FCC TEST REPORT

for

47 CFR, Part 15 Subpart E

Equipment	:	**Multi Radio 802.11a/b/g/n Wireless LAN Access Point**
Trade Name	:	**Meru Networks Inc.**
Model No.	:	**AP310, AP311, AP320**
FCC ID	:	**RE7-AP300**
IC	:	**6749A-AP300**
Filing Type	:	**Certification**
Applicant	:	**Meru Networks Inc.** 894 Ross Drive Sunnyvale, CA 94089 USA

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- **Certificate or Test Report must not be used by the applicant to claim the product in this test report endorsement by NVLAP or any agency of U.S. government.**
- The data shown in this test report were carried out on Sep. 29, 2007 at **Sporton International Inc. LAB.**
- Report No.: FZ791302A, Report Version: 01.

Jones Tsai
Manager

SPORTON International Inc.

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

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History of this test report

Report Issue Date: Oct. 09, 2007

Report No.	Description

1. General Description of Equipment under Test

1.1 Applicant

Meru Networks Inc.
894 Ross Drive Sunnyvale, CA 94089 USA

1.2 Manufacturer

Universal Scientific Industrial (Shanghai)
No. 1558, Zhang Dong Road, Zhangjiang Hi-Tech Park, Shanghai, P.R. China 201203

1.3 Basic Description of Equipment under Test

Equipment		Multi Radio 802.11a/b/g/n Wireless LAN Access Point
Trade Name		Meru Networks Inc.
Model No.		AP310, AP311, AP320
FCC ID		RE7-AP300
Antenna 1	**Model Name**	MRU04-220050
	Antenna Gain	2 dBi(2.4G), 3 dBi(5G)
	Antenna Type	Dipole antenna
	Connector	Reverse SMA
Antenna 2	**Model Name**	ANT-DB1-RAF-RPS
	Antenna Gain	4.7 dBi for 2.4G and 5GHz band.
	Antenna Type	Dipole antenna
	Connector	Reverse SMA
POE	**Model Name**	POE-152
	Power Rating	I/P:DC48V, 0.4A
AC Adapter 1	**Brand Name**	UMEC
	Model Name	UP0251P-05PA
	Power Rating	I/P:100-240Vac,50-60Hz,0.5A; O/P:5V,3.5A
	AC Power Cord Type	1.9 meter non-shielded cable without ferrite core
AC Adapter 2	**Brand Name**	UMEC
	Model Name	UP0151D-48P
	Power Rating	I/P:100-240V,47-63Hz,0.4A; O/P:48V,0.32A
	AC Power Cord Type	0.8 meter shielded cable with ferrite core

Remark: Above EUT's information was declared by manufacturer. Please refer to the specifications of manufacturer or User's Manual for more detailed features description.

1.4 Feature of Equipment under Test

1. DUT Type	Multi Radio 802.11a/b/g/n Wireless LAN Access Point			
2. Trade Name	Meru Networks Inc.			
3. Model Name	AP310, AP311, AP320			
4. Freq. Range/Carrier Freqs.	802.11a : 5150 ~ 5250MHz 802.11n : 5150 ~ 5250MHz			
5. Test channel number	20MHz for 3 channels, 40MHz for 2 channels,			
6. Nominal Bandwidth	20MHz mode and 40M mode			
7. Type of Antenna Connector	Reverse SMA connector			
8. Antenna Type	Dipole Antenna			
9. Antenna Gain	4.7 dBi			
10. Maximum Output Power to Antenna (Normal condition)	802.11a : 12.17 dBm 802.11n(a) : 8.45 dBm			
11. Modulation Type/Data Rate	WLAN : DSSS / OFDM			
12. Function Type	Transmitter		Transceiver	V

2. Test Configuration of Equipment under Test

2.1 Test Manner

a. The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

b. Power Tables were as below:

Normal mode

Channel		Frequency(MHz)	Data Rate							
			6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Normal mode	CH036	5180 MHz	22.78	22.96	22.8	22.72	22.71	22.6	22.49	22.82
	CH040	5200MHz	23.1	23.2	22.6	22.6	**23.4**	22.55	22.12	22.6
	CH044	5220 MHz	22.15	22.38	22.72	22.48	22.95	22.55	22.51	22.68

11n(a) 20M mode

Channel		Frequency(MHz)	Data Rate							
			130M bps	117M bps	104M bps	78M bps	52M bps	39M bps	26M bps	13M bps
11n(a) 20M	CH036	5180 MHz	23.22	23.06	23.91	23.41	23.85	23.61	23.16	23.8
	CH040	5200MHz	23.74	23.1	23.2	23.44	23.1	24.05	23.45	24.25
	CH044	5220 MHz	24.6	24.06	24.14	**24.63**	24.11	24.48	24.13	24.06

11n(a) 40M mode

Channel		Frequency(MHz)	Data Rate							
			270M bps	243M bps	216M bps	162M bps	108M bps	81M bps	54M bps	27M bps
11n(a) 40M	CH 038	5190 MHz	22.61	22.63	**22.98**	22.77	22.56	21.38	22.75	22.28
	CH044	5220 MHz	22.83	22.72	22.75	22.53	22.31	22.31	22.24	22.26

c. The highest RF output power's test modes were chosen for testing .

d. Test Mode for radiated emission and conducted emission:

Radiated Emission	Mode 1: 11a_Tx_CH036_5180 MHz Mode 2: 11a_Tx_CH040_5200 MHz Mode 3: 11a_Tx_CH044_520 MHz Mode 4: 11(n)a 20M_Tx_CH036_5180 MHz Mode 5: 11(n)a 20M_Tx_CH040_5200 MHz Mode 6: 11(n)a 20M_Tx_CH044_5220 MHz Mode 7: 11(n)a 40M_Tx_CH038_5190 MHz Mode 8: 11(n)a 40M_Tx_CH044_5220 MHz Mode 9: 11(n)a 40M_Tx_CH044_5220 MHz(Module2)
Co-location	Mode 10 : 11(n)a 40M_TX_CH038_5190MHz + 11(n)a 40M_TX_CH044_5220MHz
Conducted Emission	Mode 1: 11a_TX Mode 2: 11(n)a 20M_TX Mode 3: 11(n)a 40M)_TX

e. Frequency range investigated: conduction 150 KHz to 30 MHz, radiation 30 MHz to 40000MHz.

Note: 1. In the EUT, there are two identical WLAN modules which separately use six same dipole antennas .

2. The module 1 was chosen to be tested for full test modes, and then the module 2 was tested based on the module 1 ‘s worst .
3. Only the two modules act same application mode, then the EUT can transmit simultaneously; the worst case for co-location was mode 10.
4. Test configurations for antenna mode and bandwidth mode :

Antenna Mode	Single (Tx)		Three (Tx)	
Bandwidth Mode	20MHz	40MHz	20MHz	40MHz
802.11a (5150~5250MHz)	V	X	X	X
802.11n (5725~5850MHz)	X	X	V	V

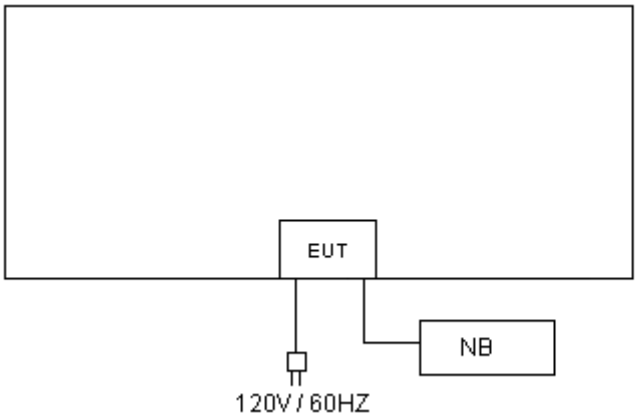
2.2 Description of Test System

Item	Equipment	Trade Name	Model Name	FCC ID	Power Cord / Cable
1.	Notebook	DELL	D400	E2K24GBRL	1.2m
2	iPod	Apple	A1199	DoC	1.2m
3	Mouse	State	MS-303	DoC	1.2m
4	WLAN AP	SMC	SMC-100	HEDWG4005ACC	1.8m

2.3 Connection Diagram of Test System

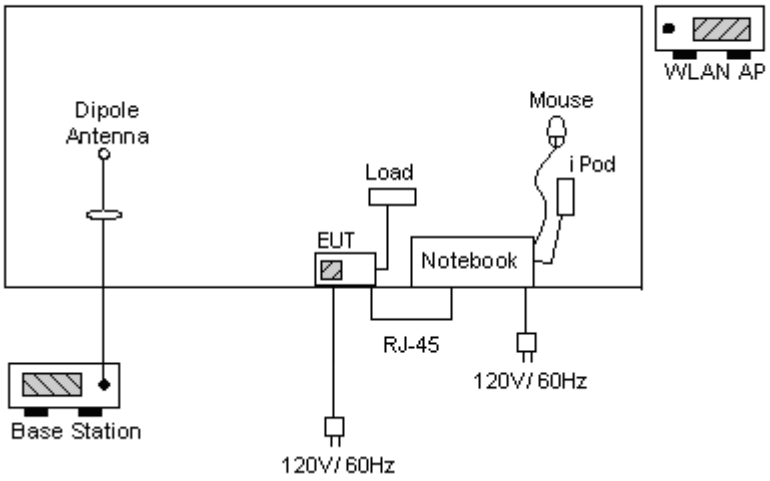
< Radiated Emission >

< WLAN >

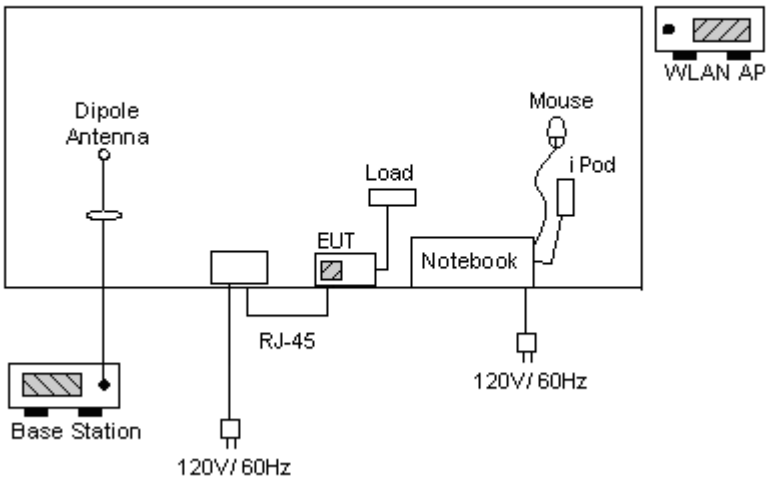


< Conducted Emission >

Mode 1



Mode 2



3. Operation of Equipment under Test

The programmed RF Utility is installed in EUT to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testings.

4. General Information of Test

Test Site Location	:	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiag, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-318-0055
Test Site No	:	CO04-HY, 03CH04-HY

4.1 Test Voltage

AC 120V / 60Hz

4.2 Standard for Methods of Measurement

ANSI C63.4-2003

4.3 Test in Compliance with

FCC Part 15, Subpart E

4.4 Frequency Range Investigated

a. Conduction: from 150 kHz to 30 MHz
b. Radiation: from 30MHz to 40GHz

4.5 Test Distance

The test distance of radiated emission from antenna to EUT is 3 M.

5. Report of Measurements and Examinations

5.1 List of Measurements and Examinations

FCC Rule	Description of Test	Result
15.407(b)(5)	Conducted Emission	Pass
15.407(a)(1)(2)	Peak Transmit Power	Pass
15.407(b)(1)(2)(5)	Radiated Emission	Pass
15.407(a)(1)(2)	Power Spectral Density	Pass
15.407(b)(1)(2)	Band Edges Measurement	Pass
15.407(a)(1)(2)	Antenna Requirement	Pass
15.407(a)(6)	Peak Excursion Ratio Measurement	Pass
15.407(c)	Automatically Discontinue Transmission	Pass

5.2 Emission Bandwidth

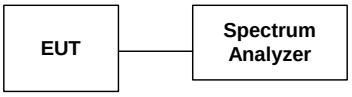
5.2.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.2.2 Test Procedure：

The transmitter output is connected to the spectrum analyzer. For these tests, the resolution bandwidth is 1 MHz, video bandwidth is 3MHz, peak detection and view function is used. The 26 dB bandwidth is defined as the frequency range where the power is higher than the peak power minus 26 dB.

Test Setup Layout：



5.2.3 Test Result：

- Temperature : 26~27℃
- Relative Humidity :49~50％

➢ 802.11a Normal mode

Channel	Frequency (MHz)	26dB Emission bandwidth (MHz)	Mode Ref. No.
36	5180	25.68	1
40	5200	26.64	2
44	5220	26.72	3

- 802.11n (a) 20M mode

Channel	Frequency (MHz)	26dB Emission bandwidth (MHz)	Mode Ref. No.
36	5180	26.00	4
40	5200	26.72	5
44	5220	26.80	6

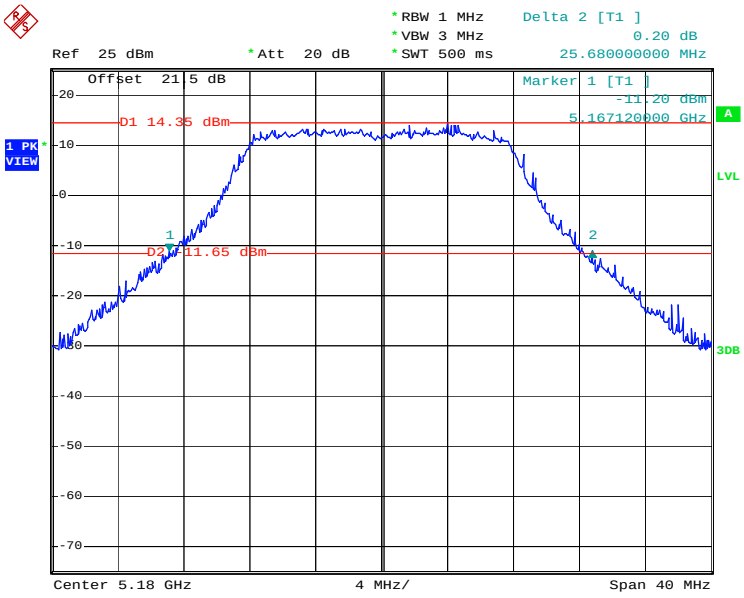
- 802.11n (a) 40M mode

Channel	Frequency (MHz)	26dB Emission bandwidth (MHz)	Mode Ref. No.
38	5190	48.48	7
44	5220	48.64	8

5.2.4 Test Data

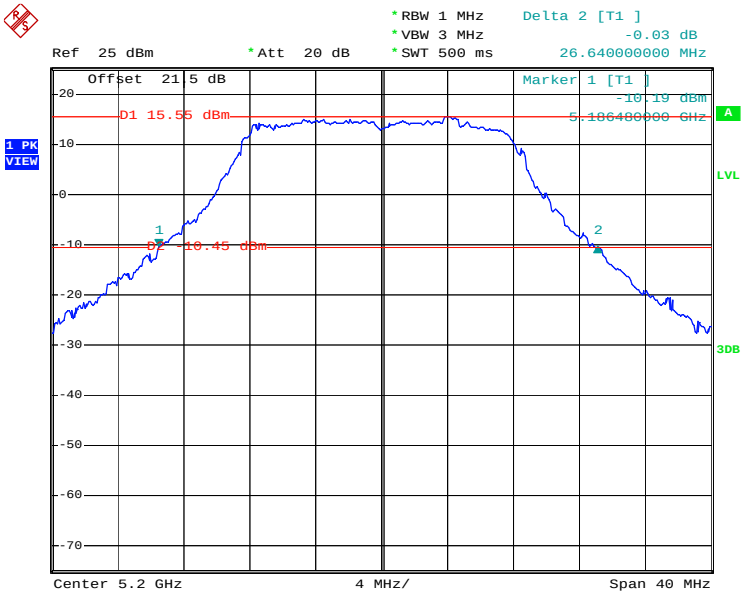
Mode Ref. No.

1



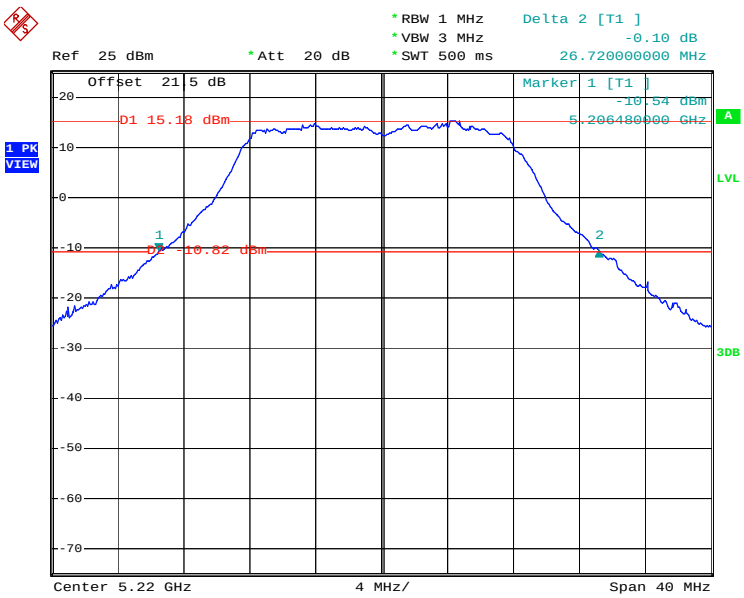
Date: 1.OCT.2007 12:00:14

2

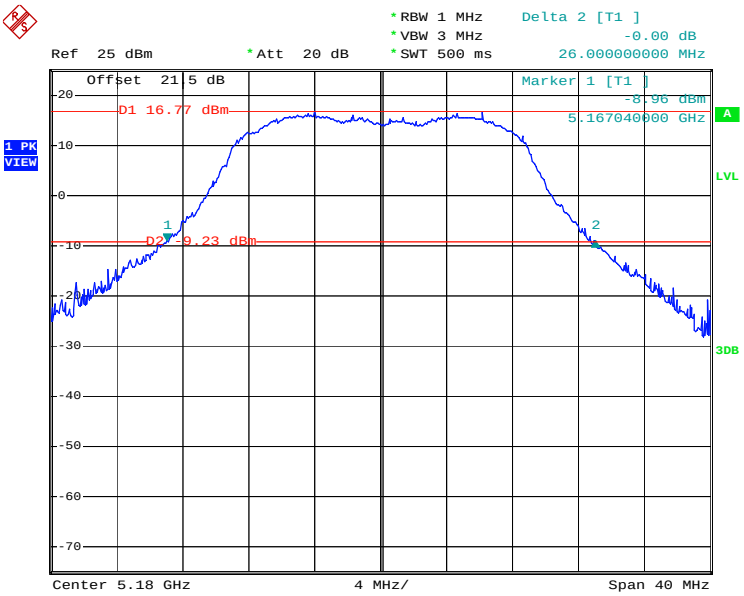


Date: 4.OCT.2007 22:43:27

3

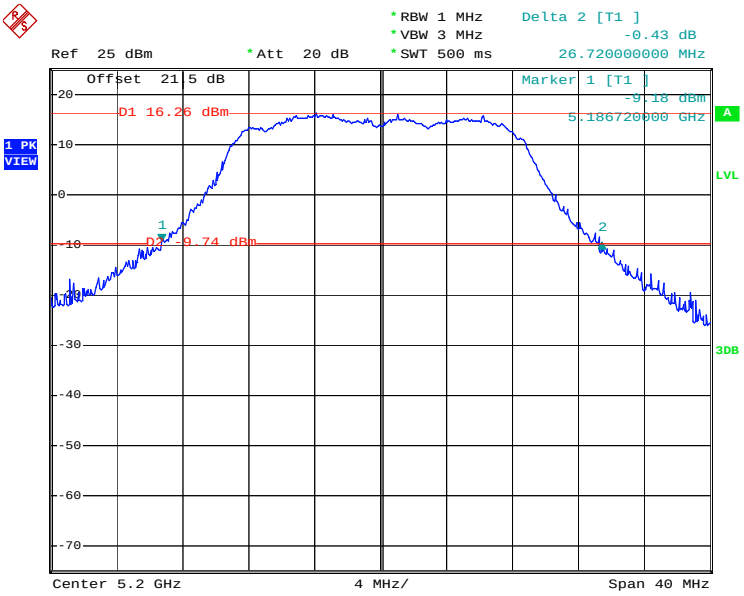

*RBW 1 MHz
*VBW 3 MHz
*SWT 500 ms
Delta 2 [T1]
-0.10 dB
26.720000000 MHz
Ref 25 dBm
*Att 20 dB
Offset 21.5 dB
Marker 1 [T1]
-10.54 dBm
5.206480000 GHz
D1 15.18 dBm
D2 -10.82 dBm
1 PK VIEW
A
LVL
3DB
Center 5.22 GHz
4 MHz/
Span 40 MHz
Date: 4.OCT.2007 22:41:43

4



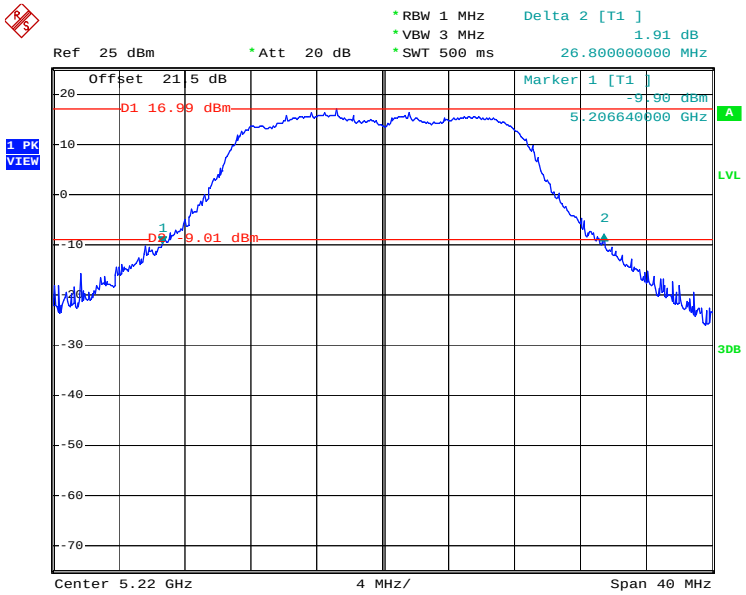
Date: 1.OCT.2007 20:35:56

5

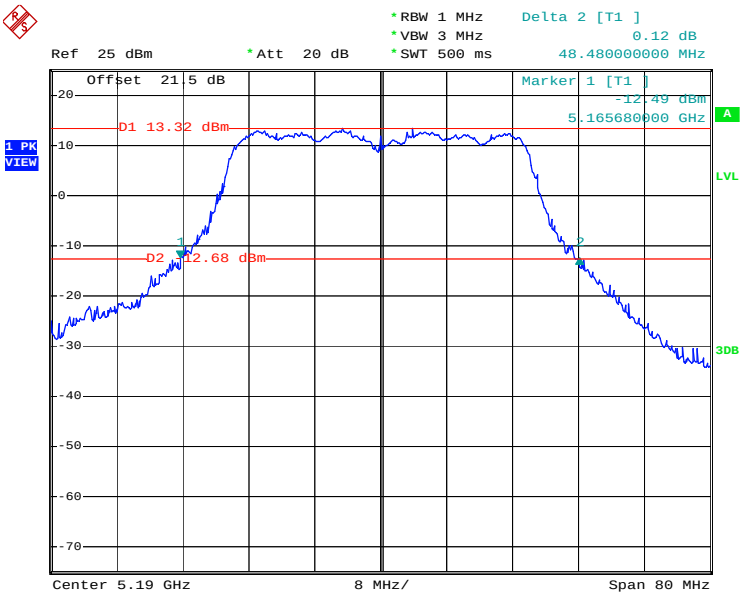


Date: 4.OCT.2007 21:02:46

6

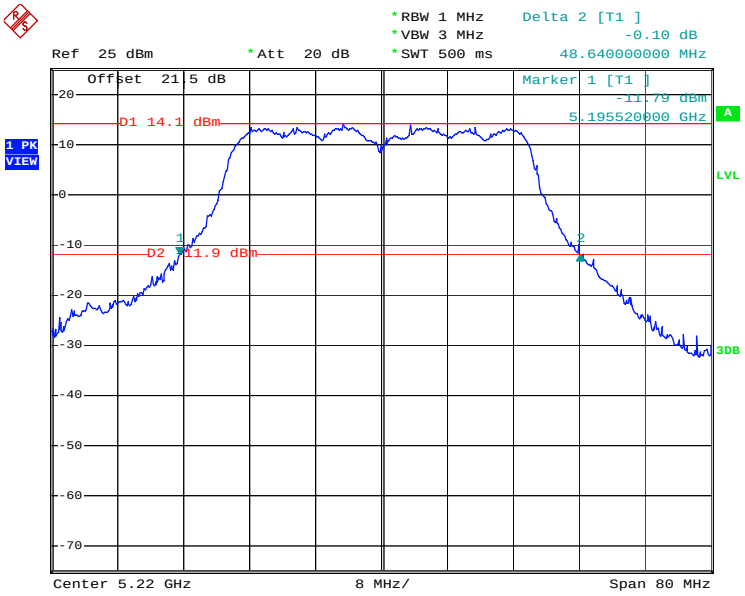

RBW 1 MHz
VBW 3 MHz
SWT 500 ms
Delta 2 [T1]
1.91 dB
26.800000000 MHz
Ref 25 dBm
Att 20 dB
Offset 21.5 dB
Marker 1 [T1]
-9.90 dBm
5.206640000 GHz
D1 16.99 dBm
D2 -9.01 dBm
1 PK VIEW
A
LVL
3DB
Center 5.22 GHz
4 MHz/
Span 40 MHz
Date: 4.OCT.2007 21:03:47

7



Date: 1.OCT.2007 22:00:26

8



Date: 1.OCT.2007 21:59:04

5.3 Peak Transmit Power

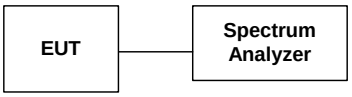
5.3.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.3.2 Test Procedure：

The transmitter output is connected to the spectrum analyzer. According to the method 3 of DA-02-2138, the resolution bandwidth is set to 1 MHz, video bandwidth is 1MHz, max hold to run for 60 seconds, and sample detection is used. The peak power is measured by channel power integration over the previously measured emissions bandwidth..

5.3.3 Test Setup Layout：



5.3.4 Test Result：

- Temperature : 26~27℃
- Relative Humidity :49~50％

➢ 802.11a Normal mode

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (dBm)	Mode Ref. No.
36	5180	12.17	17.00	1
40	5200	11.07	17.00	2
44	5220	11.46	17.00	3

➢ 802.11n(a) 20M mode

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (dBm)	Mode Ref. No.
36	5180	10.20	17.00	4
40	5200	10.89	17.00	5
44	5220	11.15	17.00	6

➢ 802.11n(a) 40M mode

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (dBm)	Mode Ref. No.
38	5190	8.41	17.00	7
44	5220	8.45	17.00	8

Comments： The peak transmit power shall not exceed the lesser of 17dBm or 4dBm+10logB in 5150~5250 band.
24dBm or 11+10logB in 5250~5350 band

5180MHz 4dBm + 10log(25.68 MHz) = 28.096 dBm for mode 1

5200MHz 4dBm + 10log(26.64 MHz) = 28.255 dBm for mode 2

5220MHz 4dBm + 10log(26.72 MHz) = 28.268 dBm for mode 3

5180MHz 4dBm + 10log(26.00 MHz) = 28.150 dBm for mode 4

5200MHz 4dBm + 10log(26.72 MHz) = 28.268 dBm for mode 5

5220MHz 4dBm + 10log(26.80 MHz) = 28.281 dBm for mode 6

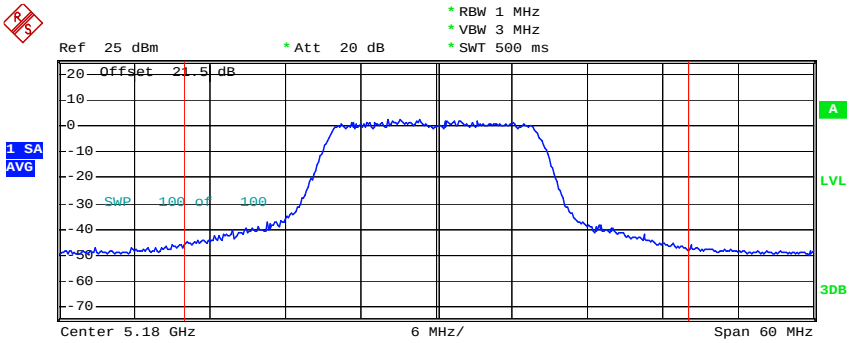
5190MHz 4dBm + 10log(48.48 MHz) = 30.856 dBm for mode 7

5220MHz 4dBm + 10log(48.64 MHz) = 30.870 dBm for mode 8

5.3.5 Test Data

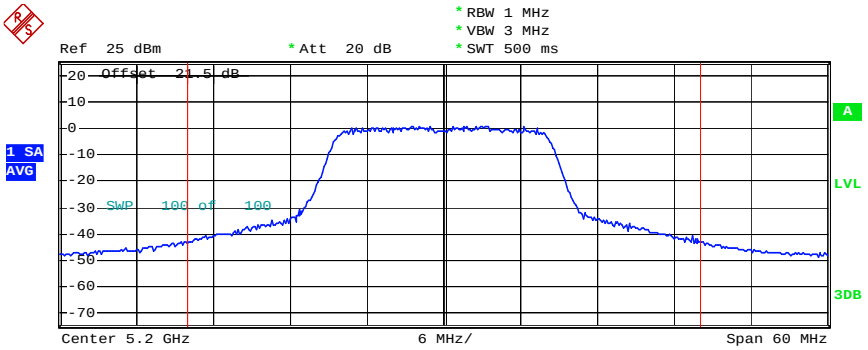
Mode Ref. No.

1



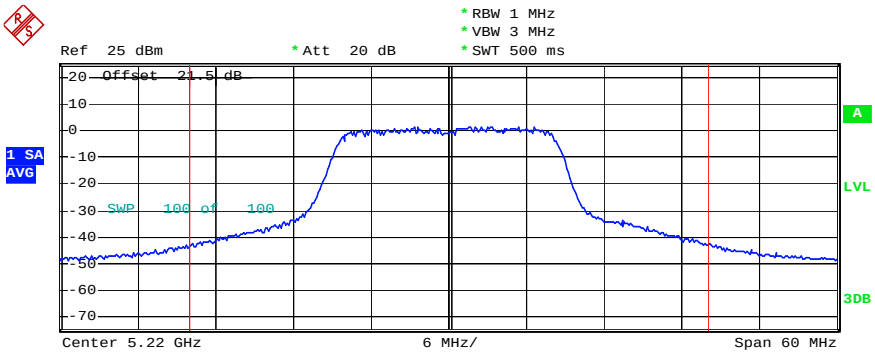
Tx Channel
Bandwidth 40 MHz Power 12.17 dBm

2



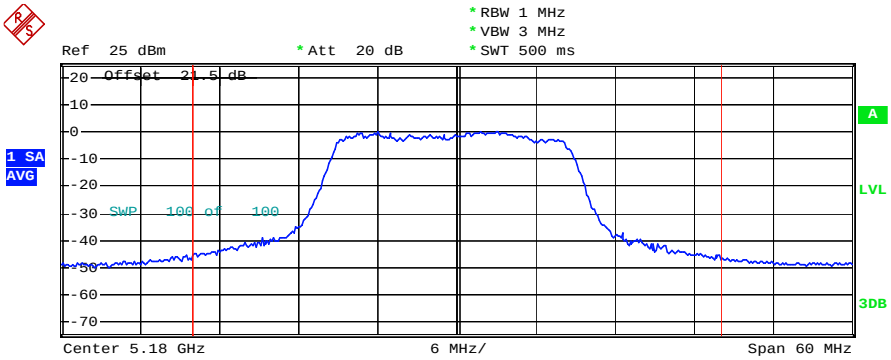
Tx Channel
Bandwidth 40 MHz Power 11.07 dBm

3



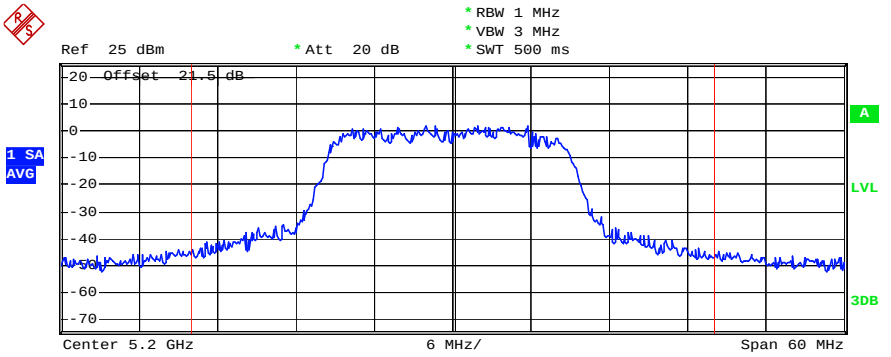
Tx Channel
Bandwidth 40 MHz Power 11.46 dBm

4



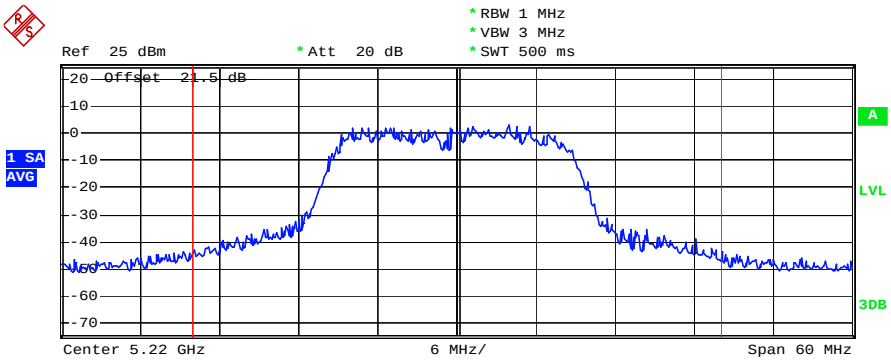
Tx Channel
Bandwidth 40 MHz Power 10.20 dBm

5



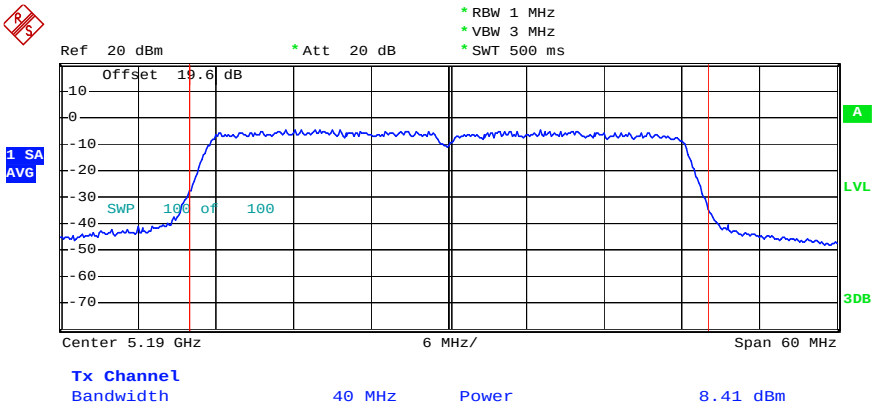
Tx Channel
Bandwidth 40 MHz Power 10.89 dBm

6



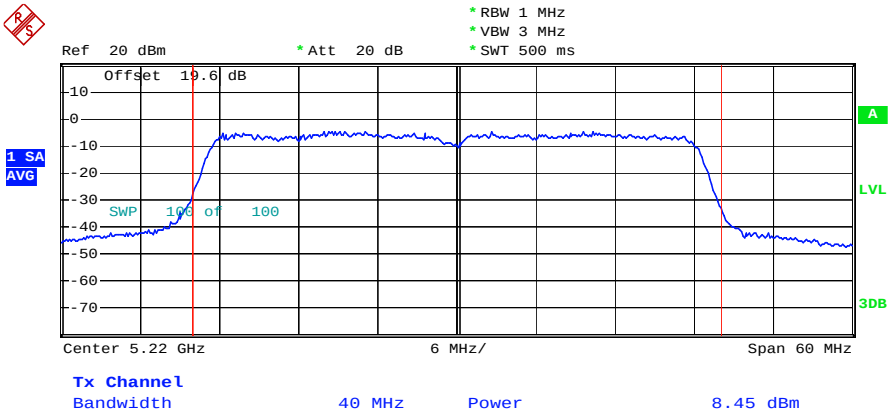
Tx Channel
Bandwidth 40 MHz Power 11.15 dBm

7



Tx Channel
Bandwidth 40 MHz Power 8.41 dBm

8



Tx Channel
Bandwidth 40 MHz Power 8.45 dBm

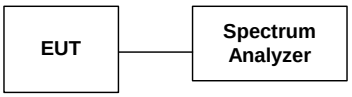
5.4 Peak Power Spectral Density

5.4.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.4.2 Test Procedure：

The transmitter output is connected to the spectrum analyzer. According to the method 3 of DA-02-2138, the resolution bandwidth is set to 1 MHz, video bandwidth is 3MHz, trace average 100 traces in power averaging mode, and sample detection is used, and the analyzer is set for video averaging.



5.4.3 Test Result：

- Temperature : 26~27℃
- Relative Humidity :49~50%

➢ 802.11a Normal mode

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Mode Ref. No.
36	5180	2.32	4	1
40	5200	-1.38	4	2
44	5220	-0.13	4	3

➢ 802.11n(a) 20M mode

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Mode Ref. No.
36	5180	0.85	4	4
40	5200	0.38	4	5
44	5220	1.26	4	6

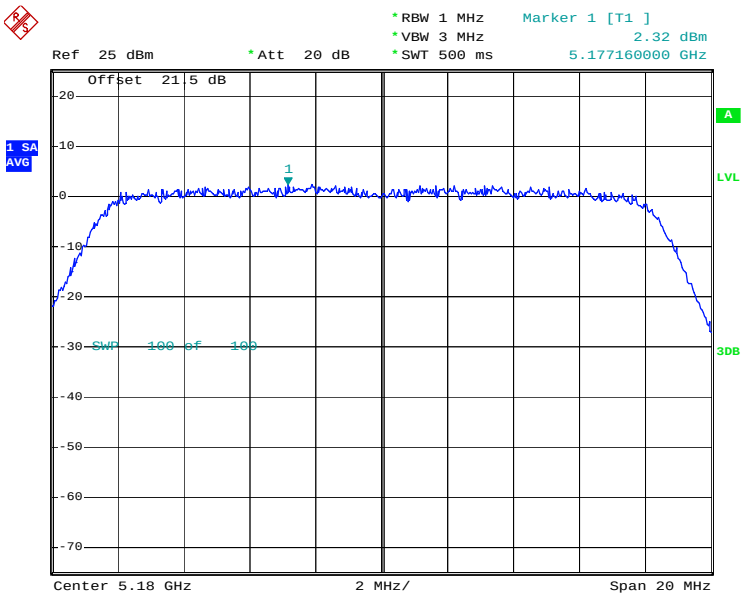
➢ 802.11n(a) 40M mode

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Mode Ref. No.
38	5190	-4.66	4	7
44	5220	-4.25	4	8

5.4.4 Test Data

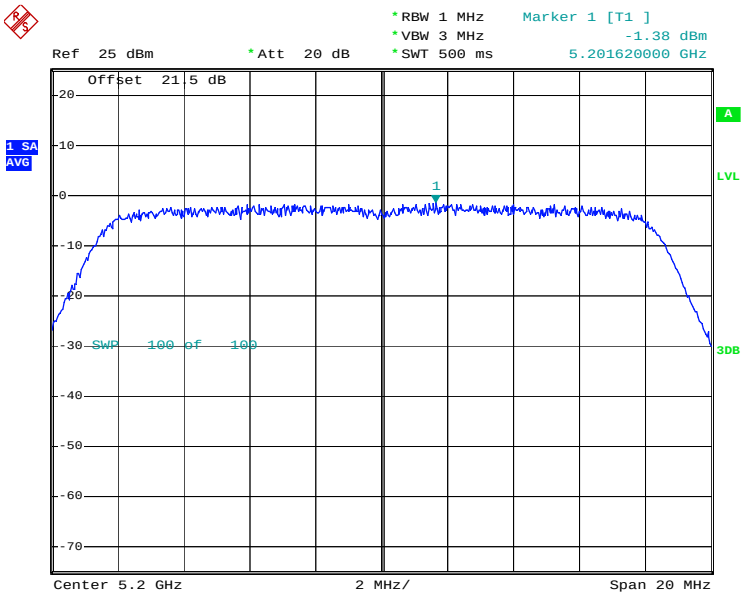
Mode Ref. No.

1



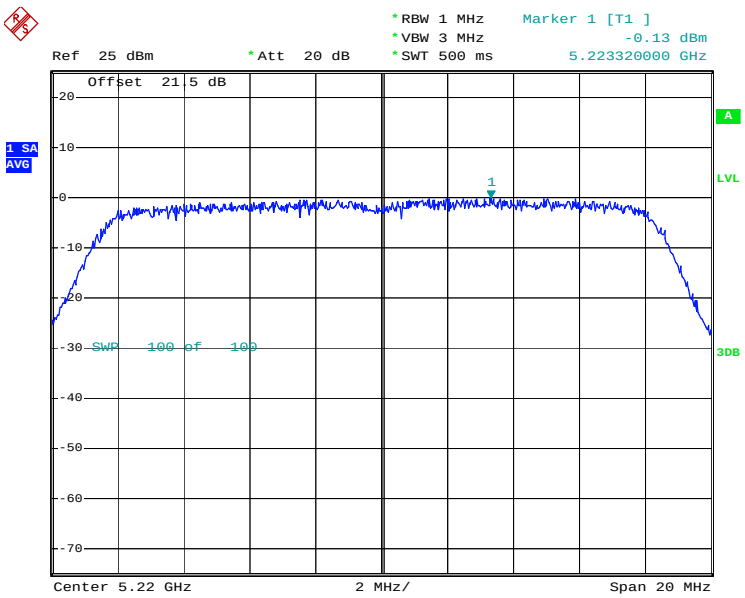
Date: 1.OCT.2007 18:10:20

2

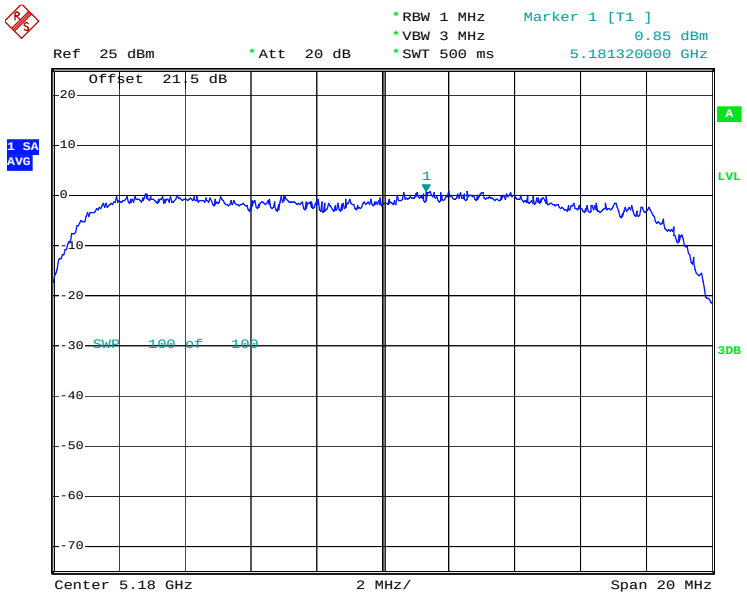


Date: 4.OCT.2007 23:24:54

3

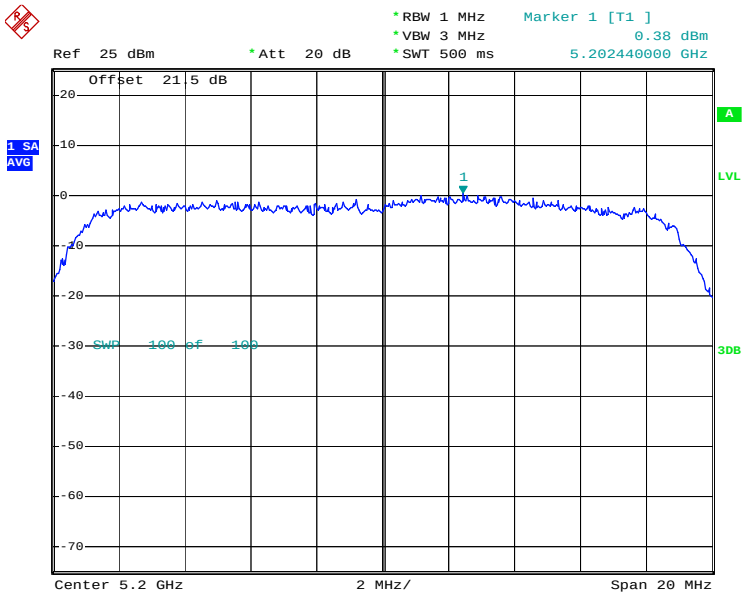

*RBW 1 MHz
*VBW 3 MHz
*SWT 500 ms
Marker 1 [T1]
-0.13 dBm
5.223320000 GHz
Ref 25 dBm
*Att 20 dB
Offset 21.5 dB
1 SA
AVG
A
LVL
3DB
SWP 100 of 100
Center 5.22 GHz
2 MHz/
Span 20 MHz
Date: 4.OCT.2007 23:27:07

4



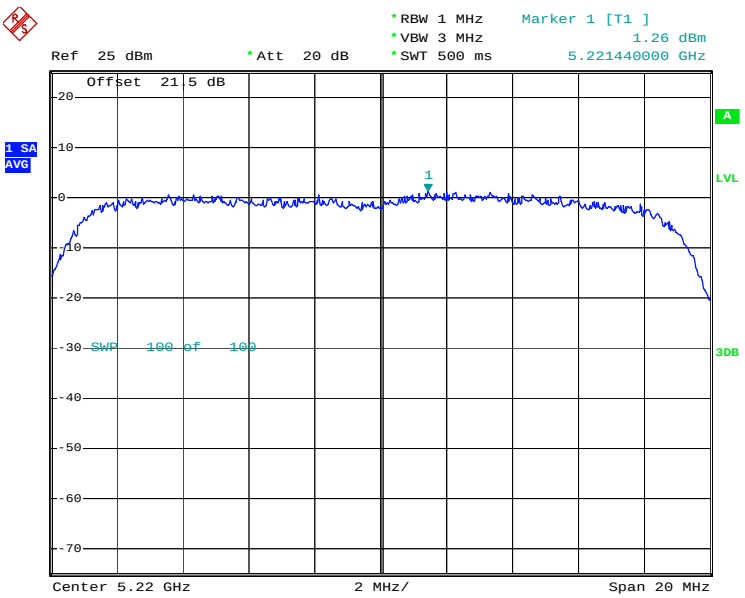
Date: 1.OCT.2007 20:50:53

5

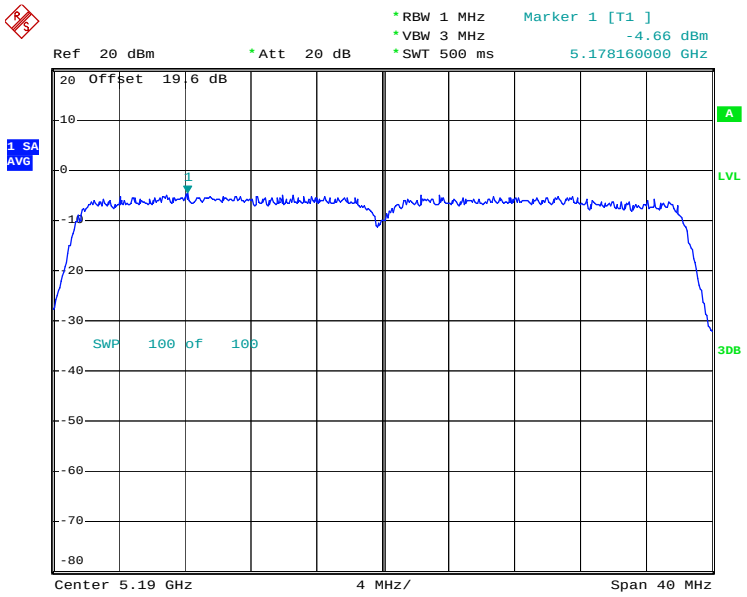


Date: 4.OCT.2007 22:15:15

6

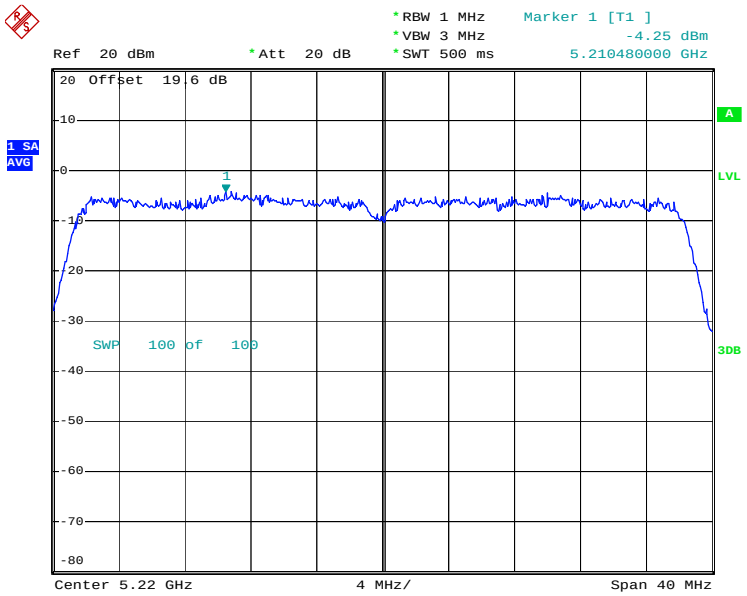

*RBW 1 MHz
*VBW 3 MHz
*SWT 500 ms
Marker 1 [T1]
1.26 dBm
5.221440000 GHz
Ref 25 dBm
*Att 20 dB
Offset 21.5 dB
1 SA
AVG
A
LVL
3DB
SWP 100 of 100
Center 5.22 GHz
2 MHz/
Span 20 MHz
Date: 4.OCT.2007 22:13:18

7



Date: 5.OCT.2007 20:34:06

8



Date: 2.OCT.2007 10:24:42

5.5 Test of Conducted Emission

As described in chapter 6 of this test report.

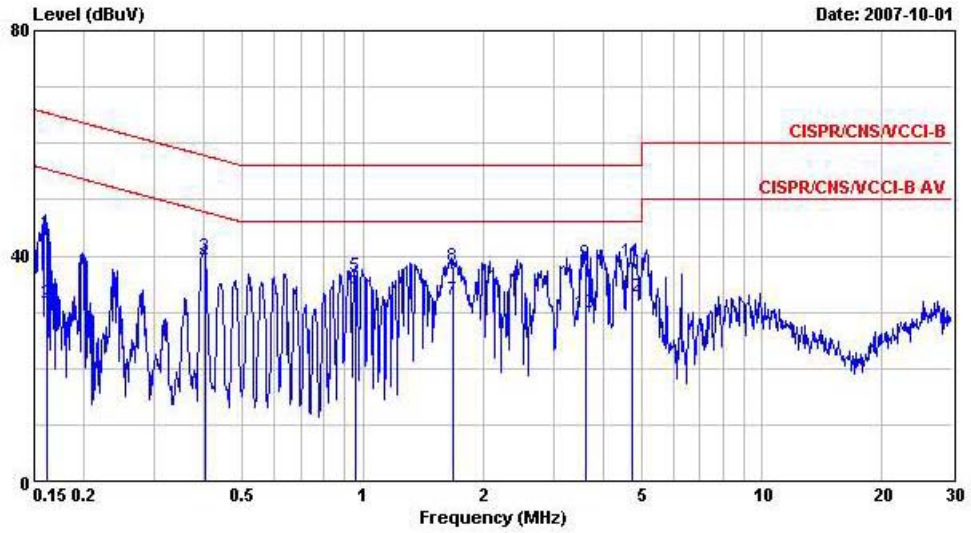
5.5.1 Test Procedures：

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power port of a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

5.5.2 Test Data

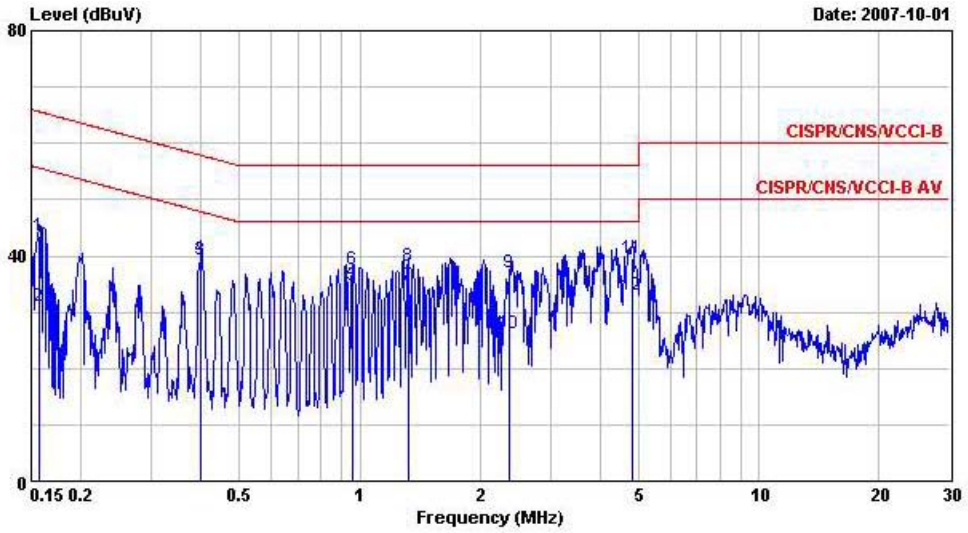
- Frequency Range of Test : 150kHz to 30 MHz
- Test Mode : Mode 1
- Temperature : 25~26 °C
- Relating Humidity : 51~53 %
- Test Enginner : Sun

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



Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 LINE
EUT : AP
Power : 120Vac/60Hz
Model : FR 791302
Memo : WLAN Link+LAN+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1615020	44.16	-21.23	65.39	43.92	0.10	0.14	QP
2	0.1615020	31.60	-23.79	55.39	31.36	0.10	0.14	Average
3	0.4018680	39.86	-17.95	57.81	39.03	0.10	0.73	QP
4	@0.4018680	38.69	-9.12	47.81	37.86	0.10	0.73	Average
5	0.9581900	36.54	-19.46	56.00	35.98	0.10	0.46	QP
6	0.9581900	34.25	-11.75	46.00	33.69	0.10	0.46	Average
7	1.683	32.06	-13.94	46.00	31.53	0.10	0.43	Average
8	1.683	38.01	-17.99	56.00	37.48	0.10	0.43	QP
9	3.626	38.68	-17.32	56.00	38.24	0.10	0.34	QP
10	3.626	29.80	-16.20	46.00	29.36	0.10	0.34	Average
11	4.746	38.91	-17.09	56.00	38.49	0.12	0.30	QP
12	4.746	32.84	-13.16	46.00	32.42	0.12	0.30	Average

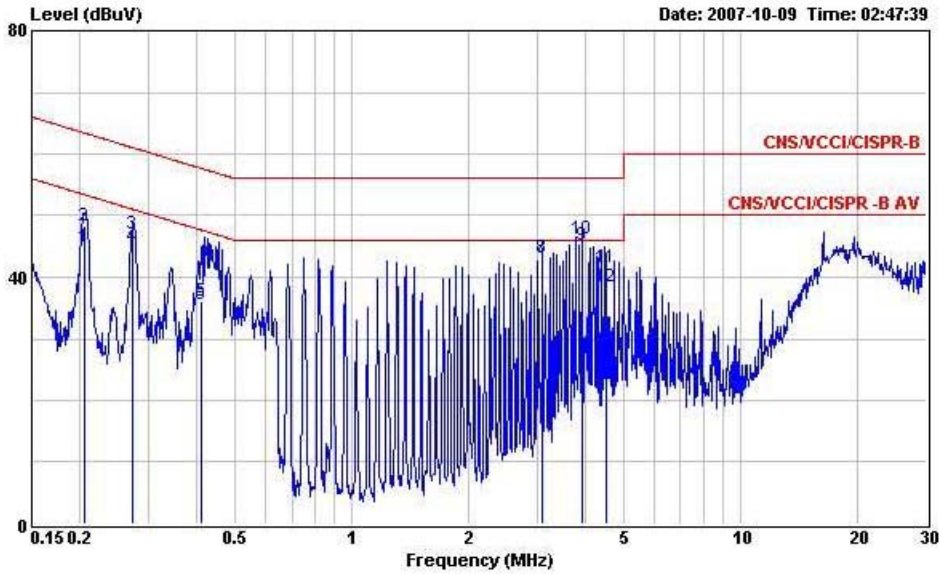


Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
EUT : AP
Power : 120Vac/60Hz
Model : FR 791302
Memo : WLAN Link+LAN+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1573260	43.53	-22.07	65.60	43.29	0.10	0.14	QP
2	0.1573260	31.17	-24.43	55.60	30.93	0.10	0.14	Average
3	@0.3997440	39.35	-8.51	47.86	38.52	0.10	0.73	Average
4	0.3997440	39.54	-18.32	57.86	38.71	0.10	0.73	QP
5	0.9620310	34.87	-11.13	46.00	34.32	0.10	0.45	Average
6	0.9620310	37.68	-18.32	56.00	37.13	0.10	0.45	QP
7	1.320	34.80	-11.20	46.00	34.26	0.10	0.44	Average
8	1.320	38.20	-17.80	56.00	37.66	0.10	0.44	QP
9	2.373	36.99	-19.01	56.00	36.47	0.12	0.40	QP
10	2.373	26.24	-19.76	46.00	25.72	0.12	0.40	Average
11	4.812	39.64	-16.36	56.00	39.12	0.22	0.30	QP
12	4.812	33.02	-12.98	46.00	32.50	0.22	0.30	Average

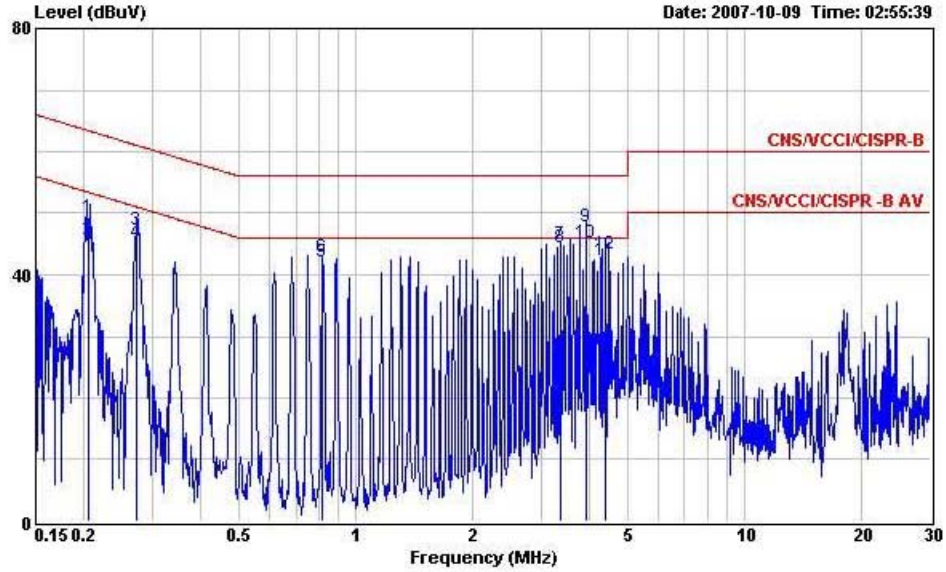
- Frequency Range of Test : 150kHz to 30 MHz
- Test Mode : Mode 2
- Temperature : 25~26 °C
- Relating Humidity : 51~53 %
- Test Enginner : Sun

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



Site : CO04-HY
Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
EUT : AP
Power : 120Vac/60Hz
Power : FD 791302
Memo : WLAN Link+POE+LAN+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.206	45.03	-8.34	53.37	44.85	0.08	0.10	Average
2	0.206	48.42	-14.95	63.37	48.24	0.08	0.10	QP
3	0.273	47.09	-13.94	61.03	46.89	0.10	0.10	QP
4	0.273	44.91	-6.12	51.03	44.71	0.10	0.10	Average
5	0.411	36.10	-21.53	57.63	35.88	0.12	0.10	QP
6	0.411	35.58	-12.05	47.63	35.36	0.12	0.10	Average
7	3.080	43.11	-12.89	56.00	42.69	0.26	0.16	QP
8	3.080	42.99	-3.01	46.00	42.57	0.26	0.16	Average
9	3.900	45.16	-0.84	46.00	44.63	0.33	0.20	Average
10	3.900	46.26	-9.74	56.00	45.73	0.33	0.20	QP
11	4.514	41.53	-14.47	56.00	40.99	0.33	0.21	QP
12	4.514	38.37	-7.63	46.00	37.83	0.33	0.21	Average



Site : CO04-HY
Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
EUT : AP
Power : 120Vac/60Hz
Power : FR 791302
Memo : WLAN Link+POE+LAN+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.206	49.33	-14.04	63.37	49.15	0.08	0.10	QP
2	0.206	45.82	-7.55	53.37	45.64	0.08	0.10	Average
3	0.272	47.36	-13.70	61.06	47.16	0.10	0.10	QP
4	0.272	45.22	-5.84	51.06	45.02	0.10	0.10	Average
5	0.822	42.17	-13.83	56.00	41.91	0.16	0.10	QP
6	0.822	42.94	-3.06	46.00	42.68	0.16	0.10	Average
7	3.350	44.87	-11.13	56.00	44.48	0.29	0.10	QP
8	3.350	44.30	-1.70	46.00	43.91	0.29	0.10	Average
9	3.900	47.74	-8.26	56.00	47.31	0.33	0.10	QP
10	3.900	45.07	-0.93	46.00	44.64	0.33	0.10	Average
11	4.380	42.25	-3.75	46.00	41.81	0.33	0.11	Average
12	4.380	43.49	-12.51	56.00	43.05	0.33	0.11	QP

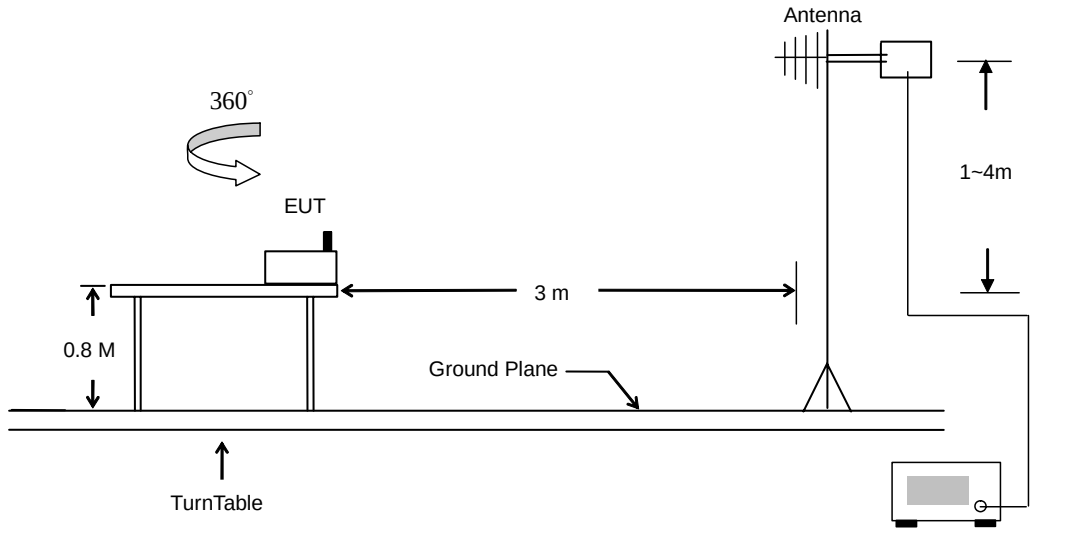
5.6 Test of Radiated Emission

As described in chapter 6 of this test report.

5.6.1 Test Procedures

a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. 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 for both horizontal polarization and vertical polarization of the antenna.
e. 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 turntable (from 0 degree to 360 degrees) to find the maximum reading.
f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. For testing below 1GHz, 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 will be repeated one by one using the quasi-peak method and reported.
h. 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 average 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.

5.6.2 Typical Test Setup Layout of Radiated Emission

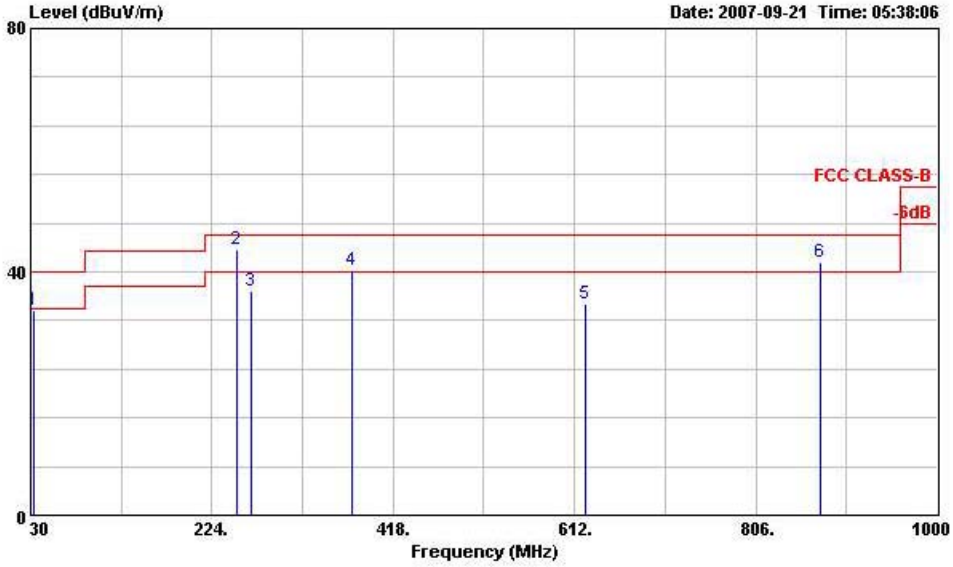


5.6.3 Test Data

➢ Test Mode : Mode 1

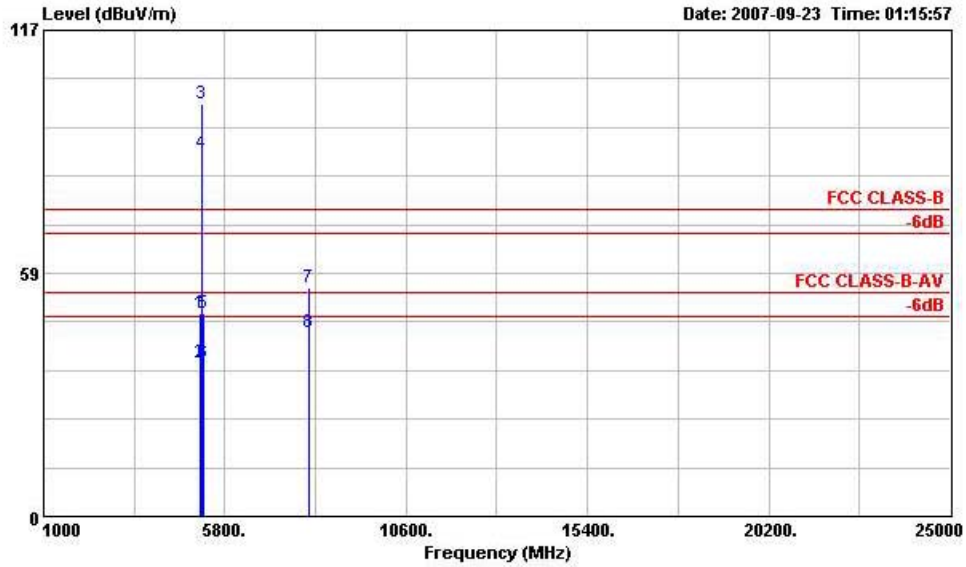
- Temperature : 26~27℃
- Relative Humidity :49~50%
- Test Engineer : Derek
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the boldface in the following table.



Site :03CH04-HY
Condition:FCC CLASS-B 3m ANT2724 HORIZONTAL
EUT :AP
POWER :120Vac/60Hz
MODEL :FR 791302
MOME :11a Tx_Ch36;5180MHz
Data Rate:24

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	32.700	33.66	-6.34	40.00	43.10	16.33	0.90	26.66	---	---	Peak
2 !	250.050	43.65	-2.35	46.00	54.94	12.57	2.05	25.91	100	245	QP
3	266.250	36.87	-9.13	46.00	48.13	12.48	2.11	25.85	---	---	Peak
4 !	374.200	40.21	-5.79	46.00	49.08	14.88	2.49	26.24	---	---	Peak
5	624.100	34.73	-11.27	46.00	38.55	19.96	3.26	27.04	---	---	Peak
6 !	875.400	41.45	-4.55	46.00	41.58	22.62	3.92	26.67	---	---	Peak



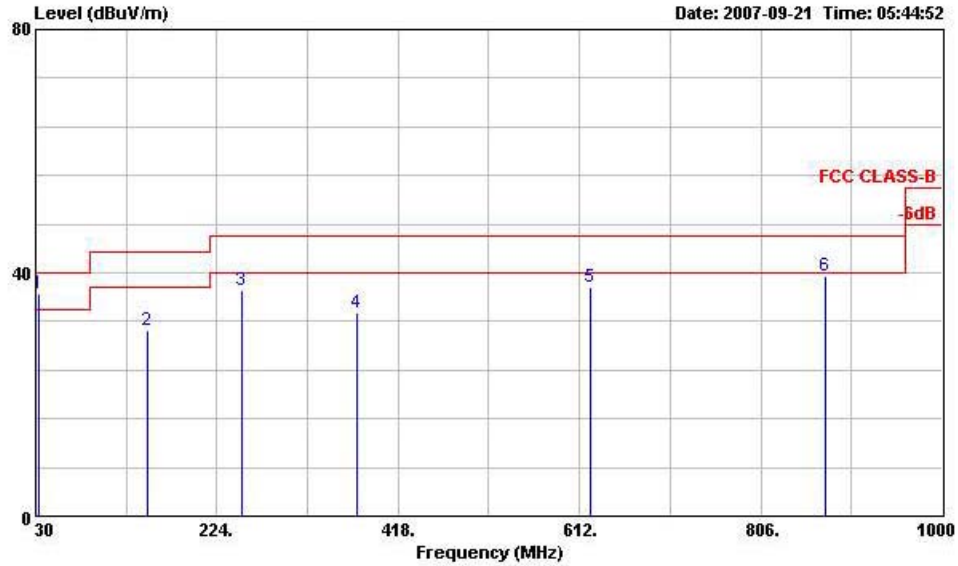
Site :03CH04-HY
Condition:FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
EUT :AP
POWER :120Vac/60Hz
MODEL :FR 791302
MOME :11a Tx_Ch36;5180MHz
Data Rate:24

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5150.000	48.80	-25.20	74.00	43.66	33.38	6.00	34.24	100	0	Peak
2	5150.000	37.06	-16.94	54.00	31.92	33.38	6.00	34.24	100	334	Average
3 X	5180.000	99.13			93.94	33.42	6.00	34.23	100	0	Peak
4 X	5180.000	87.29			82.10	33.42	6.00	34.23	100	334	Average
5	5250.000	48.87	-25.13	74.00	43.56	33.50	6.00	34.19	100	0	Peak
6	5250.000	36.98	-17.02	54.00	31.67	33.50	6.00	34.19	100	334	Average
7	8022.000	54.89	-19.11	74.00	44.89	36.82	6.77	33.60	100	0	Peak
8	8022.000	44.24	-9.76	54.00	34.24	36.82	6.77	33.60	100	242	Average

※Remark: #3 and #4 Fundamental Signal
Frequency from 25GHz to 40GHz, the emission emitted by the EUT is too low to be measured.

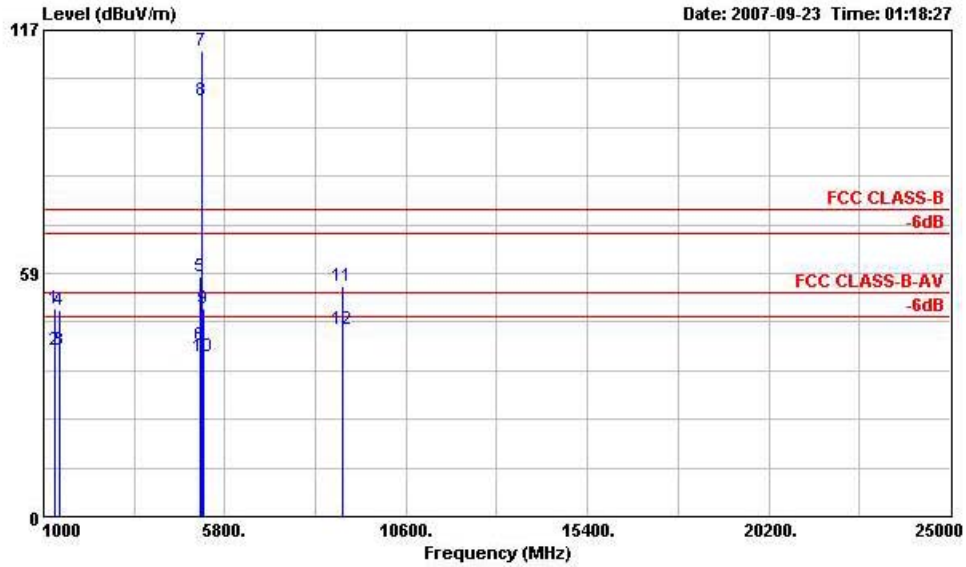
- Polarization : Vertical

■ The test that passed at minimum margin was marked by the boldface in the following table.



Site :03CH04-HY
Condition:FCC CLASS-B 3m ANT2724 VERTICAL
EUT :AP
POWER :120Vac/60Hz
MODEL :FR 791302
MOME :11a Tx_Ch36;5180MHz
Data Rate:24

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 !	32.700	36.45	-3.55	40.00	45.89	16.33	0.90	26.66	100	96	QP
2	149.340	30.40	-13.10	43.50	44.27	10.75	1.66	26.28	---	---	Peak
3	250.050	37.22	-8.78	46.00	48.51	12.57	2.05	25.91	---	---	Peak
4	374.200	33.31	-12.69	46.00	42.18	14.88	2.49	26.24	---	---	Peak
5	624.100	37.54	-8.46	46.00	41.36	19.96	3.26	27.04	---	---	Peak
6	875.400	39.35	-6.65	46.00	39.48	22.62	3.92	26.67	---	---	Peak



Site :03CH04-HY
Condition:FCC CLASS-B 3m HF-ANT-6903 VERTICAL
EUT :AP
POWER :120Vac/60Hz
MODEL :FR 791302
MOME :11a Tx_Ch36;5180MHz
Data Rate:24

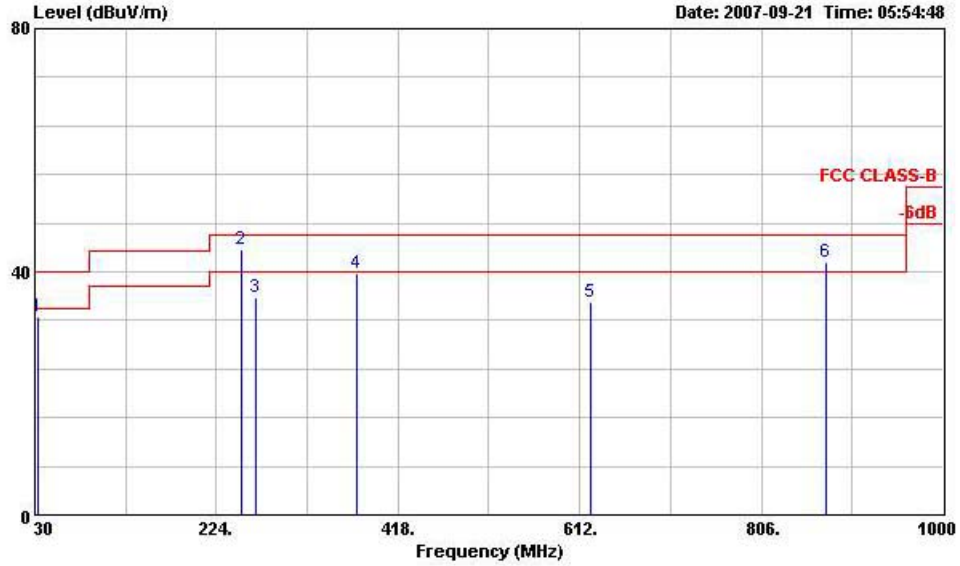
	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	1316.000	50.05	-23.95	74.00	56.60	24.85	2.57	33.98	100	0	Peak
2	1316.000	40.12	-13.88	54.00	46.67	24.85	2.57	33.98	100	338	Average
3	1414.000	39.84	-14.16	54.00	45.92	25.08	2.68	33.84	100	223	Average
4	1414.000	49.84	-24.16	74.00	55.92	25.08	2.68	33.84	100	0	Peak
5	5150.000	57.76	-16.24	74.00	52.62	33.38	6.00	34.24	100	0	Peak
6	5150.000	41.08	-12.92	54.00	35.94	33.38	6.00	34.24	100	106	Average
7 X	5180.000	111.93			106.74	33.42	6.00	34.23	100	0	Peak
8 @	5180.000	99.98			94.79	33.42	6.00	34.23	100	106	Average
9	5250.000	50.05	-23.95	74.00	44.74	33.50	6.00	34.19	100	0	Peak
10	5250.000	38.65	-15.35	54.00	33.34	33.50	6.00	34.19	100	106	Average
11	8918.000	55.37	-18.63	74.00	44.88	38.00	7.23	34.74	100	0	Peak
12	8918.000	45.21	-8.79	54.00	34.72	38.00	7.23	34.74	100	124	Average

※Remark: #7and #8 Fundamental Signal
Frequency from 25GHz to 40GHz, the emission emitted by the EUT is too low to be measured.

➢ Test Mode : Mode 2

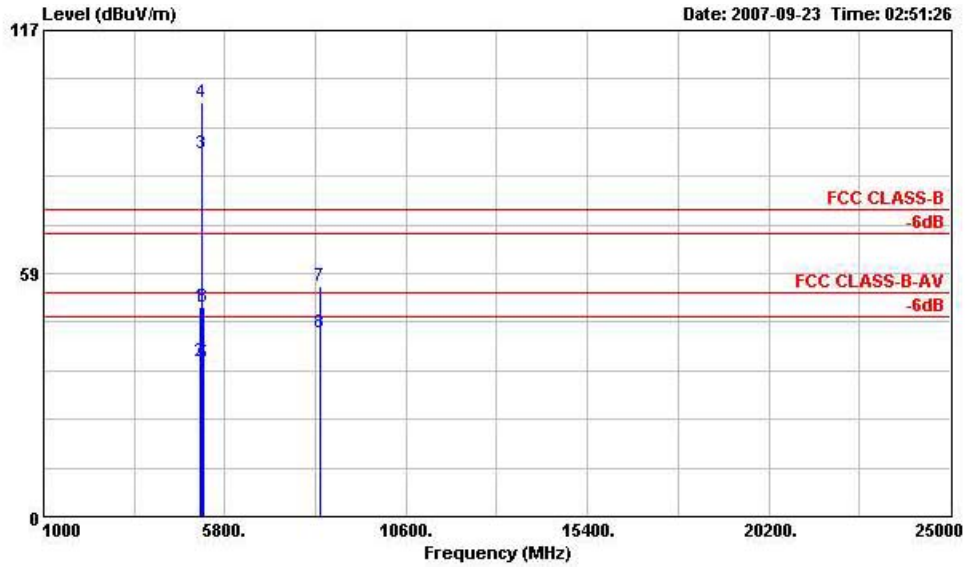
- Temperature : 26~27℃
- Relative Humidity :49~50%
- Test Engineer : Derek
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the boldface in the following table.



Site :03CH04-HY
Condition:FCC CLASS-B 3m ANT2724 HORIZONTAL
EUT :AP
POWER :120Vac/60Hz
MODEL :FR 791302
MOME :11a Tx_Ch40;5200MHz
Data Rate:24

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	32.700	32.70	-7.30	40.00	42.14	16.33	0.90	26.66	---	---	Peak
2 !	250.050	43.65	-2.35	46.00	54.94	12.57	2.05	25.91	100	236	QP
3	266.250	35.73	-10.27	46.00	46.99	12.48	2.11	25.85	---	---	Peak
4	374.200	39.84	-6.16	46.00	48.71	14.88	2.49	26.24	---	---	Peak
5	624.100	34.96	-11.04	46.00	38.78	19.96	3.26	27.04	---	---	Peak
6 !	875.400	41.64	-4.36	46.00	41.77	22.62	3.92	26.67	---	---	Peak



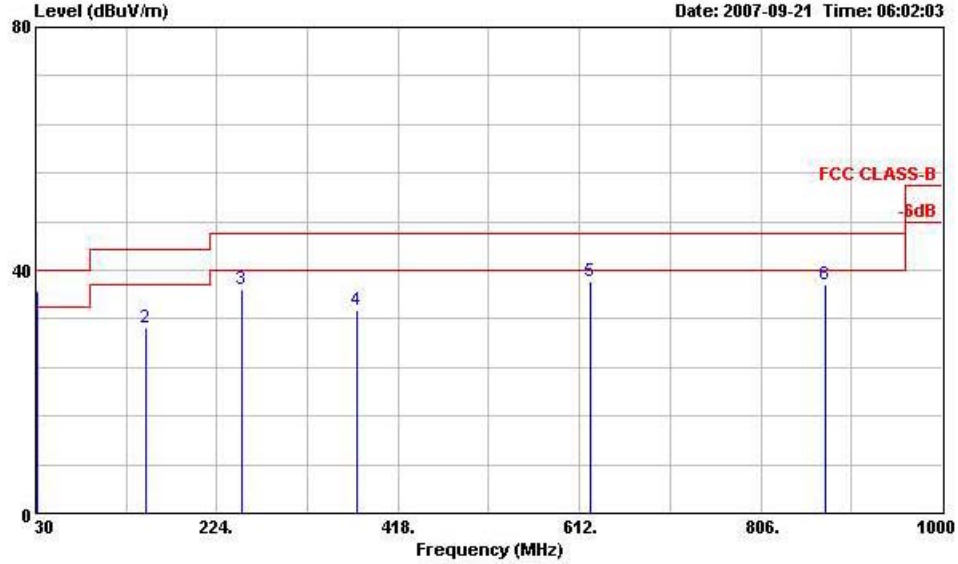
Site :03CH04-HY
Condition:FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
EUT :AP
POWER :120Vac/60Hz
MODEL :FR 791302
MODE :11a Tx_Ch40;5200MHz
Data Rate:24

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5150.000	50.44	-23.56	74.00	45.30	33.38	6.00	34.24	100	0	Peak
2	5150.000	37.20	-16.80	54.00	32.06	33.38	6.00	34.24	100	353	Average
3 X	5200.000	87.35			82.13	33.44	6.00	34.22	100	353	Average
4 X	5200.000	99.77			94.55	33.44	6.00	34.22	100	0	Peak
5	5250.000	37.08	-16.92	54.00	31.77	33.50	6.00	34.19	100	353	Average
6	5250.000	50.44	-23.56	74.00	45.13	33.50	6.00	34.19	100	0	Peak
7	8318.000	55.29	-18.71	74.00	45.24	37.23	6.92	34.11	100	0	Peak
8	8318.000	44.10	-9.90	54.00	34.05	37.23	6.92	34.11	100	231	Average

※ Remark: #3 and #4 Fundamental Signal
Frequency from 25GHz to 40GHz, the emission emitted by the EUT is too low to be measured.

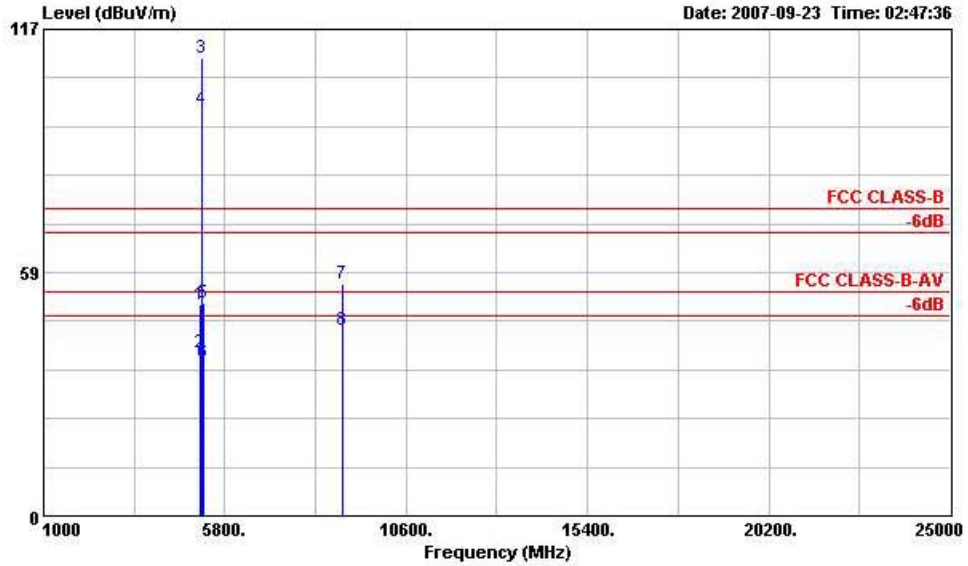
- Polarization : Vertical

■ The test that passed at minimum margin was marked by the boldface in the following table.




```
Site      :03CH04-HY
Condition:FCC CLASS-B 3m ANT2724 VERTICAL
EUT       :AP
POWER     :120Vac/60Hz
MODEL     :FR 791302
MOME      :11a Tx_Ch40;5200MHz
Data Rate:24
```

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 !	31.890	36.63	-3.37	40.00	46.06	16.34	0.89	26.66	100	75	QP
2	148.260	30.51	-12.99	43.50	44.40	10.74	1.65	26.28	---	---	Peak
3	250.050	36.74	-9.26	46.00	48.03	12.57	2.05	25.91	---	---	Peak
4	374.200	33.33	-12.67	46.00	42.20	14.88	2.49	26.24	---	---	Peak
5	624.100	38.19	-7.81	46.00	42.01	19.96	3.26	27.04	---	---	Peak
6	875.400	37.68	-8.32	46.00	37.81	22.62	3.92	26.67	---	---	Peak



Site :03CH04-HY
Condition:FCC CLASS-B 3m HF-ANT-6903 VERTICAL
EUT :AP
POWER :120Vac/60Hz
MODEL :FR 791302
MOME :11a Tx_Ch40;5200MHz
Data Rate:24

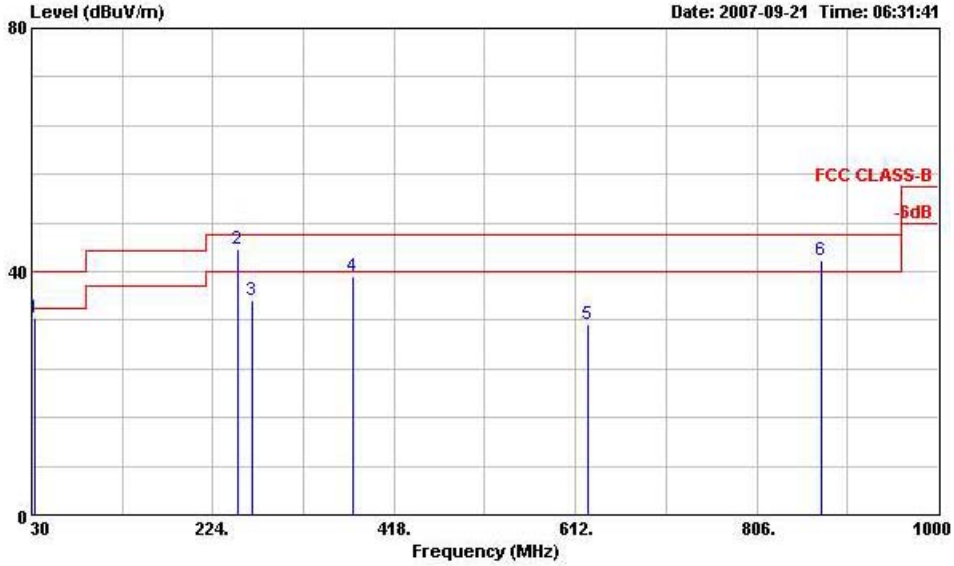
	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5150.000	50.78	-23.22	74.00	45.64	33.38	6.00	34.24	100	0	Peak
2	5150.000	39.07	-14.93	54.00	33.93	33.38	6.00	34.24	100	200	Average
3 X	5200.000	110.00			104.78	33.44	6.00	34.22	100	0	Peak
4 @	5200.000	97.72			92.50	33.44	6.00	34.22	100	200	Average
5	5250.000	51.26	-22.74	74.00	45.95	33.50	6.00	34.19	100	0	Peak
6	5250.000	37.03	-16.97	54.00	31.72	33.50	6.00	34.19	100	200	Average
7	8902.000	55.84	-18.16	74.00	45.36	37.98	7.22	34.72	100	0	Peak
8	8902.000	44.57	-9.43	54.00	34.09	37.98	7.22	34.72	100	124	Average

※ Remark: #3 and #4 Fundamental Signal
Frequency from 25GHz to 40GHz, the emission emitted by the EUT is too low to be measured.

➢ Test Mode : Mode 3

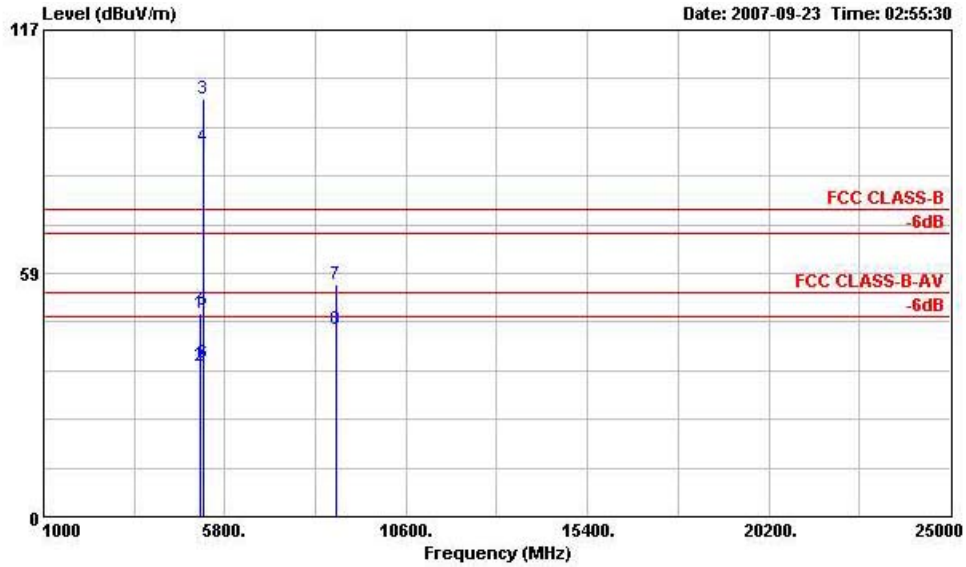
- Temperature : 26~27℃
- Relative Humidity :49~50%
- Test Engineer : Derek
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the boldface in the following table.



Site :03CH04-HY
Condition:FCC CLASS-B 3m ANT2724 HORIZONTAL
EUT :AP
POWER :120Vac/60Hz
MODEL :FR 791302
MOME :11a Tx_Ch44;5220MHz
Data Rate:24

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	32.700	32.32	-7.68	40.00	41.76	16.33	0.90	26.66	---	---	Peak
2 !	250.050	43.75	-2.25	46.00	55.04	12.57	2.05	25.91	100	231	QP
3	266.250	35.34	-10.66	46.00	46.60	12.48	2.11	25.85	---	---	Peak
4	374.200	39.21	-6.79	46.00	48.08	14.88	2.49	26.24	---	---	Peak
5	624.800	31.25	-14.75	46.00	35.06	19.96	3.26	27.04	---	---	Peak
6 !	875.400	41.84	-4.16	46.00	41.97	22.62	3.92	26.67	---	---	Peak



Site :03CH04-HY
Condition:FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
EUT :AP
POWER :120Vac/60Hz
MODEL :FR 791302
MOME :11a Tx_Ch44;5220MHz
Data Rate:24

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5150.000	48.82	-25.18	74.00	43.68	33.38	6.00	34.24	100	0	Peak
2	5150.000	36.25	-17.75	54.00	31.11	33.38	6.00	34.24	100	326	Average
3 X	5220.000	100.26			95.02	33.46	6.00	34.22	100	0	Peak
4 X	5220.000	88.83			83.59	33.46	6.00	34.22	100	326	Average
5	5250.000	49.81	-24.19	74.00	44.50	33.50	6.00	34.19	100	0	Peak
6	5250.000	37.11	-16.89	54.00	31.80	33.50	6.00	34.19	100	326	Average
7	8756.000	55.66	-18.34	74.00	45.31	37.80	7.15	34.60	100	0	Peak
8	8756.000	45.21	-8.79	54.00	34.86	37.80	7.15	34.60	100	154	Average

※Remark: #3 and #4 Fundamental Signal
Frequency from 25GHz to 40GHz, the emission emitted by the EUT is too low to be measured.