



**ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
INTENTIONAL RADIATOR CERTIFICATION TO
FCC PART 15 SUBPART C REQUIREMENT**

OF

802.11a/b/g WIRELESS LAN CARDBUS ADAPTER

MODEL No.: CB-500AG

FCC ID: NKRCB500AG

REPORT NO: 030019-RF-ID

ISSUE DATE: Mar. 07, 2003

Prepared for

Wistron NeWeb Corporation

No. 10-1, Li-hsin Road 1, Hsinchu 300, Taiwan, R.O.C.



Prepared by

C&C LABORATORY, CO., LTD.

#B1, 1st Fl., Universal Center,

No. 183, Sec. 1, Tatung Rd., Hsi Chih,

Taipei Hsien, Taiwan, R.O.C.

TEL: (02)8642-2071~3

FAX: (02)8642-2256



VERIFICATION OF COMPLIANCE

Applicant: Wistron NeWeb Corporation
No. 10-1, Li-hsin Road 1, Hsinchu 3000, Taiwan, R.O.C.

Product Description: IEEE 802.11 a/b/g WLAN Cardbus Adapter

Model No.: CB-500AG

Serial Number: N/A

File Number: 030019-RF-ID

Date of test: February 18, 2003 ~ March 05, 2003

We hereby certify that:

The above equipment was tested by C&C Laboratory Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2000) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.247

The test results of this report relate only to the tested sample identified in this report.

Approved By

A handwritten signature in black ink, appearing to read 'Vincent Su', is written over a horizontal line.

Vincent Su / Vice Manager
C&C Laboratory Co., Ltd..

Table of Contents

1.	GENERAL INFORMATION	5
1.1	PRODUCT DESCRIPTION.....	5
1.2	RELATED SUBMITTAL(S) / GRANT (S).....	5
1.3	TEST METHODOLOGY	5
1.4	TEST FACILITY	6
1.5	SPECIAL ACCESSORIES	6
1.6	EQUIPMENT MODIFICATIONS.....	6
2.	SYSTEM TEST CONFIGURATION	7
2.1	EUT CONFIGURATION	7
2.2	EUT EXERCISE.....	7
2.3	TEST PROCEDURE.....	7
2.4	CONFIGURATION OF TESTED SYSTEM	8
3.	SUMMARY OF TEST RESULTS.....	9
4.	DESCRIPTION OF TEST MODES.....	9
5.	SPURIOUS EMISSION TEST.....	10
5.1	STANDARD APPLICABLE	10
5.2	EUT SETUP.....	10
5.3	MEASUREMENT PROCEDURE.....	10
5.4	TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION).....	11
5.5	MEASUREMENT EQUIPMENT USED:.....	12
5.6	MEASUREMENT RESULT	12
6.	AC POWER LINE CONDUCTED EMISSION TEST	73
6.1	STANDARD APPLICABLE	73
6.2	EUT SETUP.....	73
6.3	MEASUREMENT PROCEDURE.....	73
6.4	MEASUREMENT EQUIPMENT USED:.....	74
6.5	MEASUREMENT RESULT	74
7.	6 DB BANDWIDTH MEASUREMENT.....	81
7.1	STANDARD APPLICABLE	81
7.2	MEASUREMENT EQUIPMENT USED:.....	81
7.3	TEST SET-UP:.....	81
7.4	MEASUREMENT PROCEDURE.....	81
7.5	MEASUREMENT RESULT	82
8.	PEAK OUTPUT POWER MEASUREMENT.....	89
8.1	STANDARD APPLICABLE	89
8.2	TEST SETUP.....	89
8.3	MEASUREMENT PROCEDURE.....	89
8.4	MEASUREMENT EQUIPMENT USED:.....	89



8.5	TEST RESULTS:	90
9.	100KHZ BANDWIDTH OF BAND EDGES MEASUREMENT	91
9.1	STANDARD APPLICABLE	91
9.2	TEST SETUP.....	91
9.3	MEASUREMENT PROCEDURE.....	91
9.4	MEASUREMENT EQUIPMENT USED:.....	92
9.5	MEASUREMENT RESULT	93
10.	PEAK POWER SPECTRAL DENSITY.....	109
10.1	STANDARD APPLICABLE	109
10.2	MEASUREMENT PROCEDURE.....	109
10.3	MEASUREMENT EQUIPMENT USED:.....	109
10.4	MEASUREMENT RESULT	109
11.	ANTENNA REQUIREMENT.....	119
11.1	STANDARD APPLICABLE	119
11.2	ANTENNA CONNECTED CONSTRUCTION	119
12.	RF EXPOSURE.....	120
12.1	STANDARD APPLICABLE	120
12.2	MEASUREMENT RESULT:.....	120
13.	TERMS OF ABRIVATION.....	121
	PHOTOGRPHS OF SET UP	122
	PHOTOGRPHS OF EUT	125

1. GENERAL INFORMATION

1.1 Product Description

The Wistron NeWeb Corporation Model: CB-500AG (referred to as the EUT in this report) is a IEEE802.11a/b/g WLAN PCMCIA Card.

A major technical descriptions of EUT is described as following:

A). Operation Frequency:

2400~2483.5			5725~5850		
	IEEE802.11b	IEEE802.11g		Normal Mode	Turbo Mode
1	2412	2412	1	5745	5760
2	2417	2417	2	5765	5800
3	2422	2422	3	5785	
4	2427	2427	4	5805	
5	2432	2432	5	5825	
6	2437	2437			
7	2442	2442			
8	2447	2447			
9	2452	2452			
10	2457	2457			
11	2462	2462			

B). Transmit Power: 20dBm (Peak)

C). Modulation type: Direct Sequence Spread Spectrum, (CCK; DQPSK; DBPSK)
OFDM(IEEE802.11a/g)

D). Transition Speed: 1/2/5.5/11Mbps(IEEE802.11b), up to 54Mbps(108Mbps:Turbo mode)

E). Antenna Designation: PIFA Antenna ; Non-User Replaceable (Fixed), two provided.
one for Tx, another for Rx.

F). Power Supply: DC3.3V from PCMCIA port of Notebook system for EUT

1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: NKRCB500AG filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

1.3 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4 (2000). Radiated testing was performed at an antenna to EUT distance 3 meters..



1.4 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on the address of C&C Laboratory, Co., Ltd. No. 81-1, 210 Lane, Pa-de 2nd Road, Lu-Chu Hsiang, Taoyuan, Taiwan, R.O.C.. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2000 and CISPR 22/EN 55022 requirements.

1.5 Special Accessories

Not available for this EUT intended for grant.

1.6 Equipment Modifications

Not available for this EUT intended for grant.

2. SYSTEM TEST CONFIGURATION

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

The EUT (Transmitter) was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements.

2.3 Test Procedure

2.3.1 Conducted Emissions

The EUT is placed on a turn table which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4-2000, conducted emissions from the EUT are measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak detector mode.

2.3.2 Radiated Emissions

The EUT is placed on a turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) were rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4-2000.

2.4 Configuration of Tested System

Fig. 2-1 Configuration of Tested System

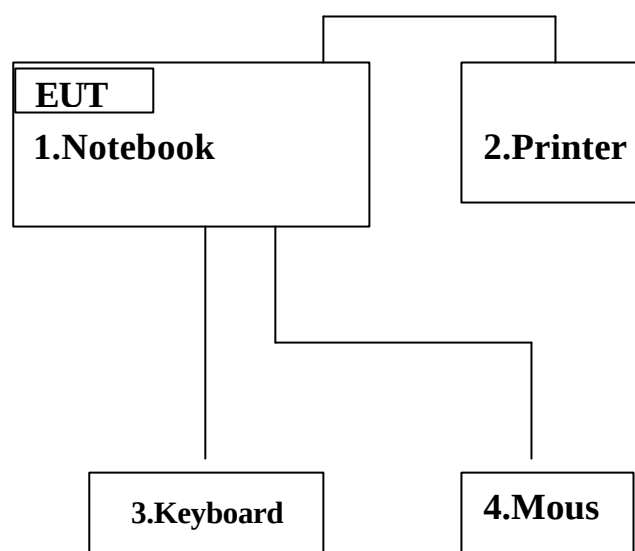


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	FCC ID	Series No.	Data Cable	Power Cord
1	Notebook	IBM	2656	DoC	AK-VFOHT	N/A	1.2m unshielded AC power cable 1.8m unshielded DC power cable
1	Notebook	TOSHIBA	1110	DoC	X2370069	N/A	1.8m unshielded AC power cable 1.8m unshielded DC power cable
1	Notebook	BENQ	DH8000	DoC	N/A	N/A	1.8m unshielded AC power cable 1.8m unshielded DC power cable
2	Printer	EPSON	P1114A	N/A	CAQY004717	Shielded,1.8m	UnShielded,1.8m
3	Keyboard	IBM	SK-8805	N/A	00037822	Shielded,1.8m	N/A
4	Mouse	LOGITECH	M-BB48	N/A	LZE01450987	Shielded,1.8m	N/A

3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§5.209(a) (f)	Spurious Emission	Compliant
§5.207(a)	AC Power Port Conducted Emission	Compliant
§5.247(a)(2)	6dB Bandwidth	Compliant
§5.247(b)	Peak Output Power	Compliant
§5.247(c)	100 KHz Bandwidth Of Frequency Band Edges	Compliant
§5.247(d)	Power Density	Compliant
§5.203	Antenna Requirement	Compliant
§.1310 and §.1093	RF exposures	Compliant

4. DESCRIPTION OF TEST MODES

The EUT (PCMCIA) has been tested under operating condition.

Software used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

IEEE802.11b:Channel 1(2412MHz)、6(2437MHz) and 11(2462MHz) with 11Mbps data rate are chosen for full testing.

IEEE802.11g: Base mode of frequency band 2.4GHz – 2.4835GHz Channel 1(2412MHz)、7(2442MHz) and 11(2462MHz) with 54Mbps data rate are chosen for full testing.

Turbo mode of frequency band 2.4GHz – 2.4835GHz: Channel 6(2437MHz) with 108Mbps (Turbo Mode) data rate are chosen for full testing.

IEEE802.11a:Base mode of frequency band 5.725GHz – 5.850GHz: Channel 1(5745MHz)、3(5785MHz)and 5(5825MHz) with 54Mbps highest data rate are chosen for full testing.

Turbo mode of frequency band 5.725GHz – 5.850GHz: Channel 1(5760MHz) and 2(5800MHz) with 108Mbps data rate are chosen for full testing.

AC Power port conducted emission and Radiated Spurious Emission are measured with three difference type of Notebook PC.

5. SPURIOUS EMISSION TEST

5.1 Standard Applicable

According to §5.247(c), all other emissions outside these bands shall not exceed the general radiated emission limits specified in §5.209(a). And according to §5.33(a)(1), for an intentional radiator operates below 10GHz, the frequency range of measurements: to the tenth harmonic of the highest fundamental frequency or to 40GHz, whichever is lower.

5.2 EUT Setup

1. The radiated emission tests were performed in the 3 meter open-test site, using the setup in accordance with the ANSI C63.4-2000.
2. The EUT was plug-in the host Notebook via PCMCIA port. The host Notebook system was placed on the center of the back edge on the test table. The peripherals like printer, K/B, and mouse were placed on the side of the host Notebook system. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
3. The keyboard was placed directly in the front of the Notebook, flushed with the front tabletop. The mouse was placed next to the Keyboard, flushed with the back of keyboard.
4. The spacing between the peripherals was 10 centimeters.
5. External I/O cables were draped along the edge of the test table and bundle when necessary.
6. The host Notebook system was connected with 110Vac/60Hz power source.

5.3 Measurement Procedure

(1) Conducted test:

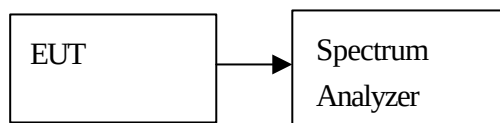
1. Conducted RF measurements of the transmitter output were made to confirm that the EUT antenna port conducted emissions meet the specified limit and to identify any spurious signals that require further investigation

(2) Radiation test:

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until all frequency measured were complete.

5.4 Test SET-UP (Block Diagram of Configuration)

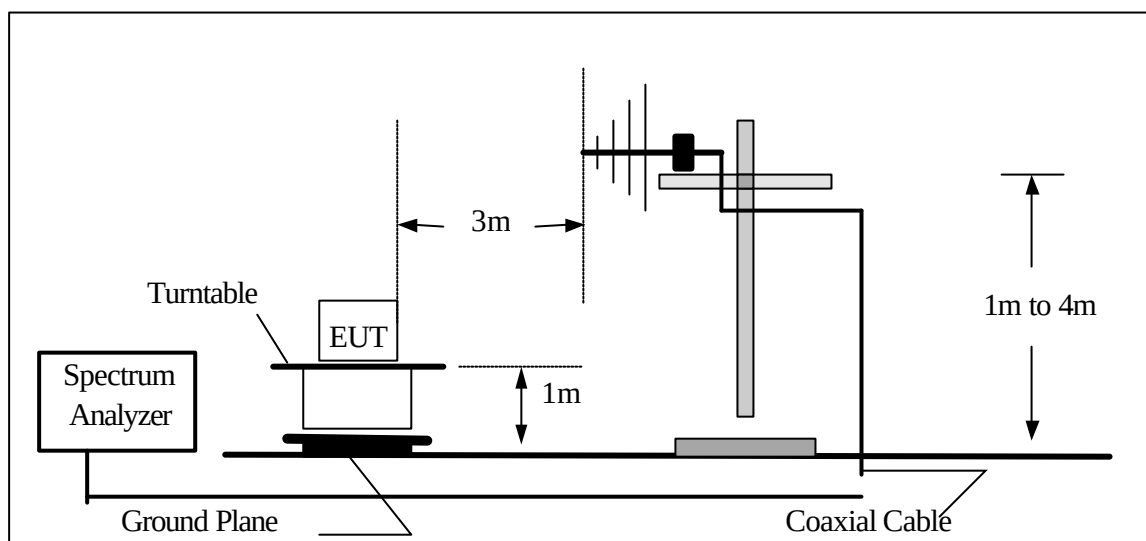
1. Conducted test:



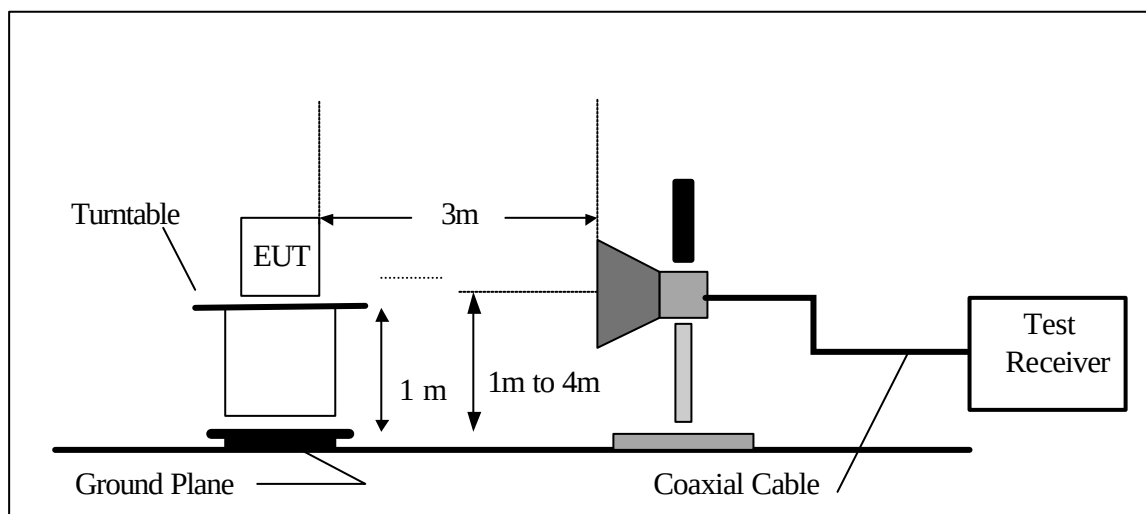
The EUT was connected to the spectrum analyzer through a 50Ω RF cable.

2. Radiation test:

(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



5.5 Measurement Equipment Used:

Open Area Test Site # 3					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	ADVANTEST	R3261A	N/A	03/18/2003	03/17/2004
Spectrum Analyzer	Advantest	R3182	110600647	11/16/2002	11/15/2003
Spectrum Analyzer	ROHDE & SCHWARZ	FSP30	100112	06/29/2002	06/28/2003
EMI Test Receiver	R&S	ESVS20	838804/004	01/04/2003	01/03/2004
Pre-Amplifier	HP	8447D	2944A09173	03/03/2003	03/02/2004
Bi-log Antenna	SCHWAZBECK	VULB9163	145	07/06/2002	07/05/2003
Turn Table	EMCO	2081-1.21	9709-1885	N.C.R	N.C.R
Antenna Tower	EMCO	2075-2	9707-2060	N.C.R	N.C.R
Controller	EMCO	2090	9709-1256	N.C.R	N.C.R
RF Switch	ANRITSU	MP59B	M53867	N.C.R	N.C.R
Site NSA	C&C	N/A	N/A	11/17/2002	11/16/2003
Horn antenna	Schwarzbeck	BBHA 9120	D210	2/23/2003	2/22/2004
Horn antenna	EMCO	3116	2487	11/11/2002	11/10/2003
Pre-Amplifier	HP	8449B	3008B00965	10/01/2002	10/02/2003

Factor Calculation

The Factor is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$F = AF + CL - AG$$

Where F = Factor	CL = Cable Attenuation Factor (Cable Loss)
AF = Antenna Factor	AG = Amplifier Gain

5.6 Measurement Result

Refer to attach tabular data sheets.

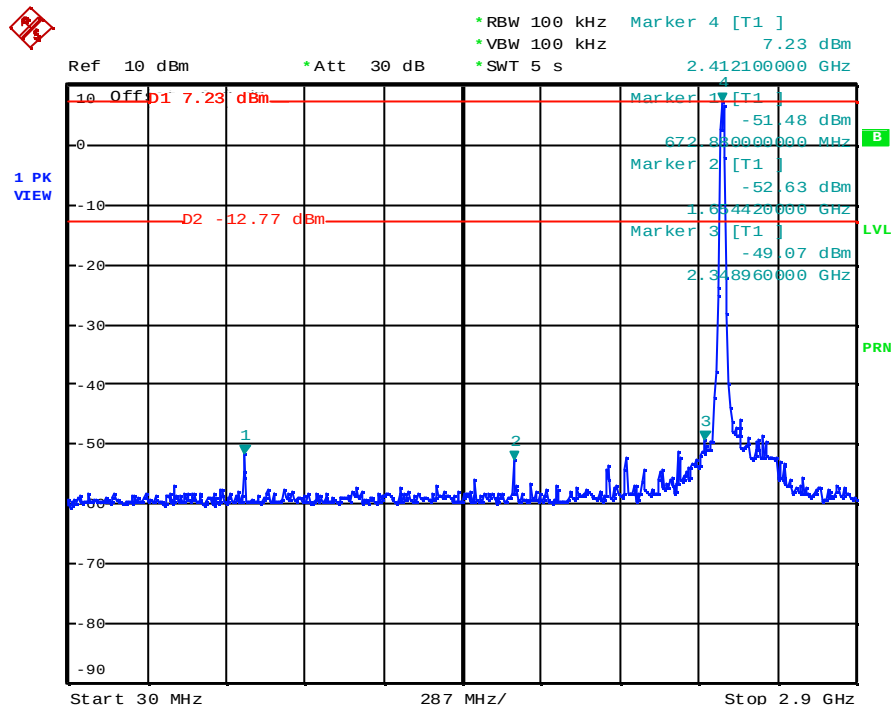
NOTE:

The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 100kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.

Conducted Spurious Emission Measurement Result

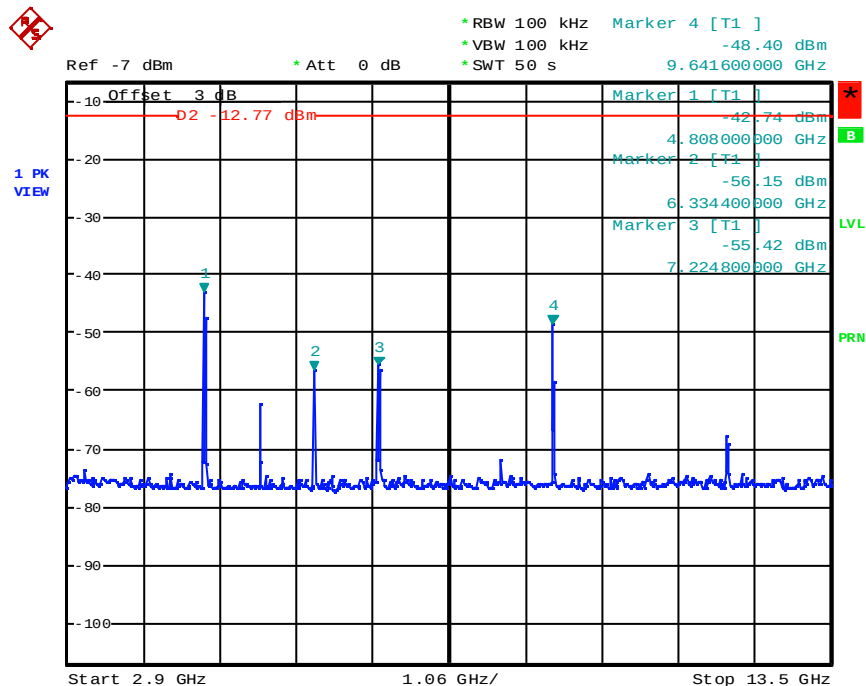
2.4GHz Band, IEEE802.11b Mode

CH Low 30MHz – 2.9GHz



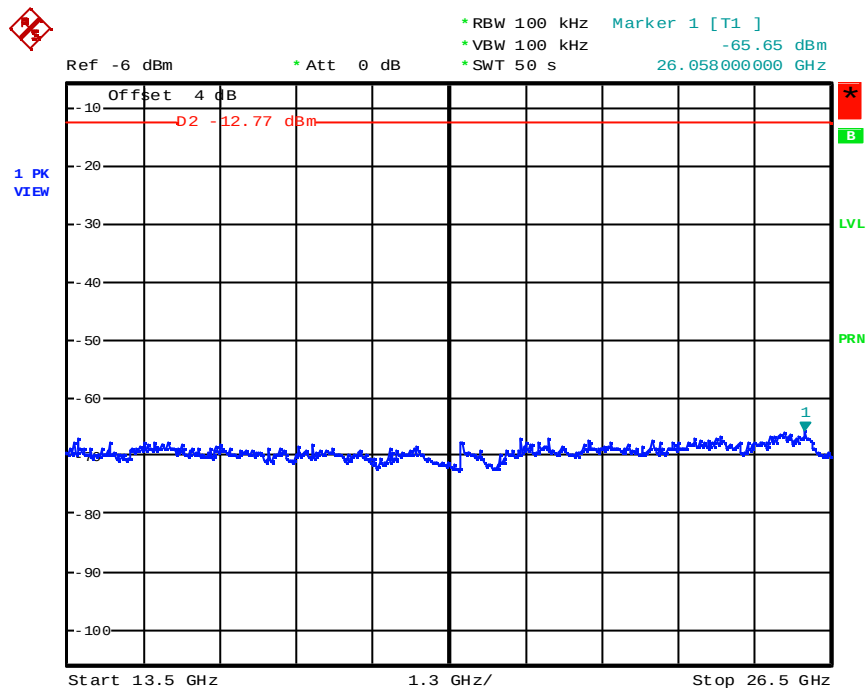
Date: 22.FEB.2003 10:56:25

CH Low 2.9GHz – 13.5GHz



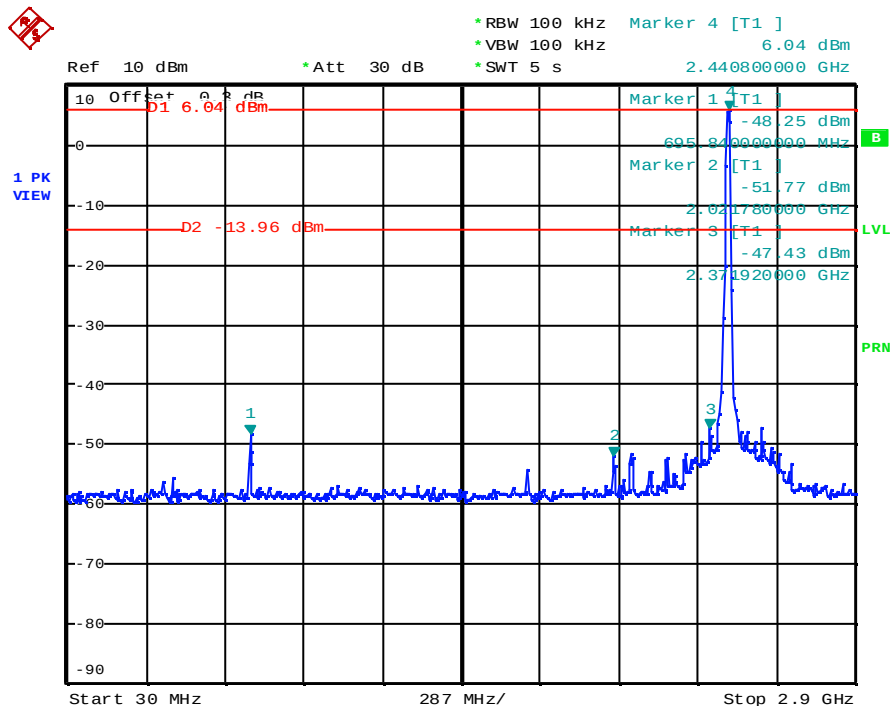
Date: 22.FEB.2003 10:59:32

CH Low 13.5GHz – 26.5GHz



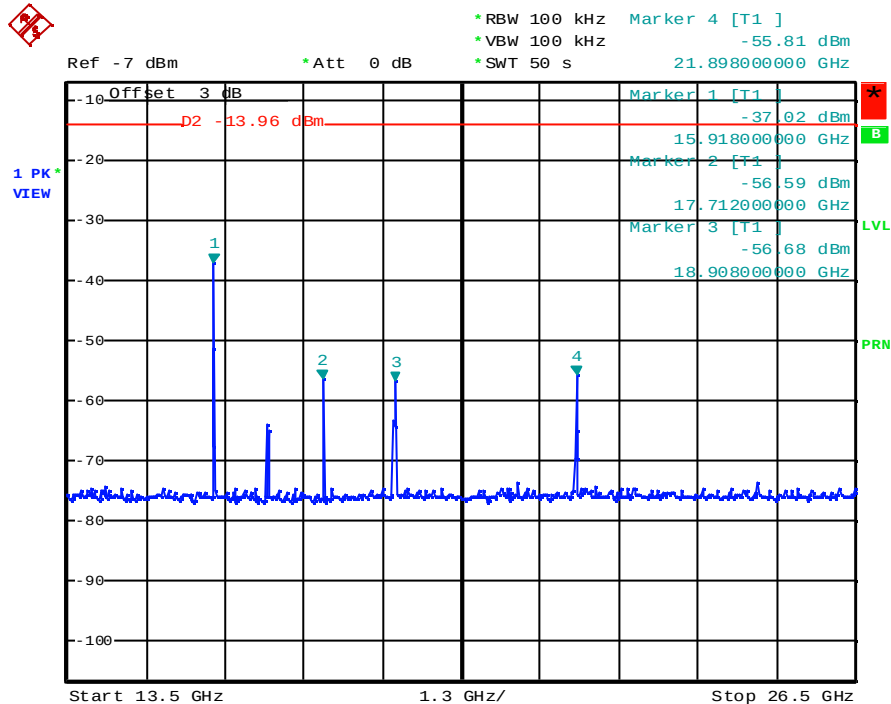
Date: 22.FEB.2003 11:01:59

CH Mid 30MHz – 2.9GHz



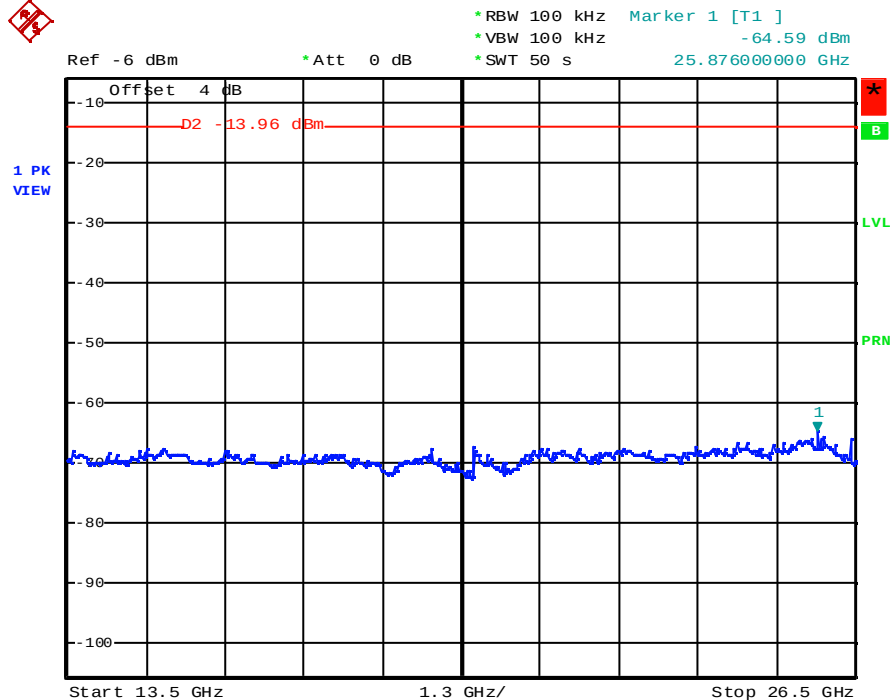
Date: 22.FEB.2003 10:43:09

CH Mid 2.9GHz – 13.5GHz



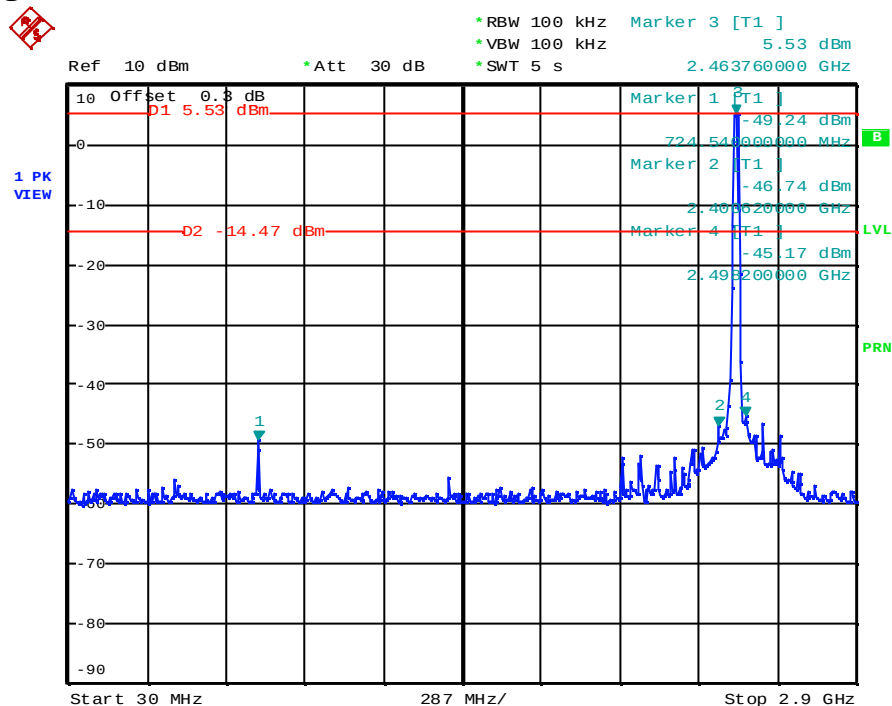
Date: 22.FEB.2003 10:50:27

CH Mid 13.5GHz – 26.5GHz



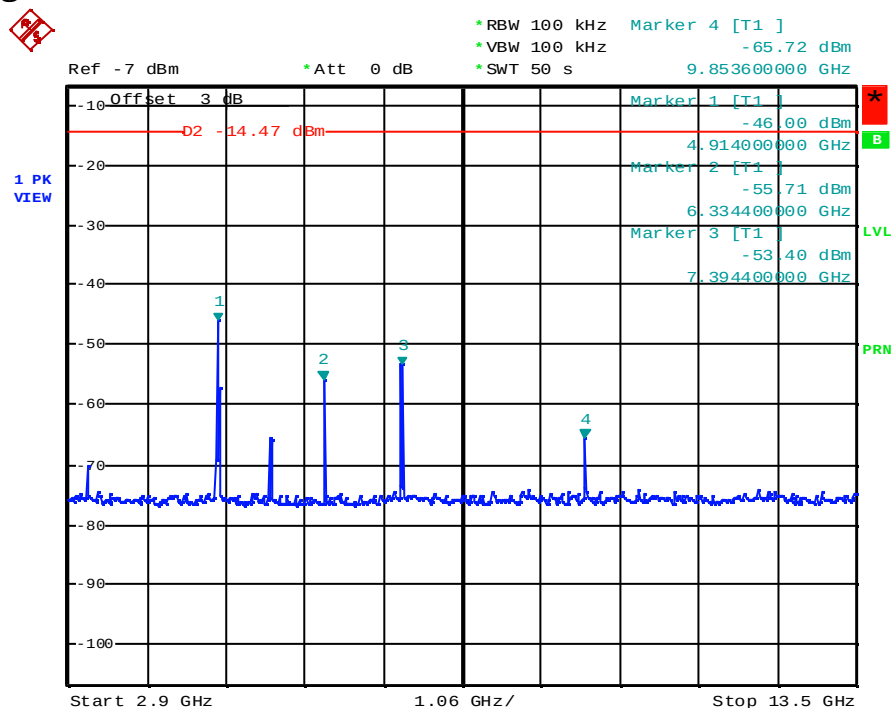
Date: 22.FEB.2003 10:52:53

CH High 30MHz – 2.9GHz



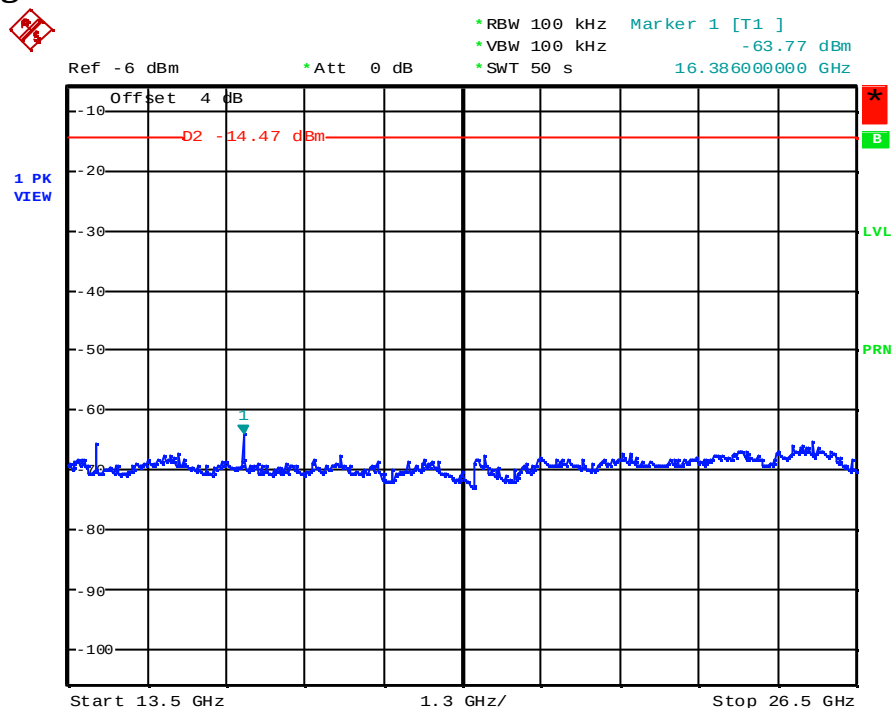
Date: 22.FEB.2003 11:05:58

CH High 2.9GHz – 13.5GHz



Date: 22.FEB.2003 11:08:43

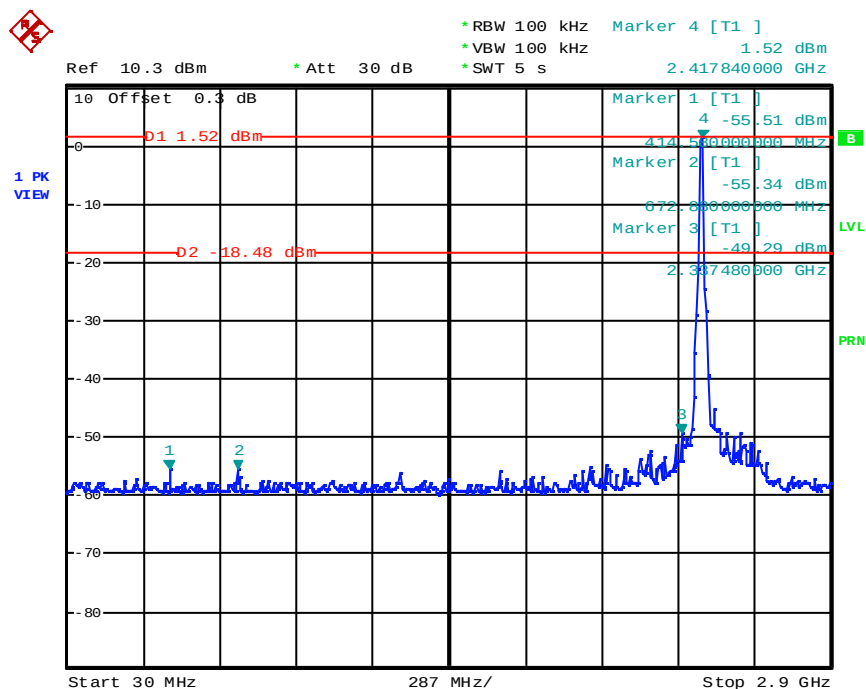
CH High 13.5GHz – 26.5GHz



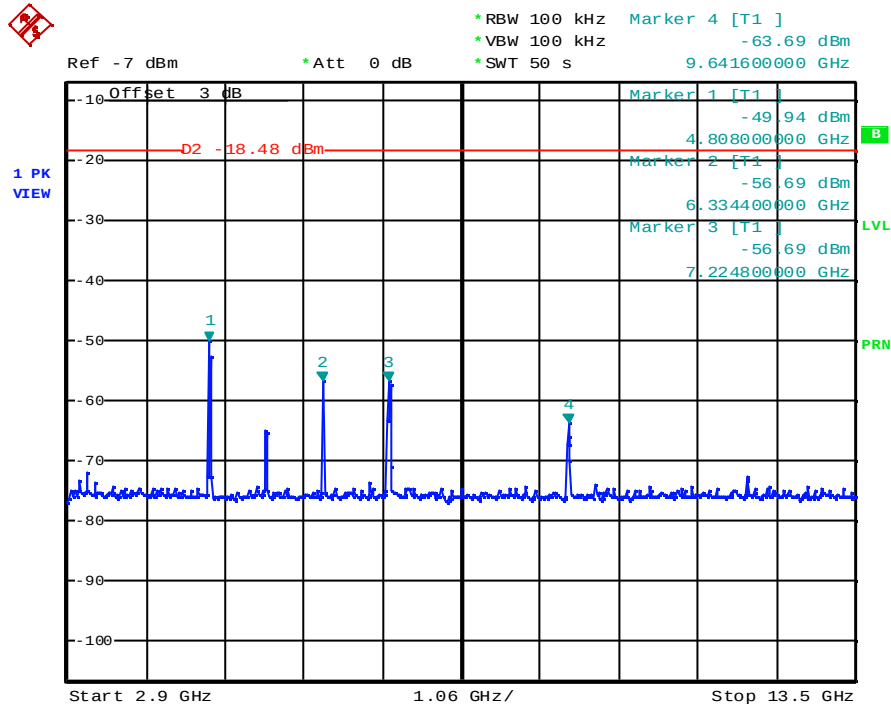
Date: 22.FEB.2003 11:12:49

2.4GHz Band, IEEE802.11g Mode

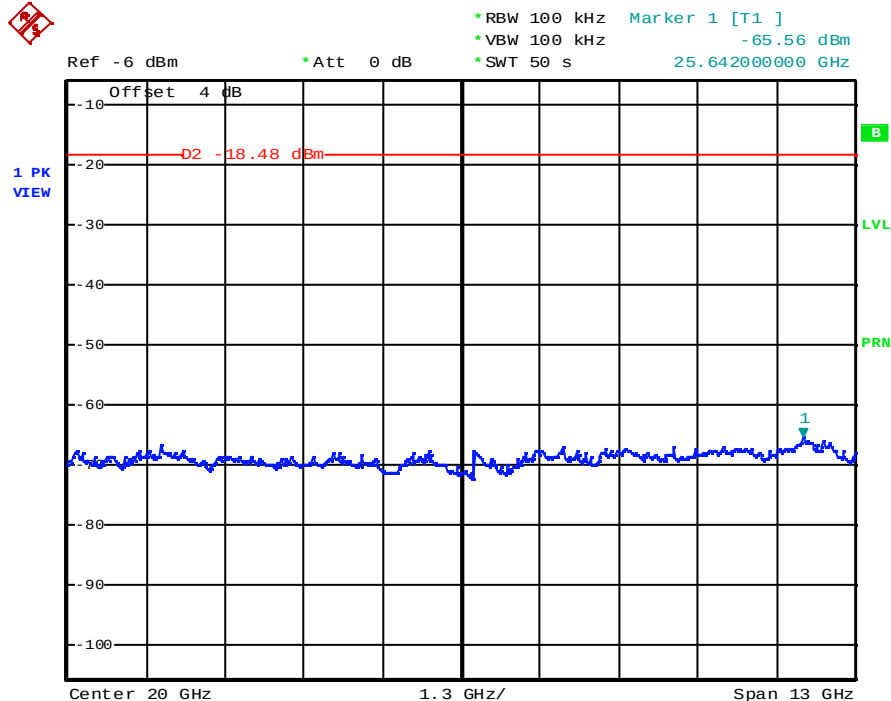
CH Low 30MHz – 2.9GHz



Date: 22.FEB.2003 11:41:49

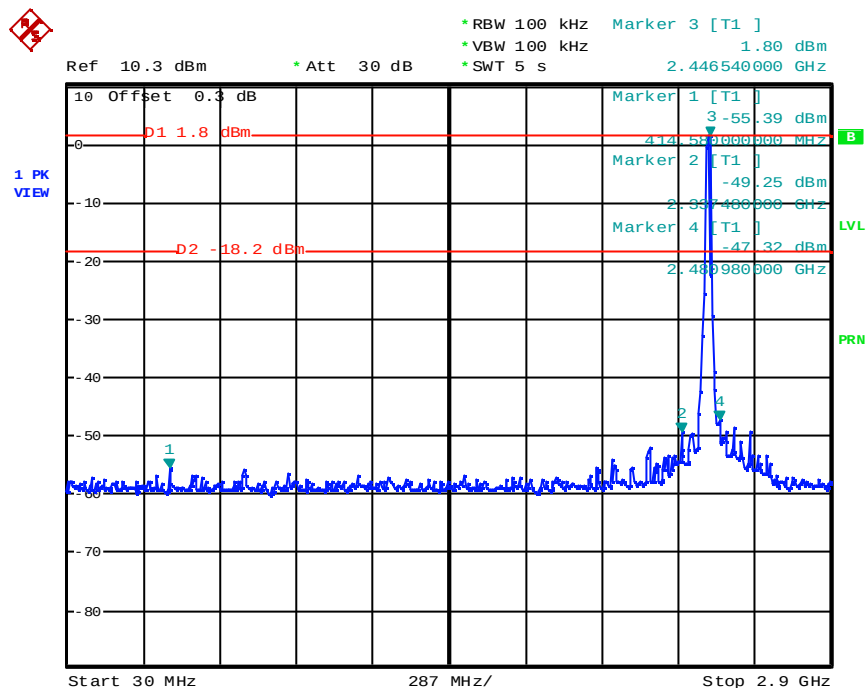
CH Low 2.9GHz – 13.5GHz

Date: 22.FEB.2003 11:44:33

CH Low 13.5GHz – 26.5GHz

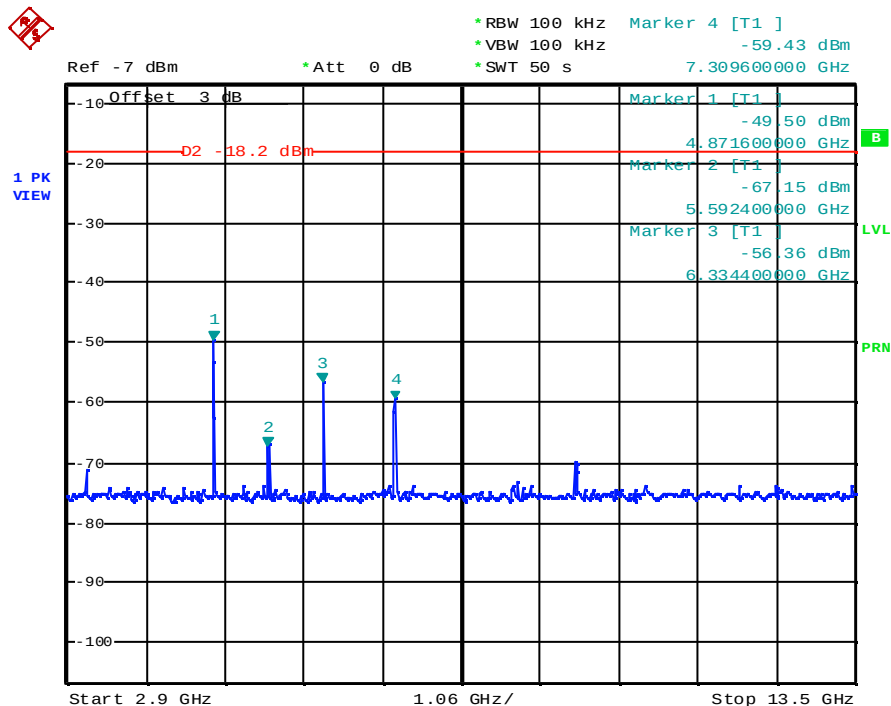
Date: 22.FEB.2003 11:58:29

CH Middle 30MHz – 2.9GHz



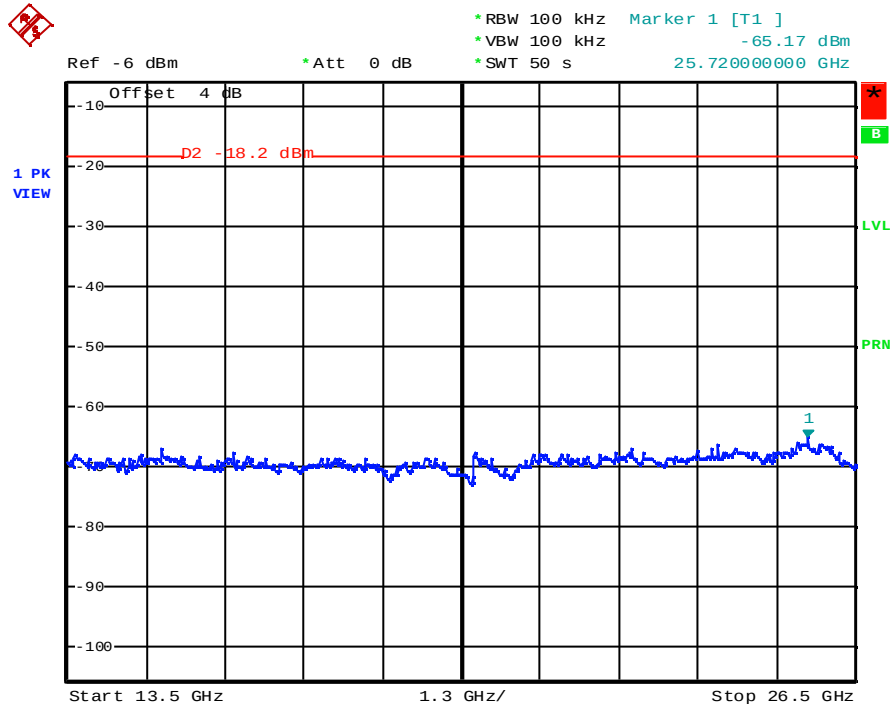
Date: 22.FEB.2003 11:26:43

CH Middle 2.9GHz – 13.5GHz



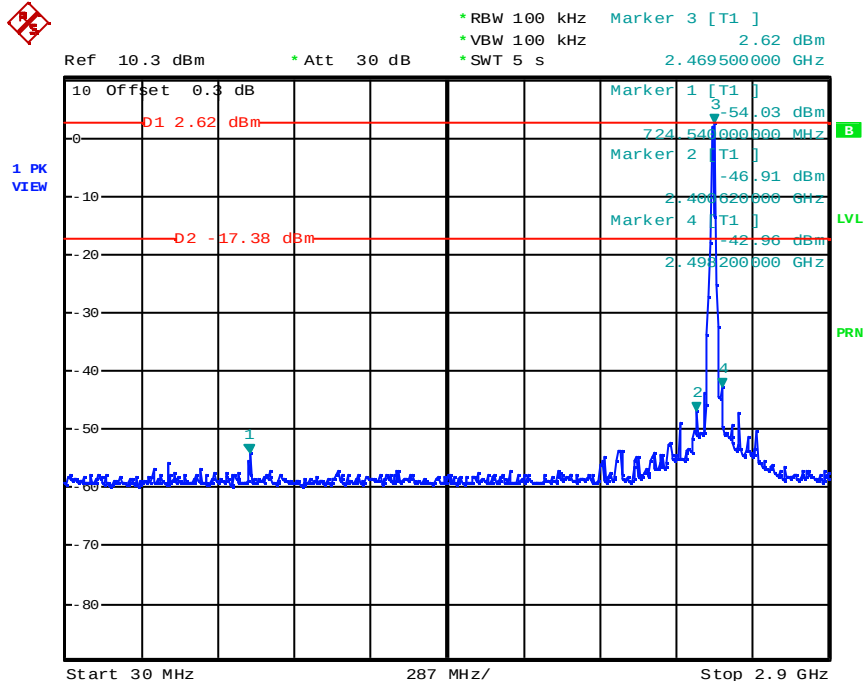
Date: 22.FEB.2003 11:50:24

CH Middle 13.5GHz – 26.5GHz

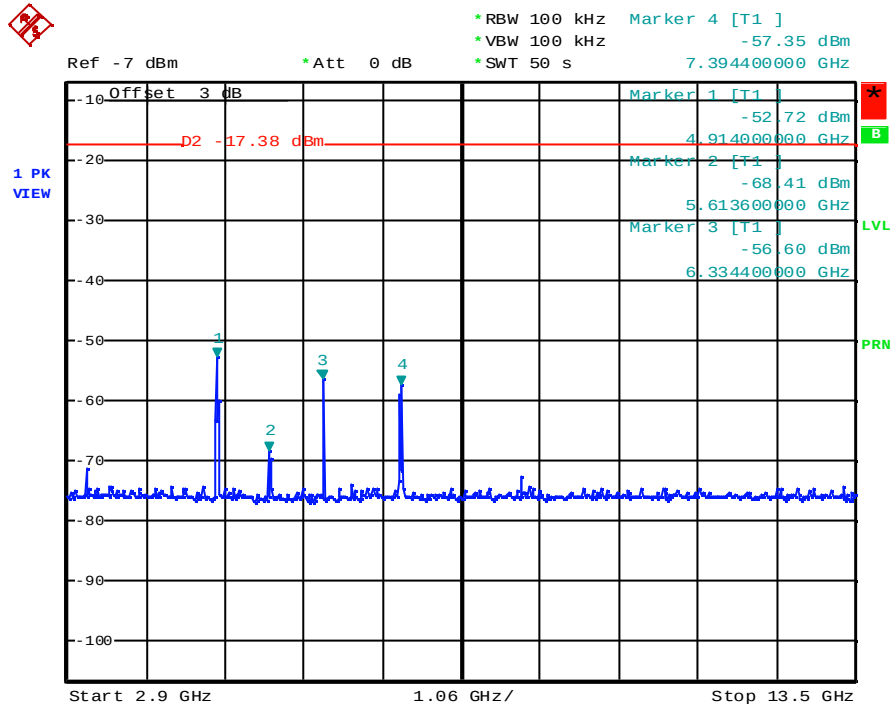


Date: 22.FEB.2003 11:33:01

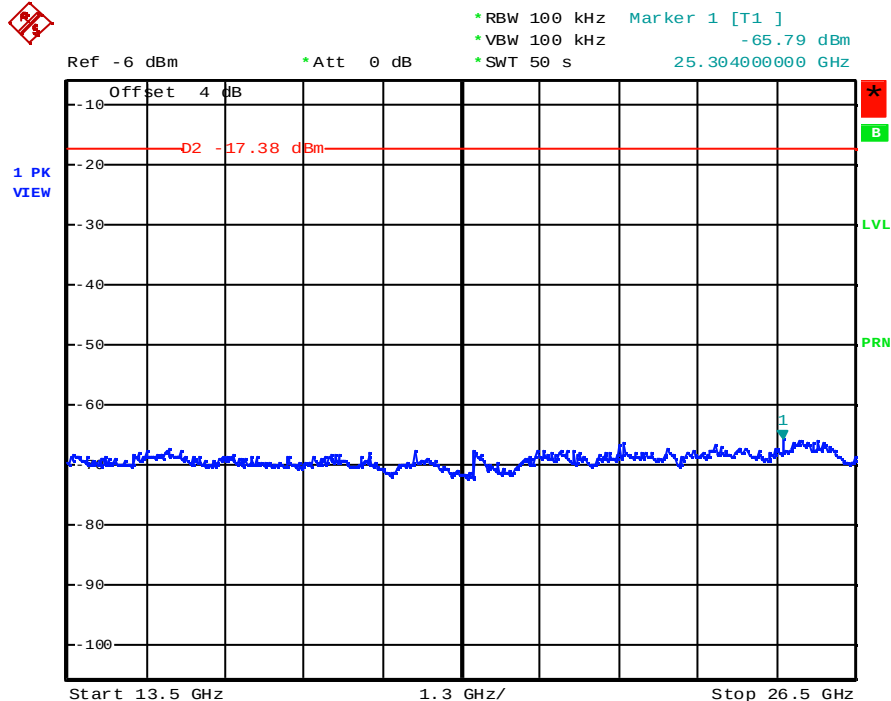
CH High 30MHz – 2.9GHz



Date: 22.FEB.2003 11:18:06

CH High 2.9GHz – 13.5GHz

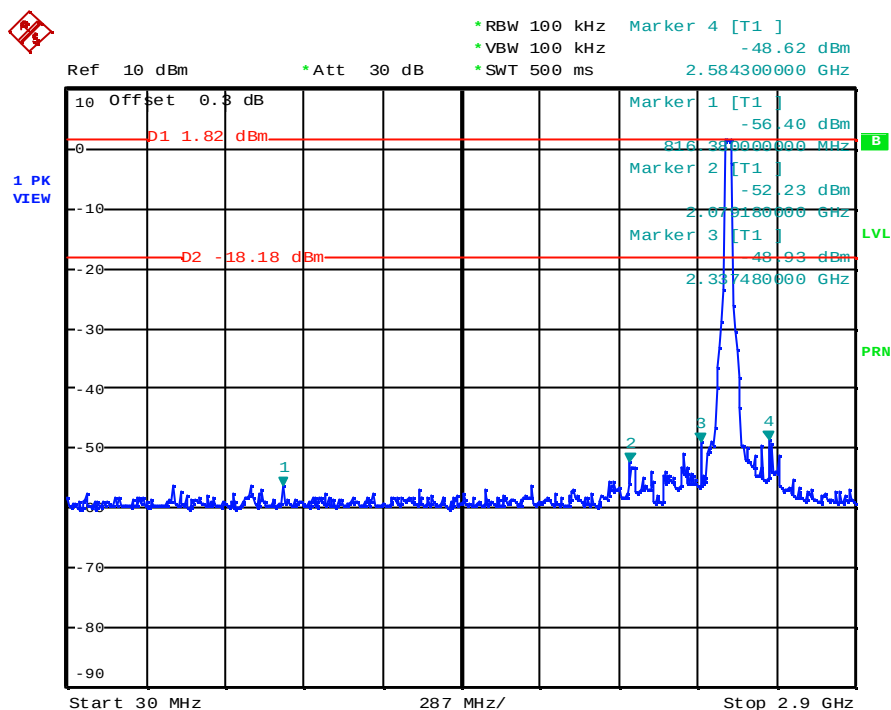
Date: 22.FEB.2003 11:20:56

CH High 13.5GHz – 26.5GHz

Date: 22.FEB.2003 11:22:38

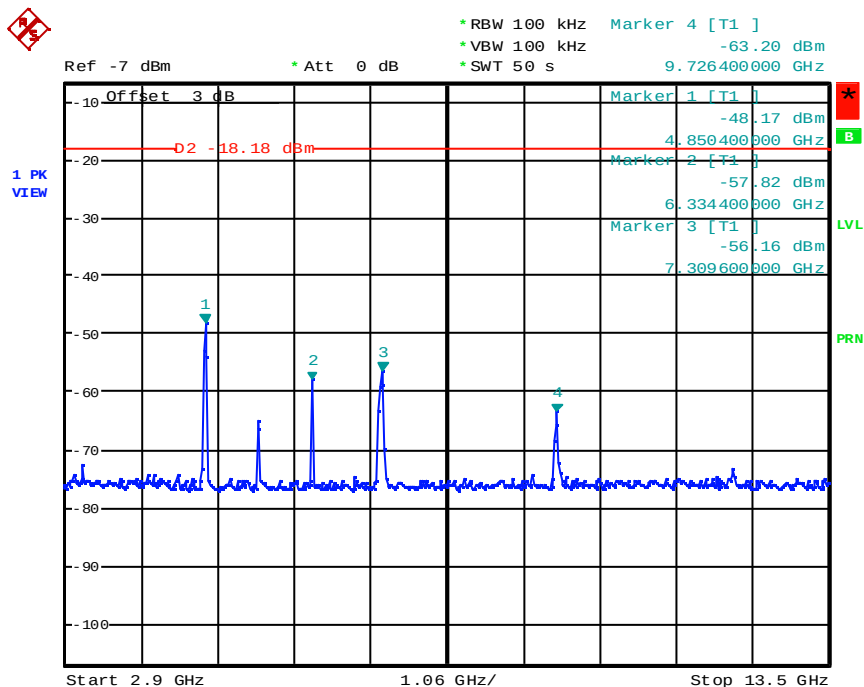


2.4GHz Band, IEEE802.11g Turbo Mode CH Middle 30MHz – 2.9GHz

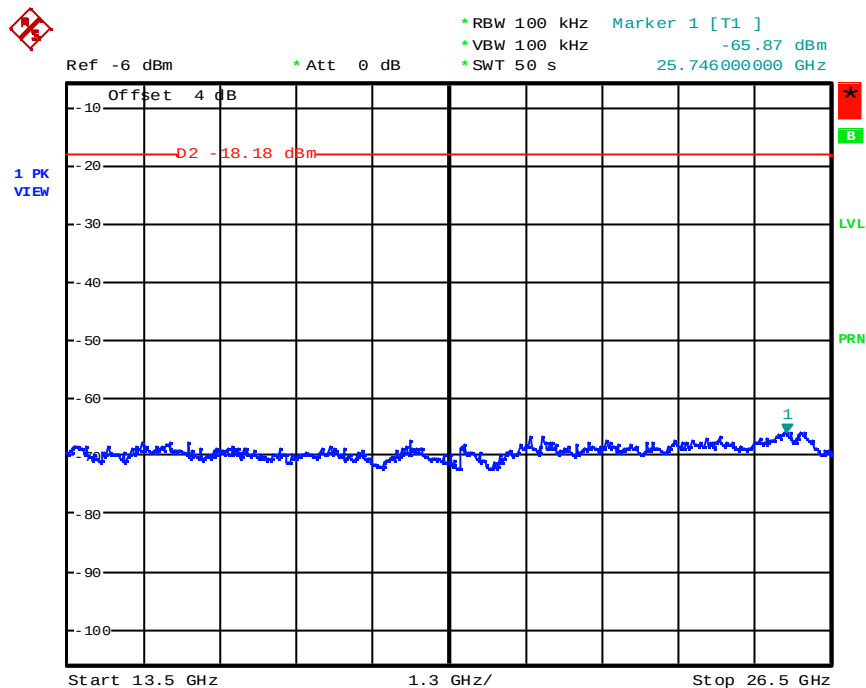


Date: 25.FEB.2003 13:34:04

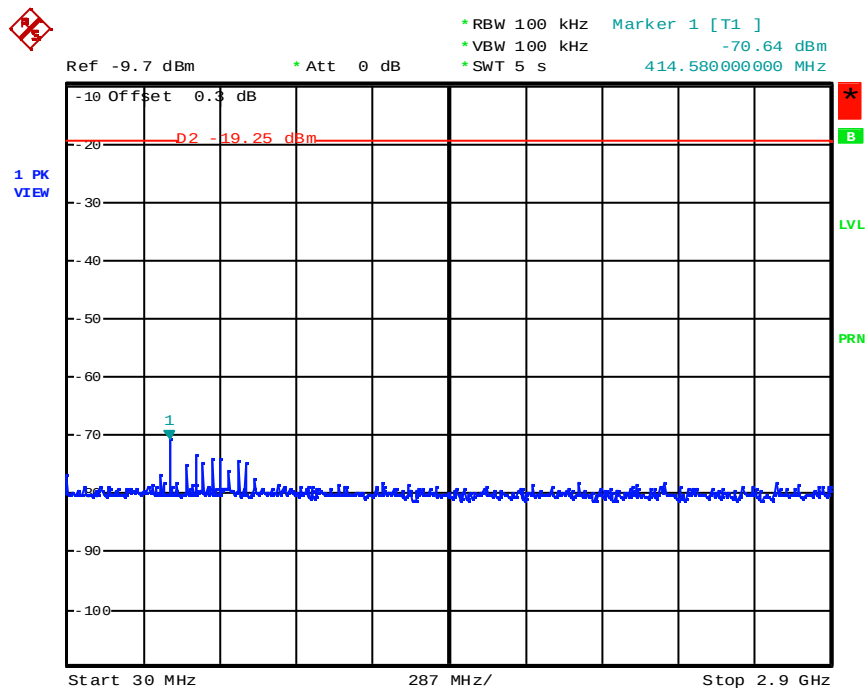
CH Middle 2.9GHz – 13.5GHz



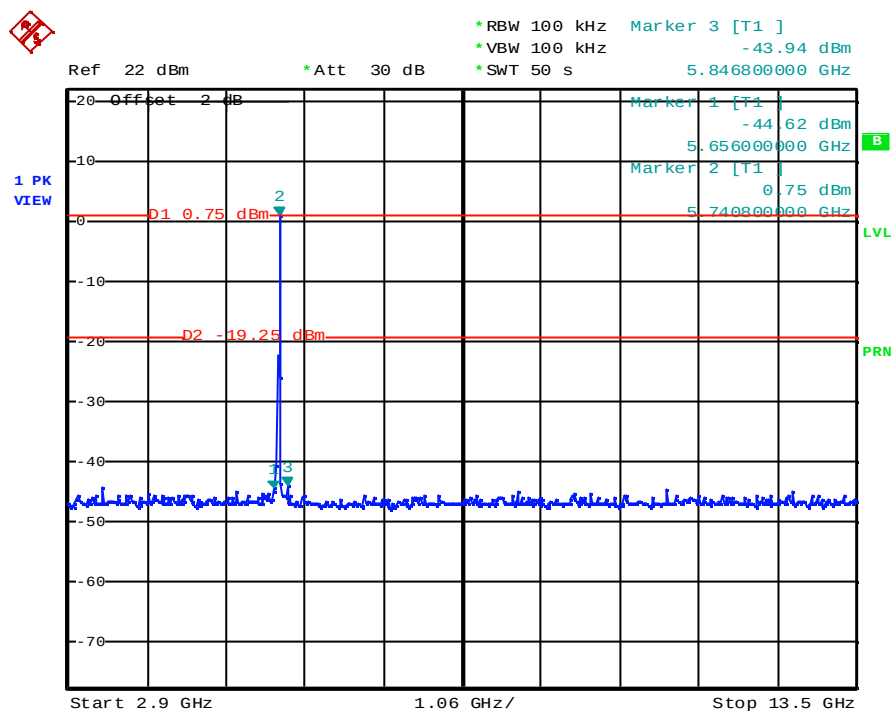
Date: 25 .FEB.2003 13:54:44

CH Middle 13.5GHz – 26.5GHz

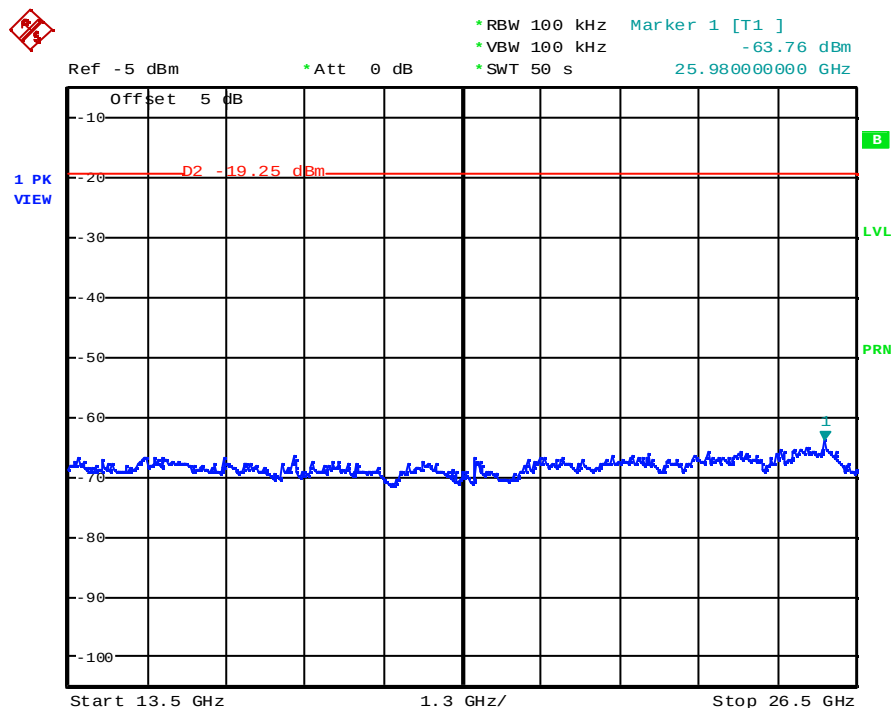
Date: 25.FEB.2003 13:47:18

5.8GHz Band, IEEE802.11a Mode**CH Low 30MHz – 2.9GHz**

Date: 22.FEB.2003 13:13:33

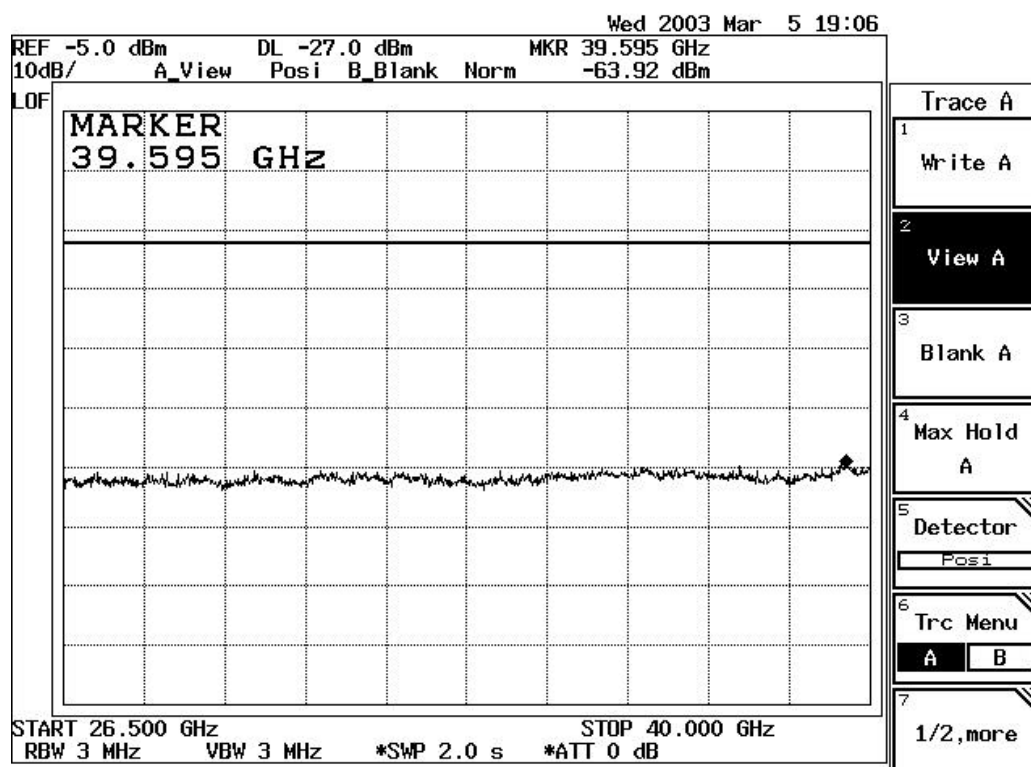
CH Low 2.9GHz – 13.5GHz

Date: 22.FEB.2003 13:09:30

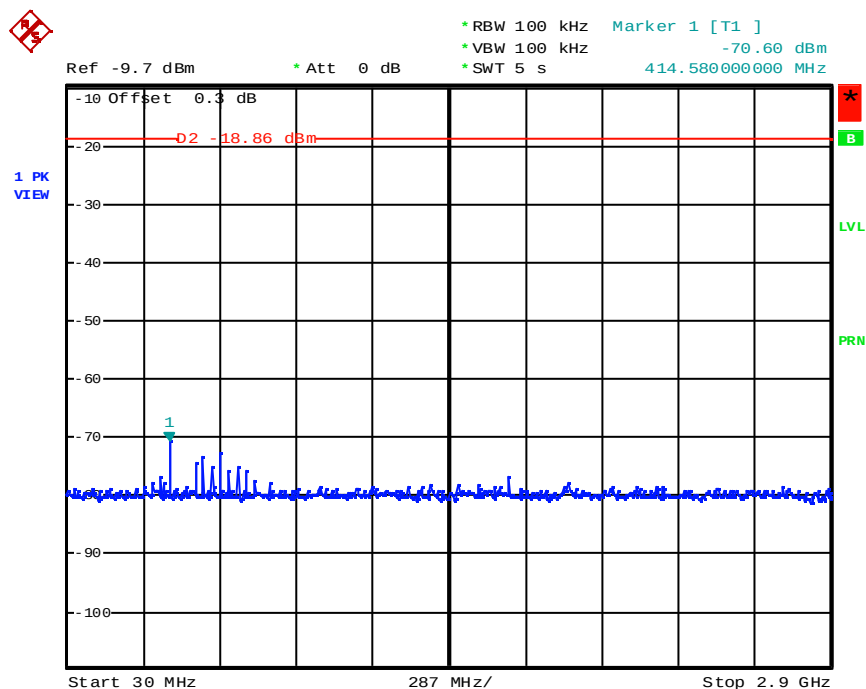
CH Low 13.5GHz – 26.5GHz

Date: 22.FEB.2003 13:12:17

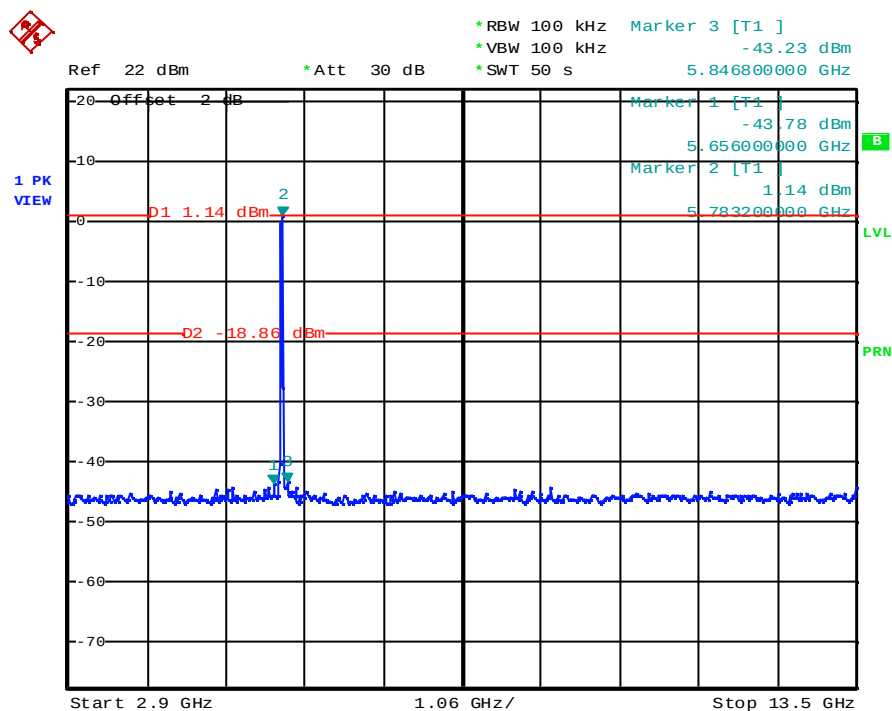
CH Low 26.5GHz – 40GHz



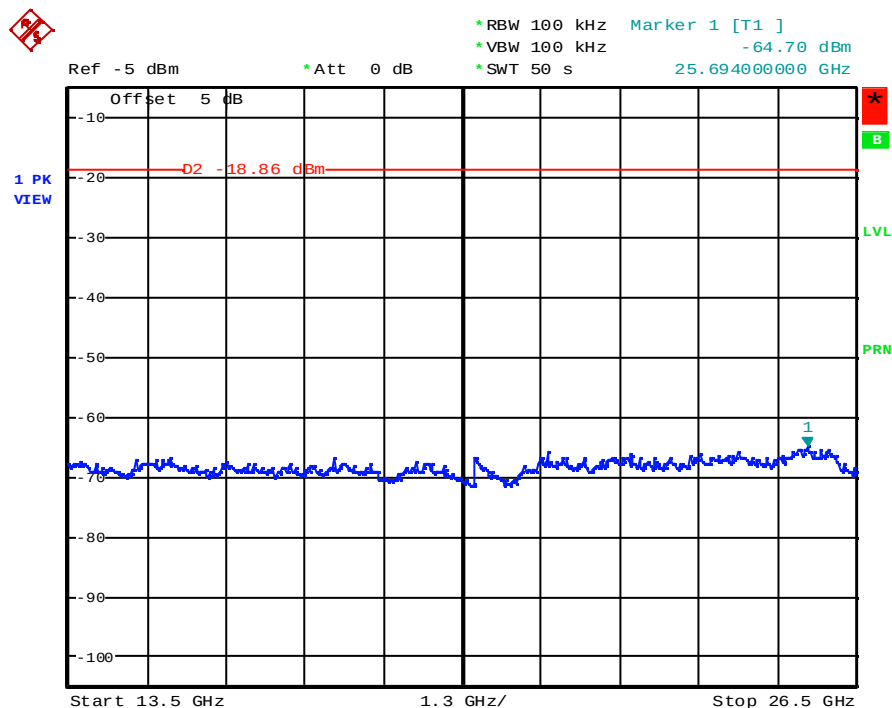
CH Middle 30MHz – 2.9GHz



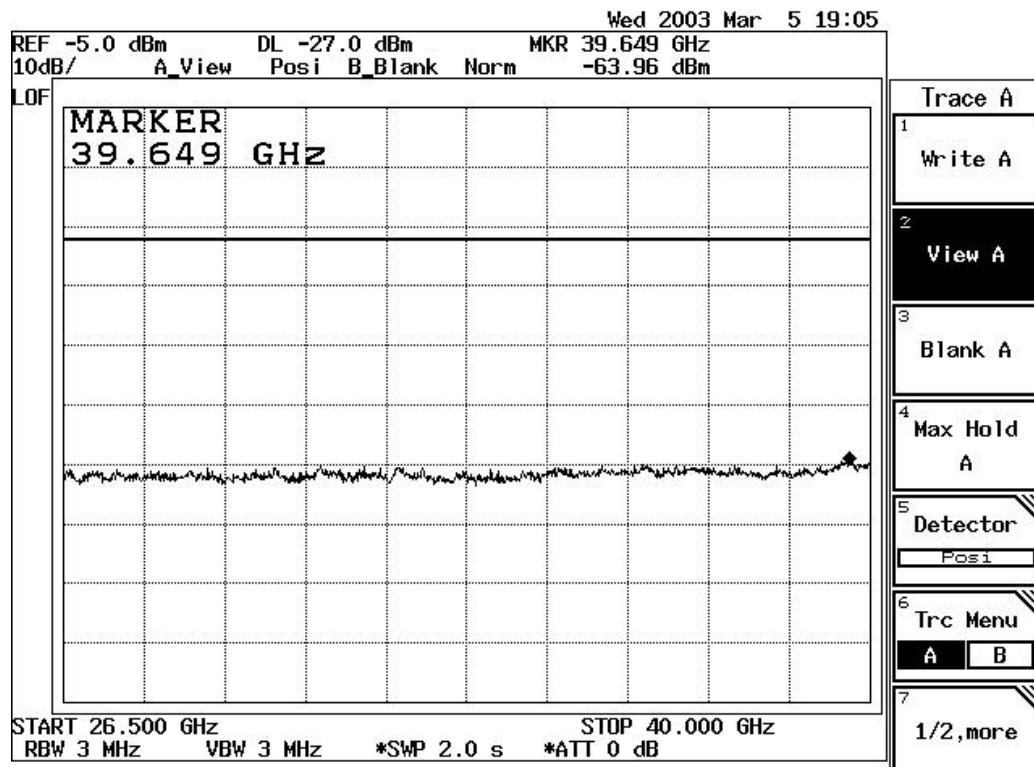
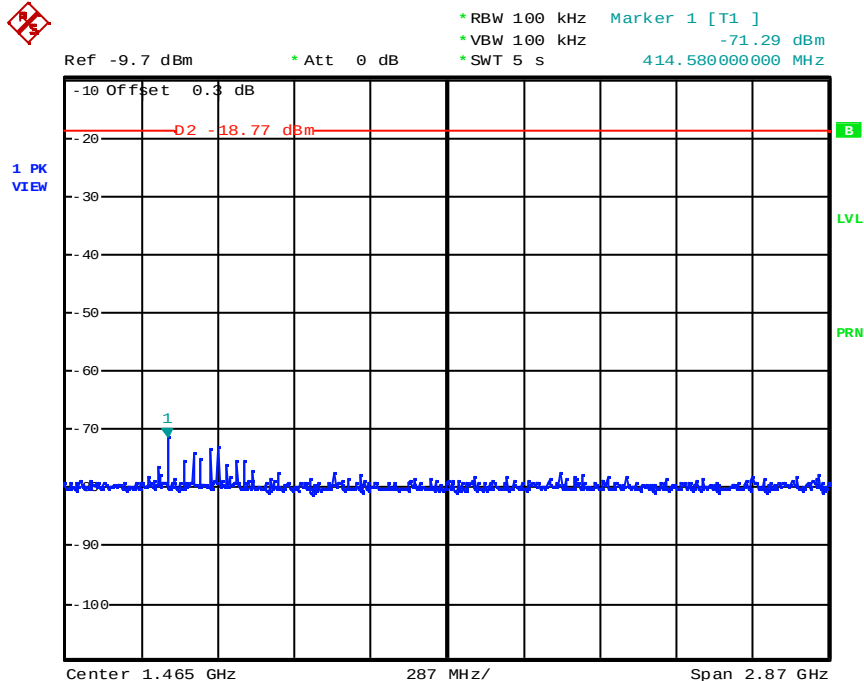
Date: 22.FEB.2003 12:55:19

CH Middle 2.9GHz – 13.5GHz

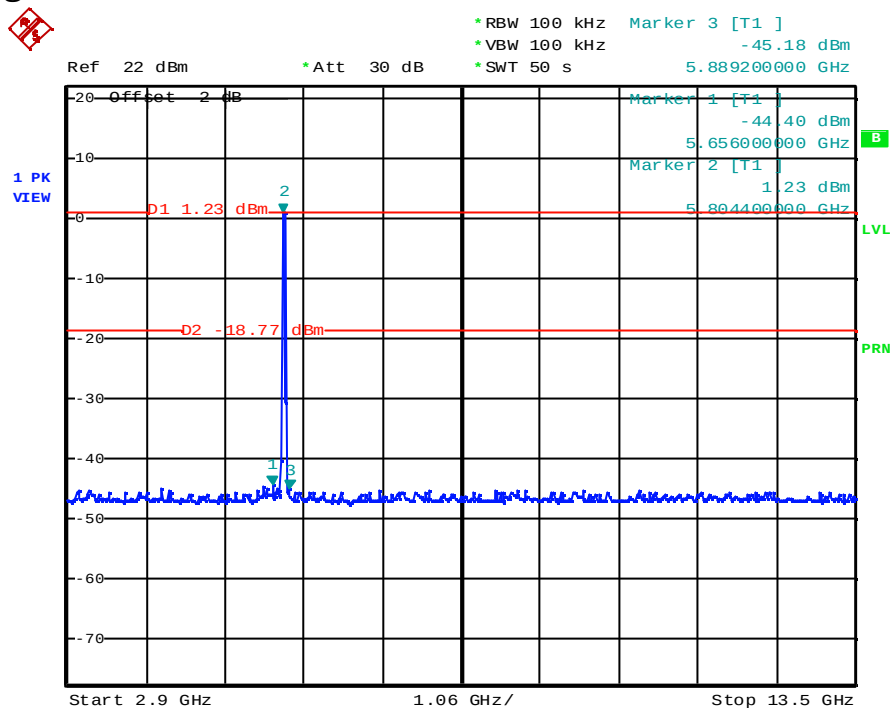
Date: 22.FEB.2003 12:45:57

CH Middle 13.5GHz – 26.5GHz

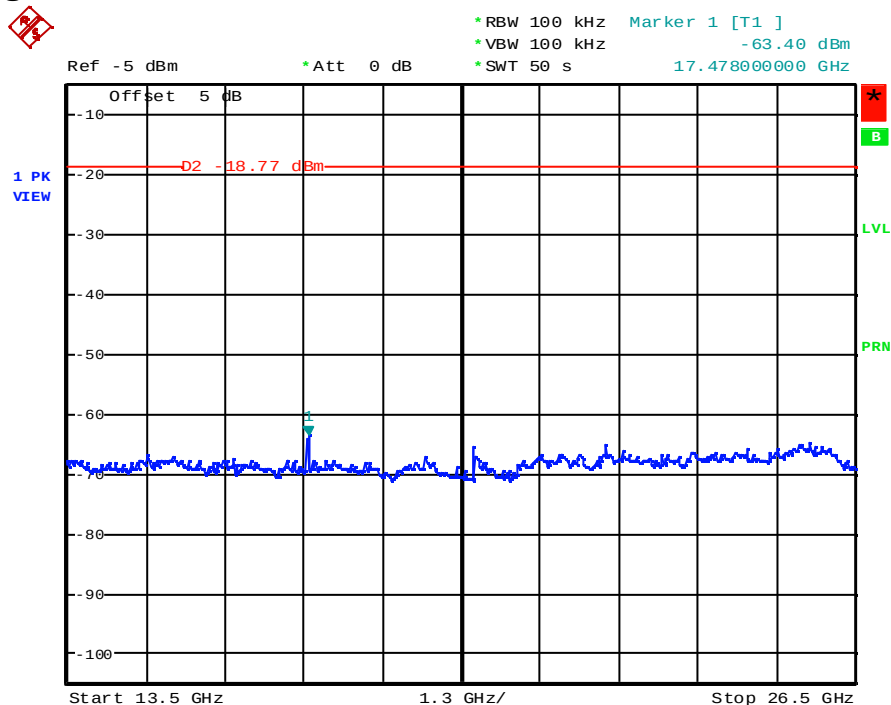
Date: 22.FEB.2003 12:50:22

CH Mid 26.5GHz – 40GHz**CH High 30MHz – 2.9GHz**

Date: 22.FEB.2003 13:05:55

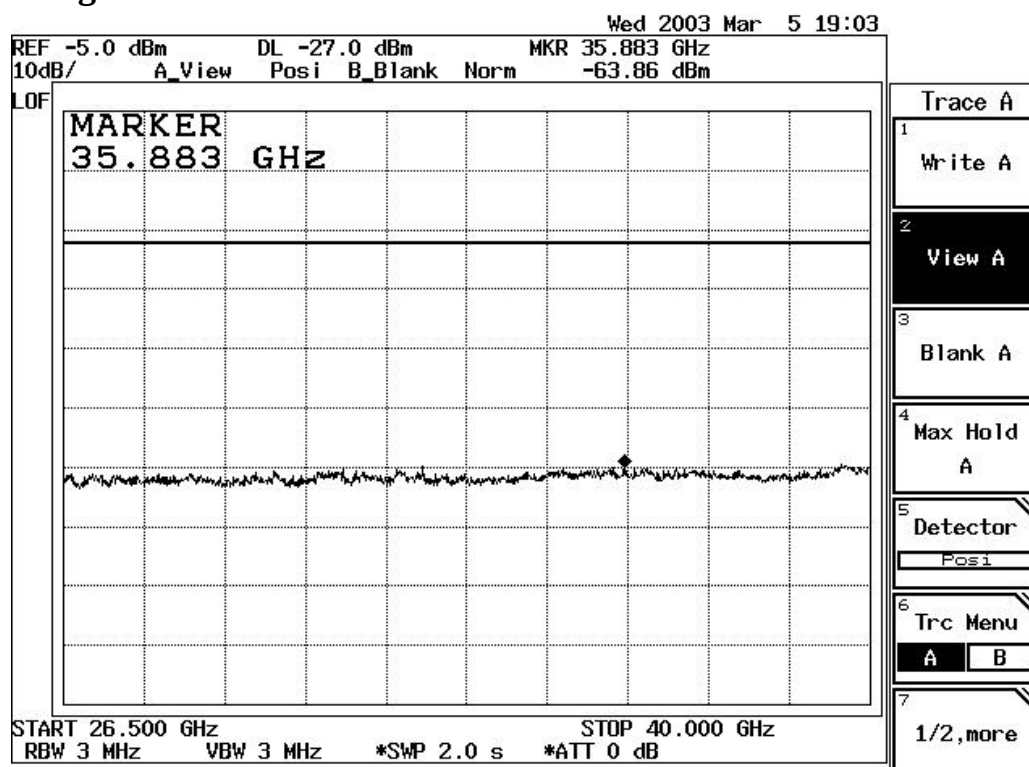
CH High 2.9GHz – 13.5GHz

Date: 22.FEB.2003 12:59:50

CH High 13.5GHz – 26.5GHz

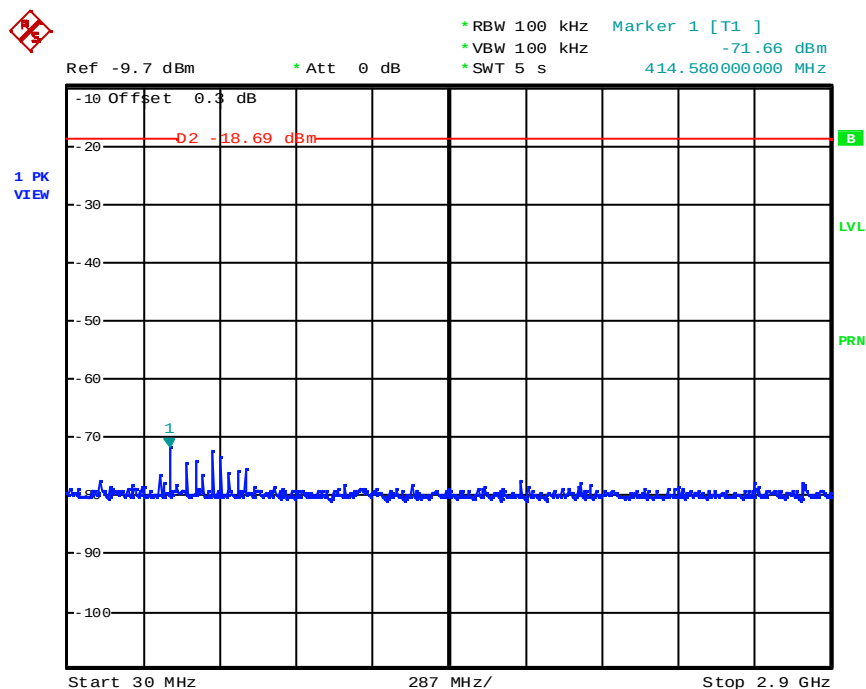
Date: 22.FEB.2003 13:04:33

CH High 26.5GHz – 40GHz

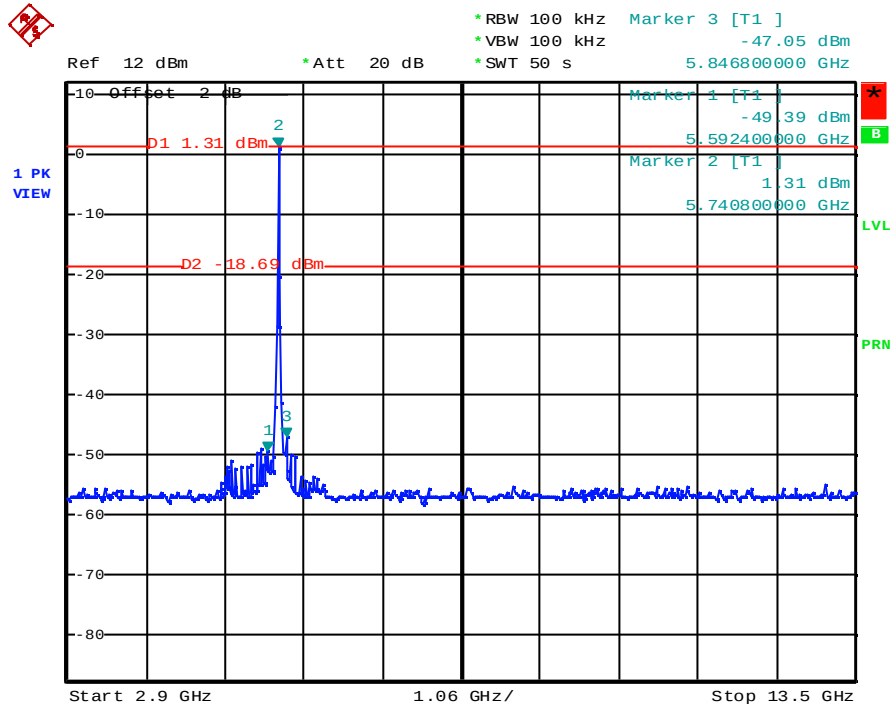


5.8GHz Band, IEEE802.11a Turbo Mode

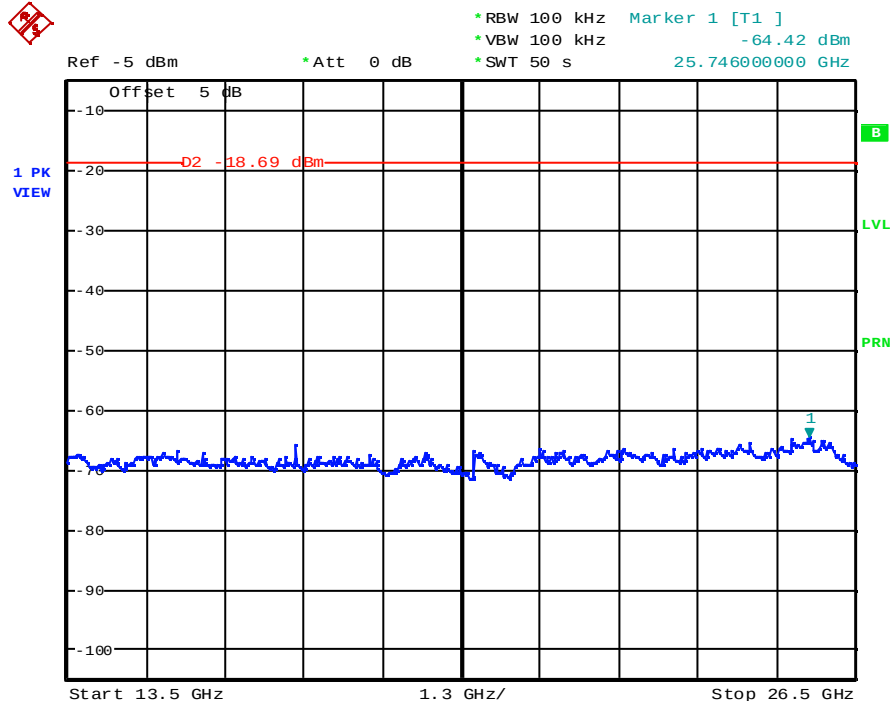
CH Low 30MHz – 2.9GHz



Date: 22.FEB.2003 12:24:07

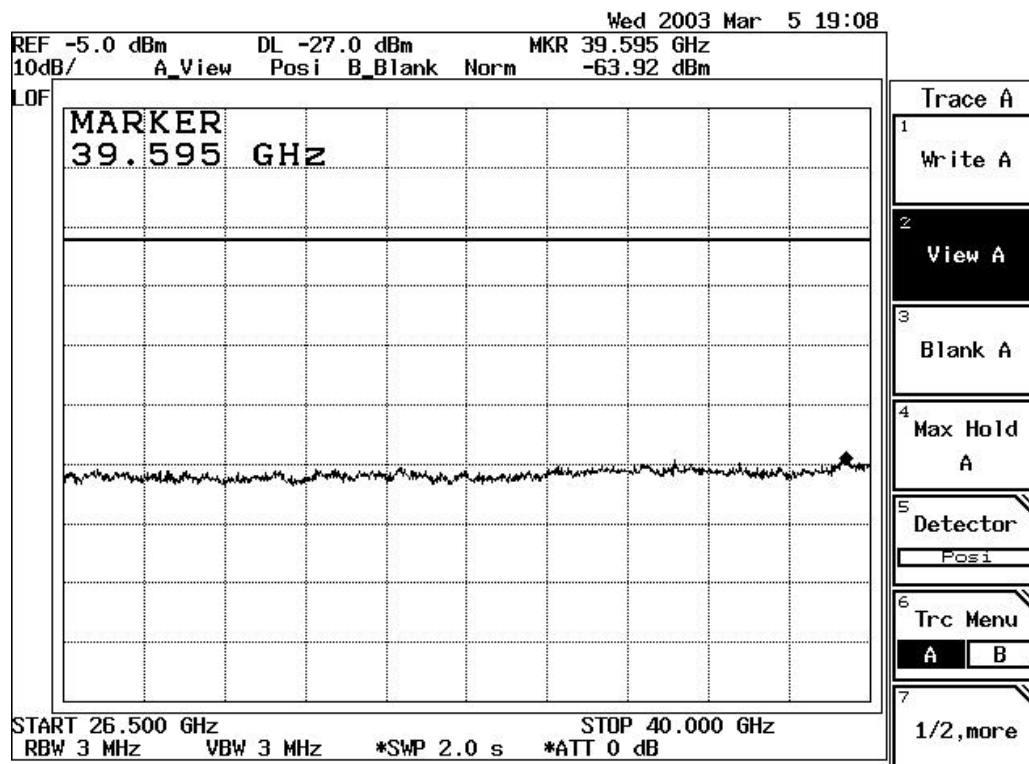
CH Low 2.9GHz – 13.5GHz

Date: 22.FEB.2003 12:19:16

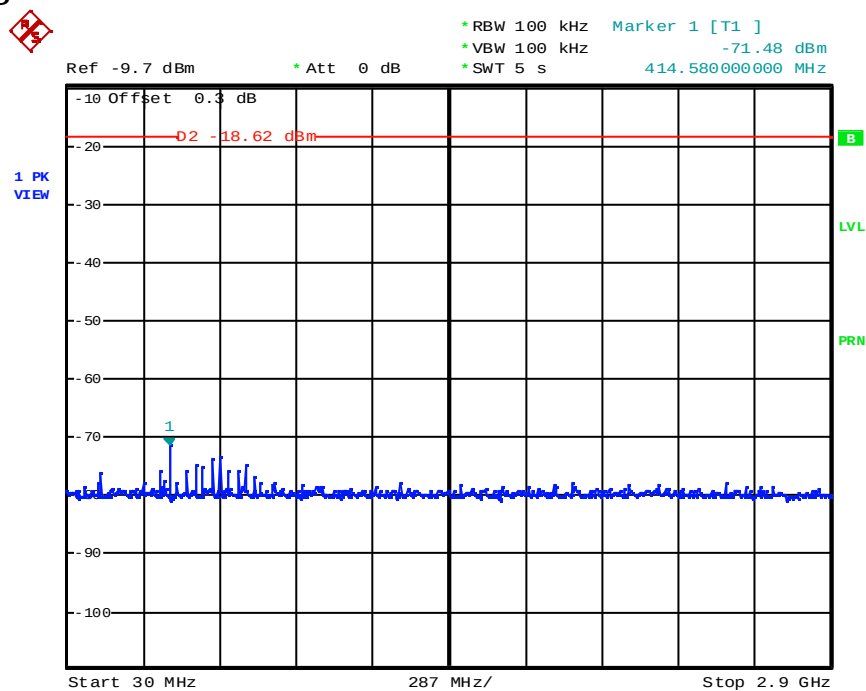
CH Low 13.5GHz – 26.5GHz

Date: 22.FEB.2003 12:22:49

CH Low 26.5GHz – 40GHz

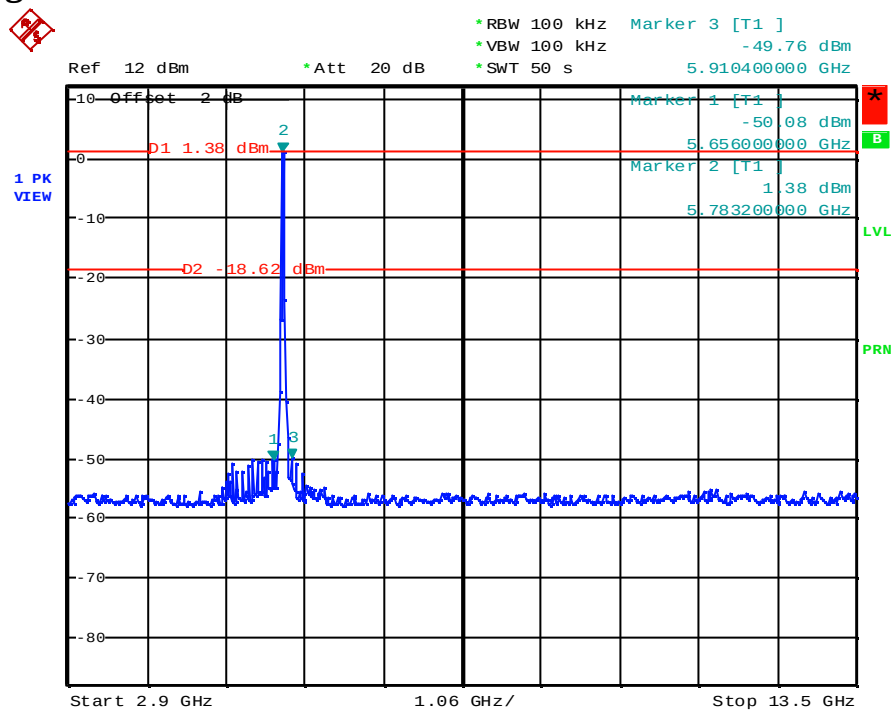


CH High 30MHz – 2.9GHz



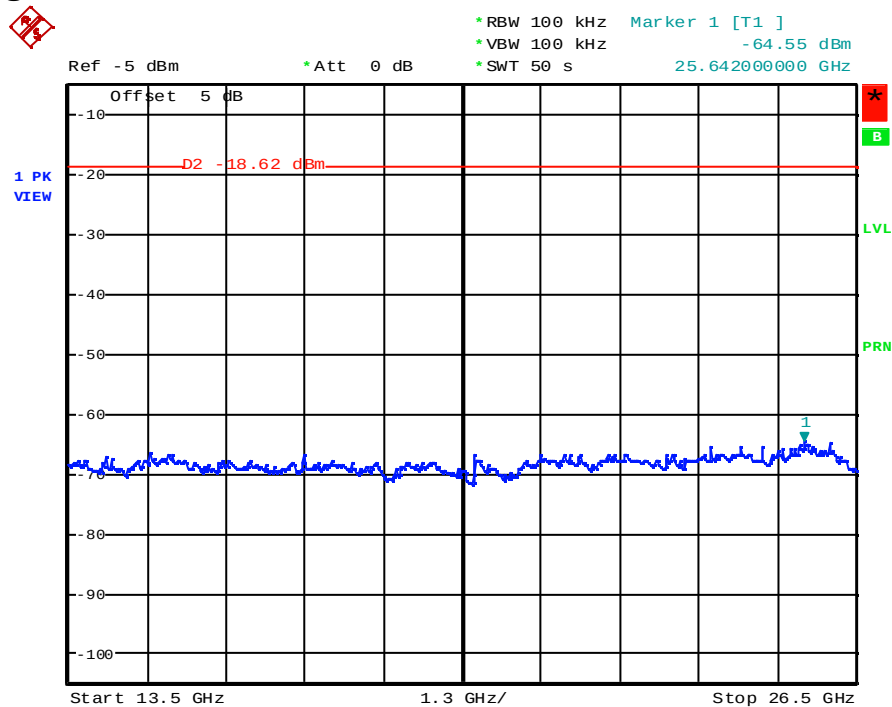
Date: 22.FEB.2003 12:07:20

CH High 2.9GHz – 13.5GHz

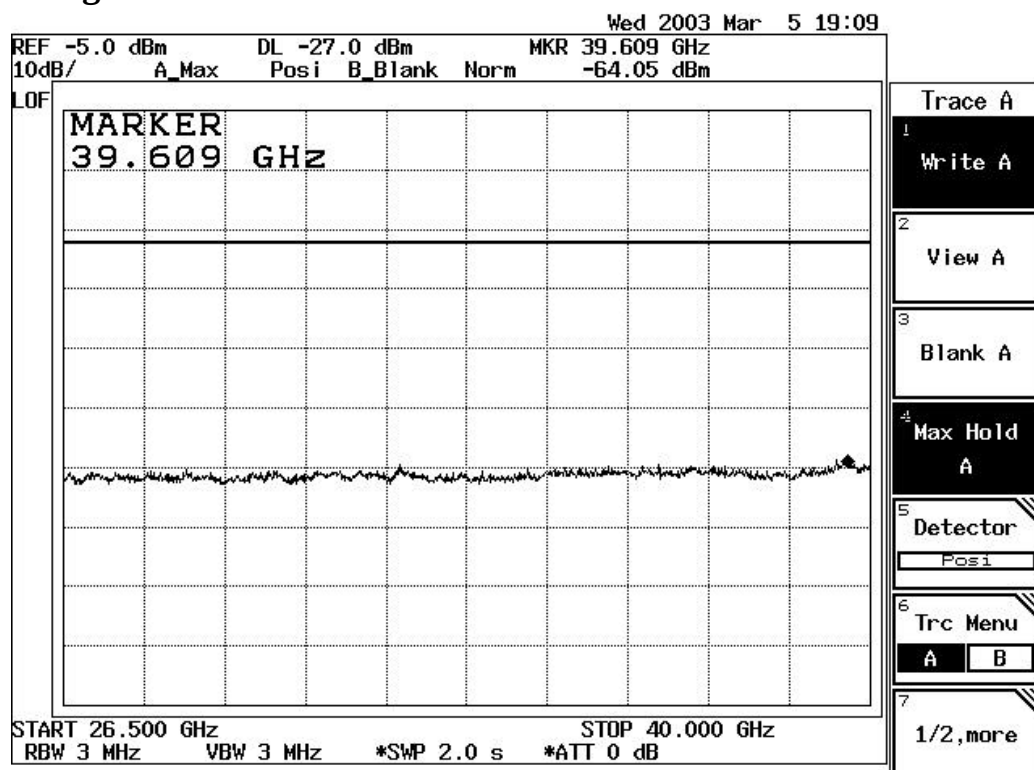


Date: 22.FEB.2003 12:05:38

CH High 13.5GHz – 26.5GHz



Date: 22.FEB.2003 12:10:31

**CH High 26.5GHz – 40GHz**

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode:	TX Mode	Test Date :	Mar. 07 2003
Temperature :	23 °C	Test By:	Robin
Humidity :	58 %	Pol:	Ver./Hor
Test Host:	IBM		

Frequency (MHz)	Ant. Pol. (H/V)	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Emission Level (dBuV)	Limit(3m) (dBuV/m)	Margin (dB)
133.0500	V	PK	42.84	-18.21	24.63	43.5	-18.87
220.8000	V	PK	52.00	-14.9	37.10	46.0	-8.90
232.9500	V	PK	51.50	-14.67	36.83	46.0	-9.17
266.2500	V	PK	47.00	-13.27	33.73	46.0	-12.27
399.1667	V	PK	43.00	-9.97	33.03	46.0	-9.97
531.0000	V	PK	37.00	-7.93	29.07	46.0	-7.93
665.1667	V	PK	37.50	-6.17	31.33	46.0	-6.17
928.8333	V	PK	39.67	-3.33	36.34	46.0	-3.33
133.0500	H	PK	41.50	-18.21	23.29	43.5	-20.21
221.2500	H	PK	49.00	-14.89	34.11	46.0	-11.89
227.1000	H	PK	49.17	-14.82	34.35	46.0	-11.65
265.8000	H	PK	46.84	-13.27	33.57	46.0	-12.43
336.1667	H	PK	40.67	-11.58	29.09	46.0	-16.91
399.1667	H	PK	40.67	-9.97	30.70	46.0	-15.30
431.8333	H	PK	39.00	-10.07	28.93	46.0	-17.07
640.6667	H	PK	35.00	-6.47	28.53	46.0	-17.47
930.0000	H	PK	34.84	-3.31	31.53	46.0	-14.47

Remark :

- (1) Measuring frequencies from 30 MHz to the 1GHz.
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.
- (3) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.
- (5) Emission level = Reading value + Factor

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode: TX Mode Test Date : Mar. 07 2003
 Temperature : 23 °C Test By: James
 Humidity : 58 % Pol: Ver./Hor
 Test Host: TOSHIBA

Frequency (MHz)	Ant. Pol. (H/V)	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Emission Level (dBuV)	Limit(3m) (dBuV/m)	Margin (dB)
32.2500	V	PK	24.50	-1.01	23.50	40.0	-16.50
133.5000	V	PK	37.67	-18.24	19.43	43.5	-24.07
203.7000	V	PK	40.00	-15.42	24.58	43.5	-18.92
217.2000	V	PK	42.17	-14.98	27.19	46.0	-18.81
300.0000	V	PK	42.50	-12.42	30.08	46.0	-15.92
336.1667	V	PK	43.67	-11.58	32.09	46.0	-13.91
366.5000	V	PK	47.17	-10.98	36.28	46.0	-9.72
528.6667	V	PK	36.17	-7.97	28.20	46.0	-17.80
665.1667	V	PK	37.67	-6.17	31.50	46.0	-14.50
788.8333	V	PK	37.00	-4.72	32.28	46.0	-13.72
32.2500	H	PK	25.34	-1.01	24.34	40.0	-15.66
86.2500	H	PK	35.84	-18.90	16.94	40.0	-23.06
114.6000	H	PK	38.67	-18.85	19.82	43.5	-23.68
133.0500	H	PK	45.34	-18.21	27.13	43.5	-16.37
135.7500	H	PK	46.50	-18.37	28.13	43.5	-15.37
232.9500	H	PK	40.67	-14.67	26.00	46.0	-20.00
292.3500	H	PK	41.67	-12.80	28.87	46.0	-17.13
366.5000	H	PK	51.00	-10.89	40.11	46.0	-5.89
399.1667	H	PK	41.17	-9.97	31.20	46.0	-14.80
528.6667	H	PK	38.17	-7.97	30.20	46.0	-15.80
596.3333	H	PK	39.50	-7.10	32.40	46.0	-13.60
788.8333	H	PK	36.17	-4.72	31.45	46.0	-14.55

Remark :

- (1) Measuring frequencies from 30 MHz to the 1GHz.
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.
- (3) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.
- (5) Emission level = Reading value + Factor

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode:	TX Mode	Test Date :	Mar. 07 2003
Temperature :	23 °C	Test By:	James
Humidity :	58 %	Pol:	Ver./Hor
Test Host:	BENQ		

Frequency (MHz)	Ant. Pol. (H/V)	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Emission Level (dBuV)	Limit(3m) (dBuV/m)	Margin (dB)
32.7000	V	PK	24.34	-1.18	23.16	40.0	-16.84
99.3000	V	PK	41.50	-18.26	23.24	43.5	-20.26
210.9000	V	PK	40.84	-15.15	25.69	43.5	-17.81
233.4000	V	PK	41.34	-14.65	26.69	46.0	-19.31
400.3333	V	PK	44.34	-9.95	34.39	46.0	-11.61
434.1667	V	PK	45.17	-9.97	35.20	46.0	-10.80
500.6667	V	PK	40.50	-8.19	32.31	46.0	-13.69
556.6667	V	PK	45.34	-7.66	37.68	46.0	-8.32
667.5000	V	PK	45.00	-6.16	38.84	46.0	-7.16
933.5000	V	PK	40.00	-3.23	36.77	46.0	-9.23
33.1500	H	PK	24.50	-1.35	23.15	40.0	-16.85
152.4000	H	PK	37.84	-15.66	22.18	43.5	-21.32
211.3500	H	PK	44.50	-15.13	29.37	43.5	-14.13
233.4000	H	PK	43.17	-14.65	28.52	46.0	-17.48
264.0000	H	PK	42.17	-13.27	28.90	46.0	-17.10
434.1667	H	PK	41.17	-9.97	31.20	46.0	-14.80
466.8333	H	PK	41.84	-8.80	33.04	46.0	-12.96
500.6667	H	PK	48.50	-8.19	40.31	46.0	-5.69
552.0000	H	PK	40.34	-7.64	32.70	46.0	-13.30
667.5000	H	PK	38.67	-6.16	32.51	46.0	-13.49
734.0000	H	PK	38.67	-5.29	33.38	46.0	-12.62
933.5000	H	PK	36.84	-3.23	33.61	46.0	-12.39

Remark :

- (1) Measuring frequencies from 30 MHz to the 1GHz.
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.
- (3) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.
- (5) Emission level = Reading value + Factor

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : Low (IEEE802.11b) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: IBM

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2387.00	4.42	37.44	27.06	V	64.0	52.4	58.0	46.4	74.0	54.0	-16.0	-7.6
4824.00	7.00	37.05	31.44	V	51.4	44.5	52.8	45.9	74.0	54.0	-21.2	-8.1
5579.10	7.59	37.21	32.08	V	49.9	43.3	52.3	45.8	74.0	54.0	-21.7	-8.2
7231.07	9.39	37.39	35.86	V	47.0	35.7	54.9	43.5	74.0	54.0	-19.1	-10.5
9647.95	12.35	37.51	38.81	V	47.1	36.0	60.8	49.6	74.0	54.0	-13.2	-4.4
2385.40	4.42	37.44	27.06	H	62.4	53.6	56.4	47.7	74.0	54.0	-17.6	-6.3
4824.00	7.00	37.05	31.44	H	45.6	35.2	47.0	36.6	74.0	54.0	-27.0	-17.4
5580.60	7.61	37.21	32.10	H	49.7	40.6	52.2	43.1	74.0	54.0	-21.8	-10.9
7237.80	9.39	37.39	35.86	H	47.3	35.8	55.1	43.7	74.0	54.0	-18.9	-10.3

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : Mid (IEEE802.11b) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: IBM

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
4874.00	7.00	37.08	31.54	V	47.1	37.4	48.6	38.9	74.0	54.0	-25.4	-15.1
5602.40	7.63	37.21	32.12	V	51.3	42.3	53.9	44.8	74.0	54.0	-20.1	-9.2
7309.00	9.50	37.40	36.00	V	47.6	37.8	55.7	45.9	74.0	54.0	-18.3	-8.1
9748.20	12.49	37.54	38.89	V	47.0	34.1	60.8	48.0	74.0	54.0	-13.2	-6.0
4873.90	7.00	37.08	31.54	H	46.5	38.2	48.0	39.7	74.0	54.0	-26.0	-14.3
5605.20	7.63	37.21	32.12	H	48.8	40.3	51.3	42.8	74.0	54.0	-22.7	-11.2
7321.10	9.54	37.40	36.04	H	44.8	38.2	52.9	46.4	74.0	54.0	-21.1	-7.6
9748.00	12.49	37.54	38.89	H	45.3	35.5	59.1	49.3	74.0	54.0	-14.9	-4.7

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : High(IEEE802.11b) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: IBM

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2483.50	4.49	37.39	27.34	V	65.3	56.3	59.8	50.7	74.0	54.0	-14.2	-3.3
2528.00	4.55	37.40	27.44	V	63.3	54.2	57.9	48.8	74.0	54.0	-16.1	-5.3
4924.06	7.00	37.10	31.64	V	49.6	42.2	51.2	43.7	74.0	54.0	-22.8	-10.3
5629.20	7.66	37.22	32.14	V	50.4	41.9	53.0	44.4	74.0	54.0	-21.0	-9.6
7385.60	9.64	37.41	36.16	V	49.5	40.6	57.9	49.0	74.0	54.0	-16.1	-5.0
9848.04	12.62	37.57	38.97	V	47.3	37.8	61.3	51.8	74.0	54.0	-12.7	-2.2
2483.50	4.49	37.39	27.34	H	59.7	50.3	54.1	44.8	74.0	54.0	-19.9	-9.2
2528.40	4.55	37.40	27.44	H	57.0	48.1	51.6	42.6	74.0	54.0	-22.4	-11.4
4924.12	7.00	37.10	31.64	H	48.5	40.1	50.0	41.6	74.0	54.0	-24.0	-12.4
7389.00	9.64	37.41	36.16	H	47.9	38.1	56.3	46.5	74.0	54.0	-17.7	-7.5
9848.00	12.62	37.57	38.97	H	45.6	35.5	59.7	49.5	74.0	54.0	-14.3	-4.5

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : Low(IEEE802.11g) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: IBM

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2380.00	4.42	37.44	27.06	V	63.2	53.1	57.2	47.1	74.0	54.0	-16.8	-6.9
2390.00	4.43	37.43	27.09	V	76.3	58.2	70.4	52.3	74.0	54.0	-3.6	-1.7
2444.00	4.46	37.41	27.23	V	64.8	57.1	59.1	51.4	74.0	54.0	-14.9	-2.6
4825.80	7.00	37.05	31.44	V	45.8	34.9	47.2	36.2	74.0	54.0	-26.8	-17.8
5587.20	7.61	37.21	32.10	V	49.5	40.4	52.0	42.9	74.0	54.0	-22.0	-11.1
7236.10	9.39	37.39	35.86	V	45.0	32.9	52.8	40.8	74.0	54.0	-21.2	-13.2
2380.00	4.42	37.44	27.06	H	62.3	51.4	56.3	45.4	74.0	54.0	-17.7	-8.6
2390.00	4.43	37.43	27.09	H	74.8	56.6	68.9	50.7	74.0	54.0	-5.1	-3.3
2444.00	4.46	37.41	27.23	H	63.4	54.8	57.7	49.1	74.0	54.0	-16.3	-4.9
4826.60	7.00	37.05	31.44	H	43.5	32.6	44.9	33.9	74.0	54.0	-29.1	-20.1
5586.70	7.61	37.21	32.10	H	48.2	38.9	50.7	41.3	74.0	54.0	-23.3	-12.7
7235.60	9.39	37.39	35.86	H	44.3	33.3	52.2	41.2	74.0	54.0	-21.8	-12.8

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : Mid(IEEE802.11g) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: IBM

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
4873.80	7.00	37.08	31.54	V	44.1	33.0	45.5	34.5	74.0	54.0	-28.5	-19.5
5598.60	7.62	37.21	32.11	V	49.8	39.5	52.3	42.0	74.0	54.0	-21.7	-12.0
7312.00	9.52	37.40	36.02	V	44.1	34.1	52.3	42.3	74.0	54.0	-21.7	-11.7
4872.80	7.00	37.08	31.54	H	43.8	33.0	45.3	34.4	74.0	54.0	-28.7	-19.6
5612.60	7.65	37.22	32.13	H	48.1	36.2	50.7	38.7	74.0	54.0	-23.3	-15.3
7313.80	9.52	37.40	36.02	H	45.2	36.1	53.3	44.2	74.0	54.0	-20.7	-9.8

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : High(IEEE802.11g) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: IBM

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2429.40	4.45	37.42	27.18	V	67.1	53.0	61.3	47.2	74.0	54.0	-12.7	-6.8
2483.50	4.49	37.39	27.34	V	75.7	57.8	70.1	52.2	74.0	54.0	-3.9	-1.8
2494.20	4.49	37.38	27.37	V	66.1	53.3	60.6	47.8	74.0	54.0	-13.4	-6.2
4925.60	7.00	37.10	31.64	V	45.0	34.7	46.6	36.2	74.0	54.0	-27.4	-17.8
5624.00	7.66	37.22	32.14	V	47.7	38.0	50.3	40.6	74.0	54.0	-23.7	-13.4
7387.60	9.64	37.41	36.16	V	45.5	36.0	53.9	44.4	74.0	54.0	-20.1	-9.6
2430.20	4.45	37.41	27.20	H	62.7	53.4	56.9	47.6	74.0	54.0	-17.1	-6.4
2483.50	4.49	37.39	27.34	H	72.0	56.1	66.4	50.5	74.0	54.0	-7.6	-3.5
2494.00	4.49	37.38	27.37	H	60.8	53.2	55.2	47.6	74.0	54.0	-18.8	-6.4
4924.20	7.00	37.10	31.64	H	44.6	35.0	46.1	36.5	74.0	54.0	-27.9	-17.5
7387.20	9.64	37.41	36.16	H	46.7	35.0	55.1	43.4	74.0	54.0	-18.9	-10.6

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode:	TX Mode(2.4GHz Band)	Test Date :	Mar. 07 2003
Channel :	Mid(IEEE802.11g,Turbo Mode)	Test By:	James
Temperature :	23 °C	Pol:	Ver./Hor
Humidity :	58 %	Test Host:	IBM

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
4868.20	7.00	37.07	31.52	V	44.9	33.7	46.3	35.2	74.0	54.0	-27.7	-18.8
5600.40	7.63	37.21	32.12	V	47.2	37.0	49.7	39.5	74.0	54.0	-24.3	-14.5
7310.20	9.52	37.40	36.02	V	44.7	33.8	52.8	41.9	74.0	54.0	-21.2	-12.1
4868.80	7.00	37.07	31.52	H	45.0	33.5	46.4	34.9	74.0	54.0	-27.6	-19.1
5615.60	7.65	37.22	32.13	H	47.1	35.7	49.7	38.3	74.0	54.0	-24.3	-15.7
7323.00	9.54	37.40	36.04	H	45.5	33.7	53.7	41.9	74.0	54.0	-20.3	-12.1

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(5.8GHz Band) Test Date : Mar. 07 2003
 Channel : Low(IEEE802.11a) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: IBM

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
5712.80	1.43	37.23	32.25	V	55.8	45.9	52.2	42.4	74.0	54.0	-21.8	-11.6
5725.00	1.43	37.23	32.26	V	67.6	52.1	64.1	48.6	74.0	54.0	-9.9	-5.4
11490.60	1.88	36.83	40.11	V	54.0	43.3	59.1	48.4	74.0	54.0	-14.9	-5.6
17234.40	2.53	36.73	40.76	V	54.8	43.0	61.3	49.5	74.0	54.0	-12.7	-4.5
5713.40	1.43	37.23	32.25	H	54.6	43.4	51.1	39.8	74.0	54.0	-22.9	-14.2
5725.00	1.43	37.23	32.26	H	64.4	50.1	60.9	46.6	74.0	54.0	-13.1	-7.4
11491.60	1.88	36.83	40.11	H	54.9	44.0	60.0	49.1	74.0	54.0	-14.0	-4.9
17235.40	2.53	36.73	40.76	H	51.5	40.5	58.1	47.0	74.0	54.0	-15.9	-7.0

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(5.8GHz Band) Test Date : Mar. 07 2003
 Channel : Mid(IEEE802.11a) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: IBM

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
5753.20	1.42	37.23	32.30	V	57.2	45.4	53.7	41.8	74.0	54.0	-20.3	-12.2
5817.00	1.39	37.24	32.37	V	57.8	47.0	54.3	43.5	74.0	54.0	-19.7	-10.5
11573.80	1.93	36.88	39.95	V	53.5	43.0	58.5	48.0	74.0	54.0	-15.5	-6.0
17350.00	2.46	36.78	41.31	V	52.9	42.1	59.9	49.1	74.0	54.0	-14.1	-4.9
5753.20	1.42	37.23	32.30	H	55.2	43.4	51.7	39.9	74.0	54.0	-22.3	-14.1
5817.00	1.39	37.24	32.37	H	55.8	45.0	52.3	41.5	74.0	54.0	-21.7	-12.5
11573.60	1.93	36.88	39.95	H	56.5	45.5	61.5	50.5	74.0	54.0	-12.5	-3.5
17355.60	2.46	36.78	41.31	H	51.4	39.4	58.4	46.3	74.0	54.0	-15.6	-7.7

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode:	TX Mode(5.8GHz Band)	Test Date :	Mar. 07 2003
Channel :	High(IEEE802.11a)	Test By:	James
Temperature :	23 °C	Pol:	Ver./Hor
Humidity :	58 %	Test Host:	IBM

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
5793.00	1.40	37.24	32.35	V	58.2	45.8	54.7	42.3	74.0	54.0	-19.3	-11.7
5850.00	1.37	37.25	32.42	V	63.1	47.1	59.6	43.6	74.0	54.0	-14.4	-10.4
5857.80	1.37	37.25	32.42	V	58.9	47.1	55.4	43.7	74.0	54.0	-18.6	-10.3
11651.00	1.98	36.93	39.77	V	54.5	43.9	59.3	48.7	74.0	54.0	-14.7	-5.3
17474.80	2.39	36.83	41.86	V	52.7	41.1	60.1	48.5	74.0	54.0	-13.9	-5.5
5793.00	1.40	37.24	32.35	H	54.3	42.3	50.8	38.8	74.0	54.0	-23.2	-15.2
5850.00	1.37	37.25	32.42	H	56.5	42.3	53.1	38.9	74.0	54.0	-20.9	-15.1
5857.20	1.37	37.25	32.42	H	51.7	41.7	48.2	38.2	74.0	54.0	-25.8	-15.8
11651.00	1.98	36.93	39.77	H	57.2	46.1	62.0	50.9	74.0	54.0	-12.0	-3.1
17476.20	2.39	36.83	41.86	H	49.5	39.1	56.9	46.5	74.0	54.0	-17.1	-7.5

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode:	TX Mode(5.8GHz Band)	Test Date :	Mar. 07 2003
Channel :	Low(IEEE802.11a,Turbo Mode)	Test By:	James
Temperature :	23 °C	Pol:	Ver./Hor
Humidity :	58 %	Test Host:	IBM

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
5725.00	1.43	37.23	32.26	V	65.5	53.7	62.0	50.2	74.0	54.0	-12.0	-3.8
5824.00	1.38	37.24	32.38	V	54.7	43.7	51.2	40.2	74.0	54.0	-22.8	-13.8
11521.20	1.89	36.85	40.06	V	51.1	39.9	56.1	45.0	74.0	54.0	-17.9	-9.0
17284.40	2.50	36.75	40.99	V	51.8	40.3	58.5	47.0	74.0	54.0	-15.5	-7.0
5725.00	1.43	37.23	32.26	H	62.8	50.7	59.3	47.2	74.0	54.0	-14.7	-6.8
5811.00	1.39	37.24	32.37	H	52.0	38.6	48.5	35.2	74.0	54.0	-25.5	-18.8
11522.80	1.89	36.85	40.06	H	52.1	42.2	57.2	47.3	74.0	54.0	-16.8	-6.7
17284.40	2.50	36.75	40.99	H	50.4	38.4	57.1	45.1	74.0	54.0	-16.9	-8.9

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(5.8GHz Band) Test Date : Mar. 07 2003
 Channel : High(IEEE802.11a,Turbo Mode) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: IBM

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
5850.00	1.37	37.25	32.42	V	54.7	43.0	51.3	39.5	74.0	54.0	-22.7	-14.5
11602.00	1.95	36.90	39.88	V	51.3	41.3	56.2	46.2	74.0	54.0	-17.8	-7.8
17404.80	2.43	36.80	41.54	V	51.6	39.8	58.8	46.9	74.0	54.0	-15.2	-7.1
5850.00	1.37	37.25	32.42	H	49.7	49.7	46.2	46.2	74.0	54.0	-27.8	-7.8
11603.60	1.95	36.90	39.88	H	53.8	43.4	58.7	48.3	74.0	54.0	-15.3	-5.7
17399.60	2.43	36.80	41.49	H	50.9	38.8	58.1	45.9	74.0	54.0	-15.9	-8.1

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : Low (IEEE802.11b) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: TOSHIBA

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2387.00	4.42	37.44	27.06	V	62.3	53.8	56.3	47.8	74.0	54.0	-17.7	-6.2
4824.20	7.00	37.05	31.44	V	46.5	38.8	47.9	40.2	74.0	54.0	-26.1	-13.8
5578.40	7.59	37.21	32.08	V	50.5	43.3	52.9	45.7	74.0	54.0	-21.1	-8.3
7236.60	9.39	37.39	35.86	V	46.0	36.5	53.9	44.4	74.0	54.0	-20.1	-9.6
2386.60	4.42	37.44	27.06	H	60.1	51.6	54.1	45.6	74.0	54.0	-19.9	-8.4
4824.00	7.00	37.05	31.44	H	46.0	37.1	47.4	38.5	74.0	54.0	-26.6	-15.5
5581.20	7.61	37.21	32.10	H	49.7	40.9	52.2	43.4	74.0	54.0	-21.8	-10.6
7236.40	9.39	37.39	35.86	H	45.8	35.8	53.7	43.7	74.0	54.0	-20.3	-10.3

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode:	TX Mode(2.4GHz Band)	Test Date :	Mar. 07 2003
Channel :	Mid (IEEE802.11b)	Test By:	James
Temperature :	23 °C	Pol:	Ver./Hor
Humidity :	58 %	Test Host:	TOSHIBA

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
4874.00	7.00	37.08	31.54	V	48.4	40.7	49.9	42.2	74.0	54.0	-24.1	-11.8
5607.40	7.63	37.21	32.12	V	50.7	42.2	53.2	44.8	74.0	54.0	-20.8	-9.2
7312.00	9.52	37.40	36.02	V	46.7	36.1	54.9	44.3	74.0	54.0	-19.1	-9.7
9748.00	12.49	37.54	38.89	V	44.3	34.2	58.2	48.0	74.0	54.0	-15.8	-6.0
4874.42	7.00	37.08	31.54	H	47.1	36.4	48.5	37.9	74.0	54.0	-25.5	-16.1
5603.20	7.63	37.21	32.12	H	50.1	40.9	52.7	43.4	74.0	54.0	-21.4	-10.6
7314.40	9.52	37.40	36.02	H	46.9	37.7	55.0	45.8	74.0	54.0	-19.0	-8.2
9748.40	12.49	37.54	38.89	H	44.8	33.8	58.7	47.6	74.0	54.0	-15.3	-6.4

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : High(IEEE802.11b) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: TOSHIBA

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2483.50	4.49	37.39	27.34	V	64.9	57.1	59.4	51.5	74.0	54.0	-14.6	-2.5
4924.20	7.00	37.10	31.64	V	47.7	38.8	49.2	40.3	74.0	54.0	-24.8	-13.7
5632.40	7.67	37.22	32.16	V	49.9	41.1	52.5	43.7	74.0	54.0	-21.5	-10.3
7388.00	9.64	37.41	36.16	V	47.3	37.7	55.7	46.1	74.0	54.0	-18.3	-7.9
9848.20	12.62	37.57	38.97	V	45.0	34.4	59.0	48.4	74.0	54.0	-15.0	-5.6
2483.50	4.49	37.39	27.34	H	60.6	52.8	55.0	47.3	74.0	54.0	-19.0	-6.7
4927.40	7.00	37.10	31.64	H	45.2	36.2	46.7	37.7	74.0	54.0	-27.3	-16.3
5629.60	7.66	37.22	32.14	H	49.8	40.5	52.3	43.1	74.0	54.0	-21.7	-10.9
7385.20	9.64	37.41	36.16	H	46.2	36.3	54.6	44.7	74.0	54.0	-19.4	-9.3
9848.40	12.62	37.57	38.97	H	44.6	34.2	58.7	48.2	74.0	54.0	-15.3	-5.8

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : Low(IEEE802.11g) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: TOSHIBA

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2379.80	4.41	37.44	27.04	V	62.0	50.6	56.0	44.6	74.0	54.0	-18.0	-9.4
2390.00	4.43	37.43	27.09	V	75.0	58.0	69.1	52.1	74.0	54.0	-4.9	-1.9
2444.00	4.46	37.41	27.23	V	65.1	55.0	59.4	49.3	74.0	54.0	-14.6	-4.7
4827.40	7.00	37.05	31.44	V	44.3	34.4	45.7	35.8	74.0	54.0	-28.3	-18.2
5575.60	7.59	37.21	32.08	V	49.4	40.3	51.8	42.8	74.0	54.0	-22.2	-11.2
7235.60	9.39	37.39	35.86	V	44.7	33.5	52.5	41.4	74.0	54.0	-21.5	-12.6
2379.20	4.41	37.44	27.04	H	57.0	48.5	51.0	42.5	74.0	54.0	-23.0	-11.5
2390.00	4.43	37.43	27.09	H	72.0	55.6	66.1	49.7	74.0	54.0	-7.9	-4.3
2444.00	4.46	37.41	27.23	H	62.1	53.2	56.4	47.5	74.0	54.0	-17.6	-6.5
4824.00	7.00	37.05	31.44	H	43.5	32.7	44.9	34.1	74.0	54.0	-29.1	-19.9
5573.40	7.59	37.21	32.08	H	49.3	40.2	51.7	42.7	74.0	54.0	-22.3	-11.3
7236.00	9.39	37.39	35.86	H	44.3	34.1	52.1	42.0	74.0	54.0	-21.9	-12.0

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : Mid(IEEE802.11g) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: TOSHIBA

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2404.80	4.43	37.43	27.12	V	64.2	53.6	58.3	47.7	74.0	54.0	-15.7	-6.3
2469.00	4.47	37.40	27.29	V	64.2	56.4	58.6	50.8	74.0	54.0	-15.4	-3.2
4872.80	7.00	37.08	31.54	V	44.8	33.8	46.3	35.3	74.0	54.0	-27.7	-18.7
5610.80	7.65	37.22	32.13	V	49.0	39.1	51.6	41.7	74.0	54.0	-22.4	-12.3
7310.60	9.52	37.40	36.02	V	44.5	33.4	52.7	41.6	74.0	54.0	-21.3	-12.4
2404.80	4.43	37.43	27.12	H	61.6	53.0	55.7	47.1	74.0	54.0	-18.3	-6.9
2469.20	4.47	37.40	27.29	H	60.8	53.7	55.2	48.1	74.0	54.0	-18.8	-5.9
4880.40	7.00	37.08	31.56	H	44.9	33.1	46.3	34.5	74.0	54.0	-27.7	-19.5
5599.60	7.62	37.21	32.11	H	49.1	38.7	51.6	41.2	74.0	54.0	-22.4	-12.8
7313.40	9.52	37.40	36.02	H	45.5	33.7	53.7	41.8	74.0	54.0	-20.3	-12.2

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : High(IEEE802.11g) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: TOSHIBA

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2429.70	4.45	37.42	27.18	V	59.9	52.2	54.1	46.4	74.0	54.0	-19.9	-7.6
2483.50	4.49	37.39	27.34	V	75.1	57.6	69.5	52.0	74.0	54.0	-4.5	-2.0
2494.10	4.49	37.38	27.37	V	61.1	53.5	55.6	48.0	74.0	54.0	-18.4	-6.0
4922.20	7.00	37.10	31.64	V	44.5	34.4	46.0	35.9	74.0	54.0	-28.0	-18.1
5628.40	7.66	37.22	32.14	V	48.7	38.7	51.2	41.3	74.0	54.0	-22.8	-12.7
7388.00	9.64	37.41	36.16	V	45.8	34.4	54.2	42.8	74.0	54.0	-19.8	-11.2
2429.70	4.45	37.42	27.18	H	57.1	51.0	51.3	45.2	74.0	54.0	-22.7	-8.8
2483.50	4.49	37.39	27.34	H	73.1	56.0	67.5	50.5	74.0	54.0	-6.5	-3.5
4924.60	7.00	37.10	31.64	H	44.5	32.6	46.0	34.1	74.0	54.0	-28.0	-19.9
5635.20	7.67	37.22	32.16	H	47.7	37.4	50.3	40.0	74.0	54.0	-23.7	-14.0
7384.80	9.64	37.41	36.16	H	45.0	33.5	53.4	41.9	74.0	54.0	-20.6	-12.1

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : Mid(IEEE802.11g,Turbo Mode) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: TOSHIBA

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2528.20	4.55	37.40	27.44	V	57.1	47.7	51.7	42.3	74.0	54.0	-22.4	-11.7
4876.40	7.00	37.08	31.54	V	45.1	33.3	46.6	34.8	74.0	54.0	-27.4	-19.2
5591.40	7.62	37.21	32.11	V	47.1	36.8	49.6	39.3	74.0	54.0	-24.4	-14.7
7312.20	9.52	37.40	36.02	V	43.6	32.9	51.8	41.1	74.0	54.0	-22.2	-12.9
2528.20	4.55	37.40	27.44	H	52.7	43.9	47.2	38.4	74.0	54.0	-26.8	-15.6
4876.40	7.00	37.08	31.54	H	45.2	33.6	46.6	35.1	74.0	54.0	-27.4	-18.9
5603.80	7.63	37.21	32.12	H	47.1	36.7	49.6	39.3	74.0	54.0	-24.4	-14.7
7312.40	9.52	37.40	36.02	H	44.2	33.8	52.4	41.9	74.0	54.0	-21.6	-12.1

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode:	TX Mode(5.8GHz Band)	Test Date :	Mar. 07 2003
Channel :	Low(IEEE802.11a)	Test By:	James
Temperature :	23 °C	Pol:	Ver./Hor
Humidity :	58 %	Test Host:	TOSHIBA

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
5713.00	1.43	37.23	32.25	V	56.9	45.1	53.4	41.5	74.0	54.0	-20.6	-12.5
5725.00	1.43	37.23	32.26	V	69.0	54.3	65.5	50.7	74.0	54.0	-8.5	-3.3
5777.20	1.41	37.24	32.32	V	57.6	45.6	54.1	42.1	74.0	54.0	-19.9	-11.9
11491.60	1.88	36.83	40.11	V	52.7	42.1	57.9	47.3	74.0	54.0	-16.1	-6.7
17235.20	2.53	36.73	40.76	V	53.9	43.1	60.4	49.6	74.0	54.0	-13.6	-4.4
5713.20	1.43	37.23	32.25	H	52.2	39.6	48.7	36.1	74.0	54.0	-25.3	-17.9
5725.00	1.43	37.23	32.26	H	63.3	47.0	59.7	43.5	74.0	54.0	-14.3	-10.5
5777.20	1.41	37.24	32.32	H	51.9	40.7	48.4	37.2	74.0	54.0	-25.6	-16.8
11489.00	1.89	36.83	40.12	H	51.5	40.9	56.7	46.1	74.0	54.0	-17.3	-7.9
17236.20	2.53	36.73	40.76	H	51.1	40.5	57.7	47.1	74.0	54.0	-16.3	-6.9

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode:	TX Mode(5.8GHz Band)	Test Date :	Mar. 07 2003
Channel :	Mid(IEEE802.11a)	Test By:	James
Temperature :	23 °C	Pol:	Ver./Hor
Humidity :	58 %	Test Host:	TOSHIBA

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
5753.00	1.42	37.23	32.30	V	55.5	44.8	52.0	41.3	74.0	54.0	-22.0	-12.7
5817.20	1.39	37.24	32.37	V	53.3	44.4	49.8	40.9	74.0	54.0	-24.2	-13.1
11570.60	1.93	36.88	39.95	V	52.0	41.3	56.9	46.3	74.0	54.0	-17.1	-7.7
17357.80	2.46	36.78	41.31	V	51.5	41.7	58.4	48.7	74.0	54.0	-15.6	-5.3
5753.20	1.42	37.23	32.30	H	55.0	42.4	51.5	38.9	74.0	54.0	-22.5	-15.1
5817.00	1.39	37.24	32.37	H	55.6	44.8	52.1	41.3	74.0	54.0	-21.9	-12.7
11570.80	1.93	36.88	39.95	H	53.1	41.7	58.1	46.7	74.0	54.0	-15.9	-7.3
17356.80	2.46	36.78	41.31	H	49.6	39.2	56.5	46.2	74.0	54.0	-17.5	-7.8

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode:	TX Mode(5.8GHz Band)	Test Date :	Mar. 07 2003
Channel :	High(IEEE802.11a)	Test By:	James
Temperature :	23 °C	Pol:	Ver./Hor
Humidity :	58 %	Test Host:	TOSHIBA

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
5792.60	1.40	37.24	32.35	V	56.4	45.3	52.9	41.8	74.0	54.0	-21.1	-12.2
5850.00	1.37	37.25	32.42	V	61.6	45.0	58.1	41.6	74.0	54.0	-15.9	-12.4
5857.00	1.37	37.25	32.42	V	58.6	44.8	55.1	41.3	74.0	54.0	-18.9	-12.7
11647.00	1.97	36.92	39.79	V	53.4	43.5	58.2	48.3	74.0	54.0	-15.8	-5.7
17473.80	2.39	36.83	41.86	V	51.2	40.3	58.6	47.7	74.0	54.0	-15.4	-6.3
5793.00	1.40	37.24	32.35	H	51.7	40.7	48.2	37.2	74.0	54.0	-25.8	-16.8
5850.00	1.37	37.25	32.42	H	54.5	40.1	51.0	36.7	74.0	54.0	-23.0	-17.3
5857.20	1.37	37.25	32.42	H	52.2	39.7	48.8	36.3	74.0	54.0	-25.2	-17.7
11650.60	1.98	36.93	39.77	H	54.1	42.7	58.9	47.5	74.0	54.0	-15.1	-6.5

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(5.8GHz Band) Test Date : Mar. 07 2003
 Channel : Low(IEEE802.11a,Turbo Mode) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: TOSHIBA

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
5725.00	1.43	37.23	32.26	V	67.0	54.8	63.5	51.2	74.0	54.0	-10.5	-2.8
11522.40	1.89	36.85	40.06	V	50.6	39.9	55.7	45.0	74.0	54.0	-18.3	-9.0
17285.10	2.50	36.75	40.99	V	51.1	40.5	57.8	47.3	74.0	54.0	-16.2	-6.7
5725.00	1.43	37.23	32.26	H	59.0	47.0	55.5	43.5	74.0	54.0	-18.5	-10.5
11522.70	1.89	36.85	40.06	H	49.3	38.6	54.4	43.7	74.0	54.0	-19.6	-10.3
17266.50	2.51	36.74	40.90	H	49.6	38.6	56.3	45.3	74.0	54.0	-17.7	-8.7

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(5.8GHz Band) Test Date : Mar. 07 2003
 Channel : High(IEEE802.11a,Turbo Mode) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: TOSHIBA

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
5850.00	1.37	37.25	32.42	V	53.5	40.4	50.1	36.9	74.0	54.0	-23.9	-17.1
11597.00	1.94	36.89	39.90	V	51.7	41.1	56.7	46.1	74.0	54.0	-17.3	-7.9
17399.70	2.43	36.80	41.49	V	54.0	42.2	61.2	49.3	74.0	54.0	-12.8	-4.7
5850.00	1.37	37.25	32.42	H	48.9	36.4	45.4	32.9	74.0	54.0	-28.6	-21.1
11602.40	1.95	36.90	39.88	H	50.2	39.3	55.1	44.2	74.0	54.0	-18.9	-9.8
17391.30	2.43	36.80	41.49	H	50.0	38.3	57.2	45.5	74.0	54.0	-16.8	-8.5

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : High(IEEE802.11b) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: BENQ

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2389.00	4.42	37.44	27.06	V	61.3	52.8	55.3	46.8	74.0	54.0	-18.7	-7.2
4824.10	7.00	37.05	31.44	V	46.3	38.3	47.7	39.7	74.0	54.0	-26.3	-14.3
5579.00	7.59	37.21	32.08	V	50.1	43.0	52.6	45.5	74.0	54.0	-21.4	-8.5
7236.30	9.39	37.39	35.86	V	45.7	36.0	53.6	43.9	74.0	54.0	-20.4	-10.1
2386.20	4.42	37.44	27.06	H	69.7	51.0	63.7	45.0	74.0	54.0	-10.3	-9.0
4824.00	7.00	37.05	31.44	H	45.5	37.0	46.9	38.4	74.0	54.0	-27.1	-15.6
5581.00	7.61	37.21	32.10	H	49.0	40.0	51.5	42.5	74.0	54.0	-22.5	-11.5

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : High(IEEE802.11b) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: BENQ

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
4874.00	7.00	37.08	31.54	V	47.4	40.2	48.9	41.7	74.0	54.0	-25.1	-12.3
5607.30	7.63	37.21	32.12	V	50.4	42.1	52.9	44.6	74.0	54.0	-21.1	-9.4
7311.00	9.52	37.40	36.02	V	46.2	36.0	54.3	44.1	74.0	54.0	-19.7	-9.9
9749.00	12.49	37.54	38.89	V	44.0	34.0	57.8	47.8	74.0	54.0	-16.2	-6.2
4874.00	7.00	37.08	31.54	H	47.0	36.0	48.5	37.5	74.0	54.0	-25.5	-16.5
5603.00	7.63	37.21	32.12	H	50.0	40.5	52.5	43.0	74.0	54.0	-21.5	-11.0
7314.00	9.52	37.40	36.02	H	46.6	37.5	54.7	45.6	74.0	54.0	-19.3	-8.4
9749.00	12.49	37.54	38.89	H	44.0	33.0	57.8	46.8	74.0	54.0	-16.2	-7.2

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : High(IEEE802.11b) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: BENQ

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2483.50	4.49	37.39	27.34	V	64.7	56.8	59.1	51.2	74.0	54.0	-14.9	-2.8
4924.00	7.00	37.10	31.64	V	47.2	38.3	48.7	39.8	74.0	54.0	-25.3	-14.2
5632.40	7.67	37.22	32.16	V	49.2	40.0	51.8	42.6	74.0	54.0	-22.2	-11.4
7389.00	9.64	37.41	36.16	V	47.1	37.5	55.5	45.9	74.0	54.0	-18.5	-8.1
9848.00	12.62	37.57	38.97	V	44.8	34.0	58.8	48.0	74.0	54.0	-15.2	-6.0
2483.50	4.49	37.39	27.34	H	60.2	52.3	54.6	46.7	74.0	54.0	-19.4	-7.3
4926.00	7.00	37.10	31.64	H	45.0	36.0	46.5	37.5	74.0	54.0	-27.5	-16.5
5629.10	7.66	37.22	32.14	H	49.2	40.1	51.8	42.7	74.0	54.0	-22.2	-11.3
7385.00	9.64	37.41	36.16	H	46.0	36.1	54.4	44.5	74.0	54.0	-19.6	-9.5
9848.10	12.62	37.57	38.97	H	44.3	33.8	58.3	47.8	74.0	54.0	-15.7	-6.2

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : Low(IEEE802.11g) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: BENQ

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2381.00	4.42	37.44	27.06	V	62.0	50.3	56.0	44.3	74.0	54.0	-18.0	-9.7
2390.00	4.43	37.43	27.09	V	74.8	57.6	68.9	51.7	74.0	54.0	-5.1	-2.3
2444.00	4.46	37.41	27.23	V	65.2	55.1	59.5	49.4	74.0	54.0	-14.5	-4.6
4827.00	7.00	37.05	31.44	V	44.0	34.0	45.4	35.4	74.0	54.0	-28.6	-18.6
5575.90	7.59	37.21	32.08	V	49.0	40.0	51.5	42.5	74.0	54.0	-22.5	-11.5
7235.20	9.39	37.39	35.86	V	44.2	33.2	52.1	41.1	74.0	54.0	-21.9	-12.9
2380.00	4.42	37.44	27.06	H	56.8	48.1	50.8	42.1	74.0	54.0	-23.2	-11.9
2390.00	4.43	37.43	27.09	H	71.8	55.2	65.9	49.3	74.0	54.0	-8.1	-4.7
2444.00	4.46	37.41	27.23	H	62.0	53.0	56.3	47.3	74.0	54.0	-17.7	-6.7
4824.00	7.00	37.05	31.44	H	43.2	32.5	44.6	33.9	74.0	54.0	-29.4	-20.1
5573.10	7.59	37.21	32.08	H	49.0	40.0	51.5	42.5	74.0	54.0	-22.5	-11.5
7236.20	9.39	37.39	35.86	H	44.0	34.0	51.9	41.9	74.0	54.0	-22.1	-12.1

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

REPORT NO: 030019-RF-ID ID: NKRCB500AG DATE: March 07, 2003
 Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : Mid(IEEE802.11g) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: BENQ

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2404.80	4.43	37.43	27.12	V	64.0	53.0	58.1	47.1	74.0	54.0	-15.9	-6.9
2469.20	4.47	37.40	27.29	V	64.0	56.0	58.4	50.4	74.0	54.0	-15.6	-3.6
4872.30	7.00	37.08	31.54	V	44.2	33.2	45.7	34.7	74.0	54.0	-28.3	-19.3
5611.00	7.65	37.22	32.13	V	48.2	38.9	50.8	41.5	74.0	54.0	-23.2	-12.5
7310.20	9.52	37.40	36.02	V	44.3	33.1	52.4	41.2	74.0	54.0	-21.6	-12.8
2404.20	4.43	37.43	27.12	H	61.2	52.8	55.3	46.9	74.0	54.0	-18.7	-7.1
2469.00	4.47	37.40	27.29	H	60.2	53.2	54.6	47.6	74.0	54.0	-19.4	-6.4
4880.20	7.00	37.08	31.56	H	44.2	32.9	45.7	34.4	74.0	54.0	-28.3	-19.6
5599.20	7.62	37.21	32.11	H	49.0	38.2	51.5	40.7	74.0	54.0	-22.5	-13.3
7313.40	9.52	37.40	36.02	H	45.5	33.7	53.7	41.8	74.0	54.0	-20.3	-12.2

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003
 Channel : High(IEEE802.11g) Test By: James
 Temperature : 23 °C Pol: Ver./Hor
 Humidity : 58 % Test Host: BENQ

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2429.70	4.45	37.42	27.18	V	59.9	52.1	54.1	46.3	74.0	54.0	-19.9	-7.7
2483.50	4.49	37.39	27.34	V	75.0	57.0	69.4	51.4	74.0	54.0	-4.6	-2.6
2494.00	4.49	37.38	27.37	V	61.0	53.2	55.5	47.7	74.0	54.0	-18.5	-6.3
4922.00	7.00	37.10	31.64	V	44.1	34.0	45.6	35.5	74.0	54.0	-28.4	-18.5
5628.10	7.66	37.22	32.14	V	48.2	38.2	50.8	40.8	74.0	54.0	-23.2	-13.2
7388.10	9.64	37.41	36.16	V	45.1	34.0	53.5	42.4	74.0	54.0	-20.5	-11.6
2429.70	4.45	37.42	27.18	H	57.1	51.0	51.3	45.2	74.0	54.0	-22.7	-8.8
2483.50	4.49	37.39	27.34	H	73.0	55.8	67.4	50.2	74.0	54.0	-6.6	-3.8
4924.20	7.00	37.10	31.64	H	44.1	32.1	45.6	33.6	74.0	54.0	-28.4	-20.4
5635.10	7.67	37.22	32.16	H	47.5	37.2	50.1	39.8	74.0	54.0	-23.9	-14.2
7384.30	9.64	37.41	36.16	H	45.1	33.1	53.5	41.5	74.0	54.0	-20.5	-12.5

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

REPORT NO: 030019-RF-ID

ID: NKRCB500AG

DATE: March 07, 2003

Operation Mode: TX Mode(2.4GHz Band) Test Date : Mar. 07 2003

Channel : Mid(IEEE802.11g,Turbo Mode)

Test By: James

Temperature : 23 °C

Pol: Ver./Hor

Humidity : 58 %

Test Host: BENQ

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
2528.00	4.55	37.40	27.44	V	57.0	47.2	51.6	41.8	74.0	54.0	-22.4	-12.2
4876.10	7.00	37.08	31.54	V	45.0	33.0	46.5	34.5	74.0	54.0	-27.5	-19.5
5591.10	7.62	37.21	32.11	V	47.0	36.5	49.5	39.0	74.0	54.0	-24.5	-15.0
7312.00	9.52	37.40	36.02	V	43.3	32.2	51.4	40.3	74.0	54.0	-22.6	-13.7
2528.20	4.55	37.40	27.44	H	52.7	43.9	47.2	38.4	74.0	54.0	-26.8	-15.6
4876.30	7.00	37.08	31.54	H	45.0	33.4	46.5	34.9	74.0	54.0	-27.5	-19.1
5603.60	7.63	37.21	32.12	H	47.0	36.2	49.5	38.7	74.0	54.0	-24.5	-15.3
7312.30	9.52	37.40	36.02	H	44.1	33.6	52.2	41.7	74.0	54.0	-21.8	-12.3

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode:	TX Mode(5.8GHz Band)	Test Date :	Mar. 07 2003
Channel :	Low(IEEE802.11a)	Test By:	James
Temperature :	23 °C	Pol:	Ver./Hor
Humidity :	58 %	Test Host:	BENQ

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
5713.10	1.43	37.23	32.25	V	56.3	45.0	52.8	41.5	74.0	54.0	-21.2	-12.5
5725.10	1.43	37.23	32.26	V	69.0	54.2	65.5	50.7	74.0	54.0	-8.5	-3.3
5777.10	1.41	37.24	32.32	V	57.5	45.5	54.0	42.0	74.0	54.0	-20.0	-12.0
11491.70	1.88	36.83	40.11	V	52.6	42.0	57.8	47.2	74.0	54.0	-16.2	-6.8
17235.10	2.53	36.73	40.76	V	53.9	43.1	60.4	49.6	74.0	54.0	-13.6	-4.4
5713.10	1.43	37.23	32.25	H	52.1	39.4	48.6	35.9	74.0	54.0	-25.4	-18.1
5725.10	1.43	37.23	32.26	H	63.2	46.8	59.7	43.3	74.0	54.0	-14.3	-10.7
5777.10	1.41	37.24	32.32	H	51.9	40.7	48.4	37.2	74.0	54.0	-25.6	-16.8
11489.10	1.89	36.83	40.12	H	51.4	40.8	56.6	46.0	74.0	54.0	-17.4	-8.0
17236.10	2.53	36.73	40.76	H	51.1	40.4	57.7	47.0	74.0	54.0	-16.3	-7.0

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode:	TX Mode(5.8GHz Band)	Test Date :	Mar. 07 2003
Channel :	Mid(IEEE802.11a)	Test By:	James
Temperature :	23 °C	Pol:	Ver./Hor
Humidity :	58 %	Test Host:	BENQ

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
5753.10	1.42	37.23	32.30	V	55.1	44.3	51.6	40.8	74.0	54.0	-22.4	-13.2
5817.30	1.39	37.24	32.37	V	53.1	44.3	49.6	40.8	74.0	54.0	-24.4	-13.2
11570.50	1.93	36.88	39.95	V	51.8	41.2	56.8	46.2	74.0	54.0	-17.2	-7.8
17357.60	2.46	36.78	41.31	V	51.4	41.6	58.4	48.6	74.0	54.0	-15.6	-5.4
5753.20	1.42	37.23	32.30	H	55.0	42.2	51.5	38.7	74.0	54.0	-22.5	-15.3
5817.10	1.39	37.24	32.37	H	55.5	44.7	52.0	41.2	74.0	54.0	-22.0	-12.8
11570.70	1.93	36.88	39.95	H	53.0	41.7	58.0	46.7	74.0	54.0	-16.0	-7.3
17356.90	2.46	36.78	41.31	H	49.6	39.2	56.5	46.2	74.0	54.0	-17.5	-7.8

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)

Radiated Spurious Emission Measurement Result (Above 1GHz)

Operation Mode:	TX Mode(5.8GHz Band)	Test Date :	Mar. 07 2003
Channel :	High(IEEE802.11a)	Test By:	James
Temperature :	23 °C	Pol:	Ver./Hor
Humidity :	58 %	Test Host:	BENQ

Frequency (MHz)	Cable loss (dB)	Ant. Fact (dB/m)	Pre-amp (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Margin (dBuV/m)	
					PK	AV	PK	AV	PK	AV	PK	AV
5792.40	1.40	37.24	32.35	V	56.1	45.0	52.6	41.5	74.0	54.0	-21.4	-12.5
5850.20	1.37	37.25	32.42	V	61.2	44.2	57.7	40.7	74.0	54.0	-16.3	-13.3
5857.10	1.37	37.25	32.42	V	58.3	44.5	54.8	41.0	74.0	54.0	-19.2	-13.0
11647.00	1.97	36.92	39.79	V	53.1	43.0	57.9	47.8	74.0	54.0	-16.1	-6.2
17473.50	2.39	36.83	41.86	V	51.0	40.0	58.4	47.4	74.0	54.0	-15.6	-6.6
5793.20	1.40	37.24	32.35	H	51.8	40.8	48.3	37.3	74.0	54.0	-25.7	-16.7
5849.90	1.37	37.25	32.41	H	54.5	40.1	51.0	36.6	74.0	54.0	-23.0	-17.4
5857.20	1.37	37.25	32.42	H	52.1	39.6	48.6	36.1	74.0	54.0	-25.4	-17.9
11650.30	1.98	36.93	39.77	H	54.1	42.7	58.9	47.5	74.0	54.0	-15.1	-6.5
17474.22	2.39	36.83	41.86	H	48.8	38.2	56.2	45.6	74.0	54.0	-17.8	-8.4

Remark :

- (1) Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- (2) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Emission.
- (4) Spectrum Peak Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.
Spectrum AV Setting 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.
- (5) Emission(dBuV/m)=Reading(dBuV)+Cable loss(dB)+Ant.Fact.(dB/m)-Pre-amp.(dB)