FCC TEST REPORT (15.407)

REPORT NO.:	RF960308H04D-1
MODEL NO.:	21-92955
RECEIVED:	Aug. 27, 2009
TESTED:	Sep. 07 to 25, 2009
ISSUED:	Sep. 28, 2009

APPLICANT:	Symbol Technologies Inc.
ADDRESS:	One Symbol Plaza, Holtsville, NY 11742- 1300 U.S.A.

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
TEST LOCATION:	No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

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1. CERTIFICATION

PRODUCT:	802.11a/b/g WLAN SDIO Radio Module
BRAND NAME:	Symbol Technologies Inc.
MODEL NO.:	21-92955
TEST SAMPLE:	ENGINEERING SAMPLE
TESTED:	Sep. 07 to 25, 2009
APPLICANT:	Symbol Technologies Inc.
STANDARDS:	FCC Part 15, Subpart E (Section 15.407) ANSI C63.4-2003

The above equipment (Model: 21-92955) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : _____ , **DATE:** Sep. 28, 2009
(Midoli Peng, Specialist)

TECHNICAL ACCEPTANCE : _____ , **DATE:** Sep. 28, 2009
Responsible for RF
(Hank Chung, Deputy Manager)

APPROVED BY : _____ , **DATE:** Sep. 28, 2009
(May Chen, Deputy Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart E (Section 15.407)			
Standard Section	**Test Type**	**Result**	**Remark**
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is –18.30dB at 16.652MHz
15.407(b/1/2/3)(b)(5)	Electric Field Strength Spurious Emissions, 30MHz ~ 40000MHz	PASS	Meet the requirement of limit. Minimum passing margin is –0.86dB at 5150.00MHz
15.407(a/1/2/3)	Peak Transmit Power	PASS	Meet the requirement of limit.

NOTE:

1. The EUT was operating in 2.412 ~ 2.462GHz, 5.15~5.35GHz, 5.47~5.725GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 5.15~5.35GHz and 5.47~5.725GHz. For the 2.412 ~ 2.462GHz and 5.725 ~ 5.850GHz RF parameters was recorded in another test report.
2. This report is prepared for FCC class II permissive change. Only conducted emission, radiated emission and maximum peak output power were presented in this test report.

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Conducted emissions	2.44 dB
Radiated emissions (30MHz-1GHz)	3.94 dB
Radiated emissions (1GHz -18GHz)	2.49 dB
Radiated emissions (18GHz -40GHz)	2.70 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	802.11a/b/g WLAN SDIO Radio Module
MODEL NO.	21-92955
FCC ID	H9P2192955
POWER SUPPLY	DC 3.3V +/-5% from host equipment
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b:11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11a: 54/48/36/24/18/12/9/6Mbps
FREQUENCY RANGE	For 15.407 802.11a: 5.10 ~ 5.32GHz and 5.50 ~ 5.700GHz
	For 15.247 802.11b & 802.11g: 2412 ~ 2462MHz 802.11a: 5.745 ~ 5.825GHz
NUMBER OF CHANNEL	For 15.407 802.11a (5.15 ~ 5.35GHz):8 802.11a (5.47 ~ 5.725GHz):11
	For 15.247 802.11b & 802.11g: 11 802.11a (5.725 ~ 5.850GHz):5
CHANNEL SPACING	802.11b & 802.11g: 5MHz 802.11a: 20MHz
OUTPUT POWER	For 802.11b: 44.668mW For 802.11g: 109.648mW For 802.11a (FCC15.247): 107.152mW For 802.11a (FCC15.407): 36.058mW
DATA CABLE	NA
ANTENNA TYPE	Please see note 3 (on next page)
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. This report is based on ADT report with Report No.:RF960308H04. The original report was issued by Advance Data Technology Corp. (ADT Corp.) on March 29, 2007. ADT Corp. is one of Bureau Veritas family and she has fully transferred all its test facilities, staffs & service system to Bureau Veritas Consumer Products Services (Hong Kong) Limited, Taoyuan Branch in 2008. And this report is prepared for FCC class II permissive change. The difference compared with the original report design is as the following:
   - ◆ Add Flip Flop to delay one signal to fix the memory self refresh
   - ◆ Shield Modification to improved Harmonic performance in 5GHz

2. The EUT operates in both the 5GHz and 2.4GHz Bands and compatibility with 802.11a and 802.11b, 802.11g technology.

3. There are two crystals have been pre-tested in our facility as following:

Mode	Frequency
A	**Crystal 1: Brand : RIVER, Model : FCXO-05-40MJ61185**
B	Crystal 2: Brand : SWIRD, Model : OSC913200JLS
The function and circuit of above crystals are identical to each other except for the brand.	

   The worse case was found in mode A. The final test data was recorded in this report.

4. There is one antenna provided to this EUT, please refer to the following table:

Model No.	Symbol P/N	Frequency Range	Gain (dBi)	Cable Loss (dB)	Net Gain (dBi)	Antenna Type	Connector
C802-51000 1-A	ML-2452-A PA2-01	2.4GHz	3	0.5	2.5	Dipole	RP-SMA MALE
		5GHz	4	1.2	2.8		

5. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

Operated in 5150MHz ~ 5350MHz bands:

Eight channels are provided to this EUT.

Channel	Frequency
36	5180 MHz
40	5200 MHz
44	5220 MHz
48	5240 MHz
52	5260 MHz
56	5280 MHz
60	5300 MHz
64	5320 MHz

Operated in 5470MHz ~ 5725MHz bands:

Eleven channels are provided to this EUT.

Channel	Frequency
100	5500 MHz
104	5520 MHz
108	5540 MHz
112	5560 MHz
116	5580 MHz
120	5600 MHz
124	5620 MHz
128	5640 MHz
132	5660 MHz
136	5680 MHz
140	5700 MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL:

EUT configure mode	Applicable to				Description
	PLC	RE<1G	RE≥1G	APCM	
-	√	√	√	√	NA

Where PLC: Power Line Conducted Emission RE<1G RE: Radiated Emission below 1GHz
RE≥1G: Radiated Emission above 1GHz APCM: Antenna Port Conducted Measurement

Power Line Conducted Emission Test:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	36 to 140	52	OFDM	BPSK	6

Radiated Emission Test (Below 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	36 to 140	140	OFDM	BPSK	6

Radiated Emission Test (Above 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	36 to 140	36,40, 48, 52, 60, 64, 100, 120, 140	OFDM	BPSK	6

Antenna Port Conducted Measurement:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	1 to 19	36,40, 48, 52, 60, 64, 100, 120, 140	OFDM	BPSK	6

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is an 802.11a/b/g WLAN SDIO Radio Module and 802.11a/b/g WLAN SDIO Radio Module. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart E (15.407)

ANSI C63.4-2003

All test items have been performed and recorded as per the above standards.

3.4 DESCRIPTION OF SUPPORT UNITS

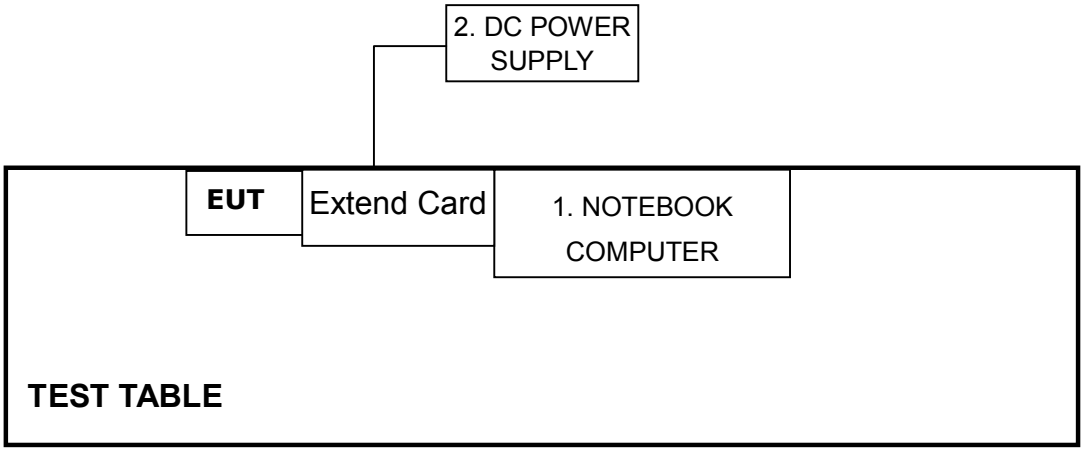
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	IBM	2672	9949APL	FCC DoC
2	DC POWER SUPPLY	GW	GPC-30600	7715073	FCC DoC
3	Extend Card	USI	JEDI ADAPTOR BOARD_DVT Rev1.4	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA
3	NA

NOTE: All power cords of the above support units are non shielded (1.8m).

3.5 CONFIGURATION OF SYSTEM UNDER TEST



NOTE: 1. Please refer to the photos of test configuration.

4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5 0.5-5 5-30	66 to 56 56 60	56 to 46 46 50

NOTE:
1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver	ESCS 30	100375	Mar. 23, 2009	Mar. 22, 2010
Line-Impedance Stabilization Network(for Peripheral)	ENV-216	100071	Nov. 26, 2008	Nov. 25, 2009
Line-Impedance Stabilization Network (for EUT)	ESH3-Z5	848773/004	Nov. 05, 2008	Nov. 04, 2009
RF Cable (JYEBAO)	5DFB	COBCAB-001	Aug. 15, 2009	Aug. 14, 2010
50 ohms Terminator	50	3	Nov. 05, 2008	Nov. 04, 2009
Software	BV ADT_Cond_V7.3 .7	NA	NA	NA

Note:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. B.
3. The VCCI Con B Registration No. is C-2193.

4.1.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

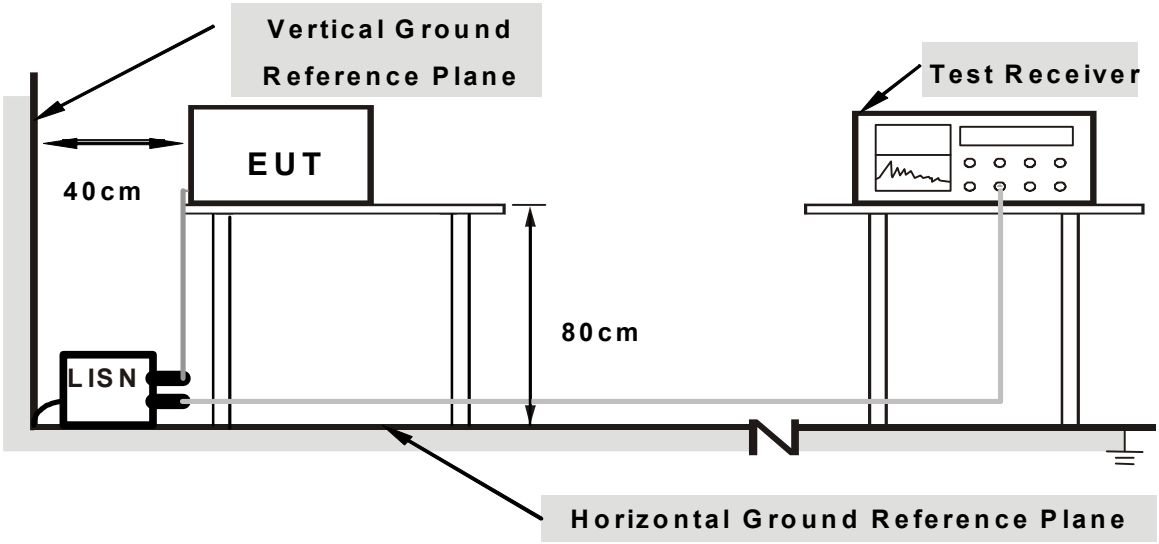
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

a. Connect the EUT with the support unit 1 (Notebook computer) which placed on a testing table.

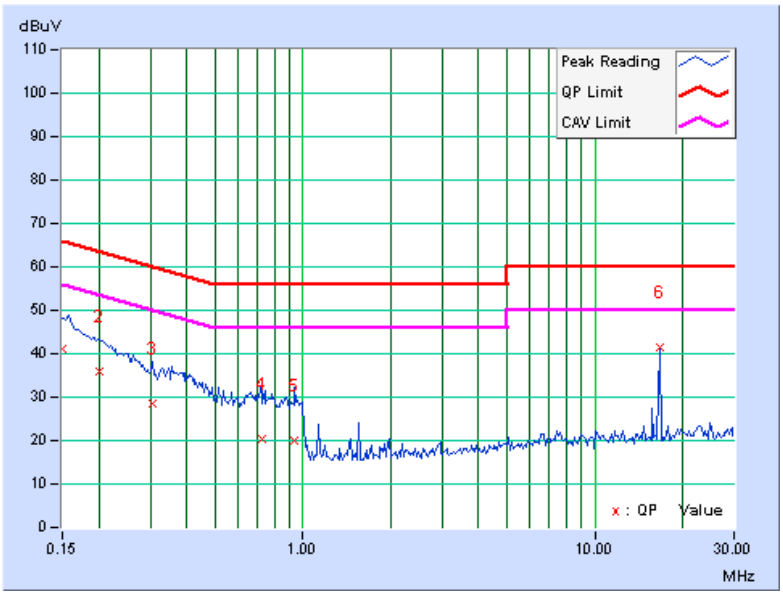
b. The support unit 1 (Notebook computer) ran a test program “Prism Engineering” to enable EUT under transmission condition continuously.

4.1.7 TEST RESULTS

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	PHASE	Line (L)
MODULATION TYPE	OFDM	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	23deg. C, 61%RH, 972hPa	TESTED BY	Phoenix Huang

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	9.74	31.23	-	40.97	-	66.00	56.00	-25.03	-
2	0.201	9.75	26.19	-	35.94	-	63.58	53.58	-27.64	-
3	0.306	9.74	18.89	-	28.63	-	60.07	50.07	-31.44	-
4	0.724	9.75	10.60	-	20.35	-	56.00	46.00	-35.65	-
5	0.939	9.76	10.37	-	20.13	-	56.00	46.00	-35.87	-
+6	16.652	10.00	31.47	-	41.47	-	60.00	50.00	-18.53	-

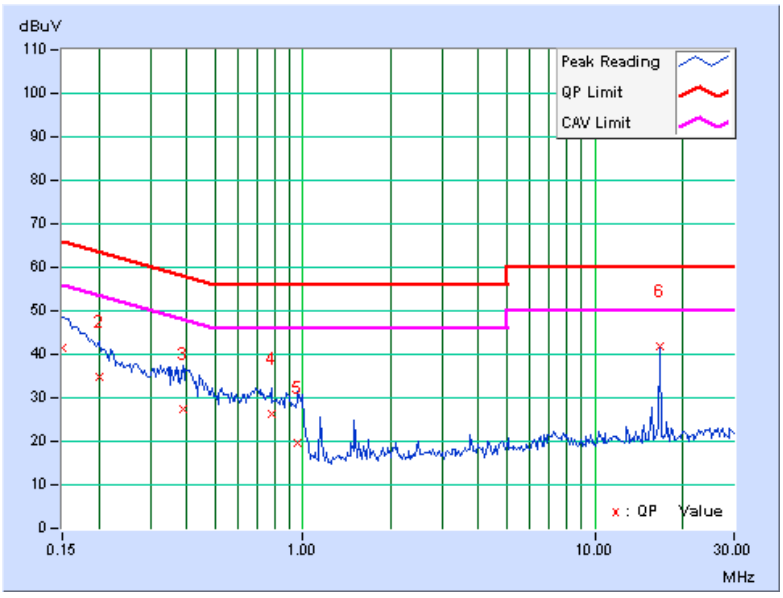
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	PHASE	Neutral (N)
MODULATION TYPE	OFDM	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	23deg. C, 61%RH, 972hPa	TESTED BY	Phoenix Huang

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	9.73	31.70	-	41.43	-	66.00	56.00	-24.57	-
2	0.201	9.73	25.13	-	34.86	-	63.58	53.58	-28.72	-
3	0.388	9.73	17.74	-	27.47	-	58.10	48.10	-30.63	-
4	0.779	9.74	16.55	-	26.29	-	56.00	46.00	-29.71	-
5	0.959	9.75	10.03	-	19.78	-	56.00	46.00	-36.22	-
+6	**16.652**	**10.08**	**31.62**	**-**	**41.70**	**-**	**60.00**	**50.00**	**-18.30**	**-**

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequencies (MHz)	EIRP Limit (dBm)	Equivalent Field Strength at 3m (dBμV/m) *note 3
5150~5250	-27	68.3
5250~5350	-27	68.3
5470~5725	-27	68.3
5725~5825	-27 *note 1	68.3
	-17 *note 2	78.3

NOTE:

1. For frequencies 10MHz or greater above or below the band edge.
2. All emissions within the frequency range from the band edge to 10MHz above or below the band edge.
3. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength

$$E=\frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

4.2.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Spectrum Analyzer	FSP40	100036	Dec. 9, 2008	Dec. 8, 2009
HP Pre_Amplifier	8449B	3008A01923	Nov. 10, 2008	Nov. 9, 2009
ROHDE & SCHWARZ Test Receiver	ESCS30	847124/029	Sep. 9, 2009	Sep. 8, 2010
SCHWARZBECK TRILOG Broadband Antenna	VULB 9168	138	April 29, 2009	April 28, 2010
Schwarzbeck Horn_Antenna	BBHA9120	D124	Dec. 09, 2008	Dec. 08, 2009
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 22, 2009	Jan. 21, 2010
RF Switches	EMH-011	08009	Oct. 07, 2008	Oct. 06, 2009
RF CABLE (Chaintek)	Sucoflex 106	28077	Aug. 15, 2009	Aug. 14, 2010
RF Cable	8DFB	STCCAB-30M-1GHz	Oct. 07, 2008	Oct. 06, 2009
Software	ADT_Radiated_V7.6.15.9.2	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, HP preamplifier (model: 8449B) and Spectrum Analyzer (model: FSP40) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in Open Site No. C.
4. The FCC Site Registration No. is 656396.
5. The VCCI Site Registration No. is R-1626.
6. The CANADA Site Registration No. is IC 7450G-3.

4.2.4 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

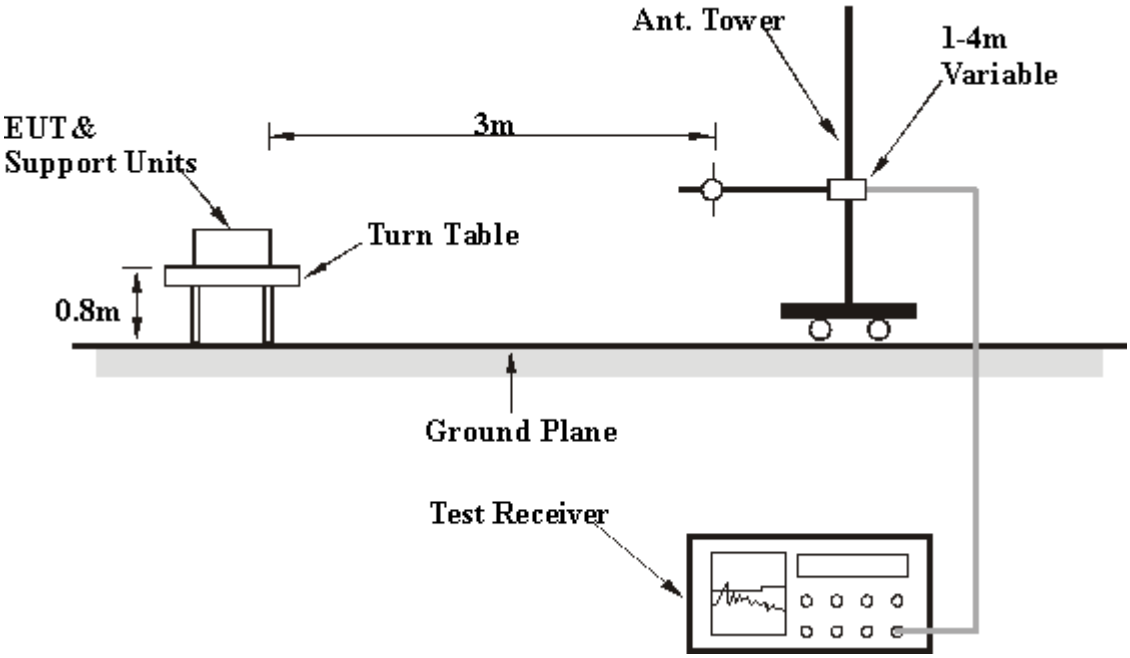
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

4.2.5 DEVIATION FROM TEST STANDARD

No deviation

4.2.6 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.7 EUT OPERATING CONDITION

Same as 4.1.6

Below 1GHz Test Data

4.2.8 TEST RESULTS

BELOW 1GHz WORST-CASE DATA：802.11a OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	28.0deg. C, 62.0%RH 965hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	200.00	29.86 QP	43.50	-13.64	1.73 H	246	17.47	12.39
2	300.00	32.10 QP	46.00	-13.90	1.00 H	214	15.32	16.78
3	400.00	30.92 QP	46.00	-15.08	1.06 H	143	11.42	19.50
4	500.00	29.01 QP	46.00	-16.99	1.00 H	297	6.52	22.49
5	666.67	32.41 QP	46.00	-13.59	1.37 H	249	6.72	25.69
6	833.33	32.80 QP	46.00	-13.20	1.00 H	82	4.32	28.48
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	200.00	26.55 QP	43.50	-16.95	1.00 V	161	14.16	12.39
2	300.00	27.13 QP	46.00	-18.87	1.00 V	235	10.35	16.78
3	400.00	27.52 QP	46.00	-18.48	1.00 V	68	8.02	19.50
4	500.00	28.46 QP	46.00	-17.54	1.00 V	187	5.97	22.49
5	666.67	30.01 QP	46.00	-15.99	1.49 V	253	4.32	25.69
6	833.33	32.09 QP	46.00	-13.91	1.25 V	298	3.61	28.48

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

Above 1GHz Test Data

4.2.9 TEST RESULTS

802.11a OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	**FREQUENCY RANGE**	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25.0deg. C, 55.0%RH 965hPa	**TESTED BY**	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	55.10 PK	74.00	-18.90	1.60 H	201	17.84	37.26
2	5150.00	43.39 AV	54.00	-10.61	1.60 H	201	6.13	37.26
3	*5180.00	95.76 PK			1.57 H	201	58.50	37.26
4	*5180.00	86.35 AV			1.57 H	201	49.09	37.26
5	#10360.00	55.23 PK	88.30	-33.07	1.01 H	254	8.59	46.64
6	#10360.00	44.11 AV	68.30	-24.19	1.01 H	254	-2.53	46.64
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	66.64 PK	74.00	-7.36	1.00 V	186	29.38	37.26
2	**5150.00**	**53.14 AV**	**54.00**	**-0.86**	**1.00 V**	**186**	**15.88**	**37.26**
3	*5180.00	112.57 PK			1.00 V	187	75.31	37.26
4	*5180.00	103.08 AV			1.00 V	187	65.82	37.26
5	#10360.00	58.94 PK	88.30	-29.36	1.01 V	200	12.30	46.64
6	#10360.00	45.89 AV	68.30	-22.41	1.01 V	200	-0.75	46.64

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25.0deg. C, 55.0%RH 965hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	96.06 PK			1.59 H	201	58.80	37.26
2	*5200.00	86.61 AV			1.59 H	201	49.35	37.26
3	#10400.00	55.10 PK	88.30	-33.20	1.48 H	232	8.43	46.67
4	#10400.00	43.95 AV	68.30	-24.35	1.48 H	232	-2.72	46.67
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	112.74 PK			1.00 V	186	75.48	37.26
2	*5200.00	103.45 AV			1.00 V	186	66.19	37.26
3	#10400.00	58.87 PK	88.30	-29.43	1.01 V	200	12.20	46.67
4	#10400.00	45.47 AV	68.30	-22.83	1.01 V	200	-1.20	46.67

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25.0deg. C, 55.0%RH 965hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	95.50 PK			1.60 H	205	58.24	37.26
2	*5240.00	86.05 AV			1.60 H	205	48.79	37.26
3	#10480.00	55.24 PK	88.30	-33.06	1.54 H	254	8.51	46.73
4	#10480.00	43.68 AV	68.30	-24.62	1.54 H	254	-3.05	46.73
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	113.36 PK			1.00 V	185	76.10	37.26
2	*5240.00	104.05 AV			1.00 V	185	66.79	37.26
3	#10480.00	57.54 PK	88.30	-30.76	1.01 V	215	10.81	46.73
4	#10480.00	45.24 AV	68.30	-23.06	1.01 V	215	-1.49	46.73

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25.0deg. C, 55.0%RH 965hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	96.46 PK			1.25 H	198	59.20	37.26
2	*5260.00	86.71 AV			1.25 H	198	49.45	37.26
3	#10520.00	54.68 PK	88.30	-33.62	1.10 H	213	7.91	46.77
4	#10520.00	43.87 AV	68.30	-24.43	1.10 H	213	-2.90	46.77
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	115.02 PK			1.00 V	185	77.76	37.26
2	*5260.00	105.65 AV			1.00 V	185	68.39	37.26
3	#10520.00	57.54 PK	88.30	-30.76	1.01 V	23	10.31	47.23
4	#10520.00	44.62 AV	68.30	-23.68	1.01 V	23	-2.61	47.23

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25.0deg. C, 55.0%RH 965hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	95.98 PK			1.83 H	198	58.72	37.26
2	*5300.00	86.73 AV			1.83 H	198	49.47	37.26
3	10600.00	58.24 PK	74.00	-15.76	1.25 H	45	11.41	46.83
4	10600.00	45.21 AV	54.00	-8.79	1.25 H	45	-1.62	46.83
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	112.62 PK			1.00 V	186	75.36	37.26
2	*5300.00	103.56 AV			1.00 V	186	66.30	37.26
3	10600.00	59.99 PK	74.00	-14.01	1.01 V	247	13.16	46.83
4	10600.00	46.24 AV	54.00	-7.76	1.01 V	247	-0.59	46.83

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25.0deg. C, 55.0%RH 965hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	93.11 PK			1.73 H	189	55.85	37.26
2	*5320.00	83.54 AV			1.73 H	189	46.28	37.26
3	5350.00	56.03 PK	74.00	-17.97	1.73 H	199	18.77	37.26
4	5350.00	43.42 AV	54.00	-10.58	1.73 H	199	6.16	37.26
5	10640.00	56.85 PK	74.00	-17.15	1.45 H	247	9.99	46.86
6	10640.00	44.98 AV	54.00	-9.02	1.45 H	247	-1.88	46.86
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	111.67 PK			1.00 V	188	74.41	37.26
2	*5320.00	101.55 AV			1.00 V	188	64.29	37.26
3	5350.00	66.93 PK	74.00	-7.07	1.00 V	188	29.67	37.26
4	5350.00	50.00 AV	54.00	-4.00	1.00 V	188	12.74	37.26
5	10640.00	59.65 PK	74.00	-14.35	1.02 V	24	12.79	46.86
6	10640.00	46.24 AV	54.00	-7.76	1.02 V	24	-0.62	46.86

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25.0deg. C, 55.0%RH 965hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	55.73 PK	74.00	-18.27	1.47 H	199	18.47	37.26
2	5460.00	43.35 AV	54.00	-10.65	1.47 H	199	6.09	37.26
3	#5470.00	57.14 PK	88.30	-31.16	1.47 H	201	19.88	37.26
4	#5470.00	43.59 AV	68.30	-24.71	1.47 H	201	6.33	37.26
5	*5500.00	95.38 PK			1.47 H	199	58.12	37.26
6	*5500.00	85.87 AV			1.47 H	199	48.61	37.26
7	11000.00	55.24 PK	74.00	-18.76	1.62 H	326	8.09	47.15
8	11000.00	46.24 AV	54.00	-7.76	1.62 H	326	-0.91	47.15
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5456.48	61.09 PK	74.00	-12.91	1.00 V	149	23.83	37.26
2	5456.48	47.25 AV	54.00	-6.75	1.00 V	149	9.99	37.26
3	#5470.00	65.80 PK	88.30	-22.50	1.00 V	149	28.54	37.26
4	#5470.00	50.56 AV	68.30	-17.74	1.00 V	149	13.30	37.26
5	*5500.00	110.11 PK			1.00 V	149	72.85	37.26
6	*5500.00	100.69 AV			1.00 V	149	63.43	37.26
7	11000.00	59.54 PK	74.00	-14.46	1.32 V	62	12.39	47.15
8	11000.00	46.32 AV	54.00	-7.68	1.32 V	62	-0.83	47.15

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 120	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25.0deg. C, 55.0%RH 965hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5600.00	97.74 PK			1.47 H	192	60.20	37.54
2	*5600.00	88.27 AV			1.47 H	192	50.73	37.54
3	11200.00	56.24 PK	74.00	-17.76	1.20 H	2	9.06	47.18
4	11200.00	43.23 AV	54.00	-10.77	1.20 H	2	-3.95	47.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5600.00	112.25 PK			1.00 V	152	74.71	37.54
2	*5600.00	102.66 AV			1.00 V	152	65.12	37.54
3	11200.00	59.99 PK	74.00	-14.01	1.02 V	245	12.81	47.18
4	11200.00	46.87 AV	54.00	-7.13	1.02 V	245	-0.31	47.18

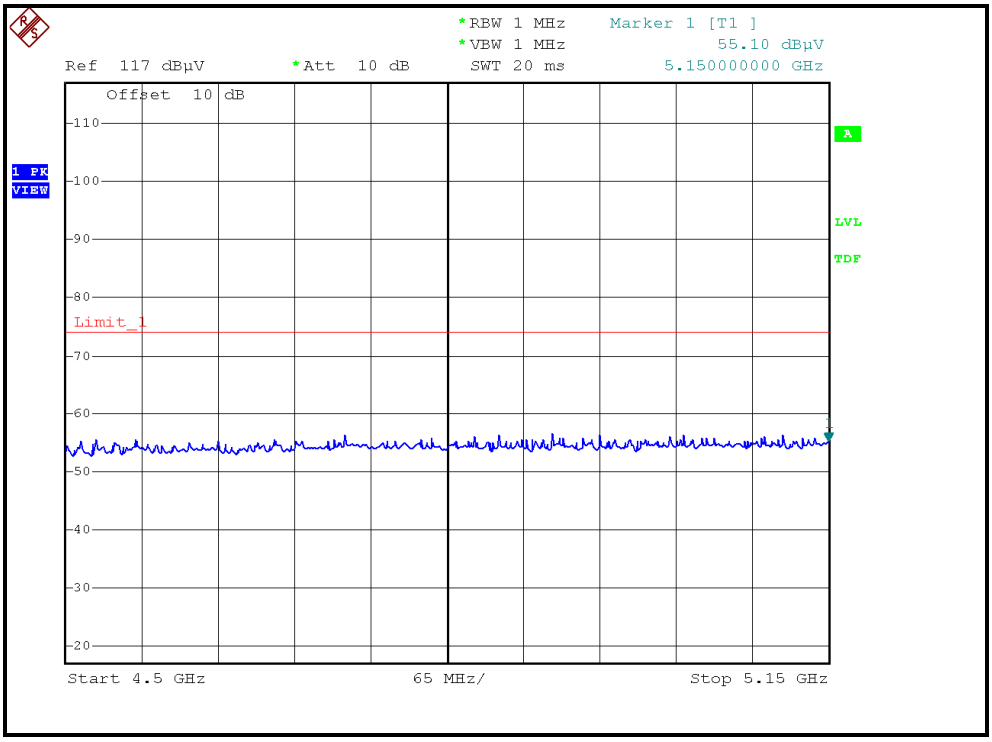
REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

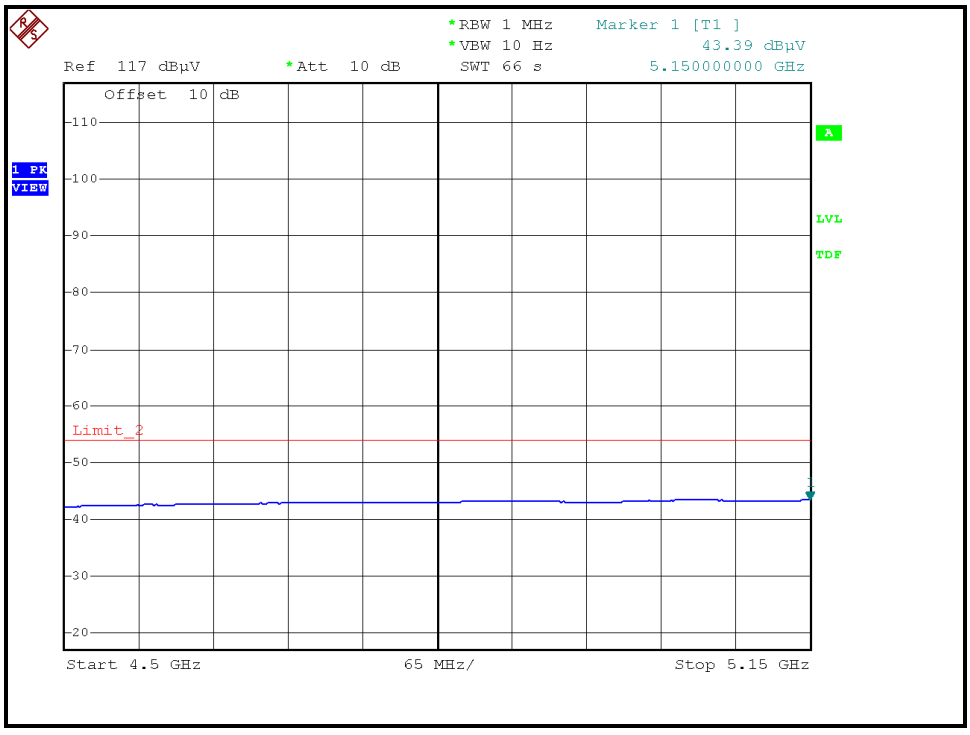
EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25.0deg. C, 55.0%RH 965hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	90.96 PK			1.49 H	198	53.13	37.83
2	*5700.00	81.53 AV			1.49 H	198	43.70	37.83
3	#5725.00	57.41 PK	88.30	-30.89	1.49 H	198	19.51	37.90
4	#5725.00	43.97 AV	68.30	-24.33	1.49 H	198	6.07	37.90
5	11400.00	56.98 PK	74.00	-17.02	1.35 H	62	9.77	47.21
6	11400.00	44.33 AV	54.00	-9.67	1.35 H	62	-2.88	47.21
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	106.67 PK			1.15 V	171	68.84	37.83
2	*5700.00	97.10 AV			1.15 V	171	59.27	37.83
3	#5725.00	66.75 PK	88.30	-21.55	1.13 V	169	28.85	37.90
4	#5725.00	49.51 AV	68.30	-18.79	1.13 V	169	11.61	37.90
5	11400.00	59.62 PK	74.00	-14.38	1.64 V	245	12.41	47.21
6	11400.00	45.32 AV	54.00	-8.68	1.64 V	245	-1.89	47.21

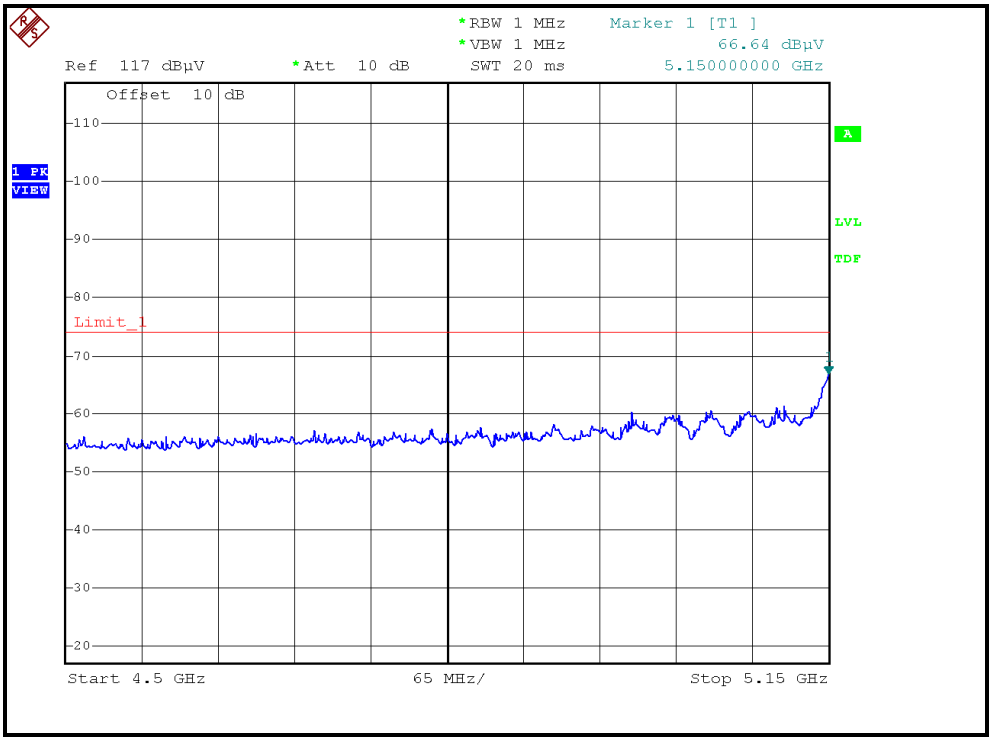
REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.

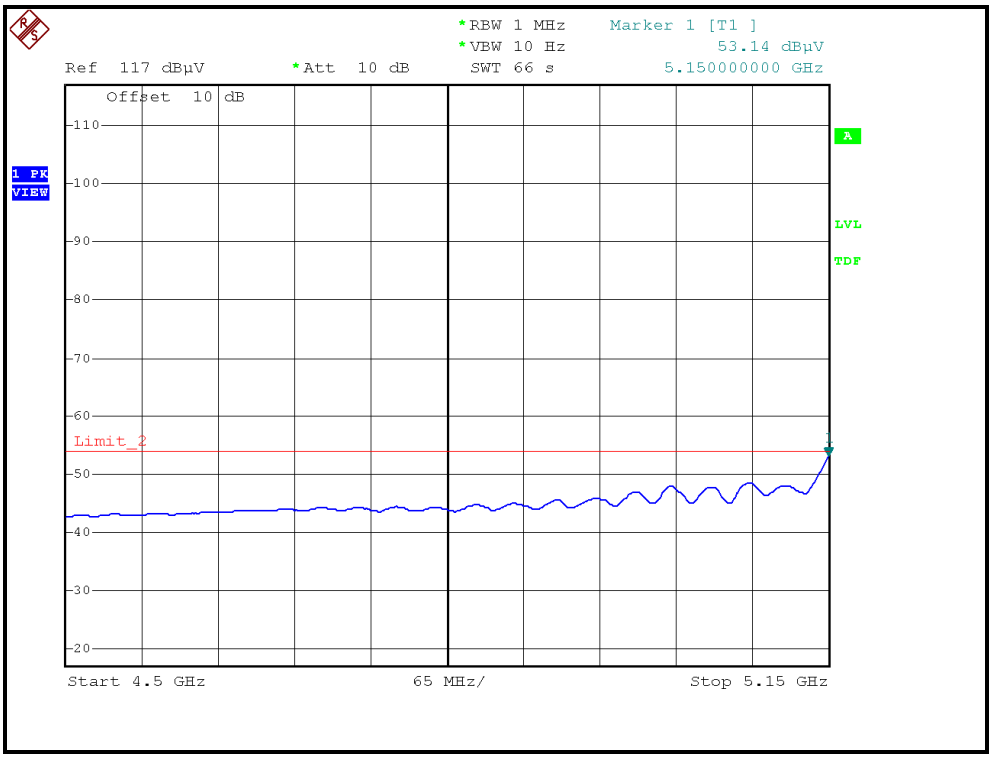
RESTRICTED BANDEDGE (802.11a MODE, CH36, HORIZONTAL)



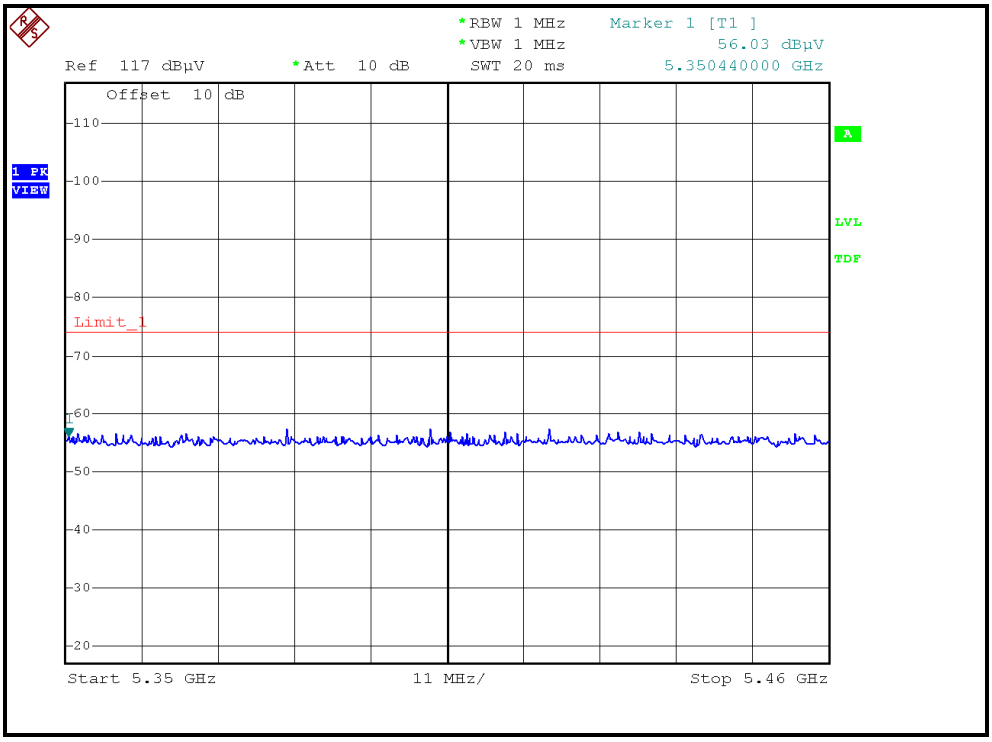


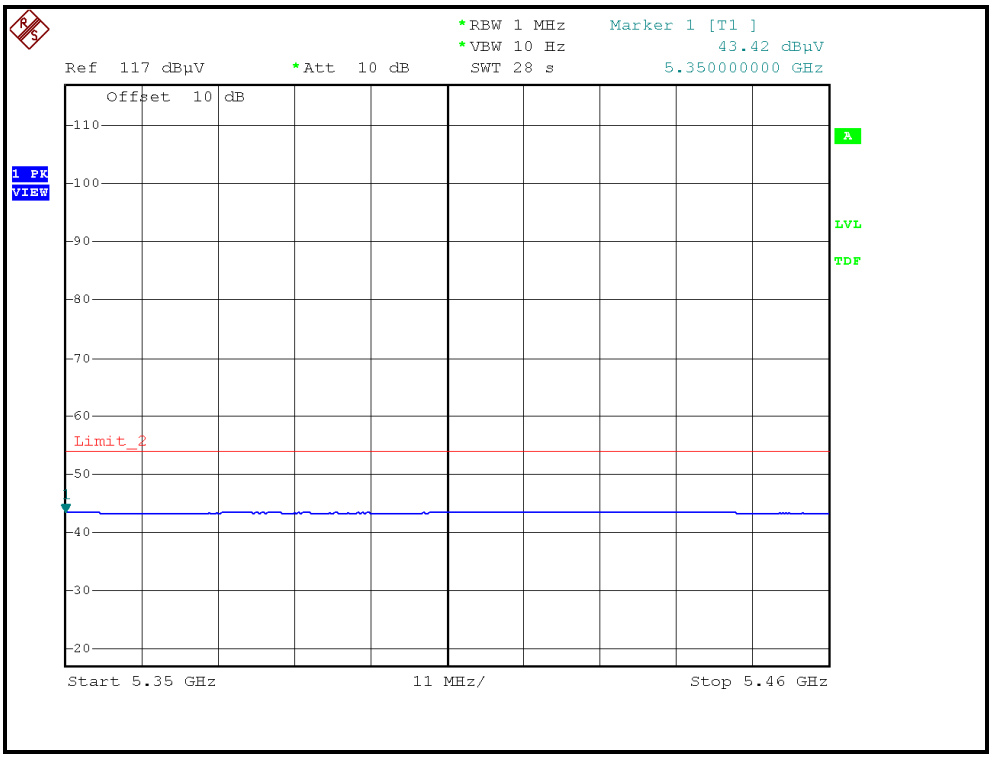
RESTRICTED BANDEDGE (802.11a MODE, CH36, VERTICAL)



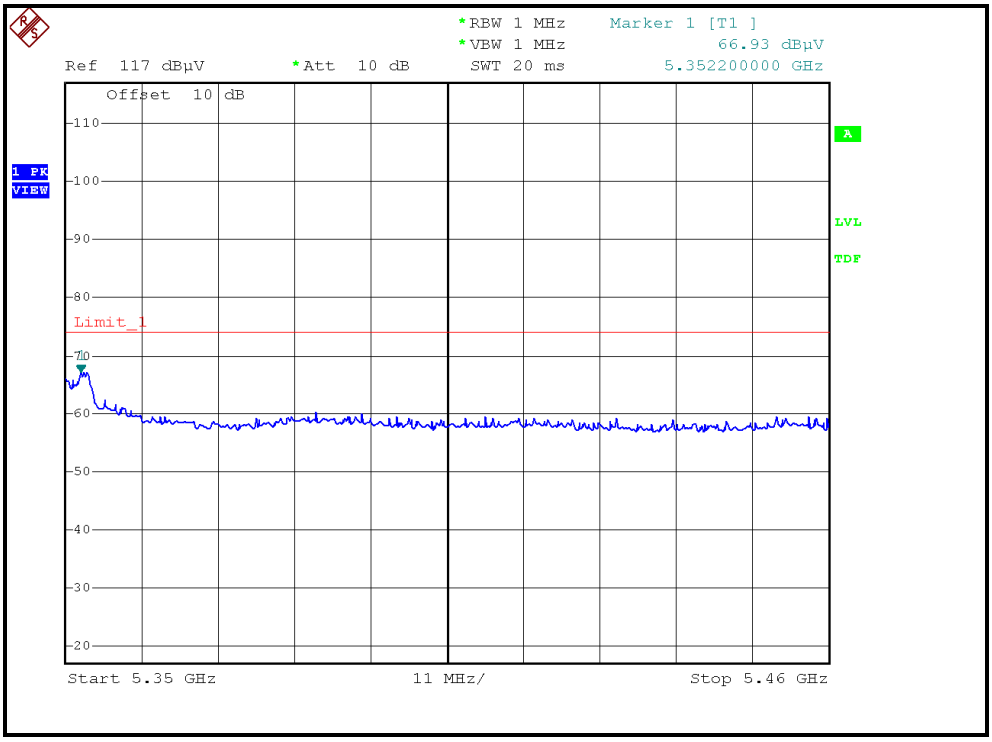


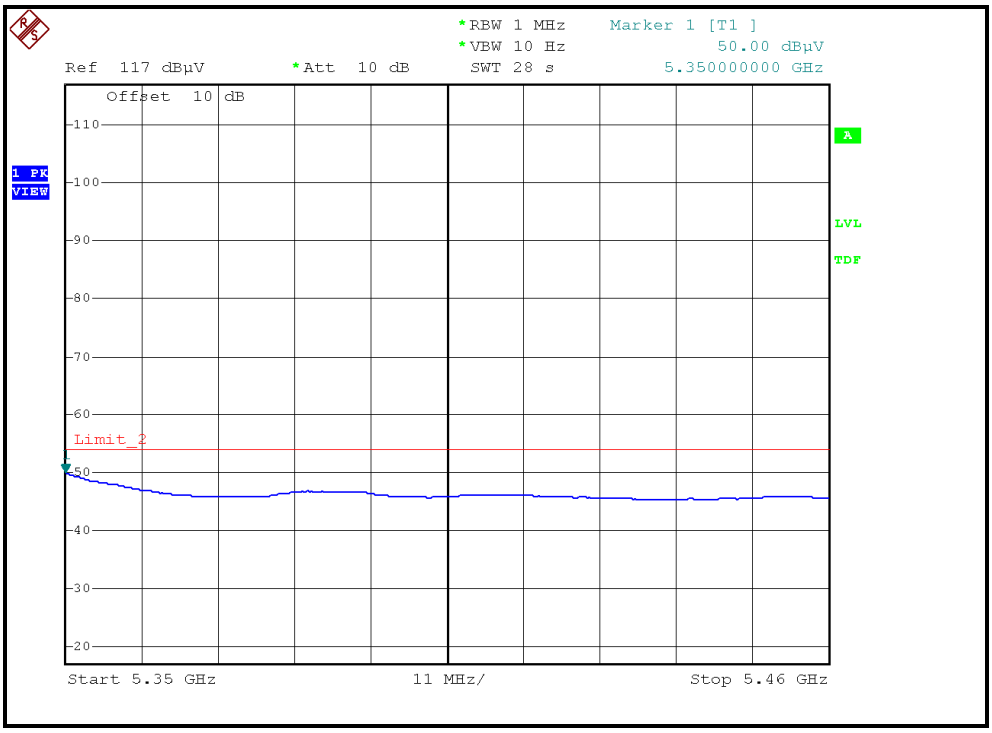
RESTRICTED BANDEDGE (802.11a MODE, CH64, HORIZONTAL)





RESTRICTED BANDEDGE (802.11a MODE, CH64, VERTICAL)





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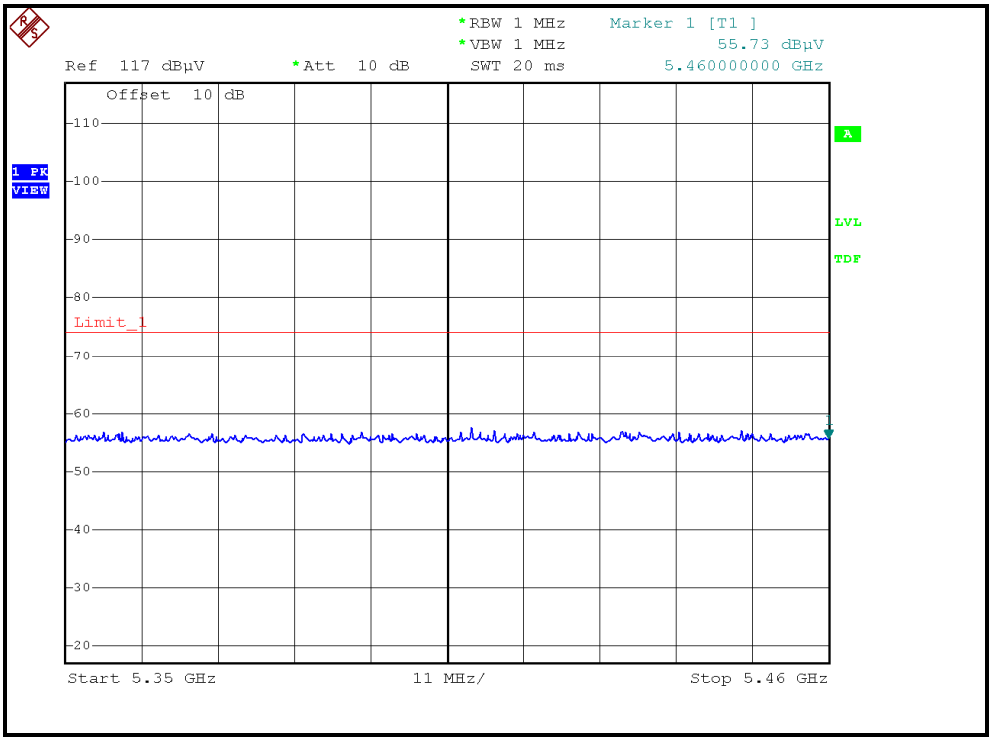
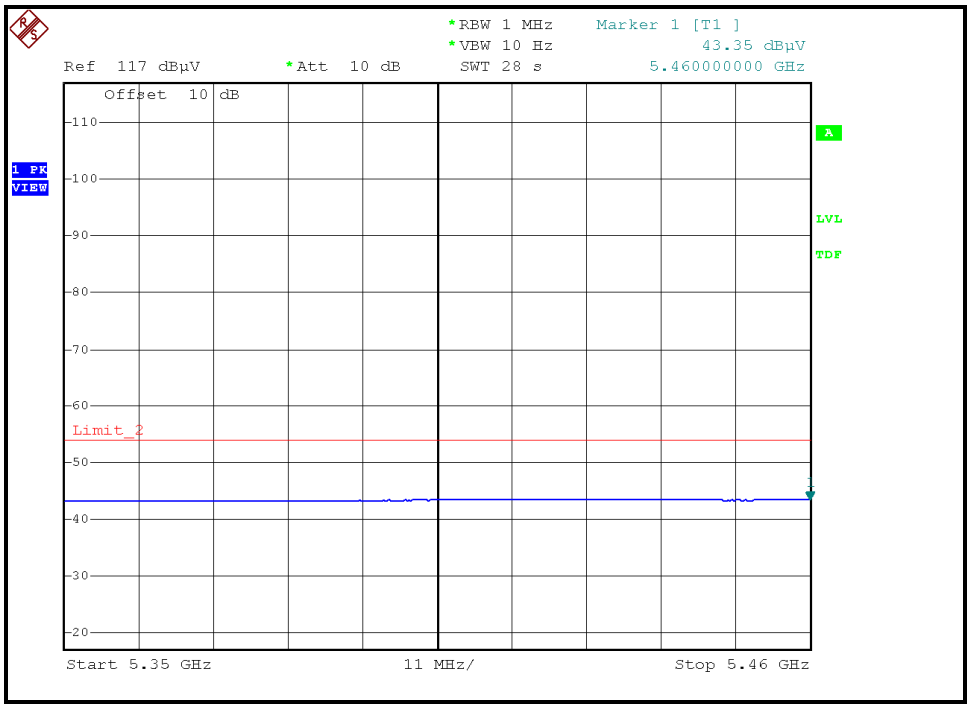
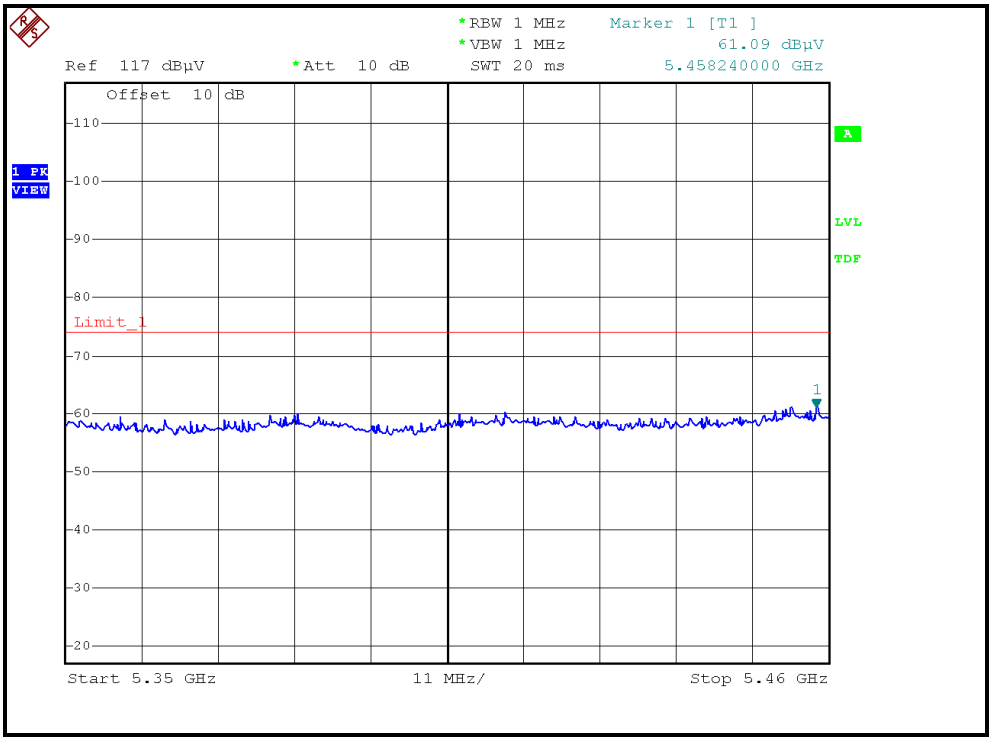
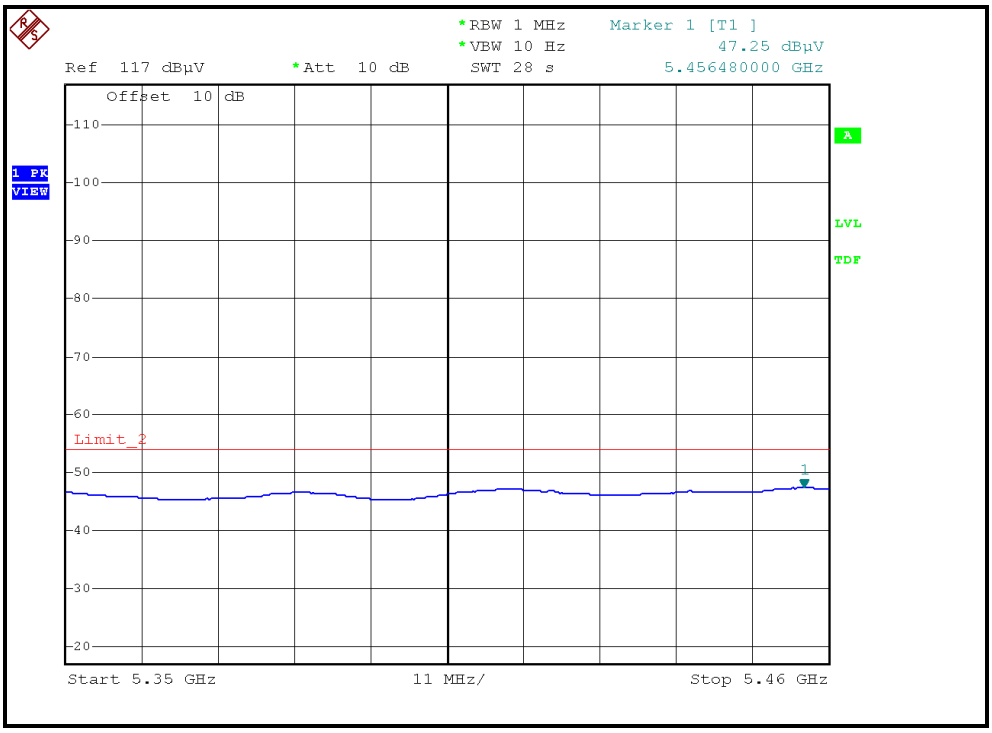




RESTRICTED BANDEDGE (802.11a MODE, CH100, VERTICAL)





4.3 PEAK TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

Frequency Band	Limit
5.15 – 5.25GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.25 – 5.35GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.47 – 5.725GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.725 – 5.825GHz	The lesser of 1W (30dBm) or 17dBm + 10logB

NOTE: Where B is the 26dB emission bandwidth in MHz.

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
AGILENT SPECTRUM ANALYZER	E4446A	MY46180622	Apr. 24, 2009	Apr. 23, 2010

NOTE:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.3.3 TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set span to encompass the entire emission bandwidth of the signal.
3. Set RBW to 1MHz, VBW to 3MHz.
4. Using the spectrum analyzer's channel power measurement function to measure the output power.

NOTE:
The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002.

The transmitter output operates continuously therefore Method # 1 is used.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP

4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.3.7 TEST RESULTS

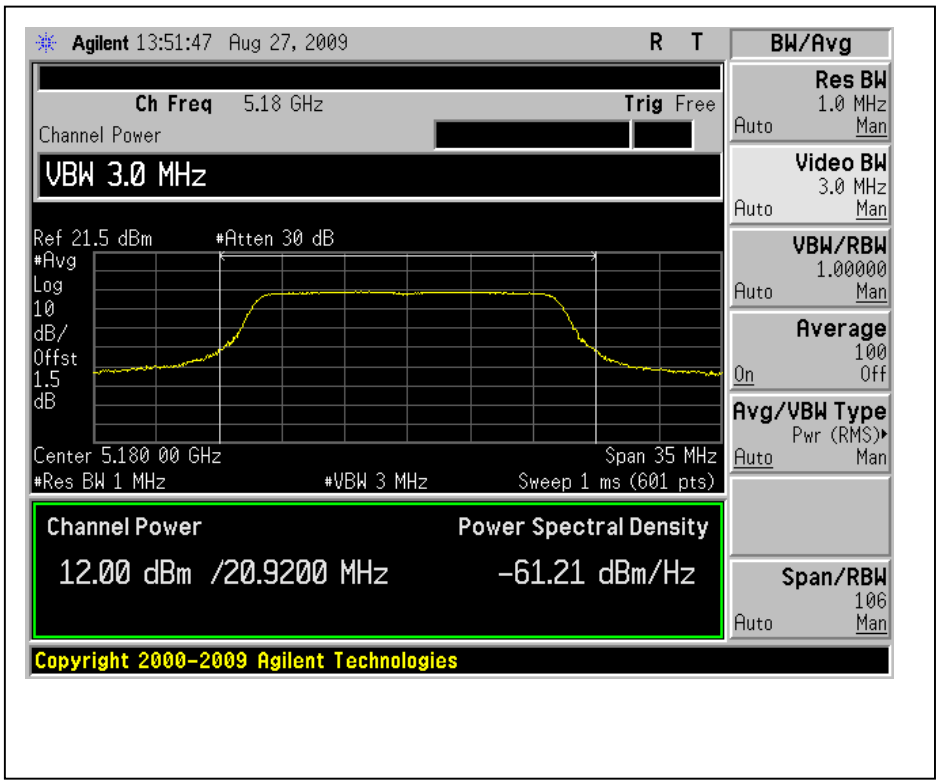
802.11a OFDM modulation

MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	15deg.C, 65%RH, 972hPa
TESTED BY	Wen Yu		

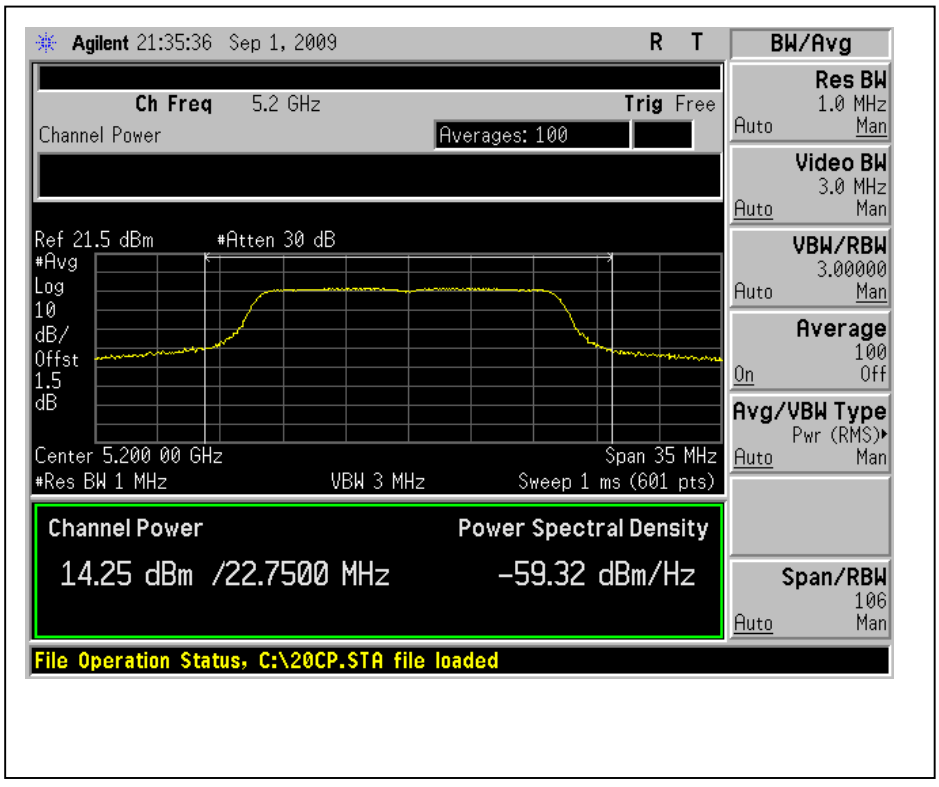
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER OUTPUT (mW)	PEAK POWER LIMIT (dBm)	PASS/FAIL
36	5180	12.00	15.849	17	PASS
40	5200	14.25	26.607	17	PASS
48	5240	14.43	27.733	17	PASS
52	5260	15.57	36.058	24	PASS
60	5300	15.41	34.754	24	PASS
64	5320	12.17	16.482	24	PASS
100	5500	12.65	18.408	24	PASS
120	5600	13.92	24.660	24	PASS
140	5700	8.08	6.427	24	PASS

Peak Power Output:

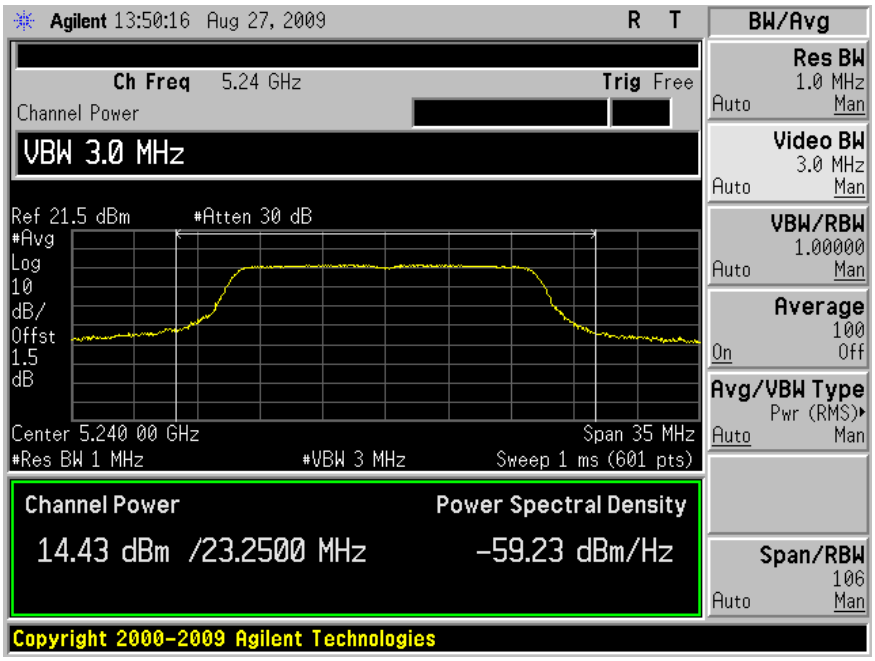
CH36



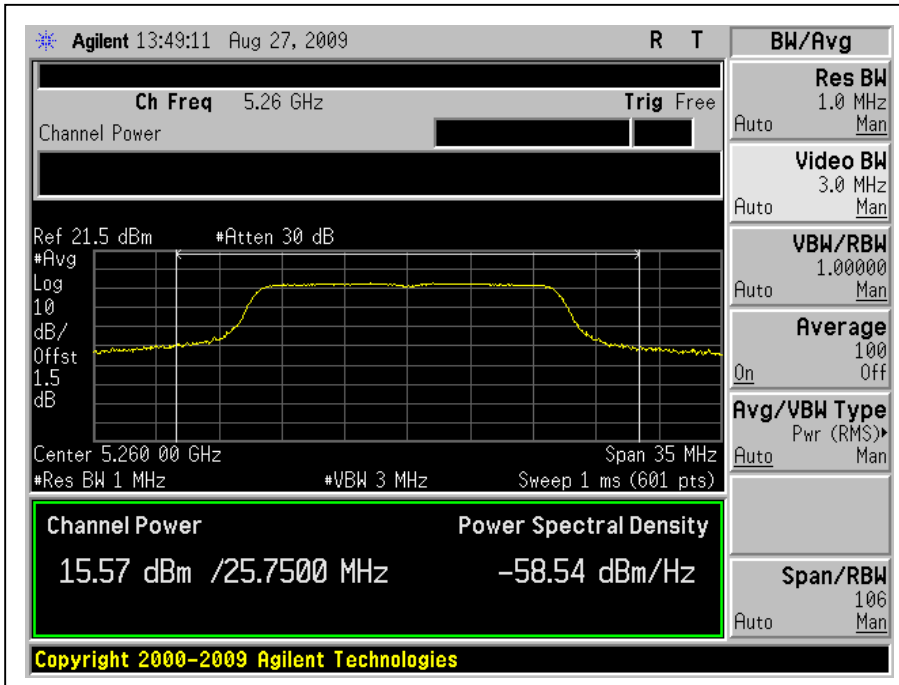
CH40



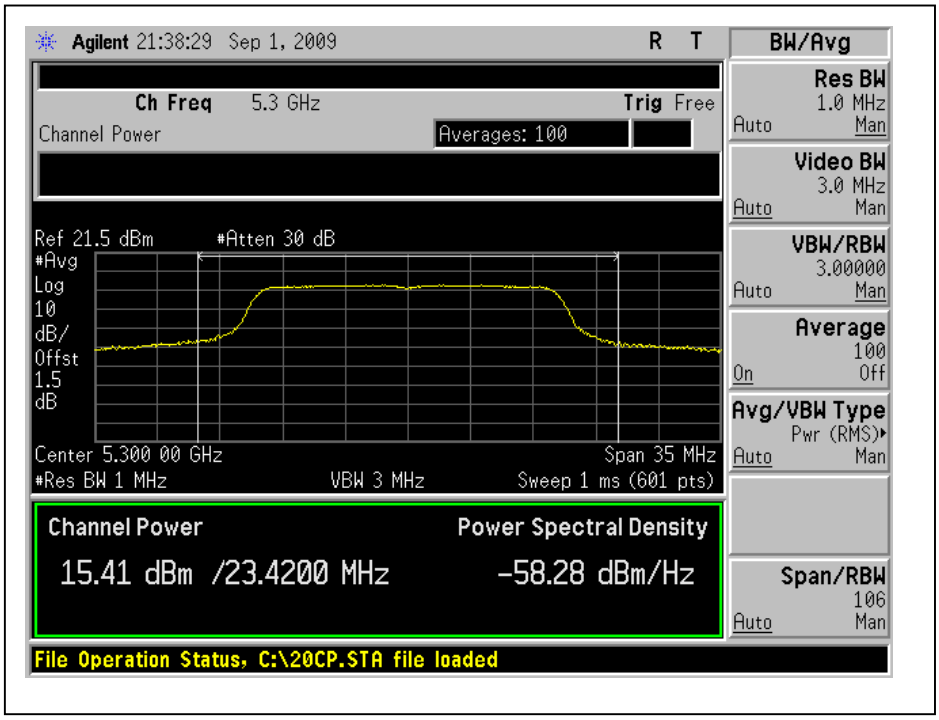
CH48


Agilent 13:50:16 Aug 27, 2009
R T
BW/Avg
Ch Freq 5.24 GHz
Trig Free
Channel Power
VBW 3.0 MHz
Res BW
1.0 MHz
Auto Man
Video BW
3.0 MHz
Auto Man
VBW/RBW
1.00000
Auto Man
Average
100
On Off
Avg/VBW Type
Pwr (RMS)
Auto Man
Ref 21.5 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1.5
dB
Center 5.240 00 GHz
Span 35 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Channel Power
14.43 dBm /23.2500 MHz
Power Spectral Density
-59.23 dBm/Hz
Span/RBW
106
Auto Man
Copyright 2000-2009 Agilent Technologies

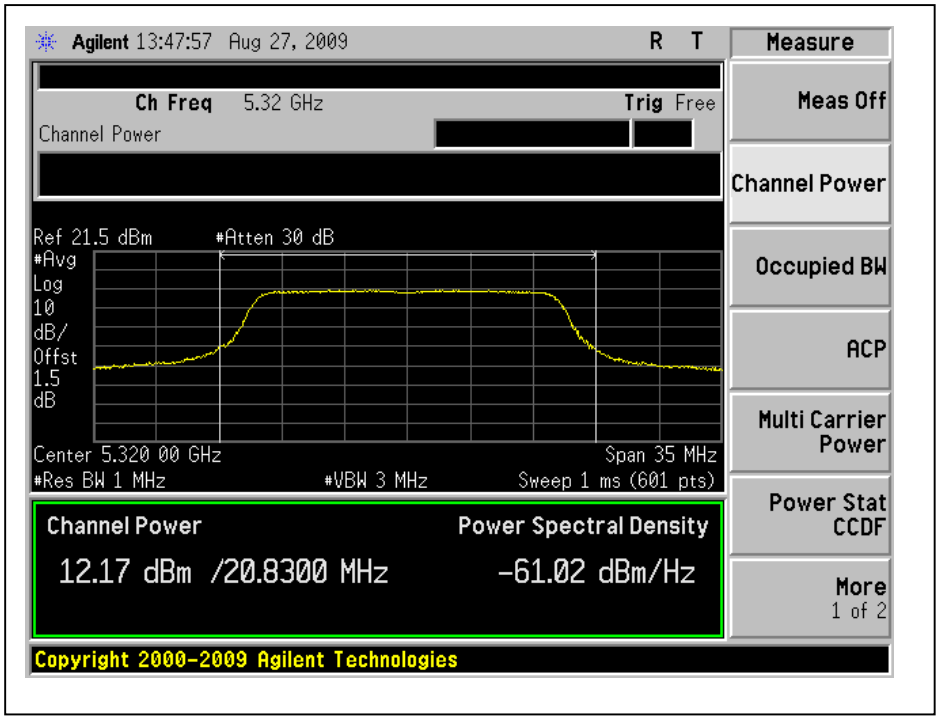
CH52


Agilent 13:49:11 Aug 27, 2009
R T
BW/Avg
Ch Freq 5.26 GHz
Trig Free
Channel Power
Res BW
1.0 MHz
Auto Man
Video BW
3.0 MHz
Auto Man
VBW/RBW
1.00000
Auto Man
Average
100
On Off
Avg/VBW Type
Pwr (RMS)
Auto Man
Ref 21.5 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1.5
dB
Center 5.260 00 GHz
Span 35 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Channel Power
15.57 dBm /25.7500 MHz
Power Spectral Density
-58.54 dBm/Hz
Span/RBW
106
Auto Man
Copyright 2000-2009 Agilent Technologies

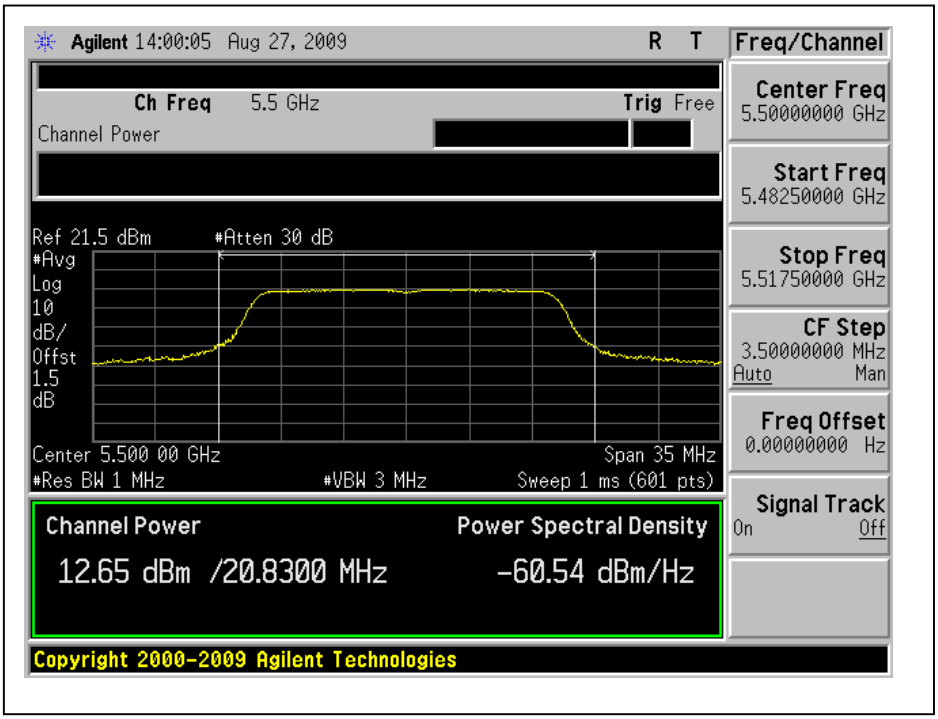
CH60


Agilent 21:38:29 Sep 1, 2009
R T
BW/Avg
Ch Freq 5.3 GHz
Trig Free
Channel Power
Averages: 100
Res BW
1.0 MHz
Auto Man
Video BW
3.0 MHz
Auto Man
VBW/RBW
3.00000
Auto Man
Average
100
On Off
Avg/VBW Type
Pwr (RMS)
Auto Man
Span/RBW
106
Auto Man
Ref 21.5 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1.5
dB
Center 5.300 00 GHz
Span 35 MHz
#Res BW 1 MHz
VBW 3 MHz
Sweep 1 ms (601 pts)
Channel Power
15.41 dBm /23.4200 MHz
Power Spectral Density
-58.28 dBm/Hz
File Operation Status, C:\20CP.STA file loaded

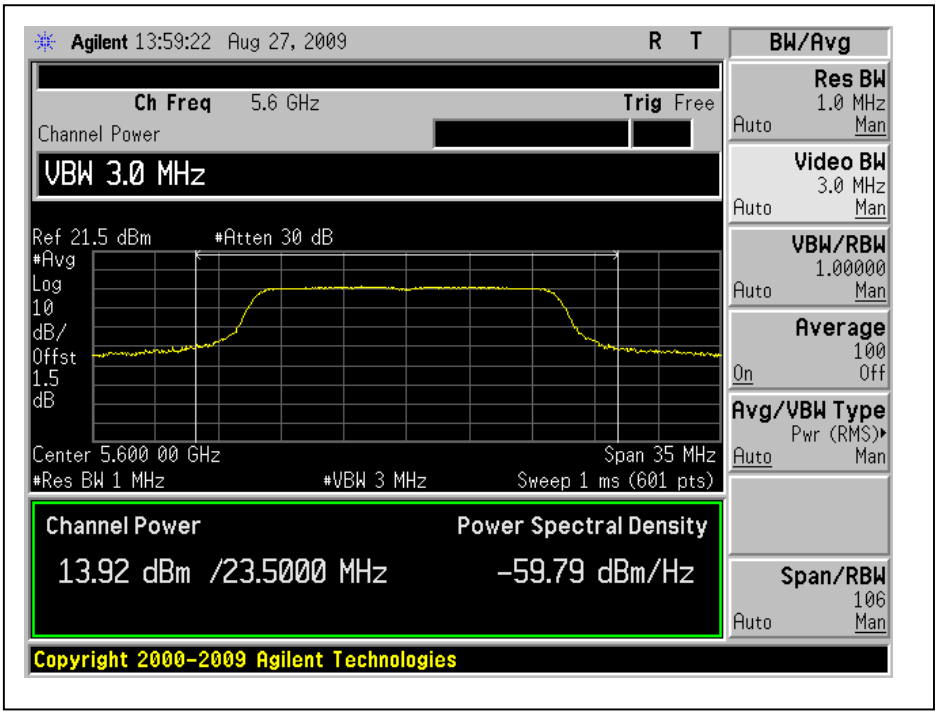
CH64


Agilent 13:47:57 Aug 27, 2009
R T
Measure
Ch Freq 5.32 GHz
Trig Free
Channel Power
Meas Off
Channel Power
Occupied BW
ACP
Multi Carrier Power
Power Stat CCDF
More
1 of 2
Ref 21.5 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1.5
dB
Center 5.320 00 GHz
Span 35 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Channel Power
12.17 dBm /20.8300 MHz
Power Spectral Density
-61.02 dBm/Hz
Copyright 2000-2009 Agilent Technologies

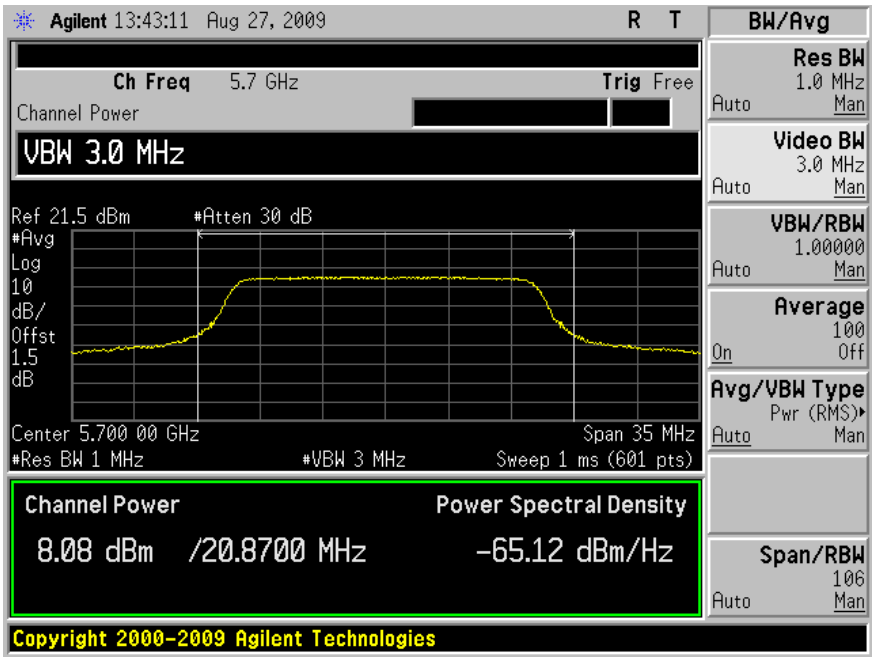
CH100


Agilent 14:00:05 Aug 27, 2009
R T
Freq/Channel
Ch Freq 5.5 GHz
Trig Free
Channel Power
Center Freq
5.50000000 GHz
Start Freq
5.48250000 GHz
Stop Freq
5.51750000 GHz
CF Step
3.50000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Ref 21.5 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1.5
dB
Center 5.500 00 GHz
Span 35 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Channel Power
12.65 dBm /20.8300 MHz
Power Spectral Density
-60.54 dBm/Hz
Copyright 2000-2009 Agilent Technologies

CH120


Agilent 13:59:22 Aug 27, 2009
R T
BW/Avg
Ch Freq 5.6 GHz
Trig Free
Channel Power
VBW 3.0 MHz
Res BW
1.0 MHz
Auto Man
Video BW
3.0 MHz
Auto Man
VBW/RBW
1.00000
Auto Man
Average
100
On Off
Avg/VBW Type
Pwr (RMS)
Auto Man
Span/RBW
106
Auto Man
Ref 21.5 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1.5
dB
Center 5.600 00 GHz
Span 35 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Channel Power
13.92 dBm /23.5000 MHz
Power Spectral Density
-59.79 dBm/Hz
Copyright 2000-2009 Agilent Technologies

CH140


Agilent 13:43:11 Aug 27, 2009
R T
BW/Avg
Ch Freq 5.7 GHz
Trig Free
Channel Power
VBW 3.0 MHz
Res BW
1.0 MHz
Auto Man
Video BW
3.0 MHz
Auto Man
VBW/RBW
1.00000
Auto Man
Average
100
On Off
Avg/VBW Type
Pwr (RMS)
Auto Man
Ref 21.5 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1.5
dB
Center 5.700 00 GHz
Span 35 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Channel Power
8.08 dBm /20.8700 MHz
Power Spectral Density
-65.12 dBm/Hz
Span/RBW
106
Auto Man
Copyright 2000-2009 Agilent Technologies

5.INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

USA	FCC, NVLAP
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA, CSA
R.O.C.	TAF, BSMI, NCC
Netherlands	Telefication
Singapore	GOST-ASIA(MOU)
Russia	CERTIS(MOU)

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050

Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also

6.APPENDIX-A- MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

---END---