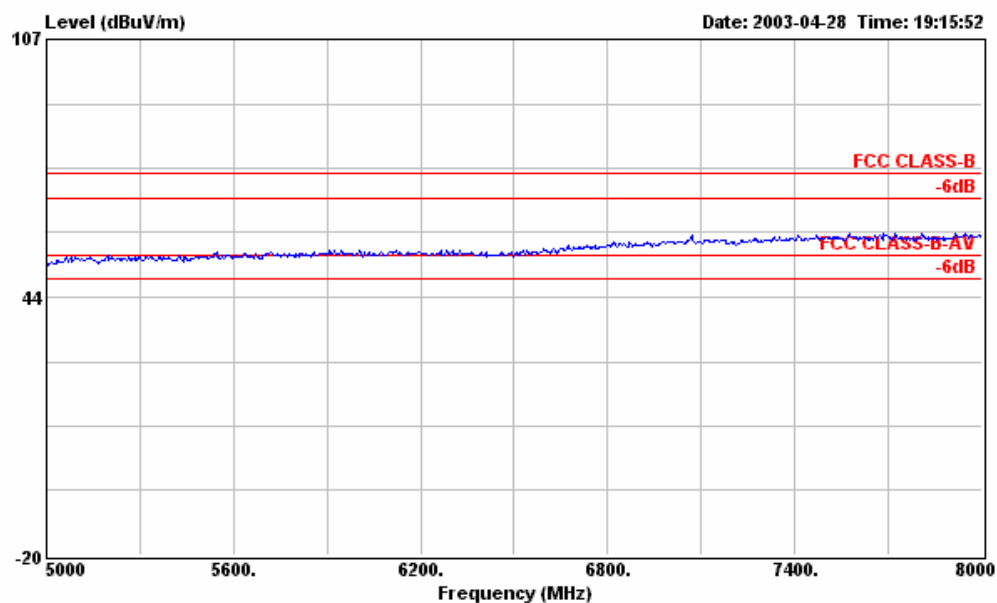
Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 HORIZONTAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH00 2402MHz
: Z342404
: USB Cable-X



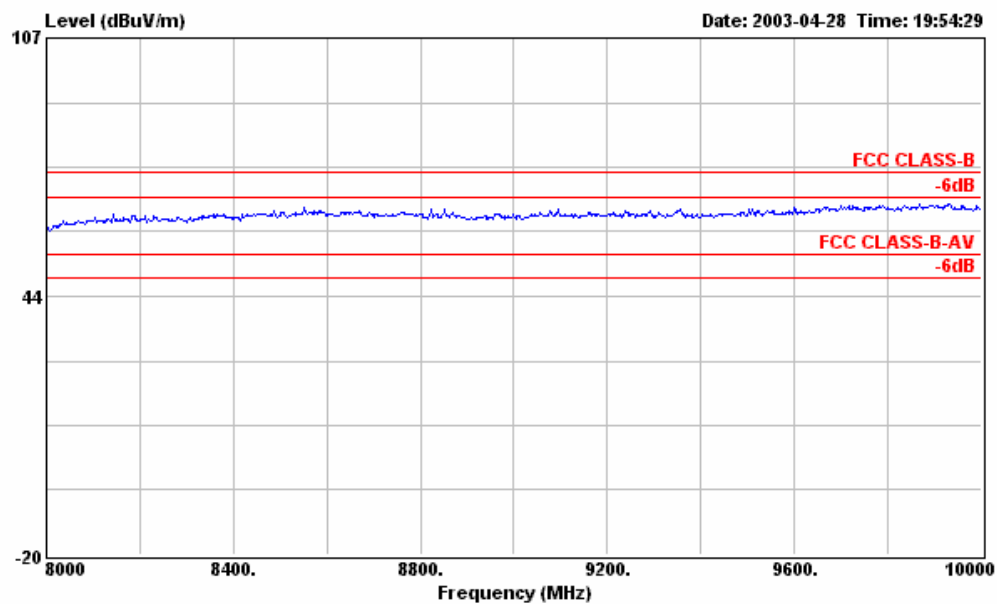
Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 HORIZONTAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH00 2402MHz
: Z342404
: USB Cable-X



Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 VERTICAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH00 2402MHz
: Z342404
: USB Cable-X



Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 VERTICAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH00 2402MHz
: Z342404
: USB Cable-X



Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 VERTICAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH00 2402MHz
: Z342404
: USB Cable-X

■ Field strength of fundamental and harmonics

Frequency	Antenna	Cable	Reading	Limits	Emission	Level	Margin	Detect
	Polarity	Factor	Loss					
(MHz)		(dB/m)	(dB)	(dBuV)	(dBuV/m)	(uV/m)	(dBuV/m)	(uV/m) (dB) Mode
2404.000	H	28.23	5.97	56.02	-	-	90.22	32433.96 Peak
2404.000	H	28.23	5.97	30.49	-	-	64.69	1715.93 A.V.
2404.000	V	28.23	5.97	53.81	-	-	88.01	25147.80 Peak
2404.000	V	28.23	5.97	26.79	-	-	60.99	1120.73 A.V.
4804.000	V/H						-	Peak, A.V.
7206.000	V/H						-	Peak, A.V.
9608.000	V/H						-	Peak, A.V.
12010.000	V/H						-	Peak, A.V.
14412.000	V/H						-	Peak, A.V.
16814.000	V/H						-	Peak, A.V.
19216.000	V/H						-	Peak, A.V.
21618.000	V/H						-	Peak, A.V.
24020.000	V/H						-	Peak, A.V.

Remark: The emission emitted by the EUT is too low to be measured except the emission listed above

Test Engineer :

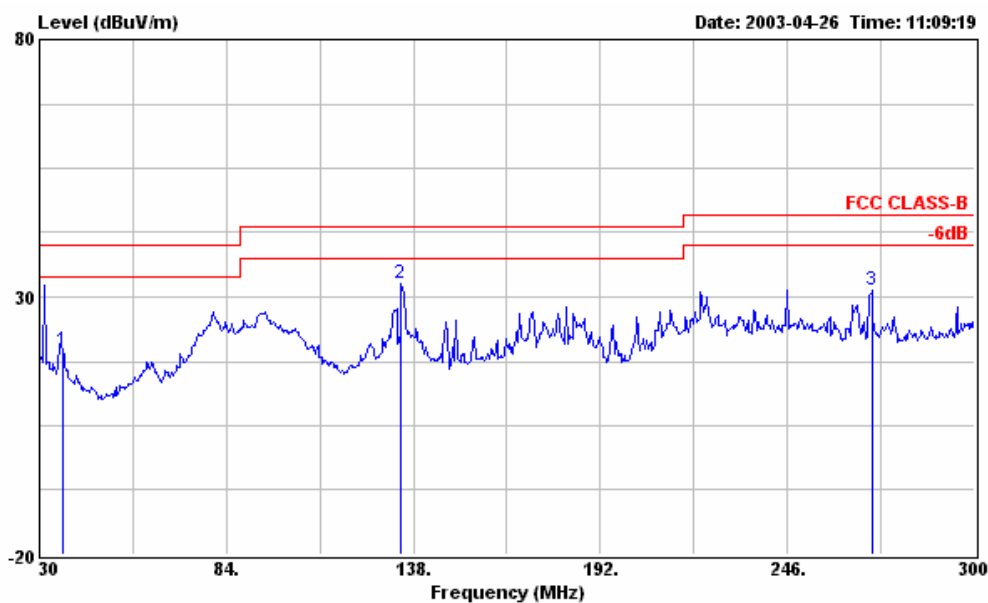
Jay

Jay Zhong

- Test Mode: Mode 2
- Test Distance: 3 M
- Temperature: 27 °C
- Relative Humidity: 63 %
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

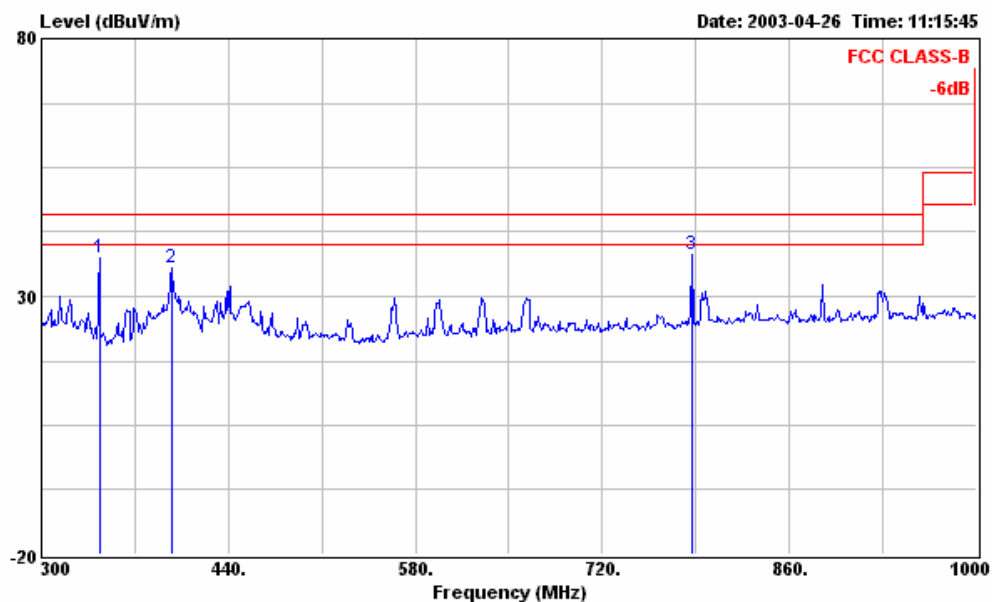
The test was passed at the minimum margin that marked by the frame in the following test record

- Spurious Emission
- For 30MHz to 1GHz



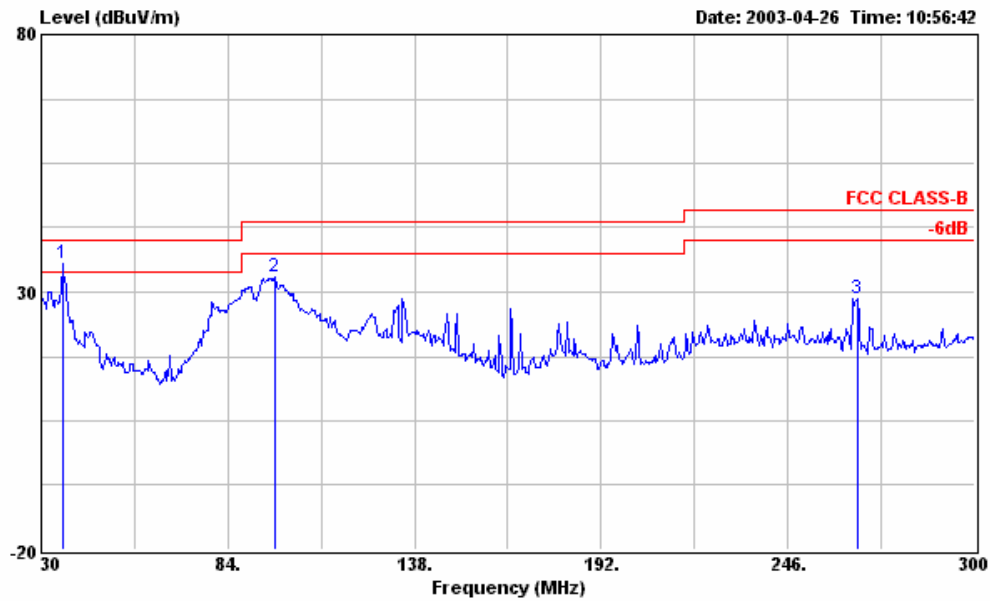
Site : 03CH03-HY
 Condition : 3m 03CH03-MAT HORIZONTAL
 EUT : Wireless PDA
 Power : 110V/60Hz
 MODEL : PE2060
 MEMO : TX CH39 2441MHz
 : Z342404
 : USB Cable-X

	Freq	Level	Over	Limit	Read	Probe	Cable	Preamp		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	36.750	19.68	-20.32	40.00	33.48	12.17	1.13	27.10	Peak	---	---
2	134.490	32.61	-10.89	43.50	46.86	10.41	2.20	26.86	Peak	---	---
3	270.300	31.16	-14.84	46.00	42.81	11.64	3.31	26.60	Peak	---	---



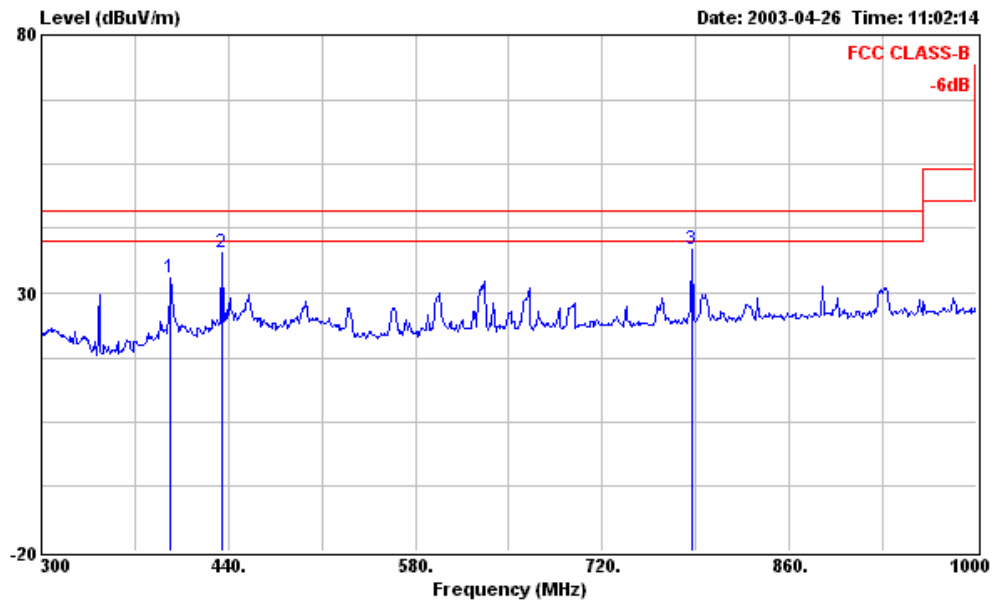
Site : 03CH03-HY
 Condition : 3m 03CH03-MAT HORIZONTAL
 EUT : Wireless PDA
 Power : 110V/60Hz
 MODEL : PE2060
 MEMO : TX CH39 2441MHz
 : Z342404
 : USB Cable-X

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	343.400	37.57	-8.43	46.00	47.87	12.79	3.77	26.86	Peak	---	---
2	397.300	35.38	-10.62	46.00	43.95	14.54	4.07	27.18	Peak	---	---
3	786.500	38.21	-7.79	46.00	41.19	18.68	6.34	28.00	Peak	---	---



Site : 03CH03-HY
 Condition : 3m 03CH03-MAT VERTICAL
 EUT : Wireless PDA
 Power : 110V/60Hz
 MODEL : PE2060
 MEMO : TX CH39 2441MHz
 : Z342404
 : USB Cable-X

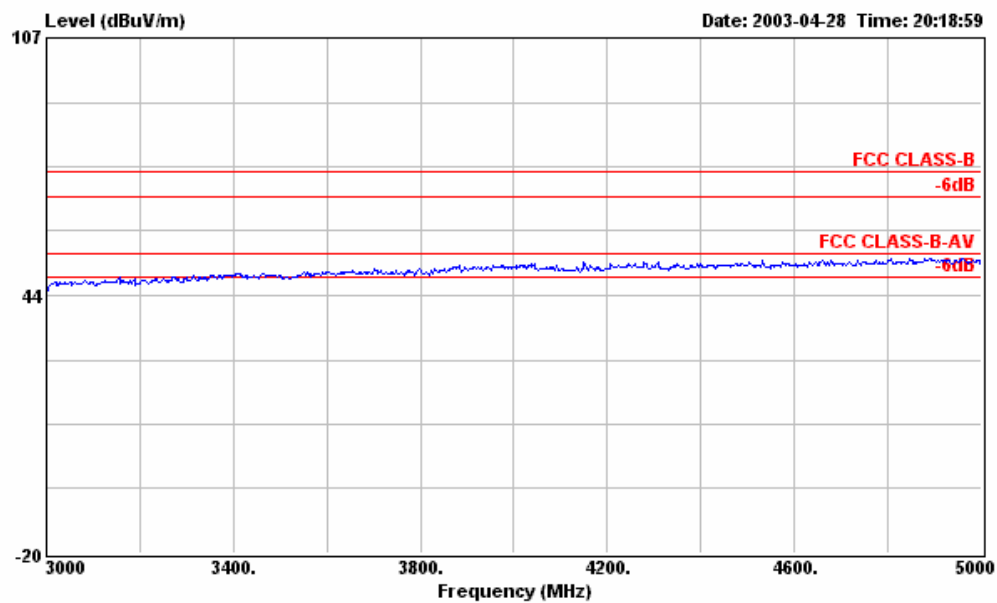
			Over	Limit		Read	Probe	Cable	Preamp		Ant	Table
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark		Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB			cm	deg
1	36.210	35.37	-4.63	40.00	48.97	12.38	1.12	27.10	Peak		100	68
2	97.500	32.96	-10.54	43.50	48.86	9.22	1.88	27.00	Peak		---	---
3	266.250	28.80	-17.20	46.00	40.44	11.68	3.28	26.60	Peak		---	---



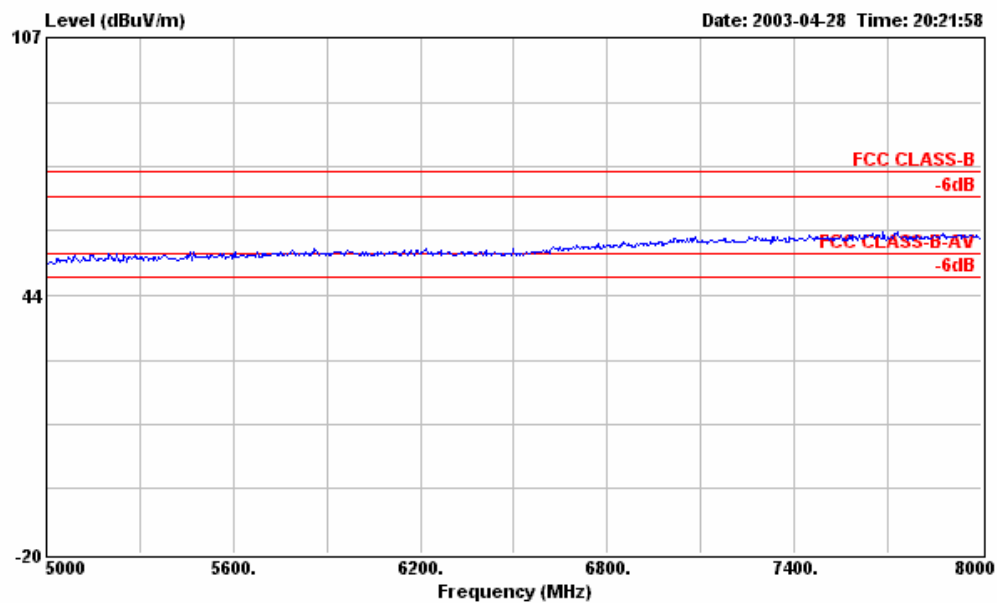
Site : 03CH03-HY
 Condition : 3m 03CH03-MAT VERTICAL
 EUT : Wireless PDA
 Power : 110V/60Hz
 MODEL : PE2060
 MEMO : TX CH39 2441MHz
 : Z342404
 : USB Cable-X

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	396.600	33.00	-13.00	46.00	41.59	14.52	4.07	27.18	Peak	---	---
2	435.800	37.84	-8.16	46.00	45.84	15.14	4.24	27.38	Peak	---	---
3	786.500	38.32	-7.68	46.00	41.30	18.68	6.34	28.00	Peak	---	---

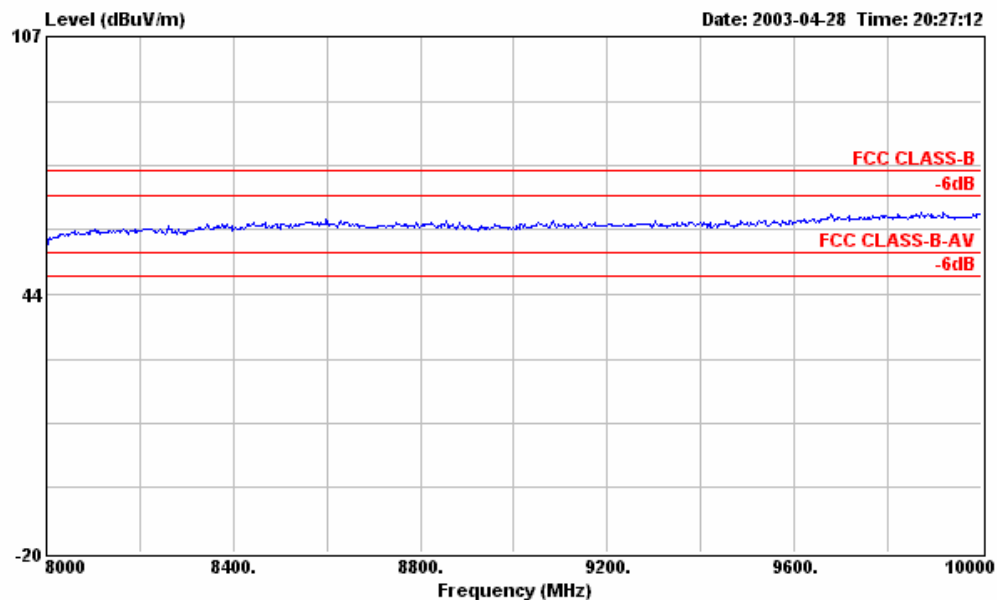
- For above 1GHz



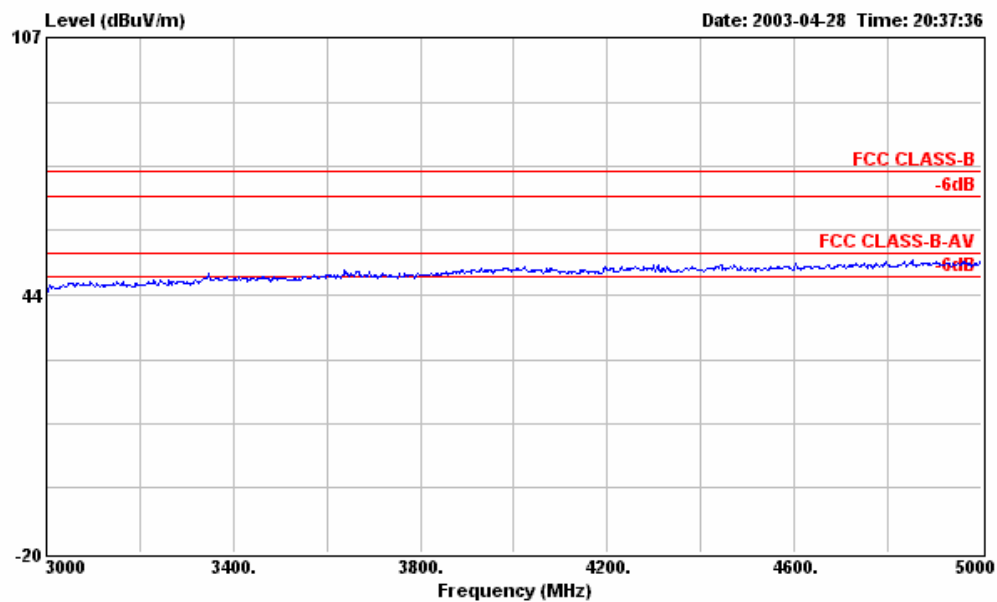
Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 HORIZONTAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH39 2441MHz
: Z342404
: USB Cable-X



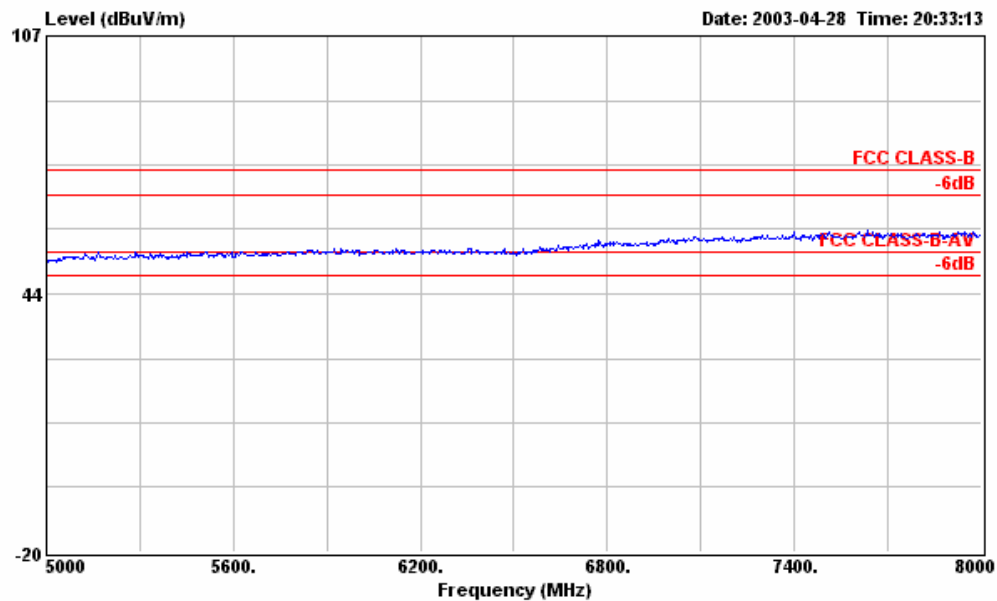
Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 HORIZONTAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH39 2441MHz
: Z342404
: USB Cable-X



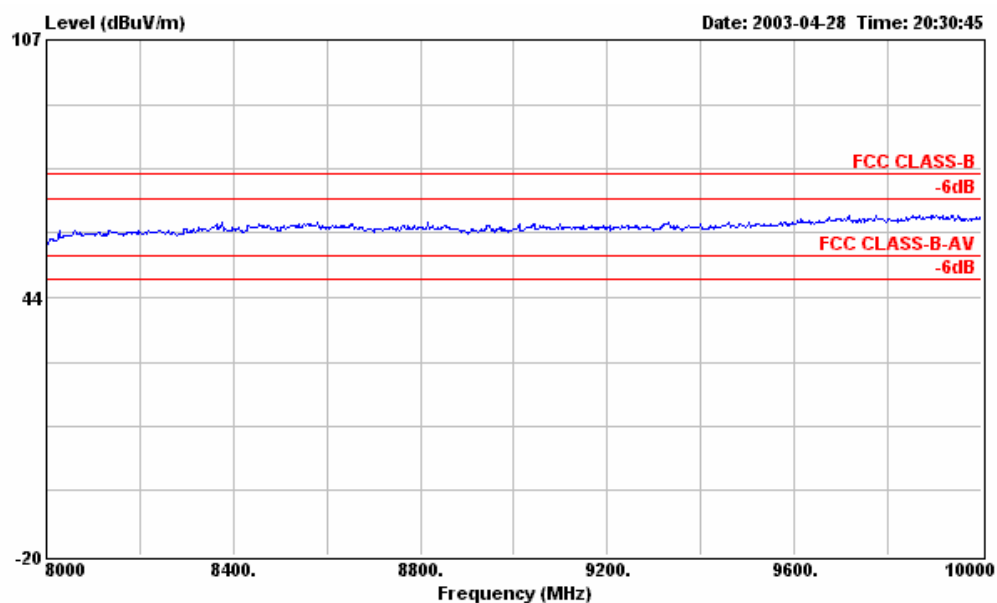
Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 HORIZONTAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH39 2441MHz
: Z342404
: USB Cable-X



Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 VERTICAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH39 2441MHz
: Z342404
: USB Cable-X



Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 VERTICAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH39 2441MHz
: Z342404
: USB Cable-X



Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 VERTICAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH39 2441MHz
: Z342404
: USB Cable-X

■ Field strength of fundamental and harmonics

Frequency	Antenna	Cable	Reading	Limits	Emission	Level	Margin	Detect		
	Polarity	Factor	Loss							
(MHz)		(dB/m)	(dB)	(dBuV)	(dBuV/m)	(uV/m)	(dBuV/m)	(uV/m)	(dB)	Mode
2444.000	H	28.31	6.02	58.28	-	-	92.61	42707.09		Peak
2444.000	H	28.31	6.02	30.77	-	-	65.10	1798.87		A.V.
2444.000	V	28.31	6.02	50.51	-	-	84.84	17458.22		Peak
2444.000	V	28.31	6.02	27.55	-	-	61.88	1241.65		A.V.
4882.000	V/H						-			Peak, A.V.
7323.000	V/H						-			Peak, A.V.
9764.000	V/H						-			Peak, A.V.
12205.000	V/H						-			Peak, A.V.
14646.000	V/H						-			Peak, A.V.
17087.000	V/H						-			Peak, A.V.
19528.000	V/H						-			Peak, A.V.
21969.000	V/H						-			Peak, A.V.
24410.000	V/H						-			Peak, A.V.

Remark: The emission emitted by the EUT is too low to be measured except the emission listed above

Test Engineer :



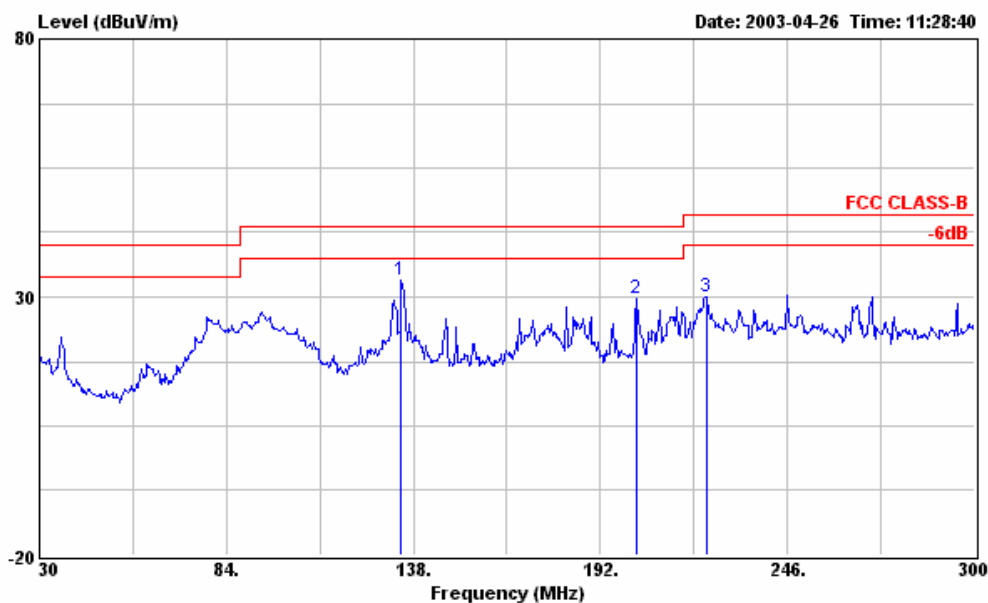
Jay Zhong

- Test Mode: Mode 3
- Test Distance: 3 M
- Temperature: 27 °C
- Relative Humidity: 63 %
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

The test was passed at the minimum margin that marked by the frame in the following test record

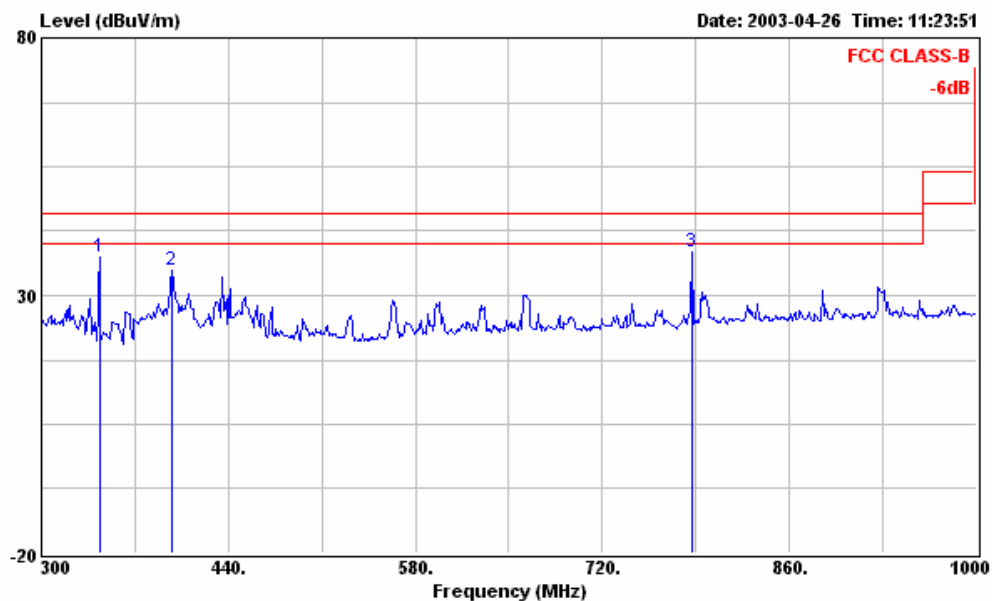
■ Spurious Emission

- For 30MHz to 1GHz



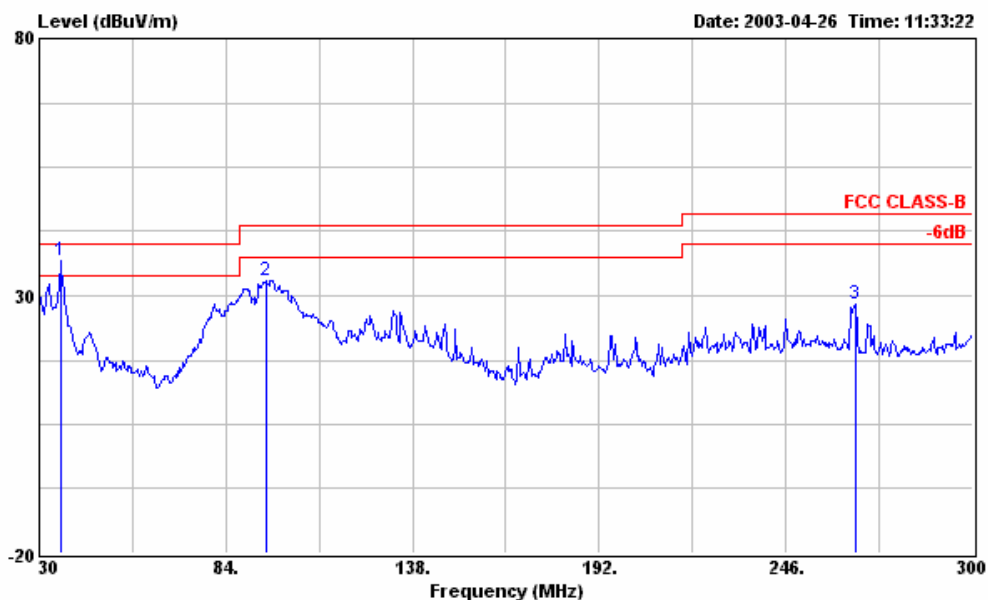
Site : 03CH03-HY
 Condition : 3m 03CH03-MAT HORIZONTAL
 EUT : Wireless PDA
 Power : 110V/60Hz
 MODEL : PE2060
 MEMO : TX CH78 2480MHz
 : Z342404
 : USB Cable-X

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	134.490	33.40	-10.10	43.50	47.65	10.41	2.20	26.86	Peak	---	---
2	202.260	29.61	-13.89	43.50	45.93	7.48	2.80	26.60	Peak	---	---
3	222.780	30.06	-15.94	46.00	44.30	9.40	2.96	26.60	Peak	---	---



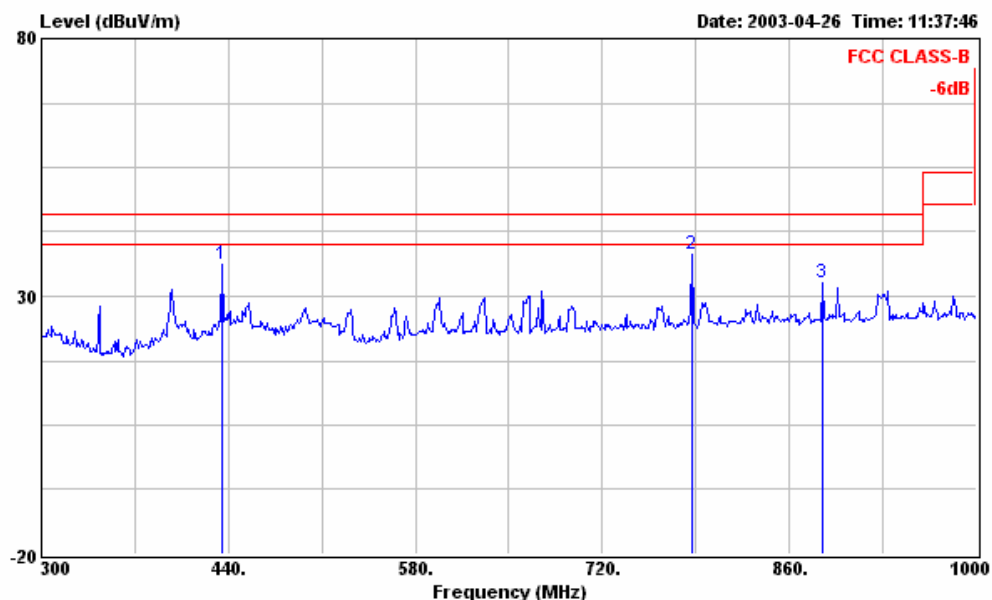
Site : 03CH03-HY
 Condition : 3m 03CH03-MAT HORIZONTAL
 EUT : Wireless PDA
 Power : 110V/60Hz
 MODEL : PE2060
 MEMO : TX CH78 2480MHz
 : Z342404
 : USB Cable-X

	Freq	Level	Over	Limit	Read	Probe	Cable	Preamp		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
			dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	343.400	37.33	-8.67	46.00	47.63	12.79	3.77	26.86	Peak	---	---
2	397.300	34.94	-11.06	46.00	43.51	14.54	4.07	27.18	Peak	---	---
3	786.500	38.31	-7.69	46.00	41.29	18.68	6.34	28.00	Peak	---	---



Site : 03CH03-HY
 Condition : 3m 03CH03-MAT VERTICAL
 EUT : Wireless PDA
 Power : 110V/60Hz
 MODEL : PE2060
 MEMO : TX CH78 2480MHz
 : Z342404
 : USB Cable-X

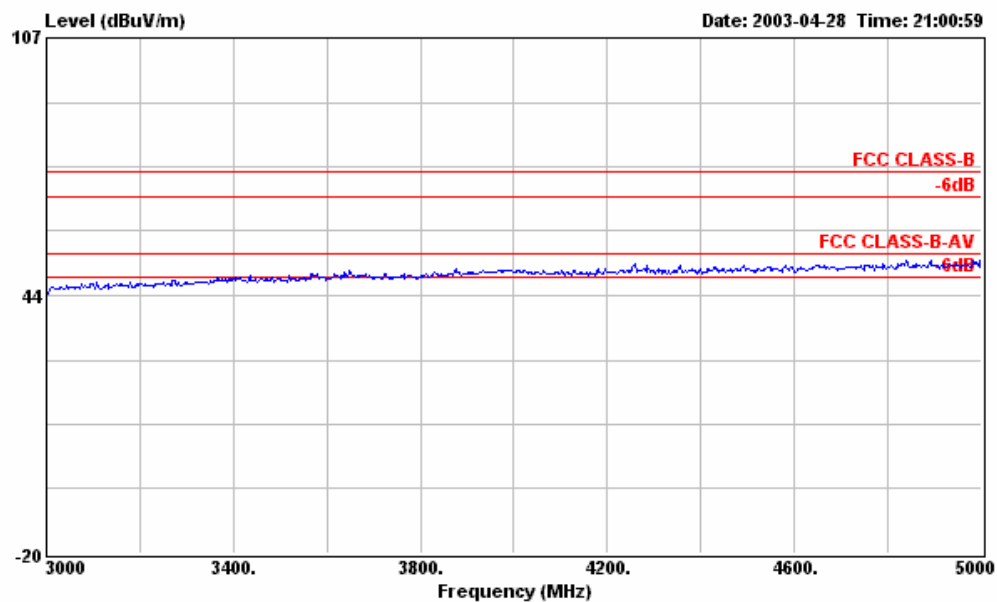
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1 !	36.210	36.83	-3.17	40.00	50.43	12.38	1.12	27.10	Peak	100	68
2	95.610	33.07	-10.43	43.50	49.11	9.11	1.86	27.01	Peak	---	---
3	265.980	28.49	-17.51	46.00	40.12	11.69	3.28	26.60	Peak	---	---



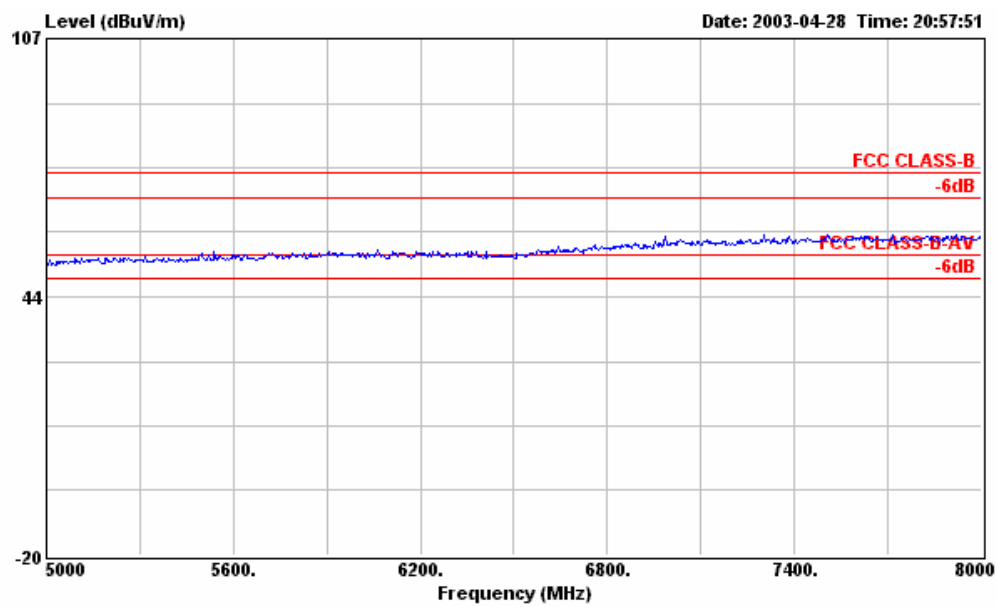
Site : 03CH03-HY
 Condition : 3m 03CH03-MAT VERTICAL
 EUT : Wireless PDA
 Power : 110V/60Hz
 MODEL : PE2060
 MEMO : TX CH78 2480MHz
 : Z342404
 : USB Cable-X

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	435.800	36.13	-9.87	46.00	44.13	15.14	4.24	27.38	Peak	---	---
2	786.500	38.25	-7.75	46.00	41.23	18.68	6.34	28.00	Peak	---	---
3	884.500	32.44	-13.56	46.00	34.16	19.32	6.79	27.83	Peak	---	---

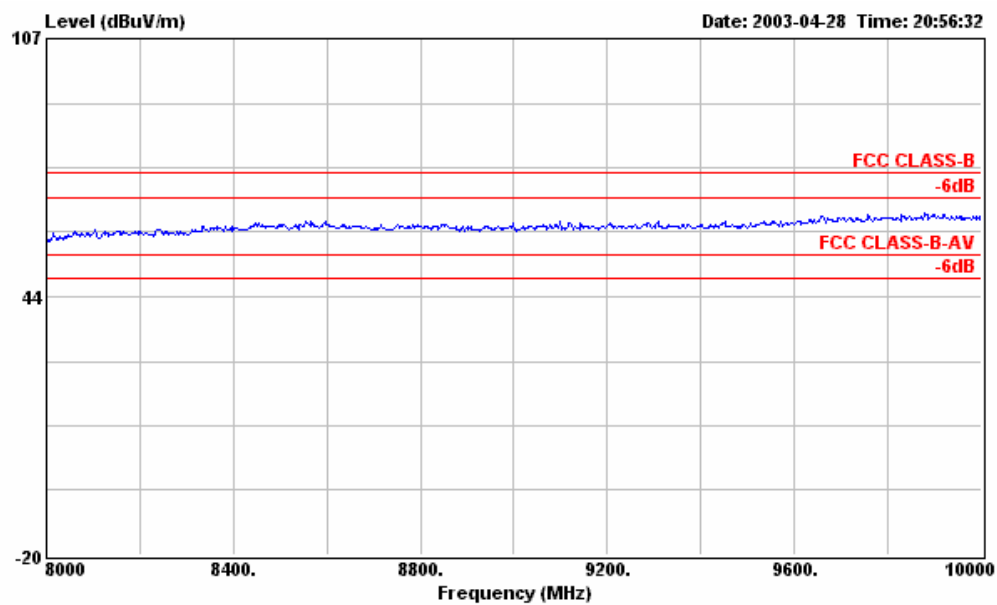
- For above 1GHz



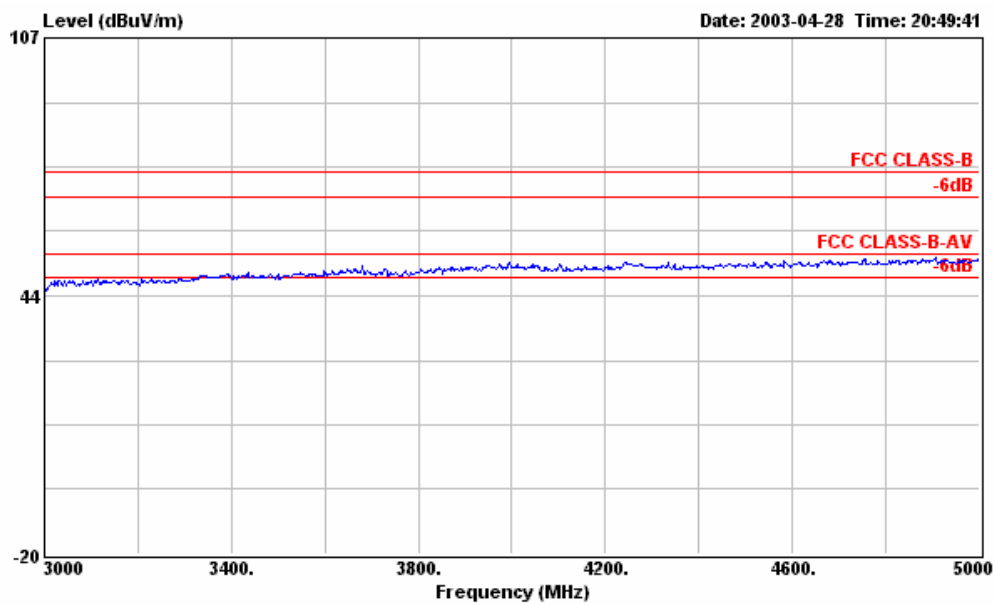
Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 HORIZONTAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH78 2480MHz
: Z342404
: USB Cable-X



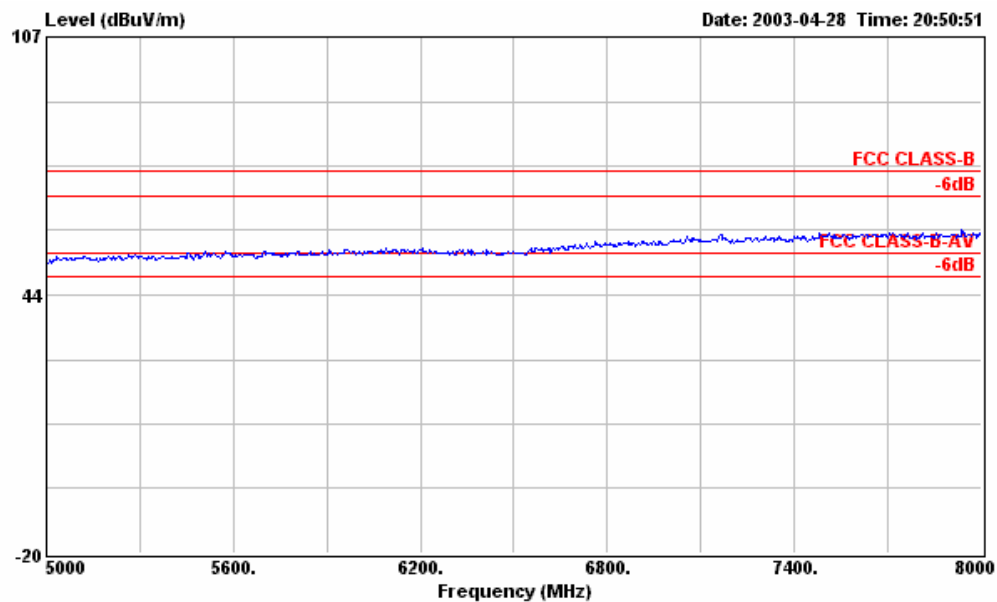
Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 HORIZONTAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH78 2480MHz
: Z342404
: USB Cable-X



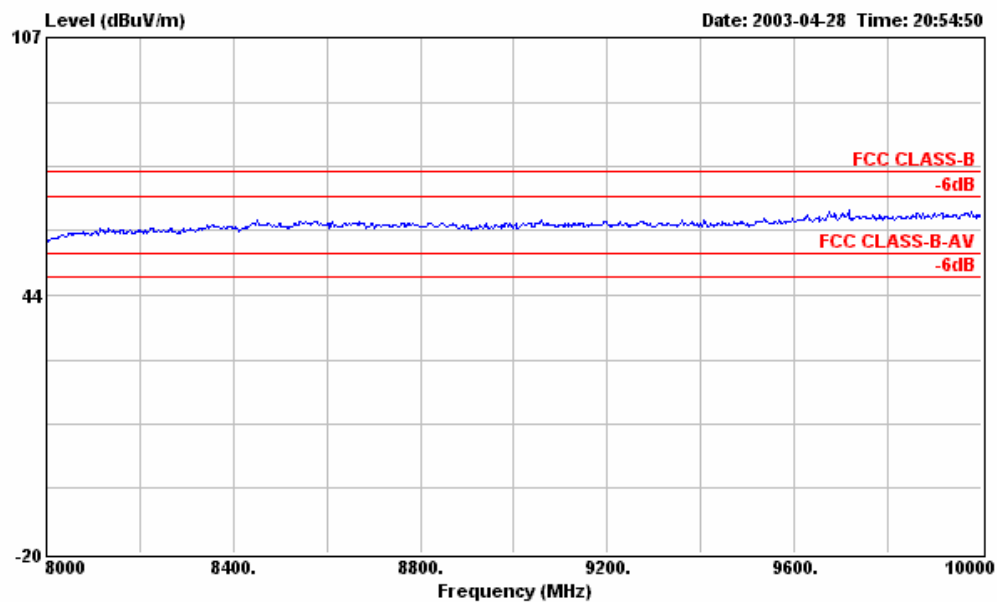
Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 HORIZONTAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH78 2480MHz
: Z342404
: USB Cable-X



Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 VERTICAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH78 2480MHz
: Z342404
: USB Cable-X



Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 VERTICAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH78 2480MHz
: Z342404
: USB Cable-X



Site : 03CH03-HY
Condition : 3m HORN-ANT-6741 VERTICAL
EUT : Wireless PDA
Power : 110V/60Hz
MODEL : PE2060
MEMO : TX CH78 2480MHz
: Z342404
: USB Cable-X

■ Field strength of fundamental and harmonics

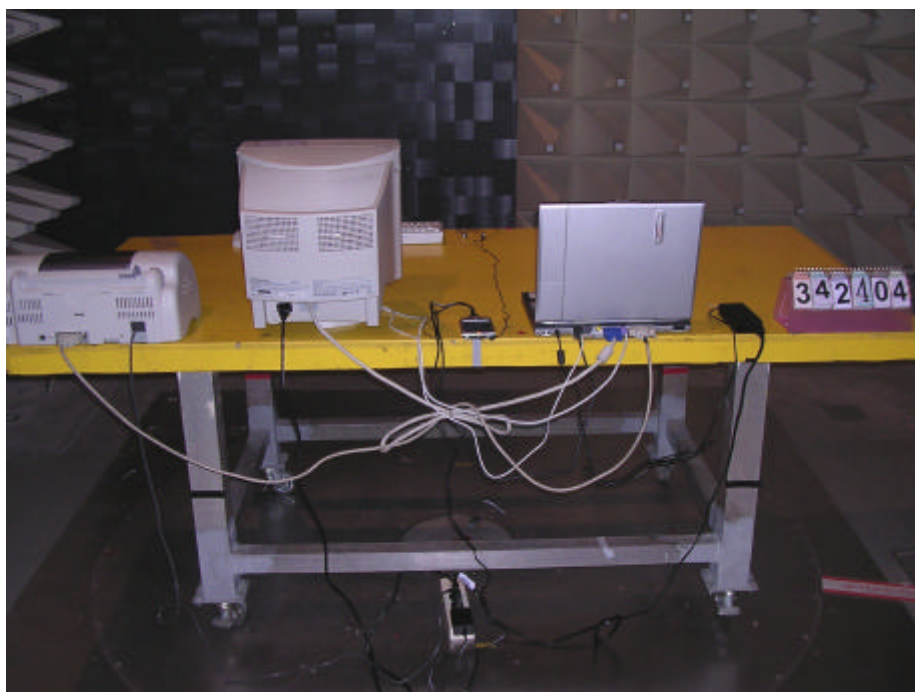
Frequency	Antenna	Cable	Reading	Limits	Emission	Level	Margin	Detect		
	Polarity	Factor	Loss							
(MHz)		(dB/m)	(dB)	(dBuV)	(dBuV/m)	(uV/m)	(dBuV/m)	(uV/m)	(dB)	Mode
2478.000	H	28.38	6.06	54.47	-	-	88.91	27893.31		Peak
2478.000	H	28.38	6.06	29.20	-	-	63.64	1520.55		A.V.
2478.000	V	28.38	6.06	52.02	-	-	86.46	21037.78		Peak
2478.000	V	28.38	6.06	28.69	-	-	63.13	1433.84		A.V.
4960.000	V/H						-			Peak, A.V.
7440.000	V/H						-			Peak, A.V.
9920.000	V/H						-			Peak, A.V.
12400.000	V/H						-			Peak, A.V.
14880.000	V/H						-			Peak, A.V.
17360.000	V/H						-			Peak, A.V.
19840.000	V/H						-			Peak, A.V.
22320.000	V/H						-			Peak, A.V.
24800.000	V/H						-			Peak, A.V.

Remark: The emission emitted by the EUT is too low to be measured except the emission listed above

Test Engineer : 
Jay Zhong

5.9.5. Photographs of Radiated Emission Test Configuration

- The photographs show the configuration that generates the maximum emission.

FRONT VIEW**REAR VIEW**

6. Antenna Requirements

The EUT use a undetachable antenna. It is considered meet antenna requirement of FCC.

6.1.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

6.1.2. Antenna Connected Construction

The maximum Gain antenna used in this product is dipole antenna.

7. RF Exposure

FCC Rules and Regulations Part 1.1307,1.1310,2.1091,2.1093:

RF Exposure Compliance

7.1.1. Limit For Maximum Permissible Exposure (MPE)

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

F=frequency in MHz

*Plane-wave equivalent power density

7.1.2. MPE Calculations

$$E \text{ (V/m)} = \frac{\sqrt{30 \cdot P \cdot G}}{d} \quad \text{Power Density: } Pd \text{ (mW/cm}^2\text{)} = \frac{E^2}{3770}$$

E= Electric field (V/m)

P= Peak output power (mW)

G= Antenna numeric gain (numeric)

d= Separation distance (m)

Because the EUT is belong to General Population/ Uncontrolled Exposure. So the Limit of Power Density is 10 W/m². We can change the formula to:

$$d = \sqrt{\frac{30 \cdot P \cdot G}{3770}}$$

Channel NO.	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (W)	Calculated RF Exposure Separation Distance (m)	Minimum RF Exposure Separation Distance (m)
Channel 1	2.00	1.58	-4.29	0.0004	0.0022	0.20
Channel 6	2.00	1.58	-4.79	0.0003	0.0020	0.20
Channel 11	2.00	1.58	-5.07	0.0003	0.0020	0.20

7.1.3. FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation. Proposed RF exposure safety information to include in User's Manual.

8. Antenna Factor & Cable Loss

Frequency (MHz)	Antenna Factor (dB)	Cable Loss (dB)	Frequency (MHz)	Antenna Factor (dB)	Cable Loss (dB)
30	15.35	1.00	1000	24.30	3.89
35	13.63	1.08	2000	31.10	5.41
40	11.11	1.18	3000	29.60	6.92
45	10.59	1.24	4000	30.80	8.24
50	6.47	1.30	5000	34.20	9.22
55	5.83	1.38	6000	33.30	10.25
60	5.18	1.44	7000	37.80	11.61
65	4.81	1.52	8000	39.40	11.78
70	4.43	1.59	9000	38.40	12.59
75	5.10	1.68	10000	38.90	13.84
80	5.91	1.75	11000	41.10	14.64
85	7.33	1.77	12000	42.70	14.12
90	8.74	1.83	13000	43.90	16.01
95	9.05	1.85	14000	43.70	13.76
100	9.36	1.90	15000	43.40	14.30
110	9.65	2.01	16000	40.90	15.16
120	9.97	2.06	17000	44.40	15.88
130	10.51	2.16	18000	47.10	16.09
140	10.32	2.24	19000	37.60	16.98
150	9.42	2.34	20000	37.30	16.21
160	8.09	2.42	21000	37.00	20.13
170	7.43	2.56	22000	38.00	19.24
180	7.60	2.62	23000	38.70	19.64
190	7.43	2.67	24000	38.60	20.54
200	7.26	2.76	25000	38.90	20.14
220	9.11	2.92	14000	43.70	13.76
240	10.88	3.09	15000	43.40	14.30
260	11.75	3.23	16000	40.90	15.16
280	11.55	3.38	17000	44.40	15.88
300	11.36	3.51	18000	47.10	16.09
320	12.03	3.63	19000	37.60	16.98
340	12.69	3.73	20000	37.30	16.21
360	13.33	4.03	21000	37.00	20.13
380	14.00	4.00	22000	38.00	19.24
400	14.63	4.09	23000	38.70	19.64
450	15.33	4.31	24000	38.60	20.54
500	16.03	4.64	25000	38.90	20.14
550	16.65	5.09			
600	17.29	5.49			
650	17.64	5.82			
700	18.00	5.94			
750	18.39	6.16			
800	18.79	6.58			
850	19.10	6.72			
900	19.42	6.81			
950	19.58	7.10			
1000	19.75	7.41			

9. List of Measuring Equipments Used

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100132	9 KHz – 2.75 GHz	Jun. 03, 2002	Conduction (CO01-HY)
LISN	MessTec	NNB-2/16Z	2001-008	9 KHz – 30 MHz	Apr. 30, 2002	Conduction (CO01-HY)
LISN (Support Unit)	MessTec	NNB-2/16Z	2001-009	9 KHz – 30 MHz	Apr. 30, 2002	Conduction (CO01-HY)
EMI Filter	LINDGREN	LRE-2060	1004	< 450 Hz	N/A	Conduction (CO01-HY)
EMI Filter	LINDGREN	N6006	201052	0 ~ 60 Hz	N/A	Conduction (CO01-HY)
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz~1GHz 3m	Jun. 22, 2002	Radiation (03CH03-HY)
Spectrum analyzer	R&S	FSP40	100004/040	9KHZ~40GHz	Aug. 07, 2002	Radiation (03CH03-HY)
Receiver	SCHAFFNER	SCR 3501	417	9 KHz ~1GHz	Feb. 20, 2003	Radiation (03CH03-HY)
Amplifier	HP	8447D	2944A09072	100KHz – 1.3GHz	Oct. 21, 2002	Radiation (03CH03-HY)
Amplifier	MITEQ	AFS44	879981	100MHz~26.5GHz	Aug. 12, 2002	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2687	30MHz~2GHz	Dec. 21, 2002	Radiation (03CH03-HY)
Horn Antenna	COM-POWER	AH-118	10094	1GHz – 18GHz	Apr. 10, 2003	Radiation (03CH03-HY)
Turn Table	HD	DS 420	420/650/00	0 ~ 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	30MHz~1GHz	Jan. 02, 2003	Radiation (03CH03-HY)
Horn Antenna	Schwarzbeck	BBHA9170	BBHA9170154	15GHz~40GHz	May. 09, 2001	Radiation (03CH03-HY)
RF Cable-HIGH	Jye Bao	RG142	CB030-HIGH	1GHz~29.5GHz	Mar. 14, 2003	Radiation
AC power source	HPC	HPA-500W	HPA-9100024	AC 0~300V	May 22, 2002	Conducted
Temp. and Humidity Chamber	KSON	THS-C3L	612	N/A	Oct. 02, 2002	Conducted

? Calibration Interval of instruments listed above is one year.

10. Uncertainty of Test Site

Uncertainty of Radiated Emission Measurement

Contribution	Probability Distribution	3m
Antenna factor calibration	normal(k=2)	±1
cable loss calibration	normal(k=2)	±0.3
RCV/SPA specification	rectangular	±2
Antenna Directivity	rectangular	±3
Antenna Factor V.S. Height	rectangular	±2
Antenna Factor Interpolation for Frequency	rectangular	±0.25
site imperfection	rectangular	±2
Mismatch Receiver VSWR $\Gamma_1=0.09$ Antenna VSWR $\Gamma_2=0.67$ Uncertainty= $20\log(1-\Gamma_1\Gamma_2)$	U-shaped	±0.54
combined standard uncertainty $U_e(y)$	normal	±2.7
Measuring uncertainty for a level of confidence of 95% $U=2U_e(y)$	normal (k=2)	±5.4

$U = \sqrt{\{(1/2)^2 + (0.3/2)^2 + (2^2 + 0.5^2 + 2^2 + 0.25^2 + 2^2)/3 + (0.54)^2/2\}} = 2.2$ for 10m test distance

$U = \sqrt{\{(1/2)^2 + (0.3/2)^2 + (2^2 + 3^2 + 2^2 + 0.25^2 + 2^2)/3 + (0.54)^2/2\}} = 2.7$ for 3m test distance

Uncertainty of Conducted Emission Measurement

Contribution	Probability Distribution	150KHz – 30MHz
Cable and I/P attenuator calibration	normal(k=2)	±0.3
RCV/SPA specification	rectangular	±2
LISN coupling specification	rectangular	±1.5
Transducer factor frequency interpolation	rectangular	±0.2
Mismatch Receiver VSWR $\Gamma_1=0.09$ LISN VSWR $\Gamma_2=0.33$ Uncertainty= $20\log(1-\Gamma_1\Gamma_2)$	U-shaped	0.2
combined standard uncertainty $U_e(y)$	normal	±1.66
Measuring uncertainty for a level of confidence of 95% $U=2U_e(y)$	normal (k=2)	±3.32

$U = \sqrt{\{(0.3/2)^2 + (2^2 + 1.5^2 + 0.2^2)/3 + (0.2)^2/2\}} = 1.66$