



Nemko

Test Report: 5W54150.10

Applicant: BelAir Networks Inc.,
603 March Road,
Ottawa, ON
K2K 2M5

Apparatus: BRM2 North America and ASM-E

FCC ID: RAR20005002

In Accordance With: FCC Part 15 Subpart E, 15.407
Unlicensed National Information Infrastructure
Devices

Tested By: Nemko Canada Inc.
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Authorized By: 
Sim Jagpal, General Manager

Date: January 16, 2006

Total Number of Pages: 45

Report Summary

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, Subpart E, 15.407. Radiated tests were conducted in accordance with ANSI C63.4-2003. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC.

The assessment summary is as follows:

Apparatus Assessed:	BRM2 North America and ASM-E
Specification:	FCC Part 15.407, Subpart E
Compliance Status:	Complies
Exclusions:	None
Non-compliances:	None
Report Release History:	Original Release

Author: Xu Jin, Wireless Specialist

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025.

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Section 1 : Equipment Under Test

1.1 Product Identification

The Equipment Under Test was identified as follows:
BRM2 North America and ASM-E

1.2 Samples Submitted for Assessment

The following samples of the apparatus have been submitted for type assessment:

Sample No.	Description	Serial No.
1	SCM	K000625766
2	BRM2 North America	K001331719
3	ASM-E	K001252349
4	15dBi Belair Patch Antenna	203-B

The first samples were received on: Nov.14, 2005

1.3 Technical Specifications of the EUT

Manufacturer:	BelAir Networks Inc.
Frequency Band	5250MHz-5350MHz
Operation Frequency	5265MHz-5330MHz
Rated Conducted Output Power*:	15dBm
Emission Designator	20M3G1W
Modulation:	802.11 a
Antenna Data:	15dBi BelAir Patch Antenna
Antenna Connector:	SMA

* Manufacture's rated power is average power measured using a wide band power meter with a thermocouple detector.

Section 2: Test Conditions

2.1 Specifications

The apparatus was assessed against the following specifications:

FCC Part 15 Subpart E, 15.407, Unlicensed National Information Infrastructure Devices

2.2 Deviations From Laboratory Test Procedures

No deviations were made from laboratory test procedures.

2.3 Test Environment

All tests were performed under the following environmental conditions:

Temperature range	:	15 – 30 °C
Humidity range	:	20 - 75 %
Pressure range	:	86 - 106 kPa
Power supply range	:	+/- 5% of rated voltages

2.4 Test Equipment

Equipment	Manufacturer	Model No.	Asset/Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	Rohde & Schwarz	FSU	FA001877	May 17/05	May 17/06
Spectrum Analyzer	Hewlett-Packard	8566B	FA001309	May 18/05	May 18/06
Spectrum Analyzer Display	Hewlett-Packard	85662A	FA001309	May 18/05	May 18/06
Biconical (1) Antenna	EMCO	3109	FA000805	April 22/05	April 22/06
Log Periodic Antenna #1	EMCO	LPA-25	FA000477	Aug. 29/05	Aug. 29/06
Horn Antenna #1	EMCO	3115	FA000649	Dec. 22/04	Dec. 22/05
18.0 – 40.0GHz Horn Antenna	EMCO	3116	FA001847	April 25/05	April 25/06
1.0 – 2.0 GHz Amplifier	JCA	12-400	FA001498	July 14/05	July 14/06
2.0 – 4.0 GHz Amplifier	JCA	24-600	FA001496	July 14/05	July 14/06
4.0 – 8.0 GHz Amplifier	JCA	48-600	FA001497	July 14/05	July 14/06
5.0 - 18GHz Amplifier	Narda	DWT-186N23U40	FA001409	COU	COU
18.0 – 26.0 GHz Amplifier	NARDA	BBS-1826N612	FA001550	COU	COU
26 – 40.0 GHz Amplifier	NARDA	DBL-2640N610	FA001556	COU	COU
Signal Generator	Rhode & Schwarz	SMR 40	FA001879	July 13/05	July 13/06
Power Meter	HP	4418B	FA001678	Mar 8/05	Mar 8/06
Power Probe	HP	8487A	FA001741	May 26/05	May 26/06
LISN	EMCO	4825/2	FA001545	Jan 13/05	Jan 13/06
Transient Limiter	Hewlett-Packard	1194 7A	FA000975	May 25/05	May 25/06
Climate Chamber	Thermotron	SM-16C	15649-S	COU	COU

* COU (Calibrate on Use)

** NCR (No Calibration Required)

Section 3 : Observations

3.1 Modifications Performed During Assessment

In power line conducted emissions test, two ferrite cores (Steward 28A5776-0A2 and Nexter NF-65) have been added to both of the phase and neutral lines on the power supply in order that power conducted emissions did not exceed the limit.

3.2 Record Of Technical Judgements

No technical judgements were made during the assessment.

3.3 EUT Parameters Affecting Compliance

The user of the apparatus could not alter parameters that would affect compliance.

3.4 Test Deleted

No Tests were deleted from this assessment.

Section 4 : Results Summary

This section contains the following:

FCC Part 15.407, Subpart E: Test Result

The column headed 'Required' indicates whether the associated clauses were invoked for the apparatus under test. The following abbreviations are used:

- N No: not applicable / not relevant.
- Y Yes: Mandatory i.e. the apparatus shall conform to these tests.
- N/T Not Tested, mandatory but not assessed. (See section 3.4 Test deleted)

The results contained in this section are representative of the operation of the apparatus as originally submitted.

4.1 FCC Part 15 Subpart E, 15.407 : Test Results

Section	Clause	Test Description	Required	Result
1	15.207(a)	Powerline Conducted Emissions	Y	PASS
2	15.403(i)	Emission Bandwidth	Y	PASS
3	15.407(a)(2)	Peak Conducted Transmit Output Power	Y	PASS
4	15.407(b)(2)	Spurious Emissions not within restricted bandwidth	Y	PASS
5	15.407(b)(7)	Spurious Emissions within restricted bandwidth	Y	PASS
6	15.407(a)(2)	Peak Power Spectral Density	Y	PASS
7	15.31(e)	Supply Voltage Variation	Y	PASS
8	15.407(a)(6)	Peak Excursion Measurement	Y	PASS
9	15.407(g)	Frequency Stability	Y	PASS

Appendix A: Test Results

Section 1. Power Line Conducted Emissions

Criteria: Clause 15.207(a)

Frequency of Conducted limit (dB μ V)		
Emission (MHz)	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
* Decreases with the logarithm of the frequency.		

Test Conditions:

Sample Number:	1,2,3	Temperature:	22 °C
Date:	Dec.6, 2005	Humidity:	50 %
Modification State:	0	Tester:	Xu Jin
		Laboratory:	Ottawa

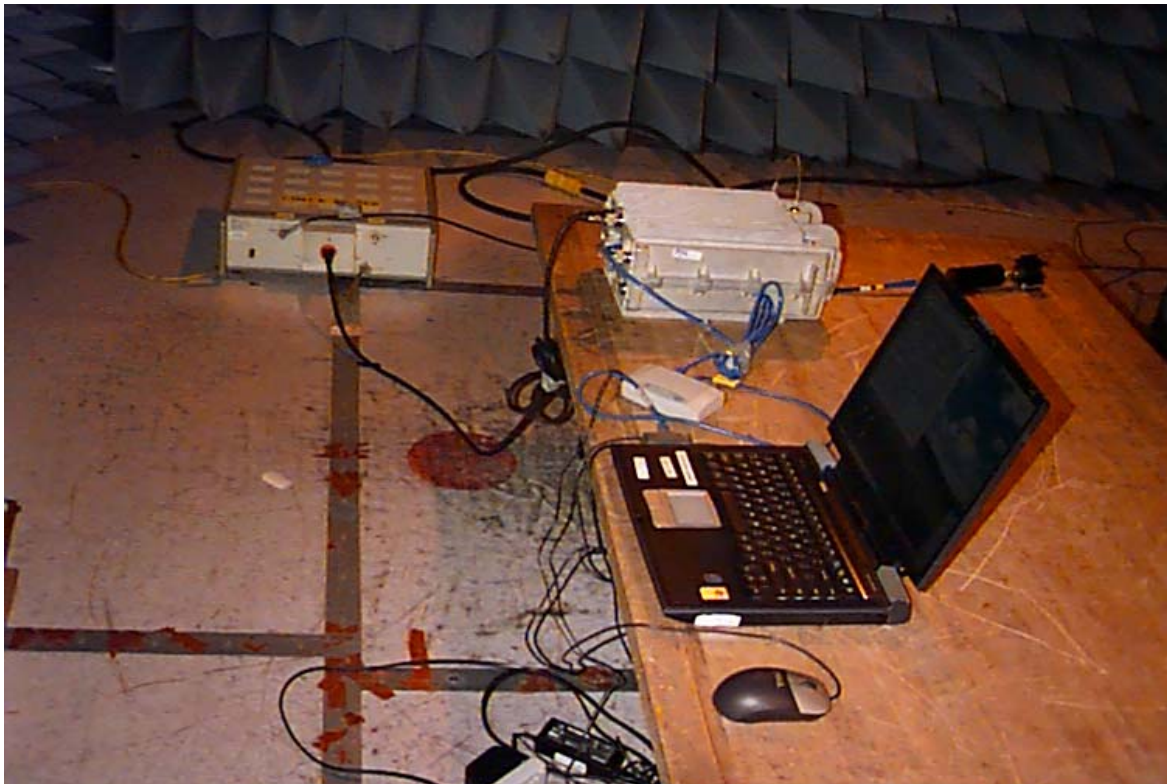
Test Results: Complies

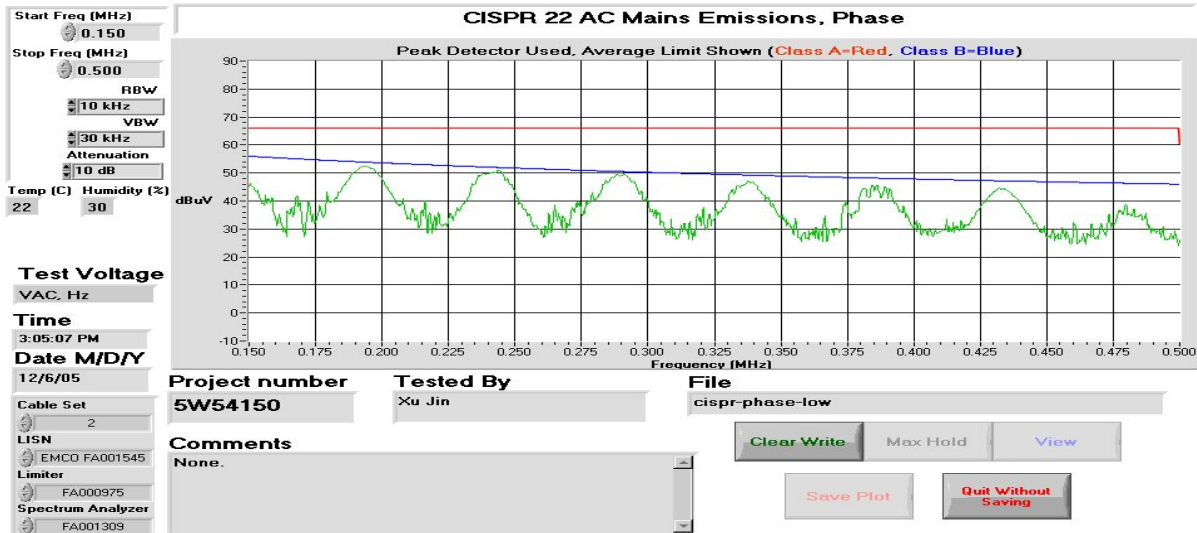
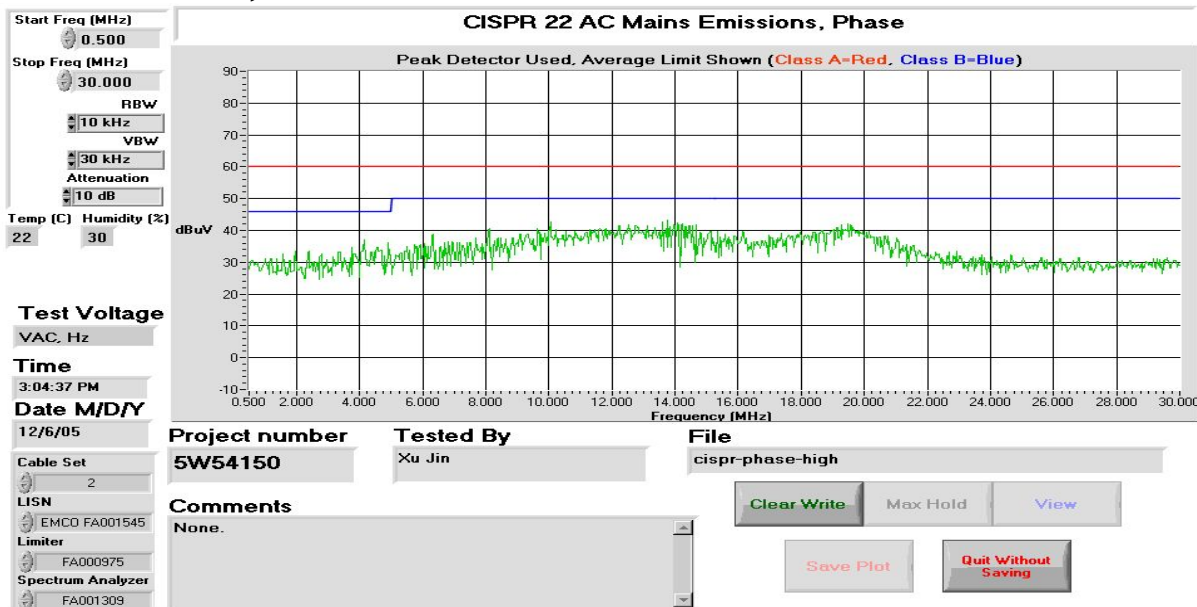
Test Data: See Attached Plots and Tables.

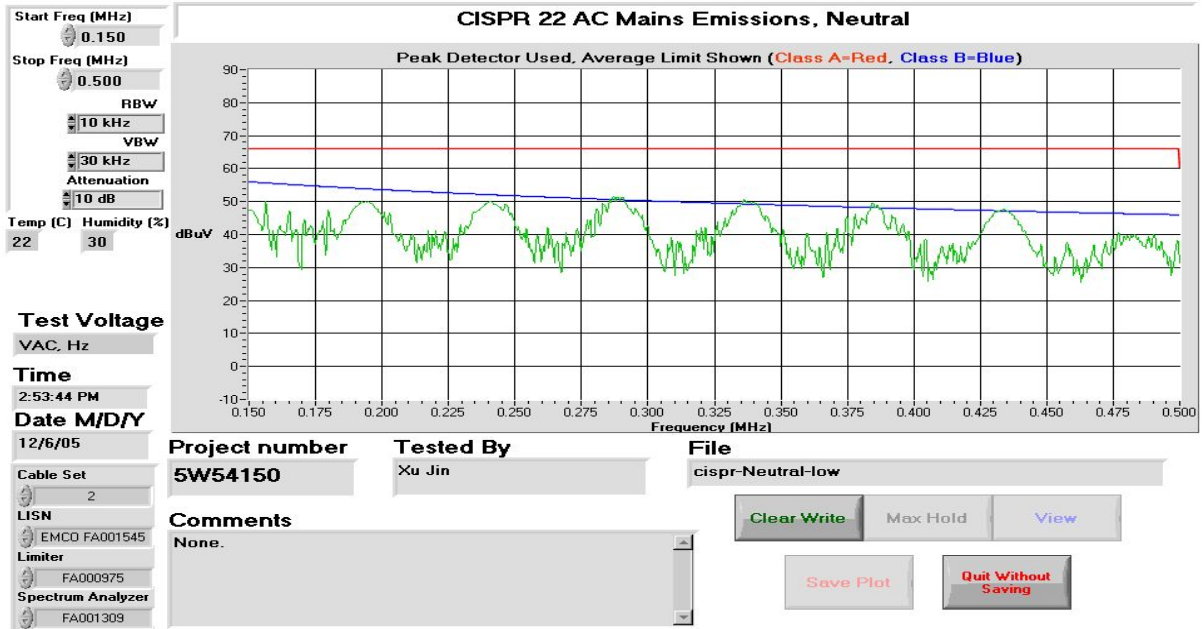
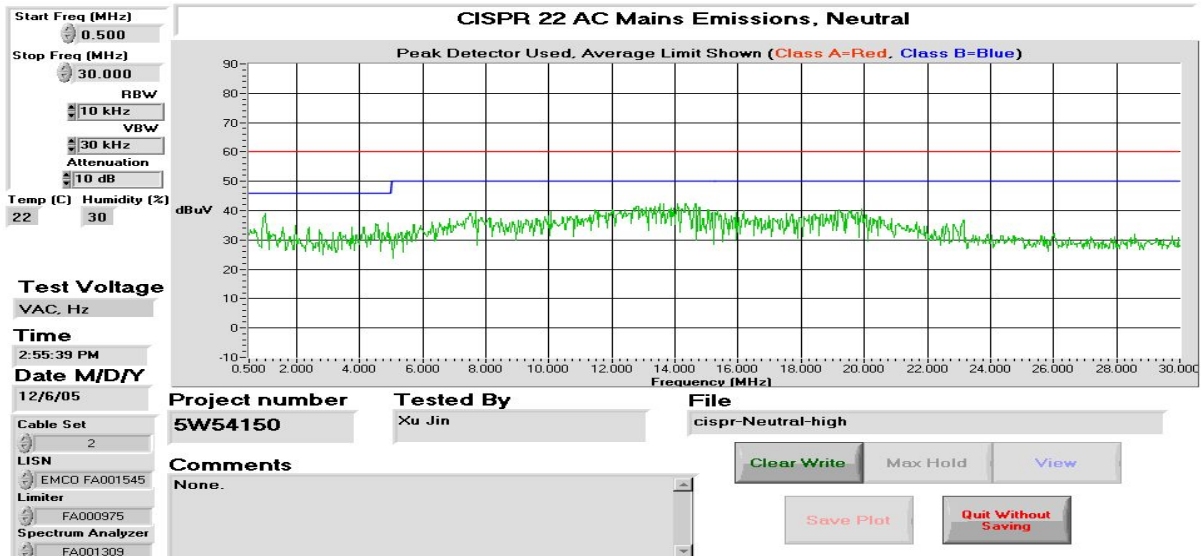
Note:

Two ferrite cores (Steward 28A5776-0A2 and Nexter NF-65) have been added to both of the phase and neutral lines on the power supply in order that power conducted emissions did not exceed the limit.

Conducted Disturbance at Mains, Setup Photos



Conducted Disturbance at Mains, Plots**Phase, 0.150 – 0.500 MHz****Phase, 0.500 – 30 MHz**

Conducted Disturbance at Mains Plots, continued**Neutral, 0.150 – 0.500 MHz****Neutral, 0.500 – 30 MHz**

Test Date: Dec. 6, 2005								
Engineer's Name: Xu Jin								
Tested as per: Table Top								
Mains Input Voltage: 120VAC					Mains Input Frequency: 60Hz			
Port Investigation Data								
Port under test: AC Mains Input								
Conductor	Frequency (MHz)	Detector	Emission Level (dBuV)	LISN Loss (dB)	Cable Loss (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
Phase	0.1934	Quasi Peak	51.9	0.00	0.19	52.09	63.9	11.8
		Average	46.5	0.00	0.19	46.69	53.9	7.2
	0.2417	Quasi Peak	49.6	0.00	0.20	49.80	62.0	12.2
		Average	1.0	0.00	0.20	1.20	52.0	50.8
	0.2868	Quasi Peak	48.9	0.00	0.20	49.10	60.6	11.5
		Average	45.9	0.00	0.20	46.10	50.6	4.5
	0.3363	Quasi Peak	46.2	0.00	0.20	46.40	59.3	12.9
		Average	44.7	0.00	0.20	44.90	49.3	4.4
	0.3825	Quasi Peak	41.6	0.00	0.20	41.80	58.2	16.4
		Average	37.0	0.00	0.20	37.20	48.2	11.0
	0.4321	Quasi Peak	44.4	0.00	0.20	44.60	57.2	12.6
		Average	42.9	0.00	0.20	43.10	47.2	4.1
Neutral	0.1919	Quasi Peak	49.8	0.00	0.18	49.98	64.0	14.0
		Average	47.2	0.00	0.18	47.38	54.0	6.6
	0.2495	Quasi Peak	50.1	0.00	0.20	50.30	61.8	11.5
		Average	44.5	0.00	0.20	44.70	51.8	7.1
	0.2878	Quasi Peak	49.8	0.00	0.20	50.00	60.6	10.6
		Average	47.0	0.00	0.20	47.20	50.6	3.4
	0.3366	Quasi Peak	49.3	0.00	0.20	49.50	59.3	9.8
		Average	48.0	0.00	0.20	48.20	49.3	1.1
	0.3842	Quasi Peak	45.4	0.00	0.20	45.60	58.2	12.6
		Average	39.5	0.00	0.20	39.70	48.2	8.5
	0.4328	Quasi Peak	47.5	0.00	0.20	47.70	57.2	9.5
		Average	46.7	0.00	0.20	46.90	47.2	0.3
Notes								
None								
Test Result								
Final Test Result: Pass								

Section 2. Emission Bandwidth**Criteria: Clause 15.403(i)**

(i) Emission bandwidth. For purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Determination of the emissions bandwidth is based on the use of measurement instrumentation employing a peak detector function with an instrument resolution bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

Test Conditions:

Sample Number:	1,2,3	Temperature:	22 °C
Date:	Dec.5, 2005	Humidity:	50 %
Modification State:	0	Tester:	Xu Jin
		Laboratory:	Ottawa

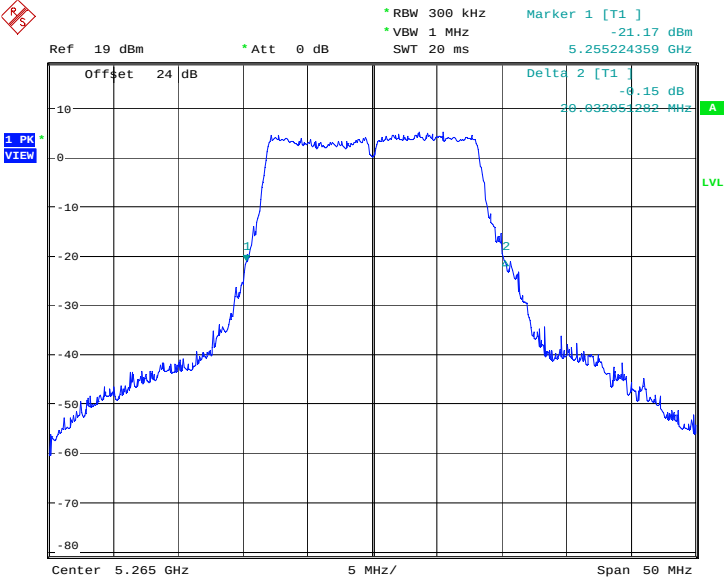
Test Results: Complies

Test Data: See attached table and graphics

26dB Bandwidth (MHz)

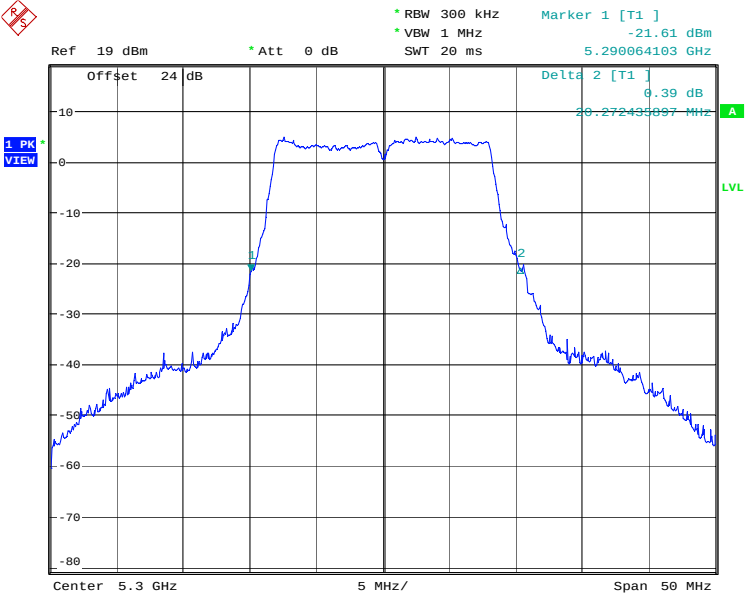
Data Rate	5265MHz	5300MHz	5330MHz
6 Mb/s	20.03	20.27	20.11
54 Mb/s	20.19	20.27	20.27

6Mb/s----5265MHz



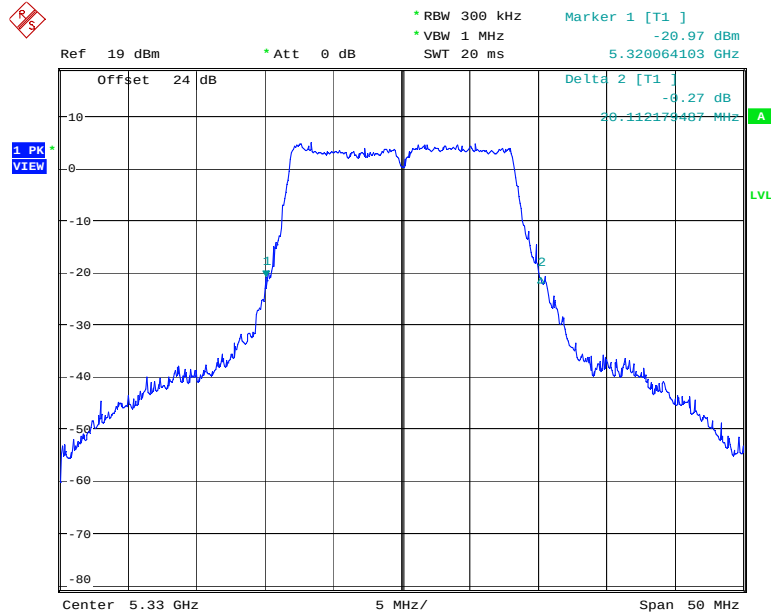
Date: 5.DEC.2005 10:09:32

6Mb/s----5300MHz



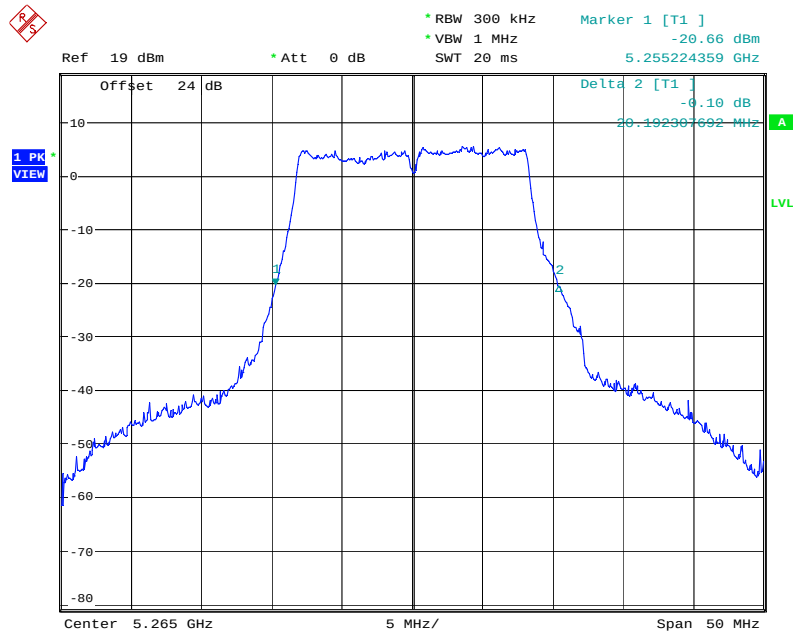
Date: 5.DEC.2005 10:26:42

6Mb/s---5330MHz



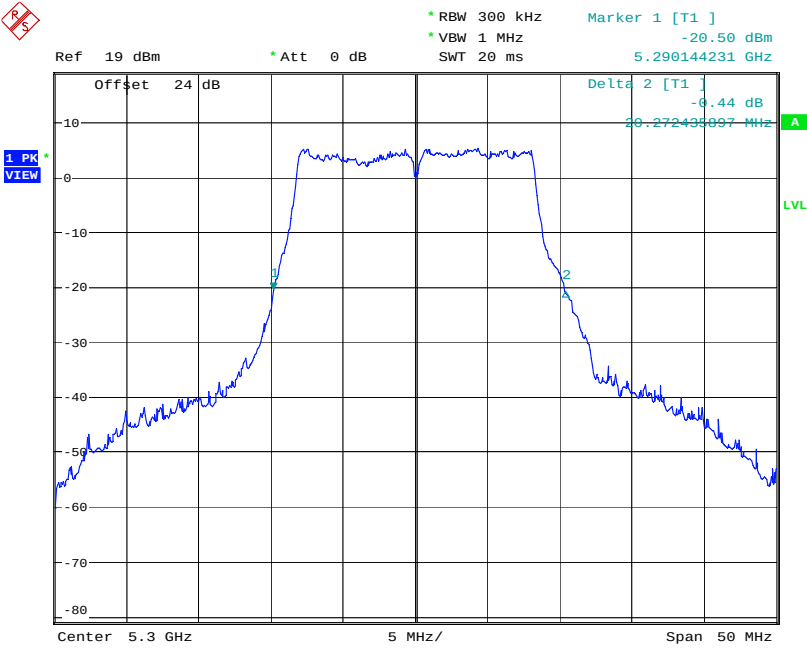
Date: 5.DEC.2005 10:33:17

54Mb/s---5265MHz



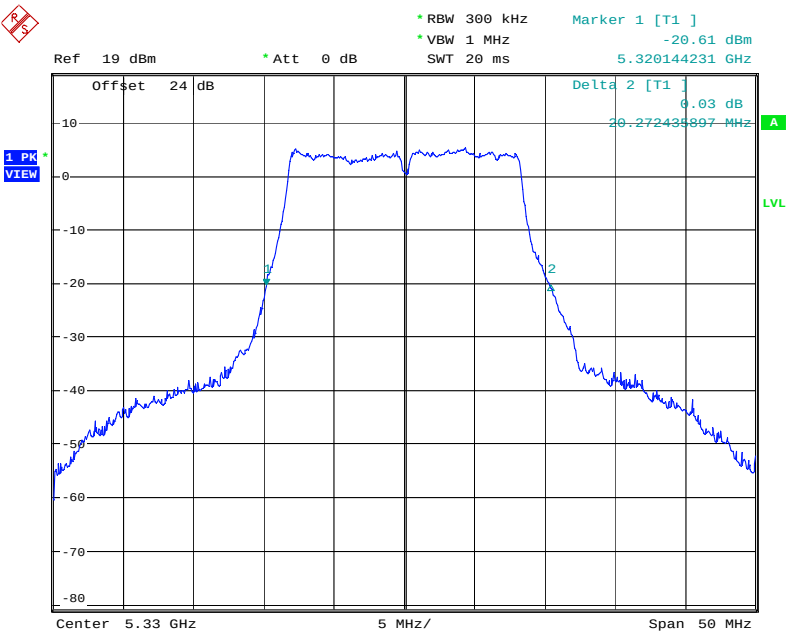
Date: 5.DEC.2005 10:11:34

54Mb/s---5300MHz



Date: 5.DEC.2005 10:24:21

54Mb/s---5330MHz



Date: 5.DEC.2005 10:35:00

Section 3. Output Power**Criteria: Clause 15.407(a)(2)**

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output 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.

Test Conditions:

Sample Number:	1,2,3	Temperature:	22 °C
Date:	Dec.5, 2005	Humidity:	50 %
Modification State:	0	Tester:	Xu Jin
		Laboratory:	Ottawa

Test Method: Output power was measured using sample detector on the spectrum analyser according to FCC Public Notice: DA 02-2138.

Test Results: Complies

Test Data: See attached table and graphics

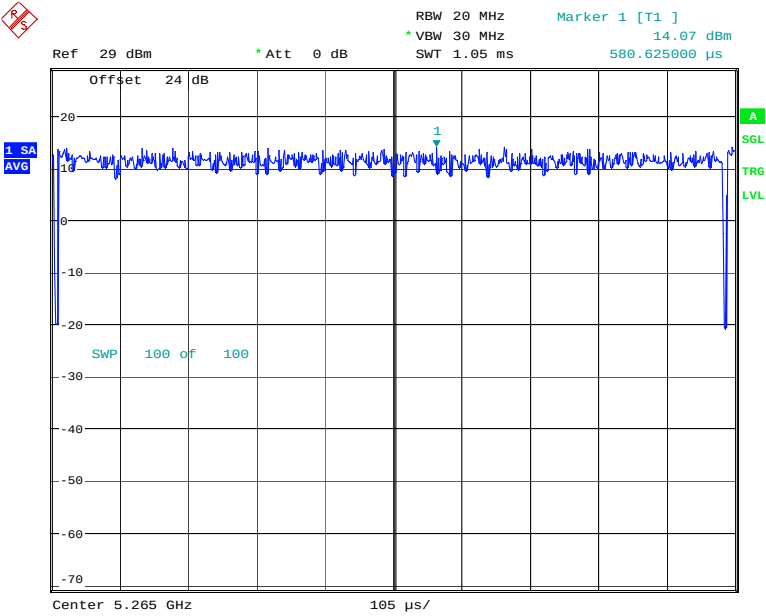
15dBi Belair Patch Antenna**Conducted Output Power Test Data (dBm)**

Frequency (MHz)	6 Mb/s	54 Mb/s
5265	14.07	14.07
5300	14.14	14.25
5330	14.26	14.13

The Maximum Conducted Power for 15dBi Belair Patch Antenna
=14.26dBm

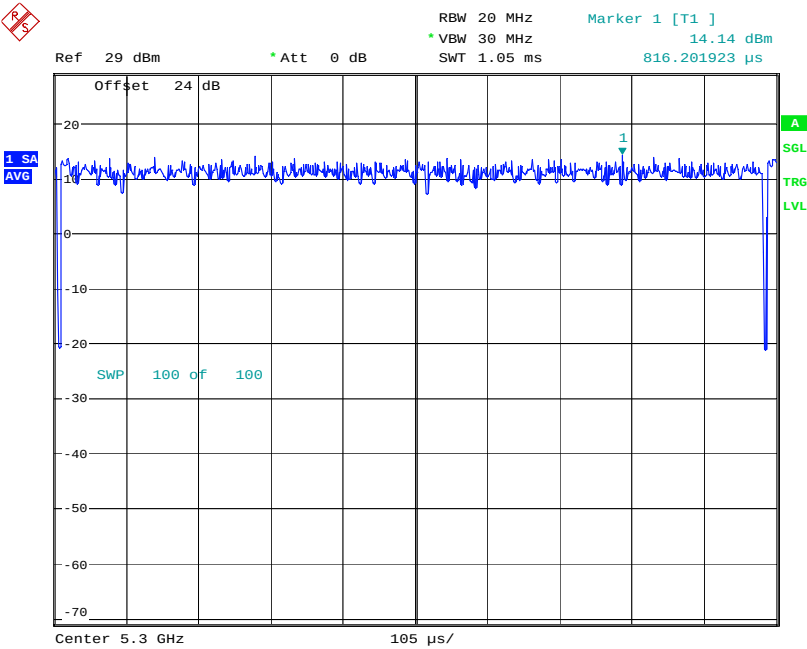
Limit: Conducted Power Limit for 15dBi Belair Patch Antenna
 $24\text{dBm} - (15\text{dBi} - 6\text{dBi}) = 15\text{dBm}$

6Mb/s-5265MHz



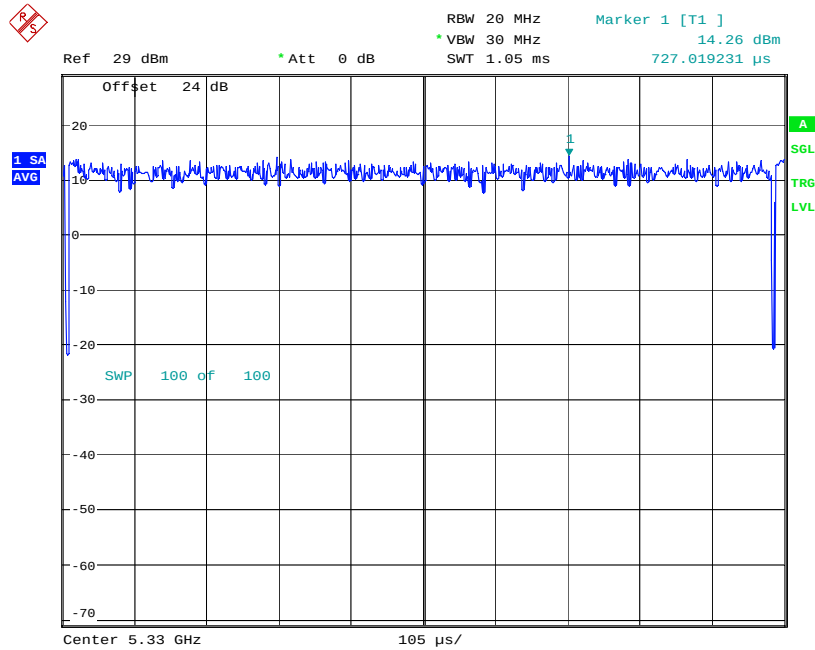
Date: 5.DEC.2005 14:14:30

6Mb/s-5300MHz



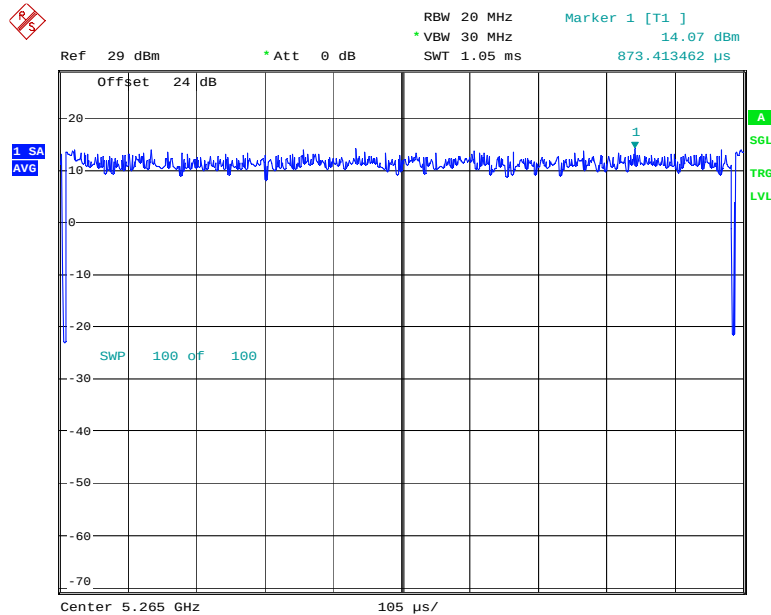
Date: 5.DEC.2005 14:20:36

6Mb/s-5330MHz



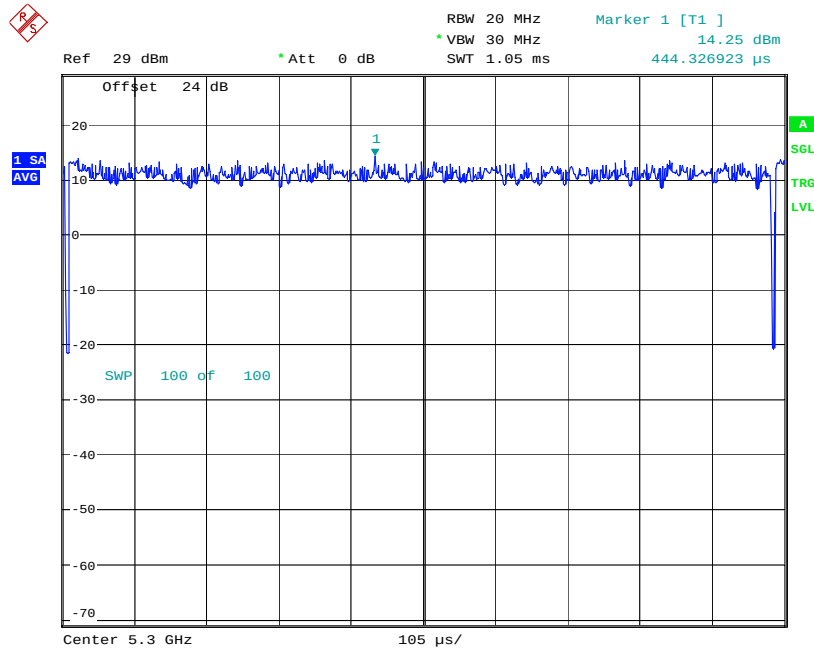
Date: 5.DEC.2005 14:22:02

54Mb/s-5265MHz



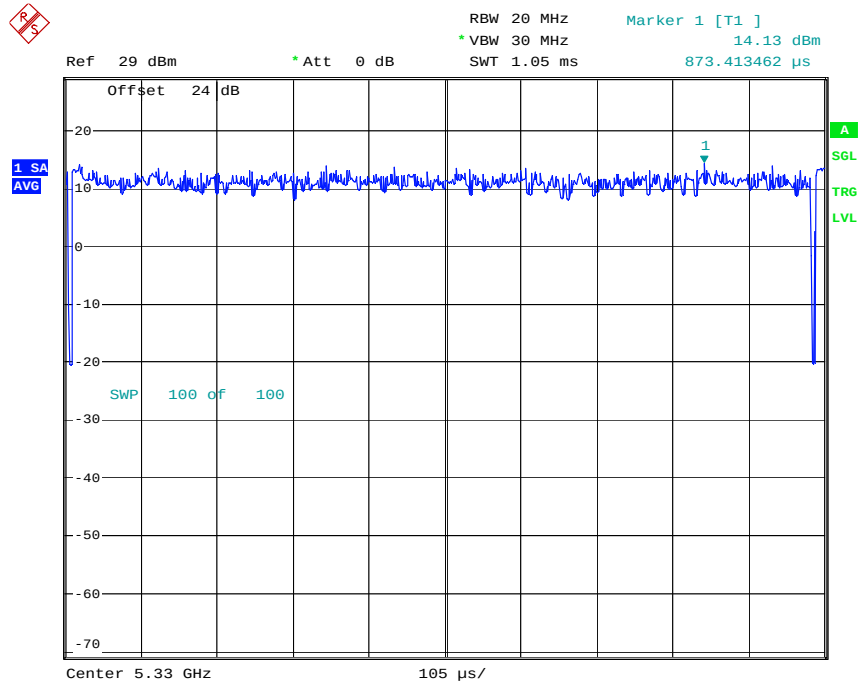
Date: 5.DEC.2005 14:16:07

54Mb/s-5300MHz



Date: 5.DEC.2005 14:18:18

54Mb/s-5330MHz



Date: 5.DEC.2005 14:22:56

Section 4. Spurious Emissions not in Restricted Band**Criteria: Clause 15.407(b)(2)**

(2) For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.

Criteria: Clause 15.407(b)(6)

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209

Test Conditions:

Sample Number:	1,2,3,4	Temperature:	22 °C
Date:	Dec.2, 2005	Humidity:	50 %
Modification State:	0	Tester:	Xu Jin
		Laboratory:	Ottawa

Test Result: Complies

Test Data: See attached plots and tables

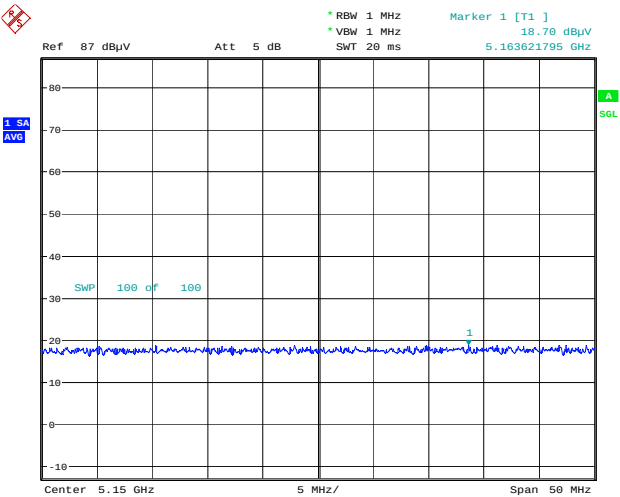
Note:

The DUT was searched from 30MHz to the 10th harmonic of the EUT, and for low, medium and high frequencies. Only worst case was reported.

15dBi Belair Patch Antenna

Band Edge Check, _Ch53, 5265MHz,

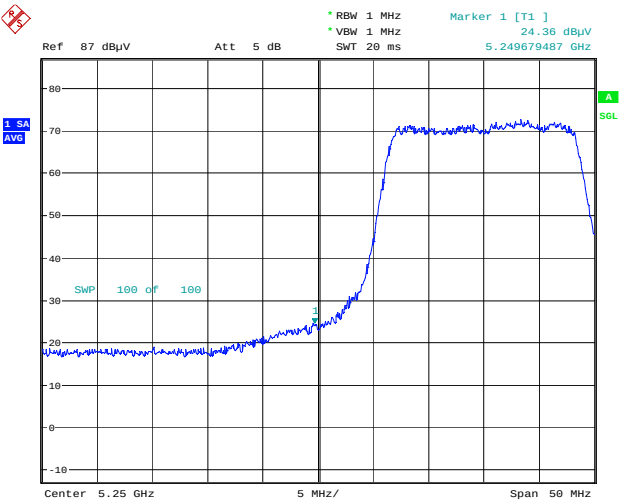
Band Edge Level (dBuV)	Signal Substitution Level (dB)	Emission Level (dBm/MHz)	Limit (dBm/MHz)
18.70	-56.59	-37.89	-27.0



Date: 2.DEC.2005 13:16:53

Band Edge Check, _Ch53, 5265MHz,

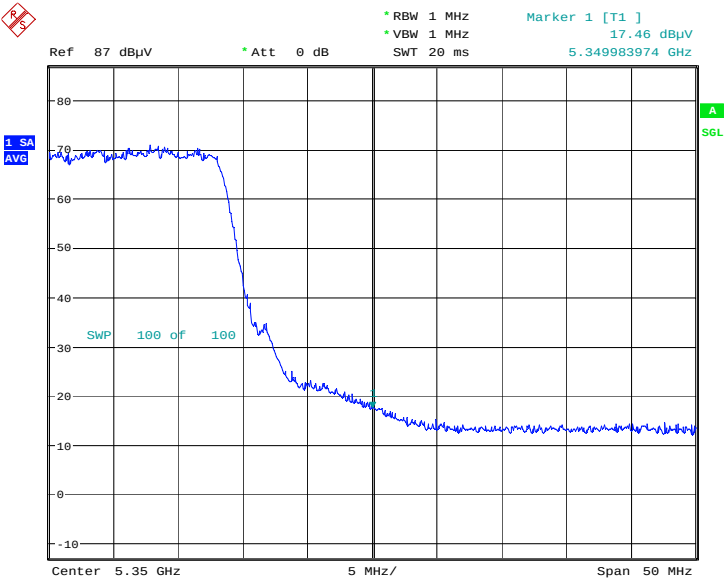
Band Edge Level (dBuV)	Signal Substitution Level (dB)	Emission Level (dBm/MHz)	Limit (dBm/MHz)
24.36	-56.59	-32.23	-27.0



Date: 2.DEC.2005 13:20:50

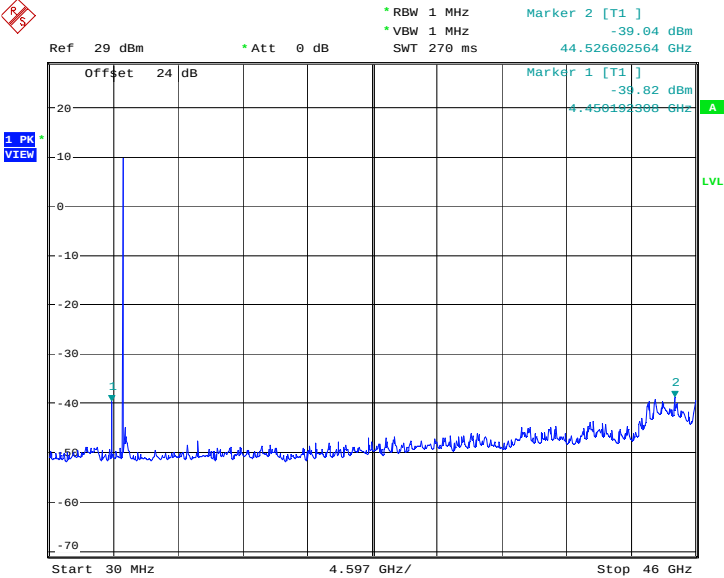
Band Edge Check, _Ch66, 5330MHz,

Band Edge Level (dBuV)	Signal Substitution Level (dB)	Emission Level (dBm/MHz)	Limit (dBm/MHz)
17.46	-56.59	-39.12	-27.0



Date: 2.DEC.2005 16:28:08

Full Span_ Conducted Emissions



Date: 5.DEC.2005 14:32:45

Radiated Emissions Test Data

Test Date: Dec.7, 2005										
Engineer's Name: Xu Jin										
Tested as per: Table Top										
Mains Input Voltage: 120VAC							Mains Input Frequency: 60Hz			
Test Distance (meters): 3							Dome: 1			
Freq. (MHz)	Ant.	Po l. V/ H	RCVD Signal (dBμV)	Ant. Factor (dB)	Amp. Gain (dB)	Cable Loss (dB)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
61.0000	BC1	H	19.5	8.3	N/A.	1.4	29.3	40.0	10.7	Q-Peak
61.0000	BC1	V	23.0	8.1	N/A.	1.4	32.5	40.0	7.5	Q-Peak
Legend: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole Detector Legend: Q-Peak = 120kHz RBW, Average = 1.0MHz RBW, 10Hz VBW, Peak=1.0MHz RBW, 1.0MHz VBW										

Section 5. Spurious Emissions within Restricted Bands**Criteria: Clause 15.407(b)(7)**

(7) The provisions of §15.205 apply to intentional radiators operating under this section.

Criteria: Clause 15.209(a) Radiated Emissions within Restricted Bands

Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

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

Test Conditions:

Sample Number:	1,2,3,4	Temperature:	22 °C
Date:	Dec.2, 2005	Humidity:	50%
Modification State:	0	Tester:	Xu Jin
		Laboratory:	Ottawa

Test Result: Complies

Test Data: See attached plots and tables

Note:

The DUT was searched for low, medium and high frequencies

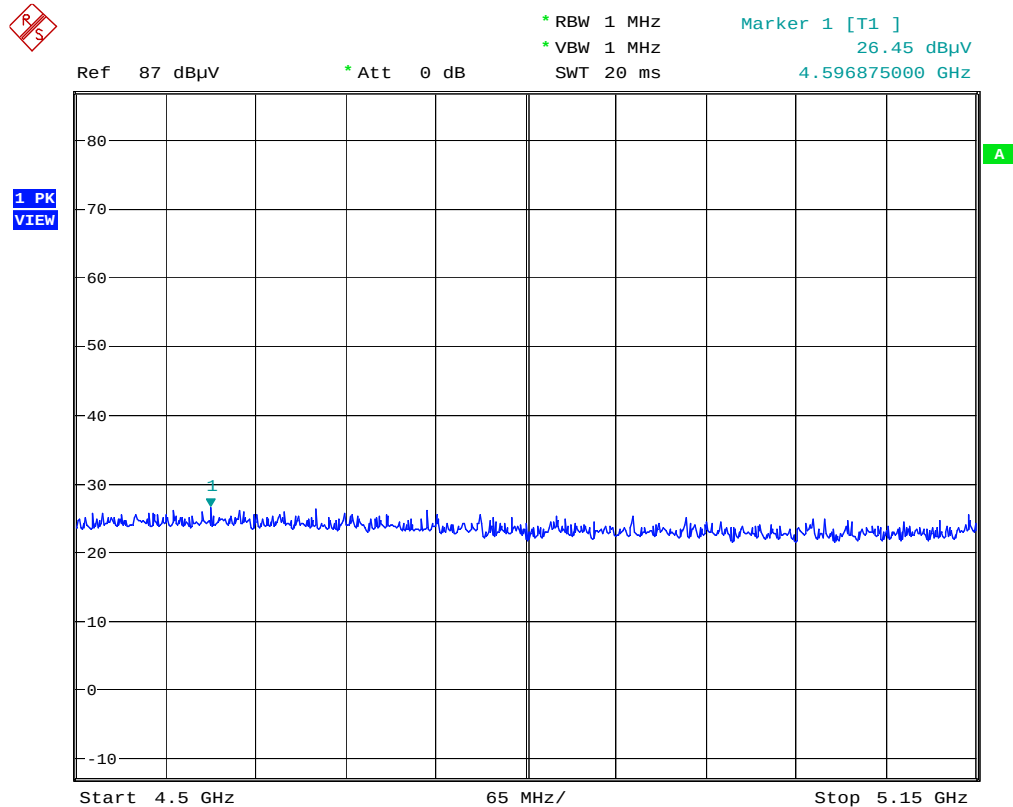
Only worst case was reported.

Restricted Band Check

15dBi Belair Patch Antenna

4.5GHz-5.15GHz Range---Ch53 5265MHz

Band Edge Level (PK) (dB μ V)	Af (dB/m)	Cable Loss (dB)	Emission Level (dB μ V/m)	Limit (dB μ V/m)
26.45	32.66	4	63.11	74



Date: 2.DEC.2005 16:05:53

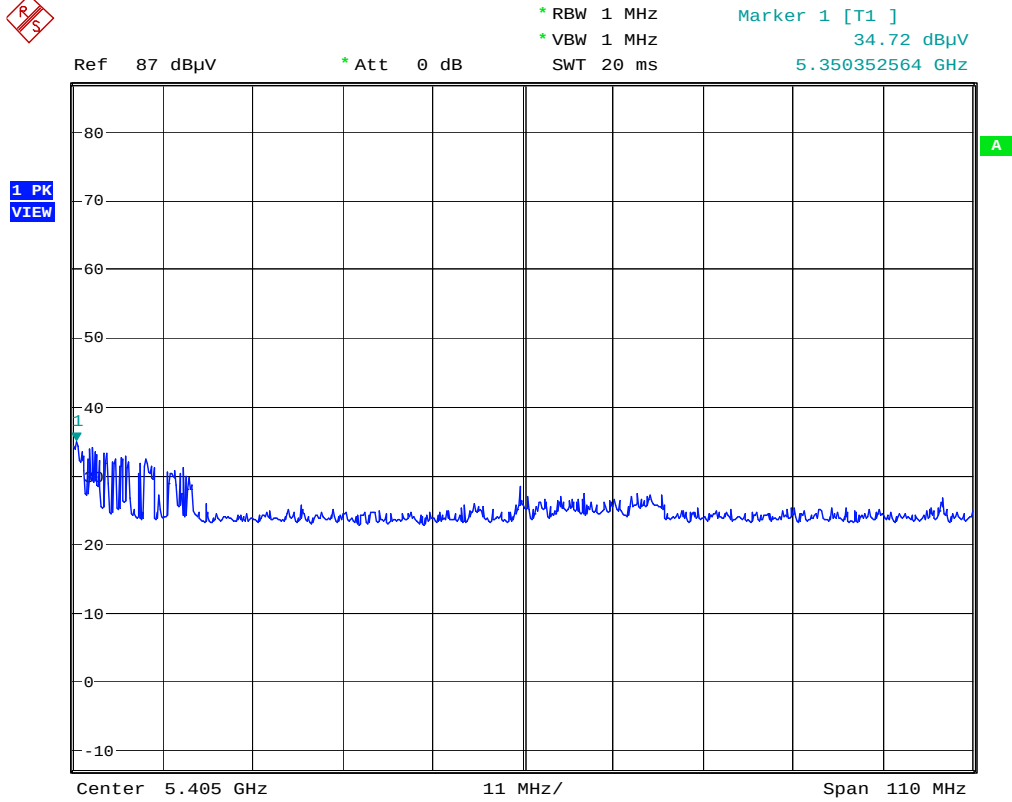
Average Level=Peak Level-Duty Cycle Correction Factor

=63.11 dB μ V/m -18dB= 45.11dB μ V/m

Limit(Average)=54 dB μ V/m

5.35GHz-5.46GHz Range --- Ch66, 5330MHz

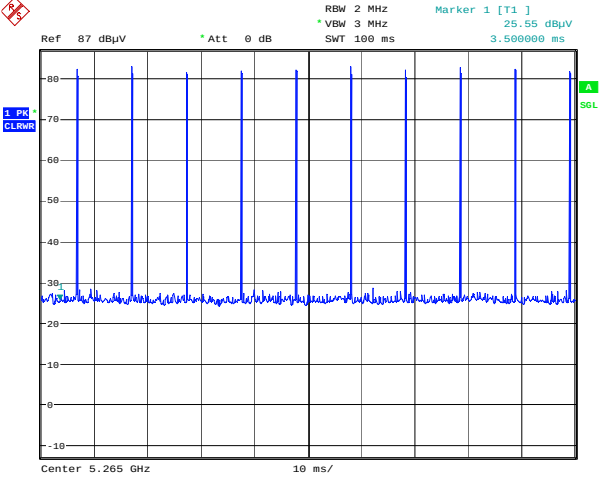
Band Edge Level (Avg) (dBμv)	Af (dB/m)	Cable Loss (dB)	Emission Level (dBμv/m)	Limit (dBμv/m)
34.72	32.66	4	71.38	74



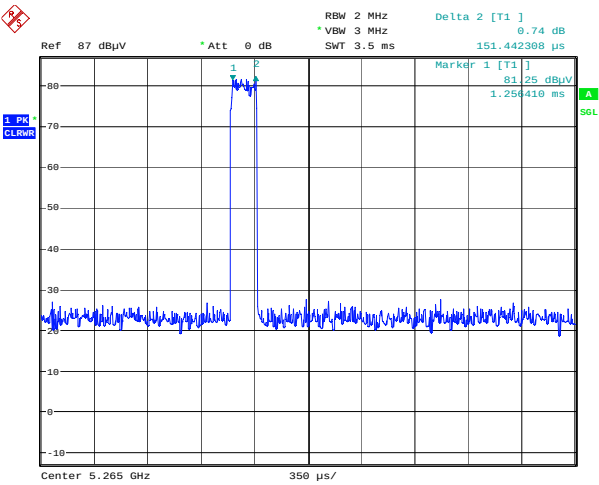
Date: 6.DEC.2005 09:03:00

Average Level=Peak Level-Duty Cycle Correction Factor
 =71.38 dBμv/m -18dB= 53.38dBμv/m
 Limit (Average)=54 dBμv/m

Duty Cycle



Date: 2.DEC.2005 16:08:06



Date: 2.DEC.2005 16:09:40

Duty Cycle Correction Factor= $10 \cdot \log (10 \cdot 151 \mu s / 100 \text{ ms}) = 18 \text{ dB}$

Section 6. Peak Power Spectrum Density**Criteria: Clause 15.407(a)(2)**

In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output 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.

Test Conditions:

Sample Number:	1,2, 3	Temperature:	22 °C
Date:	Dec.5, 2005	Humidity:	50 %
Modification State:	0	Tester:	Xu Jin
		Laboratory:	Ottawa

Test Method: Test was conducted according to FCC Public Notice: DA 02-2138

Test Result: Complies

Test Data: See Attached Tables and Graphics

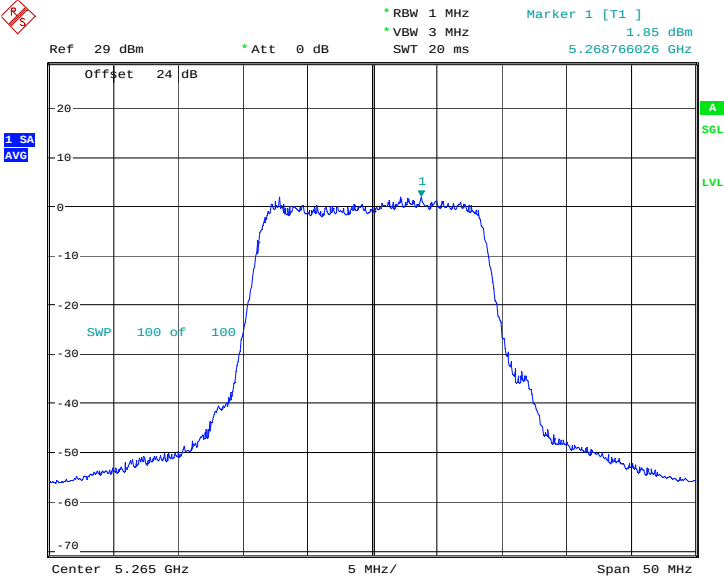
15dBi Belair Patch Antenna**PPSD Measurement Data (dBm/MHz)**

Frequency (MHz)	Data Rate 6 Mb/s	Data Rate 54 Mb/s
5265	1.85	1.86
5300	1.56	1.26
5330	1.94	1.64

The Maximum PSD Value
=1.94dBm/MHz

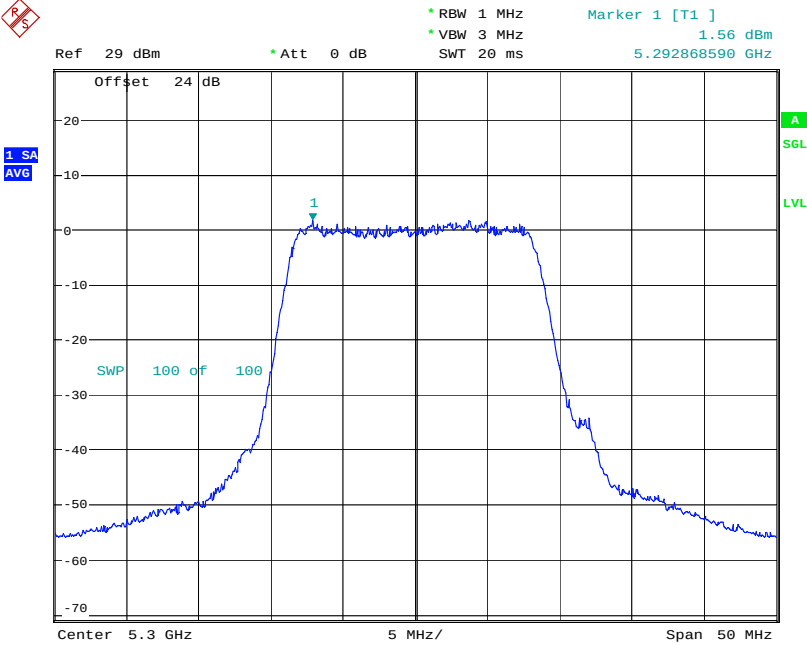
Limit: Conducted PSD Limit for 15dBi Belair Patch Antenna
11Bm/MHz -(15dBi-6dBi)=2dBm/MHz

6Mb/s---5265MHz



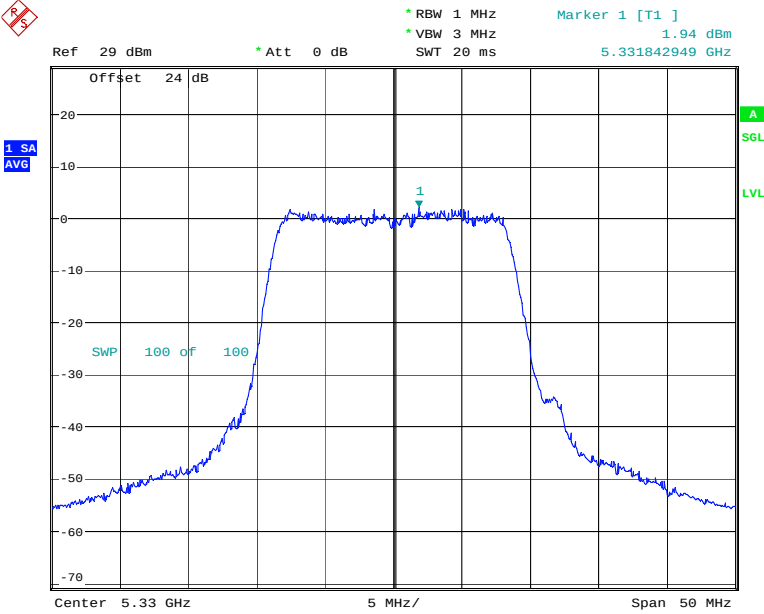
Date: 5.DEC.2005 13:49:50

6Mb/s---5300MHz



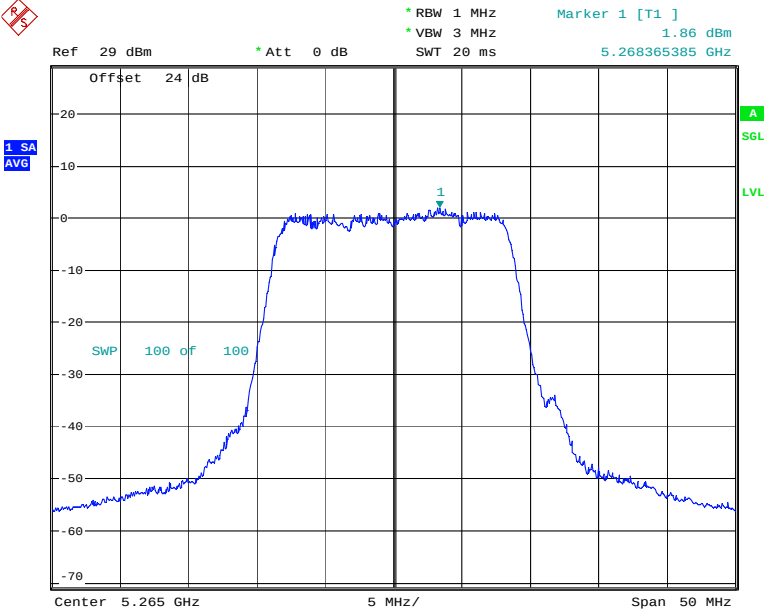
Date: 5.DEC.2005 13:56:11

6Mb/s---5330MHz



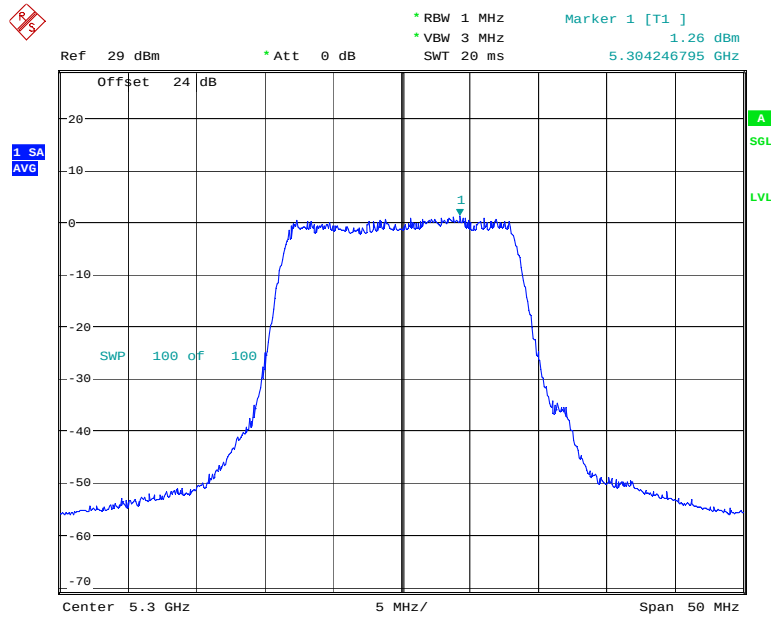
Date: 5.DEC.2005 14:00:50

54Mb/s---5265MHz



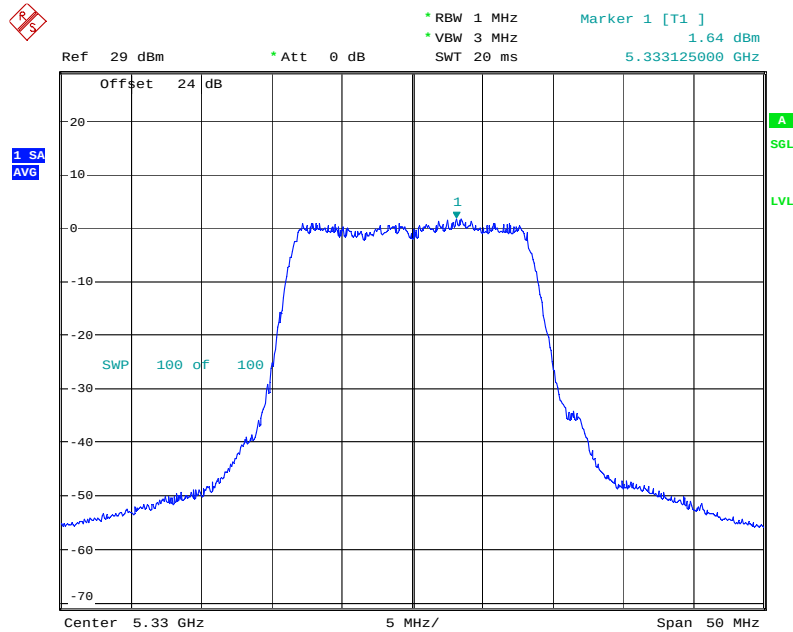
Date: 5.DEC.2005 13:50:50

54Mb/s---5300MHz



Date: 5.DEC.2005 13:53:57

54Mb/s---5330MHz



Date: 5.DEC.2005 14:01:50

Section 7. Supply Voltage Variation**Criteria: Clause 15.31**

§ 15.31 (e) For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery-operated equipment, the equipment tests shall be performed using a new battery.

Test Conditions:

Sample Number:	1,2,3	Temperature:	22 °C
Date:	Dec.5, 2005	Humidity:	45 %
Modification State:	0	Tester:	Xu Jin
		Laboratory:	Ottawa

Test Method: Average power was verified under voltage extreme conditions using a wideband power meter with thermocouple detector.

Extreme Voltage: ±15% of AC Mains

Test Result: No major changed was noticed during the test.
Refer to the attached tables.

	120VAC	Low Voltage Extreme		High Voltage Extreme	
Frequency	Ave. Power	Ave. Power	Deviation	Ave. Power	Deviation
5265MHz	14.50dBm	14.47dBm	0.2%	14.46dBm	2.7%

Section 8. Peak Excursion Measurement**Criteria: Clause 15.407(a)(6)**

(6) The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

Test Conditions:

Sample Number:	1,2,3	Temperature:	22 °C
Date:	Dec.5, 2005	Humidity:	45 %
Modification State:	0	Tester:	Xu Jin
		Laboratory:	Ottawa

Test Method: Test was conducted according to FCC Public Notice: DA 02-2138

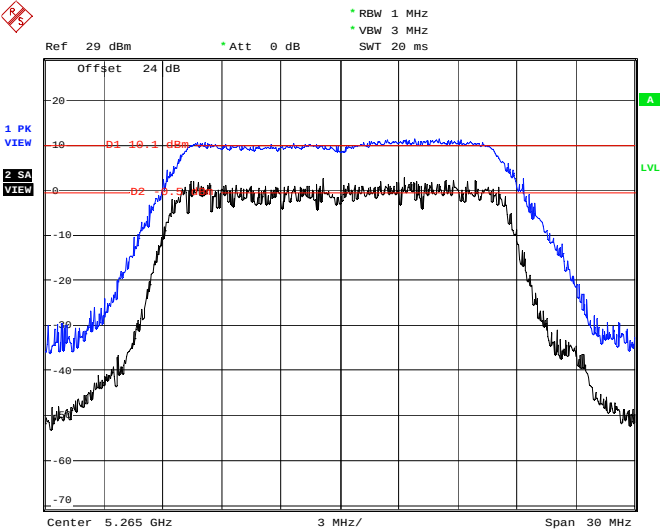
Test Result: Complies

Test Data: See attached tables and graphics

15dBi Belair Patch Antenna
Peak Excursion Measurement Data (dB)

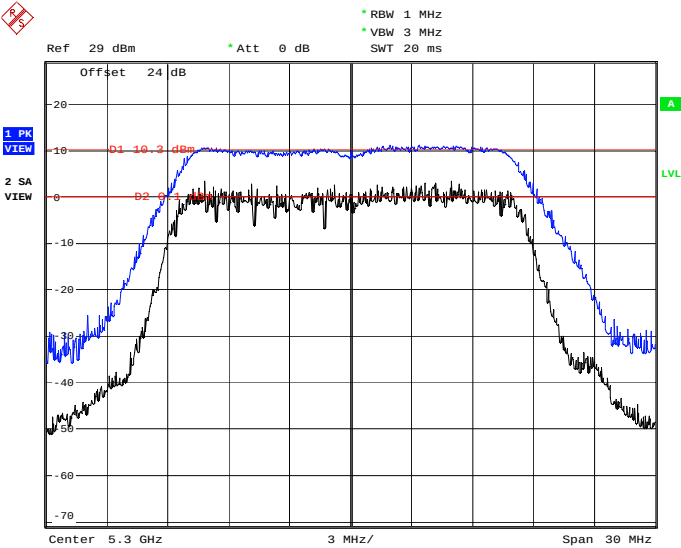
Frequency (MHz)	Data Rate 6 Mb/s	Data Rate 54 Mb/s
5265	10.6	10.4
5300	10.2	10.3
5330	10.5	10.3

6Mb/s---5265MHz



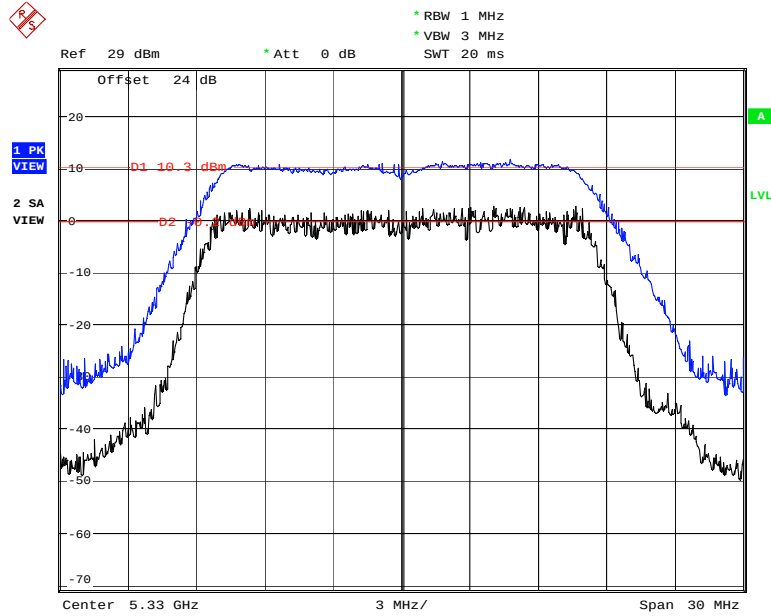
Date: 5.DEC.2005 14:44:16

6Mb/s---5300MHz



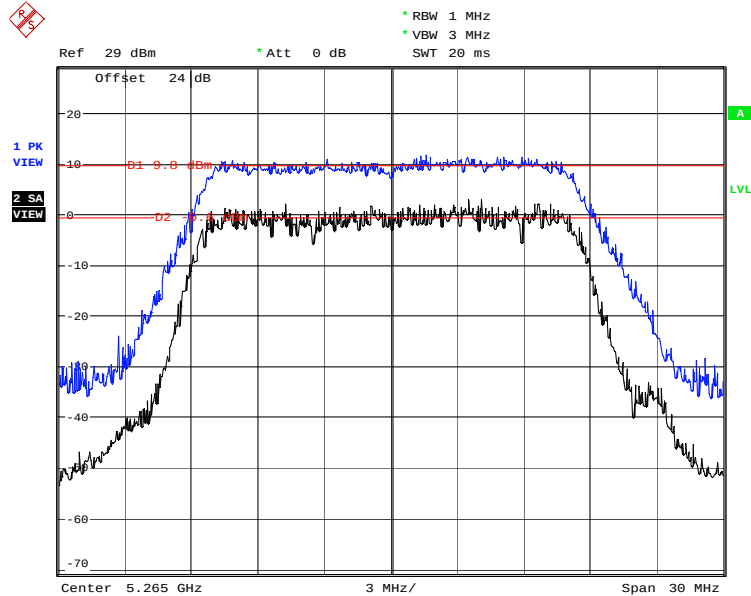
Date: 5.DEC.2005 14:49:12

6Mb/s---5330MHz



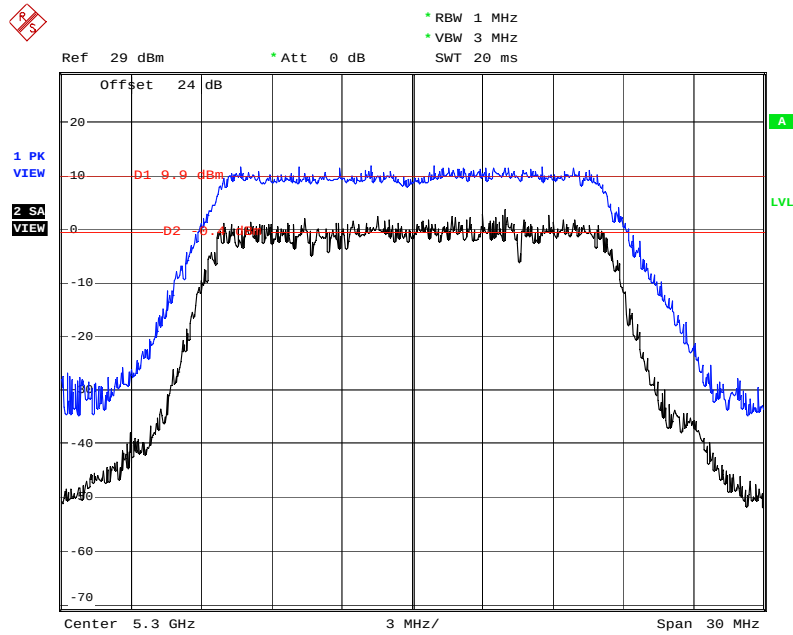
Date: 5.DEC.2005 14:58:17

54Mb/s---5265MHz



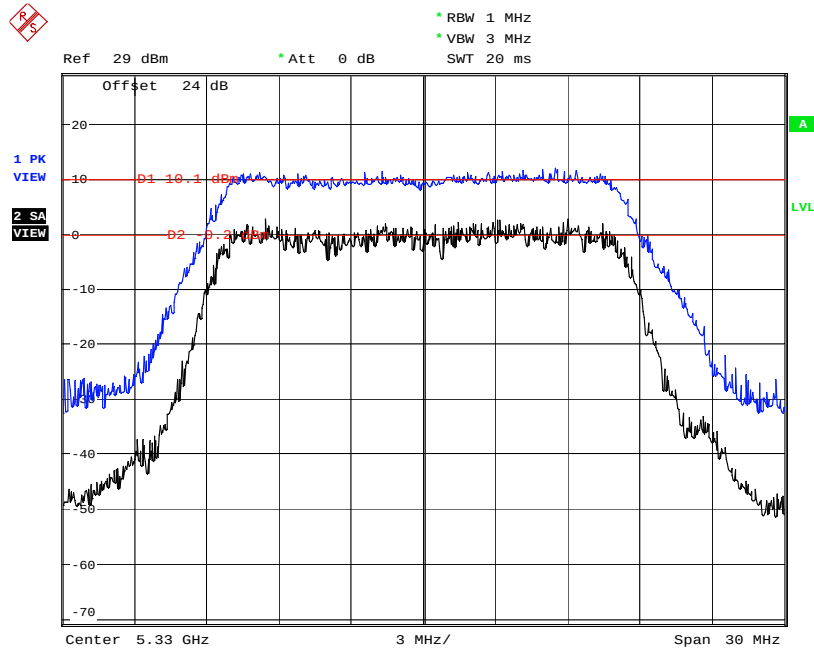
Date: 5.DEC.2005 14:46:13

54Mb/s---5300MHz



Date: 5.DEC.2005 14:51:17

54Mb/s---5330MHz



Date: 5.DEC.2005 15:01:21

Section 9. Frequency Stability

Clause 15.407(g)

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

Test Conditions:

Sample Number:	1,2,3	Temperature:	22 °C
Date:	Dec. 7, 2005	Humidity:	50 %
Modification State:	0	Tester:	Xu Jin
		Laboratory:	Ottawa

Test Results: Complies

Test Conditions Ambient Temperature: 22°C
Extreme Temperature: -30°C to +50°C
Extreme Voltage Conditions: +/-15% of 120VAC

Test Data: See Attached tables

Frequency Stability Test Data

Test Condition	Measured Frequency (MHz)	Frequency Drift (ppm)
+22°C, 120VAC	5300.010218	----
+22°C, 102VAC	5300.010151	-0.012
+22°C, 138VAC	5300.010729	0.096
+50°C, 120VAC	5299.999487	-2.02
+40°C, 120VAC	5299.998085	-2.29
+30°C, 120VAC	5300.000836	-1.77
+10°C, 120VAC	5300.009402	-0.15
0°C, 120VAC	5300.023823	2.56
-10°C, 120VAC	5300.042096	6.01
-20°C, 120VAC	5300.048876	7.29
-30°C, 120VAC	5300.041805	5.96

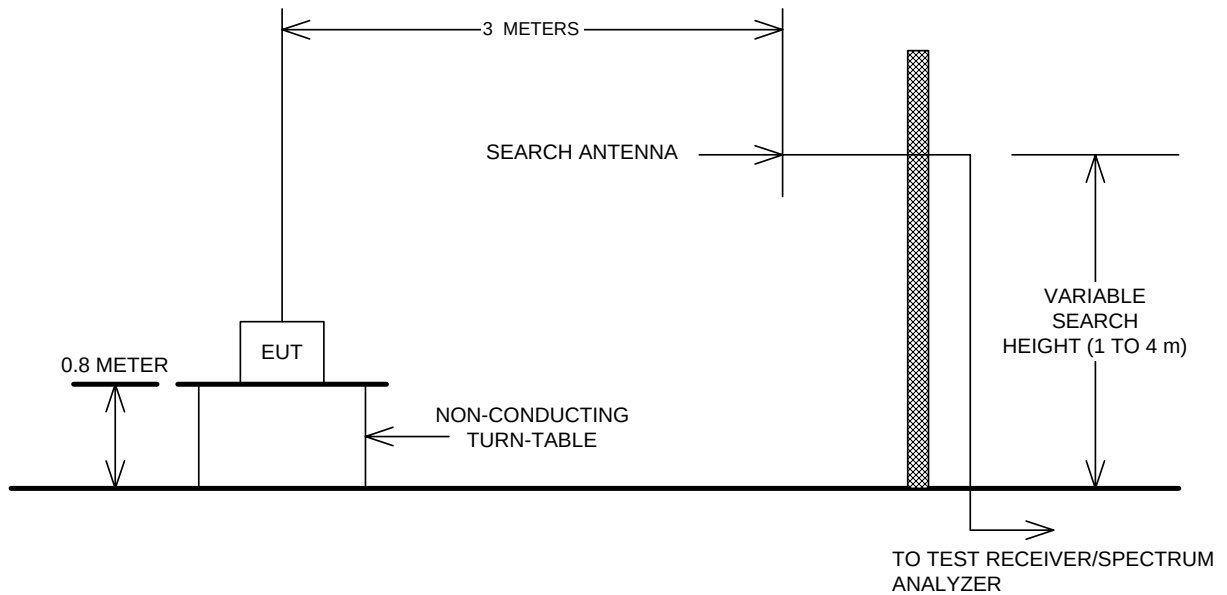
Appendix B: Setup Photographs

Radiated Emission Setup Photos

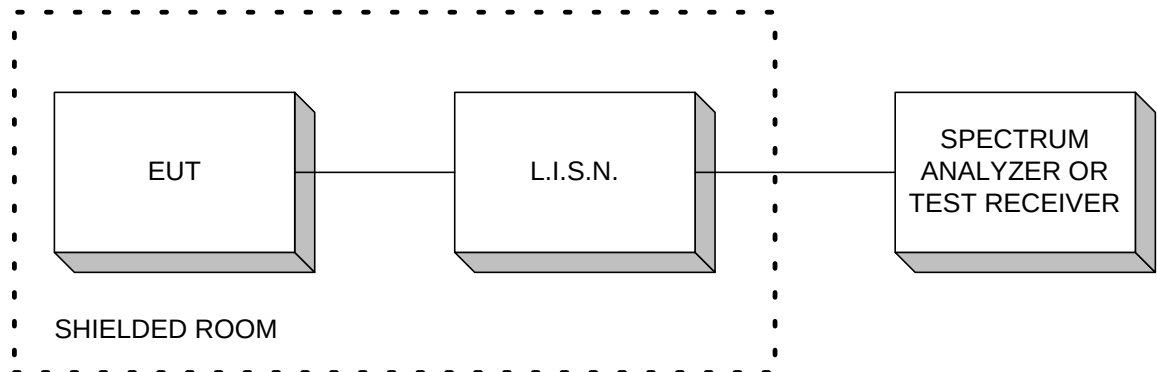


Appendix C : Block Diagram of Test Setups

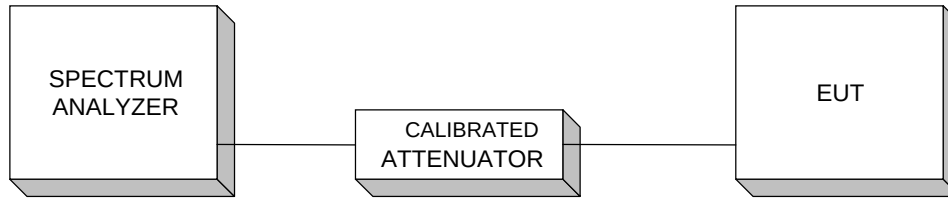
Test Site For Radiated Emissions



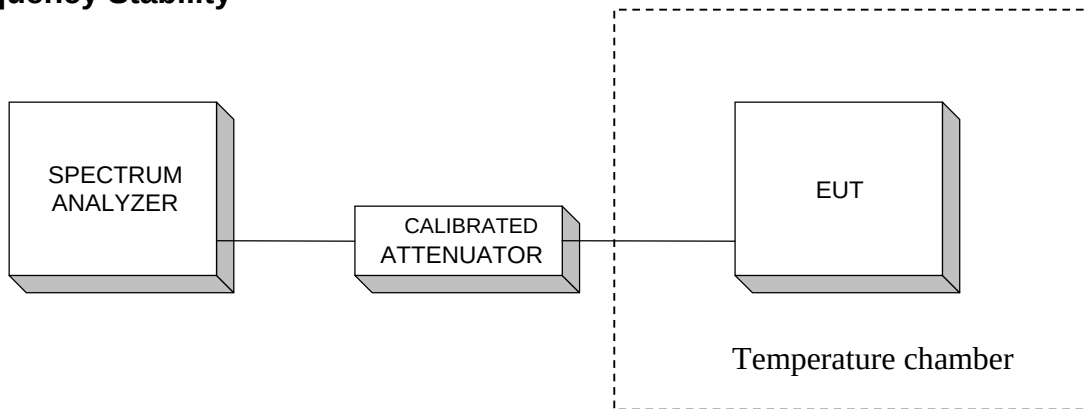
Conducted Emissions



Conducted Measurements



Frequency Stability



TIA/EIA 603, Signal Substitution Method

