Standards Council of Canada
Accredited Laboratory
Scope of Accreditation 75

Conseil canadien des normes
Laboratoire accrédité
Portée d'accréditation 75

TM

Test Report:	6W66062
Applicant:	BelAir Networks Inc 603 March Road, Ottawa, ON K2K 2M5
Apparatus:	Radio Access Module (ARM 3)
FCC ID:	RAR20000003
In Accordance With:	FCC Part 15 Subpart C, 15.247 Class II Permissive Change FHSS System and Digitally Modulated Radiators 902-928MHz, 2400 - 2483.5 MHz, 5725-5850MHz
Tested By:	Nemko Canada Inc. 303 River Road Ottawa, Ontario K1V 1H2
Authorized By:	Jin Xu, Wireless Specialist
Date:	July 20, 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 FCC Part 15, Subpart C. 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:	Radio Access Module (ARM 3)
Specification:	FCC Part 15 Subpart C, 15.247
Compliance Status:	Complies
Exclusions:	None
Non-compliances:	None
Report Release History:	Original Release

Author: Jason Nixon, Telecom 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.

TABLE OF CONTENTS

Section 1 : Equipment Under Test

1.1 Product Identification

The Equipment Under Test was identified as follows:

Radio Access Module (ARM 3)

1.2 Samples Submitted for Assessment

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

Sample No.	Description	Serial No.
1	Belair 100	1AN31X32XXX110A00X11AABFQ7296
2	Toshiba laptop	63042093J
3	Toshiba AC adapter M/N PA32824-1ACA P/N G71C00025310	
4	Antenna MFB24008	
5	Antenna MFB24012DT2	
6	Antenna MFB24010	
7	Antenna MFB24006	
9	Belair Networks B1BB031AA-E01	K001231153
10	Belair Networks BEL10012-A01	
16	Wiresless edge antenna	00012
17	Wiresless edge antenna	00036

The first samples were received on: May 9, 2006

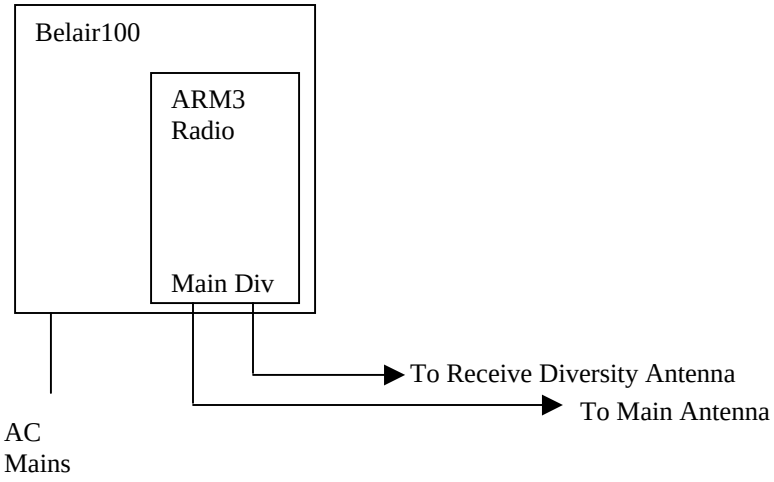
1.3 Theory of Operation

The ARM3 module is an 802.11b/g radio, which is installed in any Belair radio configuration.

1.4 Technical Specifications of the EUT

Manufacturer:	BelAir Networks Inc.
Operating Frequency:	2412-2462MHz
Average Output Power:	0.596W
Emission Designator	W7D G1D
Rated Power:	0.5W
Modulation:	802.11b/g
Antenna Data:	6dBi, 8dBi, 10dBi, 12dBi Omni-directional MAXRAD 8dBi, 11.5dBi Directional Belair 7.5dBi Omni-directional Wireless Edge
Antenna Connector:	MXC
Power Source:	120VAC

1.5 Block Diagram of the EUT



Section 2 : Test Conditions

2.1 Specifications

The apparatus was assessed against the following specifications:

FCC Part 15 Subpart C, 15.247

FHSS System and Digitally Modulated Radiators

902-928MHz, 2400 - 2483.5 MHz, 5725-5850MHz

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 ^{o}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.	Next Cal.
Spectrum Analyzer	Rohde & Schwarz	FSP	FA001920	March 17/07
Spectrum Analyzer	Rohde & Schwarz	FSU	FA001877	May 10/07
LISN	EMCO	4825/2	FA001545	Jan. 30/07
Receiver	Rohde & Schwarz	ESHS 10	FA001918	Feb. 17/07
Spectrum Analyzer	Hewlett-Packard	8566B	FA001309	May 16/07
Spectrum Analyzer Display	Hewlett-Packard	85662A	FA001309	May 16/07
Transient Limiter	Hewlett-Packard	1194 7A	FA001855	June 9/06
Horn Antenna #2	EMCO	3115	FA000825	Dec. 16/06
1.0 – 2.0 GHz Amplifier	JCA	12-400	FA001498	July 14/06
2.0 – 4.0 GHz Amplifier	JCA	24-600	FA001496	July 14/06
4.0 – 8.0 GHz Amplifier	JCA	48-600	FA001497	July 14/06
5.0 – 18.0 GHz Amplifier	NARDA	DWT-186N23U40	FA001409	COU
18.0 – 26.0 GHz Amplifier	NARDA	BBS-1826N612	FA001550	COU
Biconical (1) Antenna	EMCO	3109	FA000805	May 03/07
Log Periodic Antenna #1	EMCO	LPA-25	FA000477	Aug. 29/06
Horn 18 – 26.5 GHz	Electro-Metrics	SH-50/60-1	FA000479	COU

COU- Cal on Use

Section 3 : Observations

3.1 Modifications Performed During Assessment

No modifications were performed during assessment.

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.

3.5 Additional Observations

The following additional observations have been made during this assessment:

3.5.1 Class II Permissive Changes

The following changes were made to the original design:

- The RX down/up filter conversion chain has been removed
- The LNA and LNA driver biasing have been changed
- The PA and PA driver biasing has been changed
- Transmit and receive filters have been changed
- Addition of 7.5dBi Omnidirectional Wireless Edge MT-342015/NV/B antenna

3.5.2 Antennas Assessed

The following antennas have been assessed during this assessment:

- 12dBi Omnidirectional Maxrad MFB24012DT2
- 10dBi Omnidrectional Maxrad MFB24010
- 8dBi Omnidirectional Maxrad MFB24008
- 6dBi Omnidirectional Maxrad MFB24006
- 7.5dBi Omnidirectional Wireless Edge MT-342015/NV/B
- 11.5dBi Directional BelAir B1BB031AA-A01
- 8dBi Directional BelAir BEL10012-A01

Section 4 : Results Summary

This section contains the following:

FCC Part 15 Subpart C : Test Results

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 C : Test Results

Part 15	Test Description	Required	Result
15.207(a)	Powerline Conducted Emissions	Y	PASS
15.209(a)	Radiated Emissions within Restricted Bands	Y	PASS
15.247(a)(1)	Frequency hopping systems	N	
15.247(a)(2)	Systems using digital modulation techniques	Y	PASS
15.247(b)(1)	Maximum peak output power of Frequency hopping systems operating in the 2400-2483.5 MHz band and 5725-5850 MHz band	N	
15.247(b)(2)	Maximum peak output power of Frequency hopping systems operating in the 902-928 MHz band	N	
15.247(b)(3)	Maximum peak output power of systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands	Y	PASS
15.247(b)(4)	Maximum peak output power	Y	PASS
15.247(c)(1)	Fixed point-to-point Operation with directional antenna gains greater than 6 dBi	Y	PASS
15.247(c)(2)	Transmitters operating in the 2400-2483.5 MHz band that emit multiple directional beams	N	
15.247(d)	Radiated Emissions Not in Restricted Bands	Y	PASS
15.247(e)	Power Spectral Density for Digitally Modulated Devices	Y	PASS
15.247(f)	Time of Occupancy for Hybrid Systems	N	

Notes:

Appendix A : Test Results

Clause 15.207(a) Powerline Conducted Emissions

Frequency of Conducted limit (dBµV)

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	**Temperature:**	22
Date:	May 17, 2006	**Humidity:**	32
Modification State:	0	**Tester:**	Jason Nixon
		Laboratory:	Shielded Room

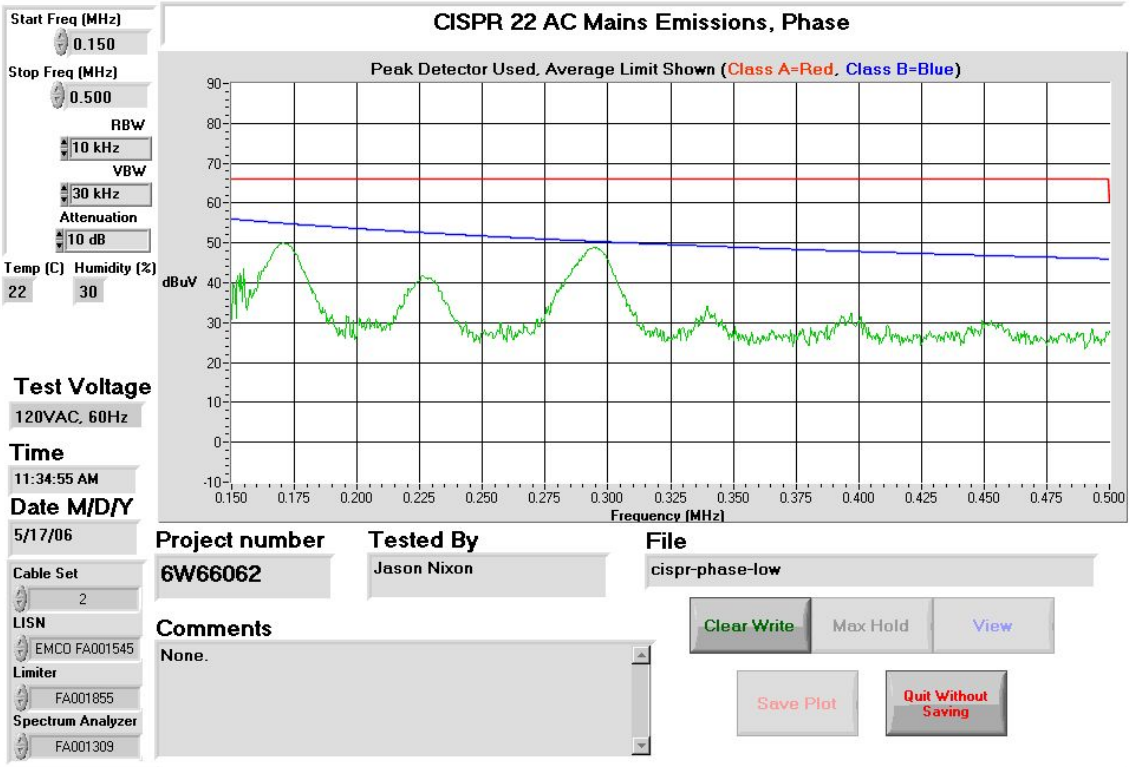
Test Results: See Attached Table and Plots.

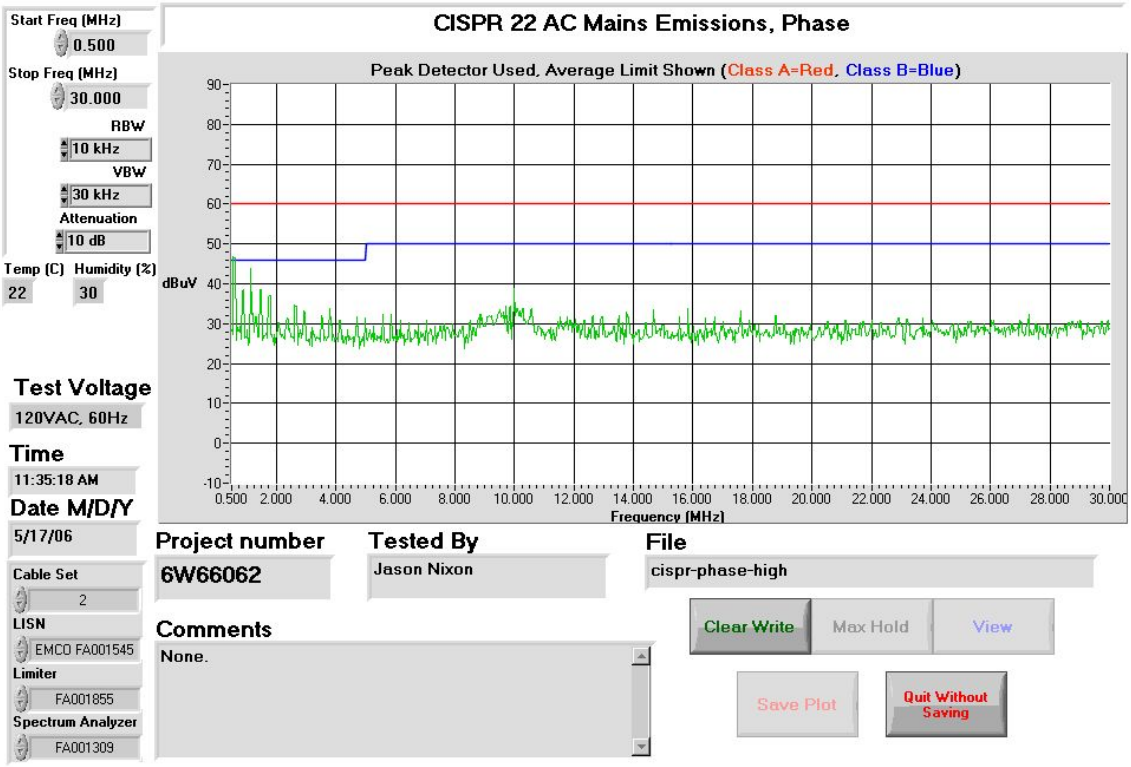
Additional Observations:

All plots have been corrected with the cable, LISN and transient limiter losses to show compliance with the Average limits.

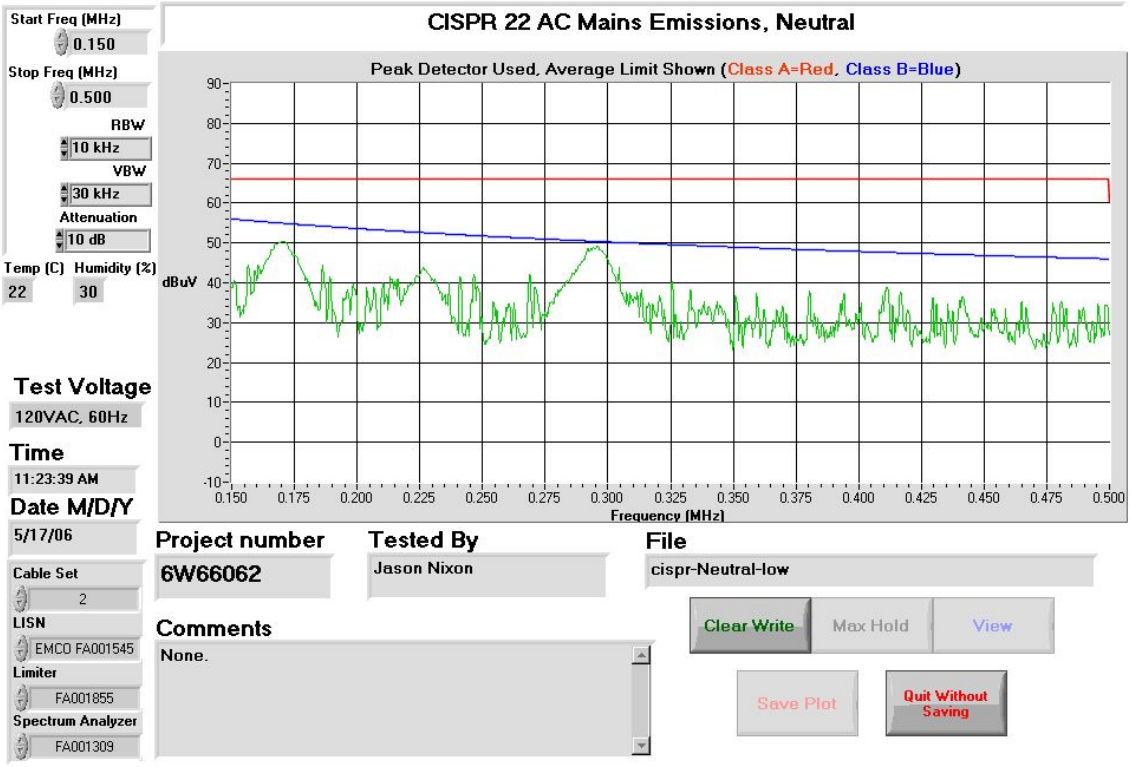
Conductor		Frequency (MHz)	Detector	Emission Level (dBuV)	LISN Loss (dB)	Cable Loss (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	Phase	0.1694	Quasi Peak	49.4	0.00	0.00	49.40	65.0	15.6
			Average	38.5	0.00	0.00	38.50	55.0	16.5
2	Phase	0.2938	Quasi Peak	48.5	0.00	0.20	48.70	60.4	11.7
			Average	48.4	0.00	0.20	48.60	50.4	1.8
3	Phase	0.2264	Quasi Peak	40.6	0.00	0.20	40.80	62.6	21.8
			Average	30.9	0.00	0.20	31.10	52.6	21.5
4	Phase	0.3382	Quasi Peak	28.7	0.00	0.20	28.90	59.2	30.3
			Average	19.0	0.00	0.20	19.20	49.2	30.0
5	Phase	0.6224	Quasi Peak	28.5	0.00	0.00	28.50	56.0	27.5
			Average	23.5	0.00	0.00	23.50	46.0	22.5
6	Phase	0.5651	Quasi Peak	24.9	0.00	0.07	24.97	56.0	31.0
			Average	24.3	0.00	0.07	24.37	46.0	21.6
7	Neutral	0.1691	Quasi Peak	50.3	0.00	0.00	50.30	65.0	14.7
			Average	39.5	0.00	0.00	39.50	55.0	15.5
8	Neutral	0.2939	Quasi Peak	48.4	0.00	0.20	48.60	60.4	11.8
			Average	48.3	0.00	0.20	48.50	50.4	1.9
9	Neutral	0.2253	Quasi Peak	41.7	0.00	0.20	41.90	62.6	20.7
			Average	32.3	0.00	0.20	32.50	52.6	20.1
10	Neutral	0.3940	Quasi Peak	26.1	0.00	0.20	26.30	58.0	31.7
			Average	20.2	0.00	0.20	20.40	48.0	27.6
11	Neutral	0.6207	Quasi Peak	28.6	0.00	0.00	28.60	56.0	27.4
			Average	24.2	0.00	0.00	24.20	46.0	21.8
12	Neutral	0.5640	Quasi Peak	24.5	0.00	0.07	24.57	56.0	31.4
			Average	23.8	0.00	0.07	23.87	46.0	22.1

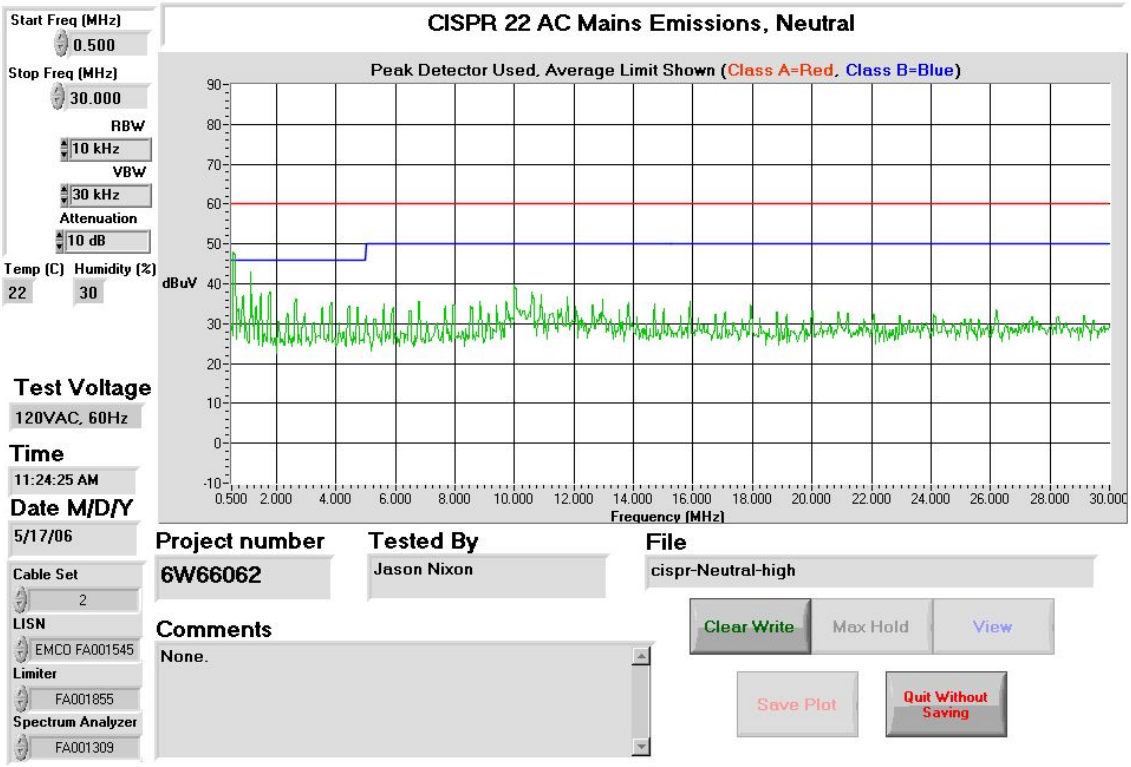
Phase Conductor





Neutral Conductor





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 (microvoltsmeter)	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	**Temperature:**	22
Date:	May 9, 2006	**Humidity:**	25
Modification State:	0	**Tester:**	Jason Nixon
		Laboratory:	Shielded room

Test Results:

See attached Table and Plots.

The Tabulated date is for the worst-case antenna, 8dBi directional BelAir. Measurements were performed on lowest conducted power with the highest gain, highest conducted output power with the lowest gain and on each type of antenna.

Additional Observations:

The spectrum was searched from 30MHz to 26GHz.

All measurements were performed at 3m with a Peak detector of 1MHz RBW/VBW and a Peak Detector with 1MHz RBW/10Hz VBW for the average measurements.

Peak Results

Freq. (MHz)	Ant	Pol. V/H	RCVD Signal (dBµV)	Ant. Factor (dB)	Amp. Gain/ Cable Loss (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)
Low Ch.								
4824	Horn2	V	83.1	33.4	-43.2	73.3	74	0.7
4824	Horn2	H	72.5	33.4	-43.2	62.7	74	11.3
7236	Horn2	V	69.2	36.5	-40.5	65.2	74	8.8
7236	Horn2	H	71.9	36.5	-40.5	67.9	74	6.1
Mid Ch.								
4874	Horn2	V	80.7	33.4	-43.2	70.9	74	3.1
4874	Horn2	H	75.2	33.4	-43.2	65.4	74	8.6
7311	Horn2	V	68.4	36.5	-40.5	64.4	74	9.6
7311	Horn2	H	70.0	36.5	-40.5	66.0	74	8.0
High Ch.								
4924	Horn2	V	80.6	33.4	-43.2	70.8	74	3.2
4924	Horn2	H	75.6	33.4	-43.2	65.8	74	8.2
7386	Horn2	V	68.2	36.5	-40.5	64.2	74	9.8
7386	Horn2	H	67.1	36.5	-40.5	63.1	74	10.9

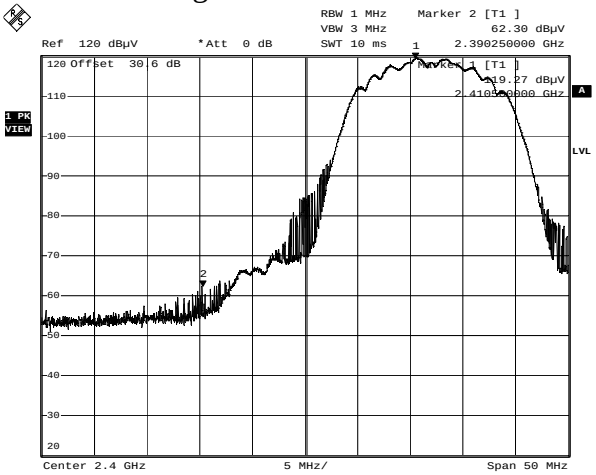
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole

Average Results

Freq. (MHz)	Ant	Pol. V/H	RCVD Signal (dBµV)	Ant. Factor (dB)	Amp. Gain/ Cable Loss (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)
Low Ch.								
4824	Horn2	V	59.7	33.4	-43.2	49.9	54	4.1
4824	Horn2	H	51.4	33.4	-43.2	41.6	54	12.4
7236	Horn2	V	49.0	36.5	-40.5	45.0	54	9.0
7236	Horn2	H	49.4	36.5	-40.5	45.4	54	8.6
Mid Ch.								
4874	Horn2	V	62.2	33.4	-43.2	52.4	54	1.6
4874	Horn2	H	58.5	33.4	-43.2	48.7	54	5.3
7311	Horn2	V	46.7	36.5	-40.5	42.7	54	11.3
7311	Horn2	H	46.9	36.5	-40.5	42.9	54	11.1
High Ch.								
4924	Horn2	V	59.6	33.4	-43.2	49.8	54	4.2
4924	Horn2	H	50.1	33.4	-43.2	40.3	54	13.7
7386	Horn2	V	46.2	36.5	-40.5	42.5	54	11.5
7386	Horn2	H	46.0	36.5	-40.5	42.0	54	12.0

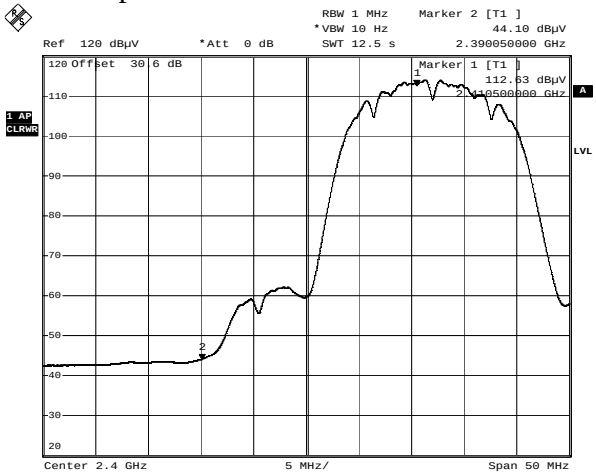
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole

Lower Bandedge CH1 – 12dBi Omnidirectional antenna – 1Mbps



Lower Bandedge - 12dBi Omnidirectional - CH1 - 1Mbps

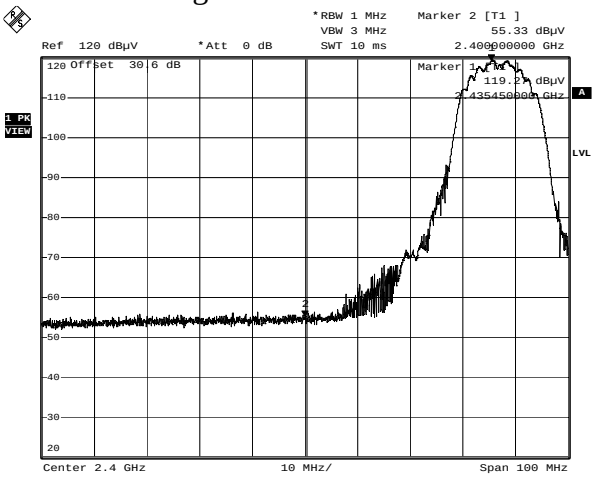
Date: 9.MAY.2006 17:05:35



Lower Bandedge - 12dBi Omnidirectional - CH1 - 1Mbps

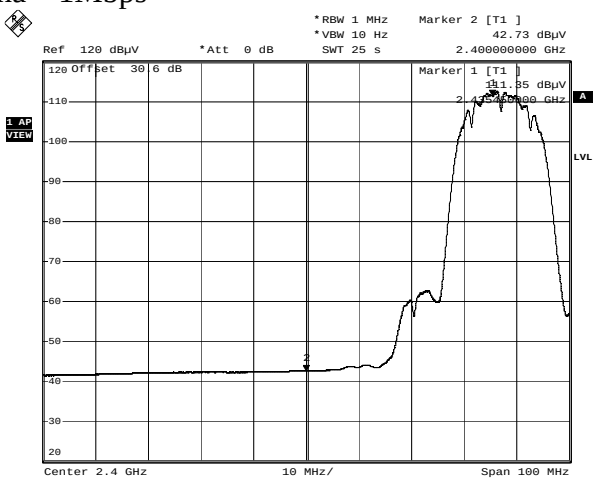
Date: 9.MAY.2006 17:06:38

Lower Bandedge CH6 – 12dBi Omnidirectional antenna – 1Mbps



Lower Bandedge - 12dBi Omnidirectional - CH6 - 1Mbps

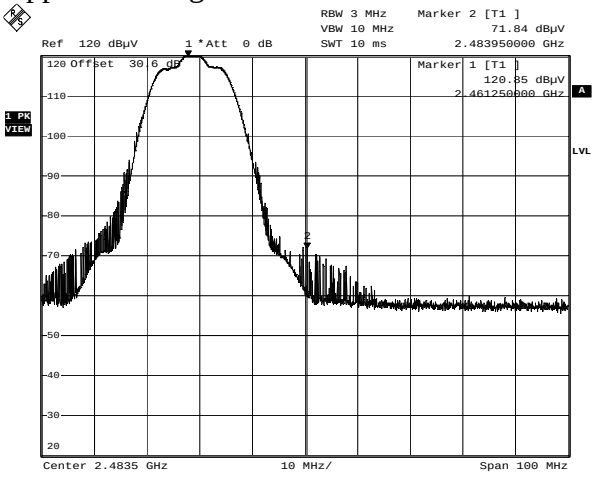
Date: 9.MAY.2006 17:10:29



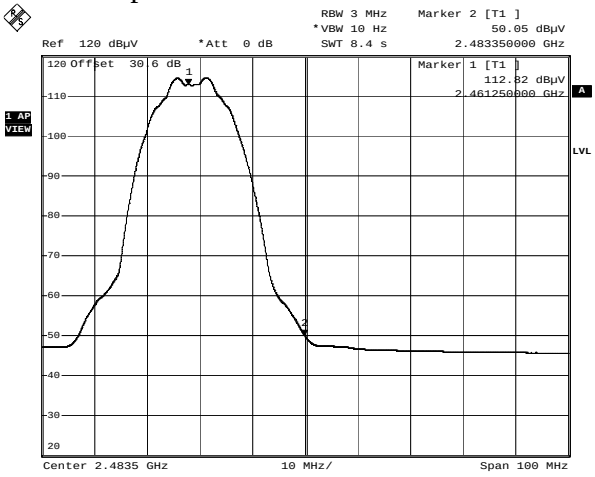
Lower Bandedge - 12dBi Omnidirectional - CH6 - 1Mbps

Date: 9.MAY.2006 17:11:30

Upper Bandedge CH11 – 12dBi Omnidirectional antenna – 1Mbps

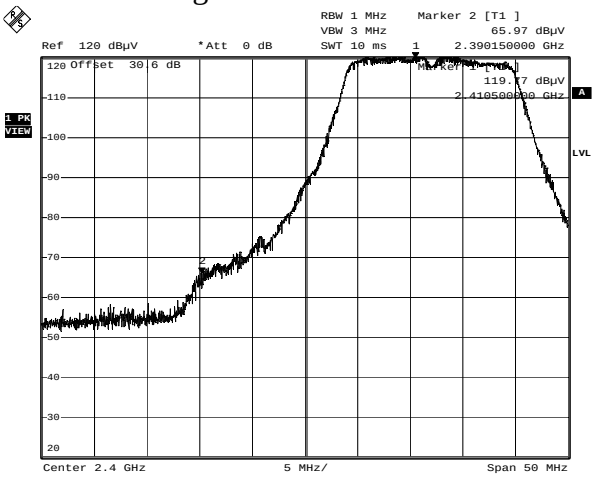


Upper Bandedge - 12dBi Omnidirectional - CH11 - 1Mbps
Date: 9.MAY.2006 17:03:05

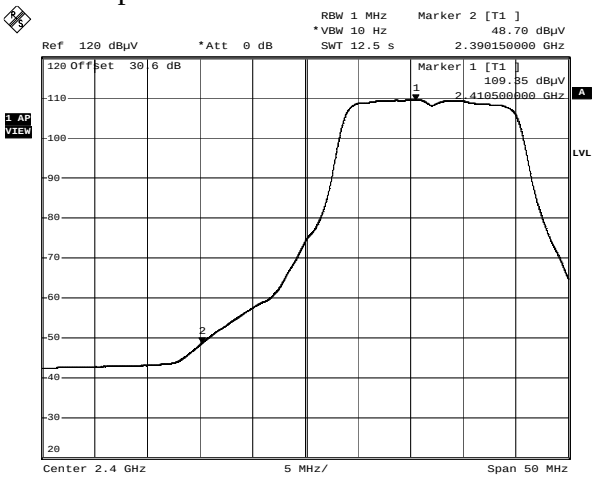


Upper Bandedge - 12dBi Omnidirectional - CH11 - 1Mbps
Date: 9.MAY.2006 17:03:59

Lower Bandedge CH1 – 12dBi Omnidirectional antenna – 6Mbps

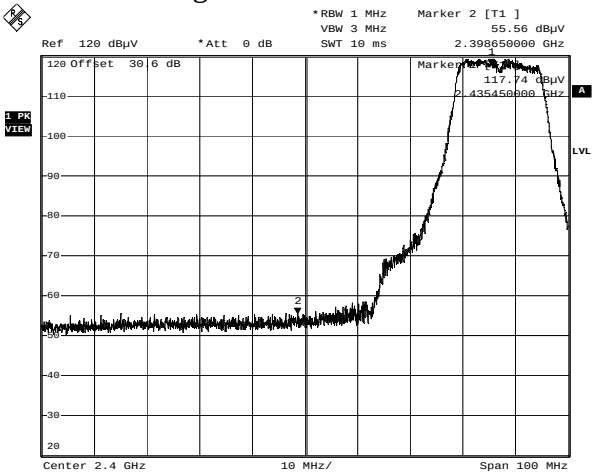


Lower Bandedge - 12dBi Omnidirectional - CH1 - 6Mbps
Date: 9.MAY.2006 17:07:57



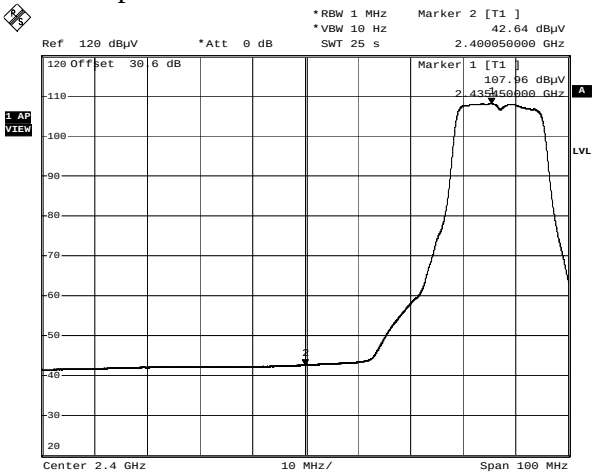
Lower Bandedge - 12dBi Omnidirectional - CH1 - 6Mbps
Date: 9.MAY.2006 17:08:51

Lower Bandedge CH6 – 12dBi Omnidirectional antenna – 6Mbps



Lower Bandedge - 12dBi Omnidirectional - CH6 - 6Mbps

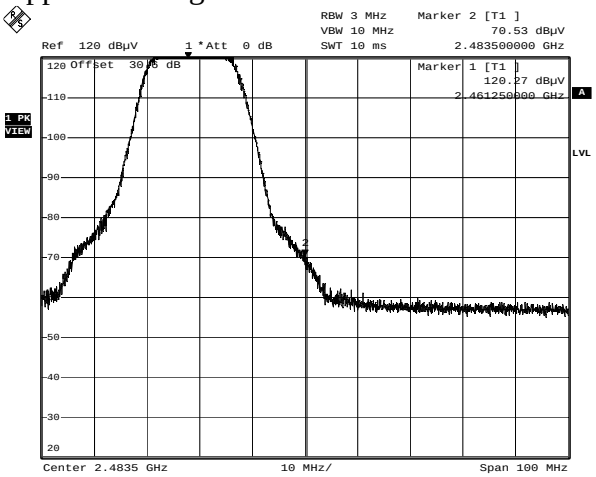
Date: 9.MAY.2006 17:12:23



Lower Bandedge - 12dBi Omnidirectional - CH6 - 6Mbps

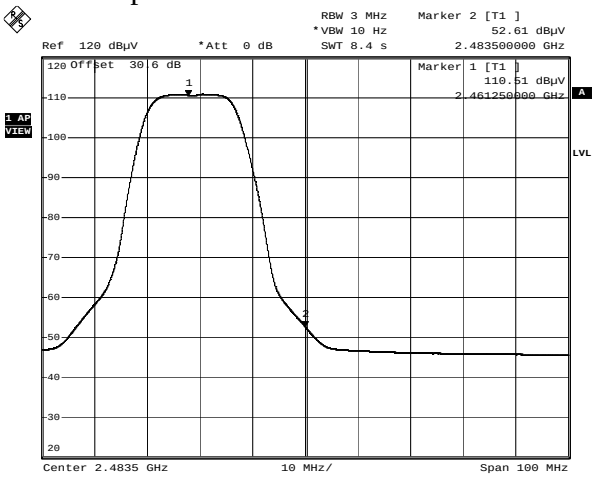
Date: 9.MAY.2006 17:13:25

Upper Bandedge CH11 – 12dBi Omnidirectional antenna – 6Mbps



Upper Bandedge - 12dBi Omnidirectional - CH11 - 6Mbps

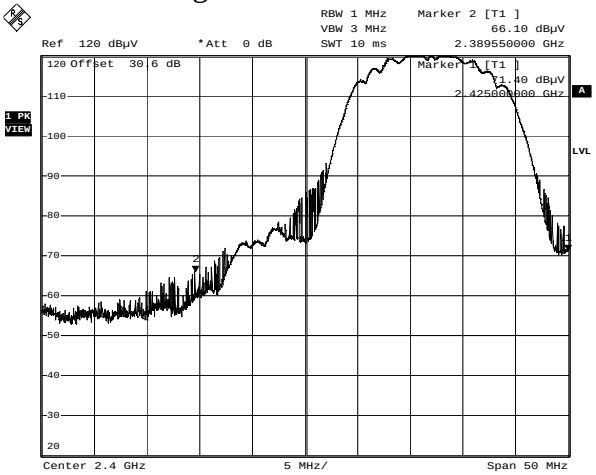
Date: 9.MAY.2006 17:00:14



Upper Bandedge - 12dBi Omnidirectional - CH11 - 6Mbps

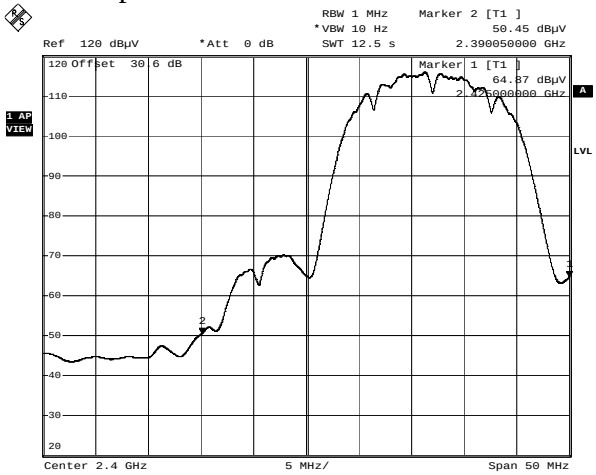
Date: 9.MAY.2006 17:01:04

Lower Bandedge CH1 – 10dBi Omnidirectional antenna – 1Mbps



Lower Bandedge - 10dBi Omnidirectional - CH1 - 1Mbps

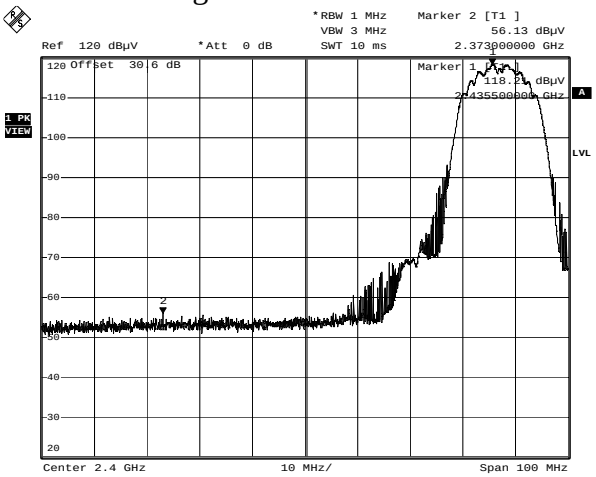
Date: 9.MAY.2006 17:30:04



Lower Bandedge - 10dBi Omnidirectional - CH1 - 1Mbps

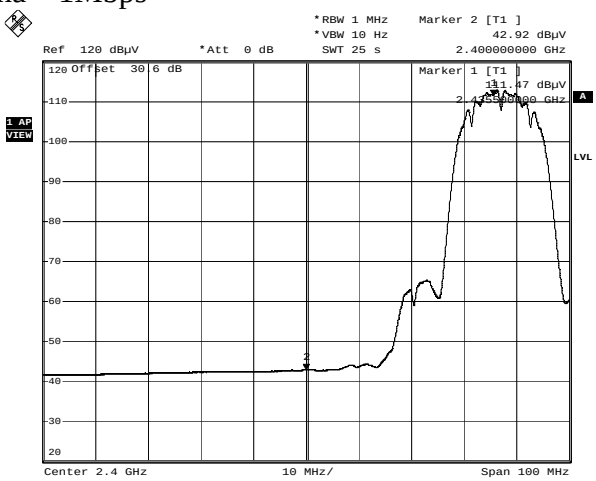
Date: 9.MAY.2006 17:29:19

Lower Bandedge CH6 – 10dBi Omnidirectional antenna – 1Mbps



Lower Bandedge - 10dBi Omnidirectional - CH6 - 1Mbps

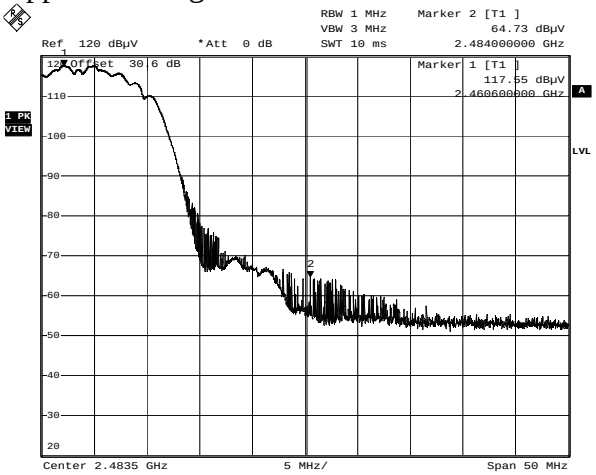
Date: 9.MAY.2006 17:40:53



Lower Bandedge - 10dBi Omnidirectional - CH6 - 1Mbps

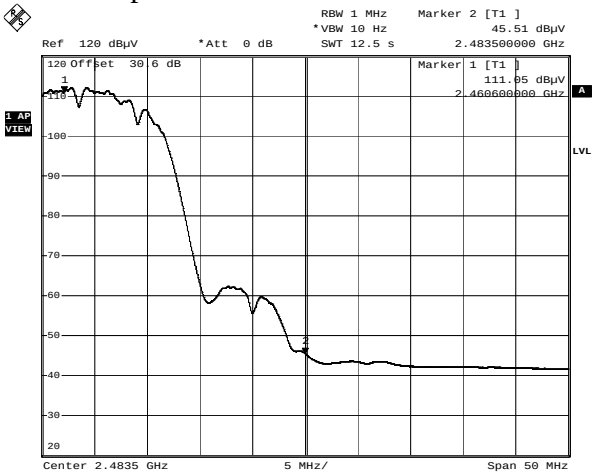
Date: 9.MAY.2006 17:41:50

Upper Bandedge CH11 – 10dBi Omnidirectional antenna – 1Mbps



Upper Bandedge - 10dBi Omnidirectional - CH11 - 1Mbps

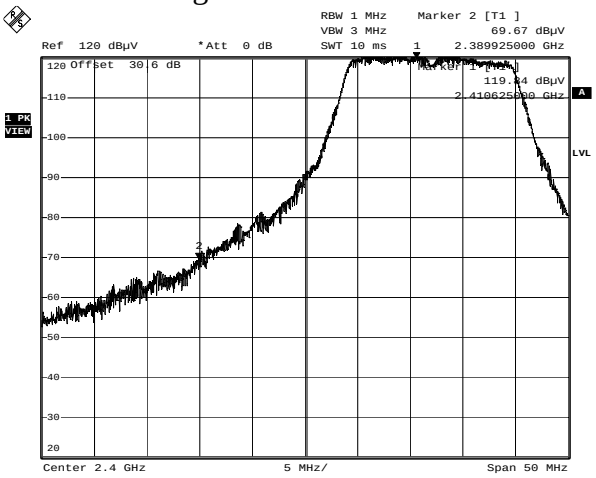
Date: 9.MAY.2006 17:36:43



Upper Bandedge - 10dBi Omnidirectional - CH11 - 1Mbps

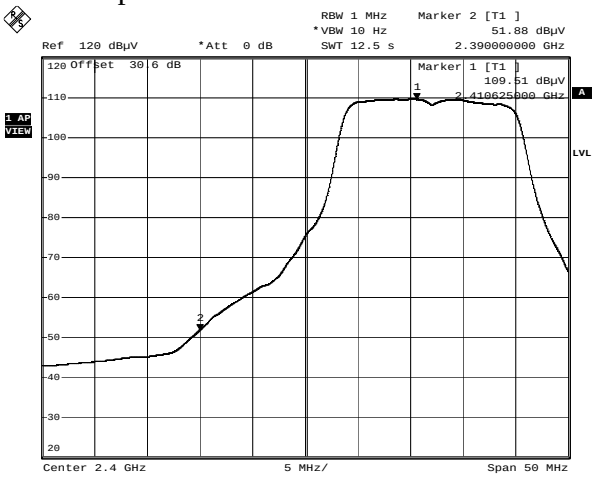
Date: 9.MAY.2006 17:37:36

Lower Bandedge CH1 – 10dBi Omnidirectional antenna – 6Mbps



Lower Bandedge - 10dBi Omnidirectional - CH1 - 6Mbps

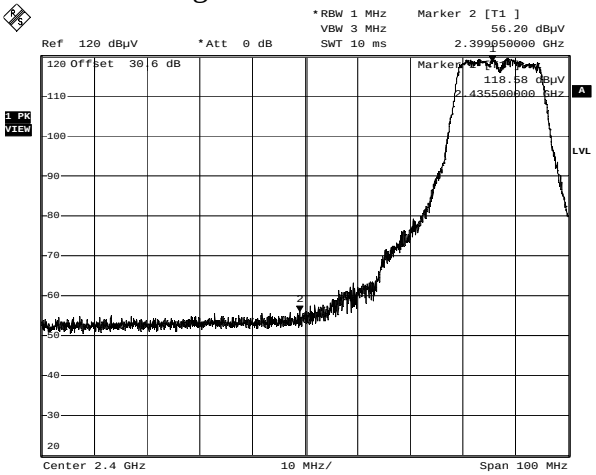
Date: 9.MAY.2006 17:35:09



Lower Bandedge - 10dBi Omnidirectional - CH1 - 6Mbps

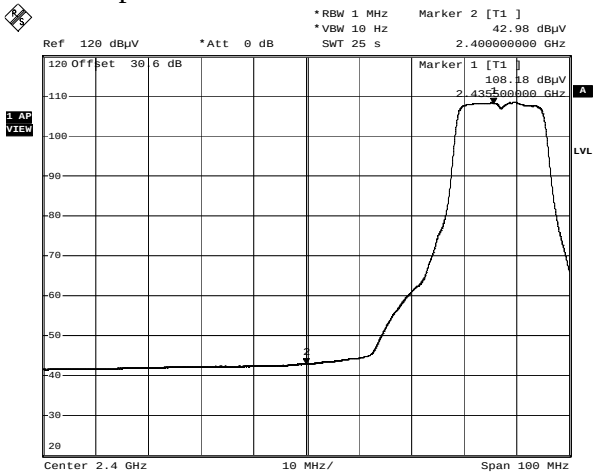
Date: 9.MAY.2006 17:34:26

Lower Bandedge CH6 – 10dBi Omnidirectional antenna – 6Mbps



Lower Bandedge - 10dBi Omnidirectional - CH6 - 6Mbps

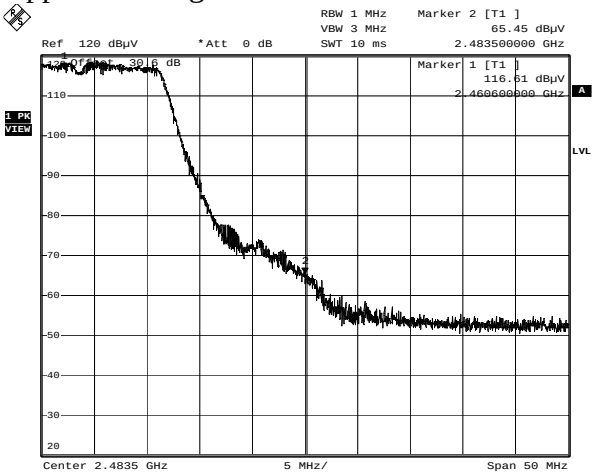
Date: 9.MAY.2006 17:42:38



Lower Bandedge - 10dBi Omnidirectional - CH6 - 6Mbps

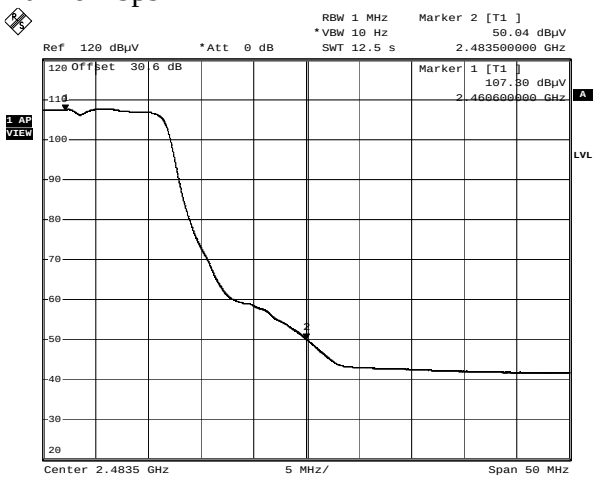
Date: 9.MAY.2006 17:43:47

Upper Bandedge CH11 – 10dBi Omnidirectional antenna – 6Mbps



Upper Bandedge - 10dBi Omnidirectional - CH11 - 6Mbps

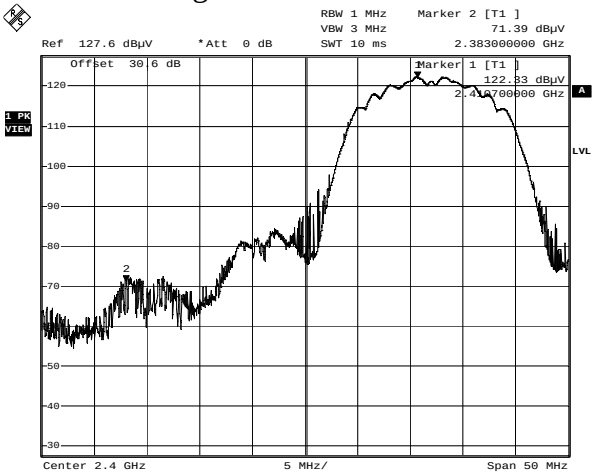
Date: 9.MAY.2006 17:38:49



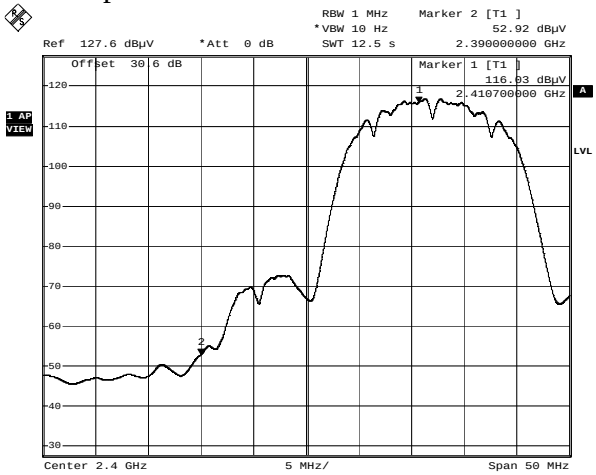
Upper Bandedge - 10dBi Omnidirectional - CH11 - 6Mbps

Date: 9.MAY.2006 17:39:32

Lower Bandedge CH1 – 8dBi Omnidirectional antenna – 1Mbps

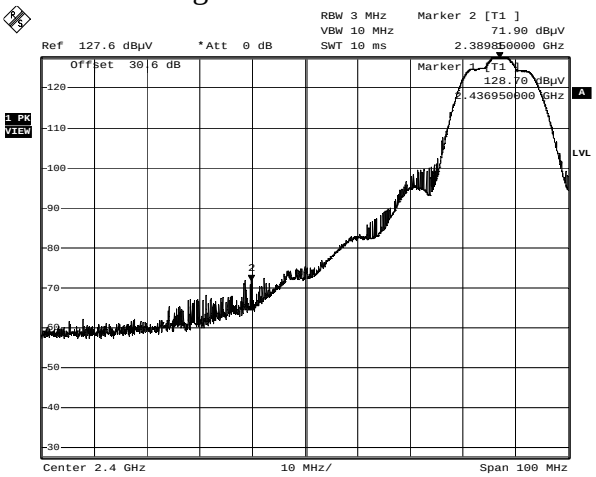


Lower Bandedge - 8dBi Omnidirectional
Date: 8.MAY.2006 21:34:01

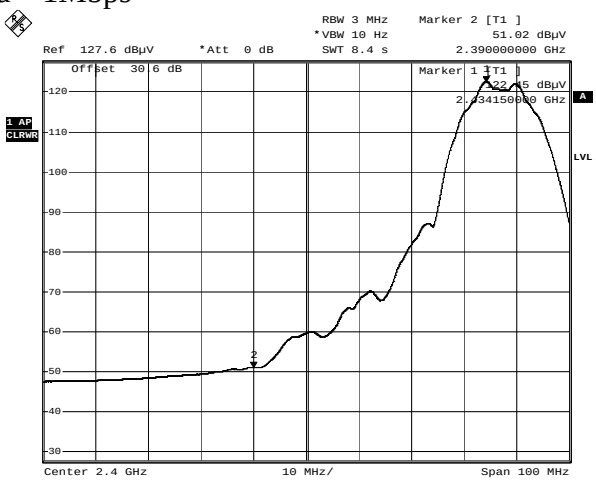


Lower Bandedge - 8dBi Omnidirectional
Date: 8.MAY.2006 21:35:33

Lower Bandedge CH6 – 8dBi Omnidirectional antenna – 1Mbps

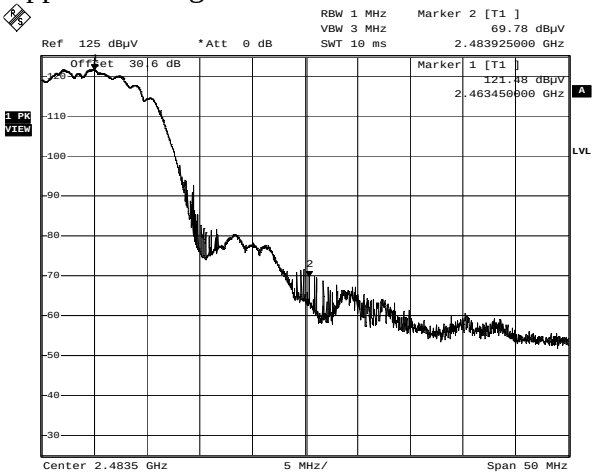


Lower Bandedge - 8dBi Omnidirectional - CH6
Date: 8.MAY.2006 21:41:43



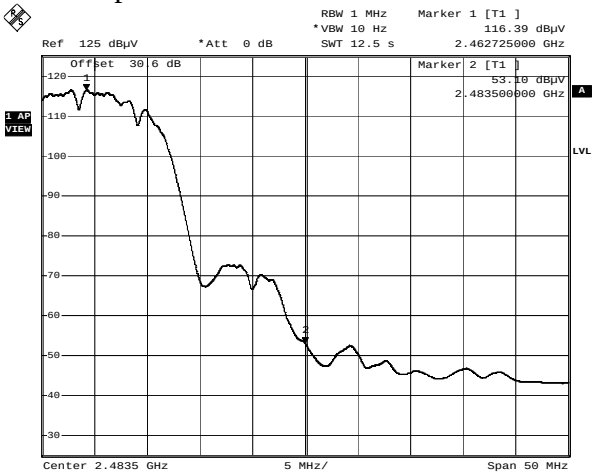
Lower Bandedge - 8dBi Omnidirectional - CH6
Date: 8.MAY.2006 21:40:23

Upper Bandedge CH11 – 8dBi Omnidirectional antenna – 1Mbps



Upper Bandedge - 8dBi Omnidirectional - CH11

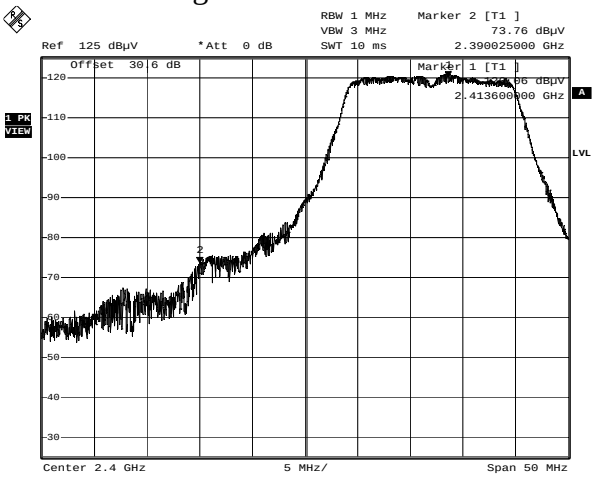
Date: 8.MAY.2006 21:48:07



Upper Bandedge - 8dBi Omnidirectional - CH11

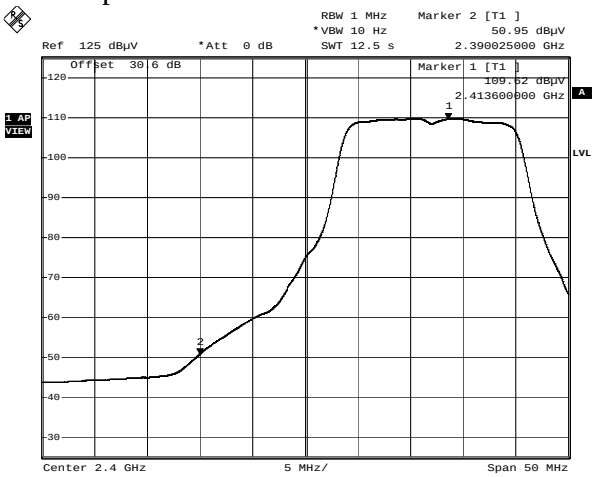
Date: 8.MAY.2006 21:47:12

Lower Bandedge CH1 – 8dBi Omnidirectional antenna – 6Mbps



Lower Bandedge - 8dBi Omnidirectional - CH1 - 6Mbps

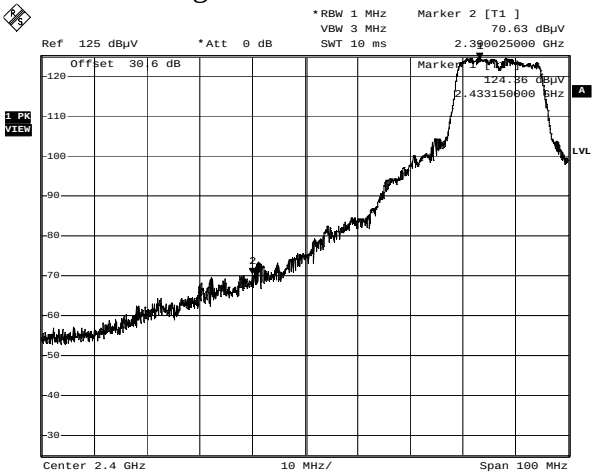
Date: 8.MAY.2006 22:05:08



Lower Bandedge - 8dBi Omnidirectional - CH1 - 6Mbps

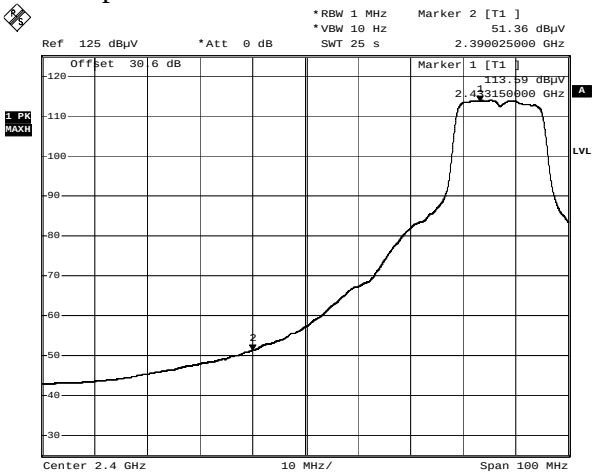
Date: 8.MAY.2006 22:06:01

Lower Bandedge CH6 – 8dBi Omnidirectional antenna – 6Mbps



Lower Bandedge - 8dBi Omnidirectional - CH6 - 6Mbps

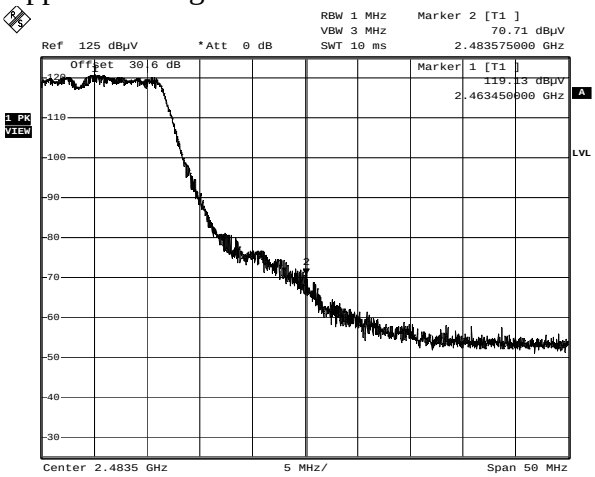
Date: 8.MAY.2006 22:14:20



Lower Bandedge - 8dBi Omnidirectional - CH6 - 6Mbps

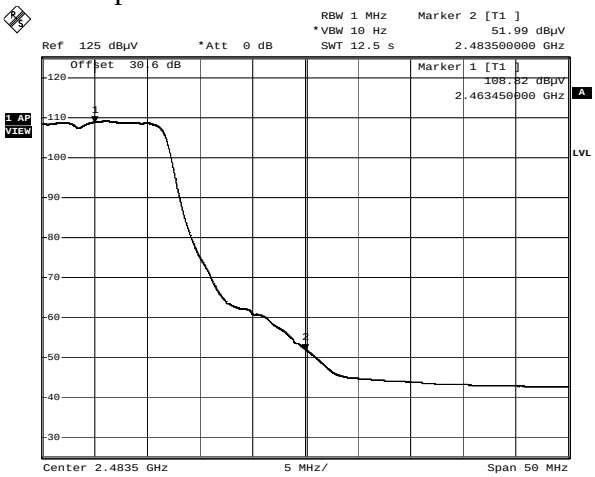
Date: 8.MAY.2006 22:13:02

Upper Bandedge CH11 – 8dBi Omnidirectional antenna – 6Mbps



Upper Bandedge - 8dBi Omnidirectional - CH11 - 6Mbps

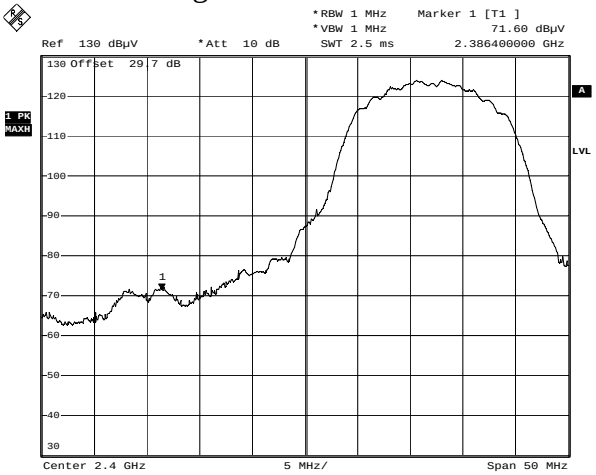
Date: 8.MAY.2006 21:57:51



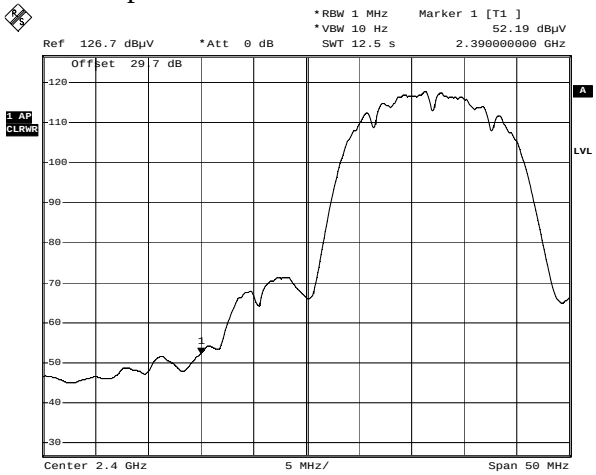
Upper Bandedge - 8dBi Omnidirectional - CH11 - 6Mbps

Date: 8.MAY.2006 21:56:44

Lower Bandedge CH1 – 7.5dBi Omnidirectional antenna – 1Mbps

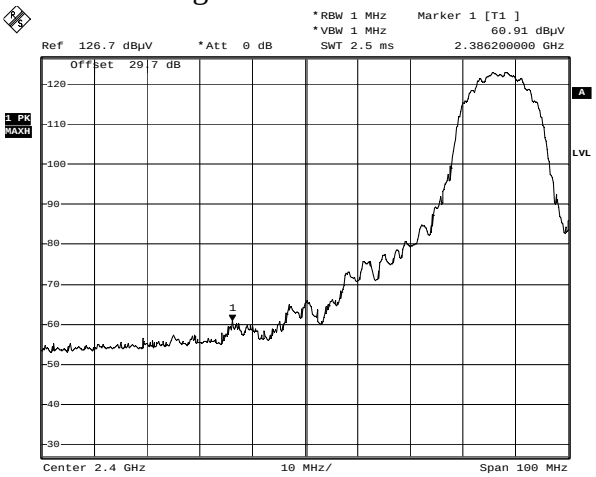


Lower Bandedge - Omni 7.5dBi antenna - Channel 1 - 1Mbps
Date: 7.JUL.2006 00:03:04

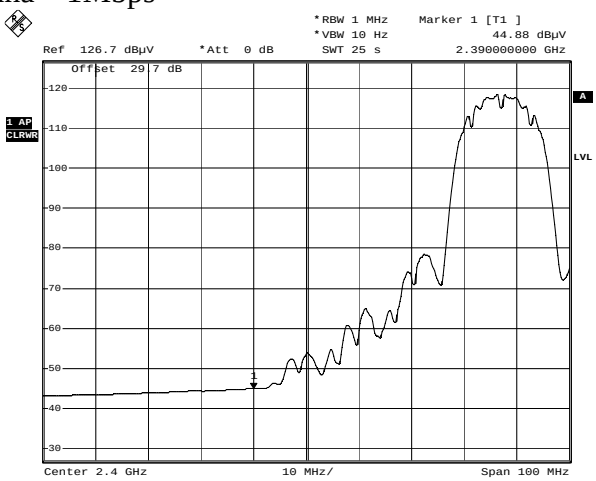


Lower Bandedge - Omni 7.5dBi antenna - Channel 1 - 1Mbps
Date: 7.JUL.2006 00:04:25

Lower Bandedge CH6 – 7.5dBi Omnidirectional antenna – 1Mbps

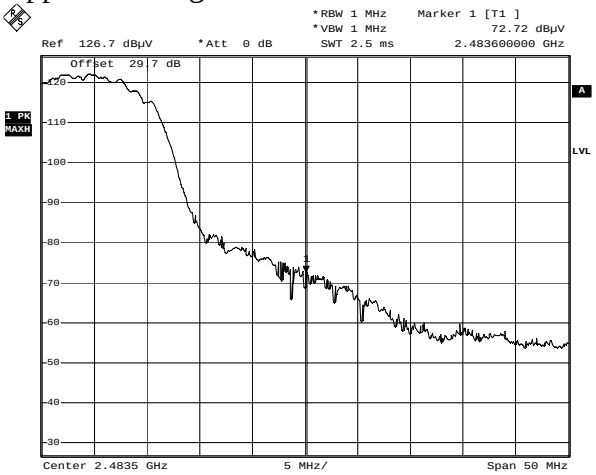


Lower Bandedge - Omni 7.5dBi antenna - Channel 6 - 1Mbps
Date: 7.JUL.2006 00:10:44

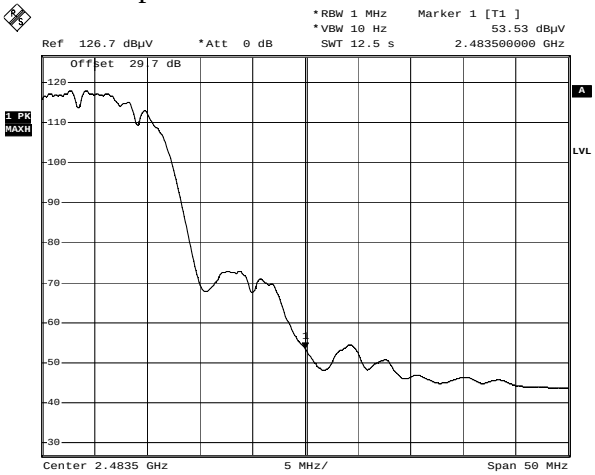


Lower Bandedge - Omni 7.5dBi antenna - Channel 6 - 1Mbps
Date: 7.JUL.2006 00:12:06

Upper Bandedge CH11 – 7.5dBi Omnidirectional antenna – 1Mbps

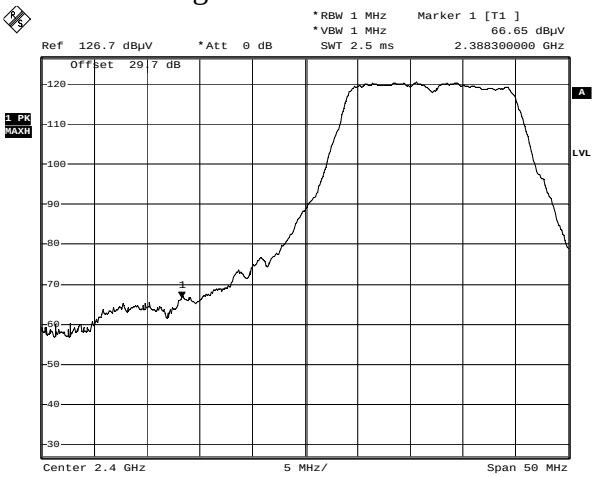


Upper Bandedge - Omni 7.5dBi antenna - Channel 11 - 1Mbps
Date: 7.JUL.2006 00:22:11

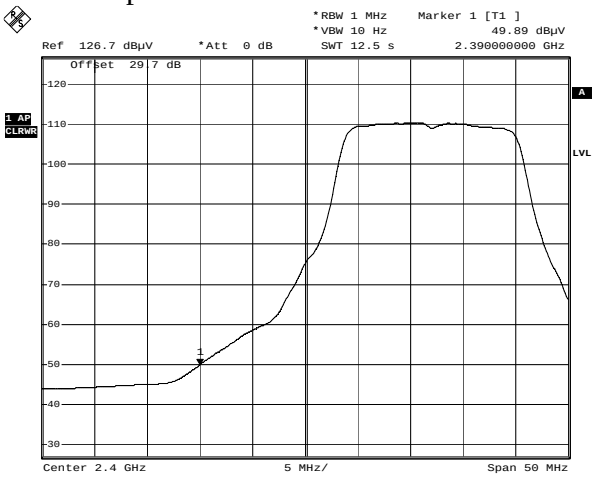


Upper Bandedge - Omni 7.5dBi antenna - Channel 11 - 1Mbps
Date: 7.JUL.2006 00:21:28

Lower Bandedge CH1 – 7.5dBi Omnidirectional antenna – 6Mbps

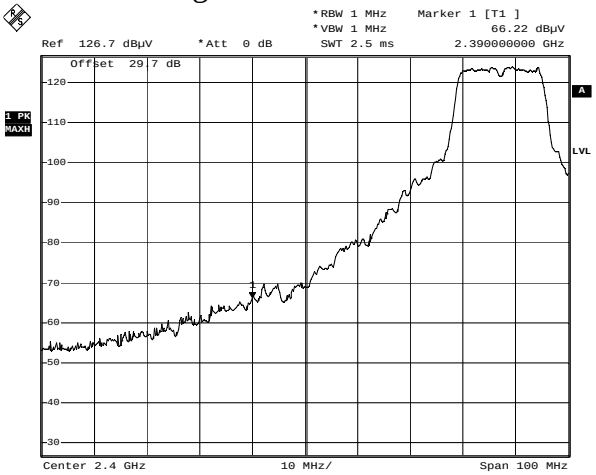


Lower Bandedge - Omni 7.5dBi antenna - Channel 1 - 6Mbps
Date: 7.JUL.2006 00:07:49

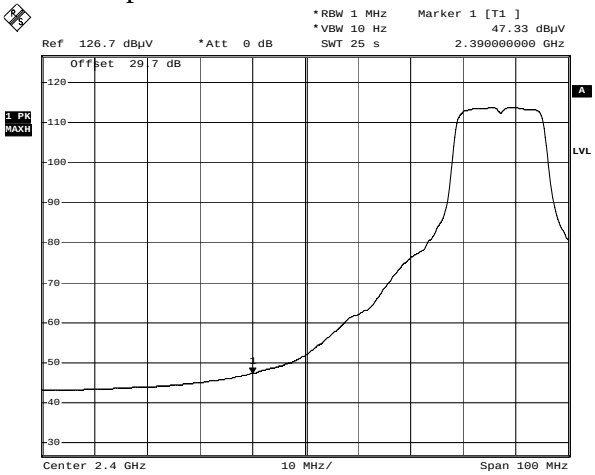


Lower Bandedge - Omni 7.5dBi antenna - Channel 1 - 6Mbps
Date: 7.JUL.2006 00:08:31

Lower Bandedge CH6 – 7.5dBi Omnidirectional antenna – 6Mbps

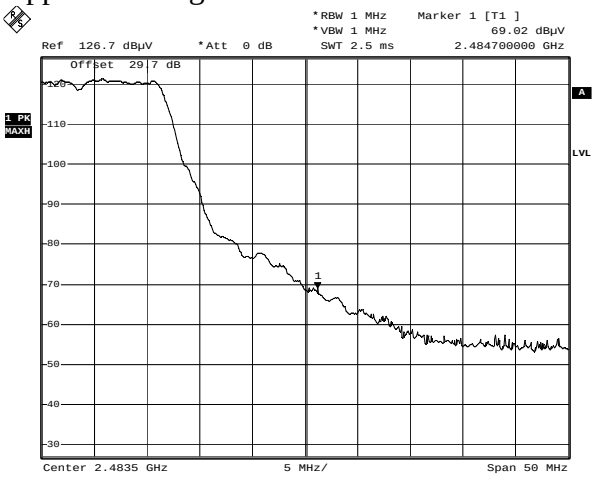


Lower Bandedge - Omni 7.5dBi antenna - Channel 6 - 6Mbps
Date: 7.JUL.2006 00:13:35

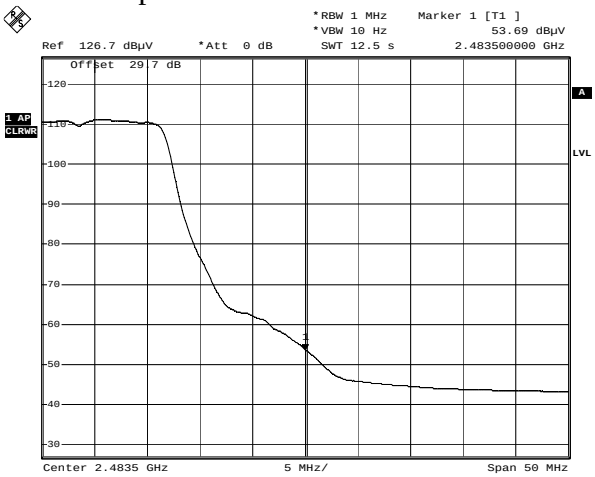


Lower Bandedge - Omni 7.5dBi antenna - Channel 6 - 6Mbps
Date: 7.JUL.2006 00:15:02

Upper Bandedge CH11 – 7.5dBi Omnidirectional antenna – 6Mbps

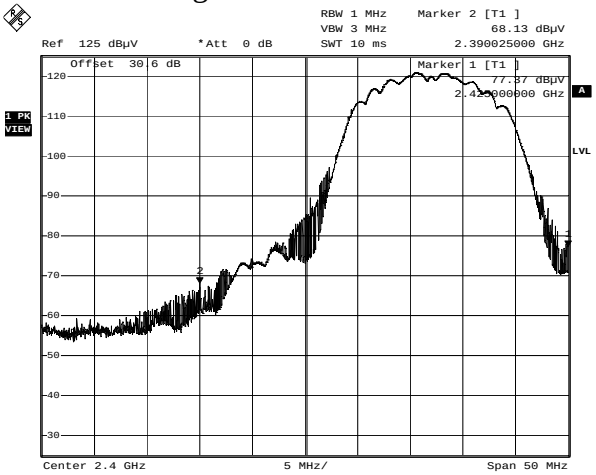


Upper Bandedge - Omni 7.5dBi antenna - Channel 11 - 6Mbps
Date: 7.JUL.2006 00:24:17



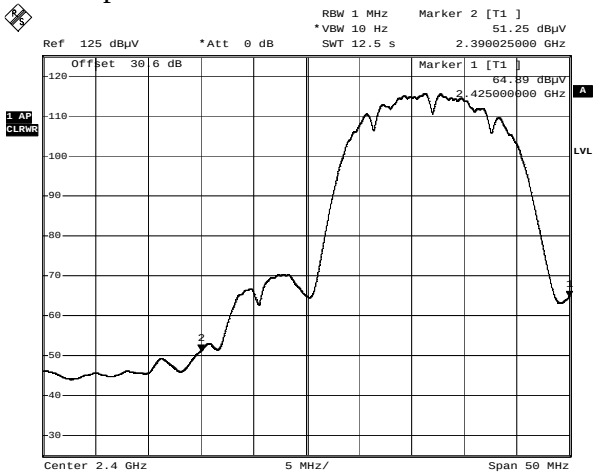
Upper Bandedge - Omni 7.5dBi antenna - Channel 11 - 6Mbps
Date: 7.JUL.2006 00:25:51

Lower Bandedge CH1 – 6dBi Omnidirectional antenna – 1Mbps



Lower Bandedge - 6dBi Omnidirectional - CH1 - 1Mbps

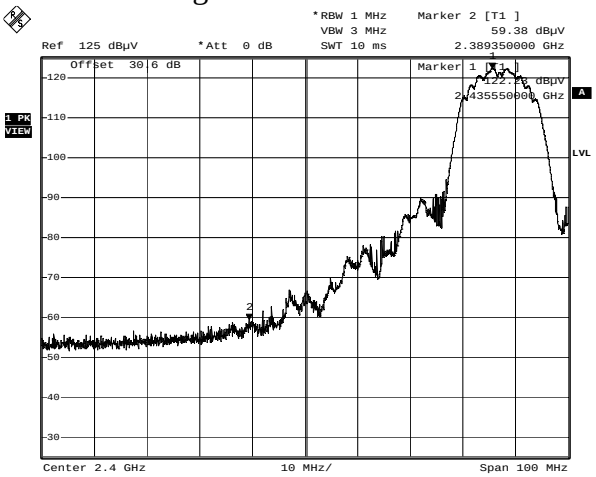
Date: 8.MAY.2006 22:36:27



Lower Bandedge - 6dBi Omnidirectional - CH1 - 1Mbps

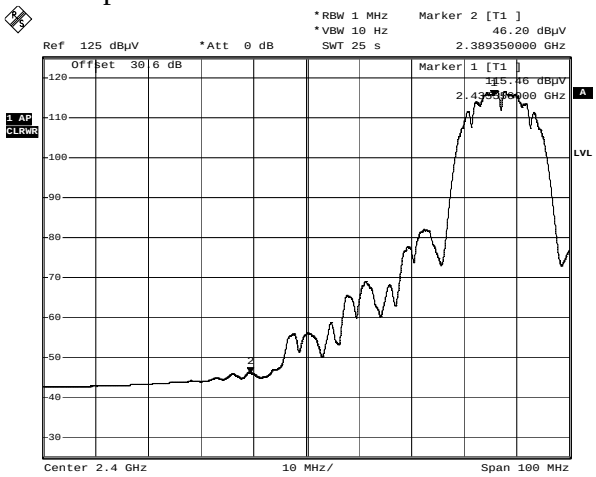
Date: 8.MAY.2006 22:37:13

Lower Bandedge CH6 – 6dBi Omnidirectional antenna – 1Mbps



Lower Bandedge - 6dBi Omnidirectional - CH6 - 1Mbps

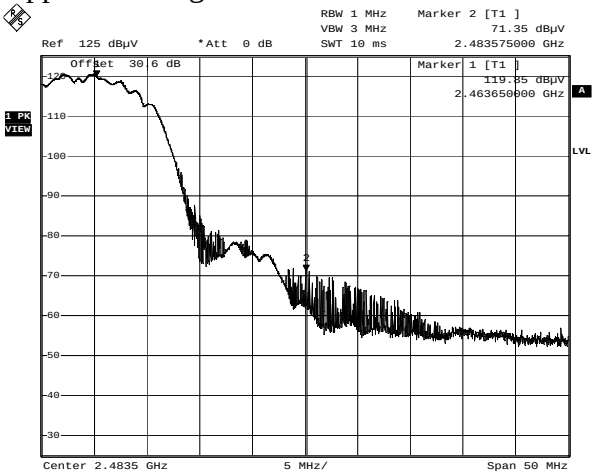
Date: 8.MAY.2006 22:33:40



Lower Bandedge - 6dBi Omnidirectional - CH6 - 1Mbps

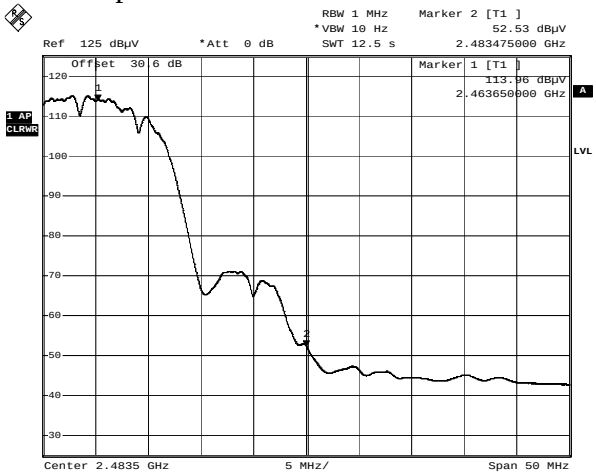
Date: 8.MAY.2006 22:35:05

Upper Bandedge CH11 – 6dBi Omnidirectional antenna – 1Mbps



Lower Bandedge - 6dBi Omnidirectional - CH11 - 1Mbps

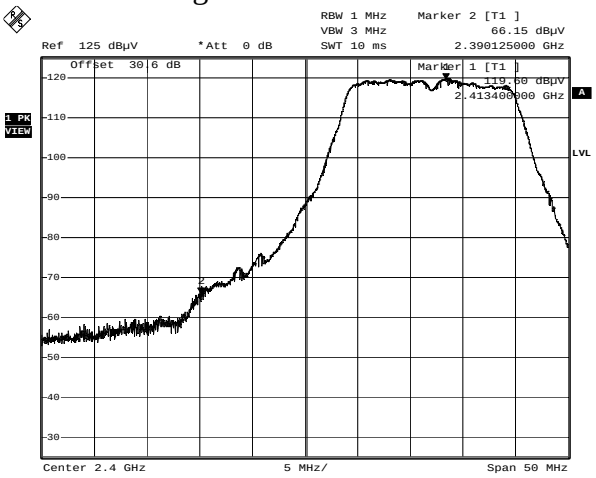
Date: 8.MAY.2006 22:31:05



Lower Bandedge - 6dBi Omnidirectional - CH11 - 1Mbps

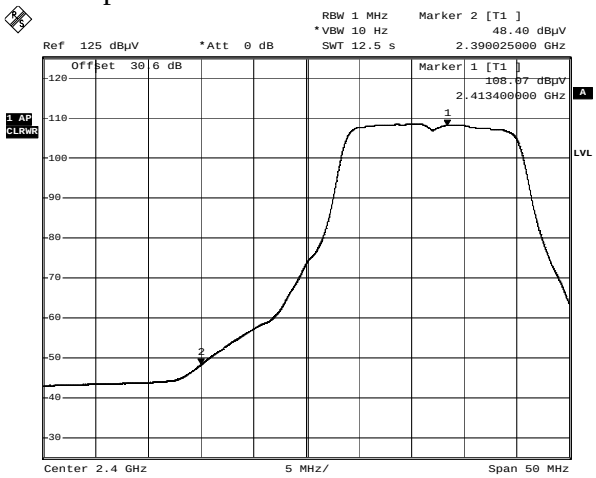
Date: 8.MAY.2006 22:31:53

Lower Bandedge CH1 – 6dBi Omnidirectional antenna – 6Mbps



Lower Bandedge - 6dBi Omnidirectional - CH1 - 6Mbps

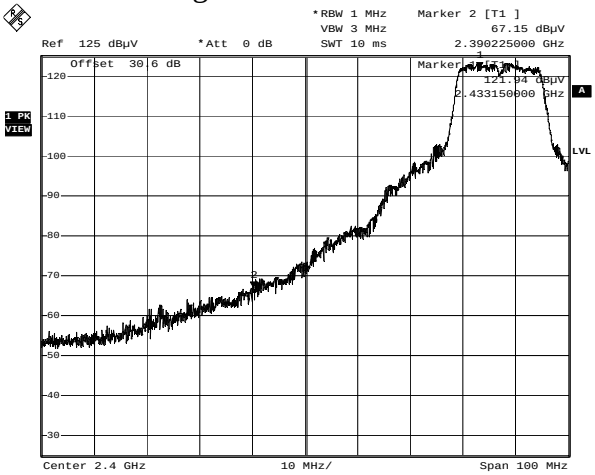
Date: 8.MAY.2006 22:23:30



Lower Bandedge - 6dBi Omnidirectional - CH1 - 6Mbps

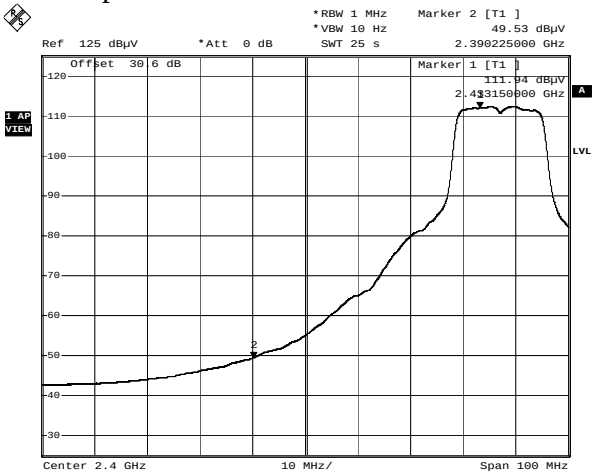
Date: 8.MAY.2006 22:24:21

Lower Bandedge CH6 – 6dBi Omnidirectional antenna – 6Mbps



Lower Bandedge - 6dBi Omnidirectional - CH6 - 6Mbps

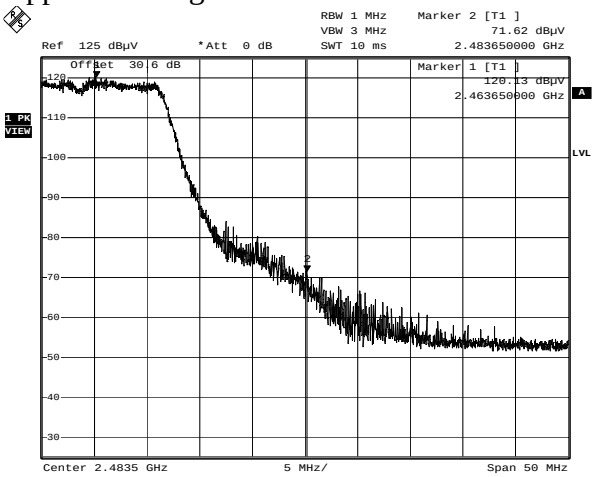
Date: 8.MAY.2006 22:20:27



Lower Bandedge - 6dBi Omnidirectional - CH6 - 6Mbps

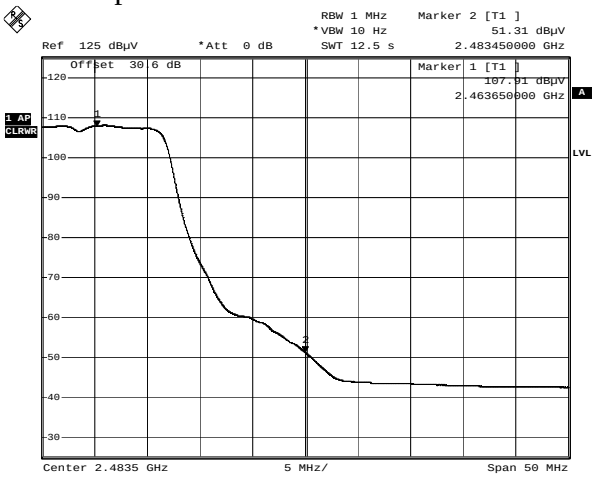
Date: 8.MAY.2006 22:21:29

Upper Bandedge CH11 – 6dBi Omnidirectional antenna – 6Mbps



Lower Bandedge - 6dBi Omnidirectional - CH11 - 6Mbps

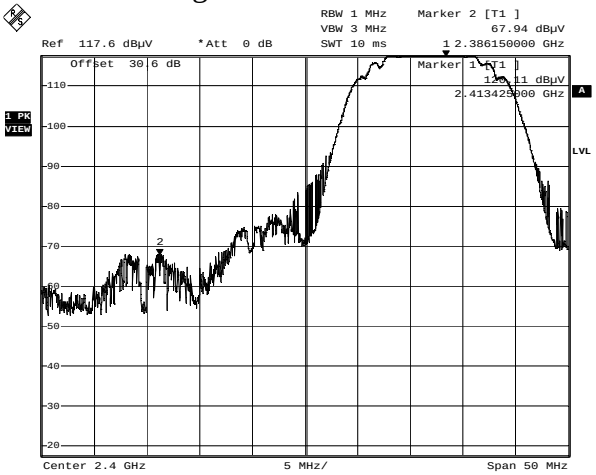
Date: 8.MAY.2006 22:25:33



Lower Bandedge - 6dBi Omnidirectional - CH11 - 6Mbps

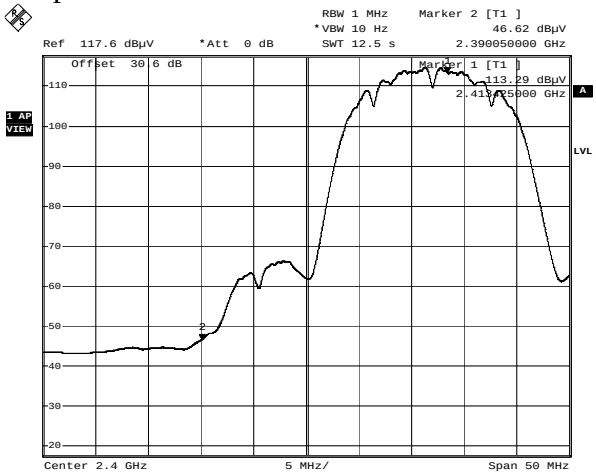
Date: 8.MAY.2006 22:26:26

Lower Bandedge CH1 – 12dBi Directional antenna – 1Mbps



Lower Bandedge - 11.5dBi Directional - CH1 - 1Mbps

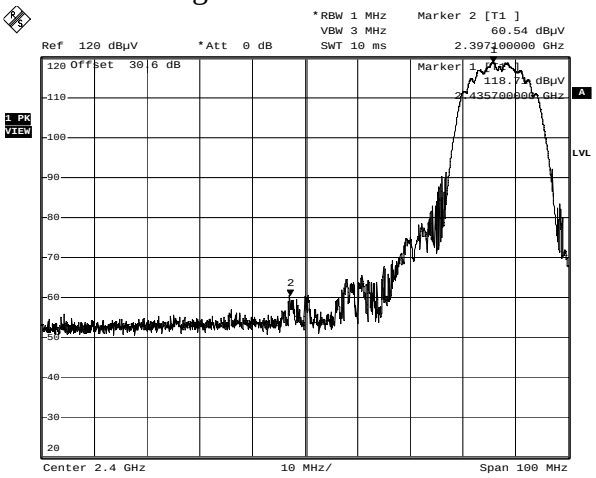
Date: 9.MAY.2006 16:29:55



Lower Bandedge - 11.5dBi Directional - CH1 - 1Mbps

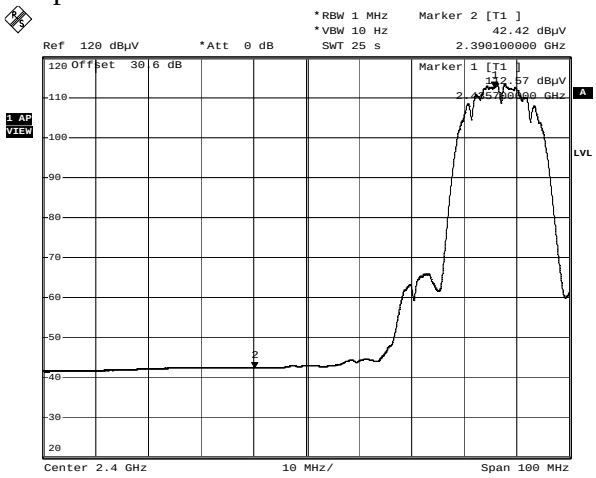
Date: 9.MAY.2006 16:30:54

Lower Bandedge CH6 – 12dBi Directional antenna – 1Mbps



Lower Bandedge - 11.5dBi Directional - CH6 - 1Mbps

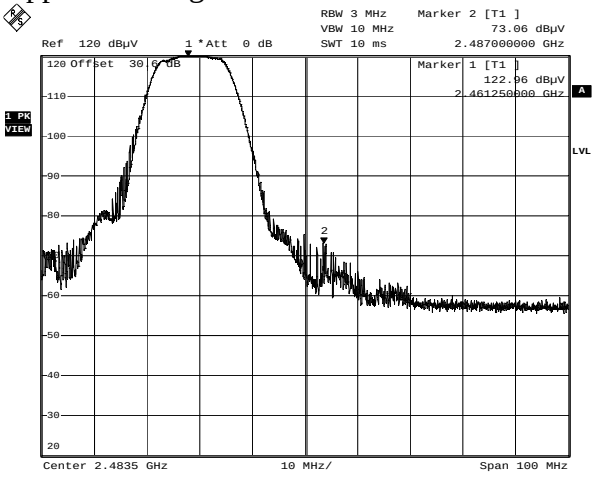
Date: 9.MAY.2006 16:33:35



Lower Bandedge - 11.5dBi Directional - CH6 - 1Mbps

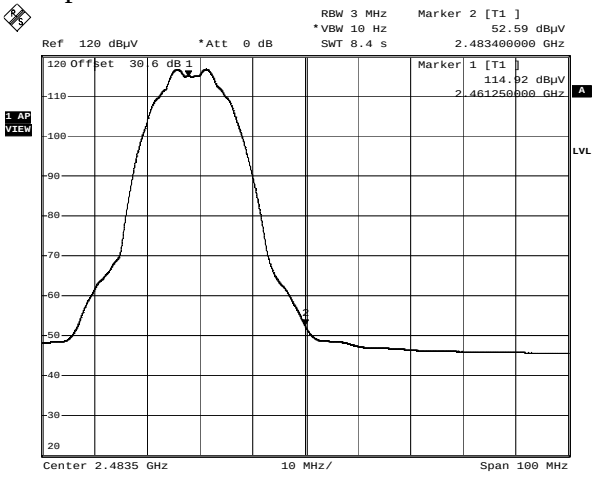
Date: 9.MAY.2006 16:35:21

Upper Bandedge CH11 – 12dBi Directional antenna – 1Mbps



Lower Bandedge - 11.5dBi Directional - CH11 - 1Mbps

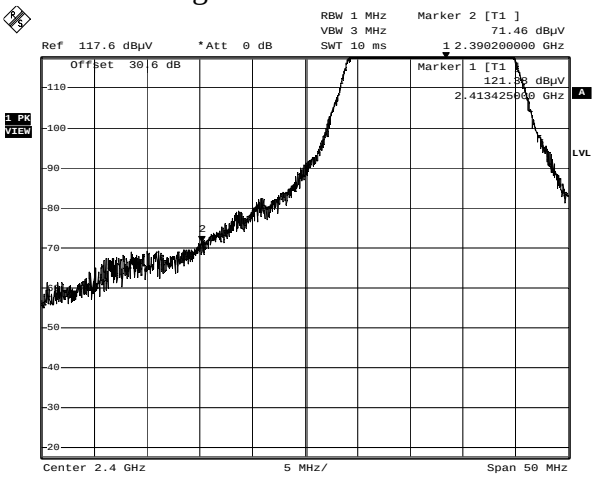
Date: 9.MAY.2006 16:41:44



Lower Bandedge - 11.5dBi Directional - CH11 - 1Mbps

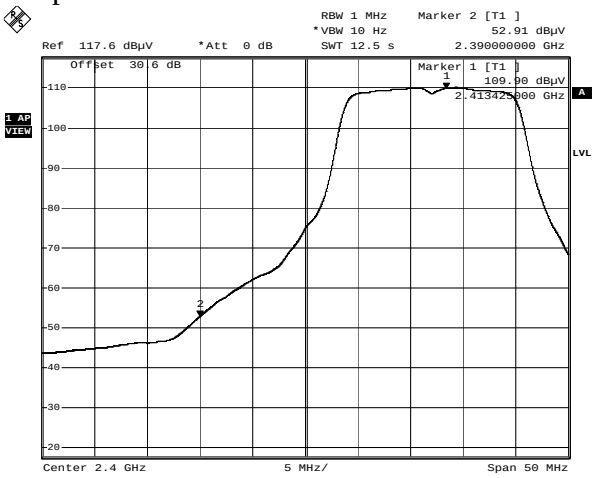
Date: 9.MAY.2006 16:42:40

Lower Bandedge CH1 – 12dBi Directional antenna – 6Mbps



Lower Bandedge - 11.5dBi Directional - CH1 - 6Mbps

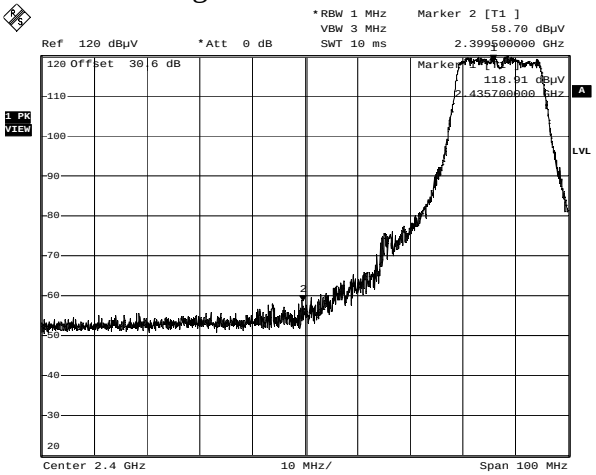
Date: 9.MAY.2006 16:27:08



Lower Bandedge - 11.5dBi Directional - CH1 - 6Mbps

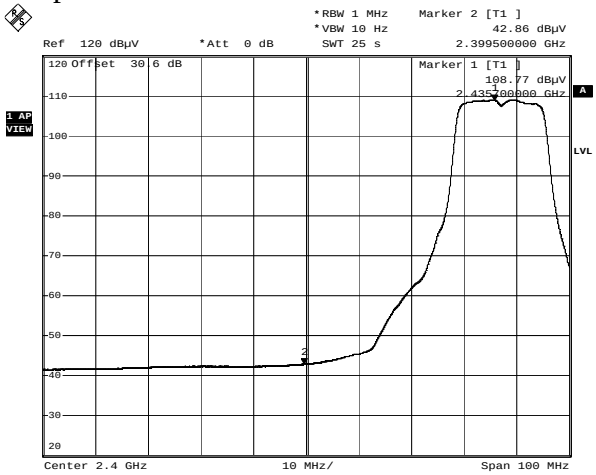
Date: 9.MAY.2006 16:28:49

Lower Bandedge CH6 – 12dBi Directional antenna – 6Mbps



Lower Bandedge - 11.5dBi Directional - CH6 - 6Mbps

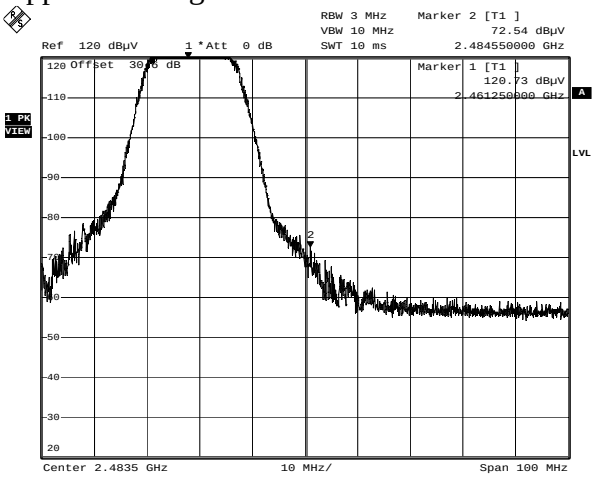
Date: 9.MAY.2006 16:36:36



Lower Bandedge - 11.5dBi Directional - CH6 - 6Mbps

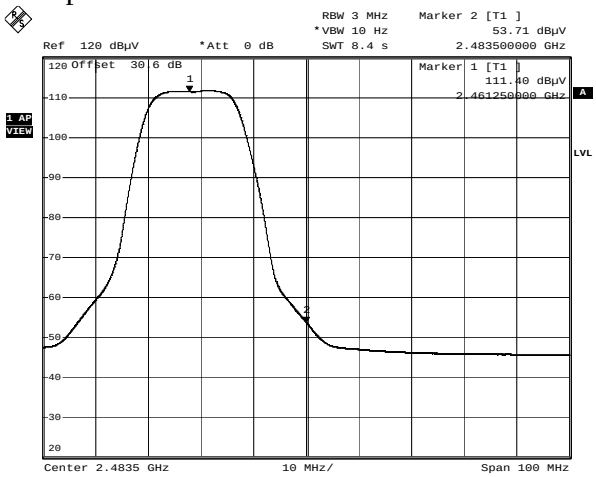
Date: 9.MAY.2006 16:38:08

Upper Bandedge CH11 – 12dBi Directional antenna – 6Mbps



Lower Bandedge - 11.5dBi Directional - CH11 - 6Mbps

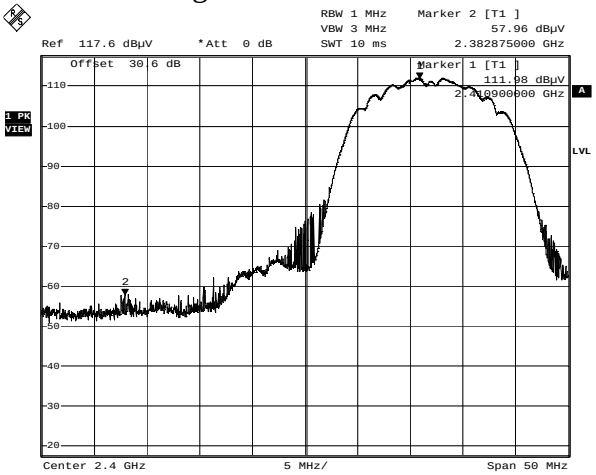
Date: 9.MAY.2006 16:48:57



Lower Bandedge - 11.5dBi Directional - CH11 - 6Mbps

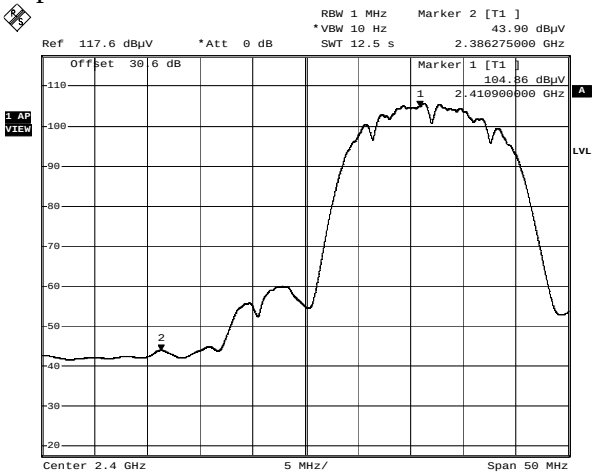
Date: 9.MAY.2006 16:46:48

Lower Bandedge CH1 – 8dBi Directional antenna – 1Mbps



Lower Bandedge - 8dBi Directional - CH1 - 1Mbps

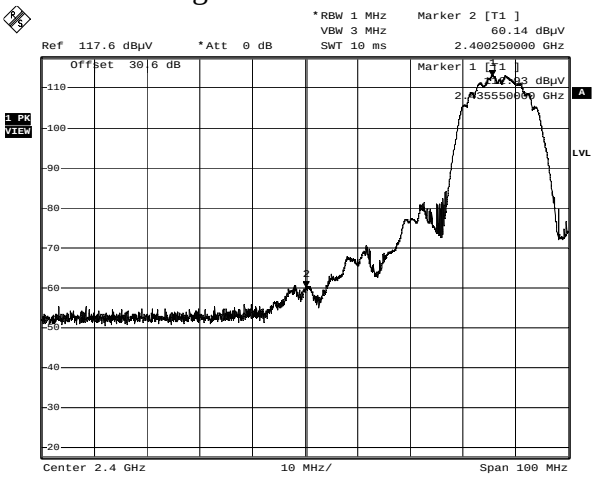
Date: 9.MAY.2006 15:48:26



Lower Bandedge - 8dBi Directional - CH1 - 1Mbps

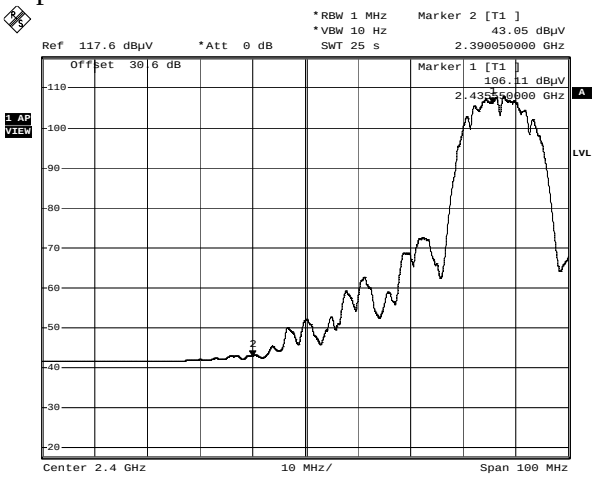
Date: 9.MAY.2006 15:49:33

Lower Bandedge CH6 – 8dBi Directional antenna – 1Mbps



Lower Bandedge - 8dBi Directional - CH6 - 1Mbps

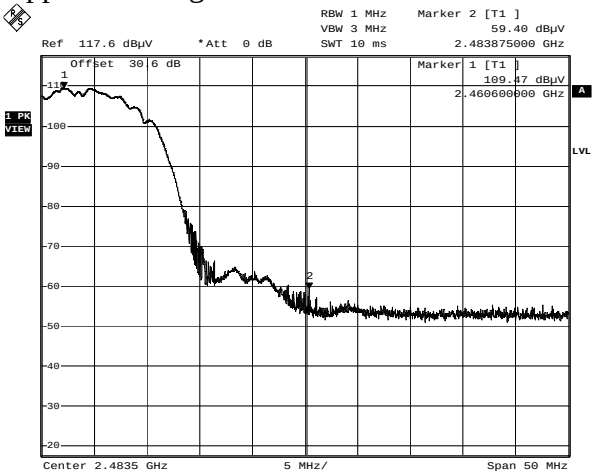
Date: 9.MAY.2006 15:51:20



Lower Bandedge - 8dBi Directional - CH6 - 1Mbps

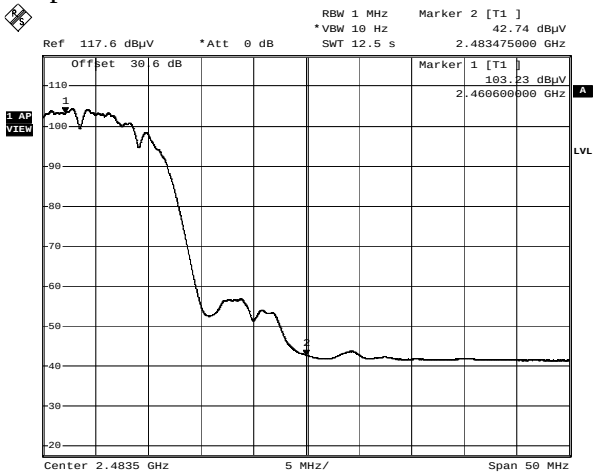
Date: 9.MAY.2006 15:53:12

Upper Bandedge CH11 – 8dBi Directional antenna – 1Mbps



Upper Bandedge - 8dBi Directional - CH11 - 1Mbps

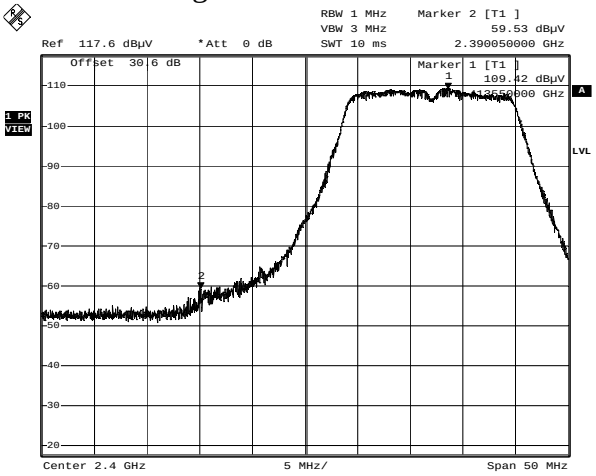
Date: 9.MAY.2006 15:54:46



Upper Bandedge - 8dBi Directional - CH11 - 1Mbps

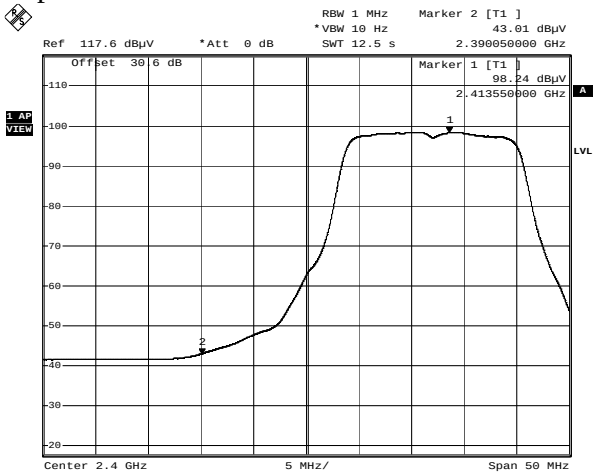
Date: 9.MAY.2006 15:55:41

Lower Bandedge CH1 – 8dBi Directional antenna – 6Mbps



Lower Bandedge - 8dBi Directional - CH1 - 6Mbps

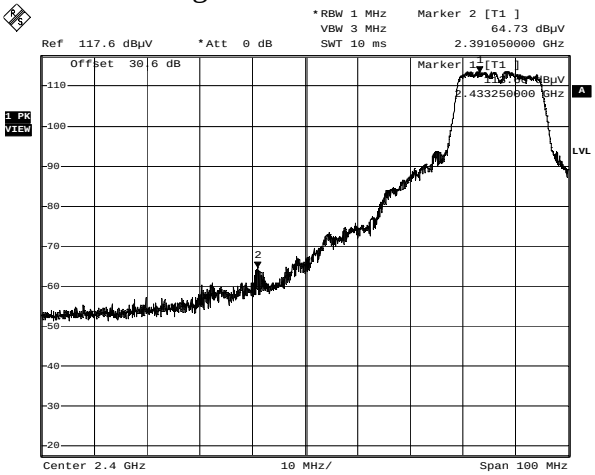
Date: 9.MAY.2006 16:02:39



Lower Bandedge - 8dBi Directional - CH1 - 6Mbps

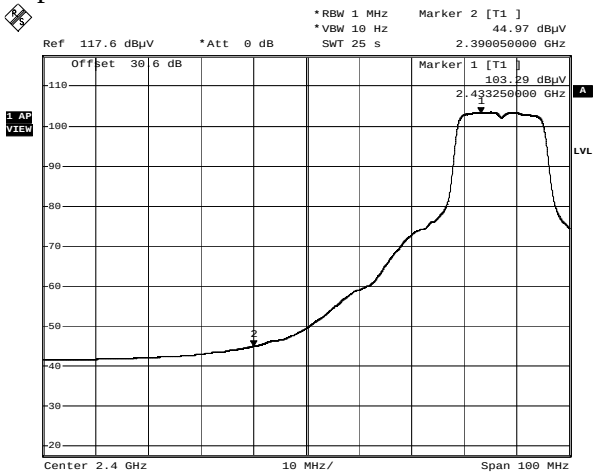
Date: 9.MAY.2006 16:04:16

Lower Bandedge CH6 – 8dBi Directional antenna – 6Mbps



Lower Bandedge - 8dBi Directional - CH6 - 6Mbps

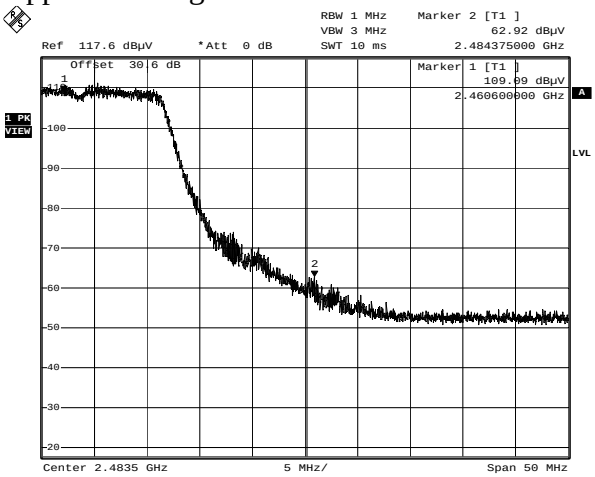
Date: 9.MAY.2006 16:00:35



Lower Bandedge - 8dBi Directional - CH6 - 6Mbps

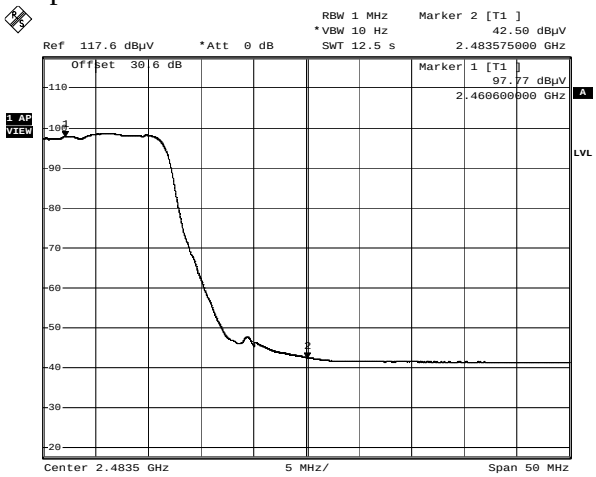
Date: 9.MAY.2006 16:01:39

Upper Bandedge CH11 – 8dBi Directional antenna – 6Mbps



Upper Bandedge - 8dBi Directional - CH11 - 6Mbps

Date: 9.MAY.2006 15:57:01



Upper Bandedge - 8dBi Directional - CH11 - 6Mbps

Date: 9.MAY.2006 15:58:31

Clause 15.247(b)(3) Maximum peak output power of systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands

For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signalling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

Test Conditions:

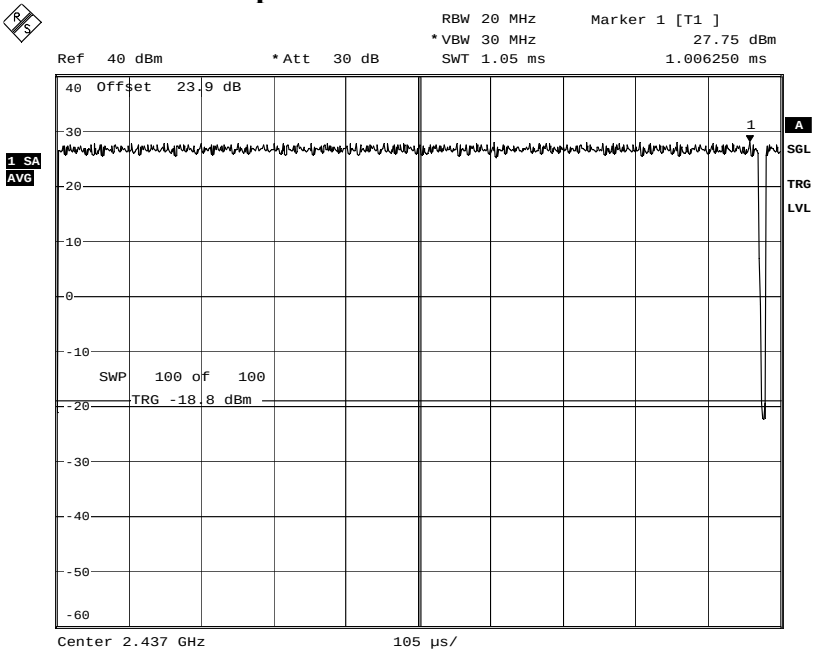
Sample Number:	1	**Temperature:**	23
Date:	May 17, 2006	**Humidity:**	21
Modification State:	0	**Tester:**	Jason Nixon
		Laboratory:	Wireless

Test Results:
Conducted Output Power:

The output power was measured at +/-15% of the supply voltage and found that there was no change.

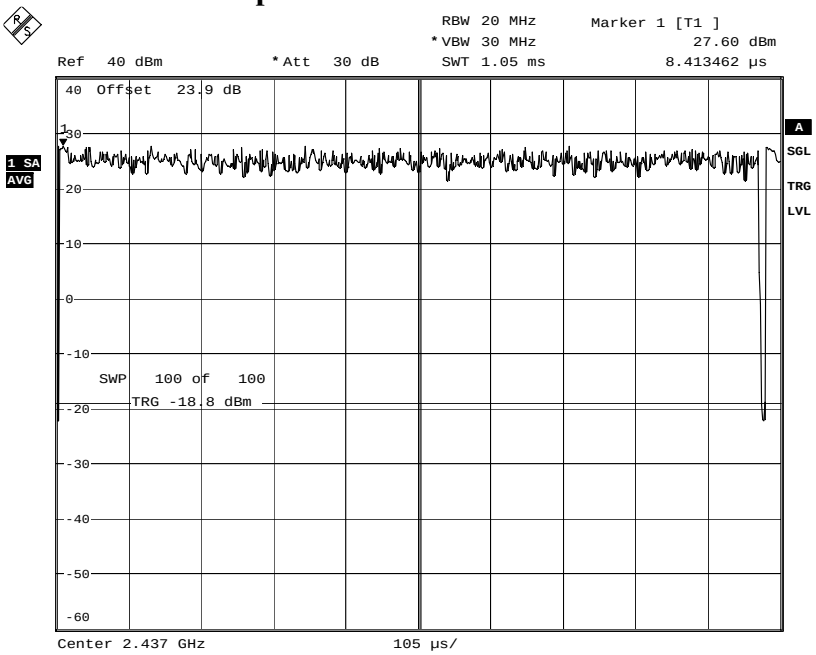
	1Mbps		6Mbps	
Channel Range	Measured Output Power dBm(W)	Power Setting	Measured Output Power dBm(W)	Power Setting
Low	25.85(0.385)	58	22.69(0.186)	51
Mid	27.75(0.596)	62	27.60(0.575)	62
High	26.86(0.485)	60	23.51(0.224)	54

Mid Channel 1Mbps:



Date: 17.MAY.2006 10:54:24

Mid Channel 6Mbps:



Date: 17.MAY.2006 10:56:27

Clause 15.247(d) Radiated Emissions Not in Restricted Bands

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Conditions:

Sample Number:	1	**Temperature:**	23
Date:	May 17, 2006	**Humidity:**	21
Modification State:	0	**Tester:**	Jason Nixon
		Laboratory:	Wireless

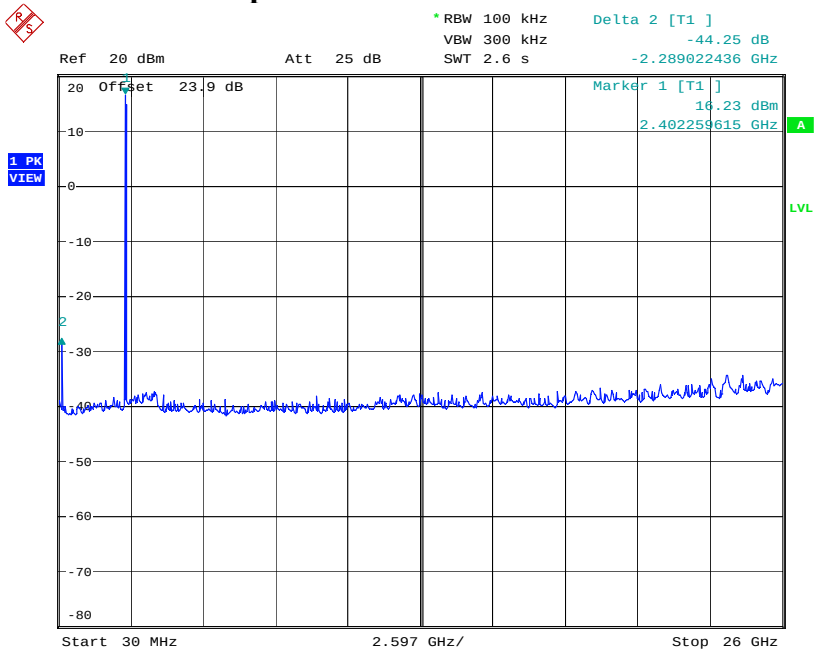
Test Results:

No radiated emissions were detected within 20dB below the limit. The following plots were performed conducted at the antenna terminal.

Additional Observations:

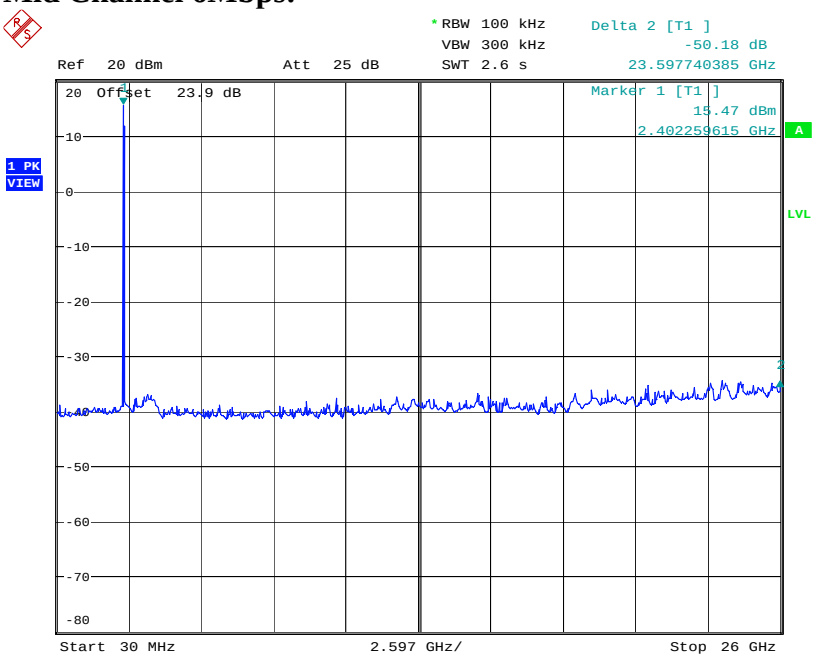
The Spectrum was searched from 30MHz to 26GHz.

Mid Channel 1Mbps:



Date: 17.MAY.2006 11:07:14

Mid Channel 6Mbps:



Date: 17.MAY.2006 11:08:35

Clause 15.247(e) Power Spectral Density for Digitally Modulated Devices

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

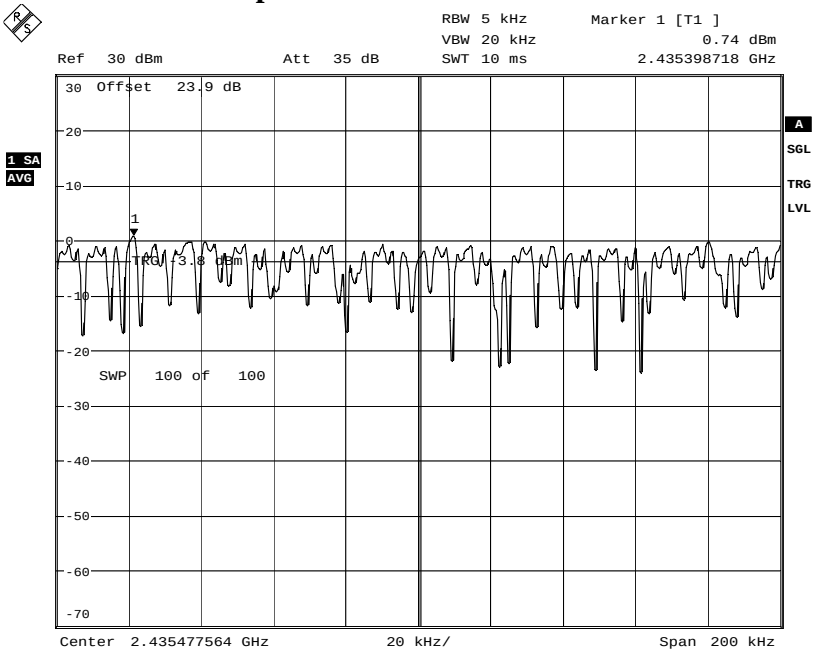
Test Conditions:

Sample Number:	1	**Temperature:**	23
Date:	May 17, 2006	**Humidity:**	21
Modification State:	0	**Tester:**	Jason Nixon
		Laboratory:	Wireless

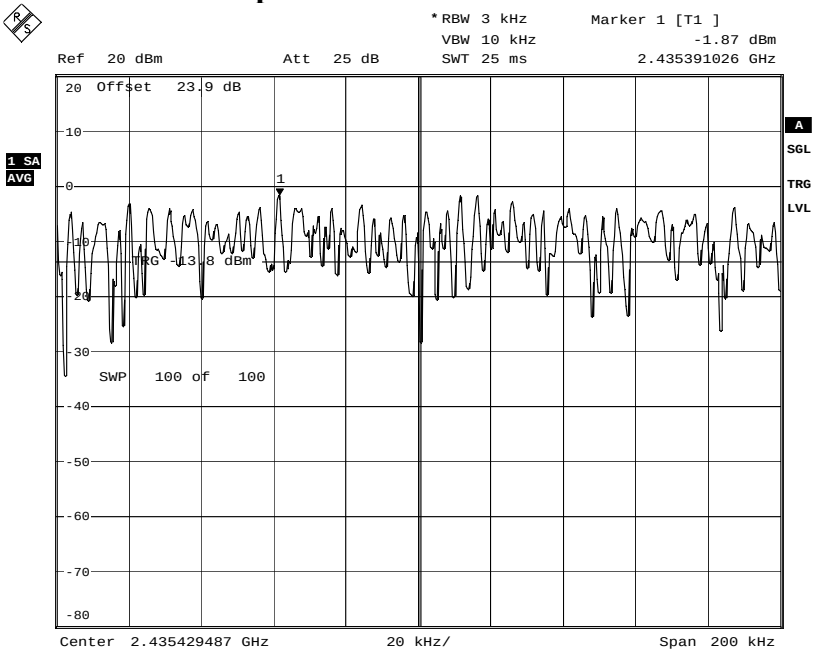
Test Results:

Measurements are shown on the worst case channel power.

Mid Channel 1Mbps:



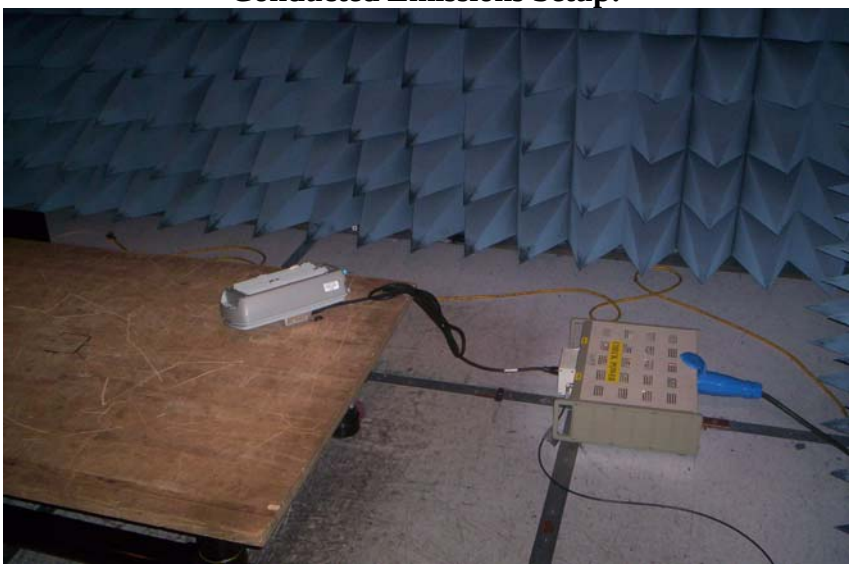
Mid Channel 6Mbps:



Date: 17.MAY.2006 11:02:09

Appendix B : Setup Photographs

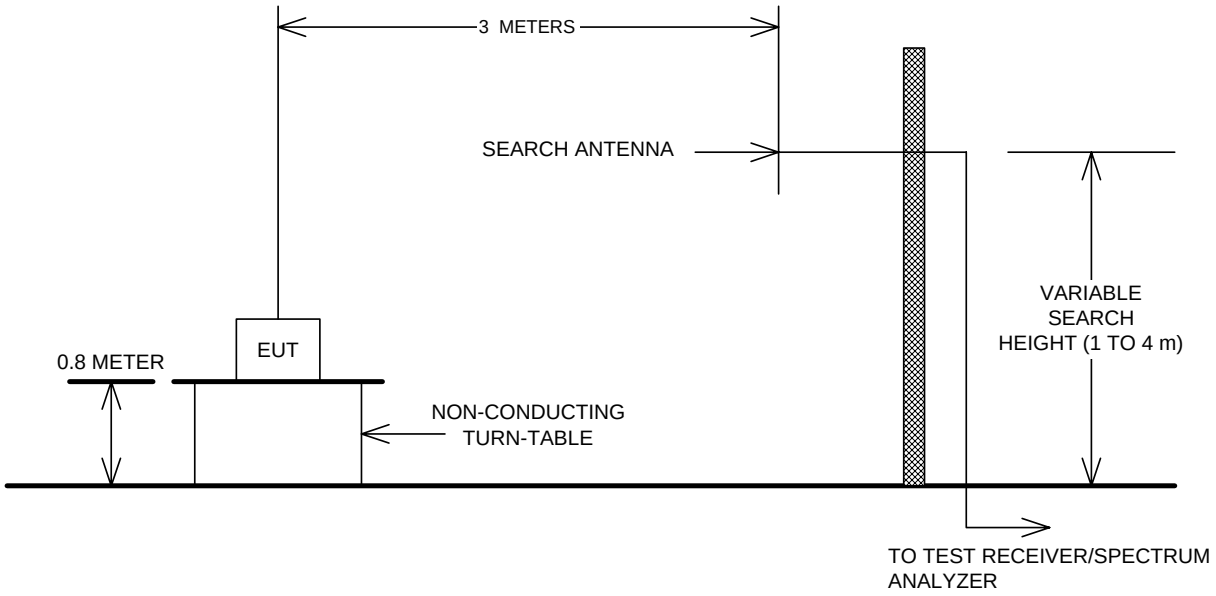
Conducted Emissions Setup:



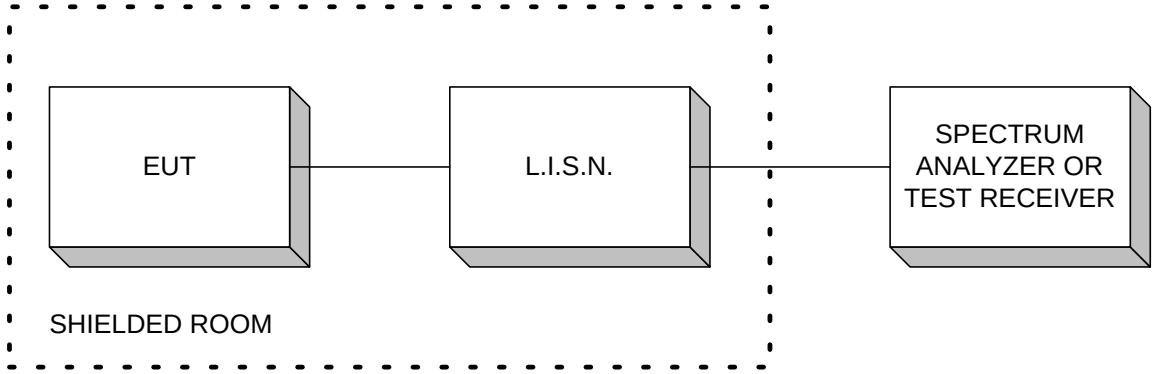
Spurious Emissions Setup:

Appendix C : Block Diagram of Test Setups

Test Site For Radiated Emissions



AC Powerline Conducted Emissions



Output power, conducted spurious emissions