FCC PART 15, SUBPART B and C
TEST REPORT

for

REMOTEPOINT EMERALD NAVIGATOR

MODEL: VP4450

Prepared for

SMK-LINK ELECTRONICS
3601-B CALLE TECATE
CAMARILLO, CALIFORNIA 93012

Prepared by:_____

KYLE FUJIMOTO

Approved by:_____

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DATE: JULY 15, 2008

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
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GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Device Tested:	RemotePoint Emerald Navigator Model: VP4450 S/N: N/A
Product Description:	See Expository Statement
Modifications:	The EUT was not modified in order to meet the specifications.
Manufacturer:	SMK-Link Electronics 3601-B Calle Tecate Camarillo, California 93012
Test Dates:	June 2 and 3, 2008
Test Specifications:	EMI requirements CFR Title 47, Part 15 Subpart B; and Subpart C, Sections 15.205, 15.209 and 15.249
Test Procedure:	ANSI C63.4
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 MHz	This test was not performed because the EUT cannot be plugged into the AC public mains.
2	Radiated RF Emissions, 10 kHz – 25000 MHz (Transmitter Portion)	Complies with the limits of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209, and 15.249.
3	Radiated RF Emissions, 10 kHz – 25000 MHz (Digital Portion)	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B.

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the RemotePoint Emerald Navigator, Model: VP4450. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.249 for the transmitter portion.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

SMK-Link Electronics

Massoud Nakan	G.M. Engineering
Daniel Grieder	RF/HW Engineer

Compatible Electronics, Inc.

Kyle Fujimoto	Test Engineer
James Ross	Test Engineer

2.4 Date Test Sample was Received

The test sample was received on June 12, 2008.

2.5 Disposition of the Test Sample

The sample has not been returned to SMK-Link Electronics as of July 16, 2008.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4 2003	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description Of Test Configuration - EMI

Setup and operation of the equipment under test.

Specifics of the EUT and Peripherals Tested

The RemotePoint Emerald Navigator, Model: VP4450 (EUT) was tested as a stand alone unit and continuously transmitting or receiving. The EUT's antenna is a PCB style antenna and is on the PCB itself. The EUT was tested in three orthogonal axis.

Note: The EUT was also tested by having the USB Receiver directly connected to the USB port of the EUT to ensure the emissions were not higher. The USB port on the EUT is only for connection to the USB Receiver.

The final radiated data was taken in the both transmitting and receiving modes. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

There were no cables connected to the EUT.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIALNUMBER	FCC ID
REMOTEPOINT EMERALD NAVIGATOR (EUT)	SMK-LINK ELECTRONICS	VP4450	N/A	**IE3VP445008**
USB RECEIVER	SMK-LINK ELECTRONICS	VP6495R	N/A	**IE3VP64XXR06**

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS					
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100172	November 27, 2006	Nov. 27, 2008
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
RF RADIATED EMISSIONS TEST EQUIPMENT					
Radiated Emissions Data Capture Program	Compatible Electronics	2.0	N/A	N/A	N/A
Biconical Antenna	Com Power	AB-900	15226	February 28, 2008	Feb. 28, 2009
Log Periodic Antenna	Com Power	AL-100	16060	July 9, 2007	July 9, 2008
Preamplifier	Com-Power	PA-102	1017	January 11, 2008	Jan. 11, 2009
Loop Antenna	Com Power	AL-130	17089	September 24, 2007	Sept. 24, 2009
Horn Antenna	Com Power	AH-118	10073	July 17, 2006	July 17, 2008
Microwave Preamplifier	Com Power	PA-122	181921	March 3, 2008	March 3, 2009
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
Microwave Preamplifier	Com Power	PA-840	711013	March 3, 2008	March 3, 2009
Horn Antenna	Com-Power	AH826	71957	December 12, 2007	Dec. 12, 2009

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

7. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

7.1 RF Emissions

7.1.1 Radiated Emissions (Spurious and Harmonics) Test

The EMI Receiver was used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com Power Preamplifier Model: PA-102 was used for frequencies from 30 MHz to 1 GHz, and the Com-Power Microwave Preamplifier Model: PA-122 was used for frequencies above 1 GHz. The EMI Receiver was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the EMI Receiver records the highest measured reading over all the sweeps.

The frequencies above 1 GHz were averaged manually by narrowing the video filter down to 10 Hz and putting the sweep time on AUTO on the spectrum analyzer to keep the amplitude reading calibrated.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 25 GHz	1 MHz	Horn Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results. The loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

7.1.2 Radiated Emissions (Spurious and Harmonics) Test (Continued)

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3 meter test distance to obtain the final test data. The final qualification data sheets are located in Appendix E.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.249.

8. CONCLUSIONS

The RemotePoint Emerald Navigator, Model: VP4450 meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.249 for the transmitter portion.

APPENDIX A

LABORATORY RECOGNITIONS

LABORATORY RECOGNITIONS

Compatible Electronics has the following agency accreditations:

National Voluntary Laboratory Accreditation Program - Lab Code: 200528-0

Voluntary Control Council for Interference - Registration Numbers: R-983, C-1026, R-984 and C-1027

Bureau of Standards and Metrology Inspection - Reference Number: SL2-IN-E-1031

Conformity Assessment Body for the EMC Directive Under the US/EU MRA Appointed by NIST

Compatible Electronics is recognized or on file with the following agencies:

Federal Communications Commission

Industry Canada

Radio-Frequency Technologies (Competent Body)

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.249 or FCC Class B specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

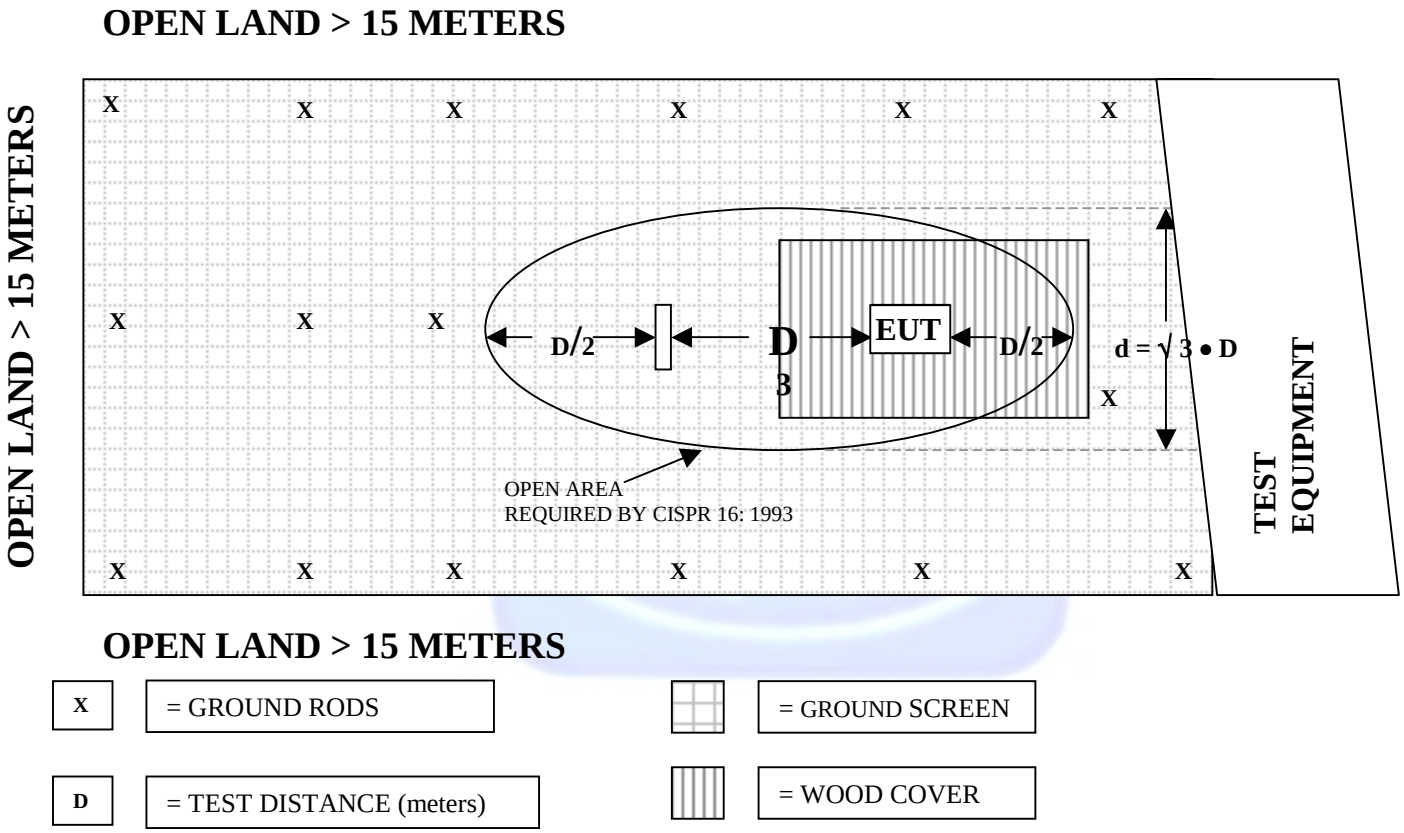
RemotePoint Emerald Navigator
Model: VP4450
S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: PLOT MAP AND LAYOUT OF RADIATED TEST SITE – 3 METERS



COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15226

CALIBRATION DATE: FEBRUARY 28, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	12.1	100	10.7
35	12.2	120	13.6
40	11.7	140	12.1
45	9.9	160	12.2
50	11.3	180	15.2
60	9.4	200	16.5
70	7.6	250	16.5
80	6.0	275	18.1
90	6.8	300	21.5

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16060

CALIBRATION DATE: JULY 9, 2007

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	13.5	700	20.5
400	15.8	800	21.6
500	17.0	900	21.3
600	19.2	1000	22.2

COM-POWER PA-103

PREAMPLIFIER

S/N: 1017

CALIBRATION DATE: JANUARY 11, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	38.2	300	38.0
40	38.0	350	38.3
50	38.3	400	38.0
60	38.6	450	37.5
70	38.4	500	37.9
80	38.4	550	37.9
90	38.3	600	37.8
100	38.1	650	37.5
125	38.5	700	38.0
150	38.2	750	37.7
175	38.1	800	37.1
200	38.4	850	37.1
225	38.2	900	37.1
250	38.2	950	37.0
275	38.2	1000	36.5

COM-POWER PA-122

PREAMPLIFIER

S/N: 181921

CALIBRATION DATE: MARCH 3, 2008

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	36.32	10.0	35.47
1.5	35.40	10.5	35.05
2.0	34.77	11.0	34.16
2.5	35.07	11.5	33.75
3.0	34.86	12.0	34.65
3.5	34.48	12.5	34.41
4.0	34.30	13.0	35.36
4.5	33.96	13.5	35.30
5.0	34.06	14.0	35.87
5.5	34.54	14.5	36.44
6.0	35.90	15.0	36.24
6.5	36.85	15.5	35.92
7.0	36.55	16.0	35.53
7.5	35.31	16.5	35.29
8.0	33.57	17.0	34.96
8.5	33.36	17.5	34.02
9.0	35.01	18.0	33.39
9.5	35.97		

COM-POWER AH-118

DOUBLE RIDGE HORN ANTENNA

S/N: 10073

CALIBRATION DATE: JULY 17, 2006

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	25.331	10.0	42.391
1.5	27.507	10.5	39.194
2.0	31.581	11.0	38.504
2.5	30.906	11.5	40.724
3.0	30.276	12.0	41.079
3.5	30.396	12.5	41.014
4.0	30.881	13.0	41.201
4.5	32.77	13.5	42.335
5.0	34.067	14.0	43.248
5.5	33.914	14.5	45.639
6.0	34.028	15.0	43.197
6.5	35.779	15.5	41.751
7.0	38.347	16.0	42.462
7.5	39.096	16.5	41.908
8.0	39.377	17.0	40.277
8.5	38.646	17.5	48.117
9.0	37.438	18.0	54.113
9.5	38.403		

COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: SEPTEMBER 24, 2007

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-41.27	10.23
0.01	-41.96	9.54
0.02	-41.73	9.77
0.03	-40.46	11.04
0.04	-40.56	10.94
0.05	-42.00	9.50
0.06	-41.30	10.20
0.1	-41.43	10.07
0.2	-43.90	7.60
0.3	-41.43	10.07
0.4	-41.40	10.10
0.5	-41.40	10.10
0.6	-40.93	10.57
1	-40.83	10.67
2	-40.3	11.20
5	-40.2	11.30
8	-40.6	10.90
9	-40.1	11.40
10	-40.4	11.10
15	-41.67	9.83
20	-41.10	10.40
25	-42.8	8.70
30	-42.8	8.70

COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MARCH 3, 2008

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	27.49	29.5	26.44
18.5	28.46	30.0	26.95
19.0	28.98	30.5	26.42
19.5	28.46	31.0	27.11
20.0	28.23	31.5	27.27
20.5	27.44	32.0	26.76
21.0	26.91	32.5	24.49
21.5	26.65	33.0	23.19
22.0	26.50	33.5	22.57
22.5	27.15	34.0	22.11
23.0	27.36	34.5	23.52
23.5	27.08	35.0	24.86
24.0	26.36	35.5	25.52
24.5	24.95	36.0	25.81
25.0	26.83	36.5	22.08
25.5	27.00	37.0	23.31
26.0	27.58	37.5	26.91
26.5	26.02	38.0	25.89
27.0	24.20	38.5	24.75
27.5	23.64	39.0	25.77
28.0	26.39	39.5	25.83
28.5	26.66	40.0	27.62
29.0	26.40		

COM-POWER AH826

HORN ANTENNA

S/N: 71957

CALIBRATION DATE: DECEMBER 12, 2007

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	33.5	22.5	35.5
18.5	33.5	23.0	35.9
19.0	34.0	23.5	35.7
19.5	34.0	24.0	35.6
20.0	34.3	24.5	36.0
20.5	34.9	25.0	36.2
21.0	34.7	25.5	36.1
21.5	35.0	26.0	36.2
22.0	35.0	26.5	35.7

FRONT VIEW

SMK-LINK ELECTRONICS
REMOTEPOINT EMERALD NAVIGATOR
MODEL: VP4450
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

SMK-LINK ELECTRONICS
REMOTEPOINT EMERALD NAVIGATOR
MODEL: VP4450
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.249

SMK-Link Electronics
RemotePoint Emerald Navigator
Model: VP4450

Date: 06/02/08
Lab: B
Tested By: Kyle Fujimoto

X-Axis - Low Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2405	94.82	V	114	-19.18	Peak	1.51	135	
2405	93.96	V	94	-0.04	Avg	1.51	135	
4810	42.62	V	74	-31.38	Peak	2.72	135	
4810	31.09	V	54	-22.91	Avg	2.72	135	
7215	47.88	V	74	-26.12	Peak	2.31	150	
7215	36.86	V	54	-17.14	Avg	2.31	150	
9620	49.83	V	74	-24.17	Peak	2.04	135	
9620	37.53	V	54	-16.47	Avg	2.04	135	
12025								**No Emission**
12025								**Detected**
14430								**No Emission**
14430								**Detected**
16835								**No Emission**
16835								**Detected**
19240								**No Emission**
19240								**Detected**
21645								**No Emission**
21645								**Detected**
24050								**No Emission**
24050								**Detected**

FCC 15.249
SMK-Link Electronics
RemotePoint Emerald Navigator
Model: VP4450

Date: 06/02/08
Lab: B
Tested By: Kyle Fujimoto

X-Axis - Low Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2405	86.62	H	114	-27.38	Peak	2.62	135	
2405	84.95	H	94	-9.05	Avg	2.62	135	
4810	45.87	H	74	-28.13	Peak	2.62	135	
4810	31.08	H	54	-22.92	Avg	2.62	135	
7215	50.89	H	74	-23.11	Peak	2.62	135	
7215	36.06	H	54	-17.94	Avg	2.62	135	
9620	49.88	H	74	-24.12	Peak	2.63	135	
9620	38.21	H	54	-15.79	Avg	2.63	135	
12025								**No Emission**
12025								**Detected**
14430								**No Emission**
14430								**Detected**
16835								**No Emission**
16835								**Detected**
19240								**No Emission**
19240								**Detected**
21645								**No Emission**
21645								**Detected**
24050								**No Emission**
24050								**Detected**

FCC 15.249

SMK-Link Electronics
RemotePoint Emerald Navigator
Model: VP4450

Date: 06/02/08
Lab: B
Tested By: Kyle Fujimoto

Y-Axis - Low Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2405	93.61	V	114	-20.39	Peak	1.14	135	
2405	92.72	V	94	-1.28	Avg	1.14	135	
4810	45.81	V	74	-28.19	Peak	2.93	135	
4810	32.41	V	54	-21.59	Avg	2.93	135	
7215	47.76	V	74	-26.24	Peak	2.93	135	
7215	36.04	V	54	-17.96	Avg	2.93	135	
9620	50.48	V	74	-23.52	Peak	2.95	125	
9620	37.51	V	54	-16.49	Avg	2.95	125	
12025								**No Emission**
12025								**Detected**
14430								**No Emission**
14430								**Detected**
16835								**No Emission**
16835								**Detected**
19240								**No Emission**
19240								**Detected**
21645								**No Emission**
21645								**Detected**
24050								**No Emission**
24050								**Detected**

FCC 15.249
SMK-Link Electronics
RemotePoint Emerald Navigator
Model: VP4450

Date: 06/02/08
Lab: B
Tested By: Kyle Fujimoto

Y-Axis - Low Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2405	87.35	H	114	-26.65	Peak	2.18	135	
2405	86.39	H	94	-7.61	Avg	2.18	135	
4810	47.08	H	74	-26.92	Peak	2.71	135	
4810	33.85	H	54	-20.15	Avg	2.71	135	
7215	52.42	H	74	-21.58	Peak	2.71	135	
7215	37.87	H	54	-16.13	Avg	2.71	135	
9620	51.39	H	74	-22.61	Peak	2.75	135	
9620	39.06	H	54	-14.94	Avg	2.75	135	
12025								**No Emission**
12025								**Detected**
14430								**No Emission**
14430								**Detected**
16835								**No Emission**
16835								**Detected**
19240								**No Emission**
19240								**Detected**
21645								**No Emission**
21645								**Detected**
24050								**No Emission**
24050								**Detected**

FCC 15.249
SMK-Link Electronics
RemotePoint Emerald Navigator
Model: VP4450

Date: 06/02/08
Lab: B
Tested By: Kyle Fujimoto

Z-Axis - Low Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2405	92.65	V	114	-21.35	Peak	1	135	
2405	91.55	V	94	-2.45	Avg	1	135	
4810	45.61	V	74	-28.39	Peak	2.29	135	
4810	32.27	V	54	-21.73	Avg	2.29	135	
7215	48.82	V	74	-25.18	Peak	2.12	135	
7215	35.96	V	54	-18.04	Avg	2.12	135	
9620	50.97	V	74	-23.03	Peak	2.12	135	
9620	37.56	V	54	-16.44	Avg	2.12	135	
12025								**No Emission**
12025								**Detected**
14430								**No Emission**
14430								**Detected**
16835								**No Emission**
16835								**Detected**
19240								**No Emission**
19240								**Detected**
21645								**No Emission**
21645								**Detected**
24050								**No Emission**
24050								**Detected**

FCC 15.249

SMK-Link Electronics
RemotePoint Emerald Navigator
Model: VP4450

Date: 06/02/08
Lab: B
Tested By: Kyle Fujimoto

Z-Axis - Low Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2405	86.64	H	114	-27.36	Peak	2.22	135	
2405	85.26	H	94	-8.74	Avg	2.22	135	
4810	44.31	H	74	-29.69	Peak	2.47	135	
4810	31.43	H	54	-22.57	Avg	2.47	135	
7215	48.65	H	74	-25.35	Peak	2.47	125	
7215	36.06	H	54	-17.94	Avg	2.47	125	
9620	50.25	H	74	-23.75	Peak	2.48	135	
9620	37.38	H	54	-16.62	Avg	2.48	135	
12025								**No Emission**
12025								**Detected**
14430								**No Emission**
14430								**Detected**
16835								**No Emission**
16835								**Detected**
19240								**No Emission**
19240								**Detected**
21645								**No Emission**
21645								**Detected**
24050								**No Emission**
24050								**Detected**

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RemotePoint Emerald Navigator
Model: VP4450

Date: 06/02/08
Lab: B
Tested By: Kyle Fujimoto

X-Axis - Middle Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2441	94.26	V	114	-19.74	Peak	2.48	180	
2441	93.51	V	94	-0.49	Avg	2.48	180	
4882	44.23	V	74	-29.77	Peak	2.79	135	
4882	32.17	V	54	-21.83	Avg	2.79	135	
7323	48.63	V	74	-25.37	Peak	2.36	135	
7323	36.64	V	54	-17.36	Avg	2.36	135	
9764	52.51	V	74	-21.49	Peak	2.36	150	
9764	39.94	V	54	-14.06	Avg	2.36	150	
12205								**No Emission**
12205								**Detected**
14646								**No Emission**
14646								**Detected**
17087								**No Emission**
17087								**Detected**
19528								**No Emission**
19528								**Detected**
21969								**No Emission**
21969								**Detected**
24410								**No Emission**
24410								**Detected**

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X-Axis - Middle Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2441	81.72	H	114	-32.28	Peak	1.5	135	
2441	80.62	H	94	-13.38	Avg	1.5	135	
4882	43.68	H	74	-30.32	Peak	2.35	135	
4882	31.09	H	54	-22.91	Avg	2.35	135	
7323	49.28	H	74	-24.72	Peak	2.35	135	
7323	36.25	H	54	-17.75	Avg	2.35	135	
9764	51.21	H	74	-22.79	Peak	2.36	135	
9764	39.63	H	54	-14.37	Avg	2.36	135	
12205								**No Emission**
12205								**Detected**
14646								**No Emission**
14646								**Detected**
17087								**No Emission**
17087								**Detected**
19528								**No Emission**
19528								**Detected**
21969								**No Emission**
21969								**Detected**
24410								**No Emission**
24410								**Detected**

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Model: VP4450

Date: 06/02/08
Lab: B
Tested By: Kyle Fujimoto

Y-Axis - Middle Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2441	92.41	V	114	-21.59	Peak	1.11	180	
2441	91.21	V	94	-2.79	Avg	1.11	180	
4882	45.11	V	74	-28.89	Peak	2.84	135	
4882	31.72	V	54	-22.28	Avg	2.84	135	
7323	48.81	V	74	-25.19	Peak	2.85	135	
7323	36.88	V	54	-17.12	Avg	2.85	135	
9764	52.92	V	74	-21.08	Peak	2.85	135	
9764	39.73	V	54	-14.27	Avg	2.85	135	
12205								**No Emission**
12205								**Detected**
14646								**No Emission**
14646								**Detected**
17087								**No Emission**
17087								**Detected**
19528								**No Emission**
19528								**Detected**
21969								**No Emission**
21969								**Detected**
24410								**No Emission**
24410								**Detected**

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Date: 06/02/08
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Y-Axis - Middle Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2441	87.42	H	114	-26.58	Peak	2.28	135	
2441	86.41	H	94	-7.59	Avg	2.28	135	
4882	45.64	H	74	-28.36	Peak	2.14	135	
4882	34.26	H	54	-19.74	Avg	2.14	135	
7323	49.65	H	74	-24.35	Peak	2.53	135	
7323	36.72	H	54	-17.28	Avg	2.53	135	
9764	52.92	H	74	-21.08	Peak	2.54	135	
9764	39.73	H	54	-14.27	Avg	2.54	135	
12205								**No Emission**
12205								**Detected**
14646								**No Emission**
14646								**Detected**
17087								**No Emission**
17087								**Detected**
19528								**No Emission**
19528								**Detected**
21969								**No Emission**
21969								**Detected**
24410								**No Emission**
24410								**Detected**

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Date: 06/02/08
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Tested By: Kyle Fujimoto

Z-Axis - Middle Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2441	93.65	V	114	-20.35	Peak	1.07	135	
2441	92.81	V	94	-1.19	Avg	1.07	135	
4882	45.73	V	74	-28.27	Peak	3.09	135	
4882	32.35	V	54	-21.65	Avg	3.09	135	
7323	48.24	V	74	-25.76	Peak	3.09	135	
7323	36.23	V	54	-17.77	Avg	3.09	135	
9764	52.33	V	74	-21.67	Peak	2.63	135	
9764	39.51	V	54	-14.49	Avg	2.63	135	
12205								**No Emission**
12205								**Detected**
14646								**No Emission**
14646								**Detected**
17087								**No Emission**
17087								**Detected**
19528								**No Emission**
19528								**Detected**
21969								**No Emission**
21969								**Detected**
24410								**No Emission**
24410								**Detected**

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Date: 06/02/08
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Tested By: Kyle Fujimoto

Z-Axis - Middle Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2441	82.54	H	114	-31.46	Peak	2.45	135	
2441	81.3	H	94	-12.7	Avg	2.45	135	
4882	45.24	H	74	-28.76	Peak	2.59	125	
4882	31.35	H	54	-22.65	Avg	2.59	125	
7323	48.82	H	74	-25.18	Peak	2.49	135	
7323	36.33	H	54	-17.67	Avg	2.49	135	
9764	52.11	H	74	-21.89	Peak	2.48	135	
9764	39.68	H	54	-14.32	Avg	2.48	135	
12205								**No Emission**
12205								**Detected**
14646								**No Emission**
14646								**Detected**
17087								**No Emission**
17087								**Detected**
19528								**No Emission**
19528								**Detected**
21969								**No Emission**
21969								**Detected**
24410								**No Emission**
24410								**Detected**

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Date: 06/02/08
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Tested By: Kyle Fujimoto

X-Axis - High Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2470	94.29	V	114	-19.71	Peak	2.46	135	
2470	93.31	V	94	-0.69	Avg	2.46	135	
4940	44.95	V	74	-29.05	Peak	2.91	135	
4940	31.98	V	54	-22.02	Avg	2.91	135	
7410	48.02	V	74	-25.98	Peak	2.59	135	
7410	36.47	V	54	-17.53	Avg	2.59	135	
9880	52.63	V	74	-21.37	Peak	2.59	135	
9880	40.13	V	54	-13.87	Avg	2.59	135	
12350								**No Emission**
12350								**Detected**
14820								**No Emission**
14820								**Detected**
17290								**No Emission**
17290								**Detected**
19760								**No Emission**
19760								**Detected**
22230								**No Emission**
22230								**Detected**
24700								**No Emission**
24700								**Detected**

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Date: 06/02/08
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Tested By: Kyle Fujimoto

X-Axis - High Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2470	82.75	H	114	-31.25	Peak	2.69	135	
2470	81.76	H	94	-12.24	Avg	2.69	135	
4940	44.67	H	74	-29.33	Peak	3.07	125	
4940	34.17	H	54	-19.83	Avg	3.07	125	
7410	48.07	H	74	-25.93	Peak	3.08	135	
7410	36.05	H	54	-17.95	Avg	3.08	135	
9880	52.86	H	74	-21.14	Peak	2.49	135	
9880	40.38	H	54	-13.62	Avg	2.49	135	
12350								**No Emission**
12350								**Detected**
14820								**No Emission**
14820								**Detected**
17290								**No Emission**
17290								**Detected**
19760								**No Emission**
19760								**Detected**
22230								**No Emission**
22230								**Detected**
24700								**No Emission**
24700								**Detected**

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Model: VP4450

Date: 06/02/08
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Tested By: Kyle Fujimoto

Y-Axis - High Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2470	92.38	V	114	-21.62	Peak	2.43	135	
2470	91.21	V	94	-2.79	Avg	2.43	135	
4940	46.54	V	74	-27.46	Peak	2.13	135	
4940	31.62	V	54	-22.38	Avg	2.13	135	
7410	47.92	V	74	-26.08	Peak	2.18	150	
7410	36.09	V	54	-17.91	Avg	2.18	150	
9880	52.61	V	74	-21.39	Peak	2.13	135	
9880	40.29	V	54	-13.71	Avg	2.13	135	
12350								**No Emission**
12350								**Detected**
14820								**No Emission**
14820								**Detected**
17290								**No Emission**
17290								**Detected**
19760								**No Emission**
19760								**Detected**
22230								**No Emission**
22230								**Detected**
24700								**No Emission**
24700								**Detected**

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Y-Axis - High Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2470	87.63	H	114	-26.37	Peak	2.22	135	
2470	86.67	H	94	-7.33	Avg	2.22	135	
4940	47.64	H	74	-26.36	Peak	2.73	135	
4940	34.44	H	54	-19.56	Avg	2.73	135	
7410	48.21	H	74	-25.79	Peak	2.73	135	
7410	36.45	H	54	-17.55	Avg	2.73	135	
9880	52.61	H	74	-21.39	Peak	2.75	135	
9880	40.14	H	54	-13.86	Avg	2.75	135	
12350								**No Emission**
12350								**Detected**
14820								**No Emission**
14820								**Detected**
17290								**No Emission**
17290								**Detected**
19760								**No Emission**
19760								**Detected**
22230								**No Emission**
22230								**Detected**
24700								**No Emission**
24700								**Detected**

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Z-Axis - High Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2470	94.75	V	114	-19.25	Peak	1.08	135	
2470	93.92	V	94	-0.08	Avg	1.08	135	
4940	45.54	V	74	-28.46	Peak	2.99	135	
4940	33.66	V	54	-20.34	Avg	2.99	135	
7410	49.33	V	74	-24.67	Peak	2.42	135	
7410	36.13	V	54	-17.87	Avg	2.42	135	
9880	52.89	V	74	-21.11	Peak	2.43	135	
9880	40.07	V	54	-13.93	Avg	2.43	135	
12350								**No Emission**
12350								**Detected**
14820								**No Emission**
14820								**Detected**
17290								**No Emission**
17290								**Detected**
19760								**No Emission**
19760								**Detected**
22230								**No Emission**
22230								**Detected**
24700								**No Emission**
24700								**Detected**

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Z-Axis - High Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2470	85.65	H	114	-28.35	Peak	2.83	125	
2470	84.72	H	94	-9.28	Avg	2.83	125	
4940	46.42	H	74	-27.58	Peak	2.83	125	
4940	33.21	H	54	-20.79	Avg	2.83	125	
7410	48.45	H	74	-25.55	Peak	2.85	150	
7410	35.62	H	54	-18.38	Avg	2.85	150	
9880	52.02	H	74	-21.98	Peak	2.83	135	
9880	39.86	H	54	-14.14	Avg	2.83	135	
12350								**No Emission**
12350								**Detected**
14820								**No Emission**
14820								**Detected**
17290								**No Emission**
17290								**Detected**
19760								**No Emission**
19760								**Detected**
22230								**No Emission**
22230								**Detected**
24700								**No Emission**
24700								**Detected**

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Model: VP4450

Date: 06/02/08
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - Receive Mode - X-Axis (Worst Case)

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Found from the
								Receiver Mode
								for both the Vertical and
								Horizontal Polarizations

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Model: VP4450

Date: 06/02/08
Lab: B
Tested By: Kyle Fujimoto

Digital Portion of the EUT and Non-Harmonic Emissions from the Transmitter - 10 kHz to 25000 MHz

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Found from the Digital Portion for both the Vertical and Horizontal Polarizations
								No Emissions Found from the Non-Harmonic Emissions of the Transmitter for the Vertical and Horizontal Polarizations

BAND EDGES

DATA SHEETS

FCC 15.249

SMK-Link Electronics
RemotePoint Emerald Navigator
Model: VP4450

Date: 06/02/08
Lab: B
Tested By: Kyle Fujimoto

X-Axis (Worst Case) - Vertical Polarization (Worst Case)
Low Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2405	94.82	V	114	-19.18	Peak	1.51	135	
2405	93.96	V	94	-0.04	Avg	1.51	135	
2400	44.44	V	74	-29.56	Peak	1.51	135	
2400	37.1	V	54	-16.9	Avg	1.51	135	

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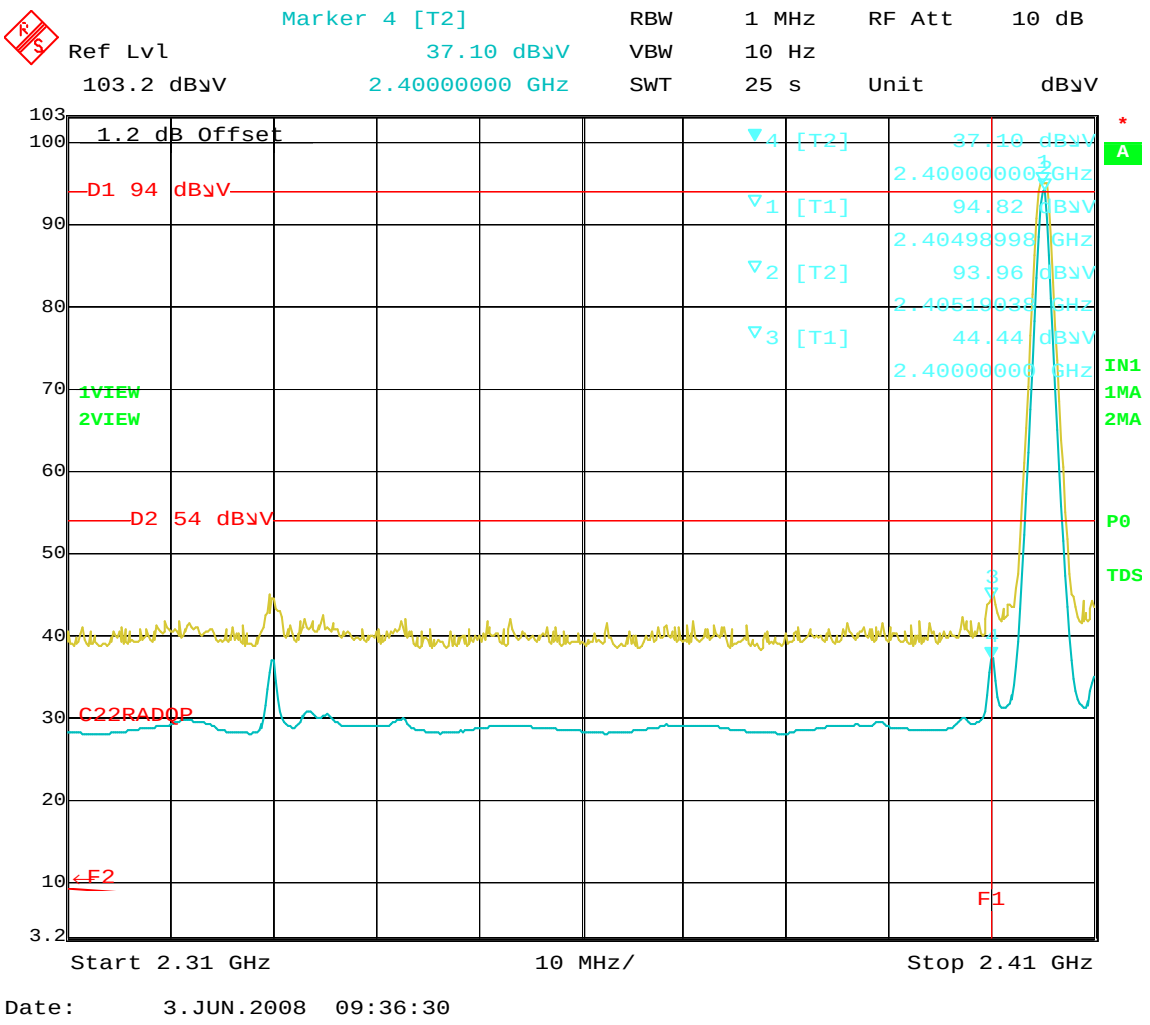
Model: VP4450

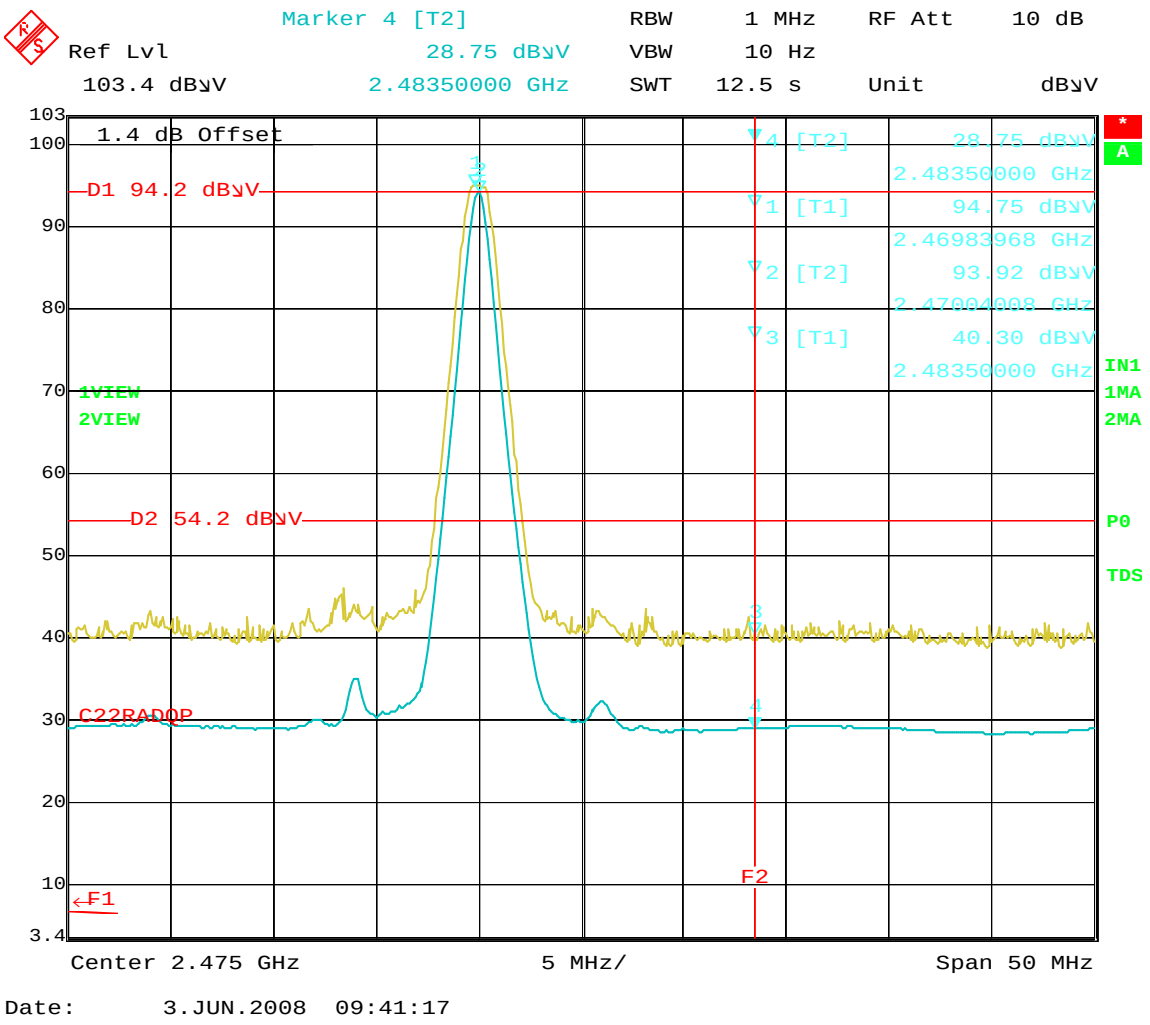
Date: 06/02/08
Lab: B
Tested By: Kyle Fujimoto

Z-Axis (Worst Case) - Vertical Polarization (Worst Case)
High Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2470	94.75	V	114	-19.25	Peak	1.08	135	
2470	93.92	V	94	-0.08	Avg	1.08	135	
2483.5	40.3	V	74	-33.7	Peak	1.08	135	
2483.5	28.75	V	54	-25.25	Avg	1.08	135	



Band Edge – Low Channel – X-Axis (Worst Case) – Vertical Polarization (Worst Case)



Band Edge – High Channel – Z-Axis (Worst Case) – Vertical Polarization (Worst Case)