TEST REPORT

Product Name : Wireless 11a/g Dual-Band PCI Card
Model Number : MS-6845
Marketing Name : PC54AG

Applicant : MICRO-STAR INT' L CO., LTD.
Address : 3F-5 No. 30, Tai-Yuan St, Zhu-Bei City, Hsinchu Hsien 302, Taiwan

Received Date : Jan. 01, 2004
Tested Date : Jan. 01~ 19, 2004

Notes :

1. This report will be invalid if duplicated or photocopied in part.
2. This report refers only to the specimen(s) submitted to testing, and be invalid as seperately used.
3. This report is invalid without examination stamp and signature of this institute.
4. The tested specimen(s) will be preserved for thirty days from the data issued.
5. The report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

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Test Report Certification

Product Name : Wireless 11a/g Dual-Band PCI Card

Model Number : MS-6845

Applicant : MICRO-STAR INT' L CO., LTD.

Measurement Standard :

47 CFR Part 15, Subpart B and Subpart E (Section 15.407),
ANSI C63.4-2001

Tested By : _____ (Alan Fan) , **Date :** Jan. 20, 2004

Reviewed By : _____ (Roger Sheng) , **Date :** Jan. 20, 2004

Approved By : _____ (Chieh-De Tsai ,Manager) , **Date :** Jan. 20, 2004

WE HEREBY CERTIFY THAT: The measurements shown in the attachment were made in accordance with the procedures indicated, and the energy emitted by the equipment was found to be within the limits applicable. We assume full responsibility for the accuracy and completeness of these measurements and vouch for the qualifications of all persons taking them.

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1. SUMMARY of RESULTS

The test below represents the highest recorded measurements with respect to the FCC Part 15 Subpart B,C and E limits.

Unless stated otherwise, the complete data can be found in the Tests data Sheets submitted with this report.

General requirements for all bands			
FCC Part 15 Section	**Description**	**Comments**	**Result**
15.407(a)(b)	Peak Excursion Ratio	＜13dB	Complied
15.407(a)(b)	Automatic Discontinuation of Operation in the absence of information to transmit	Operation is discontinued in the absence of information to transmit, refer to the “Theory of Operations” for a detailed explanation	Complied
15.407(g)	Frequency Stability	Frequency stability is +/- 20ppm	Complied
15.107 15.207 15.407(b)(5)	Conducted AC power Line 150kHz~30MHz <table 15.107 or 15.207	See test result	Complied

Operation in the 5.15-5.25GHz Band			
FCC Part 15 Section	**Description**	**Comments**	**Result**
15.407 (d)	As the device operates in the 5.15-5.25GHz band the antenna must be integral to the device.	Antenna Gain = 5dBi The antenna is integral. Antenna specification included in Section 10	Complied
15.407 (e)	Indoor operation only	Refer to user’s manual	Complied
15.407 (a) (1)	26dB Bandwidth	See test Results	N/A
15.407 (a) (1)	Output Power	See test Results	Complied
15.407 (a) (1)	Power Spectral Density 4dBm/Mhz	See test Results	Complied
15.407 (b) (5) 15.209(a)	Spurious Emissions below 1GHz	See test result	Complied
15.407 (b) (2)	Spurious Emissions above 1GHz	See test result	Complied

Operation in the 5.25-5.35 GHz Band Note : The device is restricted to indoor use only, therefore the spectral density of spurious emissions in the 5.15-5.25 GHz band were limited to the power spectral limits for intentional signals detailed in FCC 15.407(a)(1)			
FCC Part 15 Section	**Description**	**Comments**	**Result**
15.407 (d)	Maximum Antenna Gain/ Antenna Type	Antenna Gain = 5dBi The antenna is Dipole type	Complied
15.407(a) (2)	Bandwidth 26dB	30.62MHz	N/A
15.407(a) (2)	Output Power：250mW or 11dBm+10logB	See test Results	Complied
15.407(a) (2)	Power Spectral Density 11dBm/Mhz	See test Results	Complied
15.407(b) (5) 15.209	Spurious Emissions below 1GHz	See test Results	Complied
15.407(b) (2)	Spurious Emissions above 1GHz	See test Results	Complied

Operation in the 5.725-5.825 GHz Band			
FCC Part 15 Section	**Description**	**Comments**	**Result**
15.407 (d)	Maximum Antenna Gain/ Antenna Type	Antenna Gain = 5dBi The antenna is Dipole type	Complied
15.407(a) (3)	Bandwidth 26dB	29.55MHz	N/A
15.407(a) (3)	Output Power：30dBm or 17dBm+10logB	See test Results	Complied
15.407(a) (3)	Power Spectral Density 17dBm/Mhz	See test Results	Complied
15.407(b) (5) 15.209	Spurious Emissions below 1GHz	See test Results	Complied
15.407(b) (3)	Spurious Emissions above 1GHz ≦10MHz：-17dBm ≧10MHz：-27dBm	See test Results	Complied
If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. Fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain up to 23 dBi without any corresponding reduction in the transmitter peak output power or peak power spectral density. For fixed, point-to-point U-NII transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in peak transmitter power and peak power spectral density for each 1 dB of antenna gain in excess of 23 dBi would be required.			

TEST RESULT CERTIFICATION

Applicant	：MICRO-STAR INT’ L CO., LTD.
Address	：3F-5 No. 30, Tai-Yuan St, Zhu-Bei City, Hsinchu Hsien 302, Taiwan
EUT Description	：2.4GHz (Direct Sequence Spread Spectrum or Orthogonal Frequency Division Multiplex) and 5GHz (Orthogonal Frequency Division Multiplex) Data Transceiver for Wireless 11a/g Dual-Band PCI Card
Product name	：Wireless 11a/g Dual-Band PCI Card
Model name	：MS-6845
Serial Number	：N/A
Data Tested	：Jan.01 ~19, 2004

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
47 CFR Part 15 Subpart E(section 15.407) ANSI C63.4-2001	Complied

The above equipment was tested by Ecom Sertech Corp. For compliance with the requirements with the requirements set forth in the FCC Part15 Subpart E The results of testing in this report apply to the product/system, which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

2. GENERAL INFORMATION

2.1 General Statement

MEASUREMENT DEVIATION：Comply with standard in full
TRACEABILITY：This test result is traceable to national or international std.

2.2 General Description of EUT & Power

MANUFACTURER	：MICRO-STAR INT’ L CO., LTD.
PRODUCT NAME	：Wireless 11a/g Dual-Band PCI Card
MODEL NAME	：MS-6845
FREQUENCY RANGE	：2400 MHz TO 2483.5 MHz (ISM band) for 802.11b/g 5150 MHz TO 5350 MHz (U-NII band) for 802.11a 5725 MHz TO 5825 MHz (U-NII band) for 802.11a
CHANNEL NUMBER	：11 channel for 802.11b/g 12 channel for 802.11a
CHANNEL BANDWIDTH	：20 MHz
AIR DATA RATE	：6 Mbps, 9 Mbps, 12 Mbps, 18 Mbps, 24 Mbps, 36 Mbps, 48 Mbps, 54 Mbps for 802.11a 1 Mbps, 2 Mbps, 5.5 Mbps, 11 Mbps for 802.11b 1 Mbps, 2 Mbps, 5.5 Mbps, 6 Mbps, 9 Mbps, 11 Mbps, 12 Mbps, 18 Mbps, 24 Mbps, 36 Mbps, 48 Mbps, 54 Mbps for 802.11g
TYPE OF MODULATION	：OFDM (Orthogonal Frequency Division Multiplex) –BPSK /QPSK/16QAM/64QAM for 802.11a/g and DSSS (Direct Sequence Spread Spectrum) Data Transceiver for 802.11b
FEQUENCY SELECTION	：BY SOFTWARE
ANTENNA TYPE	：Dipole Antenna, Antenna gain : 2dBi at 2.4GHz. 5dBi at 5GHz. One extending cable was used to connect the antenna and EUT, and the cable loss of this cable is 2dB at 5.5GHz and 1.27dB at 2.5GHz.
POWER SOURCE	：3.3VDC (From PC)

2.3 Channel Allocation

The EUT operated on the following channel frequencies in 5.15~5.35GHz, 5.725~5.825GHz

Channel	Carrier center frequency fc (MHz)
1	5 180
2	5 200
3	5 220
4	5 240
5	5 260
6	5 280
7	5 300
8	5 320
9	5 745
10	5 765
11	5 785
12	5 805

2.4 Description of Peripherals

（1）PC

MANUFACTURER ：HP CORP.
MODEL NUMBER ：t123d
SERIAL NUMBER ：TW31720190
FCC ID ：DOC
POWER CORD ：Unshielded, Detachable, 1.8m

（2）Notebook PC

MANUFACTURER ：COMPAQ CORP.
MODEL NUMBER ：N800V
SERIAL NUMBER ：5Y3EKSQZD1TJ
FCC ：DOC
POWER CORD ：Unshielded, Detachable, 1.8m

（3）PRINTER

MANUFACTURER ：HP Corp.
MODEL NUMBER ：C6431D
SERIAL NUMBER ：CN19T6S011
FCC ID ：DOC
POWER SOURCE ：100-240VAC,50/60Hz,0.7A
SIGNAL CABLE ：Shielded , Undetachable , 1.8m

（4）MODEM

MANUFACTURER	：ZYXEL communication Corp.
MODEL NUMBER	：Omni 56K
SERIAL NUMBER	：S1Z4107729
F.C.C. ID	：1880MN156K
POWER SOURCE	：9VAC(From Power Adapter)
SIGNAL CABLE	：Shielded , Undetachable , 1.8m

（5）MOUSE

MANUFACTURER	：HP CORP.
MODEL NUMBER	：M-S34
SERIAL NUMBER	：LZE95050431
FCC ID	：DZL211029
SIGNAL CABLE	：Shielded , Undetachable , 1.8m
POWER SOURCE	：5VDC (from PC)

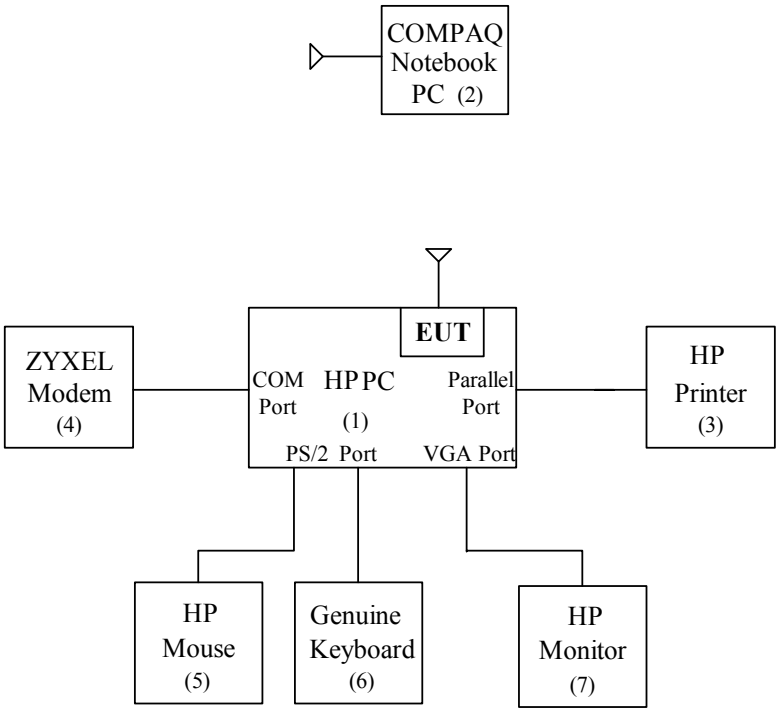
（6）KEYBOARD

MANUFACTURER	：Genuine Company INC.
MODEL NUMBER	：K288
SERIAL NUMBER	：206628619
FCC ID	：FKD46AK288
POWER SOURCE	：5VDC (from PC)
SIGNAL CABLE	：Shielded , Undetachable , 1.8m

（7）MONITOR

MANUFACTURER	：HP CORP.
MODEL NUMBER	：D8894A
SERIAL NUMBER	：CN00905269
FCC ID	：ARSCM569N
POWER CORD	：UnShielded , Detachable , 1.8m
SIGNAL CABLE	：Shielded , Undetachable , 1.8m

2.5 EUT & Peripherals Setup Diagram



2.6 EUT Operating Condition

1. Set up all equipments like the setup diagram.
2. PC (1) ping 192.168.1.90 –t to Notebook PC (2).
3. Notebook PC (2) ping 192.168.1.80 –t to PC (1).
4. All of the function are under run.
5. The Intersil test software was used for testing.
6. Start test.

Note : Intersil CTxRx 2.1.0.0 setup.

(1) Family : World Radio.
(2) Product : ISL 39200M World Radio? MiniPCI
(3) Platform Type : crossbow.
(4) Protcol : SNWNMP
(5) Radio configuration : Don’t set Radio config
(6) Selecta Network Adapter : PRISN 802.11a/g Adapter (3886)
(7) Calibrated Pwr level

2.7 Description of Test Site

SITE DESCRIPTION	:	FCC certificate NO. : 90585
		BSMI certificate NO. : SL2-IN-E-0002
		NVLAP Lab code : 200118-0
		CNLA certificate NO. : CNLA-ZL97018
		VCCI certificate NO. : R-1189, C-1250
NAME OF SITE	:	Ecom Sertech Corp. Hsinchu (Spin-off from ITRI / ERSO on Apr. 01, 2003)
SITE LOCATION	:	Rm.258, Bldg.17, NO.195 , Sec. 4, Chung Hsing Rd., Chu-Tung Chen. Hsin-Chu, Taiwan 310 R.O.C.

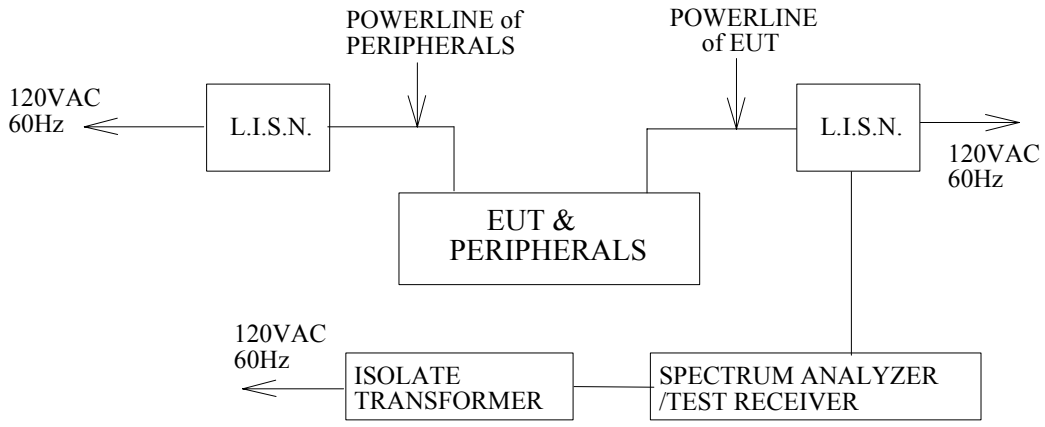
3. CONDUCTED POWERLINE TEST

3.1 Test Equipments

The following test equipments are used during the conducted powerline tests：

Manufacturer or Type	Model No.	Serial No.	Date of Calibration	Calibration Period	Remark
HP SPECTRUM ANALYZER & DISPLAY	8568A	2235A02320	NOV. 14, 2003	1 Year	PRETEST
HP QUASI-PEAK ADAPTER	85650 A	2341A00672	NOV. 14, 2003	1 Year	PRETEST
SOLAR ISOLATION TRANSFORMER	7032-1	N/A	N/A	N/A	FINAL
EMCO L.I.S.N.	3850/2	9311-1025 9401-1028	JAN. 08, 2004 For Characteristic impedance MAY 18, 2003 For Insertion loss	1 Year	FINAL
R & S TEST RECEIVER	ESHS 30	838550/003	JAN. 22, 2003	1 Year	FINAL
KEENE SHIELDED ROOM	5983	No.1	N/A	N/A	FINAL
R & S PULSE LIMIT	EHS3Z2	357.8810.52	JUL. 10, 2003	1 Year	FINAL
N TYPE COAXIAL CABLE	----------	----------	JUL. 10, 2003	1 Year	FINAL
50Ω TERMINATOR	----------	----------	JUL. 10, 2003	1 Year	FINAL

3.2 Test Setup



3.3 Conducted Power Line Emission Limit

For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following：

Frequency (MHz)	Maximum RF Line Voltage (dBμv)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56	56-46
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

For intentional device, according to § 15.207(a) Line Conducted Emission Limit is same as above table.

3.4 Test Procedure

The test procedure is performed in a 12ft×12ft×8ft(L×W×H) shielded room.
the EUT along with its peripherals were placed on a 1.0m(W)× 1.5m(L) and 0.8m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chasis ground was bounded to the horizontal ground plane of shielded room. All peripherals were connected to the second LISN and the chasis ground also bounded to the horizontal ground plane of shielded room. The excess power cable between the EUT and the LISN was bundled. The power cables of peripherals were unbundled. All connecting cables of EUT and peripherals were moved to find the maximum emission.

3.5 Uncertainty of Conducted Emission

The uncertainty of conducted emission is ±1.36dB.

3.6 Conducted Power Line Emission Measurement

The EUT is in **Transmitting mode** while testing
The frequency spectrum from 0.15 MHz to 30 MHz was investigated. All emissions not reported below are more than 30 dB below the prescribed limits.

Temperature：26 ℃ Humidity：65 % RH

Frequency (MHz)	Loss(dB)		Measurewment				L1 Emission (dBμV)		L2 Emission (dBμV)		Limits (dBμV)	
			L1(dBμV)		L2(dBμV)							
	L1	L2	Q.P.	Ave.	Q.P.	Ave.	Q.P.	Ave.	Q.P.	Ave.	Q.P.	Ave.
0.150	0.10	0.20	43.10	*	44.90	43.80	43.20	*	45.10	44.00	66.00	56.00
0.498	0.10	0.20	35.20	*	35.10	*	35.30	*	35.30	*	63.32	53.32
0.500	0.10	0.20	34.60	*	34.60	*	34.70	*	34.80	*	58.94	48.94
1.170	0.20	0.20	*	*	32.30	*	*	*	32.50	*	56.00	46.00
1.690	0.10	0.20	29.70	*	*	*	29.80	*	*	*	57.51	47.51
2.490	0.10	0.20	28.60	*	33.30	*	28.70	*	33.50	*	56.00	46.00
4.690	0.50	0.50	*	*	31.30	*	*	*	31.80	*	60.00	50.00
4.990	0.10	0.20	28.80	*	*	*	28.90	*	*	*	56.00	46.00
11.750	0.10	0.20	34.70	*	*	*	34.80	*	*	*	56.00	46.00
11.800	1.20	1.21	*	*	35.80	*	*	*	37.01	*	60.00	50.00
24.100	0.20	0.20	52.10	40.20	51.20	37.90	52.30	40.40	51.40	38.10	56.00	46.00
30.000	1.40	1.80	*	*	*	*	*	*	*	*	60.00	50.00

REMARKS：

1. ＊ Undetectable or the Q.P. value is lower than the limits of Ave.
2. The EUT can be operated in transmitting, receiveing and standby modes. According to technical experiences, the power line emissions of the EUT in transmitting mode generate highest emission. The EUT was set to transmitting mode at channel 1 (5180MHz) to get the worst-case data while performing finial test.

3.7 Photos of Conduction Test

4. RADIATED EMISSION TEST

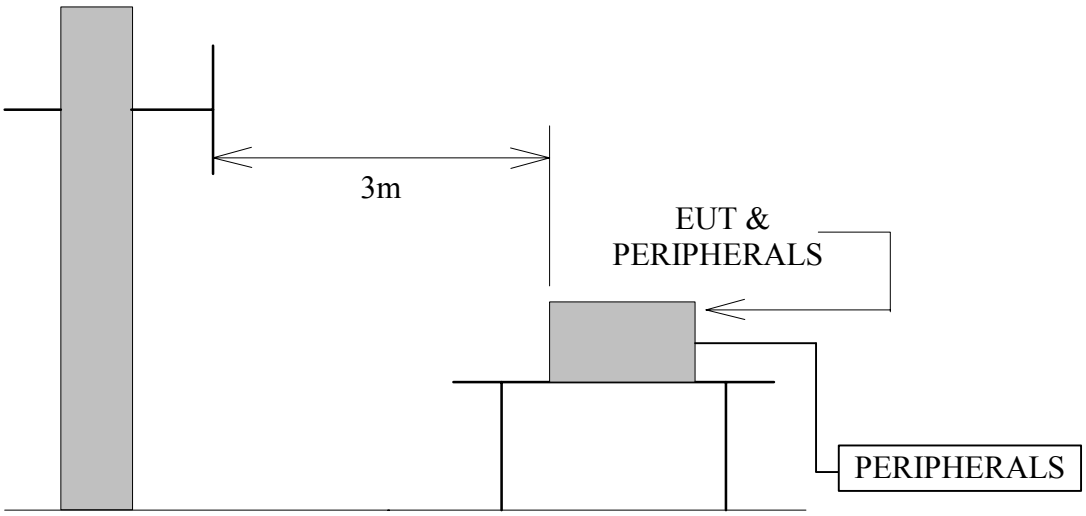
4.1 Test Equipments

The following test equipments are utilized in making the measurements contained in this report.

Manufacturer or Type	Model No	Serial No	Date of Calibration	Calibration Period	Remark
CHASE BI-LOG ANTENNA	CBL6112B	2421	MAY 07, 2003	1 Year	FINAL
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	JUN. 17, 2003	1 Year	FINAL
OPEN SITE	----------	No.2	MAY. 09, 2003	1 Year	FINAL
N TYPE COAXIAL CABLE	CHA9525	4	JUL. 13, 2003	1 Year	FINAL
Horn Antenna	AH-118	10089	FEB. 25, 2003	1 Year	FINAL
HP Pre-amplifier	8449B	3008A01471	NOV. 07, 2003	1 Year	FINAL
HP High pass filter	84300/80038	011	cal. on use	1 Year	FINAL
Horn Antenna	AH-840	03077	FEB. 25, 2003	1 Year	FINAL
HP High pass filter	84300/80039	003	cal. on use	1 Year	FINAL
Narda west Pre-amplifier	DBS-1840N 813	016	cal. on use	1 Year	FINAL
Narda west Pre-amplifier	DBS-011PN410	025	cal. on use	1 Year	FINAL

4.2 Test Setup

Below 1GHz：
The diagram below shows the test setup which is utilized to make these measurements.



Antenna Elevation Variable

4.3 Radiation Limit

According to FCC Section 15.407(b)(5), the unwanted emission below 1 GHz should comply with the general field strength limits set forth in Section 15.209.

Frequency (MHz)	Distance (METERS)	Radiated (dB μV/M)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

According to FCC Section 15.407(b)(1) (2) (3), the unwanted emission above 1 GHz, outside of the operating frequency band below, should exceed an EIRP of the values listed in table below.

Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dB μV/M)
5150-5250	-27	68.3
5250-5350	-27	68.3
5725-5825	-27*	68.3
	-17**	78.3

The remark "*" means: outside the frequency range 5715~5835MHz.
The remark "**" means: within the frequency range from the band edge to 10MHz below or above the band edge, 5715~5725MHz and 5825~5835MHz.

According to FCC Section 15.407(b)(6), the provisions of 15.205 apply to intentional radiators operating under this section.

4.4 Test Procedure

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.

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

b. 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 polarization of the antenna are set to make the measurement.

c. 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 turn table was turned from 0 degrees to 360 degrees to find the maximum reading.

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

e. If the emission level of the EUT in peak mode was 10 dB 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 10 dB 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 120 kHz 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 and 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.

4.5 Uncertainty of Radiated Emission

The uncertainty of radiated emission is ±2.72dB.

4.6 Test Results

4.6.1 Spurious emission below 1GHz

Test Requirement: 15.407(b)(5), 15.209
The frequency spectrum from **30 MHz to 1000 MHz** was investigated. All emissions not reported below are more than 20 dB below the prescribed limits.
All readings are **quasi-peak** values.

Temperature：16.1 ℃ Humidity：66 % RH

Frequency (MHz)	Antenna Factor (dB)	Cable Loss (dB)	Meter Reading at 3m(dBμV/M)		Limits at 3m (dBμV/M)	Emission Level at 3m(dBμV/M)	
			Horizontal	Vertical		Horizontal	Vertical
30.00	21.39	0.90	*	*	40.00	*	*
150.00	12.09	2.30	11.00	11.90	43.50	25.39	26.29
203.42	10.57	2.83	13.60	9.70	43.50	27.00	23.10
249.99	13.09	3.20	9.10	13.80	46.00	25.39	30.09
300.03	13.50	3.60	7.60	9.80	46.00	24.70	26.90
391.25	16.91	4.15	9.60	8.40	46.00	30.66	29.46
399.99	17.24	4.20	8.50	7.60	46.00	29.94	29.04
457.24	17.86	4.60	8.20	9.20	46.00	30.66	31.66
499.24	18.31	4.89	10.20	10.70	46.00	33.41	33.91
1000.00	21.58	7.00	*	*	54.00	*	*

REMARKS：

1. ＊Undetectable
2. Emission level (dB μ V/M) =Antenna Factor (dB/m) + Cable loss (dB)+ Meter Reading (dB μ V).
3. The EUT can be operated in transmitting, receiveing and standby modes. According to technical experiences, the emissions of the EUT in transmitting mode generate highest spurious emission below 1GHz. The EUT was set to transmitting mode at channel 1 (5180MHz) to get the worst-case data while performing finial test below 1GHz.

4.6.2 Spurious emission outside of the 5.15~5.35GHz Band(TX)

Test Requirement: 15.407**(b)(1)(2)**
The frequency spectrum **above 1 GHz** was investigated. All emissions not reported below are more than 55 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : **5180MHz.** Operation Mode: **Transmitting(TX)**

CH1 (5180 MHz) TX					Measurement Distance at 1m			Horizontal polarity				
	Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
	(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
*	1052.92	56.11	25.24	1.84	36.67	9.50	0.00	37.02	74	-36.98	P	1.00
*	1052.92	53.28	25.24	1.84	36.67	9.50	0.00	34.19	54	-19.81	A	1.00
	2390.54	45.43	31.81	3.83	35.30	9.50	0.00	36.27	88.3	-52.03	P	1.00
	2390.54	34.88	31.81	3.83	35.30	9.50	0.00	25.72	68.3	-42.58	A	1.00
*	2793.67	46.23	31.70	3.12	35.65	9.50	0.00	35.90	74	-38.10	P	1.00
*	2793.67	34.30	31.70	3.12	35.65	9.50	0.00	23.97	54	-30.03	A	1.00
*	3338.01	52.39	31.50	3.34	35.56	9.50	0.00	42.16	74	-31.84	P	1.00
*	3338.01	40.12	31.50	3.34	35.56	9.50	0.00	29.89	54	-24.11	A	1.00
*	3796.74	55.89	32.11	3.34	35.10	9.50	0.00	46.74	74	-27.26	P	1.00
*	3796.74	41.58	32.11	3.34	35.10	9.50	0.00	32.43	54	-21.57	A	1.00
*	4233.51	49.13	32.46	3.35	34.90	9.50	0.00	40.54	74	-33.46	P	1.00
*	4233.51	37.83	32.46	3.35	34.90	9.50	0.00	29.24	54	-24.76	A	1.00
*	5143.19	28.16	35.80	2.67	0.00	9.50	0.00	57.13	74	-16.87	P	1.00
*	5143.19	15.41	35.80	2.67	0.00	9.50	0.00	44.38	54	-9.62	A	1.00
	5174.47	70.07	35.84	2.71	0.00	9.50	0.00	99.12	Fundamental		P	1.00
	5174.47	61.50	35.84	2.71	0.00	9.50	0.00	90.55	Frequency		A	1.00
	6124.68	50.12	37.35	4.62	34.30	9.50	0.00	48.29	88.3	-40.01	P	1.00
	6124.68	39.87	37.35	4.62	34.30	9.50	0.00	38.04	68.3	-30.26	A	1.00
	6389.87	48.69	37.88	4.89	34.30	9.50	0.00	47.66	88.3	-40.64	P	1.00
	6389.87	37.89	37.88	4.89	34.30	9.50	0.00	36.86	68.3	-31.44	A	1.00
	6791.28	52.13	39.15	4.83	35.12	9.50	0.00	51.49	88.3	-36.81	P	1.00
	6791.28	41.88	39.15	4.83	35.12	9.50	0.00	41.24	68.3	-27.06	A	1.00
	7003.41	53.98	39.90	4.70	35.70	9.50	2.00	55.38	88.3	-32.92	P	1.00
	7003.41	44.12	39.90	4.70	35.70	9.50	2.00	45.52	68.3	-22.78	A	1.00
	10362.00	55.37	38.93	5.97	36.20	9.50	0.54	55.12	88.3	-33.18	P	1.00
	10362.00	42.65	38.93	5.97	36.20	9.50	0.54	42.40	68.3	-25.90	A	1.00
*	15546.15	47.24	43.74	7.79	36.44	9.50	0.29	53.13	74	-20.87	P	1.00
*	15546.15	35.59	43.74	7.79	36.44	9.50	0.29	41.48	54	-12.52	A	1.00
*	20697.88	------	------	------	------	9.50	2.43	------	------	------	------	1.00
	25872.35	------	------	------	------	9.50	1.97	------	------	------	------	1.00
	31046.82	------	------	------	------	9.50	0.00	------	------	------	------	1.00
	36221.29	------	------	------	------	9.50	2.20	------	------	------	------	1.00
*	41395.76	------	------	------	------	0.00	0.00	------	------	------	------	1.00
*	46570.23	------	------	------	------	0.00	0.00	------	------	------	------	1.00
*	51744.70	------	------	------	------	0.00	0.00	------	------	------	------	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "*" means that Restricted band.
5. The result basic equation calculation is as follow :
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
7. The test limit distance is 3M limit.

Test Requirement: 15.407(b)(1)(2)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 55 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5180MHz. Operation Mode: Transmitting(TX)

CH1 (5180 MHz) TX					Measurement Distance at 1m			Vertical polarity				
	Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
	(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
*	1053.00	60.29	25.24	1.84	36.67	9.50	0.00	41.20	74	-32.80	P	1.00
*	1053.00	58.52	25.24	1.84	36.67	9.50	0.00	39.43	54	-14.57	A	1.00
	2390.54	52.42	31.81	3.83	35.30	9.50	0.00	43.26	88.3	-45.04	P	1.00
	2390.54	37.86	31.81	3.83	35.30	9.50	0.00	28.70	68.3	-39.60	A	1.00
*	2793.67	48.53	31.70	3.12	35.65	9.50	0.00	38.20	74	-35.80	P	1.00
*	2793.67	35.41	31.70	3.12	35.65	9.50	0.00	25.08	54	-28.92	A	1.00
*	3337.89	62.73	31.50	3.34	35.56	9.50	0.00	52.50	74	-21.50	P	1.00
*	3337.89	51.46	31.50	3.34	35.56	9.50	0.00	41.23	54	-12.77	A	1.00
*	3796.65	65.68	32.11	3.34	35.10	9.50	0.00	56.53	74	-17.47	P	1.00
*	3796.65	53.63	32.11	3.34	35.10	9.50	0.00	44.48	54	-9.52	A	1.00
*	4232.63	61.74	32.46	3.35	34.90	9.50	0.00	53.15	74	-20.85	P	1.00
*	4232.63	49.39	32.46	3.35	34.90	9.50	0.00	40.80	54	-13.20	A	1.00
*	5143.19	34.35	35.80	2.67	0.00	9.50	0.00	63.32	74	-10.68	P	1.00
*	5143.19	22.10	35.80	2.67	0.00	9.50	0.00	51.07	54	-2.93	A	1.00
	5174.68	81.68	35.84	2.71	0.00	9.50	0.00	110.73	Fundamental		P	1.00
	5174.68	71.16	35.84	2.71	0.00	9.50	0.00	100.21	Frequency		A	1.00
	6124.65	58.63	37.35	4.62	34.30	9.50	0.00	56.80	88.3	-31.50	P	1.00
	6124.65	46.98	37.35	4.62	34.30	9.50	0.00	45.15	68.3	-23.15	A	1.00
	6389.55	53.87	37.88	4.89	34.30	9.50	0.00	52.84	88.3	-35.46	P	1.00
	6389.55	41.17	37.88	4.89	34.30	9.50	0.00	40.14	68.3	-28.16	A	1.00
	6791.27	52.75	39.15	4.83	35.12	9.50	0.00	52.11	88.3	-36.19	P	1.00
	6791.27	39.16	39.15	4.83	35.12	9.50	0.00	38.52	68.3	-29.78	A	1.00
	7003.79	56.21	39.90	4.70	35.70	9.50	0.00	55.61	88.3	-32.69	P	1.00
	7003.79	42.65	39.90	4.70	35.70	9.50	0.00	42.05	68.3	-26.25	A	1.00
	10361.99	60.36	38.93	5.97	36.20	9.50	0.54	60.11	88.3	-28.19	P	1.00
	10361.99	47.67	38.93	5.97	36.20	9.50	0.54	47.42	68.3	-20.88	A	1.00
*	15539.50	49.97	43.71	7.79	36.44	9.50	0.29	55.82	74	-18.18	P	1.00
*	15539.50	38.46	43.71	7.79	36.44	9.50	0.29	44.31	54	-9.69	A	1.00
*	20698.72	------	------	------	------	9.50	2.42	------	------	------	------	1.00
	25873.40	------	------	------	------	9.50	1.97	------	------	------	------	1.00
	31048.08	------	------	------	------	9.50	0.00	------	------	------	------	1.00
	36222.76	------	------	------	------	9.50	2.20	------	------	------	------	1.00
*	41397.44	------	------	------	------	0.00	0.00	------	------	------	------	1.00
*	46572.12	------	------	------	------	0.00	0.00	------	------	------	------	1.00
*	51746.80	------	------	------	------	0.00	0.00	------	------	------	------	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "*" means that Restricted band.
5. The result basic equation calculation is as follow :
   Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
7. The test limit distance is 3M limit.

Test Requirement: 15.407(b)(1) (2)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 55 dB below the prescribed limits.Readings are both peak and average values.
Fundamental Frequency : 5240MHz Operation Mode: Transmitting(TX)

CH4 (5240 MHz) TX				Measurement Distance at 1m			Horizontal polarity				
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
* 1052.93	56.63	25.24	1.84	36.67	9.50	0.00	37.54	74	-36.46	P	1.00
* 1052.93	53.01	25.24	1.84	36.67	9.50	0.00	33.92	54	-20.08	A	1.00
2392.79	48.09	31.81	3.81	35.30	9.50	0.00	38.91	88.3	-49.39	P	1.00
2392.79	36.79	31.81	3.81	35.30	9.50	0.00	27.61	68.3	-40.69	A	1.00
* 2791.22	46.08	31.70	3.12	35.65	9.50	0.00	35.75	74	-38.25	P	1.00
* 2791.22	34.69	31.70	3.12	35.65	9.50	0.00	24.36	54	-29.64	A	1.00
* 3889.11	43.58	32.33	3.32	35.01	9.50	0.00	34.73	74	-39.27	P	1.00
* 3889.11	32.56	32.33	3.32	35.01	9.50	0.00	23.71	54	-30.29	A	1.00
* 4298.29	44.40	32.42	3.36	34.90	9.50	0.00	35.78	74	-38.22	P	1.00
* 4298.29	34.50	32.42	3.36	34.90	9.50	0.00	25.88	54	-28.12	A	1.00
6183.02	50.12	37.47	4.68	34.30	9.50	0.00	48.47	88.3	-39.83	P	1.00
6183.02	36.84	37.47	4.68	34.30	9.50	0.00	35.19	68.3	-33.11	A	1.00
6509.59	49.23	38.13	4.99	34.33	9.50	0.00	48.53	88.3	-39.77	P	1.00
6509.59	38.56	38.13	4.99	34.33	9.50	0.00	37.86	68.3	-30.44	A	1.00
7064.64	45.12	39.87	4.73	35.69	9.50	0.00	44.53	88.3	-43.77	P	1.00
7064.64	38.12	39.87	4.73	35.69	9.50	0.00	37.53	68.3	-30.77	A	1.00
* 7391.95	42.98	39.74	4.86	35.62	9.50	0.00	42.46	74	-31.54	P	1.00
* 7391.95	33.26	39.74	4.86	35.62	9.50	0.00	32.74	54	-21.26	A	1.00
10480.81	53.38	39.08	6.00	35.94	9.50	0.59	53.60	88.3	-34.70	P	1.00
10480.81	41.43	39.08	6.00	35.94	9.50	0.59	41.65	68.3	-26.65	A	1.00
* 15718.66	47.23	44.64	7.76	36.38	9.50	0.26	54.00	74	-20.00	P	1.00
* 15718.66	36.21	44.64	7.76	36.38	9.50	0.26	42.98	54	-11.02	A	1.00
* 20961.62	------	------	------	------	9.50	1.09	------	------	------	------	1.00
26202.03	------	------	------	------	9.50	2.18	------	------	------	------	1.00
* 31442.43	------	------	------	------	9.50	0.00	------	------	------	------	1.00
36682.84	------	------	------	------	9.50	2.13	------	------	------	------	1.00
* 41923.24	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 47163.65	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 52404.05	------	------	------	------	0.00	0.00	------	------	------	------	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "*" means that Restricted band.
5. The result basic equation calculation is as follow :
   Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
7. The test limit distance is 3M limit.

Test Requirement: 15.407(b)(1) (2)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 55 dB below the prescribed limits.Readings are both peak and average values.
Fundamental Frequency : 5240MHz Operation Mode: Transmitting(TX)

CH4 (5240 MHz) TX					Measurement Distance at 1m				Vertical polarity			
	Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
	(MHz)	(dBµV)	(dBµV)	(dB)	(dB)	dB	dB	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)	(Meter)
*	1052.98	62.47	25.24	1.84	36.67	9.50	0.00	43.38	74	-30.62	P	1.00
*	1052.98	60.53	25.24	1.84	36.67	9.50	0.00	41.44	54	-12.56	A	1.00
*	2389.21	52.49	31.81	3.84	35.30	9.50	0.00	43.34	74	-30.66	P	1.00
*	2389.21	37.42	31.81	3.84	35.30	9.50	0.00	28.27	54	-25.73	A	1.00
*	2791.22	47.70	31.70	3.12	35.65	9.50	0.00	37.37	74	-36.63	P	1.00
*	2791.22	35.06	31.70	3.12	35.65	9.50	0.00	24.73	54	-29.27	A	1.00
*	3886.58	72.25	32.33	3.32	35.01	9.50	0.00	63.39	74	-10.61	P	1.00
*	3886.58	59.55	32.33	3.32	35.01	9.50	0.00	50.69	54	-3.31	A	1.00
*	4294.44	62.13	32.42	3.36	34.90	9.50	0.00	53.51	74	-20.49	P	1.00
*	4294.44	50.19	32.42	3.36	34.90	9.50	0.00	41.57	54	-12.43	A	1.00
	6183.02	59.68	37.47	4.68	34.30	9.50	0.00	58.03	88.3	-30.27	P	1.00
	6183.02	47.88	37.47	4.68	34.30	9.50	0.00	46.23	68.3	-22.07	A	1.00
	6509.59	55.93	38.13	4.99	34.33	9.50	0.00	55.23	88.3	-33.07	P	1.00
	6509.59	44.29	38.13	4.99	34.33	9.50	0.00	43.59	68.3	-24.71	A	1.00
	7064.64	60.53	39.87	4.73	35.69	9.50	0.00	59.94	88.3	-28.36	P	1.00
	7064.64	47.59	39.87	4.73	35.69	9.50	0.00	47.00	68.3	-21.30	A	1.00
*	7391.95	53.20	39.74	4.86	35.62	9.50	0.00	52.68	74	-21.32	P	1.00
*	7391.95	37.49	39.74	4.86	35.62	9.50	0.00	36.97	54	-17.03	A	1.00
	10480.00	56.07	39.08	6.00	35.94	9.50	0.59	56.29	88.3	-32.01	P	1.00
	10480.00	44.17	39.08	6.00	35.94	9.50	0.59	44.39	68.3	-23.91	A	1.00
*	15718.66	47.09	44.64	7.76	36.38	9.50	0.26	53.86	74	-20.14	P	1.00
*	15718.66	35.26	44.64	7.76	36.38	9.50	0.26	42.03	54	-11.97	A	1.00
*	20960.00	------	------	------	------	9.50	1.10	------	------	------	------	1.00
	26200.00	------	------	------	------	9.50	2.18	------	------	------	------	1.00
*	31440.00	------	------	------	------	9.50	0.00	------	------	------	------	1.00
	36680.00	------	------	------	------	9.50	2.13	------	------	------	------	1.00
*	41920.00	------	------	------	------	0.00	0.00	------	------	------	------	1.00
*	47160.00	------	------	------	------	0.00	0.00	------	------	------	------	1.00
*	52400.00	------	------	------	------	0.00	0.00	------	------	------	------	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "*" means that Restricted band.
5. The result basic equation calculation is as follow : Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
7. The test limit distance is 3M limit.

Test Requirement: 15.407(b)(1) (2)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 55 dB below the prescribed limits.Readings are both peak and average values.
Fundamental Frequency : 5260MHz Operation Mode: Transmitting(TX)

CH5 (5260 MHz) TX				Measurement Distance at 1m			Horizontal polarity				
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
* 1053.09	54.82	25.24	1.84	36.67	9.50	0.00	35.73	74	-38.27	P	1.00
* 1053.09	51.35	25.24	1.84	36.67	9.50	0.00	32.26	54	-21.74	A	1.00
1290.75	48.32	26.76	2.03	36.10	9.50	0.00	31.51	88.3	-56.79	P	1.00
1290.75	36.70	26.76	2.03	36.10	9.50	0.00	19.89	68.3	-48.41	A	1.00
* 2788.51	44.71	31.70	3.12	35.65	9.50	0.00	34.38	74	-39.62	P	1.00
* 2788.51	36.40	31.70	3.12	35.65	9.50	0.00	26.07	54	-27.93	A	1.00
* 3919.67	44.25	32.41	3.32	34.98	9.50	0.00	35.49	74	-38.51	P	1.00
* 3919.67	35.67	32.41	3.32	34.98	9.50	0.00	26.91	54	-27.09	A	1.00
* 4318.52	44.03	32.41	3.36	34.90	9.50	0.00	35.40	74	-38.60	P	1.00
* 4318.52	34.87	32.41	3.36	34.90	9.50	0.00	26.24	54	-27.76	A	1.00
6202.99	48.26	37.51	4.70	34.30	9.50	0.00	46.67	88.3	-41.63	P	1.00
6202.99	37.11	37.51	4.70	34.30	9.50	0.00	35.52	68.3	-32.78	A	1.00
6549.39	43.89	38.28	4.97	34.44	9.50	0.00	43.20	88.3	-45.10	P	1.00
6549.39	42.12	38.28	4.97	34.44	9.50	0.00	41.43	68.3	-26.87	A	1.00
7084.69	44.69	39.87	4.73	35.68	9.50	0.00	44.11	88.3	-44.19	P	1.00
7084.69	31.89	39.87	4.73	35.68	9.50	0.00	31.31	68.3	-36.99	A	1.00
10520.67	54.22	39.12	6.02	35.90	9.50	0.63	54.59	88.3	-33.71	P	1.00
10520.67	42.50	39.12	6.02	35.90	9.50	0.63	42.87	68.3	-25.43	A	1.00
* 15777.46	45.98	44.94	7.74	36.37	9.50	0.24	53.05	74	-20.95	P	1.00
* 15777.46	33.06	44.94	7.74	36.37	9.50	0.24	40.13	54	-13.87	A	1.00
* 21041.34	------	------	------	------	9.50	0.88	------	------	------	------	1.00
26301.68	------	------	------	------	9.50	2.22	------	------	------	------	1.00
* 31562.01	------	------	------	------	9.50	0.00	------	------	------	------	1.00
36822.35	------	------	------	------	9.50	2.07	------	------	------	------	1.00
* 42082.68	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 47343.02	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 52603.35	------	------	------	------	0.00	0.00	------	------	------	------	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "*" means that Restricted band.
5. The result basic equation calculation is as follow : Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
7. The test limit distance is 3M limit.

Test Requirement: 15.407(b)(1) (2)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 55 dB below the prescribed limits.Readings are both peak and average values.
Fundamental Frequency : 5260MHz Operation Mode: Transmitting(TX)

CH5 (5260 MHz) TX				Measurement Distance at 1m				Vertical polarity			
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
* 1053.03	61.67	25.24	1.84	36.67	9.50	0.00	42.58	74	-31.42	P	1.00
* 1053.03	59.59	25.24	1.84	36.67	9.50	0.00	40.50	54	-13.50	A	1.00
1290.75	68.94	26.76	2.03	36.10	9.50	0.00	52.13	88.3	-36.17	P	1.00
1290.75	56.88	26.76	2.03	36.10	9.50	0.00	40.07	68.3	-28.23	A	1.00
* 2788.51	50.51	31.70	3.12	35.65	9.50	0.00	40.18	74	-33.82	P	1.00
* 2788.51	35.75	31.70	3.12	35.65	9.50	0.00	25.42	54	-28.58	A	1.00
* 3916.54	71.94	32.40	3.32	34.98	9.50	0.00	63.17	74	-10.83	P	1.00
* 3916.54	58.81	32.40	3.32	34.98	9.50	0.00	50.04	54	-3.96	A	1.00
* 4314.25	60.77	32.41	3.36	34.90	9.50	0.00	52.14	74	-21.86	P	1.00
* 4314.25	49.64	32.41	3.36	34.90	9.50	0.00	41.01	54	-12.99	A	1.00
6202.99	59.12	37.51	4.70	34.30	9.50	0.00	57.53	88.3	-30.77	P	1.00
6202.99	47.58	37.51	4.70	34.30	9.50	0.00	45.99	68.3	-22.31	A	1.00
6549.39	56.37	38.28	4.97	34.44	9.50	0.00	55.68	88.3	-32.62	P	1.00
6549.39	44.29	38.28	4.97	34.44	9.50	0.00	43.60	68.3	-24.70	A	1.00
7084.69	57.26	39.87	4.73	35.68	9.50	0.00	56.68	88.3	-31.62	P	1.00
7084.69	46.39	39.87	4.73	35.68	9.50	0.00	45.81	68.3	-22.49	A	1.00
10520.50	56.22	39.12	6.02	35.90	9.50	0.63	56.59	88.3	-31.71	P	1.00
10520.50	44.84	39.12	6.02	35.90	9.50	0.63	45.21	68.3	-23.09	A	1.00
* 15776.46	50.48	44.94	7.74	36.37	9.50	0.24	57.54	74	-16.46	P	1.00
* 15776.46	38.46	44.94	7.74	36.37	9.50	0.24	45.52	54	-8.48	A	1.00
* 21041.00	------	------	------	------	9.50	0.88	------	------	------	------	1.00
26301.25	------	------	------	------	9.50	2.22	------	------	------	------	1.00
* 31561.50	------	------	------	------	9.50	0.00	------	------	------	------	1.00
36821.75	------	------	------	------	9.50	2.07	------	------	------	------	1.00
* 42082.00	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 47342.25	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 52602.50	------	------	------	------	0.00	0.00	------	------	------	------	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "*" means that Restricted band.
5. The result basic equation calculation is as follow : Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
7. The test limit distance is 3M limit.

Test Requirement: 15.407(b)(1) (2)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 55 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5320MHz Operation Mode: Transmitting(TX)

CH8 (5320 MHz) TX					Measurement Distance at 1m			Horizontal polarity				
	Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
	(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
*	1039.98	44.09	25.16	1.83	36.70	9.50	0.00	24.87	74	-49.13	P	1.00
*	1039.98	34.88	25.16	1.83	36.70	9.50	0.00	15.66	54	-38.34	A	1.00
*	1053.01	55.90	25.24	1.84	36.67	9.50	0.00	36.81	74	-37.19	P	1.00
*	1053.01	53.28	25.24	1.84	36.67	9.50	0.00	34.19	54	-19.81	A	1.00
*	1592.22	58.34	28.86	3.05	35.54	9.50	0.00	45.20	74	-28.80	P	1.00
*	1592.22	43.85	28.86	3.05	35.54	9.50	0.00	30.71	54	-23.29	A	1.00
*	4375.67	52.87	32.37	3.38	34.90	9.50	0.00	44.22	74	-29.78	P	1.00
*	4375.67	43.16	32.37	3.38	34.90	9.50	0.00	34.51	54	-19.49	A	1.00
	5322.28	68.99	36.05	2.89	0.00	9.50	0.00	98.43	Fundamental Frequency		P	1.00
	5322.28	60.65	36.05	2.89	0.00	9.50	0.00	90.09			A	1.00
*	5356.45	28.72	36.10	2.93	0.00	9.50	0.00	58.25	74	-15.75	P	1.00
*	5356.45	15.41	36.10	2.93	0.00	9.50	0.00	44.94	54	-9.06	A	1.00
	6263.56	51.61	37.63	4.76	34.30	9.50	0.00	50.20	88.3	-38.10	P	1.00
	6263.56	41.23	37.63	4.76	34.30	9.50	0.00	39.82	68.3	-28.48	A	1.00
	6671.14	51.03	38.72	4.90	34.78	9.50	0.00	50.36	88.3	-37.94	P	1.00
	6671.14	42.68	38.72	4.90	34.78	9.50	0.00	42.01	68.3	-26.29	A	1.00
	7155.95	45.98	39.84	4.76	35.67	9.50	0.00	45.41	88.3	-42.89	P	1.00
	7155.95	37.95	39.84	4.76	35.67	9.50	0.00	37.38	68.3	-30.92	A	1.00
*	10640.62	55.58	39.27	6.14	35.90	9.50	0.80	56.39	74	-17.61	P	1.00
*	10640.62	44.17	39.27	6.14	35.90	9.50	0.80	44.98	54	-9.02	A	1.00
*	15959.69	49.74	45.89	7.71	36.31	9.50	0.21	57.73	74	-16.27	P	1.00
*	15959.69	37.83	45.89	7.71	36.31	9.50	0.21	45.82	54	-8.18	A	1.00
*	21280.00	------	------	------	------	9.50	0.78	------	------	------	------	1.00
	26600.00	------	------	------	------	9.50	2.17	------	------	------	------	1.00
	31920.00	------	------	------	------	9.50	0.00	------	------	------	------	1.00
	37240.00	------	------	------	------	9.50	2.00	------	------	------	------	1.00
*	42560.00	------	------	------	------	0.00	0.00	------	------	------	------	1.00
*	47880.00	------	------	------	------	0.00	0.00	------	------	------	------	1.00
*	53200.00	------	------	------	------	0.00	0.00	------	------	------	------	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "*" means that Restricted band.
5. The result basic equation calculation is as follow :
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
7. The test limit distance is 3M limit.

Test Requirement: 15.407(b)(1) (2)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 55 dB below the prescribed limits.Readings are both peak and average values.
Fundamental Frequency : 5320MHz Operation Mode: Transmitting(TX)

CH8 (5320 MHz) TX				Measurement Distance at 1m				Vertical polarity			
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
* 1039.98	52.51	25.16	1.83	36.70	9.50	0.00	33.29	74	-40.71	P	1.00
* 1039.98	46.20	25.16	1.83	36.70	9.50	0.00	26.98	54	-27.02	A	1.00
* 1053.00	59.94	25.24	1.84	36.67	9.50	0.00	40.85	74	-33.15	P	1.00
* 1053.00	57.73	25.24	1.84	36.67	9.50	0.00	38.64	54	-15.36	A	1.00
* 1591.08	59.20	28.85	3.04	35.55	9.50	0.00	46.04	74	-27.96	P	1.00
* 1591.08	44.23	28.85	3.04	35.55	9.50	0.00	31.07	54	-22.93	A	1.00
* 4375.40	61.03	32.37	3.38	34.90	9.50	0.00	52.38	74	-21.62	P	1.00
* 4375.40	52.66	32.37	3.38	34.90	9.50	0.00	44.01	54	-9.99	A	1.00
5326.91	81.00	36.06	2.89	0.00	9.50	0.00	110.45	Fundamental Frequency		P	1.00
5326.91	72.20	36.06	2.89	0.00	9.50	0.00	101.65			A	1.00
* 5356.45	31.93	36.10	2.93	0.00	9.50	0.00	61.46	74	-12.54	P	1.00
* 5356.45	19.50	36.10	2.93	0.00	9.50	0.00	49.03	54	-4.97	A	1.00
6265.06	58.96	37.63	4.77	34.30	9.50	2.20	59.76	88.3	-28.54	P	1.00
6265.06	46.92	37.63	4.77	34.30	9.50	2.20	47.72	68.3	-20.58	A	1.00
6671.14	59.98	38.72	4.90	34.78	9.50	2.13	61.45	88.3	-26.85	P	1.00
6671.14	47.96	38.72	4.90	34.78	9.50	2.13	49.43	68.3	-18.87	A	1.00
7155.95	55.70	39.84	4.76	35.67	9.50	2.00	57.13	88.3	-31.17	P	1.00
7155.95	43.91	39.84	4.76	35.67	9.50	2.00	45.34	68.3	-22.96	A	1.00
* 10640.10	55.69	39.27	6.14	35.90	9.50	0.80	56.49	74	-17.51	P	1.00
* 10640.10	45.89	39.27	6.14	35.90	9.50	0.80	46.69	54	-7.31	A	1.00
* 15959.89	52.74	45.89	7.71	36.31	9.50	0.21	60.74	74	-13.26	P	1.00
* 15959.89	40.12	45.89	7.71	36.31	9.50	0.21	48.12	54	-5.88	A	1.00
* 21280.00	------	------	------	------	9.50	0.78	------	------	------	------	1.00
26600.00	------	------	------	------	9.50	2.14	------	------	------	------	1.00
31920.00	------	------	------	------	9.50	0.00	------	------	------	------	1.00
37240.00	------	------	------	------	9.50	2.00	------	------	------	------	1.00
* 42560.00	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 47880.00	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 53200.00	------	------	------	------	0.00	0.00	------	------	------	------	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "*" means that Restricted band.
5. The result basic equation calculation is as follow :
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
7. The test limit distance is 3M limit.

The measured radiated band edge emissions are listed below :

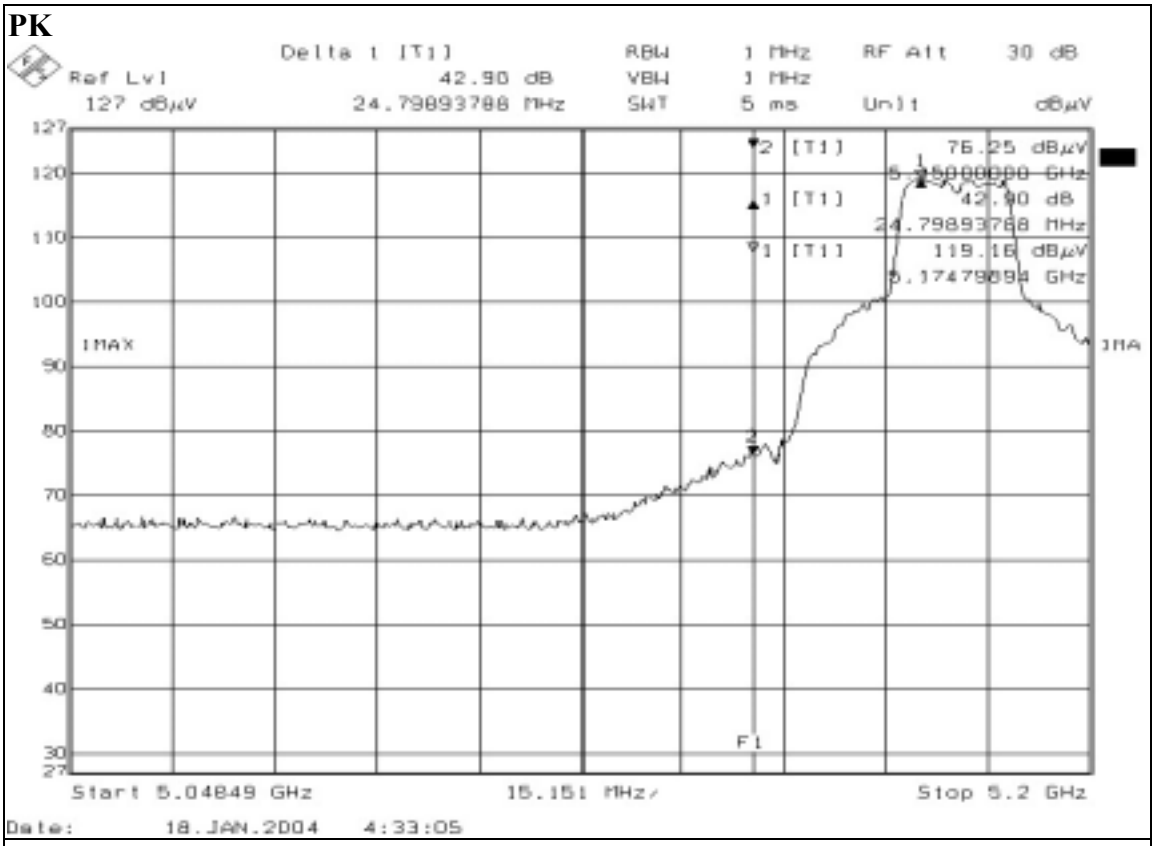
Input Power (System)	3.3VDC (From PC)	**Environmental Conditions**	17.9℃, 68RH
Tested By	Alan Fan		

Band edge		**Measured radiated band edge field strength (dBuV/m)**		**Radiated band edge field strength limit (dBuV/m)**		**Test result**
		Horizontal	**Vertical**	**Horizontal**	**Vertical**	
5150.00	PK	56.21	67.82	74.00	74.00	pass
	AVG	41.52	51.18	54.00	54.00	
5350.00	PK	50.30	62.32	74.00	74.00	pass
	AVG	38.34	49.90	54.00	54.00	

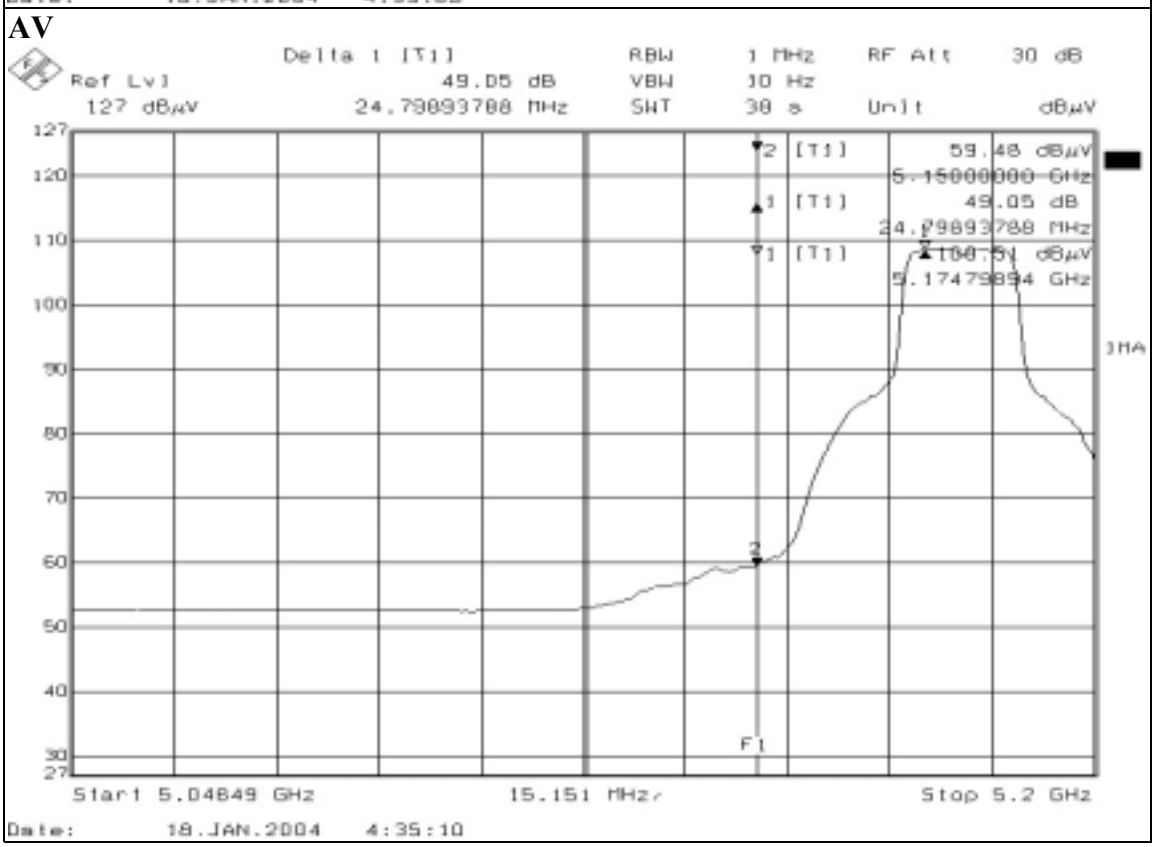
NOTE : Radiated front band edge field strength is measured with FCC recommended mark-delta method.
Measured radiated band edge field strength Test Results = Radiated fundamental emission field strength - DELTA.
DELTA = Relative measurement between conducted measured peak level of fundamental emission and relevant band edge emission. Please refer to the photos of out of Band Measurement below.

5180MHz

PK

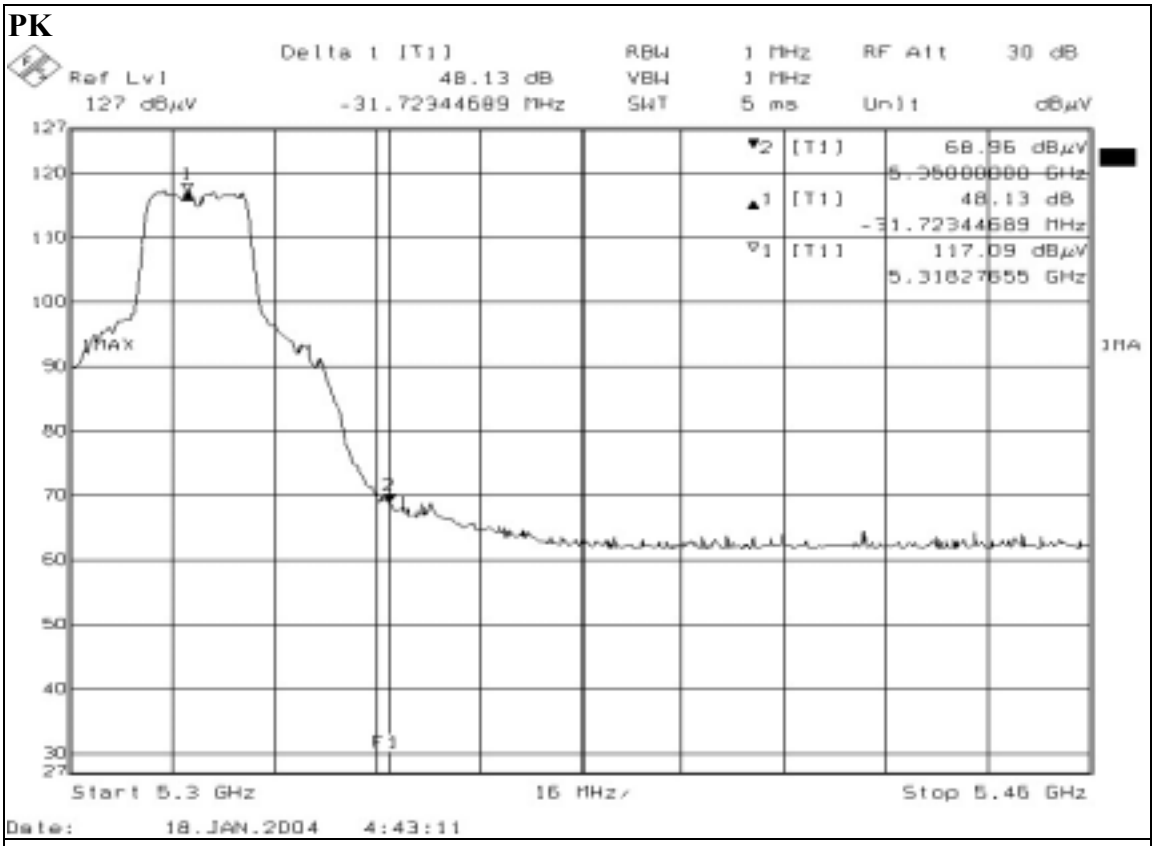


AV

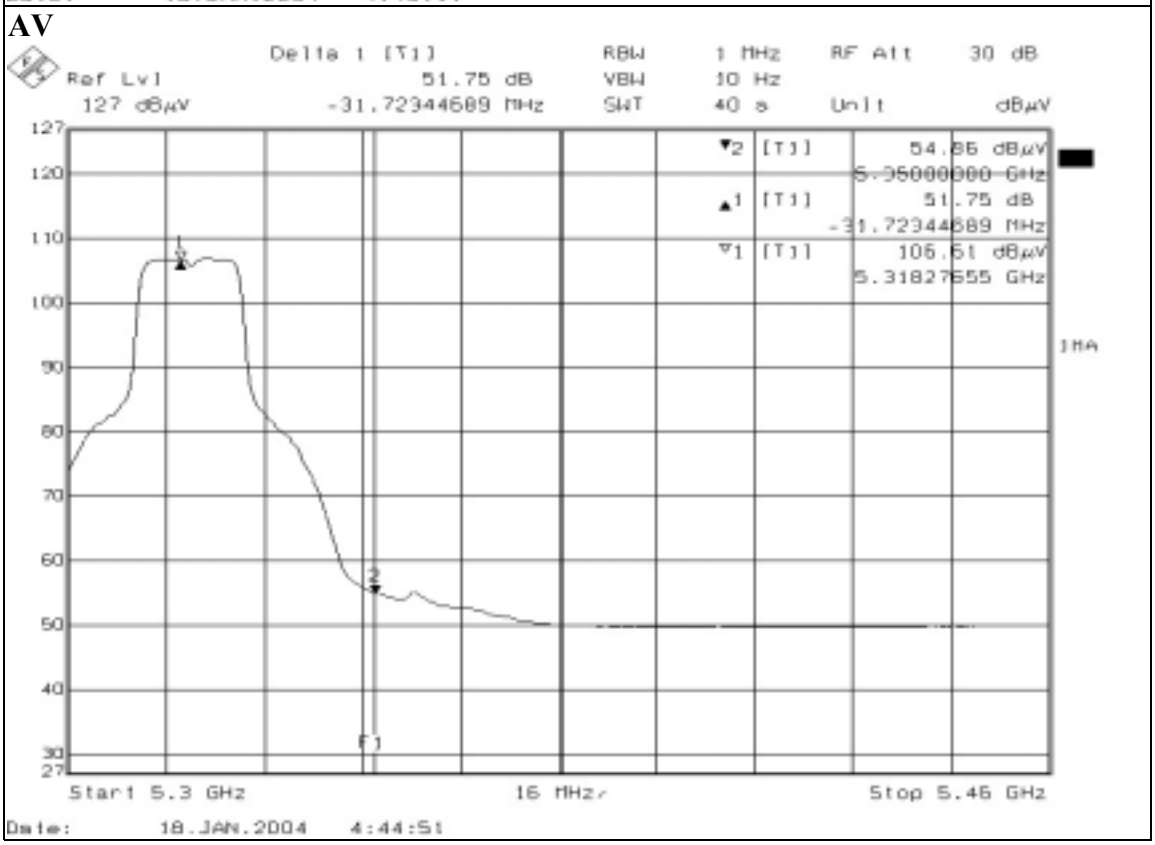


5320MHz

PK



AV



4.6.3 Spurious emission outside of the 5.725~5.825GHz Band (TX)

Test Requirement: 15.205, 15.407(b)(3) The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 55 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5745MHz. Operation Mode: Transmitting(TX)

CH9 (5745 MHz) TX					Measurement Distance at 1m			Horizontal polarity				
	Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
	(MHz)	(dBµV)	(dBµV)	(dB)	(dB)	dB	dB	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)	(Meter)
*	1052.87	55.45	25.24	1.84	36.67	9.50	0.00	36.36	74	-37.64	P	1.00
*	1052.87	51.62	25.24	1.84	36.67	9.50	0.00	32.53	54	-21.47	A	1.00
*	2388.61	44.20	31.81	3.85	35.30	9.50	0.00	35.06	74	-38.94	P	1.00
*	2388.61	34.69	31.81	3.85	35.30	9.50	0.00	25.55	54	-28.45	A	1.00
*	2789.47	43.87	31.70	3.12	35.65	9.50	0.00	33.54	74	-40.46	P	1.00
*	2789.47	34.19	31.70	3.12	35.65	9.50	0.00	23.86	54	-30.14	A	1.00
*	3909.01	43.79	32.38	3.32	34.99	9.50	0.00	35.00	74	-39.00	P	1.00
*	3909.01	35.88	32.38	3.32	34.99	9.50	0.00	27.09	54	-26.91	A	1.00
*	4644.33	44.25	33.25	3.14	35.02	9.50	0.00	36.13	74	-37.87	P	1.00
*	4644.33	37.84	33.25	3.14	35.02	9.50	0.00	29.72	54	-24.28	A	1.00
	5715.00	30.60	36.64	3.70	0.00	9.50	0.00	61.45	88.3	-26.85	P	1.00
	5715.00	17.00	36.64	3.70	0.00	9.50	0.00	47.85	68.3	-20.45	A	1.00
	5739.61	70.32	36.68	3.77	0.00	9.50	0.00	101.27	Fundamental		P	1.00
	5739.61	61.79	36.68	3.77	0.00	9.50	0.00	92.74	Frequency		A	1.00
	6689.63	49.12	38.78	4.89	34.83	9.50	0.00	48.46	88.3	-39.84	P	1.00
	6689.63	38.56	38.78	4.89	34.83	9.50	0.00	37.90	68.3	-30.40	A	1.00
*	7474.62	43.12	39.71	4.89	35.61	9.50	0.00	42.61	74	-31.39	P	1.00
*	7474.62	31.56	39.71	4.89	35.61	9.50	0.00	31.05	54	-22.95	A	1.00
*	11489.75	50.35	40.09	6.60	35.70	9.50	1.20	53.04	74	-20.96	P	1.00
*	11489.75	42.58	40.09	6.60	35.70	9.50	1.20	45.27	54	-8.73	A	1.00
	17234.25	50.46	48.09	7.91	34.81	9.50	0.89	63.03	88.3	-25.27	P	1.00
	17234.25	40.42	48.09	7.91	34.81	9.50	0.89	52.99	68.3	-15.31	A	1.00
*	22958.44	------	------	------	------	9.50	8.40	------	------	------	------	1.00
	28698.05	------	------	------	------	0.00	0.00	------	------	------	------	1.00
	34437.66	------	------	------	------	9.50	3.15	------	------	------	------	1.00
*	40177.27	------	------	------	------	0.00	0.00	------	------	------	------	1.00
*	45916.88	------	------	------	------	0.00	0.00	------	------	------	------	1.00
*	51656.49	------	------	------	------	0.00	0.00	------	------	------	------	1.00
*	57396.10	------	------	------	------	0.00	0.00	------	------	------	------	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "*" means that Restricted band.
5. The result basic equation calculation is as follow :
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
7. The test limit distance is 3M limit.

Test Requirement: 15.205, 15.407(b)(3) The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 55 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5745MHz. Operation Mode: Transmitting(TX)

CH9 (5745 MHz) TX				Measurement Distance at 1m			Vertical polarity				
Freq.	Reading	AF	Closs	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
* 1052.95	60.50	25.24	1.84	36.67	9.50	0.00	41.41	74	-32.59	P	1.00
* 1052.95	58.16	25.24	1.84	36.67	9.50	0.00	39.07	54	-14.93	A	1.00
* 2388.61	51.24	31.81	3.85	35.30	9.50	0.00	42.10	74	-31.90	P	1.00
* 2388.61	37.28	31.81	3.85	35.30	9.50	0.00	28.14	54	-25.86	A	1.00
* 2789.47	50.89	31.70	3.12	35.65	9.50	0.00	40.56	74	-33.44	P	1.00
* 2789.47	36.55	31.70	3.12	35.65	9.50	0.00	26.22	54	-27.78	A	1.00
* 3908.57	51.06	32.38	3.32	34.99	9.50	0.00	42.27	74	-31.73	P	1.00
* 3908.57	40.71	32.38	3.32	34.99	9.50	0.00	31.92	54	-22.08	A	1.00
* 4644.07	63.34	33.25	3.14	35.02	9.50	0.00	55.22	74	-18.78	P	1.00
* 4644.07	51.23	33.25	3.14	35.02	9.50	0.00	43.11	54	-10.89	A	1.00
5715.00	35.08	36.64	3.70	0.00	9.50	0.00	65.93	88.3	-22.37	P	1.00
5715.00	21.43	36.64	3.70	0.00	9.50	0.00	52.28	68.3	-16.02	A	1.00
5739.44	78.05	36.68	3.77	0.00	9.50	0.00	109.00	Fundamental		P	1.00
5739.44	69.48	36.68	3.77	0.00	9.50	0.00	100.43	Frequency		A	1.00
6689.63	57.34	38.78	4.89	34.83	9.50	0.00	56.68	88.3	-31.62	P	1.00
6689.63	46.59	38.78	4.89	34.83	9.50	0.00	45.93	68.3	-22.37	A	1.00
* 7474.62	49.74	39.71	4.89	35.61	9.50	0.00	49.23	74	-24.77	P	1.00
* 7474.62	40.12	39.71	4.89	35.61	9.50	0.00	39.61	54	-14.39	A	1.00
* 11489.52	56.35	40.09	6.60	35.70	9.50	1.20	59.04	74	-14.96	P	1.00
* 11489.52	44.87	40.09	6.60	35.70	9.50	1.20	47.56	54	-6.44	A	1.00
17240.30	51.83	48.08	7.90	34.81	9.50	0.89	64.39	88.3	-23.91	P	1.00
17240.30	40.23	48.08	7.90	34.81	9.50	0.89	52.79	68.3	-15.51	A	1.00
* 22957.76	------	------	------	------	9.50	8.39	------	------	------	------	1.00
28697.20	------	------	------	------	0.00	0.00	------	------	------	------	1.00
34436.64	------	------	------	------	9.50	3.15	------	------	------	------	1.00
* 40176.08	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 45915.52	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 51654.96	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 57394.40	------	------	------	------	0.00	0.00	------	------	------	------	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "*" means that Restricted band.
5. The result basic equation calculation is as follow :
   Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
7. The test limit distance is 3M limit.

Test Requirement: 15.407(b)(1) (2)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 55 dB below the prescribed limits.Readings are both peak and average values.
Fundamental Frequency : 5805MHz Operation Mode: Transmitting(TX)

CH12 (5805 MHz) TX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist dB	Filter dB	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 1053.07	55.17	25.24	1.84	36.67	9.50	0.00	36.08	74	-37.92	P	1.00
* 1053.07	51.21	25.24	1.84	36.67	9.50	0.00	32.12	54	-21.88	A	1.00
* 1531.90	43.77	28.36	2.49	35.58	9.50	0.00	29.54	74	-44.46	P	1.00
* 1531.90	35.84	28.36	2.49	35.58	9.50	0.00	21.61	54	-32.39	A	1.00
2392.25	46.70	31.81	3.82	35.30	9.50	0.00	37.53	88.3	-50.77	P	1.00
2392.25	34.03	31.81	3.82	35.30	9.50	0.00	24.86	68.3	-43.44	A	1.00
* 2789.93	46.04	31.70	3.12	35.65	9.50	0.00	35.71	74	-38.29	P	1.00
* 2789.93	34.57	31.70	3.12	35.65	9.50	0.00	24.24	54	-29.76	A	1.00
* 3980.70	43.24	32.55	3.30	34.92	9.50	0.00	34.68	74	-39.32	P	1.00
* 3980.70	32.14	32.55	3.30	34.92	9.50	0.00	23.58	54	-30.42	A	1.00
* 5040.07	54.67	35.66	2.55	35.19	9.50	0.00	48.19	74	-25.81	P	1.00
* 5040.07	44.58	35.66	2.55	35.19	9.50	0.00	38.10	54	-15.90	A	1.00
5799.50	67.37	36.78	3.94	0.00	9.50	0.00	98.59	Fundamental Frequency		P	1.00
5799.50	58.76	36.78	3.94	0.00	9.50	0.00	89.98			A	1.00
5835.00	30.02	36.84	4.04	0.00	9.50	0.00	61.39	88.3	-26.91	P	1.00
5835.00	17.00	36.84	4.04	0.00	9.50	0.00	48.37	68.3	-19.93	A	1.00
6745.03	48.25	38.98	4.85	34.99	9.50	0.00	47.60	88.3	-40.70	P	1.00
6745.03	37.88	38.98	4.85	34.99	9.50	0.00	37.23	68.3	-31.07	A	1.00
* 7633.07	42.36	39.67	5.14	36.00	9.50	0.00	41.67	74	-32.33	P	1.00
* 7633.07	32.22	39.67	5.14	36.00	9.50	0.00	31.53	54	-22.47	A	1.00
* 11610.10	56.21	40.36	6.64	35.72	9.50	1.11	59.11	74	-14.89	P	1.00
* 11610.10	47.15	40.36	6.64	35.72	9.50	1.11	50.05	54	-3.95	A	1.00
17414.87	55.46	47.62	7.83	34.67	9.50	1.03	67.78	88.3	-20.52	P	1.00
17414.87	44.78	47.62	7.83	34.67	9.50	1.03	57.10	68.3	-11.20	A	1.00
23198.00	------	------	------	------	9.50	6.72	------	------	------	------	1.00
28997.50	------	------	------	------	0.00	0.00	------	------	------	------	1.00
34797.00	------	------	------	------	9.50	2.11	------	------	------	------	1.00
* 40596.50	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 46396.00	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 52195.50	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 57995.00	------	------	------	------	0.00	0.00	------	------	------	------	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "*" means that Restricted band.
5. The result basic equation calculation is as follow : Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
7. The test limit distance is 3M limit.

Test Requirement: 15.407(b)(1) (2)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 55 dB below the prescribed limits.Readings are both peak and average values.
Fundamental Frequency : 5805MHz Operation Mode: Transmitting(TX)

CH12 (5805 MHz) TX				Measurement Distance at 1m				Vertical polarity			
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
* 1053.01	60.29	25.24	1.84	36.67	9.50	0.00	41.20	74	-32.80	P	1.00
* 1053.01	58.29	25.24	1.84	36.67	9.50	0.00	39.20	54	-14.80	A	1.00
* 1531.90	64.50	28.36	2.49	35.58	9.50	0.00	50.27	74	-23.73	P	1.00
* 1531.90	53.88	28.36	2.49	35.58	9.50	0.00	39.65	54	-14.35	A	1.00
2390.34	50.38	31.81	3.83	35.30	9.50	0.00	41.22	88.3	-47.08	P	1.00
2390.34	39.05	31.81	3.83	35.30	9.50	0.00	29.89	68.3	-38.41	A	1.00
* 2789.93	48.80	31.70	3.12	35.65	9.50	0.00	38.47	74	-35.53	P	1.00
* 2789.93	35.24	31.70	3.12	35.65	9.50	0.00	24.91	54	-29.09	A	1.00
* 3980.62	50.57	32.55	3.30	34.92	9.50	0.00	42.01	74	-31.99	P	1.00
* 3980.62	37.69	32.55	3.30	34.92	9.50	0.00	29.13	54	-24.87	A	1.00
* 5034.65	65.27	35.65	2.54	35.20	9.50	0.00	58.76	74	-15.24	P	1.00
* 5034.65	53.94	35.65	2.54	35.20	9.50	0.00	47.43	54	-6.57	A	1.00
5799.64	77.87	36.78	3.94	0.00	9.50	0.00	109.09	Fundamental		P	1.00
5799.64	69.37	36.78	3.94	0.00	9.50	0.00	100.59	Frequency		A	1.00
5835.00	35.63	36.84	4.04	0.00	9.50	0.00	67.00	88.3	-21.30	P	1.00
5835.00	20.52	36.84	4.04	0.00	9.50	0.00	51.89	68.3	-16.41	A	1.00
6745.03	54.60	38.98	4.85	34.99	9.50	0.00	53.95	88.3	-34.35	P	1.00
6745.03	43.65	38.98	4.85	34.99	9.50	0.00	43.00	68.3	-25.30	A	1.00
* 7633.07	49.72	39.67	5.14	36.00	9.50	0.00	49.03	74	-24.97	P	1.00
* 7633.07	39.50	39.67	5.14	36.00	9.50	0.00	38.81	54	-15.19	A	1.00
* 11609.87	56.55	40.36	6.64	35.72	9.50	1.11	59.45	74	-14.55	P	1.00
* 11609.87	47.96	40.36	6.64	35.72	9.50	1.11	50.86	54	-3.14	A	1.00
17409.88	54.42	47.63	7.84	34.67	9.50	1.03	66.75	88.3	-21.55	P	1.00
17409.88	42.02	47.63	7.84	34.67	9.50	1.03	54.35	68.3	-13.95	A	1.00
23198.56	------	------	------	------	9.50	6.72	------	------	------	------	1.00
28998.20	------	------	------	------	0.00	0.00	------	------	------	------	1.00
34797.84	------	------	------	------	9.50	2.11	------	------	------	------	1.00
* 40597.48	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 46397.12	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 52196.76	------	------	------	------	0.00	0.00	------	------	------	------	1.00
* 57996.40	------	------	------	------	0.00	0.00	------	------	------	------	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "*" means that Restricted band.
5. The result basic equation calculation is as follow :
   Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
7. The test limit distance is 3M limit.

The measured radiated band edge emissions are listed below :

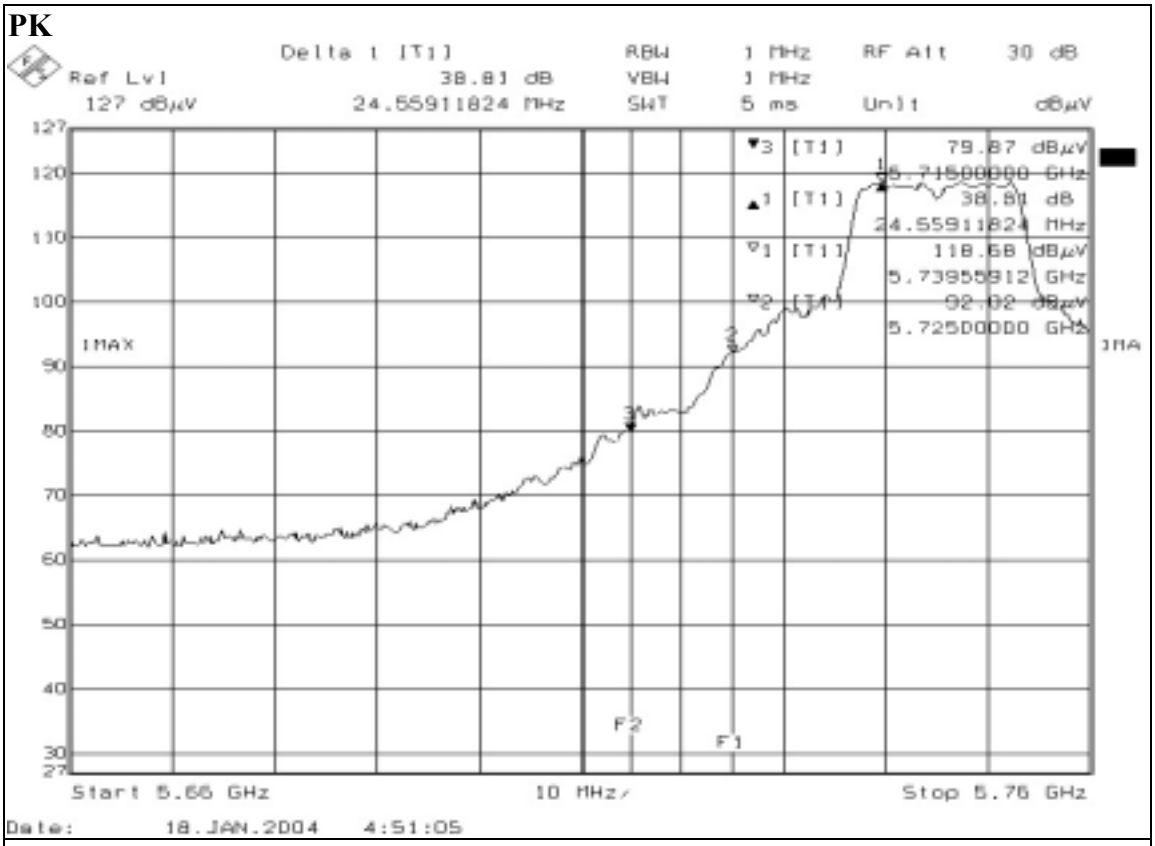
Input Power (System)	3.3VDC (From PC)	**Environmental Conditions**	17.9℃, 68RH
Tested By	Alan Fan		

Band edge		**Measured radiated band edge field strength (dBuV/m)**		**Radiated band edge field strength limit (dBuV/m)**		**Test result**
		Horizontal	**Vertical**	**Horizontal**	**Vertical**	
5725.00	PK	62.46	70.19	98.30	98.30	pass
	AVG	48.56	56.25	78.30	78.30	
5825.00	PK	72.20	82.70	98.30	98.30	pass
	AVG	58.14	68.75	78.30	78.30	

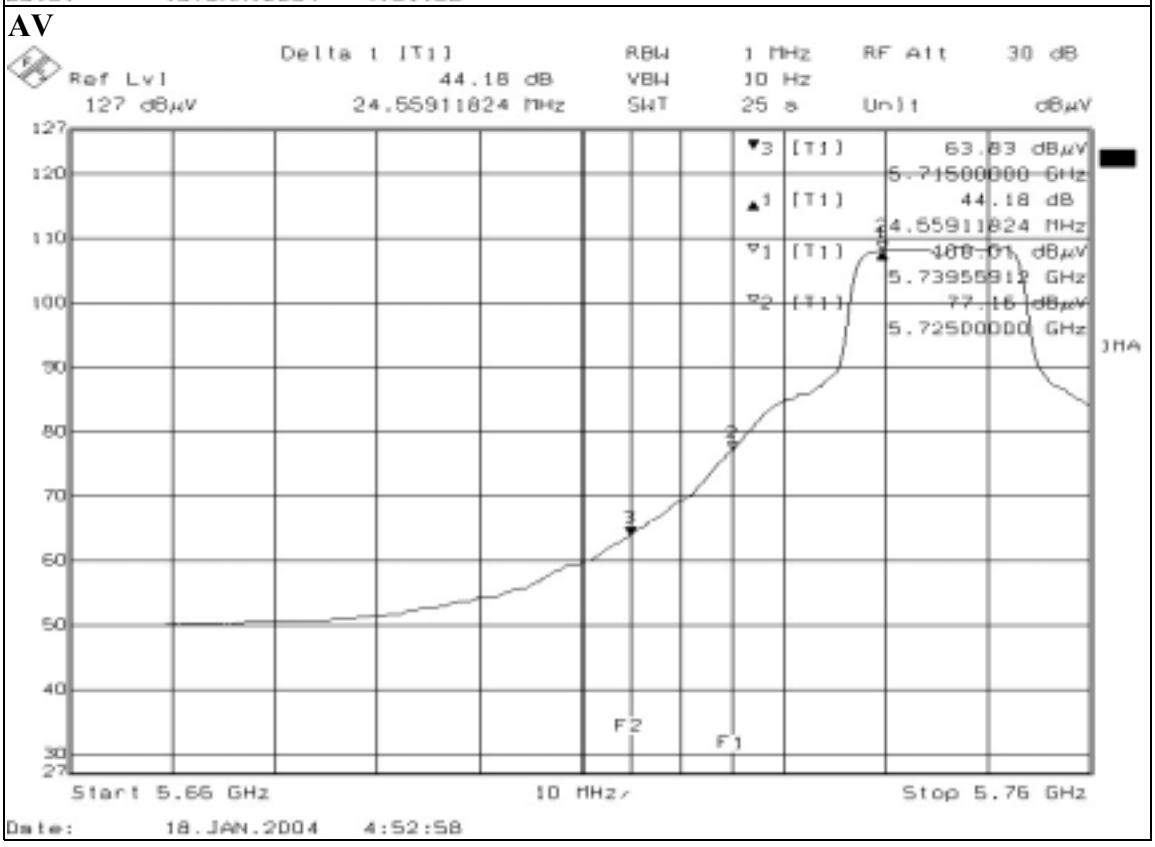
NOTE : Radiated front band edge field strength is measured with FCC recommended mark-delta method.
Measured radiated band edge field strength Test Results = Radiated fundamental emission field strength - DELTA.
DELTA = Relative measurement between conducted measured peak level of fundamental emission and relevant band edge emission. Please refer to the photos of out of Band Measurement below.

5745MHz

PK

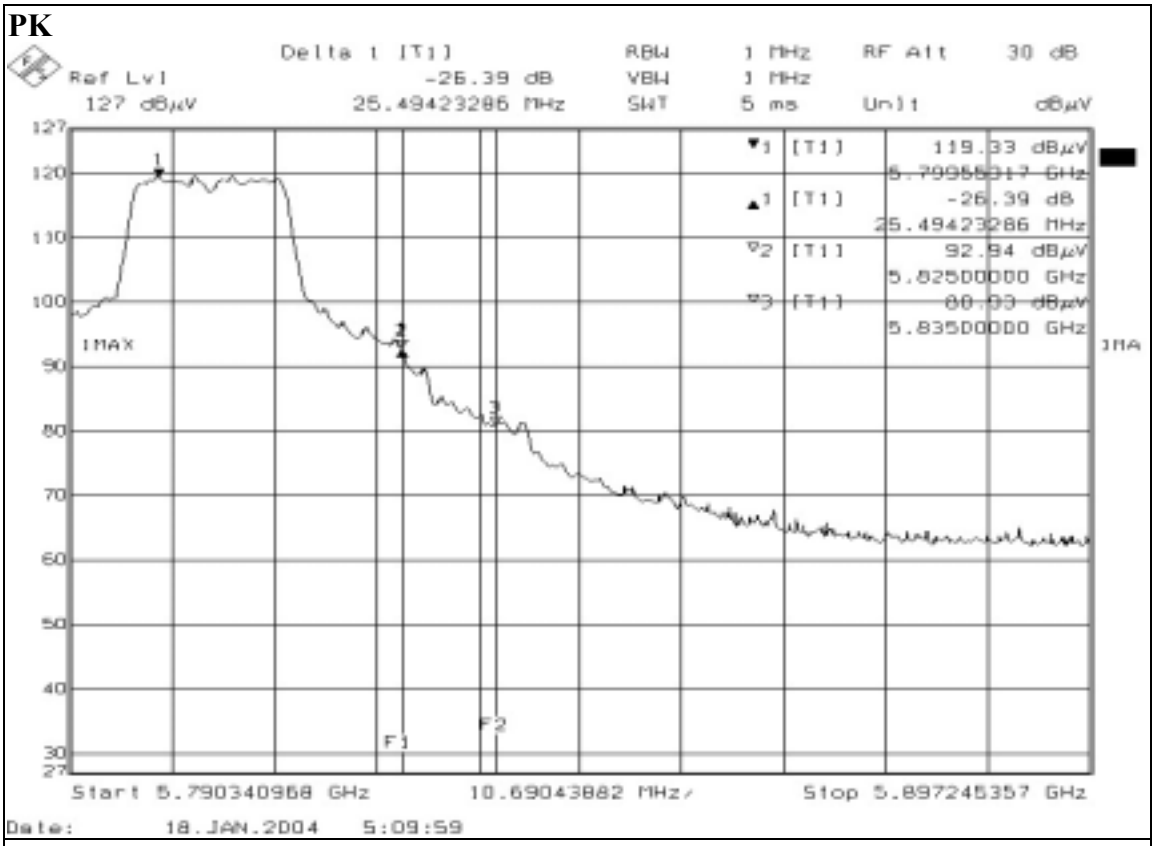


AV

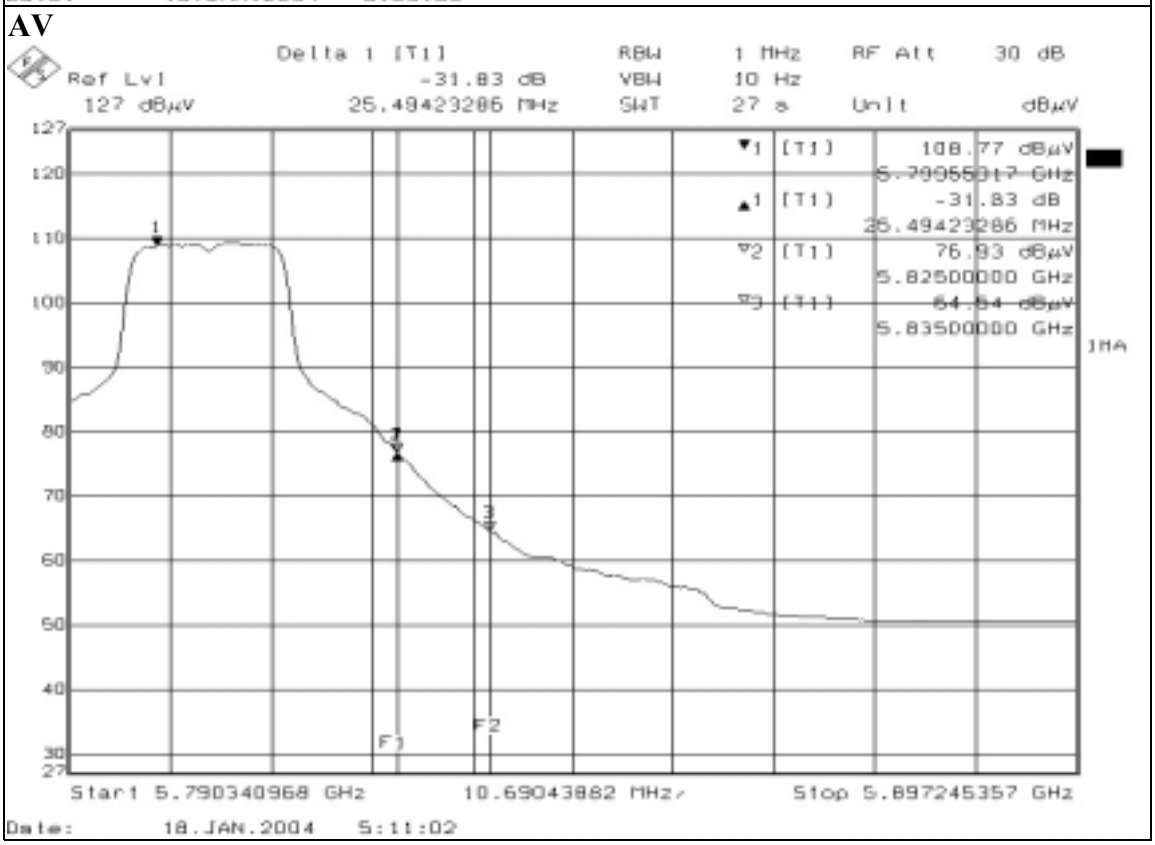


5805MHz

PK



AV



4.6.4 Spurious emission outside of the 5.15~5.35GHz Band (RX)

Test Requirement: 15.205, 15.407(b)(3)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 45 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5180MHz Operation Mode: Receiving (RX)

CH1 (5180 MHz) RX				Measurement Distance at 1m				Horizontal polarity			
Freq. (MHz)	Reading (dBµV)	AF (dBµV)	Cable (dB)	Pre-amp (dB)	Dist dB	Filter dB	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
1152.20	60.12	25.87	1.92	36.43	9.50	0.00	41.98	74	-32.02	P	1.00
1152.20	54.26	25.87	1.92	36.43	9.50	0.00	36.12	54	-17.88	A	1.00
1179.63	57.96	26.05	1.94	36.37	9.50	0.00	40.08	74	-33.92	P	1.00
1179.63	48.08	26.05	1.94	36.37	9.50	0.00	30.20	54	-23.80	A	1.00
1231.64	63.14	26.38	1.99	36.24	9.50	0.00	45.76	74	-28.24	P	1.00
1231.64	51.15	26.38	1.99	36.24	9.50	0.00	33.77	54	-20.23	A	1.00
1288.60	54.51	26.75	2.03	36.11	9.50	0.00	37.68	74	-36.32	P	1.00
1288.60	50.09	26.75	2.03	36.11	9.50	0.00	33.26	54	-20.74	A	1.00
1424.15	51.24	27.61	2.14	35.78	9.50	0.00	35.71	74	-38.29	P	1.00
1424.15	39.28	27.61	2.14	35.78	9.50	0.00	23.75	54	-30.25	A	1.00
2470.88	44.82	31.73	3.22	35.30	9.50	0.00	34.97	74	-39.03	P	1.00
2470.88	33.48	31.73	3.22	35.30	9.50	0.00	23.63	54	-30.37	A	1.00
2882.70	42.93	31.70	3.15	35.76	9.50	0.00	32.52	74	-41.48	P	1.00
2882.70	33.26	31.70	3.15	35.76	9.50	0.00	22.85	54	-31.15	A	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "＊" means that Restricted band.
5. The result basic equation calculation is as follow :
   Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB.
7. The test limit distance is 3M limit.

Test Requirement: 15.205, 15.407(b)(3)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 45 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5180MHz Operation Mode: Receiving (RX)

CH1 (5180 MHz) RX				Measurement Distance at 1m Vertical polarity							
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBµV)	(dBµV)	(dB)	(dB)	dB	dB	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)	(Meter)
1152.81	59.25	25.88	1.92	36.43	9.50	0.00	41.12	74	-32.88	P	1.00
1152.81	53.08	25.88	1.92	36.43	9.50	0.00	34.95	54	-19.05	A	1.00
1187.16	53.79	26.10	1.95	36.35	9.50	0.00	35.99	74	-38.01	P	1.00
1187.16	48.78	26.10	1.95	36.35	9.50	0.00	30.98	54	-23.02	A	1.00
1231.45	57.62	26.38	1.99	36.24	9.50	0.00	40.24	74	-33.76	P	1.00
1231.45	45.78	26.38	1.99	36.24	9.50	0.00	28.40	54	-25.60	A	1.00
1288.60	56.42	26.75	2.03	36.11	9.50	0.00	39.59	74	-34.41	P	1.00
1288.60	51.32	26.75	2.03	36.11	9.50	0.00	34.49	54	-19.51	A	1.00
1424.15	53.57	27.61	2.14	35.78	9.50	0.00	38.04	74	-35.96	P	1.00
1424.15	48.97	27.61	2.14	35.78	9.50	0.00	33.44	54	-20.56	A	1.00
2470.88	50.17	31.73	3.22	35.30	9.50	0.00	40.32	74	-33.68	P	1.00
2470.88	45.62	31.73	3.22	35.30	9.50	0.00	35.77	54	-18.23	A	1.00
2882.70	49.38	31.70	3.15	35.76	9.50	0.00	38.97	74	-35.03	P	1.00
2882.70	43.98	31.70	3.15	35.76	9.50	0.00	33.57	54	-20.43	A	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "＊" means that Restricted band.
5. The result basic equation calculation is as follow :
   Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB.
7. The test limit distance is 3M limit.

PHOTOS OF OPEN SITE Test Requirement: 15.205, 15.407(b)(3)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 45 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5240MHz Operation Mode: Receiving (RX)

CH4 (5240 MHz) RX				Measurement Distance at 1m					Horizontal polarity		
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBµV)	(dBµV)	(dB)	(dB)	dB	dB	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)	(Meter)
1152.18	54.32	25.87	1.92	36.43	9.50	0.00	36.18	74	-37.82	P	1.00
1152.18	44.66	25.87	1.92	36.43	9.50	0.00	26.52	54	-27.48	A	1.00
1233.11	63.95	26.39	1.99	36.24	9.50	0.00	46.59	74	-27.41	P	1.00
1233.11	51.56	26.39	1.99	36.24	9.50	0.00	34.20	54	-19.80	A	1.00
1288.59	55.31	26.75	2.03	36.11	9.50	0.00	38.48	74	-35.52	P	1.00
1288.59	49.57	26.75	2.03	36.11	9.50	0.00	32.74	54	-21.26	A	1.00
1424.27	46.98	27.62	2.14	35.78	9.50	0.00	31.45	74	-42.55	P	1.00
1424.27	37.28	27.62	2.14	35.78	9.50	0.00	21.75	54	-32.25	A	1.00
2467.15	44.36	31.73	3.25	35.30	9.50	0.00	34.54	74	-39.46	P	1.00
2467.15	33.90	31.73	3.25	35.30	9.50	0.00	24.08	54	-29.92	A	1.00
2878.57	42.10	31.70	3.15	35.75	9.50	0.00	31.70	74	-42.30	P	1.00
2878.57	31.89	31.70	3.15	35.75	9.50	0.00	21.49	54	-32.51	A	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "∗" means that Restricted band.
5. The result basic equation calculation is as follow :
   Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB.
7. The test limit distance is 3M limit.

Test Requirement: 15.205, 15.407(b)(3)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 45 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5240MHz Operation Mode: Receiving (RX)

CH4 (5240 MHz) RX				Measurement Distance at 1m					Vertical polarity		
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBµV)	(dBµV)	(dB)	(dB)	dB	dB	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)	(Meter)
1152.81	58.19	25.88	1.92	36.43	9.50	0.00	40.06	74	-33.94	P	1.00
1152.81	52.01	25.88	1.92	36.43	9.50	0.00	33.88	54	-20.12	A	1.00
1231.26	52.95	26.38	1.99	36.24	9.50	0.00	35.57	74	-38.43	P	1.00
1231.26	42.68	26.38	1.99	36.24	9.50	0.00	25.30	54	-28.70	A	1.00
1288.49	56.15	26.75	2.03	36.11	9.50	0.00	39.32	74	-34.68	P	1.00
1288.49	50.47	26.75	2.03	36.11	9.50	0.00	33.64	54	-20.36	A	1.00
1424.27	52.87	27.62	2.14	35.78	9.50	0.00	37.34	74	-36.66	P	1.00
1424.27	48.97	27.62	2.14	35.78	9.50	0.00	33.44	54	-20.56	A	1.00
2467.15	49.72	31.73	3.25	35.30	9.50	0.00	39.90	74	-34.10	P	1.00
2467.15	45.01	31.73	3.25	35.30	9.50	0.00	35.19	54	-18.81	A	1.00
2878.57	48.88	31.70	3.15	35.75	9.50	0.00	38.48	74	-35.52	P	1.00
2878.57	44.65	31.70	3.15	35.75	9.50	0.00	34.25	54	-19.75	A	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "＊" means that Restricted band.
5. The result basic equation calculation is as follow :
   Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB.
7. The test limit distance is 3M limit.

Test Requirement: 15.205, 15.407(b)(3)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 45 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5260MHz Operation Mode: Receiving (RX)

CH5 (5260 MHz) RX				Measurement Distance at 1m					Horizontal polarity		
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBµV)	(dBµV)	(dB)	(dB)	dB	dB	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)	(Meter)
1152.18	53.87	25.87	1.92	36.43	9.50	0.00	35.73	74	-38.27	P	1.00
1152.18	45.02	25.87	1.92	36.43	9.50	0.00	26.88	54	-27.12	A	1.00
1233.84	64.12	26.40	1.99	36.24	9.50	0.00	46.76	74	-27.24	P	1.00
1233.84	52.01	26.40	1.99	36.24	9.50	0.00	34.65	54	-19.35	A	1.00
1288.59	54.23	26.75	2.03	36.11	9.50	0.00	37.40	74	-36.60	P	1.00
1288.59	48.23	26.75	2.03	36.11	9.50	0.00	31.40	54	-22.60	A	1.00
1423.65	47.16	27.61	2.14	35.78	9.50	0.00	31.63	74	-42.37	P	1.00
1423.65	38.23	27.61	2.14	35.78	9.50	0.00	22.70	54	-31.30	A	1.00
2467.15	44.58	31.73	3.25	35.30	9.50	0.00	34.76	74	-39.24	P	1.00
2467.15	34.12	31.73	3.25	35.30	9.50	0.00	24.30	54	-29.70	A	1.00
2878.12	42.10	31.70	3.15	35.75	9.50	0.00	31.70	74	-42.30	P	1.00
2878.12	31.89	31.70	3.15	35.75	9.50	0.00	21.49	54	-32.51	A	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "＊" means that Restricted band.
5. The result basic equation calculation is as follow :
   Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB.
7. The test limit distance is 3M limit.

Test Requirement: 15.205, 15.407(b)(3)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 45 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5260MHz Operation Mode: Receiving (RX)

CH5 (5260 MHz) RX				Measurement Distance at 1m							Vertical polarity
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBµV)	(dBµV)	(dB)	(dB)	dB	dB	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)	(Meter)
1153.02	60.12	25.88	1.92	36.43	9.50	0.00	41.99	74	-32.01	P	1.00
1153.02	53.47	25.88	1.92	36.43	9.50	0.00	35.34	54	-18.66	A	1.00
1233.41	54.62	26.39	1.99	36.24	9.50	0.00	37.26	74	-36.74	P	1.00
1233.41	43.69	26.39	1.99	36.24	9.50	0.00	26.33	54	-27.67	A	1.00
1288.56	55.23	26.75	2.03	36.11	9.50	0.00	38.40	74	-35.60	P	1.00
1288.56	51.09	26.75	2.03	36.11	9.50	0.00	34.26	54	-19.74	A	1.00
1423.98	52.20	27.61	2.14	35.78	9.50	0.00	36.67	74	-37.33	P	1.00
1423.98	47.92	27.61	2.14	35.78	9.50	0.00	32.39	54	-21.61	A	1.00
2466.90	50.12	31.73	3.25	35.30	9.50	0.00	40.30	74	-33.70	P	1.00
2466.90	44.58	31.73	3.25	35.30	9.50	0.00	34.76	54	-19.24	A	1.00
2878.11	49.32	31.70	3.15	35.75	9.50	0.00	38.92	74	-35.08	P	1.00
2878.11	44.67	31.70	3.15	35.75	9.50	0.00	34.27	54	-19.73	A	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "＊" means that Restricted band.
5. The result basic equation calculation is as follow :
   Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB.
7. The test limit distance is 3M limit.

Test Requirement: 15.205, 15.407(b)(3)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 45 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5320MHz Operation Mode: Receiving (RX)

CH8 (5320 MHz) RX				Measurement Distance at 1m					Horizontal polarity		
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBµV)	(dBµV)	(dB)	(dB)	dB	dB	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)	(Meter)
1153.06	54.12	25.88	1.92	36.43	9.50	0.00	35.99	74	-38.01	P	1.00
1153.06	44.68	25.88	1.92	36.43	9.50	0.00	26.55	54	-27.45	A	1.00
1232.89	63.54	26.39	1.99	36.24	9.50	0.00	46.18	74	-27.82	P	1.00
1232.89	51.23	26.39	1.99	36.24	9.50	0.00	33.87	54	-20.13	A	1.00
1288.36	53.12	26.75	2.03	36.11	9.50	0.00	36.29	74	-37.71	P	1.00
1288.36	47.64	26.75	2.03	36.11	9.50	0.00	30.81	54	-23.19	A	1.00
1423.58	46.85	27.61	2.14	35.78	9.50	0.00	31.32	74	-42.68	P	1.00
1423.58	38.74	27.61	2.14	35.78	9.50	0.00	23.21	54	-30.79	A	1.00
2468.02	44.89	31.73	3.24	35.30	9.50	0.00	35.07	74	-38.93	P	1.00
2468.02	34.70	31.73	3.24	35.30	9.50	0.00	24.88	54	-29.12	A	1.00
2878.23	43.65	31.70	3.15	35.75	9.50	0.00	33.25	74	-40.75	P	1.00
2878.23	32.58	31.70	3.15	35.75	9.50	0.00	22.18	54	-31.82	A	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "＊" means that Restricted band.
5. The result basic equation calculation is as follow : Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB.
7. The test limit distance is 3M limit.

Test Requirement: 15.205, 15.407(b)(3)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 45 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5320MHz Operation Mode: Receiving (RX)

CH8 (5320 MHz) RX				Measurement Distance at 1m				Vertical polarity			
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBµV)	(dBµV)	(dB)	(dB)	dB	dB	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)	(Meter)
1153.07	59.87	25.88	1.92	36.43	9.50	0.00	41.74	74	-32.26	P	1.00
1153.07	52.71	25.88	1.92	36.43	9.50	0.00	34.58	54	-19.42	A	1.00
1233.58	55.12	26.39	1.99	36.24	9.50	0.00	37.76	74	-36.24	P	1.00
1233.58	44.89	26.39	1.99	36.24	9.50	0.00	27.53	54	-26.47	A	1.00
1287.98	54.12	26.74	2.03	36.11	9.50	0.00	37.28	74	-36.72	P	1.00
1287.98	50.47	26.74	2.03	36.11	9.50	0.00	33.63	54	-20.37	A	1.00
1424.01	52.14	27.61	2.14	35.78	9.50	0.00	36.61	74	-37.39	P	1.00
1424.01	48.02	27.61	2.14	35.78	9.50	0.00	32.49	54	-21.51	A	1.00
2466.83	51.23	31.73	3.25	35.30	9.50	0.00	41.42	74	-32.58	P	1.00
2466.83	45.89	31.73	3.25	35.30	9.50	0.00	36.08	54	-17.92	A	1.00
2878.91	49.27	31.70	3.15	35.75	9.50	0.00	38.87	74	-35.13	P	1.00
2878.91	44.19	31.70	3.15	35.75	9.50	0.00	33.79	54	-20.21	A	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "＊" means that Restricted band.
5. The result basic equation calculation is as follow :
   Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB.
7. The test limit distance is 3M limit.

4.6.5 Spurious emission outside of the 5.725~5.825GHz Band (RX)

Test Requirement: 15.205, 15.407(b)(3)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 45 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5745MHz Operation Mode: Receiving (RX)

CH9 (5745 MHz) RX				Measurement Distance at 1m						Horizontal polarity	
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist dB	Filter dB	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
1152.88	51.30	25.88	1.92	36.43	9.50	0.00	33.17	74	-40.83	P	1.00
1152.88	42.24	25.88	1.92	36.43	9.50	0.00	24.11	54	-29.89	A	1.00
1186.67	44.24	26.09	1.95	36.35	9.50	0.00	26.43	74	-47.57	P	1.00
1186.67	35.32	26.09	1.95	36.35	9.50	0.00	17.51	54	-36.49	A	1.00
1288.58	53.66	26.75	2.03	36.11	9.50	0.00	36.83	74	-37.17	P	1.00
1288.58	48.24	26.75	2.03	36.11	9.50	0.00	31.41	54	-22.59	A	1.00
1416.07	44.60	27.56	2.13	35.80	9.50	0.00	28.99	74	-45.01	P	1.00
1416.07	35.58	27.56	2.13	35.80	9.50	0.00	19.97	54	-34.03	A	1.00
1424.01	48.29	27.61	2.14	35.78	9.50	0.00	32.76	74	-41.24	P	1.00
1424.01	38.05	27.61	2.14	35.78	9.50	0.00	22.52	54	-31.48	A	1.00
2467.51	46.89	31.73	3.25	35.30	9.50	0.00	37.07	74	-36.93	P	1.00
2467.51	44.25	31.73	3.25	35.30	9.50	0.00	34.43	54	-19.57	A	1.00
2880.66	45.17	31.70	3.15	35.76	9.50	0.00	34.77	74	-39.23	P	1.00
2880.66	34.69	31.70	3.15	35.76	9.50	0.00	24.29	54	-29.71	A	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "＊" means that Restricted band.
5. The result basic equation calculation is as follow :
   Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB.
7. The test limit distance is 3M limit.

Test Requirement: 15.205, 15.407(b)(3)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 45 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5745MHz Operation Mode: Receiving (RX)

CH9 (5745 MHz) RX				Measurement Distance at 1m				Vertical polarity			
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBµV)	(dBµV)	(dB)	(dB)	dB	dB	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)	(Meter)
1152.88	54.45	25.88	1.92	36.43	9.50	0.00	36.32	74	-37.68	P	1.00
1152.88	49.53	25.88	1.92	36.43	9.50	0.00	31.40	54	-22.60	A	1.00
1186.67	55.02	26.09	1.95	36.35	9.50	0.00	37.21	74	-36.79	P	1.00
1186.67	42.72	26.09	1.95	36.35	9.50	0.00	24.91	54	-29.09	A	1.00
1288.68	55.56	26.75	2.03	36.11	9.50	0.00	38.73	74	-35.27	P	1.00
1288.68	50.35	26.75	2.03	36.11	9.50	0.00	33.52	54	-20.48	A	1.00
1416.07	51.78	27.56	2.13	35.80	9.50	0.00	36.17	74	-37.83	P	1.00
1416.07	44.04	27.56	2.13	35.80	9.50	0.00	28.43	54	-25.57	A	1.00
1424.01	53.36	27.61	2.14	35.78	9.50	0.00	37.83	74	-36.17	P	1.00
1424.01	48.93	27.61	2.14	35.78	9.50	0.00	33.40	54	-20.60	A	1.00
2467.51	50.63	31.73	3.25	35.30	9.50	0.00	40.81	74	-33.19	P	1.00
2467.51	45.30	31.73	3.25	35.30	9.50	0.00	35.48	54	-18.52	A	1.00
2878.48	48.98	31.70	3.15	35.75	9.50	0.00	38.58	74	-35.42	P	1.00
2878.48	43.09	31.70	3.15	35.75	9.50	0.00	32.69	54	-21.31	A	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "＊" means that Restricted band.
5. The result basic equation calculation is as follow :
   Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB.
7. The test limit distance is 3M limit.

Test Requirement: 15.205, 15.407(b)(3)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 45 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5805MHz Operation Mode: Receiving (RX)

CH12 (5805 MHz) RX				Measurement Distance at 1m					Horizontal polarity		
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBµV)	(dBµV)	(dB)	(dB)	dB	dB	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)	(Meter)
1152.39	52.36	25.88	1.92	36.43	9.50	0.00	34.22	74	-39.78	P	1.00
1152.39	43.54	25.88	1.92	36.43	9.50	0.00	25.40	54	-28.60	A	1.00
1186.94	45.26	26.10	1.95	36.35	9.50	0.00	27.45	74	-46.55	P	1.00
1186.94	36.02	26.10	1.95	36.35	9.50	0.00	18.21	54	-35.79	A	1.00
1288.58	54.84	26.75	2.03	36.11	9.50	0.00	38.01	74	-35.99	P	1.00
1288.58	49.65	26.75	2.03	36.11	9.50	0.00	32.82	54	-21.18	A	1.00
1416.58	45.85	27.57	2.13	35.80	9.50	0.00	30.25	74	-43.75	P	1.00
1416.58	36.49	27.57	2.13	35.80	9.50	0.00	20.89	54	-33.11	A	1.00
1424.01	48.12	27.61	2.14	35.78	9.50	0.00	32.59	74	-41.41	P	1.00
1424.01	37.25	27.61	2.14	35.78	9.50	0.00	21.72	54	-32.28	A	1.00
2467.51	49.56	31.73	3.25	35.30	9.50	0.00	39.74	74	-34.26	P	1.00
2467.51	45.27	31.73	3.25	35.30	9.50	0.00	35.45	54	-18.55	A	1.00
2880.19	46.97	31.70	3.15	35.76	9.50	0.00	36.57	74	-37.43	P	1.00
2880.19	35.54	31.70	3.15	35.76	9.50	0.00	25.14	54	-28.86	A	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "＊" means that Restricted band.
5. The result basic equation calculation is as follow :
   Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB.
7. The test limit distance is 3M limit.

Test Requirement: 15.205, 15.407(b)(3)
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 45 dB below the prescribed limits.
Readings are both peak and average values.
Fundamental Frequency : 5805MHz Operation Mode: Receiving (RX)

CH12 (5805 MHz) RX				Measurement Distance at 1m Vertical polarity							
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
1152.89	55.87	25.88	1.92	36.43	9.50	0.00	37.74	74	-36.26	P	1.00
1152.89	50.12	25.88	1.92	36.43	9.50	0.00	31.99	54	-22.01	A	1.00
1187.23	56.39	26.10	1.95	36.35	9.50	0.00	38.59	74	-35.41	P	1.00
1187.23	43.27	26.10	1.95	36.35	9.50	0.00	25.47	54	-28.53	A	1.00
1287.96	56.39	26.74	2.03	36.11	9.50	0.00	39.55	74	-34.45	P	1.00
1287.96	51.28	26.74	2.03	36.11	9.50	0.00	34.44	54	-19.56	A	1.00
1416.59	52.39	27.57	2.13	35.80	9.50	0.00	36.79	74	-37.21	P	1.00
1416.59	44.24	27.57	2.13	35.80	9.50	0.00	28.64	54	-25.36	A	1.00
1423.89	52.16	27.61	2.14	35.78	9.50	0.00	36.63	74	-37.37	P	1.00
1423.89	49.25	27.61	2.14	35.78	9.50	0.00	33.72	54	-20.28	A	1.00
2468.90	50.36	31.73	3.24	35.30	9.50	0.00	40.53	74	-33.47	P	1.00
2468.90	45.39	31.73	3.24	35.30	9.50	0.00	35.56	54	-18.44	A	1.00
2880.20	49.81	31.70	3.15	35.76	9.50	0.00	39.41	74	-34.59	P	1.00
2880.20	43.98	31.70	3.15	35.76	9.50	0.00	33.58	54	-20.42	A	1.00

Note :

1. The measurement was searched to 10th harmonic,"---" Remark means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Filt : High pass Filter Insertion Loss (8.5GHz), pre-Amp : preamp gain
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
4. Remark "＊" means that Restricted band.
5. The result basic equation calculation is as follow :
   Level = Reading + AF + cable – preamp + Filter – Dist, Margin=Level – Limit
6. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB.
7. The test limit distance is 3M limit.

4.7 Photo of Radiated Emission Test

5. EMISSION BANDWIDTH MEASUREMENT

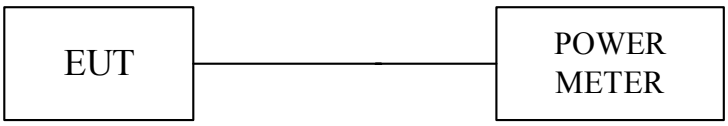
5.1 Test Equipments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	JUN. 17, 2003
HP ATTENUATOR	8496B	3247A18505	Cal. on use
HP PLOTTER	7750A	725A 852141	N/A
GIGASTRONICS POWER METER	8542	1828329	SEPT.19, 2003

NOTE：

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.2 Test Setup



5.3 Test Procedure

A. The transmitter output was connected to the spectrum analyzer through an attenuator.
B. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 300KHz RBW and 1MHz VBW.
C. The 26dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 26dB.
D. The measured Emission Bandwidth, B, is the 26dB bandwidth.

5.4Uncertainty of Conducted Emission

The uncertainty of conducted emission is ± 200KHz.

5.5 Test Results

In 5.15~5.35GHz Band

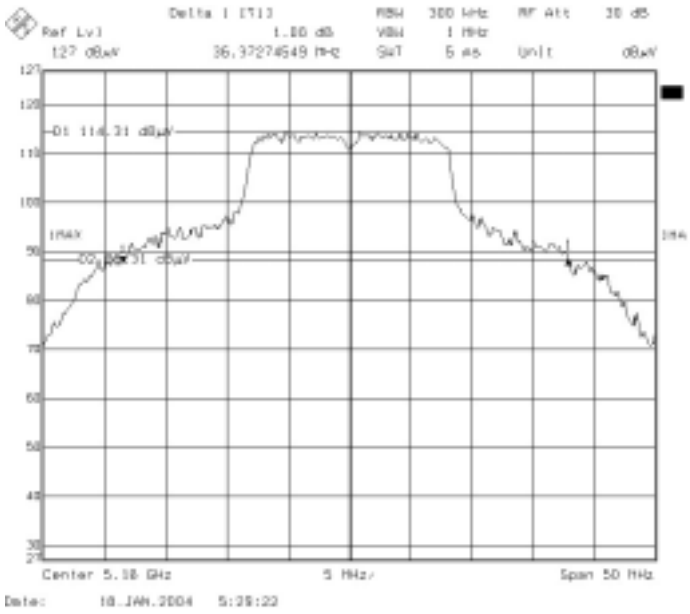
CHANNEL	CHANNEL FREQUENCY (MHz)	26dB BANDWIDTH (MHz)
1	5180	36.37
4	5240	35.07
5	5260	34.87
8	5320	34.67

In 5.725~5.825GHz Band

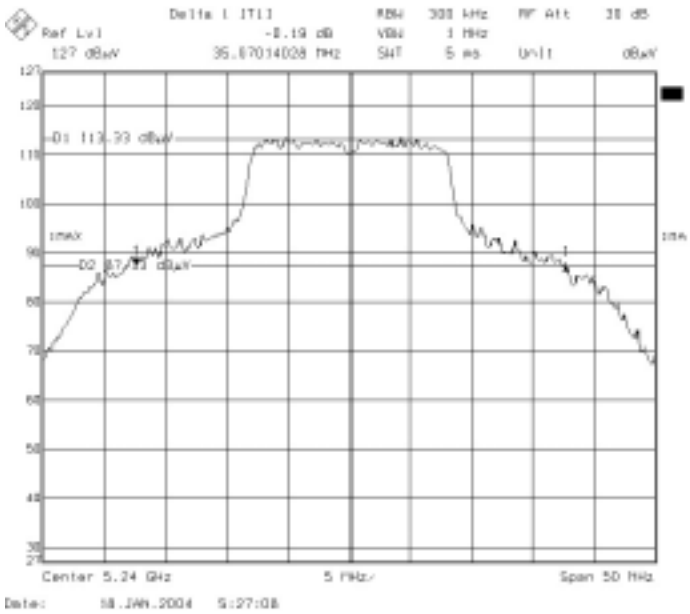
CHANNEL	CHANNEL FREQUENCY (MHz)	26dB BANDWIDTH (MHz)
9	5745	36.27
12	5805	34.87

5.6 Photo of 26db Bandwidth Measurement

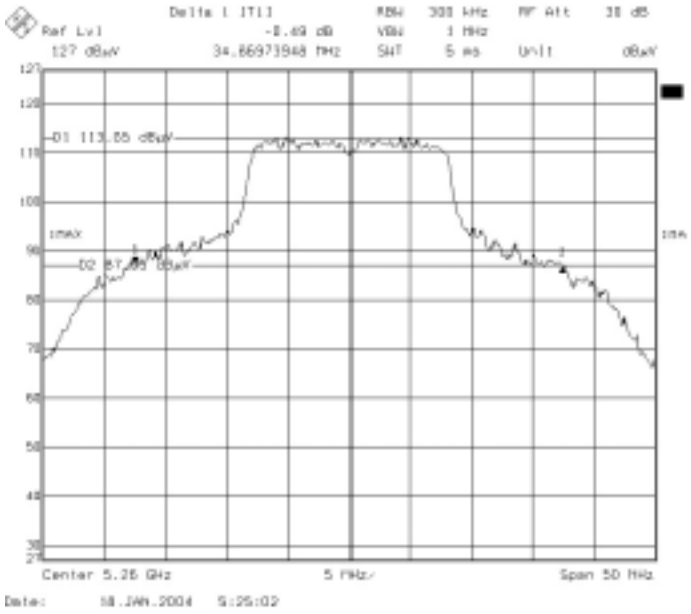
In 5.15~5.35GHz Band



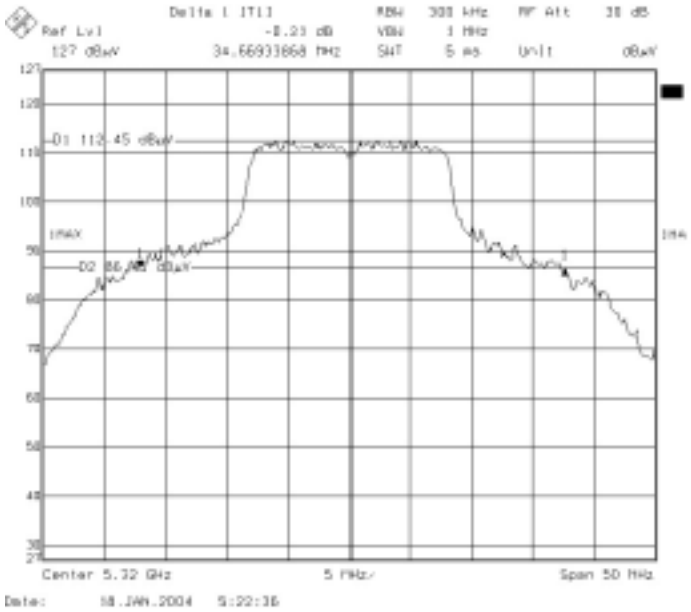
Channel 1



Channel 4

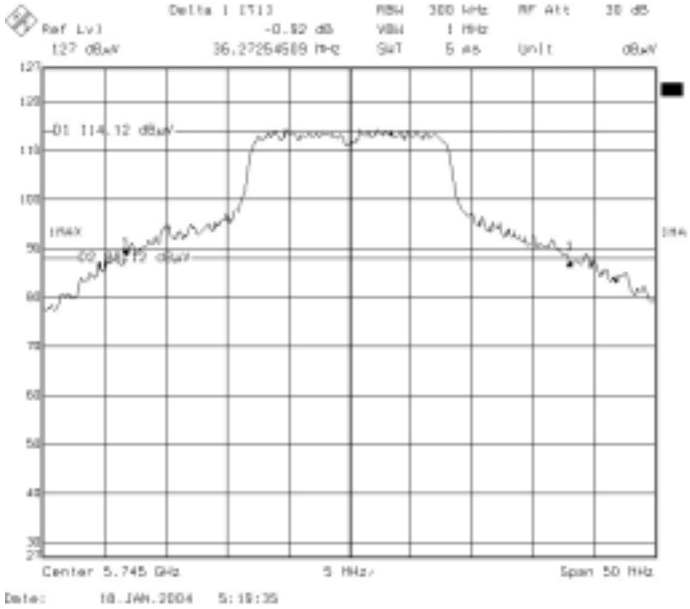


Channel 5

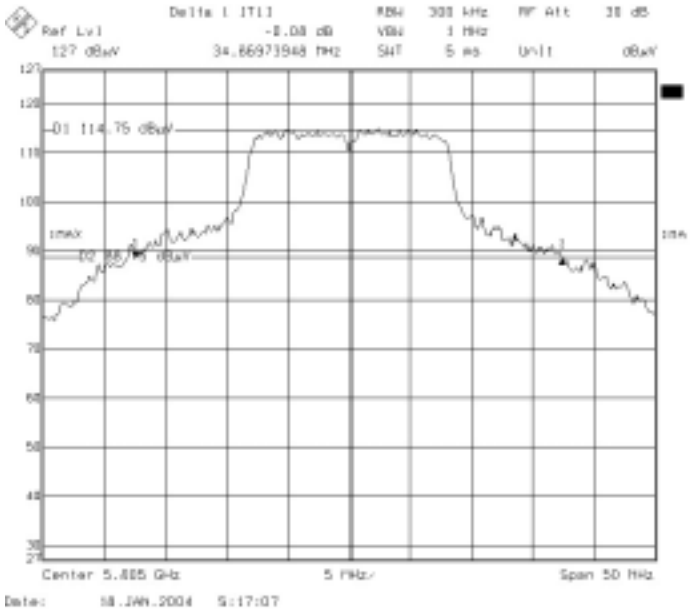


Channel 8

In 5.725~5.825GHz Band



Channel 9



Channel 12

6. PEAK CONDUCTED TRANSMIT POWER

Test Requirement: 15.407(a)(1)(2)(3)

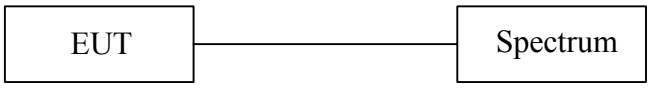
6.1 Test Equipments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	JUN. 17, 2003
HP ATTENUATOR	8496B	3247A18505	Cal. on use
HP PLOTTER	7750A	725A 852141	N/A
GIGASTRONICS POWER METER	8542	1828329	SEPT. 17, 2003

NOTE：

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

6.2 Test Setup



6.3 Limits of Maximum Peak Output Power

Channel Frequency Band	FCC Output Power Limit (dBm)
5.15~5.25GHz Band	17
5.15~5.35GHz Band	24
5.725~5.825GHz Band	30

The FCC Output power limit also depents on the emission bandwidth of EUT .

6.4 Test Procedure

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
   Set RBW = 1 MHz.
   Set VBW=1 MHz.
2. Use sample detector mode if bin width (i.e., span/number of points in spectrum display) < 0.5 RBW. Otherwise use peak detector mode.
3. Transmitter must operate at full control power for entire sweep of every sweep.
4. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to "free run".
5. Trace average 100 traces in power averaging mode.
6. Compute power by integrating the spectrum across the 26 dB EBW of the signal

6.5 Uncertainty of Conducted Emission

The uncertainty of conducted emission is ± 1.82dB.

6.6 Test Results

In 5.15~5.35GHz Band
Cable loss = 1dB

Channel	Channel Frequency (MHz)	26dB BANDWIDTH (MHz)	Output Power (dBm)	FCC Output Power Limit (dbm)	Pass / Fail
1	5180	36.37	16.43	17	PASS
4	5240	35.07	16.38	17	PASS
5	5260	34.87	20.61	24	PASS
8	5320	34.67	20.03	24	PASS

Note : Channel 1 (5180MHz) Intersil CTxRx 2.1.0.0 Closed Pwr. Ctrl (Loop) = -55
Channel 4 (5240MHz) Intersil CTxRx 2.1.0.0 Closed Pwr. Ctrl (Loop) = -50

In 5.725~5.825GHz Band
Cable loss = 1dB

Channel	Channel Frequency (MHz)	26dB BANDWIDTH (MHz)	Output Power (dBm)	FCC Output Power Limit (dbm)	Pass / Fail
9	5745	36.27	22.02	30	PASS
12	5805	34.87	22.35	30	PASS

7. PEAK POWER DENSITY MEASURERMENT

Test Requirement: 15.407(a)(1)(2)(3)

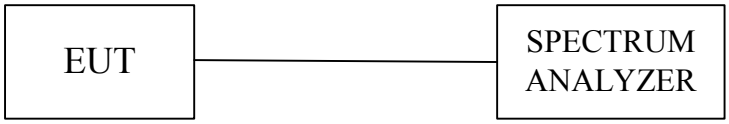
7.1 Test Equipments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	JUN. 17, 2003
HP ATTENUATOR	8496B	3247A18505	Cal. on use
HP PLOTTER	7750A	725A 852141	N/A

NOTE：

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

7.2 Test Equipments



7.3 Limits of Power Spectral Density Measurement

Channel Frequency Band	FCC Peak Power Spectrum density Limit (dBm/MHz)
5.15~5.25GHz Band	4 dBm/MHz
5.25~5.35GHz Band	11dBm/MHz
5.725~5.825GHz Band	17 dBm/MHz

7.4 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 1MHz RBW and 3MHz VBW. The power spectral density was measured and recorded.

7.5 Uncertainty of Conducted Emission

The uncertainty of conducted emission is ± 1.82dB.

7.6 Test Result

In 5.15~5.356GHz Band
Cable loss = 1dB

Channel	Channel Frequency (MHz)	26dB BANDWIDTH (MHz)	Peak Power Spectrum density (dBm/MHz)	FCC Peak Power Spectrum density Limit (dBm/MHz)	Pass / Fail
1	5180	36.37	2.78	4 dBm/MHz	PASS
4	5240	35.07	2.21	4 dBm/MHz	PASS
5	5260	34.87	2.23	11dBm/MHz	PASS
8	5320	34.67	1.26	11dBm/MHz	PASS

Note : Peak Power spectrum density test result = peak power spectrum density reading + cable loss.

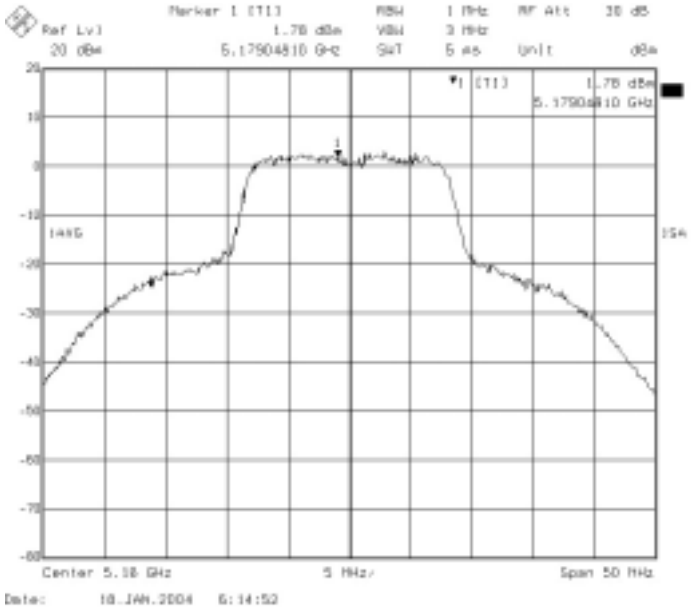
In 5.725~5.825GHz Band
Cable loss = 1dB

Channel	Channel Frequency (MHz)	26dB BANDWIDTH (MHz)	Peak Power Spectrum density (dBm/MHz)	FCC Peak Power Spectrum density Limit (dBm/MHz)	Pass / Fail
9	5745	36.27	3.04	17 dBm/MHz	PASS
12	5805	34.87	3.09	17 dBm/MHz	PASS

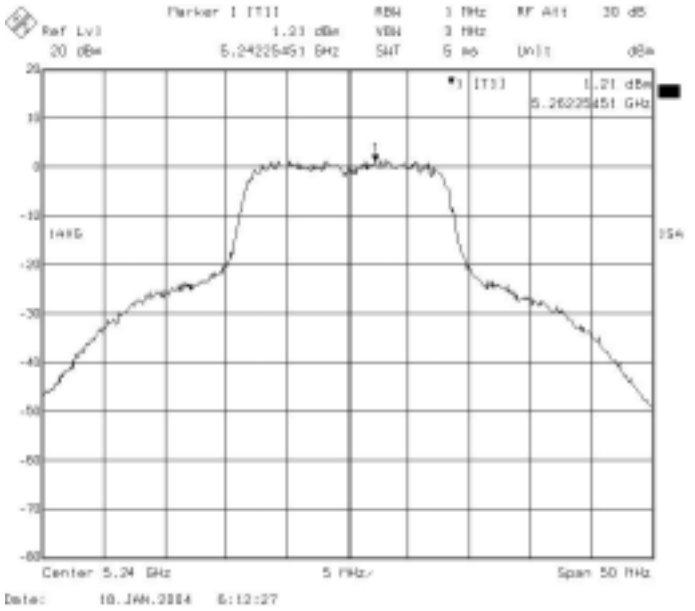
Note : Peak Power spectrum density test result = peak power spectrum density reading + cable loss.

7.7 Photo of Peak Power Density Measurement

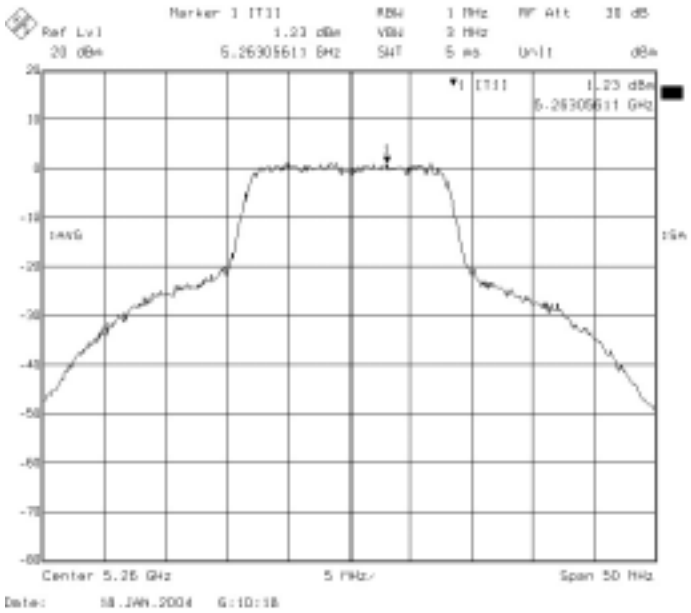
In 5.15~5.35GHz Band



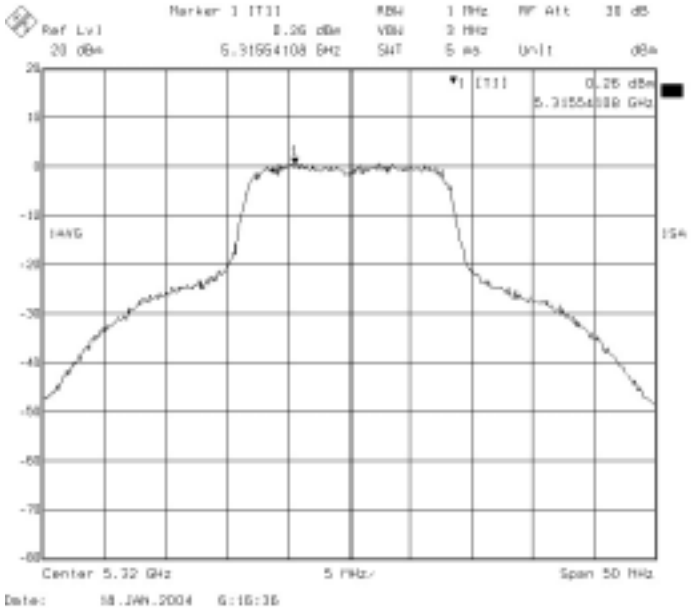
Channel 1



Channel 4

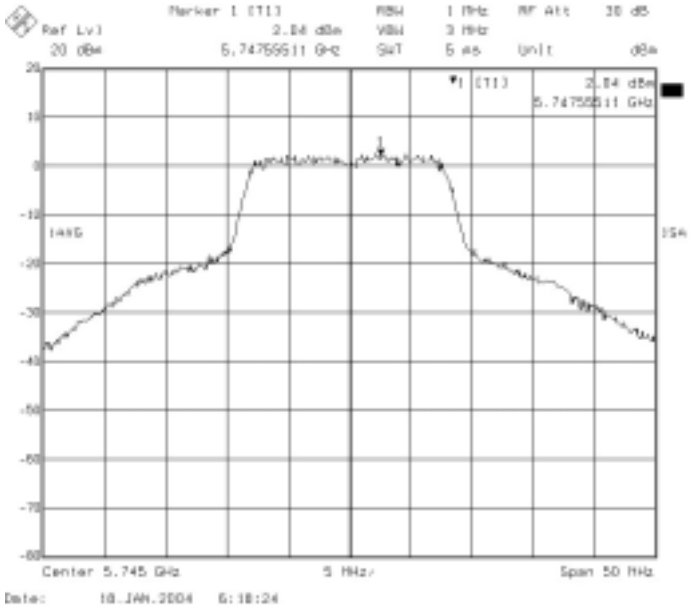


Channel 5

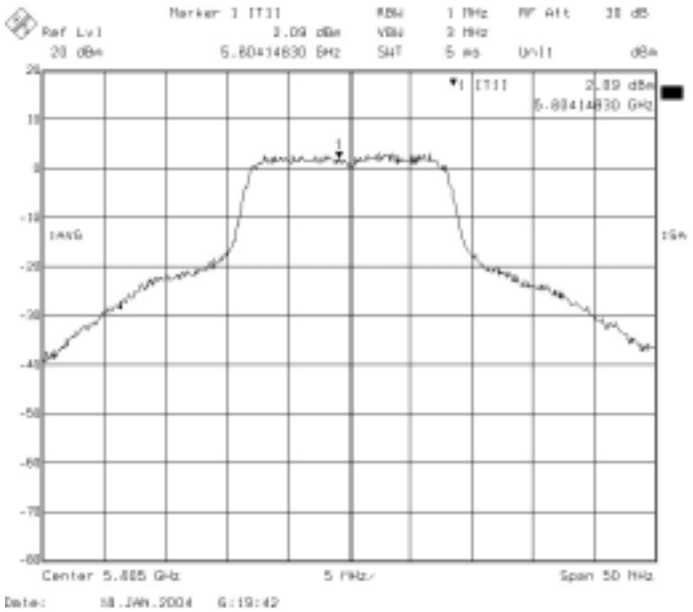


Channel 8

In 5.725~5.825GHz Band



Channel 9



Channel 12

8. PEAK POWER EXCURSION MEASUREMENT

Test Requirement: 15.407(a) (6)

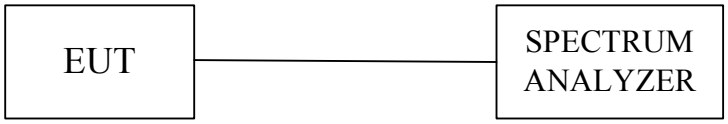
8.1 Test Equipments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	JUN. 17, 2003
HP ATTENUATOR	8496B	3247A18505	Cal. on use
HP PLOTTER	7750A	725A 852141	N/A

NOTE：

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

8.2 Test Setup



8.3 Limits of Peak Power Excursion Measurement

The largetest distance between the two traces described in test procedure must be fewer than 13dB. For all frequencies across the emission bandwidth.

Channel Frequency Band	Limit
5.15~5.25GHz Band	13dB
5.25~5.35GHz Band	13dB
5.725~5.825GHz Band	13dB

8.4 Test Procedure

- Set the spectrum to view the entire emission bandwidth.
- Measure trace 1:
- Set RBW=1MHz, VBW ≥ 3MHz with peak detector and Max-hold setting.
- Measure trace2:
- Set RBW=1MHz, VBW ≥30kHz with peak detector and Max-hold setting
- Plot the result of the two traces and mark the largest distance between the two trace.

8.5 Uncertainty of Conducted Emission

The uncertainty of conducted emission is ± 1.82dB.

8.6 Test Result

In 5.15~5.35GHz Band

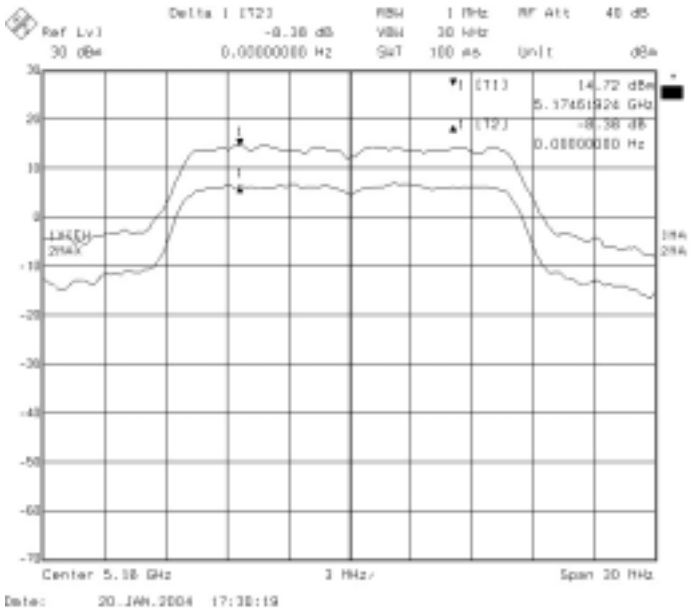
Channel	Channel Frequency (MHz)	Largest distance between Trace 1 and trace 2 (dB)	FCC Peak Excursion Limit (dB)	Pass / Fail
1	5180	8.38	＜13	PASS
4	5240	8.37	＜13	PASS
5	5260	8.28	＜13	PASS
8	5320	8.25	＜13	PASS

In 5.725~5.825GHz Band

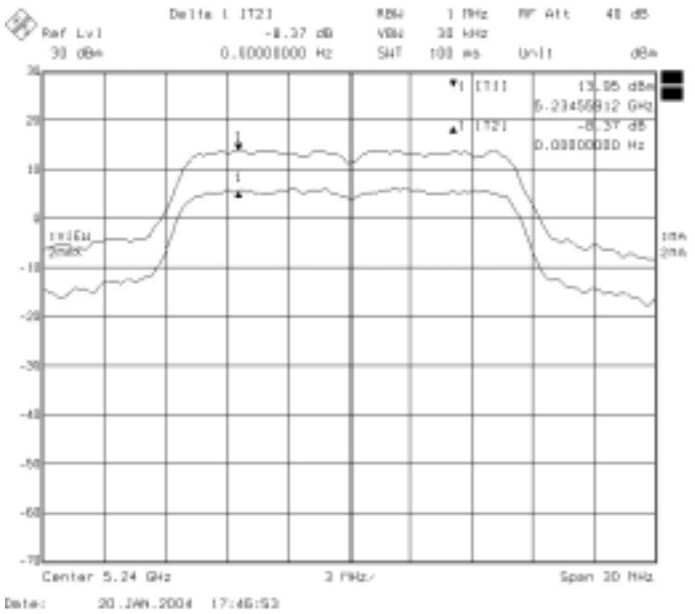
Channel	Channel Frequency (MHz)	Largest distance between Trace 1 and trace 2 (dB)	FCC Peak Excursion Limit (dB)	Pass / Fail
9	5745	8.36	＜13	PASS
12	5705	8.60	＜13	PASS

8.7 Photo of Peak Power Excursion Measurement

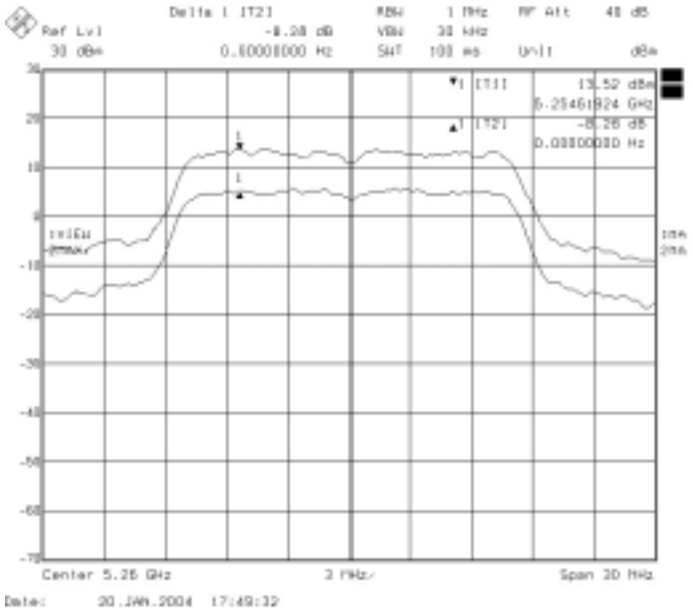
In 5.15~5.35GHz Band



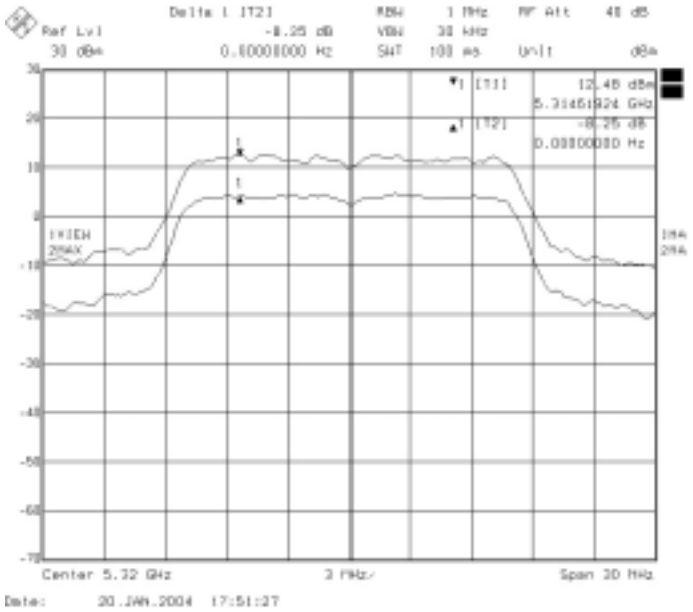
Channel 1



Channel 4

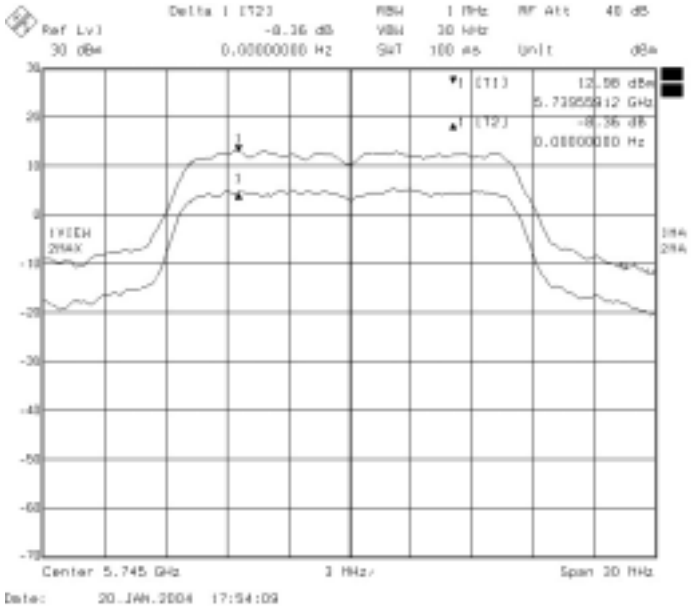


Channel 5

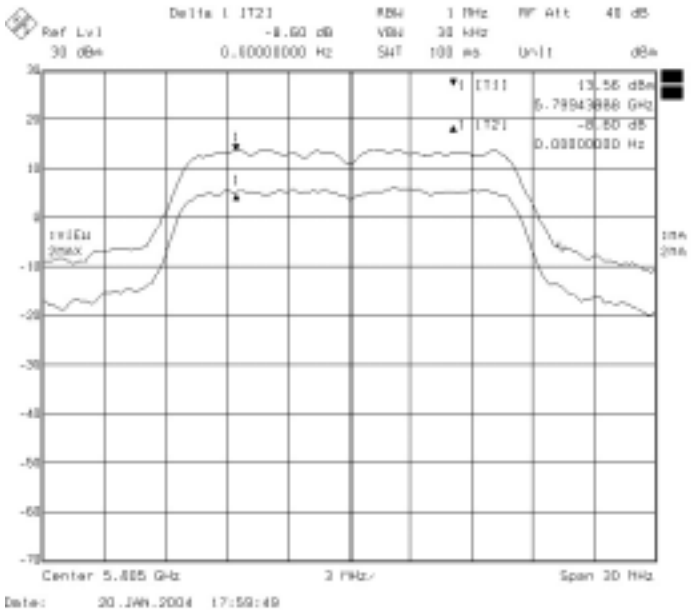


Channel 8

In 5.725~5.825GHz Band



Channel 9



Channel 12

9. FREQUENCY STABILITY

Test Requirement: 15.407(g)

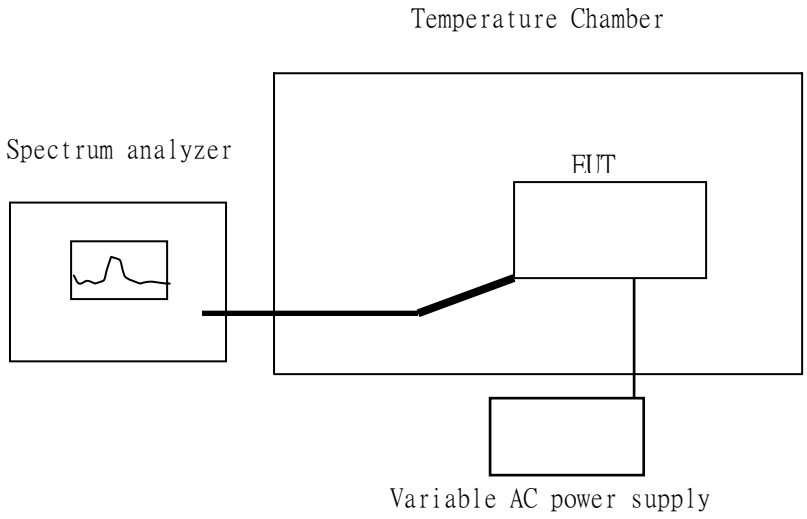
9.1 Test Equipments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	JUN. 17, 2003
HP ATTENUATOR	8496B	3247A18505	Cal. on use
HP PLOTTER	7750A	725A 852141	N/A

NOTE：

- The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
- The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

9.2 Test Setup



9.3 Limits of Out of Band Emissions Measurement

The frequency tolerance of the carrier signal shall be maintained within +/- 0.02% of the operating frequency over a temperature variation of 0 to 50 ℃ at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 25 ℃ at normal.

9.4 Test Procedure

1. The EUT was placed inside a temperature test chamber and powered by AC voltage supply.
2. Turn the EUT on and connect the RF output port to a spectrum analyzer.
3. Set the temperature in chamber to the declarated highesttemperature.
4. Wait approximately 30 min to make sure the temperature of the chamber is stabilized.
5. Measure and record the center frequency of carrier at 85% to 115% nominal supplied voltage.
6. Repeat step 4 and 5 with the temperature of chamber is set to the normal temperature, 25 ℃.
7. Repeat step 4 and 5 with the temperature of chamber is set to the lowest temperature.

9.5 Uncertainty of Conducted Emission

The uncertainty of conducted emission is ± 1.82dB.

9.6 Test Results

TEST CONDITIONS		Operating Frequency (MHz) 5180MHz			
		Measured Frequency (MHz)	Frequency tolerance (%)	Limit (%)	Test Result
T_{min} (0℃)	V_{min}(102)V	5180.0126	-0.000242471	0.02	Pass
	V_{nom}(120)V	5180.0357	-0.000688803	0.02	Pass
	V_{max}(138)V	5180.0126	-0.000243050	0.02	Pass
T_{nom} (25℃)	V_{min}(102)V	5180.0124	-0.000238417	0.02	Pass
	V_{nom}(120)V	5180.0067	-0.000130116	0.02	Pass
	V_{max}(138)V	5180.0046	-0.000088417	0.02	Pass
T_{max} (50℃)	V_{min}(102)V	5180.0174	-0.000335714	0.02	Pass
	V_{nom}(120)V	5180.0159	-0.000306371	0.02	Pass
	V_{max}(138)V	5180.0168	-0.000324903	0.02	Pass

TEST CONDITIONS		Operating Frequency (MHz) 5260MHz			
		Measured Frequency (MHz)	Frequency tolerance (%)	Limit (%)	Test Result
T_{min} (0℃)	V_{min}(102)V	5260.0186	-0.000353536	0.02	Pass
	V_{nom}(120)V	5260.0260	-0.000494049	0.02	Pass
	V_{max}(138)V	5260.0413	-0.000784411	0.02	Pass
T_{nom} (25℃)	V_{min}(102)V	5260.0048	-0.000090494	0.02	Pass
	V_{nom}(120)V	5260.0045	-0.000085551	0.02	Pass
	V_{max}(138)V	5260.0158	-0.000300951	0.02	Pass
T_{max} (50℃)	V_{min}(102)V	5260.0156	-0.000297167	0.02	Pass
	V_{nom}(120)V	5260.0115	-0.000218422	0.02	Pass
	V_{max}(138)V	5260.0366	-0.000695456	0.02	Pass

TEST CONDITIONS		Operating Frequency (MHz) 5745MHz			
		Measured Frequency (MHz)	Frequency tolerance (%)	Limit (%)	Test Result
T_{min} (0℃)	V_{min}(102)V	5745.0129	-0.000224543	0.02	Pass
	V_{nom}(120 V	5745.0189	-0.000329633	0.02	Pass
	V_{max}(138 V	5745.0269	-0.000467781	0.02	Pass
T_{nom} (25℃)	V_{min}(102)V	5745.0076	-0.000132167	0.02	Pass
	V_{nom}(120 V	5745.0045	-0.000078851	0.02	Pass
	V_{max}(138 V	5745.0126	-0.000219321	0.02	Pass
T_{max} (50℃)	V_{min}(102)V	5745.0328	-0.000570931	0.02	Pass
	V_{nom}(120 V	5745.0247	-0.000430113	0.02	Pass
	V_{max}(138 V	5745.0259	-0.000450705	0.02	Pass

10. ANTENNA REQUIREMENT

10.1 Standard Applicable

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

And according to FCC 47 CFR Section 15.407 (d), Any U-NII device that operates in the 5.15-5.25 GHz band shall use a transmitting antenna that is an integral part of the device. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For 5.25-5.35GHz, if transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain up to 23 dBi without any corresponding reduction in the transmitter peak output power or peak power spectral density. For fixed, point-to-point U-NII transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in peak transmitter power and peak power spectral density for each 1 dB of antenna gain in excess of 23 dBi would be required.

10.2 Antenna Connected Construction

The antenna used for this product is Dipole antenna . The antenna is soldered on PCB and the peak Gain of this antenna is only 5dBi at 5GHz.

The antenna used for this product is Dipole antenna . The antenna is soldered on PCB and the peak Gain of this antenna is only 2dBi at 2.4GHz. One extending cable was used to connect the antenna and EUT, and the cable loss of this cable is 2dB at 5.5GHz and 1.27dB at 2.5GHz.

11. RF EXPOSURE EVALUATION

According to FCC 1.1310 : The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)
LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time
(A) Limits for Occupational / Control Exposures				
300-1,500	--	--	F/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Population / Uncontrol Exposures				
300-1,500	--	--	F/1500	6
1,500-100,000	--	--	1	30

11.1 Friis Formula

Friis transmission formula : $Pd = (Pout*G)/(4*pi*r^2)$

Where
Pd = power density in mW/cm^2
Pout = output power to antenna in mW
G = gain of antenna in linear scale
Pi = 3.1416
R = distance between observation point and center of the radiator in cm

Pd id the limit of MPE, 1 mW/cm2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

11.2 EUT Operating Condition

A software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

11.3 Test Result of RF Exposure Evaluation

Test Item ： RF Exposure Evaluation Data
Test Mode ： Normal Operation

11.3.1 Antenna Gain

Antenna Gain：The maximum Gain measured in fully anechoic chamber is 5dBi linear scale.

11.3.2 Output Power into Antenna & RF Exposure Evaluation Distance

Channel	Channel Frequency (MHz)	Output Power to Antenna (dBm)	Power Density at 20cm (mW/cm^2)	LIMITS (mW/cm^2)
CH 01	5180	16.43	0.027652	1
CH 04	5240	16.38	0.027336	1
CH 05	5260	20.61	0.072399	1
CH 08	5320	20.03	0.063348	1
CH 09	5745	22.02	0.100168	1
CH 12	5805	22.35	0.108076	1

Note : 1. For 802.11a Mode (6Mbps).

2. The power density Pd (4th column) at a distance of 20cm calculated from the Friis transmission formula is far below the limit of 1 mW/cm^2 . The EUT is classified as mobile product. So, RF exposure limit warning or SAR test are not required.