FCC TEST REPORT

REPORT NO.: RF930112R01
MODEL NO.: WMP-A13V
RECEIVED: December 17, 2003
TESTED: Dec. 17, 2003 ~ Jan. 27, 2004

APPLICANT: Alpha Networks Inc.

ADDRESS: No.8, Li-shing 7th Rd., Science-based Industrial Park, Hsinchu, Taiwan

ISSUED BY: Advance Data Technology Corporation

LAB LOCATION: 47 14th Lin, Chiapau Tsun, Linko, Taipei, Taiwan, R.O.C.

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1. CERTIFICATION

PRODUCT :	High-Speed 5GHz WLAN Mini PCI Card
BRAND NAME :	Gateway
MODEL NO. :	WMP-A13V
TEST ITEM:	ENGINEERING SAMPLE
APPLICANT :	Alpha Networks Inc.
STANDARDS :	FCC Part 15, Subpart E (Section 15.407), ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from Dec. 17, 2003 to Jan. 27, 2004. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions herein specified.

PREPARED BY: _____ , **DATE:** January 28, 2004
Stephanie Hung

APPROVED BY: _____ , **DATE:** January 28, 2004
Ellis Wu /
Technical Manager

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart E			
Standard Section	**Test Type**	**Result**	**REMARK**
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit Minimum passing margin is –16.59dB at 0.177MHz
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 –1.00dB at 234.04MHz
15.407(a/1/2/3)	Peak Transmit Power	PASS	Meet the requirement of limit
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit
15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit

NOTE: The information of measurement uncertainty is available upon the customer's request.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	High-Speed 5GHz WLAN Mini PCI Card
MODEL NO.	WMP-A13V
POWER SUPPLY	3.3Vdc from host equipment
MODULATION TYPE	16QAM, 64QAM
RADIO TECHNOLOGY	OFDM
TRANSFER RATE	54/48/36/24/18/12/9/6Mbps
FREQUENCY RANGE	5.15~5.35GHz and 5.725~5.825GHz
NUMBER OF CHANNEL	12
CHANNEL SPACING	20MHz
OUTPUT POWER	14.71dBm
DATA CABLE	NA
ANTENNA TYPE	PIFA antenna with 2dBi antenna gain Dipole antenna with 5dBi antenna gain
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT operates in the 5GHz Band and compatibility with 802.11a technology.
2. For more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

Twelve channels are provided to this EUT.

Channel	Frequency	Channel	Frequency
1	5180 MHz	7	5300 MHz
2	5200 MHz	8	5320 MHz
3	5220 MHz	9	5745 MHz
4	5240 MHz	10	5765 MHz
5	5260 MHz	11	5785 MHz
6	5280 MHz	12	5805 MHz

NOTE:

1. Channel 1, 4, 5, 8, 9 and 12 are the closest frequencies to the band edge, were chosen for final test.
2. Channel 1, the worst case, was chosen for final test.
3. There are 2 test modes which are PIFA antenna and Dipole antenna in the report.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a High-Speed 5GHz WLAN Mini PCI Card. 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 : 1992

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

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DESCRIPTION OF SUPPORT UNITS

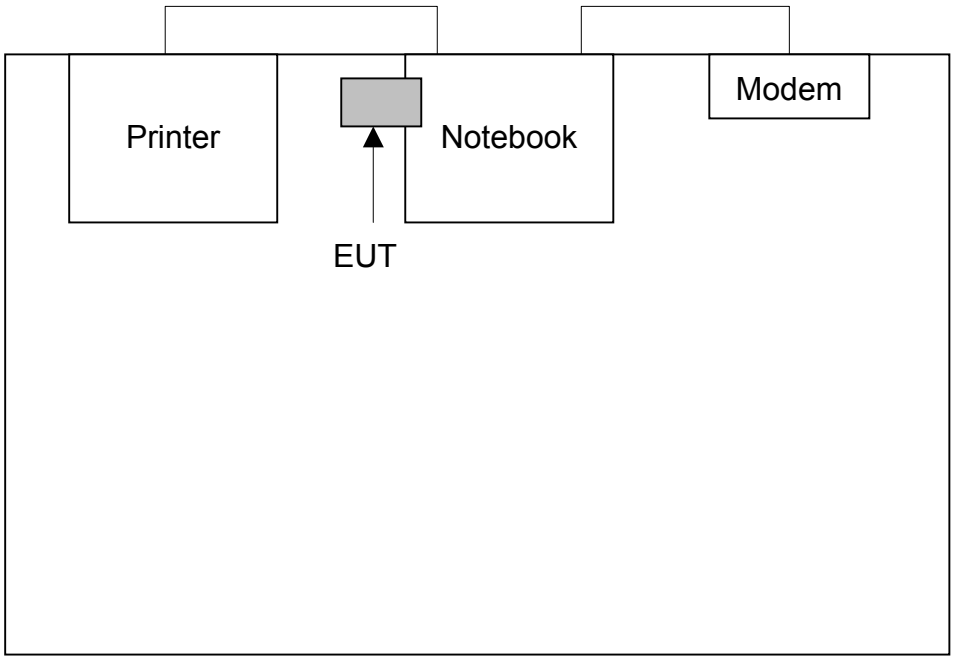
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	PP01L	TW-0791UH-12800-123-5423	FCC DoC Approved
2	PRINTER	EPSON	LQ-300+	DCGY017054	FCC DoC Approved
3	MODEM	ACEEX	1414	980020516	IFAXDM1414

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A
2	1.2m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core
3	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.

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

3.5 CONFIGURATION OF SYSTEM UNDER TEST



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	66 to 56	56 to 46
0.5-5	56	46
5-30	60	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 UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	838251/021	Jan. 04, 2005
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	100218	Dec. 09, 2004
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100219	Dec. 09, 2004
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100220	Dec. 09, 2004
*ROHDE & SCHWARZ 4-wire ISN	ENY41	837032/016	Nov. 19, 2004
*ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Nov. 19, 2004
Software	Cond-V2M3	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C10.01	May 01, 2004
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010770	Mar. 24, 2004
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010773	Apr. 06, 2004

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. "*": These equipment are used for conducted telecom port test only (if tested).
3. The test was performed in ADT Shielded Room No. 10.
4. The VCCI Site Registration No. is C-1312.

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.

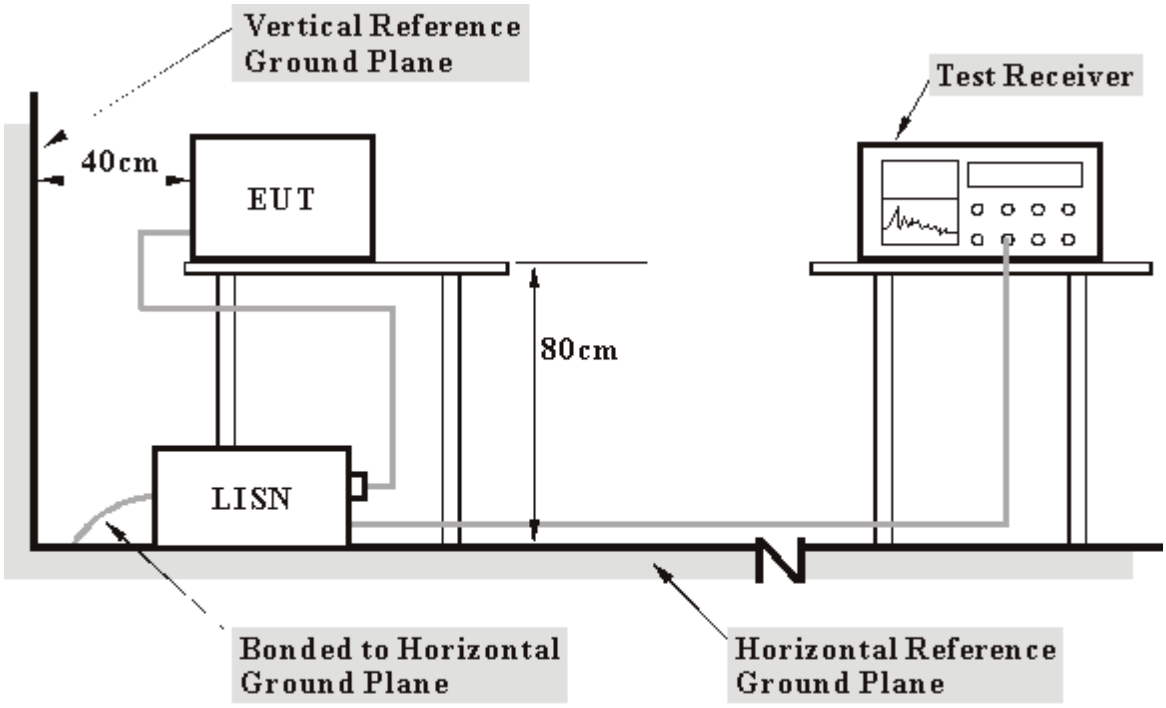
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150kHz to 30MHz was searched. Emission levels under 20dB of the prescribed limits could not be reported.

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) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

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

4.1.6 EUT OPERATING CONDITIONS

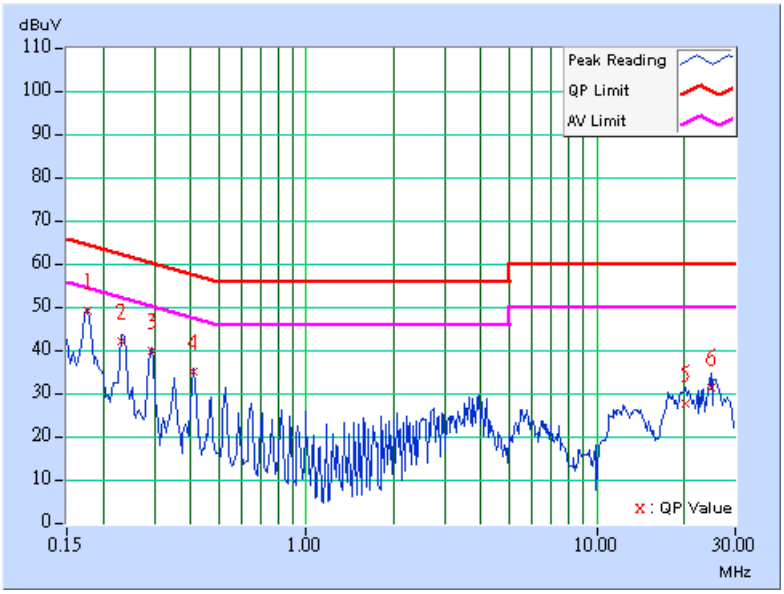
a. Plug the EUT a notebook computer system placed on a testing table.
b. The computer system ran a test program to enable EUT under transmission/receiving condition continuously at specific channel frequency.
c. The computer system sent "H" messages to its screen.
d. The computer system sent “H” messages to modem.
e. The computer system sent "H" messages to printer, and the printer prints them on paper.
f. Steps c~e were repeated.

4.1.7 TEST RESULTS

EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**PHASE**	Line (L)
TESTED BY	Jamison Chan		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.177**	**0.10**	**47.92**	**-**	**48.02**	**-**	**64.61**	**54.61**	**-16.59**	**-**
2	0.232	0.10	41.03	-	41.13	-	62.38	52.38	-21.25	-
3	0.295	0.10	38.88	-	38.98	-	60.40	50.40	-21.42	-
4	0.412	0.10	33.93	-	34.03	-	57.61	47.61	-23.58	-
5	20.227	0.91	26.65	-	27.56	-	60.00	50.00	-32.44	-
6	24.734	1.18	30.48	-	31.66	-	60.00	50.00	-28.34	-

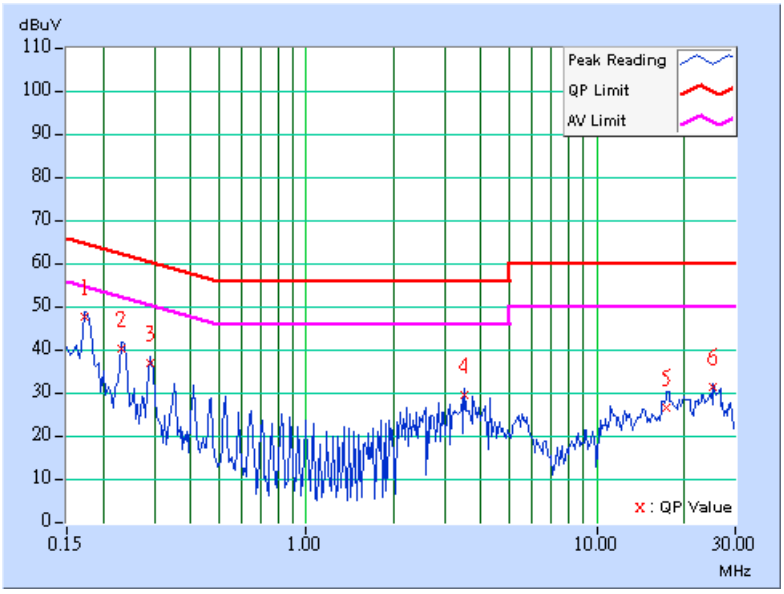
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**PHASE**	Neutral (N)
TESTED BY	Jamison Chan		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.173	0.10	46.81	-	46.91	-	64.79	54.79	-17.88	-
2	0.232	0.10	39.52	-	39.62	-	62.38	52.38	-22.76	-
3	0.291	0.10	35.93	-	36.03	-	60.51	50.51	-24.48	-
4	3.520	0.28	28.65	-	28.93	-	56.00	46.00	-27.07	-
5	17.473	0.75	25.78	-	26.53	-	60.00	50.00	-33.47	-
6	25.094	1.00	30.53	-	31.53	-	60.00	50.00	-28.47	-

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
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 UNTIL
*HP Spectrum Analyzer	8593E	3911A07465	Jul. 07, 2004
*HP Preamplifier	8447D	2944A10386	Aug. 12, 2004
*HP Preamplifier	8449B	3008A01292	Aug. 11, 2004
SCHAFFNER Tunable Dipole Antenna	VHBA 9123	459	Jun. 26, 2004
SCHWARZBECK Tunable Dipole Antenna	UHA 9105	977	
*SCHAFFNER TEST RECEIVER	SCR 3501	409	Nov. 06, 2004
* SCHAFFNER BILOG Antenna	CBL6111C	2727	Jul. 15, 2004
SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	Jun. 30, 2004
* ADT. Turn Table	TT100	0201	NA
* ADT. Tower	AT100	0201	NA
* Software	ADT_Radiated_V5.14	NA	NA
* ANRITSU RF Switches	MP59B	6100237246	Oct. 17, 2004
* TIMES RF cable	LMR-600	CABLE-ST10-01	Oct. 17, 2004

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. "*" = These equipment are used for the final measurement.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The test was performed in ADT Open Site No. 10.
5. The VCCI Site Registration No. is R-1625.

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.

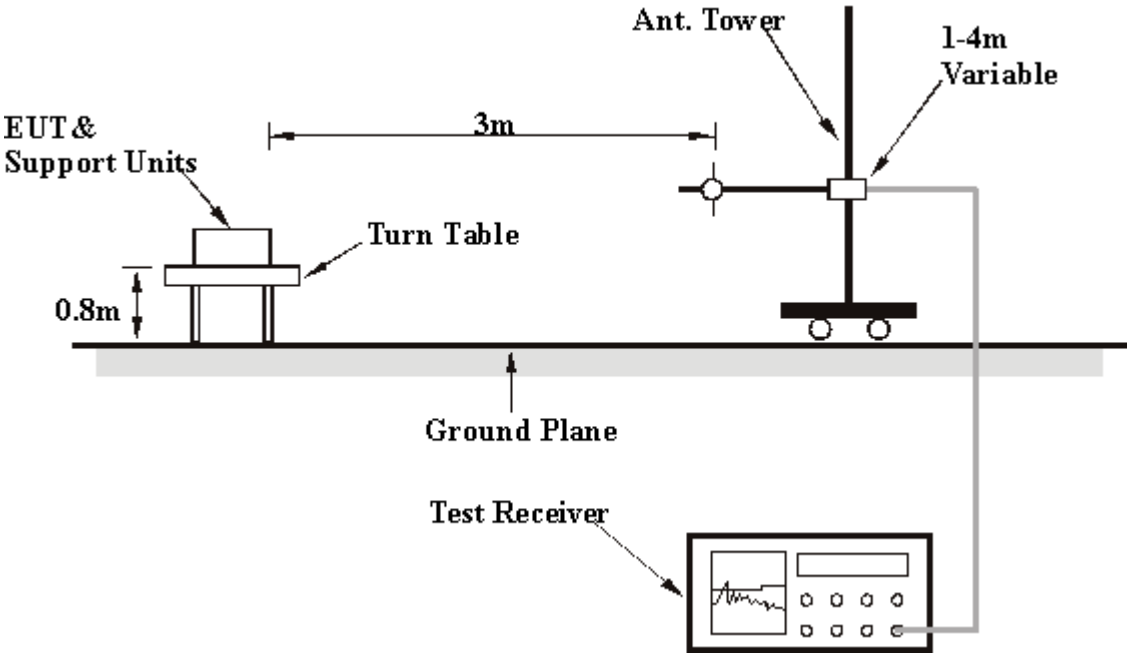
NOTE:

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 and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection 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 CONDITIONS

Same as 4.1.6

4.2.8 TEST RESULTS

Test Mode: PIFA Antenna

EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
MODE	Channel 1	**FREQUENCY RANGE**	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 75%RH, 991hPa	**TESTED BY**	Martin Lee

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	63.11	23.52 QP	40.00	-16.48	1.00 H	52	17.61	5.91
2	99.93	42.10 QP	43.50	-1.40	1.94 H	77	31.60	10.50
3	133.20	39.51 QP	43.50	-3.99	1.69 H	306	27.02	12.49
4	166.66	37.83 QP	43.50	-5.67	1.83 H	195	27.30	10.53
5	199.98	41.15 QP	43.50	-2.35	1.24 H	110	30.68	10.47
6	233.35	41.64 QP	46.00	-4.36	1.57 H	200	28.87	12.77
7	266.80	41.13 QP	46.00	-4.87	1.72 H	223	25.84	15.29
8	270.34	39.83 QP	46.00	-6.17	1.15 H	177	24.63	15.20
9	300.01	43.15 QP	46.00	-2.85	1.31 H	284	26.86	16.29
10	321.00	39.15 QP	46.00	-6.85	1.15 H	149	22.45	16.70
11	335.00	40.67 QP	46.00	-5.33	1.14 H	8	23.69	16.98
12	368.30	41.92 QP	46.00	-4.08	1.56 H	28	23.86	18.06
13	401.50	39.03 QP	46.00	-6.97	1.62 H	118	19.58	19.45

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	79.68	25.97 QP	40.00	-14.03	1.00 V	292	18.19	7.78
2	99.51	29.59 QP	43.50	-13.91	1.00 V	120	19.15	10.44
3	133.37	39.96 QP	43.50	-3.54	1.12 V	239	27.47	12.49
4	166.69	31.01 QP	43.50	-12.49	1.30 V	145	20.48	10.53
5	233.44	31.17 QP	46.00	-14.83	2.00 V	33	18.39	12.78
6	300.04	33.23 QP	46.00	-12.77	1.66 V	85	16.94	16.29
7	401.50	33.32 QP	46.00	-12.68	1.58 V	126	13.87	19.45
8	459.30	35.54 QP	46.00	-10.46	1.74 V	3	14.89	20.65
9	567.80	31.67 QP	46.00	-14.33	1.00 V	80	7.94	23.73

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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.

EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
CHANNEL	1	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Martin Lee

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	49.67 PK	74.00	-24.33	1.00 H	33	11.62	38.05
2	*5180.00	99.84 PK			1.00 H	33	61.67	38.17
2	*5180.00	89.34 AV			1.00 H	33	51.17	38.17
3	10360.00	55.10 PK	68.30	-13.20	1.20 H	175	10.57	44.52

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	56.67 PK	74.00	-17.33	1.00 V	34	18.62	38.05
1	#5150.00	46.47 AV	54.00	-7.53	1.00 V	34	8.42	38.05
2	*5180.00	106.84 PK			1.00 V	34	68.67	38.17
2	*5180.00	96.64 AV			1.00 V	34	58.47	38.17
3	10360.00	57.93 PK	68.30	-10.37	1.00 V	3	13.40	44.52
4	#15540.00	59.30 PK	74.00	-14.70	1.00 V	33	12.79	46.51
4	#15540.00	45.80 AV	54.00	-8.20	1.00 V	33	-0.71	46.51

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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 falling in the restricted band.

EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
CHANNEL	4	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Martin Lee

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	101.85 PK			1.00 H	22	63.50	38.35
1	*5240.00	91.52 AV			1.00 H	22	53.17	38.35
2	10475.00	56.45 PK	68.30	-11.85	1.56 H	134	12.01	44.45

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	106.35 PK			1.00 V	22	68.00	38.35
1	*5240.00	95.68 AV			1.00 V	22	57.33	38.35
2	10484.00	58.44 PK	68.30	-9.86	1.00 V	356	14.02	44.43
3	#15720.00	58.90 PK	74.00	-15.10	1.31 V	118	12.48	46.43
3	#15720.00	45.30 AV	54.00	-8.70	1.31 V	118	-1.12	46.43

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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 falling in the restricted band.

EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
CHANNEL	5	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Martin Lee

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	101.06 PK			1.00 H	36	62.67	38.39
1	*5260.00	91.06 AV			1.00 H	36	52.67	38.39
2	10520.00	54.63 PK	68.30	-13.67	1.20 H	47	10.25	44.38

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	106.89 PK			1.00 V	45	68.50	38.39
1	*5260.00	96.22 AV			1.00 V	45	57.83	38.39
2	10520.00	57.90 PK	68.30	-10.40	1.00 V	32	13.52	44.38
3	#15780.00	57.57 PK	74.00	-16.43	1.00 V	7	11.03	46.54
3	#15780.00	44.64 AV	54.00	-9.36	1.00 V	7	-1.90	46.54

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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 falling in the restricted band.

EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
CHANNEL	8	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Martin Lee

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	102.14 PK			1.00 H	47	63.60	38.54
1	*5320.00	91.87 AV			1.00 H	47	53.33	38.54
2	#5350.00	49.64 PK	74.00	-24.36	1.00 H	47	11.03	38.61
3	#10640.00	53.94 PK	74.00	-20.06	1.00 H	6	9.66	44.28
3	#10640.00	40.94 AV	54.00	-13.06	1.00 H	6	-3.34	44.28

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	106.37 PK			1.00 V	64	67.83	38.54
1	*5320.00	95.71 AV			1.00 V	64	57.17	38.54
2	#5350.00	53.87 PK	74.00	-20.13	1.00 V	64	15.26	38.61
2	#5350.00	43.21 AV	54.00	-10.79	1.00 V	64	4.60	38.61
3	#10640.00	58.27 PK	74.00	-15.73	1.00 V	20	13.99	44.28
3	#10640.00	44.77 AV	54.00	-9.23	1.00 V	20	0.49	44.28
4	#15960.00	58.24 PK	74.00	-15.76	1.24 V	0	11.61	46.62
4	#15960.00	44.05 AV	54.00	-9.95	1.24 V	0	-2.58	46.62

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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 falling in the restricted band.

EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
CHANNEL	9	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Martin Lee

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	5715.00	57.20 PK	68.30	-11.10	1.20 H	20	18.16	39.04
2	5725.00	73.10 PK	78.30	-5.20	1.30 H	130	34.05	39.05
3	*5745.00	99.50 PK			1.35 H	130	60.41	39.09
3	*5745.00	89.30 AV			1.35 H	130	50.21	39.09
4	#11490.00	54.10 PK	74.00	-19.90	1.00 H	10	8.33	45.77
4	#11490.00	39.80 AV	54.00	-14.20	1.00 H	10	-5.97	45.77

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	5715.00	58.20 PK	68.30	-10.10	1.20 V	60	19.16	39.04
2	5725.00	77.00 PK	78.30	-1.30	1.20 V	60	37.95	39.05
3	*5745.00	105.00 PK			1.20 V	60	65.91	39.09
3	*5745.00	94.30 AV			1.20 V	60	55.21	39.09
4	#11490.00	54.80 PK	74.00	-19.20	1.30 V	23	9.03	45.77
4	#11490.00	40.80 AV	54.00	-13.20	1.30 V	23	-4.97	45.77

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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 falling in the restricted band.

EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
CHANNEL	12	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Martin Lee

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	*5805.00	98.30 PK			1.30 H	147	59.11	39.19
1	*5805.00	88.30 AV			1.30 H	147	49.11	39.19
2	5825.00	69.90 PK	78.30	-8.40	1.30 H	147	30.71	39.19
3	5835.00	58.10 PK	68.30	-10.20	1.30 H	147	18.90	39.20
4	#11610.00	56.20 PK	74.00	-17.80	1.40 H	150	10.10	46.10
4	#11610.00	42.70 AV	54.00	-11.30	1.40 H	150	-3.40	46.10

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	*5805.00	106.20 PK			1.30 V	235	67.01	39.19
1	*5805.00	96.00 AV			1.30 V	235	56.81	39.19
2	5825.00	75.00 PK	78.30	-3.30	1.30 V	235	35.81	39.19
3	5835.00	57.10 PK	68.30	-11.20	1.30 V	235	17.90	39.20
4	#11610.00	55.90 PK	74.00	-18.10	1.20 V	100	9.80	46.10
4	#11610.00	42.10 AV	54.00	-11.90	1.20 V	100	-4.00	46.10

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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 falling in the restricted band.

Test Mode: Dipole Antenna

EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
MODE	Channel 1	**FREQUENCY RANGE**	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 59%RH, 991hPa	**TESTED BY**	Tony Chen

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	125.87	38.50 QP	43.50	-5.00	1.59 H	1	25.50	13.00
2	155.47	41.40 QP	43.50	-2.10	1.67 H	359	29.80	11.60
3	165.62	41.70 QP	43.50	-1.80	1.00 H	0	30.70	11.00
4	192.67	42.20 QP	43.50	-1.30	1.56 H	10	31.90	10.30
5	**234.04**	**45.00 QP**	**46.00**	**-1.00**	**1.02 H**	**0**	**32.70**	**12.20**
6	300.02	33.60 QP	46.00	-12.40	1.11 H	1	18.20	15.40
7	501.07	27.10 QP	46.00	-18.90	1.60 H	38	5.40	21.60
8	562.93	34.30 QP	46.00	-11.70	1.97 H	41	10.90	23.50
9	802.40	33.40 QP	46.00	-12.60	1.01 H	340	7.40	26.00
10	904.60	33.40 QP	46.00	-12.60	1.02 H	0	5.60	27.90

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	48.30	23.50 QP	40.00	-16.50	1.03 V	139	13.60	10.00
2	125.73	32.80 QP	43.50	-10.70	1.00 V	10	19.80	13.00
3	165.50	32.40 QP	43.50	-11.10	1.42 V	150	21.40	11.00
4	191.16	32.30 QP	43.50	-11.20	1.71 V	89	22.10	10.20
5	234.71	31.40 QP	46.00	-14.60	1.74 V	69	19.00	12.30
6	240.03	28.50 QP	46.00	-17.50	1.46 V	164	15.50	13.00
7	354.13	34.40 QP	46.00	-11.60	1.85 V	181	17.40	17.10
8	393.22	31.00 QP	46.00	-15.00	1.85 V	227	12.60	18.40
9	456.74	31.00 QP	46.00	-15.00	1.80 V	227	10.70	20.30
10	878.40	29.40 QP	46.00	-16.60	1.88 V	311	1.50	27.80

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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.

EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
CHANNEL	1	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	27deg. C, 58%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Tony Chen

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	46.20 PK	74.00	-27.80	1.57 H	231	9.20	37.00
2	*5180.00	99.20 PK			1.90 H	111	62.10	37.00
2	*5180.00	90.20 AV			1.90 H	111	53.20	37.00
3	10360.00	49.10 PK	68.30	-19.20	1.27 H	279	4.40	44.70
4	#15540.00	50.70 PK	74.00	-23.30	1.06 H	274	2.10	48.60

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	57.30 PK	74.00	-16.70	1.51 V	301	20.30	37.00
1	#5150.00	47.70 AV	54.00	-6.30	1.51 V	301	10.70	37.00
2	*5180.00	109.40 PK			1.51 V	201	72.40	37.00
2	*5180.00	101.20 AV			1.51 V	201	64.10	37.00
3	10360.00	46.90 PK	68.30	-21.40	1.42 V	191	2.20	44.70
4	#15540.00	53.90 PK	74.00	-20.10	1.46 V	317	5.30	48.60
4	#15540.00	41.50 AV	54.00	-12.50	1.46 V	317	-7.10	48.60

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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 falling in the restricted band.

EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
CHANNEL	4	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	27deg. C, 58%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Tony Chen

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	102.60 PK			1.73 H	107	65.60	37.00
1	*5240.00	94.90 AV			1.73 H	107	57.90	37.00
2	10480.00	48.40 PK	68.30	-19.90	1.35 H	334	3.40	45.00
3	#15720.00	51.20 PK	74.00	-22.80	1.45 H	282	3.20	48.00
3	#15720.00	40.50 AV	54.00	-13.50	1.45 H	282	-7.60	48.00

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	108.80			1.54 V	56	71.80	37.00
1	*5240.00	102.50			1.54 V	56	65.40	37.00
2	10480.00	48.60 PK	68.30	-19.70	1.41 V	255	3.60	45.00
3	#15720.00	50.70 PK	74.00	-23.30	1.17 V	89	2.70	48.00

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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 falling in the restricted band.

EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
CHANNEL	5	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	27deg. C, 58%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Tony Chen

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	97.80 PK			1.32 H	112	60.80	37.00
1	*5260.00	89.90 AV			1.32 H	112	52.80	37.00
2	10520.00	50.00 PK	68.30	-18.30	1.41 H	261	4.80	45.20
3	#15780.00	51.20 PK	74.00	-22.80	1.24 H	230	3.30	47.90
3	#15780.00	41.60 AV	54.00	-12.40	1.24 H	230	-6.30	47.90

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	110.20 PK			1.41 V	267	73.20	37.00
1	*5260.00	102.60 AV			1.41 V	267	65.50	37.00
2	10520.00	49.10 PK	68.30	-19.20	1.76 V	156	4.00	45.20
3	#15780.00	51.90 PK	74.00	-22.10	1.22 V	93	4.00	47.90
3	#15780.00	41.40 AV	54.00	-12.60	1.22 V	93	-6.40	47.90

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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 falling in the restricted band.

EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
CHANNEL	8	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	27deg. C, 58%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Tony Chen

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	97.40 PK			1.67 H	109	60.30	37.00
1	*5320.00	89.20 AV			1.67 H	109	52.20	37.00
2	#5350.00	43.30 PK	74.00	-30.70	1.24 H	347	6.20	37.00
3	#10640.00	52.00 PK	74.00	-22.00	1.44 H	34	5.70	46.30
3	#10640.00	41.50 AV	54.00	-12.50	1.44 H	34	-4.80	46.30
4	#15960.00	50.40 PK	74.00	-23.60	1.20 H	162	3.10	47.30

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	108.10 PK			1.34 V	164	71.10	37.00
1	*5320.00	100.20 AV			1.34 V	164	63.10	37.00
2	#5350.00	54.70 PK	74.00	-19.30	1.24 V	203	17.60	37.00
2	#5350.00	45.50 AV	54.00	-8.50	1.24 V	203	8.50	37.00
3	#10640.00	51.10 PK	74.00	-22.90	1.04 V	35	4.90	46.30
3	#10640.00	40.50 AV	54.00	-13.50	1.04 V	35	-5.80	46.30
4	#15960.00	48.90 PK	74.00	-25.10	1.06 V	139	1.60	47.30

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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 falling in the restricted band.

EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
CHANNEL	9	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	27deg. C, 58%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Tony Chen

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	5715.00	56.00 PK	68.30	-12.30	1.50 H	60	18.50	37.50
2	5725.00	65.20 PK	78.30	-13.10	1.40 H	47	27.70	37.50
3	*5745.00	99.70 PK			1.30 H	43	62.10	37.60
3	*5745.00	92.60 AV			1.30 H	43	55.00	37.60
4	#11490.00	54.00 PK	74.00	-20.00	1.30 H	92	2.70	51.30
4	#11490.00	43.20 AV	54.00	-10.80	1.30 H	92	-8.10	51.30
5	17235.00	54.00 PK	68.30	-14.30	1.27 H	160	2.30	51.70

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	5715.00	66.00 PK	68.30	-2.30	1.32 V	236	28.40	37.50
2	5725.00	77.40 PK	78.30	-0.90	1.30 V	237	39.90	37.50
3	*5745.00	107.20 PK			1.19 V	110	69.60	37.60
3	*5745.00	100.20 AV			1.19 V	110	62.60	37.60
4	#11490.00	53.20 PK	74.00	-20.80	1.20 V	110	1.90	51.30
4	#11490.00	42.60 AV	54.00	-11.40	1.20 V	110	-8.70	51.30
5	17235.00	55.10 PK	68.30	-13.20	1.10 V	121	3.40	51.70

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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 falling in the restricted band.

EUT	High-Speed 5GHz WLAN Mini PCI Card	MODEL	WMP-A13V
CHANNEL	12	FREQUENCY RANGE	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	27deg. C, 58%RH, 991hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	TESTED BY	Tony Chen

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	*5805.00	99.80 PK			1.47 H	40	62.10	37.70
1	*5805.00	90.60 AV			1.47 H	40	52.90	37.70
2	5825.00	67.40 PK	78.30	-10.90	1.50 H	36	29.70	37.70
3	5835.00	50.70 PK	68.30	-17.60	1.52 H	38	13.00	37.70
4	#11610.00	56.00 PK	74.00	-18.00	3.00 H	150	5.00	51.00
4	#11610.00	44.60 AV	54.00	-9.40	3.00 H	150	-6.40	51.00
5	17415.00	57.80 PK	68.30	-10.50	1.40 H	70	4.20	53.60

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	*5805.00	106.10 PK			1.10 V	320	68.40	37.70
1	*5805.00	98.20 AV			1.10 V	320	60.50	37.70
2	5825.00	74.20 PK	78.30	-4.10	1.60 V	100	36.50	37.70
3	5835.00	56.70 PK	68.30	-11.60	1.60 V	120	19.00	37.70
4	#11610.00	53.10 PK	74.00	-20.90	1.30 V	50	2.10	51.00
4	#11610.00	42.90 AV	54.00	-11.10	1.30 V	50	-8.10	51.00
5	17415.00	57.60 PK	68.30	-10.70	1.30 V	60	4.00	53.60

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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 falling in the restricted band.

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
5.725 – 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 Until
SPECTRUM ANALYZER	FSEK30	100049	August 12, 2004

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

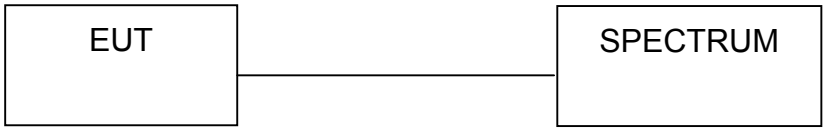
4.3.3 TEST PROCEDURE

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 300kHz.
4. Using the spectrum analyzer's channel power measurement function to measure the output power.

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.

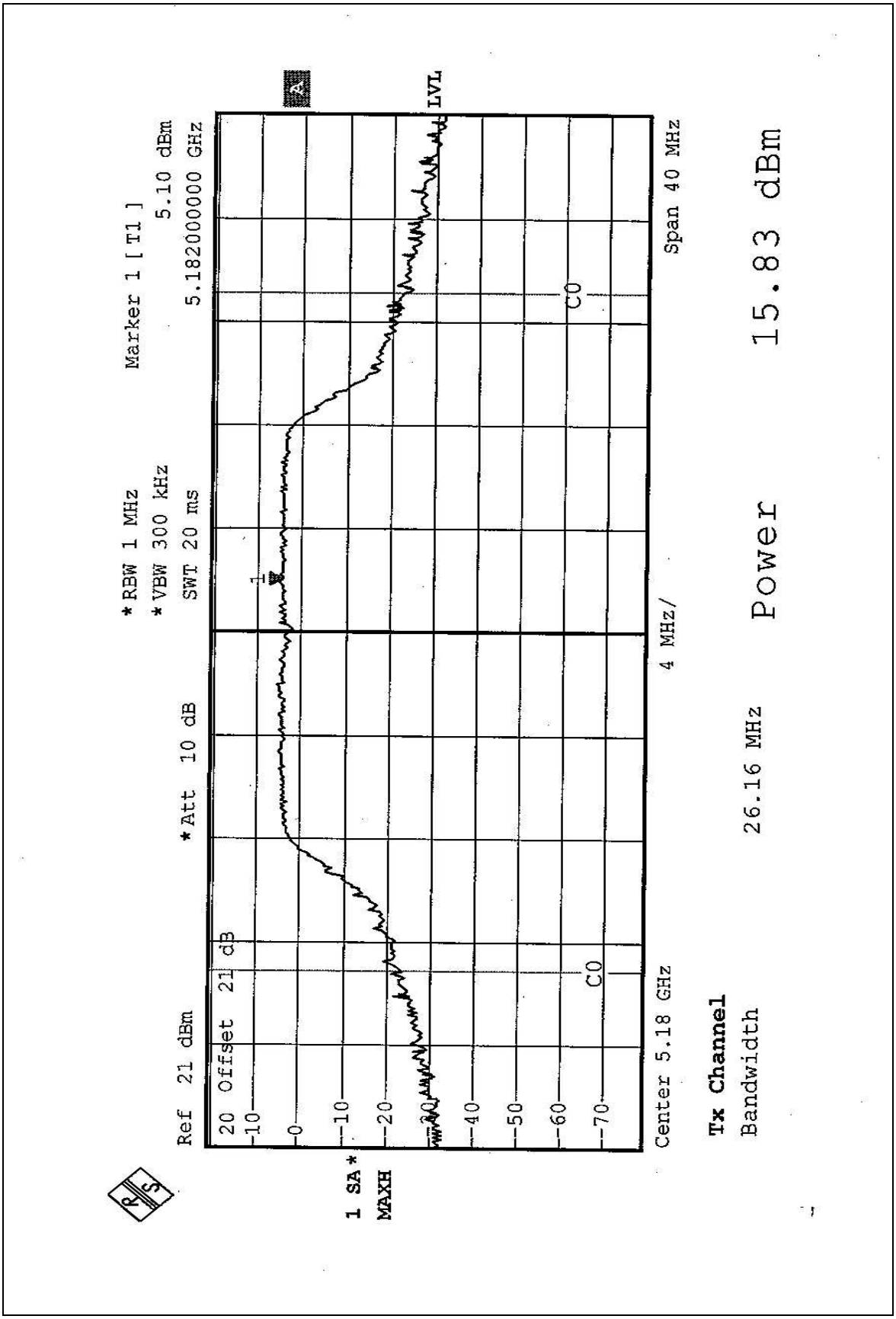
4.3.7 TEST RESULTS

EUT	High-Speed 5GHz WLAN Mini PCI Card	**MODEL**	WMP-A13V
ENVIRONMENTAL CONDITIONS	20deg. C, 63%RH, 991hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Ansen Lei		

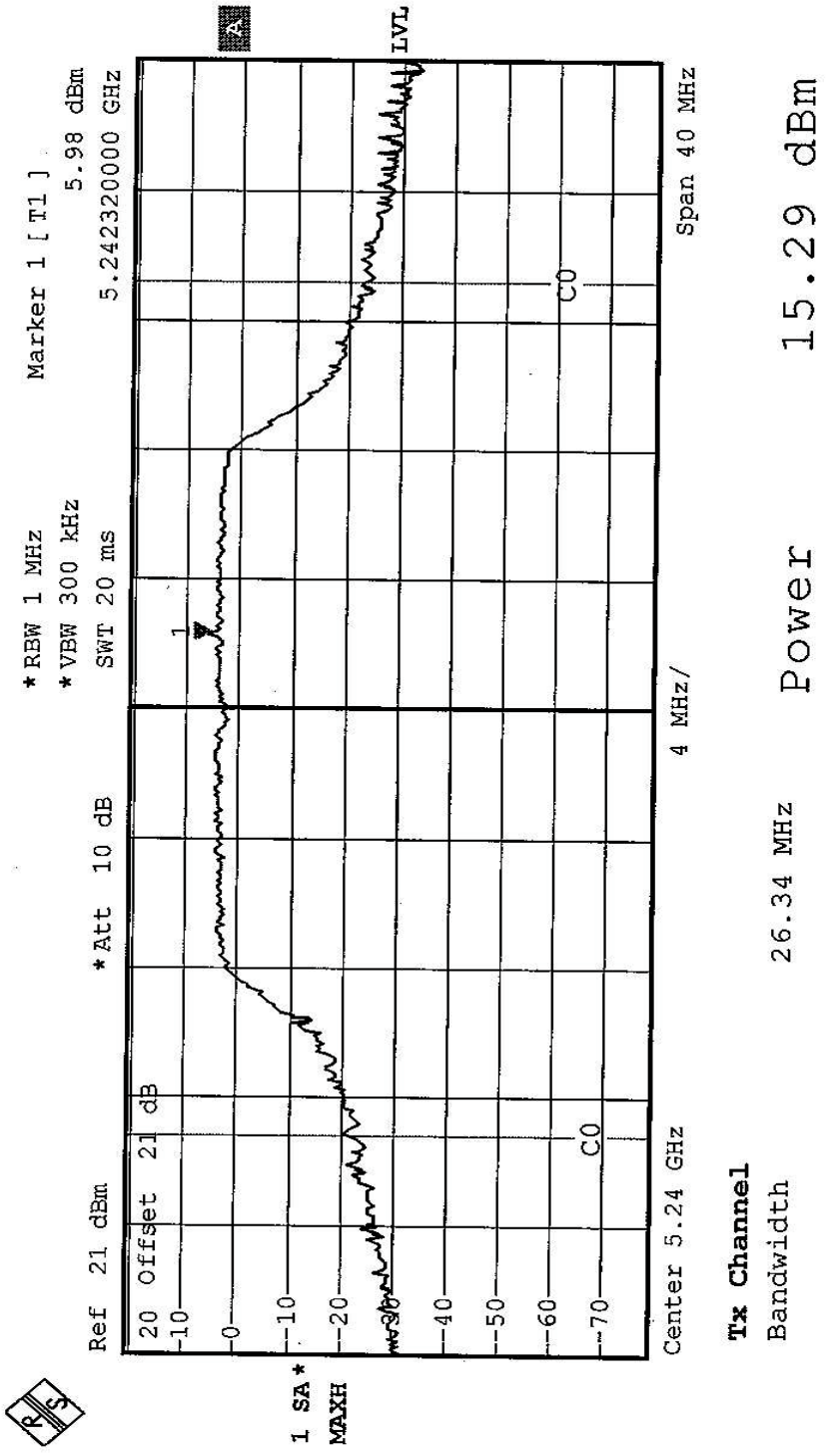
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5180	15.83	17.00	26.16	PASS
4	5240	15.29	17.00	26.34	PASS
5	5260	15.35	24.00	26.70	PASS
8	5320	15.73	24.00	26.40	PASS
9	5745	16.73	30.00	32.00	PASS
12	5805	16.21	30.00	31.92	PASS

NOTE: For the plot of 26dBc Occupied Bandwidth and Peak Power Output value, please refer to the following pages.

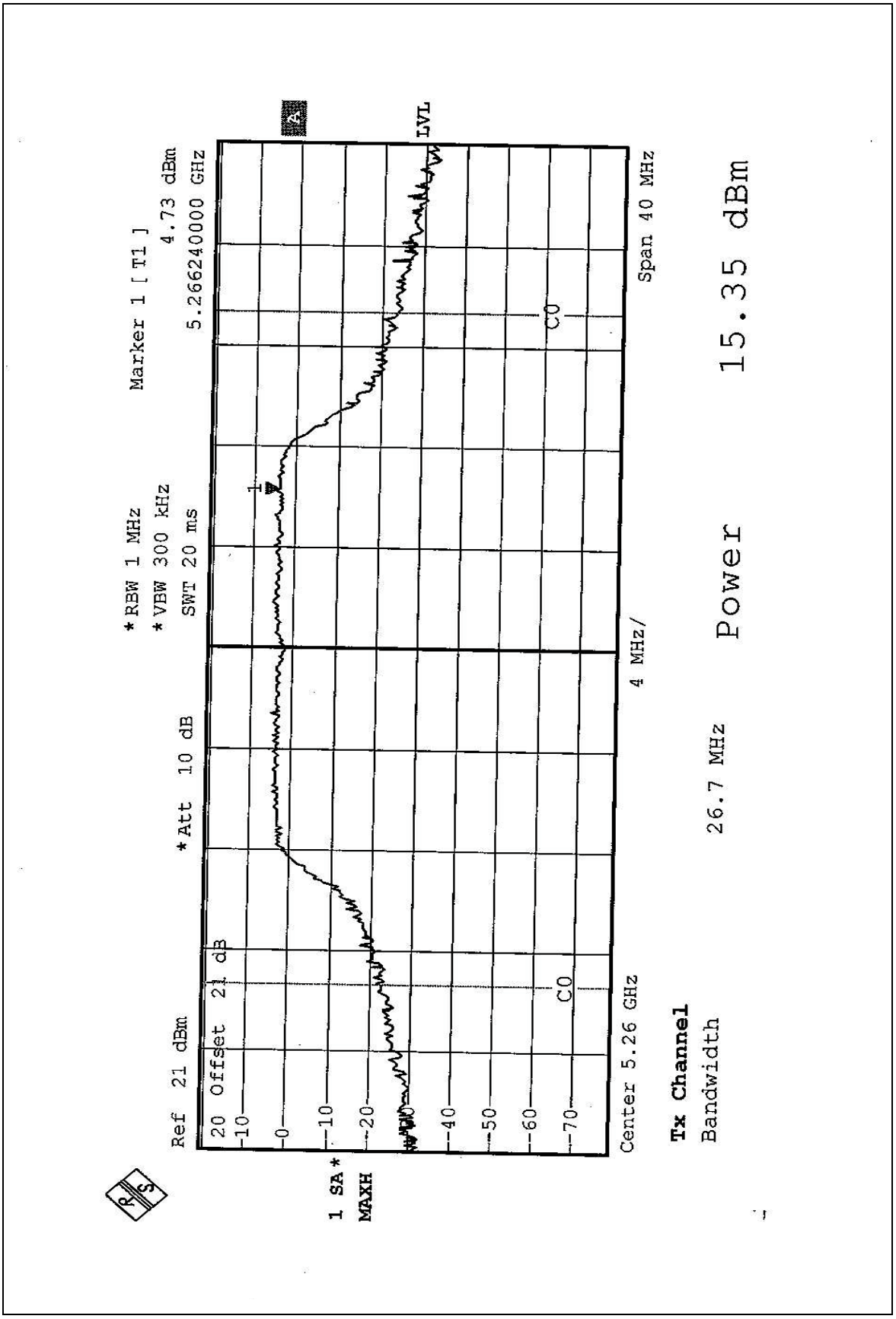
CH1


Marker 1 [T1]
5.10 dBm
5.182000000 GHz
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
*Att 10 dB
Ref 21 dBm
20 Offset 21 dB
Center 5.18 GHz
4 MHz/
Span 40 MHz
1 SA *
MAXH
Tx Channel
Bandwidth
26.16 MHz
Power
15.83 dBm

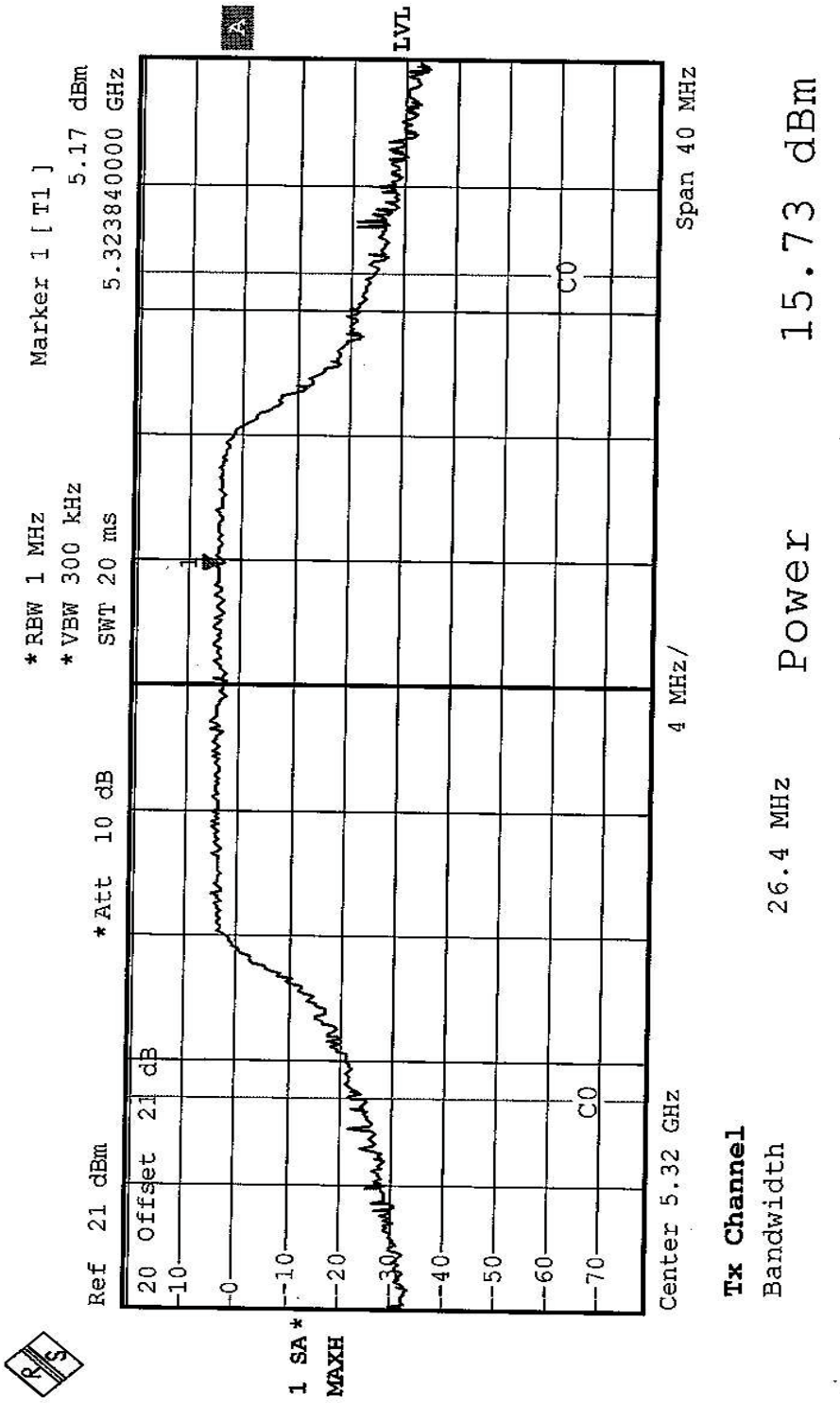
CH4


Marker 1 [T1]
5.98 dBm
5.242320000 GHz
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
*Att 10 dB
Ref 21 dBm
20 Offset 21 dB
Center 5.24 GHz
Span 40 MHz
4 MHz/
1 SA *
MAXH
LVL
Power
15.29 dBm
Tx Channel
Bandwidth
26.34 MHz

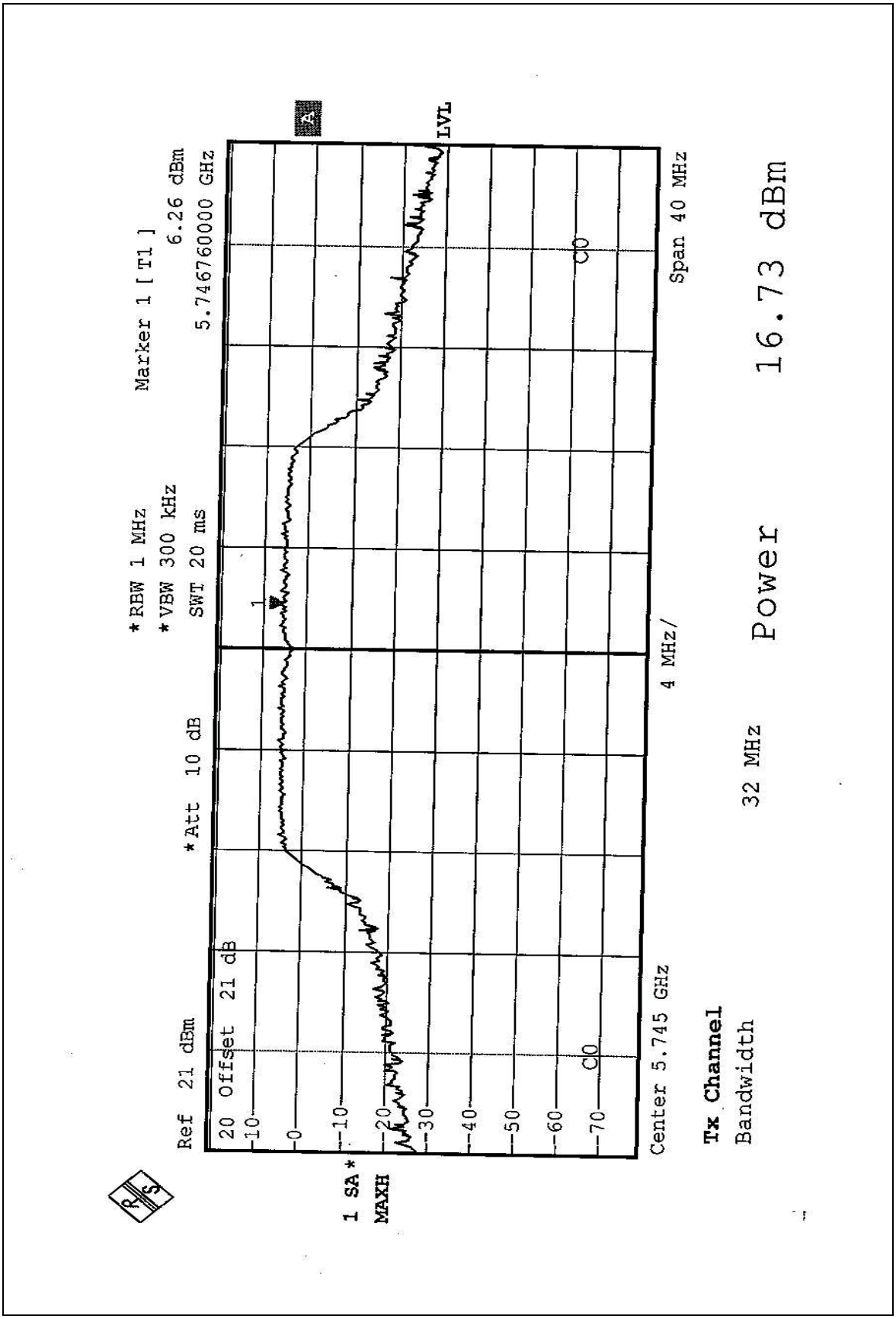
CH5


Marker 1 [T1]
4.73 dBm
5.26624000 GHz
* RBW 1 MHz
* VBW 300 kHz
SWT 20 ms
* Att 10 dB
Offset 21 dB
Ref 21 dBm
Center 5.26 GHz
4 MHz/
Span 40 MHz
Power
15.35 dBm
26.7 MHz
Tx Channel
Bandwidth
1 SA *
MAXH

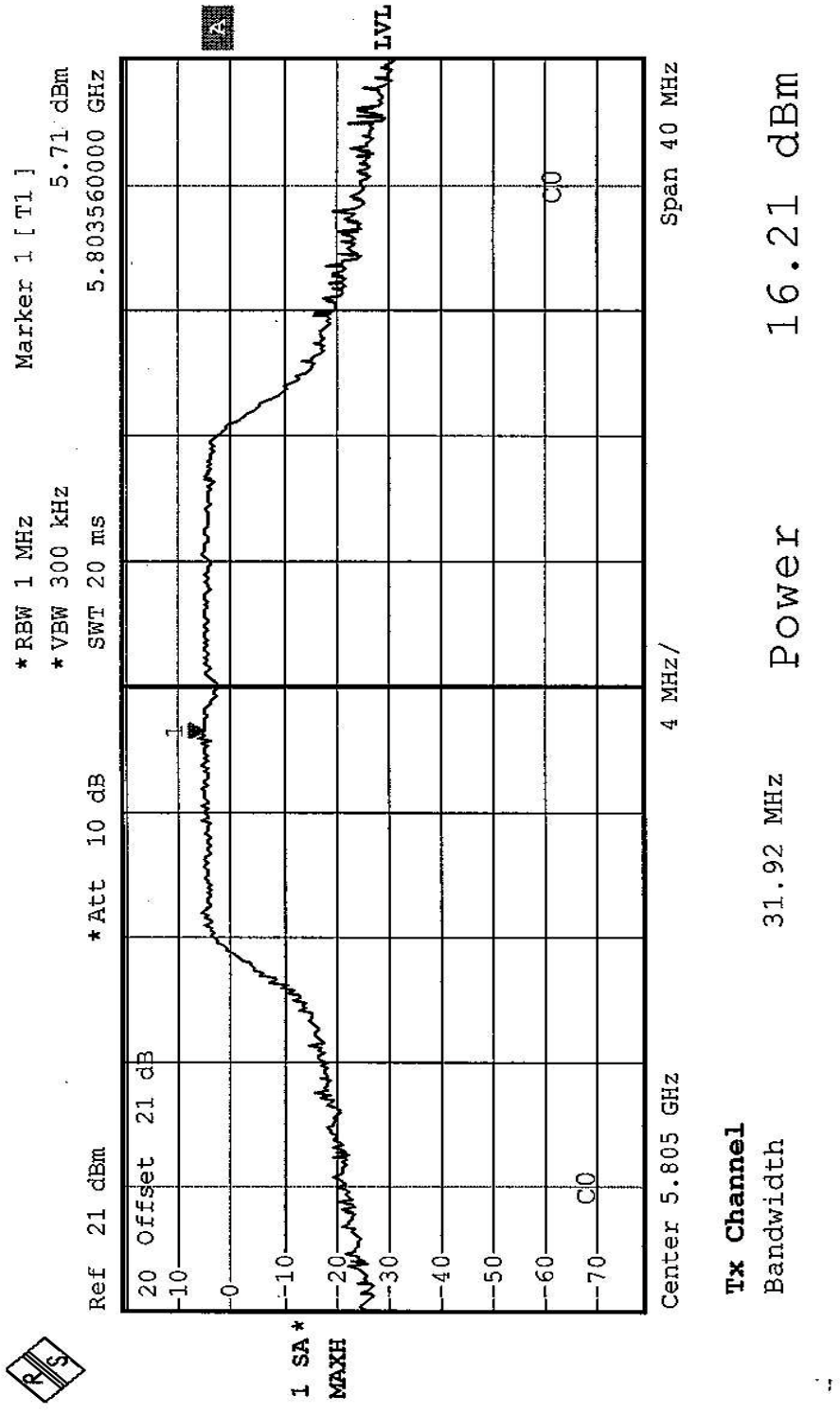
CH8


Marker 1 [T1]
5.17 dBm
5.323840000 GHz
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
*Att 10 dB
Ref 21 dBm
20 Offset 21 dB
Center 5.32 GHz
4 MHz/
Span 40 MHz
1 SA *
MAXH
LVL
15.73 dBm
Power
26.4 MHz
Tx Channel
Bandwidth

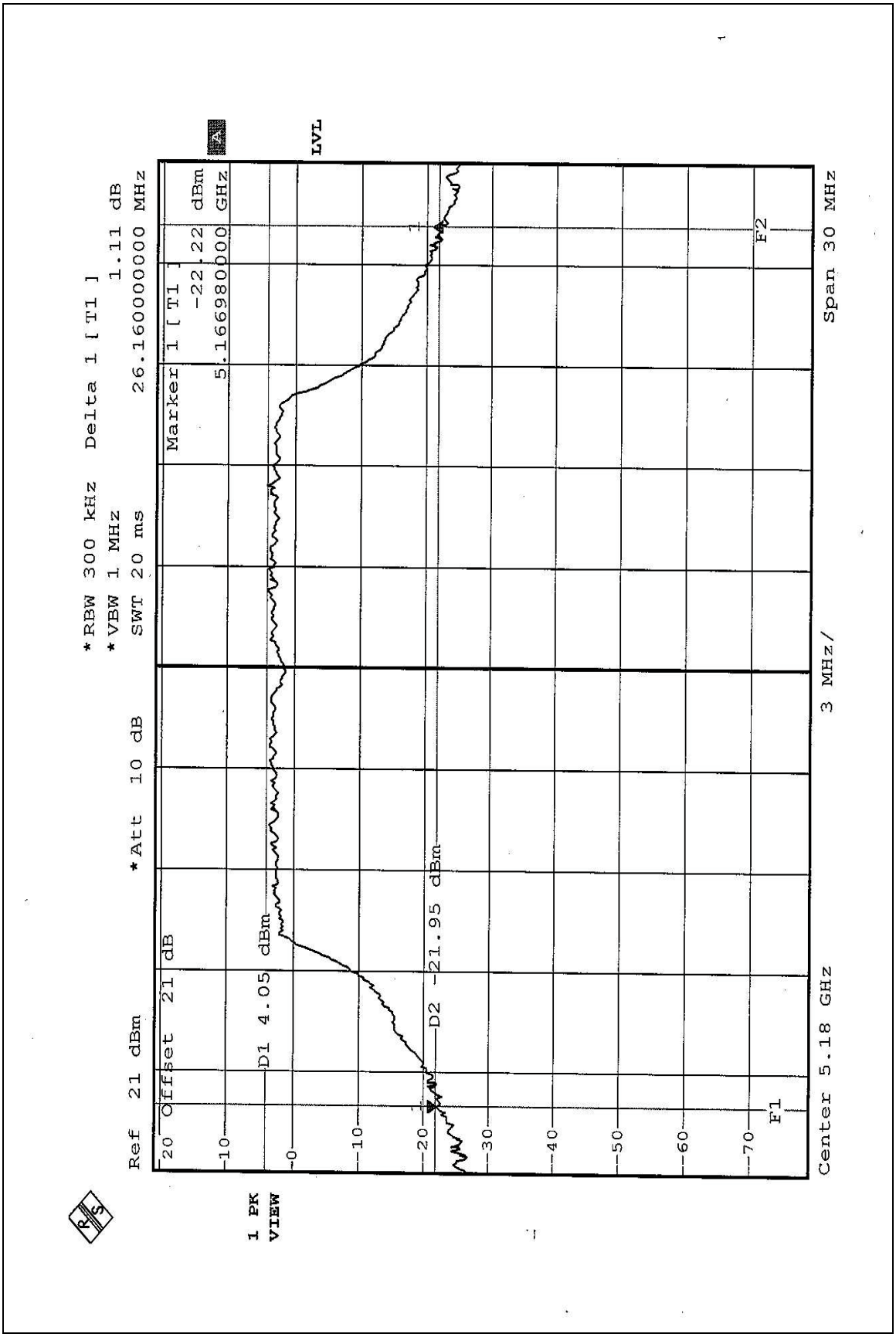
CH9


Marker 1 [T1]
6.26 dBm
5.74676000 GHz
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
*Att 10 dB
Offset 21 dB
Ref 21 dBm
Center 5.745 GHz
4 MHz/
Span 40 MHz
LVL
1 SA *
MAXH
16.73 dBm
Power
32 MHz
Tx Channel
Bandwidth

CH12


Ref 21 dBm
*Att 10 dB
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
Marker 1 [T1]
5.71 dBm
5.80356000 GHz
20 Offset 21 dB
Center 5.805 GHz
4 MHz/
Span 40 MHz
1 SA *
MAXH
Tx Channel
Bandwidth
31.92 MHz
Power
16.21 dBm

CH 1


RBW 300 kHz
VBW 1 MHz
SWT 20 ms
Delta 1 [T1]
1.11 dB
26.160000000 MHz
Marker 1 [T1]
-22.22 dBm
5.166980000 GHz
LVL
Ref 21 dBm
Offset 21 dB
Att 10 dB
D1 4.05 dBm
D2 -21.95 dBm
F1
F2
Center 5.18 GHz
3 MHz/
Span 30 MHz
1 PK
VIEW