

CFR 47 FCC Part 15.407

TEST REPORT

E.U.T. : **NoteBook PC**

Trade Name : MTC ; GETAC

Model Number : 8212X

FCC ID : MAU8212A

Prepared for

MiTAC Technology Corp.

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Statement of Compliance

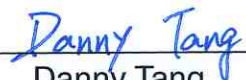
Applicant: MITAC Technology Corp.
Manufacturer: Getac Technology (Kunshan) Co., Ltd.
EUT Description: NoteBook PC
Model No.: 8212X
Serial No.: N/A
Tested Power Supply: 120Vac; 60Hz
Date of Final Test: Nov. 16, 2007
Configuration of Measurements and Standards Used :
FCC Rules and Regulations Part 15 Subpart E

I HEREBY CERTIFY THAT: The EUT was setup to ANSI C63.4, tested to UNII test procedure of KDB289238 (DA-02-2138A1) for compliance to FCC 47CFR 15.407 requirements, and the energy emitted by the device was founded to be within the limits applicable. I assume full responsibility for accuracy and completeness of these data.

Note: 1. The result of the testing report relate only to the item tested.
2. The testing report shall not be reproduced expect in full, without the written approval of IETC

Report Issued: 2007/12/18

Test Engineer: 
Anya Lee

Checked: 
Danny Tang

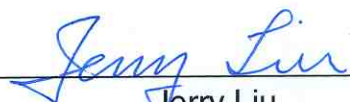
Approved: 
Jerry Liu

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1 General Information

1.1 Description of Equipment Under Test

Equipment Under Test : NoteBook PC

Model Number : 8212X

Serial Number : N/A

Type of Sample Tested : ☒Proto-type ☐Pre-Production ☐Mass Production

Applicant : **MiTAC Technology Corp.**

9th Fl., No. 75, Ming Sheng East Road, Sec. 3, Taipei, Taiwan, R.O.C.

Manufacturer : **Getac Technology (Kunshan) Co., Ltd.**

Kunshan Export Processing Zone, 215300 Jiangsu, P.R.China

Power Adapter : Manufacturer: Delta, M/N: ADP-45AD A, S/N: 86W0731000118

Input: 100~240Vac, 50~60Hz, 1.2A

Power cord: ☒Non-shielded ☒Detachable, 1.8 m ☒w/o core

Output: 15Vdc, 3A

Power cable: ☒Non-shielded ☒Un-detachable, 1.8m ☒ w/o core

Operating Frequency : 5180MHz ~ 5320MHz ; 5500 ~ 5700MHz

Channel Number : Refer to section 1.3 page 7.

Type of Modulation : OFDM; DSSS

Antenna description : This device uses PCB Printed antenna.

Antenna Gain	:	1.4dBi
Connector type	:	U.FL

Sample Receive date : Nov. 13, 2007

Date of Test : Nov. 15~16, 2007

1.2 Technical Specifications

Key parts	SKU B
Memory	Samsung 1Gbit DDR
CPU	Intel McCaslin - Stealey, 800MHz
LCD Monitor	Toshiba, PI-LTD121EW6S
Bluetooth	BTM-203B EDRV2.0 ver1.2
HDD	Toshiba, (40GB, 1.8", PATA), Model: MK4009GAL
ODD	TEAK, (DVDSuper-multi) DVW28ECPUBA
Modem	Billionton, Model :RD002-D330
Wireless LAN	Askey, (802.11abg, Mini PCI-E) Model : WLL4080-D12
3G	None
AC/DC Adapter	Delta, ADP-45ADA
Battery (LITHIUM)	SANYO, 3CELLS, 11.1V/2.6AH

WIRELESS Module Information (WLL4080-D12)

Host Interface	PCI Express
Chipset	Atheros AR5424
Network Standard	IEEE 802.11a/b/g
Modulation Techniques	BPSK, QPSK, 16QAM, 64QAM
Modulation Technology	OFDM, CCK, DSSS
Media Access Technology	CSMA/CA
Supported Data Rates	IEEE802.11a/b/g Stand Mode: 1-54Mbps

1.3 Table for Carrier Frequencies

802.11a

CH No.	36	40	44	48	52	56	60	64
CF (MHz)	5180	5200	5220	5240	5260	5280	5300	5320

CH No.	100	104	108	112	116	120	124	128	132	136	140
CF (MHz)	5500	5520	5540	5560	5580	5600	5620	5640	5660	5680	5700

1.4 Test Facility

Site Description	:	☒ OATS 2 ☒ Conduction 2
Name of Firm	:	Interocean EMC Technology Corp.
Company web	:	http://www.ietc.com.tw
Site 1, 2 Location	:	No.5-2, Lin 1, Tin-Fu Tsun, Lin-Kou Hsiang, Taipei County, Taiwan, R.O.C.
Site 3, 4 Location	:	No. 12, Ruei-Shu Valley, Ruei-Ping Tsun, Lin-Kou Hsiang, Taipei County, Taiwan, R.O.C.
Site Filing	:	● Federal Communication Commissions – USA Registration No.: 96399 (OATS 1 & 2) Registration No.: 518958 (OATS 3 & 4) ● Voluntary Control Council for Interference by Information Technology Equipment (VCCI) – Japan Registration No. (Conducted Room): C-1094 Registration No. (Conducted Room): T-271 Registration No. (OATS 1): R-1040 Registration No. (OATS 2): R-1041 ● Industry Canada (IC) Submission: 113543 ● Japan Electrical Safety & Environment Technology Laboratories (JET) Registration No.: 04S03-01
Site Accreditation	:	● Bureau of Standards and Metrology and Inspection (BSMI) – Taiwan, R.O.C. Accreditation No.: SL2-IN-E-0026 for CNS13438 / CISPR22 SL2-R1-E-0026 for CNS13439 / CISPR13 SL2-R2-E-0026 for CNS13439 / CISPR13 SL2-A1-E-0026 for CNS13783-1 / CISPR14-1 ● National Voluntary Laboratory Accreditation Program (NVLAP) - USA NVLAP LAB CODE 200458 ● Nemko AS Authorization No.: ELA 181A Authorization No.: ELA 181B ● Taiwan Accreditation Foundation (TAF) Accrditation No.: 1113



1.5 Test Equipment

Instrument	Manufacturer	Model	Serial No.	Last Calibration
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100135	2007/08/03
L.I.S.N.	Schwarzbeck	NNLK8121	8121417	2007/07/17
L.I.S.N.	Rohde & Schwarz	ESH3-Z5	100176	2007/02/14
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	843602/02	2007/09/10
RF Cable	HARBOUR	RG400	CBL04	2007/08/09
Spectrum Analyzer	Agilent	8564EC	4046A00331	2007/03/29
Spectrum Analyzer	R&S	FSQ	200406	2007/03/29
Biconical Antenna	Schwarzbeck	VHA 9103	2484	2007/09/06
Log Antenna	Schwarzbeck	UHALP 9108	A 0765	2007/09/06
Pre-Amplifier	HP	8447D	2944A10321	2007/07/17
Preamplifier	Agilent	8449B	3008A01434	2007/04/03
RF Cable	Ultra Link	CBL02	CBL02	2007/05/04
Cable	IETC	CBL07	CBL07	2007/05/08
Power Meter	Anritsu	ML2495A	0736010	2007/10/29
Wide Bandwidth Sensor	Anritsu	MA2491A	0728133	2007/10/19

Note: All instrument upon which need to be calibrated are within calibration period of 1 year.

Instrument	Manufacturer	Model	Serial No.	Last Calibration
Horn Antenna	COM-POWER	AH-118	10081	2006/05/16
Horn Antenna	SCHWARZBECK	BBHA9120	9120D-583	2006/12/18
Synthesizer Signal Generator	Anritsu	MG3691A	043321	2007/11/22
FSP30 Spectrum Analyzer	Rohde & Schwarz	FSP30	100245	2007/03/07
Wireless Access Point	Cisco	AIR-AP1242AG-A-K9	FTX1135131S1	N/A
Spectrum Analyzer	Rohde & Schwarz	FSEK30	100186	2006/11/13

Note: All instrument upon which need to be calibrated are within calibration period of 2 year.

1.6 Summary of Measurement

Report Clause	Test Parameter	Reference Document CFR47 Part15	Results
2	Peak output power test	§15.407 (a)	Pass
3	26dB Bandwidth	§15.407 (a)	Pass
4	Power Spectrum Density test	§15.407 (a)	Pass
5	Peak excursion to average ratio test	§15.407(a)(6)	Pass
6	Radiated emission test (FCC Part 15.209)	§15.209	Pass
7	Band edge test	§15.209, 15.205	Pass
8	Radiated spurious emission test	§15.407(b), 15.209, 15.205	Pass
9	RF antenna conducted spurious emission test	§15.407(b)	Pass
10	AC Power Line Conducted Emission test	§15.407(b)(6), 15.207	Pass
11	Dynamic Frequency Selection (DFS) test	§15.407(h)	Pass

1.7 Justification

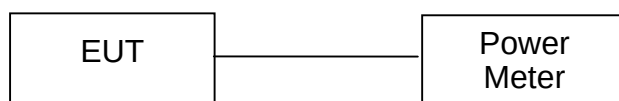
The test of radiated measurements according to FCC Part15 Section 15.33(a) had been conducted and the field strength of the frequency band were all arrive limit requirement, thus we evaluate the EUT pass the specified test.

2 Peak output power test

2.1 Limit

Operating Frequency (MHz)	Output power limit
5150~5250	< 50mW (17dBm) or 4dBm+10logB
5250~5350, 5470~5725	< 250mW (24dBm) or 11dBm+10logB
5725~5825	< 1W (30dBm) or 17dBm+10logB

2.2 Configuration of Measurement



2.3 Test Procedure

As an alternative to DA 02-2138, the EUT peak power was measured with a peak power meter employing a video bandwidth greater than 6dB BW of the emission under test. Peak output power was read directly from the meter across all data rates, and across three channels within each sub-band. Special care was used to make sure that the EUT was transmitting in continuous mode. This method exceeds the limitations of DA 02-2138, and provides more accurate measurements.

2.4 Test Result

PASS.

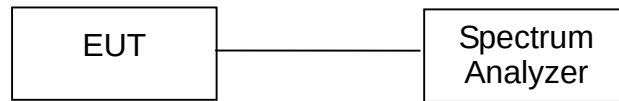
The final test data is shown on as following pages.

Maximum output power

Maximum output power (dBm)										
Data Rate (Mbps)	Modulation	CH36	CH44	CH48	CH52	CH60	CH64	CH100	CH120	CH140
6	BPSK	16.97	16.42	16.48	22.28	22.48	22.32	22.09	21.67	21.86
9	BPSK	16.73	16.25	16.31	22.12	22.26	22.16	21.96	21.48	21.73
12	QPSK	16.45	16.13	16.23	21.97	22.07	21.99	21.76	21.36	21.58
18	QPSK	16.22	15.91	16.05	21.82	21.93	21.84	21.57	21.21	21.46
24	16-QAM	16.18	15.76	15.88	21.69	21.84	21.68	21.49	21.13	21.33
36	16-QAM	15.82	15.51	15.68	21.46	21.61	21.47	21.31	21.01	21.16
48	64-QAM	15.59	15.44	15.48	21.35	21.48	21.33	21.23	20.90	20.98
54	64-QAM	15.35	15.10	15.25	20.88	21.09	21.02	21.06	20.77	20.86
Limit (dBm)		17	17	17	24	24	24	24	24	24
Margin (dB)		-0.03	-0.58	-0.52	-1.72	-1.52	-1.68	-1.91	-2.33	-2.14

3 26dB bandwidth

3.1 Configuration of Measurement



3.2 Test Result

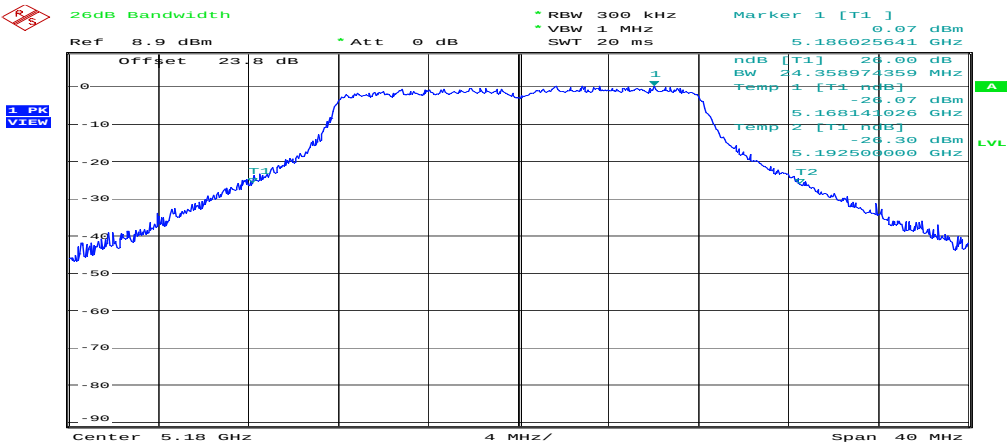
The final test data is shown on as following pages.

26dB Bandwidth

Test Mode : 802.11a		
Test CH		26dB Bandwidth (MHz)
CH No.	Freq. (MHz)	
36	5180	24.36
44	5220	24.32
48	5240	24.17
52	5260	30.00
60	5300	25.52
64	5320	29.17
100	5500	32.70
120	5600	33.27
140	5700	29.81

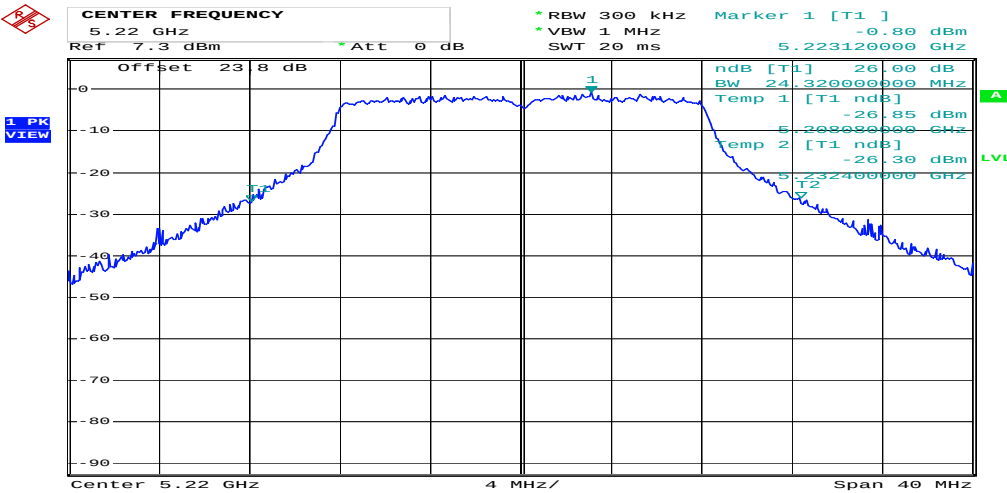
26dB Bandwidth

802.11 a 5180MHz



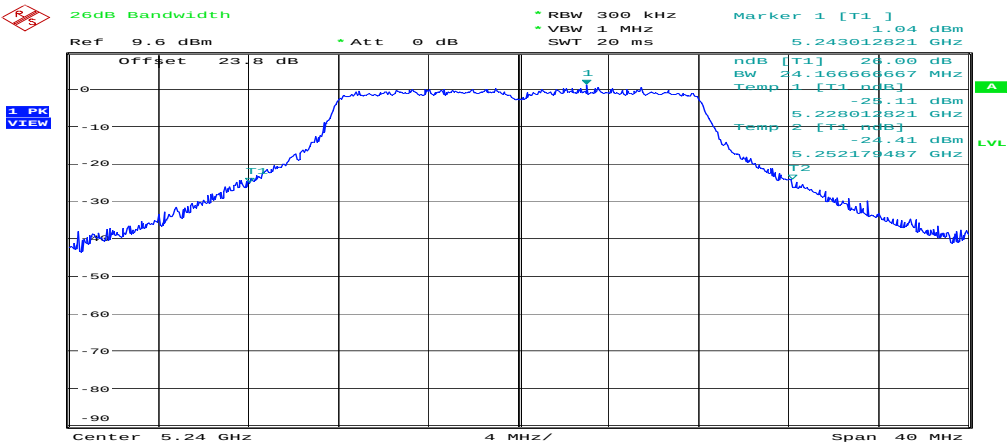
802.11a_5180MHz
Date: 19.NOV.2007 10:44:41

802.11 a 5220MHz



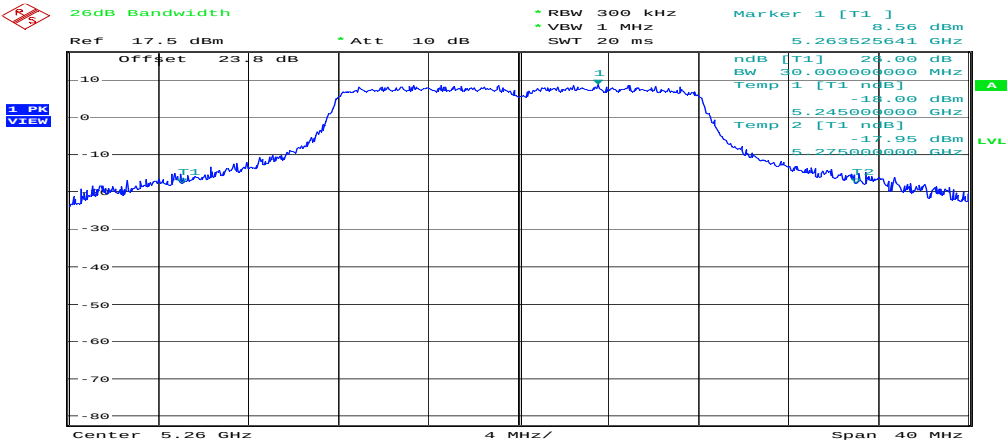
Comment: 802.11a 5220MHz
Date: 12.DEC.2007 11:56:33

802.11 a 5240MHz



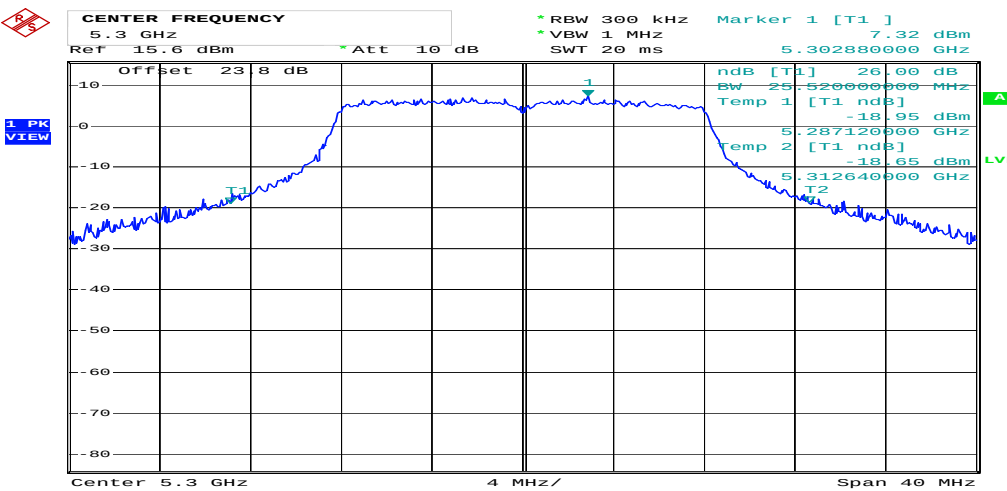
802.11a_5240MHz
Date: 19.NOV.2007 10:48:40

802.11 a 5260MHz



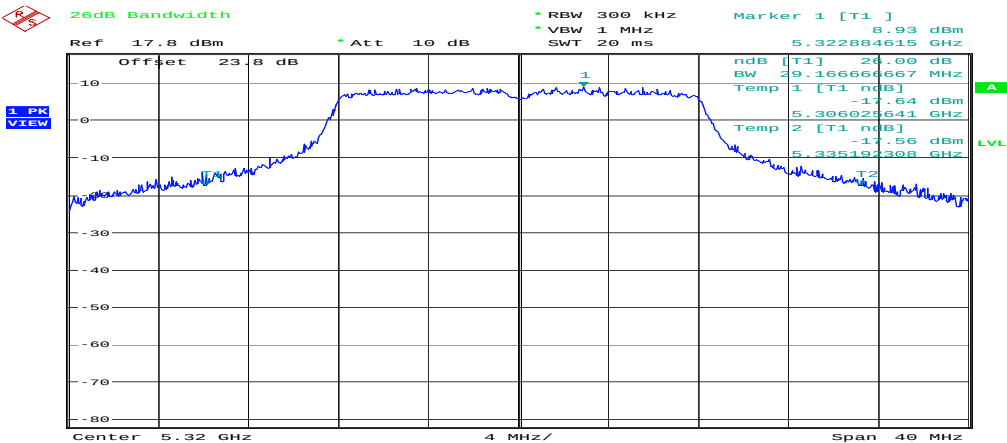
802.11a_5260MHz
Date: 16.NOV.2007 10:36:43

802.11 a 5300MHz



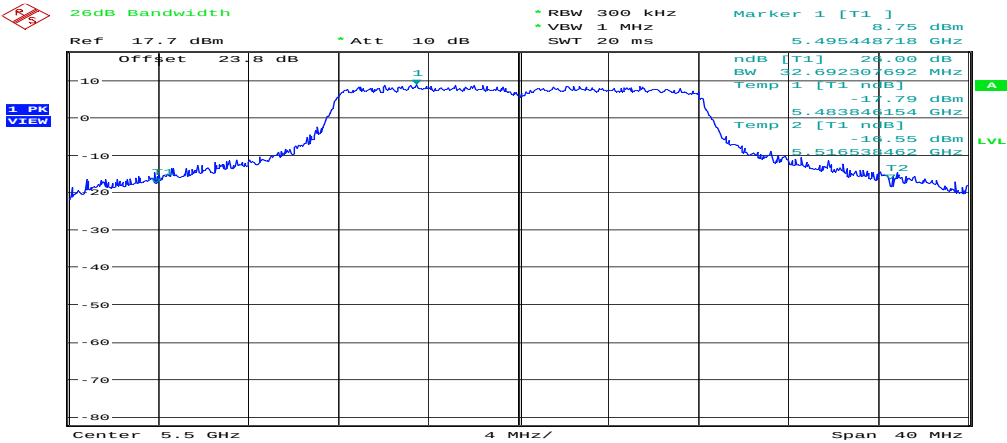
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802.11 a 5320MHz



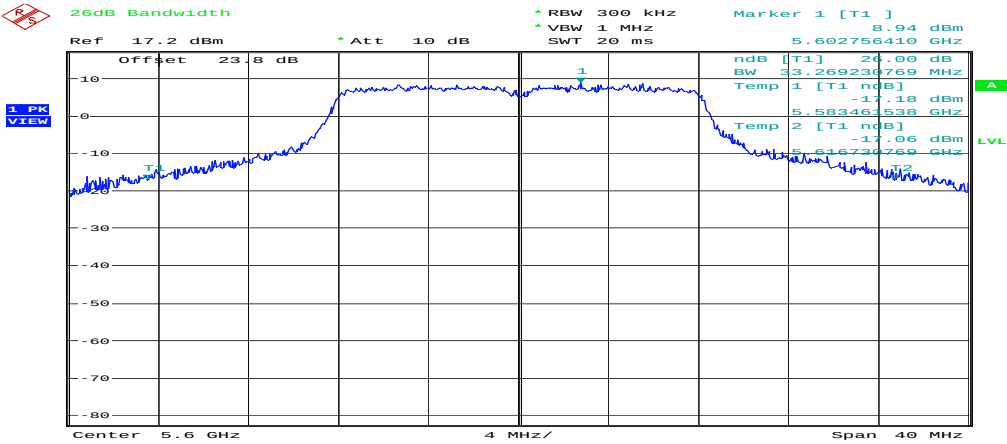
802.11a_5320MHz
Date: 16.NOV.2007 17:25:08

802.11 a 5500MHz



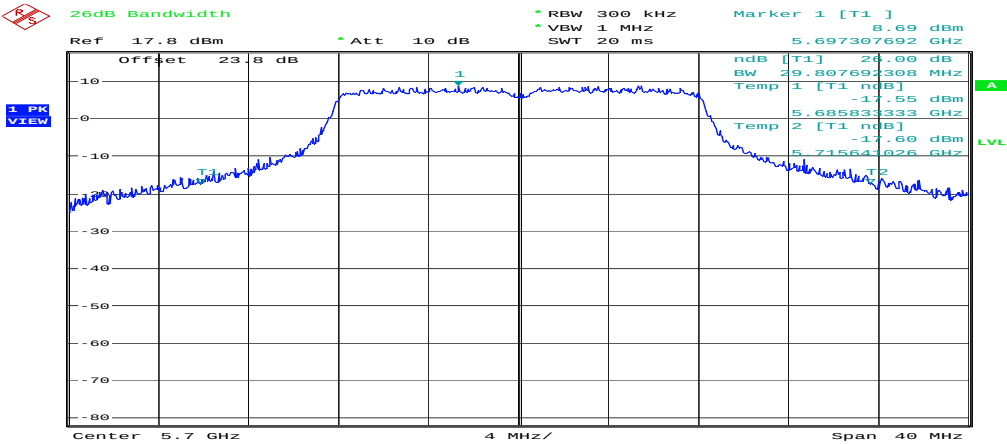
802.11a_5500MHz
Date: 16.NOV.2007 10:43:15

802.11 a 5600MHz



802.11a_5600MHz
Date: 16.NOV.2007 10:44:40

802.11 a 5700MHz



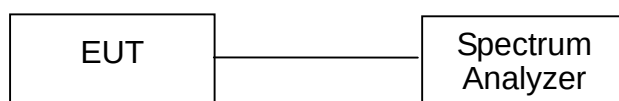
802.11a_5700MHz
Date: 16.NOV.2007 10:46:09

4 Power Spectrum Density test

4.1 Limit

Operating Frequency (MHz)	Power density limit
5150~5250	< 4dBm/MHz
5250~5350, 5470~5725	< 11dBm/MHz
5725~5825	< 17dBm/MHz

4.2 Configuration of Measurement



4.3 Test Procedure

The EUT was setup to ANSI C63.4, tested to UNII test procedure of KDB289238 (DA-02-2138A1) for compliance to FCC 47CFR 15.407 requirements.

The power spectrum density was measured from the antenna port of the EUT using a 50ohm spectrum analyzer with the resolution bandwidth set at 1MHz, the video bandwidth set at 3MHz. Power spectrum density was read directly at the EUT antenna terminals.

4.4 Test Result

PASS.

The final test data is shown on as following pages.

Power spectral density

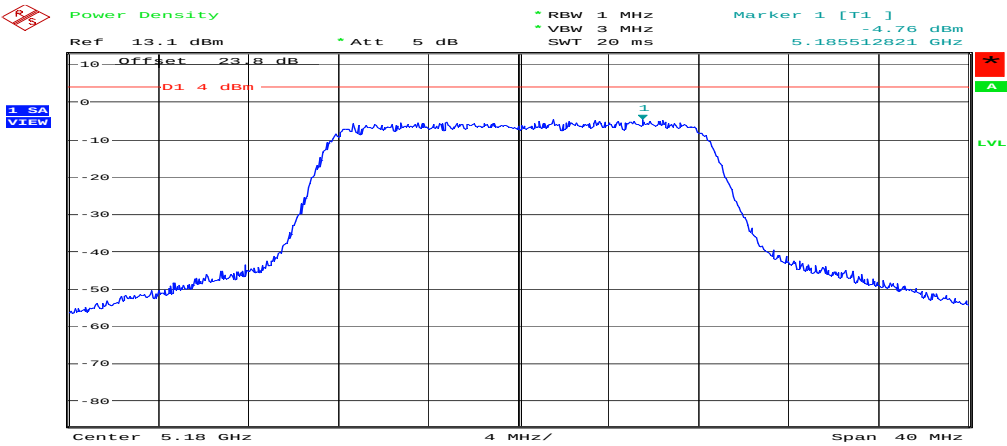
CH	Freq. (MHz)	Power Spectral Density (dBm)	Limit (dBm)	Margin (dB)
36	5180	-4.76	4	-8.76
44	5220	-6.26	4	-10.26
48	5240	-3.78	4	-7.78

52	5260	3.70	11	-7.30
60	5300	2.23	11	-8.77
64	5320	3.79	11	-7.21

100	5500	3.93	11	-7.07
120	5600	3.70	11	-7.30
140	5700	4.04	11	-6.96

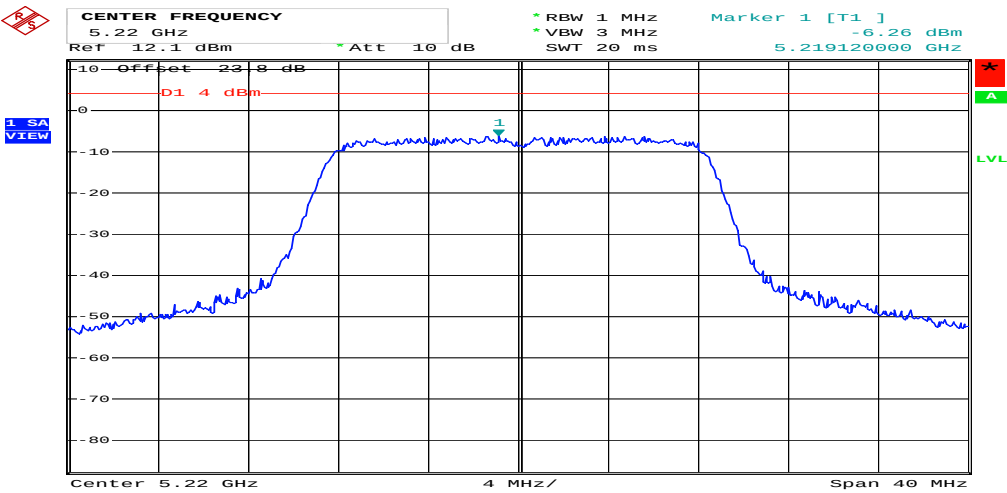
Power spectral density

802.11 a 5180MHz



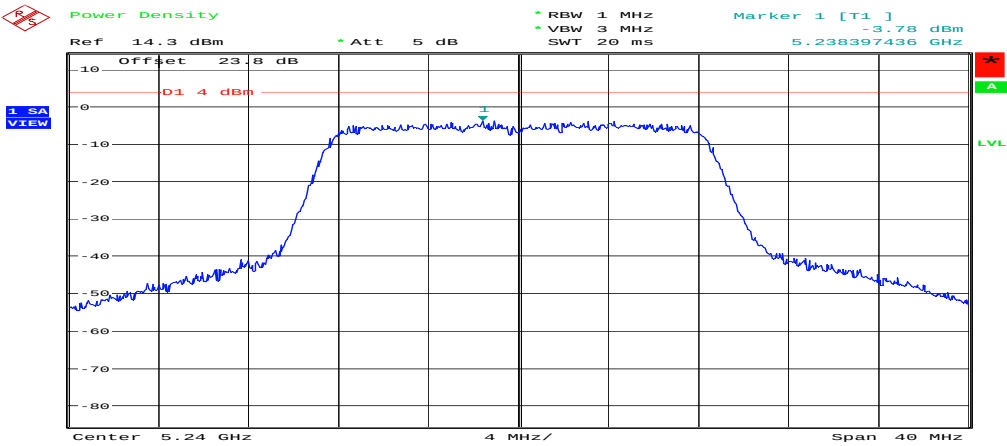
802.11a 5180MHz ()
Date: 19.NOV.2007 11:13:40

802.11 a 5220MHz



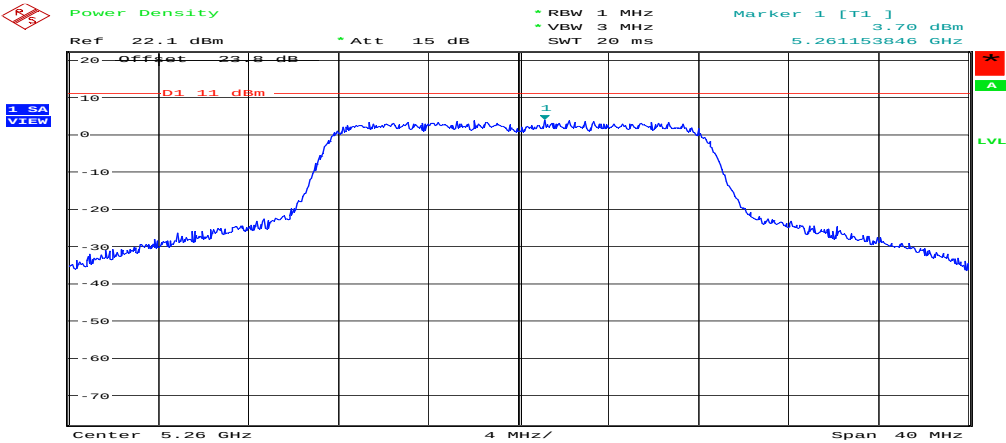
Comment: 802.11a 5220MHz
Date: 12.DEC.2007 11:57:24

802.11 a 5240MHz



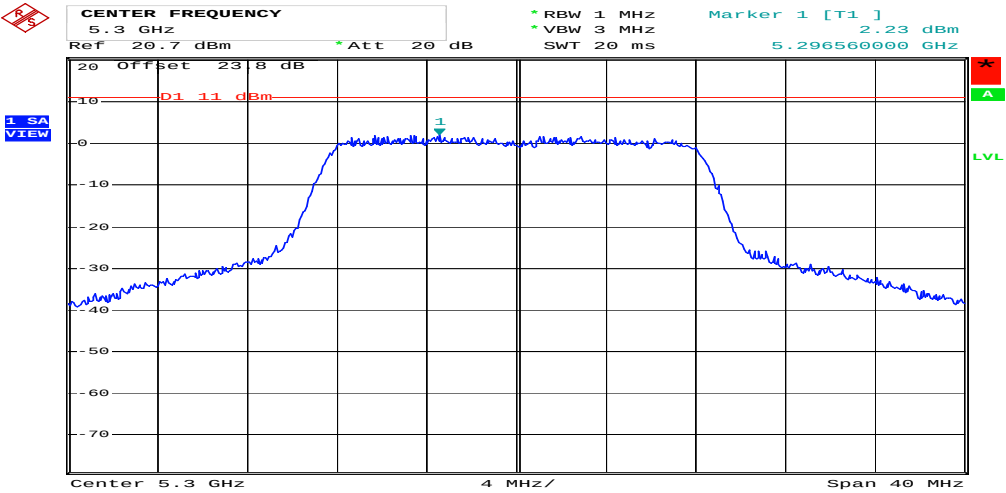
802.11a 5240MHz ()
Date: 19.NOV.2007 11:14:40

802.11 a 5260MHz



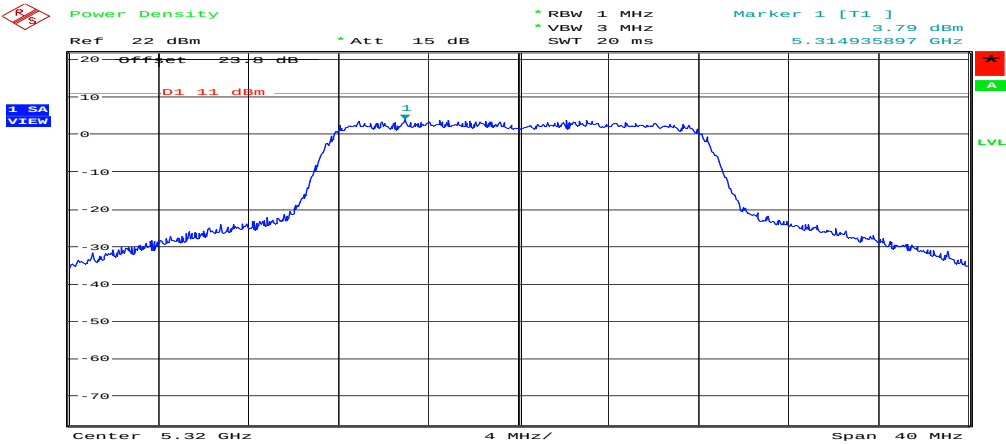
802.11a 5260MHz (FCC)
Date: 19.NOV.2007 11:28:08

802.11 a 5300MHz



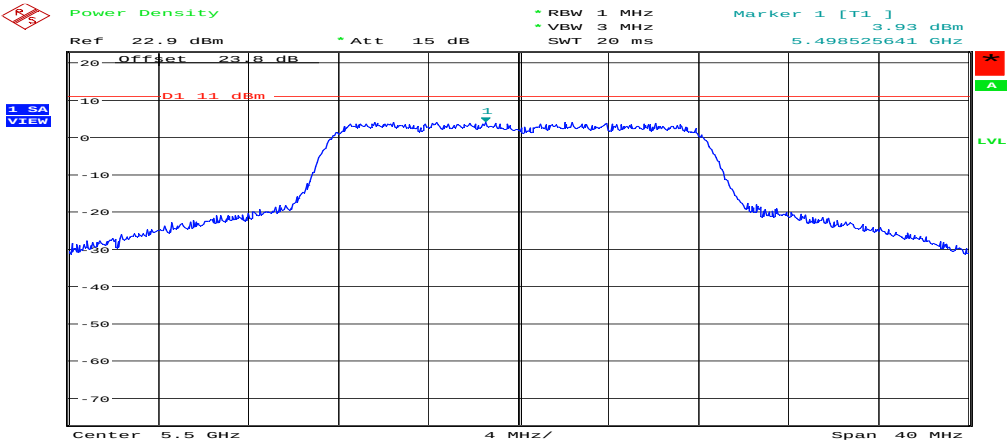
Comment: 802.11a 5300MHz
Date: 12.DEC.2007 12:02:08

802.11 a 5320MHz



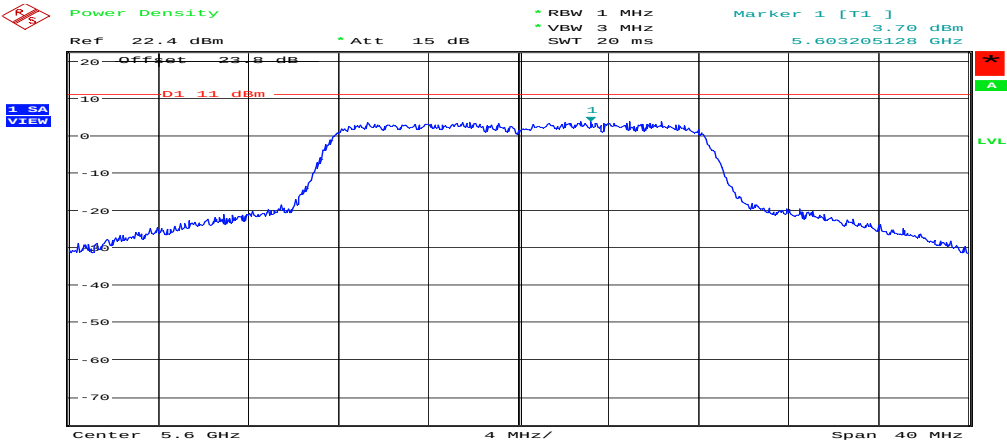
802.11a 5320MHz (FCC)
Date: 19.NOV.2007 11:29:18

802.11 a 5500MHz



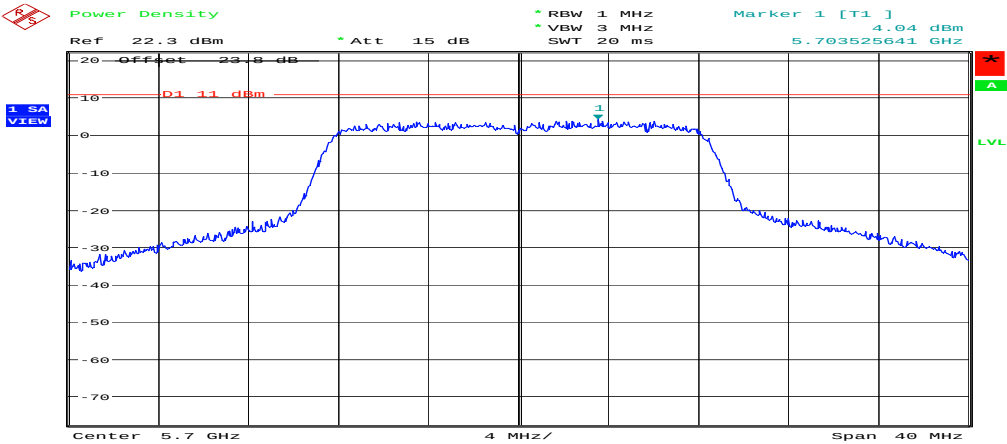
802.11a 5500MHz (FCC)
Date: 19.NOV.2007 11:29:58

802.11 a 5600MHz



802.11a 5600MHz ()
Date: 19.NOV.2007 11:30:28

802.11 a 5700MHz



802.11a 5700MHz ()
Date: 19.NOV.2007 11:31:00

5 Peak excursion to average ratio test

5.1 Limit

Operating Frequency (MHz)	Peak excursion to average ratio limit
5150~5250	<13dB
5250~5350	<13dB
5725~5825	<13dB

5.2 Configuration of Measurement



5.3 Test Procedure

The EUT was setup to ANSI C63.4, tested to UNII test procedure of KDB289238 (DA-02-2138A1) for compliance to FCC 47CFR 15.407 requirements.

Peak excursion to average ratio was measured from the antenna port of the EUT. Using a 50ohm spectrum analyzer with the RBW=VBW=1MHz for peak measurement and RBW=1MHz, VBW=10kHz for average measurement. Peak excursion to average ratio was read directly.

5.4 Test Result

PASS.

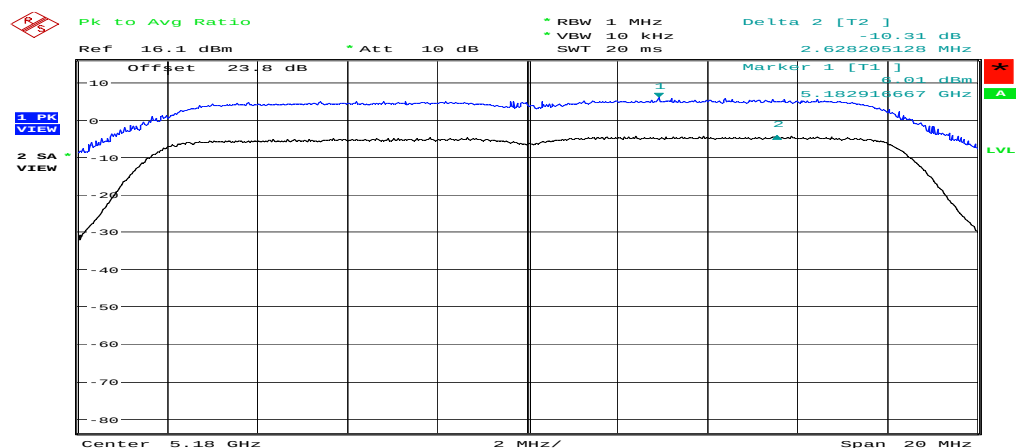
The final test data is shown on as following pages.

Peak excursion to Average ratio

Test CH		Measured peak Excursion (dBm)	Limit (dB)
CH No.	Freq. (MHz)		
36	5180	10.31	13
44	5220	9.90	13
48	5240	10.17	13
52	5260	10.07	13
60	5300	9.97	13
64	5320	9.55	13
100	5500	10.28	13
120	5600	10.15	13
140	5700	9.90	13

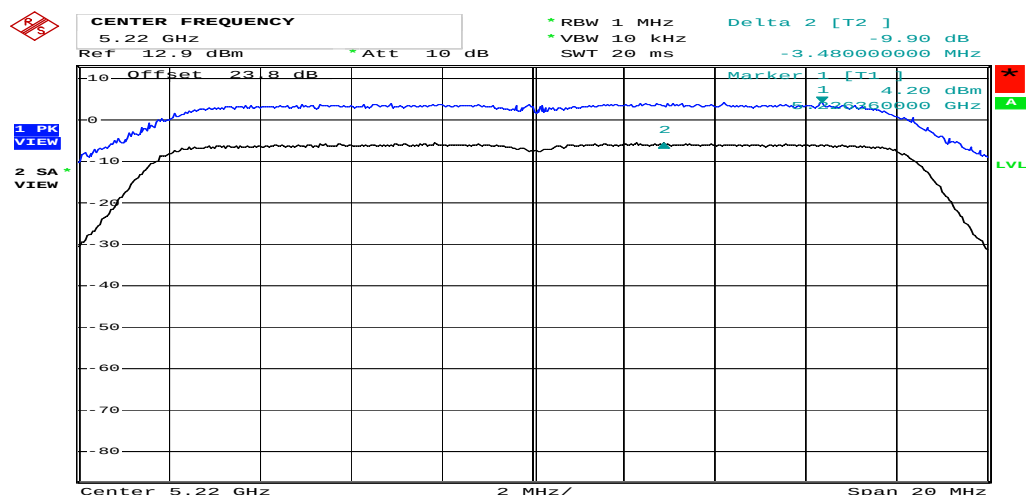
Peak excursion to Average ratio

802.11 a 5180MHz PK to AV Ratio



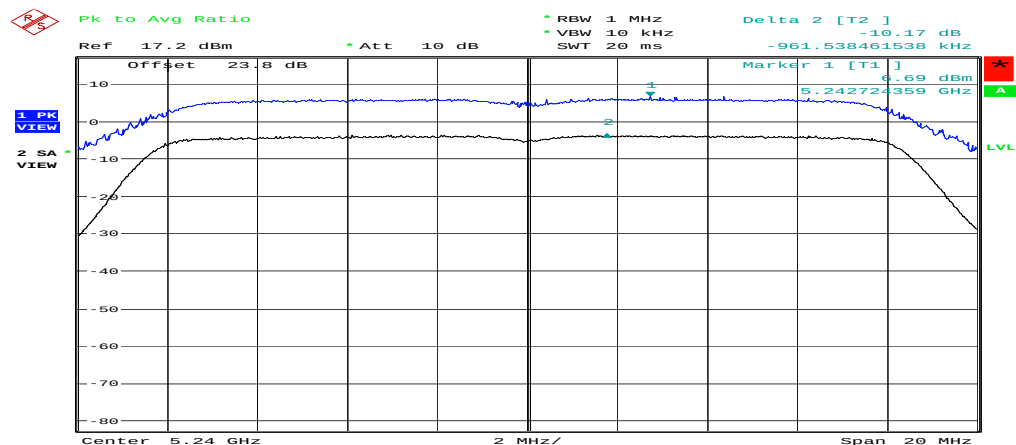
802.11a 5180MHz ()
Date: 19.NOV.2007 11:37:11

802.11 a 5220MHz PK to AV Ratio



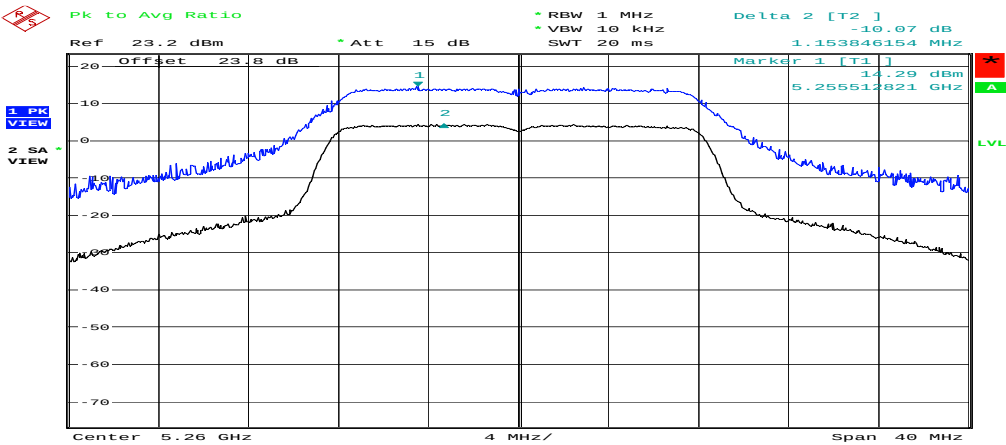
Comment: 802.11a 5220MHz
Date: 12.DEC.2007 11:57:01

802.11 a 5240MHz PK to AV Ratio



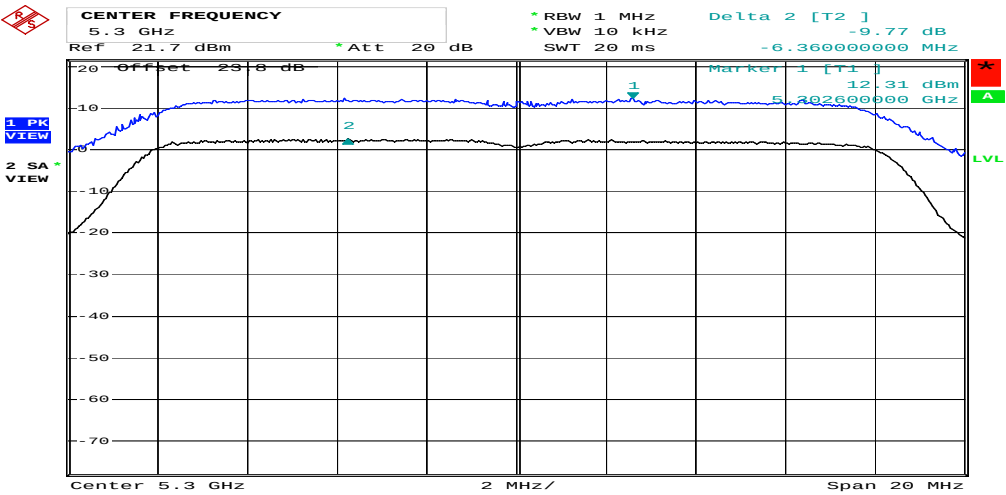
802.11a 5240MHz ()
Date: 19.NOV.2007 11:38:00

802.11 a 5260MHz PK to AV Ratio



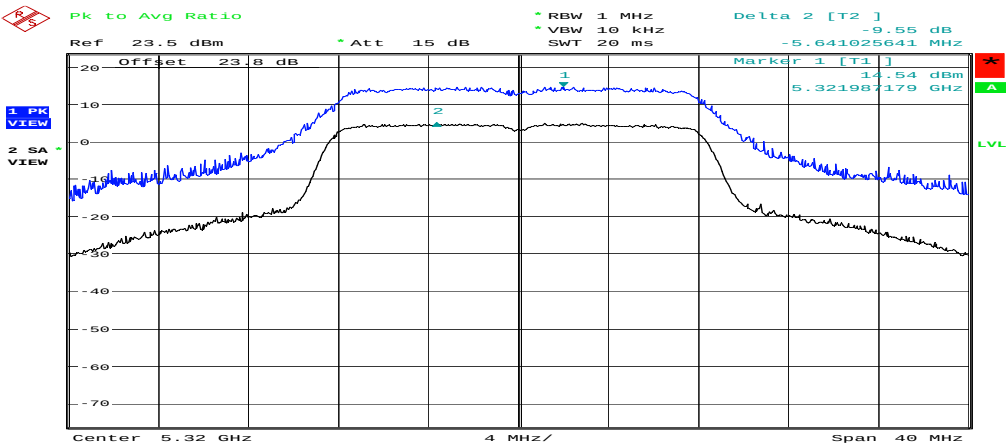
802.11a 5260MHz ()
Date: 19.NOV.2007 11:38:42

802.11 a 5300MHz PK to AV Ratio



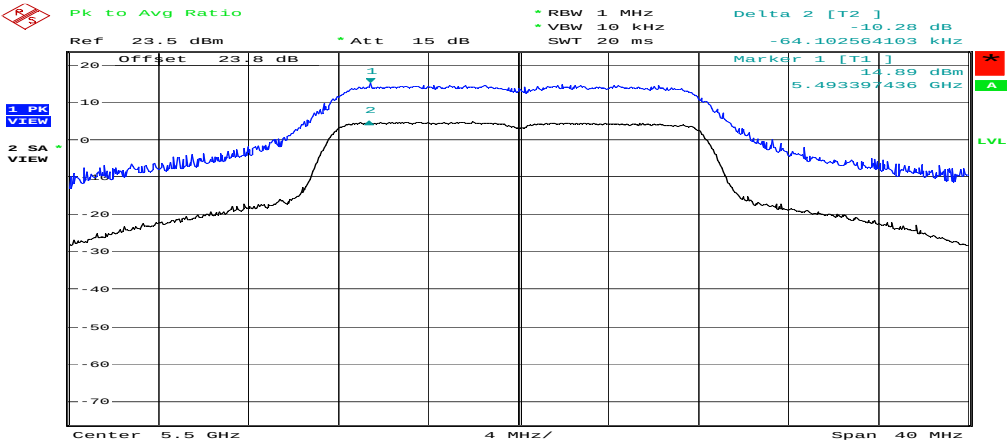
Comment: 802.11a 5300MHz
Date: 12.DEC.2007 12:01:44

802.11 a 5320MHz PK to AV Ratio



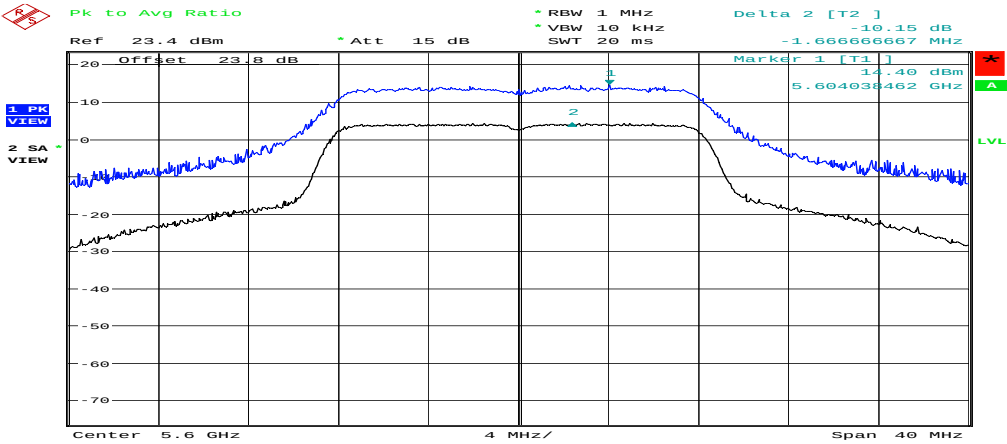
802.11a 5320MHz ()
Date: 19.NOV.2007 11:39:17

802.11 a 5500MHz PK to AV Ratio



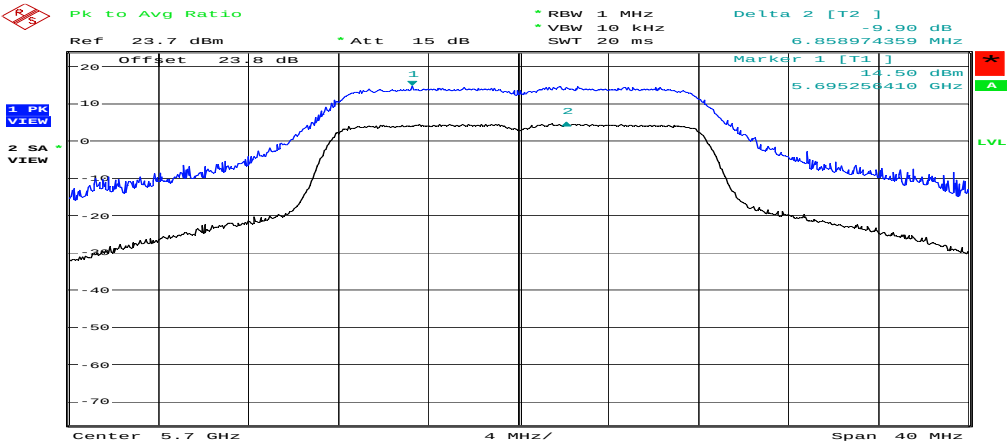
802.11a 5500MHz ()
Date: 19.NOV.2007 11:39:54

802.11 a 5600MHz PK to AV Ratio



802.11a 5600MHz ()
Date: 19.NOV.2007 11:40:26

802.11 a 5700MHz PK to AV Ratio



802.11a 5700MHz ()
Date: 19.NOV.2007 11:41:03

6 Radiated emission test (FCC Part 15.209)

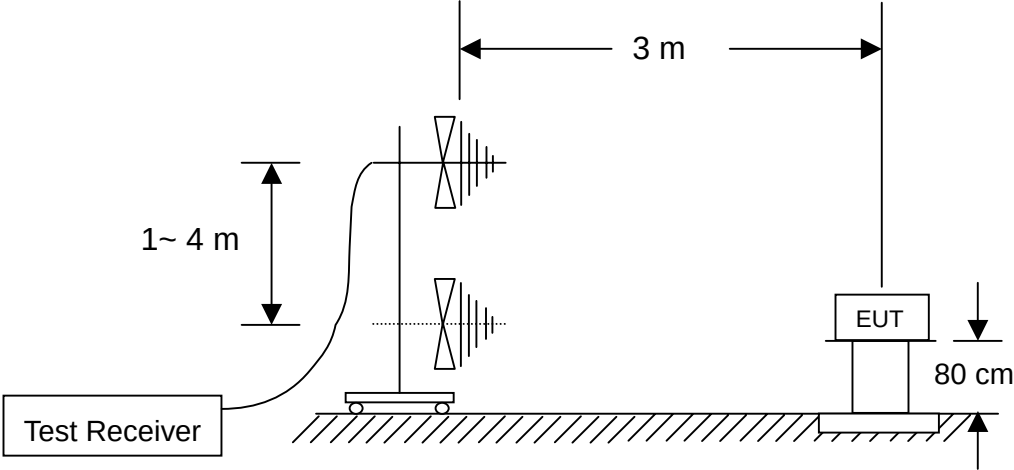
6.1 Limit

The radiated emission shall comply with §15.209(a).

Frequency (MHz)	Field strength dB(μ V/m)	Measurement distance (meters)
1.705~30.0	29.5	30
30 ~ 88	40	3
88~216	43.5	3
216~960	46	3
Above 960	54	3

6.2 Configuration of Measurement

Measurement Frequency under 1GHz



6.3 Test Procedure

Radiated emission measurements were performed from 30MHz to 1GHz. Spectrum Analyzer Resolution Bandwidth is 100kHz or greater.

The EUT for testing is arranged on a wooden turntable. If some peripherals apply to the EUT, the peripherals will be connected to EUT and the whole system. During the test, all cables were arranged to present worst-case emission. The signal is maximized through rotation. The height of antenna and polarization is changing constantly for exploring for maximum signal level. The height of antenna can be up to 4 meter and down to 1 meter.

6.4 Test Result

PASS.

The final test data is shown on as following pages.

Radiated spurious emission

Test Environment

Ambient temperature : 26.3°C

Relative humidity : 67%

Radiated Emission below 1GHz								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamplifier (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
192.010	H	48.90	29.54	10.48	29.84	43.50	-13.66	QP
240.000	H	55.10	29.55	13.35	38.90	46.00	-7.10	QP
305.456	H	50.10	29.55	15.98	36.50	46.00	-9.50	QP
566.993	H	44.30	29.46	24.80	39.64	46.00	-6.36	QP
914.438	H	41.20	29.10	29.57	41.67	46.00	-4.33	QP
120.013	V	53.10	29.54	12.54	36.10	43.50	-7.40	QP
239.998	V	54.10	29.55	13.50	38.05	46.00	-7.95	QP
512.993	V	44.00	29.57	22.57	37.00	46.00	-9.00	QP
566.995	V	42.30	29.46	24.93	37.77	46.00	-8.23	QP
914.430	V	40.10	29.10	29.56	40.56	46.00	-5.44	QP

Remark : Corrected Level = Reading + Correction Factor – Preamp
Correction Factor = Antenna Factor + Cable Loss

7 Band edge test

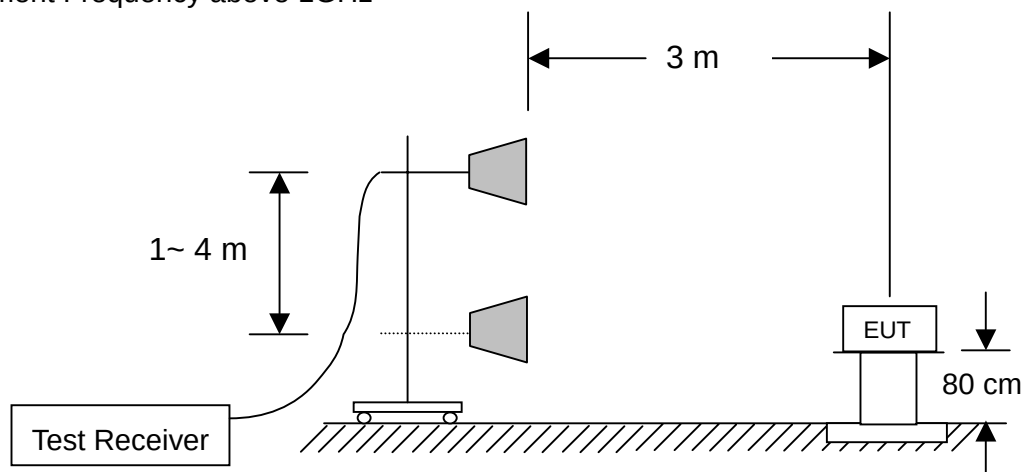
7.1 Limit

According to FCC Part 15.205 requirement :

Any radiated emission in the restricted bands shall be complied with the limits in 15.209.

7.2 Configuration of Measurement

Measurement Frequency above 1GHz



7.3 Test Procedure

Set RBW =1M; VBW= RBW for peak, and VBW=10Hz for average.

The EUT for testing is arranged on a wooden turntable. If some peripherals apply to the EUT, the peripherals will be connected to EUT and the whole system. During the test, all cables were arranged to present worst-case emission. The signal is maximized through rotation. The height of antenna and polarization is changing constantly for exploring for maximum signal level. The height of antenna can be up to 4 meter and down to 1 meter.

7.4 Test Result

PASS.

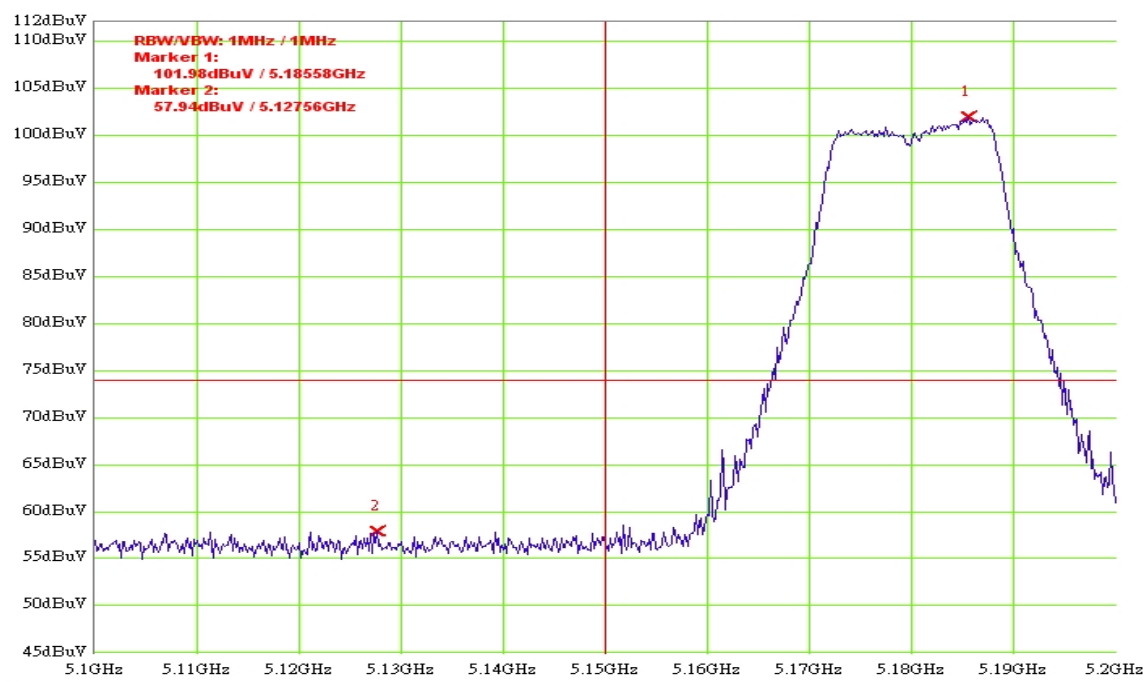
The final test data is shown on as following pages.

Band Edge Test

802.11a					
CH	Restricted Band (MHz)	Detector Mode	Maximum Level (dB μ V/m)	Limit (dBm)	Margin (dB)
36	4500~5150	PK	57.94	74	-16.06
		AV	43.53	54	-10.47
64	5350~5460	PK	67.78	74	-6.22
		AV	50.96	54	-3.04
100	5350~5460	PK	61.03	74	-12.97
		AV	47.61	54	-6.39

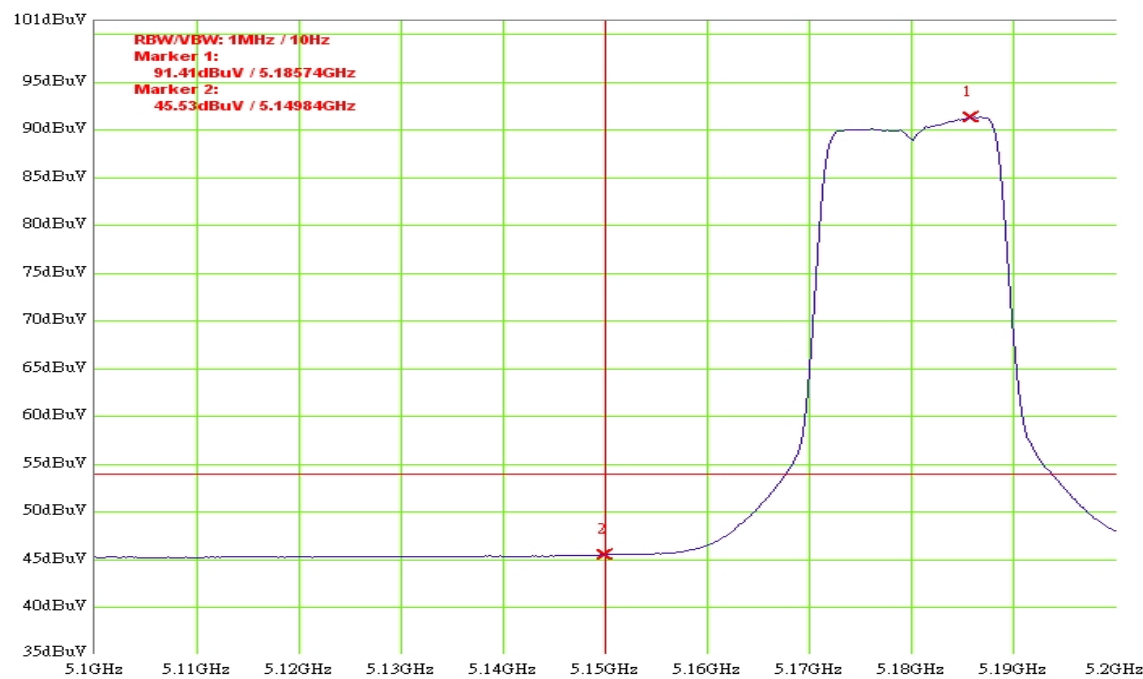
Band Edge Test

802.11 a CH36 PK



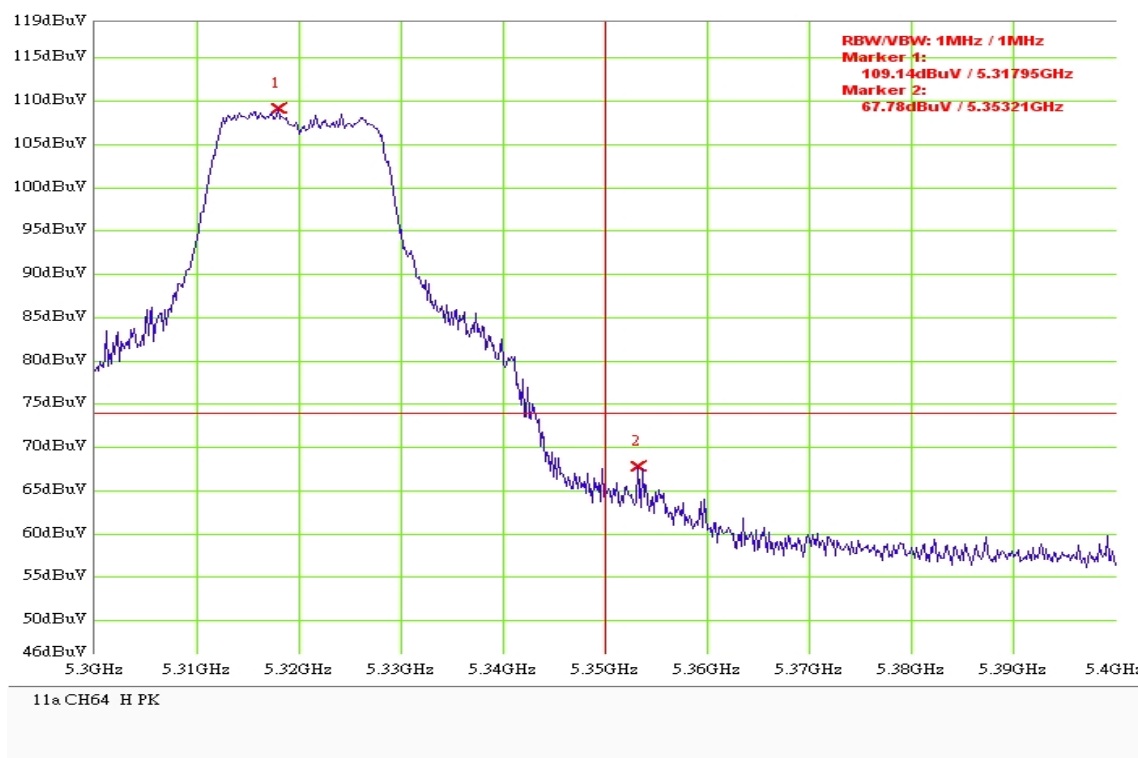
11a CH36 H PK

802.11 a CH36 AV

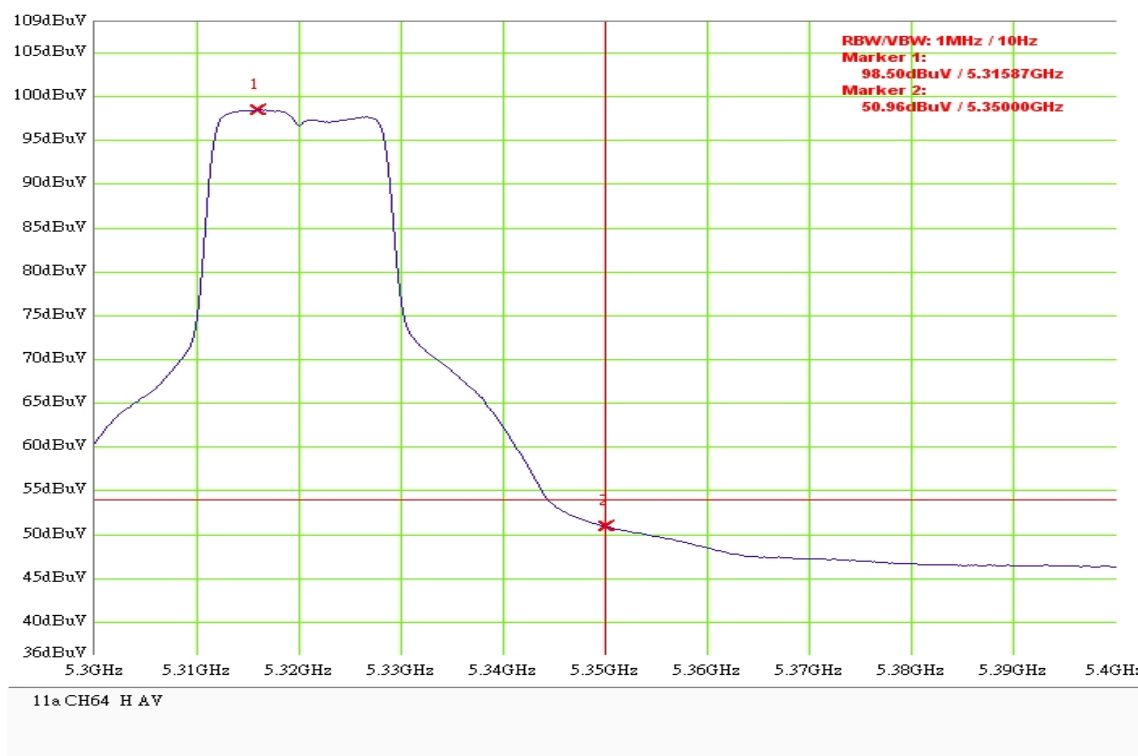


11a CH36 H AV

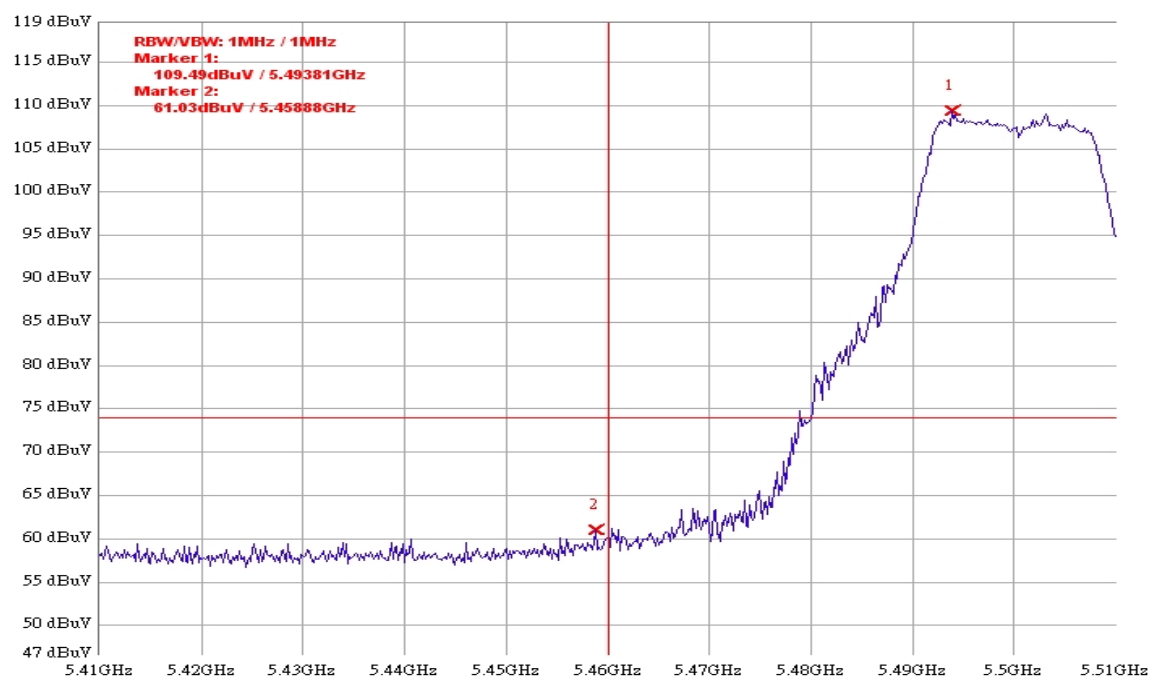
802.11 a CH64 PK



802.11 a CH64 AV

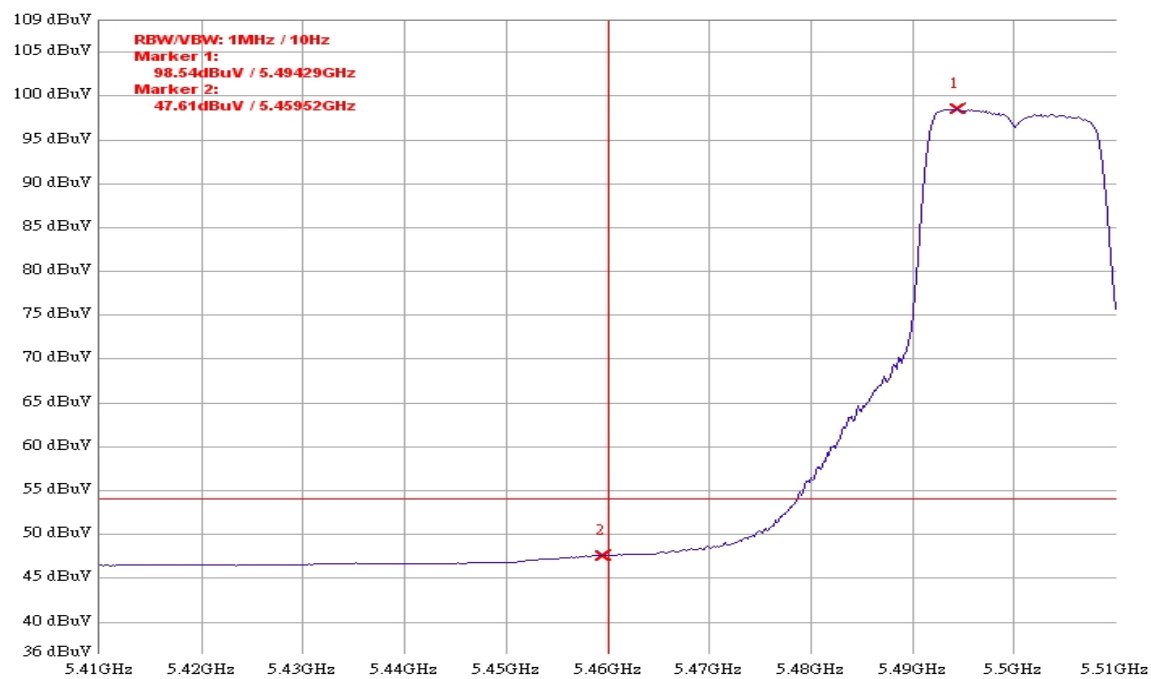


802.11 a CH100 PK



802.11a 5500 CH100 PK

802.11 a CH100 AV



802.11a 5500 CH100 AV

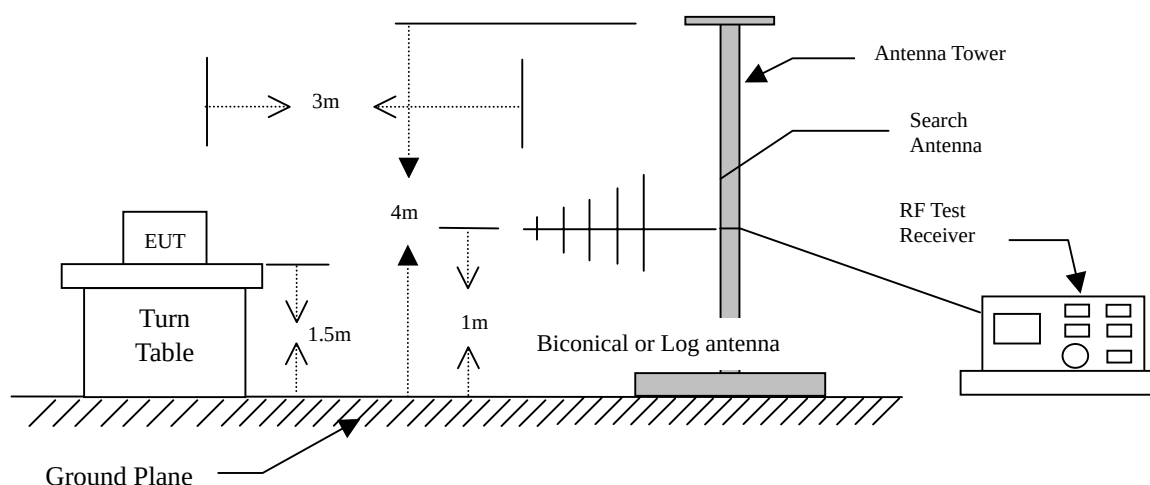
8 RF Radiated spurious emission test

8.1 Limit

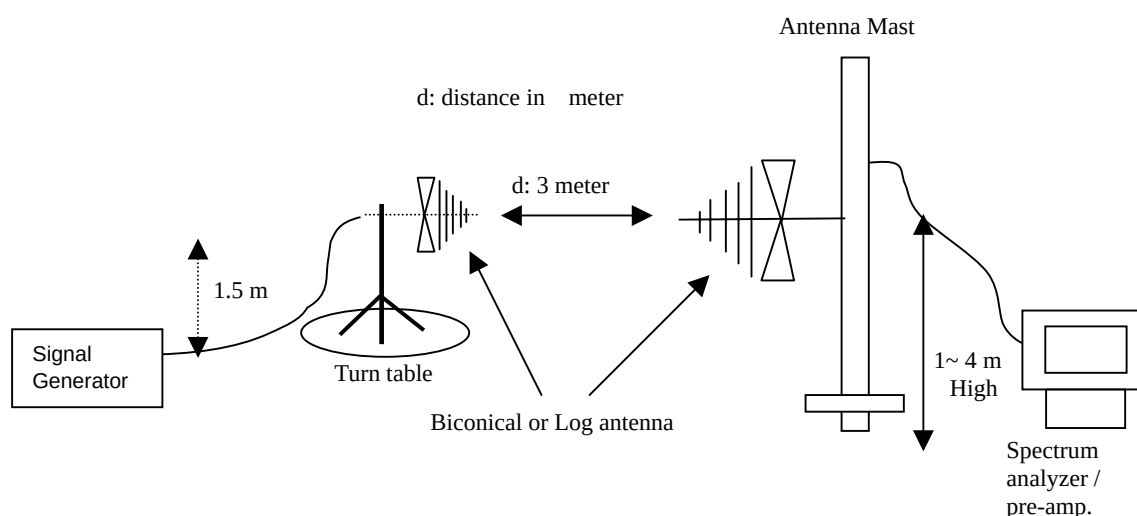
Operating Frequency (MHz)	Limit (dBm / MHz EIRP)
5150~5250	-27
5250~5350	-27
5725~5825	-27 (Subscriber transmit channel block -17dBm/MHz on ± 10 MHz range)

8.2 Configuration of Measurement

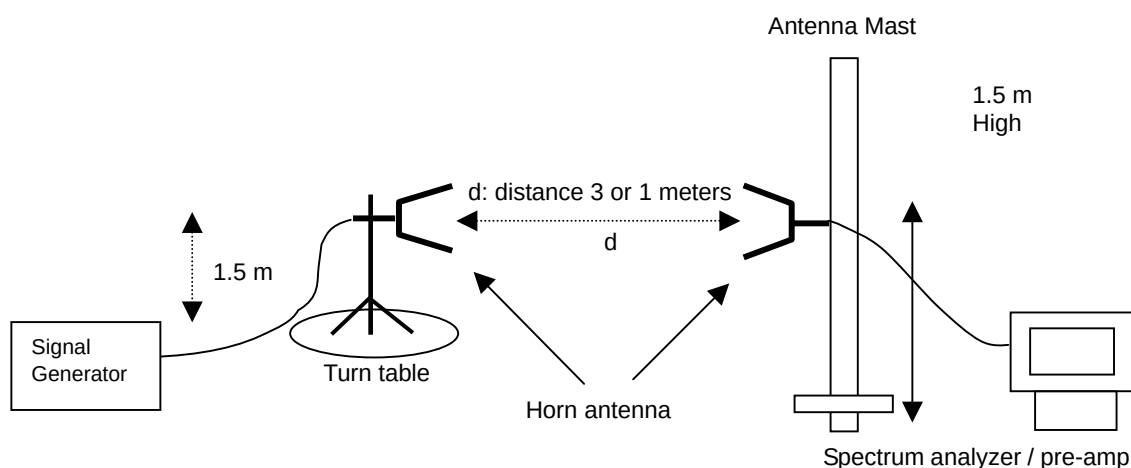
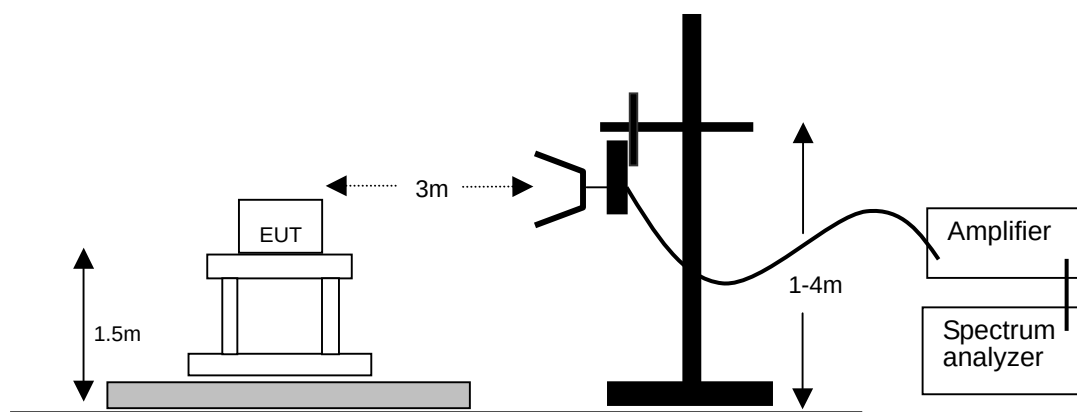
Frequency measurement below 1GHz configuration



Frequency measurement below 1GHz configuration



Frequency measurement above 1GHz configuration



8.3 Test Procedure

The maximum field strength of the spurious emission is measured at distance of 3 meter. The device under test replaced with a substitution antenna of known gain with respect to a Horn antenna. A calibrated signal source is used to feed the substitution antenna. The RF level to the substitution antenna is adjusted to repeat the previously measured field strength. The RF input level to the substitution antenna is the effective radiated power of the spurious emission after any correction for substitution antenna gain against a Horn antenna.

8.4 Test Result

PASS.

The final test data is shown on as following pages.

Undesirable emission above 1GHz (EIRP)

5150 ~ 5250MHz

802.11a CH36							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
10360	H	-39.86	11.66	11.88	-39.64	-27	-12.64
15540	H	-45.12	14.14	15.54	-43.72	-27	-16.72
10360	V	-41.36	11.66	11.88	-41.14	-27	-14.14
15540	V	-44.72	14.14	15.54	-43.32	-27	-16.32

802.11a CH44							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
10440	H	-39.33	11.66	11.88	-39.11	-27	-12.11
15660	H	-45.87	14.54	15.54	-44.87	-27	-17.87
10440	V	-42.53	11.66	11.88	-42.31	-27	-15.31
15660	V	-46.37	14.54	15.54	-45.37	-27	-18.37

802.11a CH48							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
10480	H	-37.20	12.54	11.88	-37.86	-27	-10.86
15720	H	-42.50	14.14	15.54	-41.10	-27	-14.10
10480	V	-37.20	12.54	11.88	-37.86	-27	-10.86
15720	V	-43.50	14.14	15.54	-42.10	-27	-15.10

Remark : EIRP = S/G Level-Cable Loss + Substitution Ant. Gain

Undesirable emission above 1GHz (EIRP)

5250 ~ 5350MHz

802.11a CH52							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
10520	H	-37.12	12.54	11.79	-37.87	-27	-10.87
15780	H	-44.39	14.14	16.41	-42.12	-27	-15.12
10520	V	-35.95	12.54	11.79	-36.70	-27	-9.70
15780	V	-43.89	14.14	16.41	-41.62	-27	-14.62

802.11a CH60							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
10600	H	-36.14	12.54	11.74	-36.94	-27	-9.94
15900	H	-42.19	14.97	16.84	-40.32	-27	-13.32
10600	V	-33.47	12.54	11.74	-34.27	-27	-7.27

802.11a CH64							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
10640	H	-36.00	12.54	11.72	-36.82	-27	-9.82
15960	H	-42.67	14.56	17.06	-40.17	-27	-13.17
10640	V	-34.67	12.54	11.72	-35.49	-27	-8.49

Remark : EIRP = S/G Level-Cable Loss + Substitution Ant. Gain

Undesirable emission above 1GHz (EIRP)

5470 ~ 5725MHz

802.11a CH100							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
11000	H	-37.79	11.19	11.50	-37.48	-27	-10.48
16500	H	-36.22	15.70	16.15	-35.77	-27	-8.77
11000	V	-37.29	11.19	11.50	-36.98	-27	-9.98
16500	V	-37.05	15.70	16.15	-36.60	-27	-9.60

802.11a CH120							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
11200	H	-33.12	11.19	11.84	-32.47	-27	-5.47
11200	V	-34.95	11.19	11.84	-34.30	-27	-7.30
16800	V	-33.00	15.47	15.52	-32.95	-27	-5.95

802.11a CH140							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
11400	H	-30.72	12.09	12.18	-30.63	-27	-3.63
11400	V	-34.56	12.09	12.18	-34.47	-27	-7.47

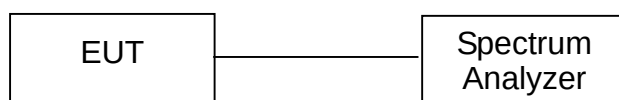
Remark : EIRP = S/G Level-Cable Loss + Substitution Ant. Gain

9 RF antenna conducted spurious emission test

9.1 Limit

Operating Frequency (MHz)	Limit (dBm / MHz EIRP)
5150~5250	-27
5250~5350	-27
5725~5825	-27 (Subscriber transmit channel block -17dBm/MHz on ± 10 MHz range)

9.2 Configuration of Measurement



9.3 Test Procedure

The measurements were performed from 30MHz to 10th harmonic or 40GHz. RF antenna conducted per 15.407(b) was measured from the EUT antenna port.

9.4 Test Result

PASS.

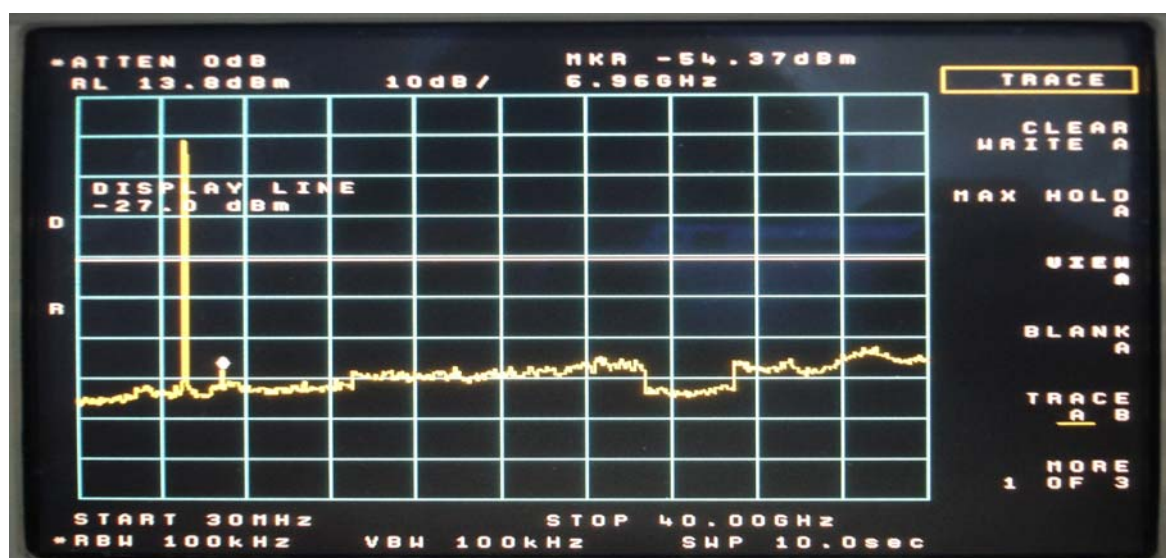
The final test data is shown on as following pages.

Conducted spurious emission

802.11 a CH36 5180MHz



802.11 a CH44 5220MHz



802.11 a CH48 5240MHz

