VULCAN PORTALS, INC. TEST REPORT

FOR THE

FLIPSTART E-1000 SERIES

FCC PART 24 AND RSS-133 EXCLUDING CONDUCTED EMISSIONS AND FREQUENCY STABILITY TESTING

COMPLIANCE

DATE OF ISSUE: DECEMBER 5, 2006

PREPARED FOR:

Vulcan Portals, Inc.
505 5th Ave. South, Ste. 900
Seattle, WA 98104

P.O. No.: 20185-00778
W.O. No.: 85535

PREPARED BY:

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CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Date of test: August 29 – November 9, 2006

Report No.: FC06-067

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ADMINISTRATIVE INFORMATION

DATE OF TEST:	August 29 - November 9, 2006
DATE OF RECEIPT:	August 29, 2006
FREQUENCY RANGE TESTED:	9 kHz-20 GHz
MANUFACTURER:	Universal Scientific Industrial Co., Ltd. 141, Lane 351, Taiping Road, Sec. 1 Tsao Tuen, Nan-Tou, Taiwan
REPRESENTATIVE:	Daniel Oar
TEST LOCATION:	CKC Laboratories, Inc. 22116 23rd Drive S.E., Suite A Bothell, WA 98021-4413
TEST METHOD:	FCC Part 24, RSS-GEN and RSS-133
PURPOSE OF TEST:	To demonstrate the compliance of the FlipStart E-1000 series with the requirements for FCC Part 24 and RSS-133 devices.

FCC TO CANADA STANDARD CORRELATION MATRIX

Canadian Standard	Canadian Section	FCC Standard	FCC Section	Test Description
RSS 133	5.5	N/A	N/A	Types of modulation
RSS 133	6.2	N/A	N/A	Power Output
N/A	N/A	47 CFR	24.232	Power Output
RSS 133	6.3	47 CFR	24.238	Emissions Limitations
N/A	N/A	47 CFR	24.236	Field Strength Limitations
RSS 133	7	47 CFR	24.235	Frequency Stability
RSS 133	8	47 CFR	1.1307	RF Exposure
RSS 133	9	47 CFR	15.109	Receiver Spurious Emissions
	IC 4653		318736	Site File No.

CONDITIONS FOR COMPLIANCE

No modifications to the EUT were necessary to comply with the testing which was performed. CKC Laboratories was not contracted to test conducted emissions or frequency stability for this device.

APPROVALS

Steve Behm, Director of Engineering Services

QUALITY ASSURANCE:

Joyce Walker, Quality Assurance Administrative Manager

Katie Molina, Senior EMC Engineer/Lab Manager

TEST PERSONNEL:

Eddie Wong, EMC Engineer

Ryan Rutledge, Test Technologist

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The customer declares the EUT tested by CKC Laboratories was representative of a production unit.

The following description has been provided by the customer: FlipStart is a Microsoft Windows XP-based computer in a small form factor. Designed for mobile professionals who require serious business tools and want to leave the PDA and MP3 player home, FlipStart is the first generation of personal devices that deliver powerful functionality without compromise. Unique features such as the FlipStart® InfoPane and FlipStart® Navigator revolutionize the Windows experience for the user. Built on the Intel platform, FlipStart has a QWERTY thumb keypad, 1024 X 600 high-resolution 5.6" display in a protective clamshell design. Built-in WiFi and Bluetooth®, and multiple carrier 3G WAN support allow users to stay connected.

The following model was tested by CKC Laboratories: **Ultra Portable Computer, Flipstart 1000 Series. (The actual model tested was E-1001s per the customer.)**

Since the time of testing the manufacturer has chosen to use the following model name in its place. Any differences between the names does not affect their EMC characteristics and therefore complies to the level of testing equivalent to the tested model name shown on the data sheets: **FlipStart E-1000 series**

The manufacturer states that the following additional models are identical electrically to the one which was tested, or any differences between them do not affect their EMC characteristics, and therefore they comply to the level of testing equivalent to the tested models.

Main unit Model numbers					
Model #	DESCRIPTION	BT/Wi-Fi	EV-DO WAN	HSDPA-NA WAN	CAMERA
E-1000	FlipStart Enterprise w/o camera & w/o WAN	X			
E-1001	FlipStart Enterprise w/camera & w/o WAN	X			X
E-1000v	FlipStart Enterprise w/o camera & w/Verizon EV-DO	X	MC5720		
E-1001v	FlipStart Enterprise w/camera & w/Verizon EV-DO	X	MC5720		X
E-1000s	FlipStart Enterprise w/o camera & w/Sprint EV-DO	X	MC5720		
E-1001s	FlipStart Enterprise w/camera & w/Sprint EV-DO	X	MC5720		X

EQUIPMENT UNDER TEST

FlipStart
Manuf: Vulcan Portals, Inc.
Model: E-1000 series
Serial: 003401-A068G01T
FCC ID: pending

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

FlipStart Extended-Life Battery 5000 Capacity in mAH
Manuf: Vulcan Portals, Inc.
Model: E-5000
Serial: NA

TEMPERATURE AND HUMIDITY DURING TESTING
The temperature during testing was within +15°C and + 35°C.
The relative humidity was between 20% and 75%.

FCC 2.1033(c)(3) USER'S MANUAL
The necessary information is contained in a separate document.

FCC 2.1033 (c)(4) TYPE OF EMISSIONS
F9W

FCC 2.1033 (c)(5) FREQUENCY RANGE
1850 MHz – 1910 MHz.

FCC 2.1033 (c)(6) OPERATING POWER
0.912 Watts.

FCC 2.1033 (c)(7) MAXIMUM POWER RATING
2 Watts

FCC 2.1033 (c)(8) DC VOLTAGES
The necessary information is contained in a separate document.

FCC 2.1033 (c)(9) TUNE-UP PROCEDURE
The necessary information is contained in a separate document.

FCC 2.1033(c)(10) SCHEMATICS AND CIRCUITRY DESCRIPTION
The necessary information is contained in a separate document.

FCC 2.1033(c)(11) LABEL AND PLACEMENT
The necessary information is contained in a separate document.

FCC 2.1033(c)(12) SUBMITTAL PHOTOS
The necessary information is contained in a separate document.

FCC 2.1033 (c)(13) MODULATION INFORMATION
CDMA

FCC 2.1033(c)(14)/2.1046/24.232 - RF POWER OUTPUT

Frequency	Polarity	Ant. Gain (dBi)	EIRP (W)	Limit (W)	Pass/Fail
1851.25 MHz	Vertical	2.47	0.263100	2.0	Pass
1851.25 MHz	Horizontal	2.47	0.851376	2.0	Pass
1880 MHz	Vertical	2.47	0.281917	2.0	Pass
1880 MHz	Horizontal	2.47	0.912266	2.0	Pass
1908.75 MHz	Vertical	2.47	0.245539	2.0	Pass
1908.75 MHz	Horizontal	2.47	0.676272	2.0	Pass

Test Equipment

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02673	Agilent	E4446A	US44300437	061606	061608
Cable	P05206	Pasterneck	NA	NA	020805	020807
2.4 GHz HPF	02745	K&L	11SH10-3000	2	030806	030808
2.4 GHz LPF	02747	K&L	11SL10-20000	7	030706	030708

Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **Part 24 RF Power and Block Edge Plot Block C (Radiated)**
Work Order #: **85535** Date: 11/9/2006
Test Type: **Radiated Scan** Time: 16:33:06
Equipment: **Ultra Portable Computer** Sequence#: 4
Manufacturer: Vulcan Portals, Inc. Tested By: Ryan Rutledge
Model: Flipstart 1000 Series
S/N: 003401-A068G01T

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Ultra Portable Computer*	Vulcan Portals, Inc.	Flipstart 1000 Series	003401-A068G01T

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table. Evaluation of RF Output Power and Band Edges is performed without peripherals attached to the EUT. Frequency: 1851.25 MHz. Modulation: CDMA, 1xRTT. RF Output Power RBW=3 MHz, VBW=3 MHz Band Edge RBW=120 kHz, VBW=120 kHz 110Vac, 60 Hz, 22°C, 38% relative humidity.

Transducer Legend:

T1=ANT-AN01412-121305 Model 3115	T2=Cable ANP05422 - 60"
T3=CAB-P05419-031506	T4=P05206 40GHz

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	1851.240M	96.2	+26.2	+2.0	+1.7	+0.9	+0.0 210	127.0	130.7 Peak Power Reading 3 MHz RBW	-3.7	Horiz 170
2	1851.140M	91.1	+26.2	+2.0	+1.7	+0.9	+0.0 278	121.9	130.7 Peak Power Reading 3 MHz RBW	-8.8	Vert 180
3	1850.000M Ave	41.6	+26.2	+2.0	+1.7	+0.9	+0.0 210	72.4	82.3 Bandedge reading 100 sweep average 120 kHz RBW	-9.9	Horiz 170
4	1850.000M Ave	37.6	+26.2	+2.0	+1.7	+0.9	+0.0 278	68.4	82.3 Bandedge reading 100 sweep average 120 kHz RBW	-13.9	Vert 180

Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **Part 24 RF Power and Block Edge Plot Block C (Radiated)**
Work Order #: **85535** Date: 11/9/2006
Test Type: **Radiated Scan** Time: 16:49:01
Equipment: **Ultra Portable Computer** Sequence#: 5
Manufacturer: Vulcan Portals, Inc. Tested By: Ryan Rutledge
Model: Flipstart 1000 Series
S/N: 003401-A068G01T

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Ultra Portable Computer*	Vulcan Portals, Inc.	Flipstart 1000 Series	003401-A068G01T

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table. Evaluation of RF Output Power and Band Edges is performed without peripherals attached to the EUT. Frequency: 1908.75MHz. Modulation: CDMA, 1xRTT. RF Output Power RBW=3 MHz, VBW=3 MHz Band Edge RBW=120 kHz, VBW=120 kHz 110Vac, 60 Hz, 22°C, 38% relative humidity.

Transducer Legend:

T1=ANT-AN01412-121305 Model 3115	T2=Cable ANP05422 - 60"
T3=CAB-P05419-031506	T4=P05206 40GHz

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	1908.750M	95.2	+26.2	+2.0	+1.7	+0.9	+0.0 210	126.0	130.7 Peak Power Reading 3 MHz RBW	-4.7	Horiz 165
2	1910.000M Ave	43.1	+26.2	+2.0	+1.7	+0.9	+0.0 210	73.9	82.3 Bandedge reading 100 sweep average 120 kHz RBW	-8.4	Horiz 165
3	1908.700M	90.8	+26.2	+2.0	+1.7	+0.9	+0.0 270	121.6	130.7 Peak Power Reading 3 MHz RBW	-9.1	Vert 174
4	1910.000M Ave	39.3	+26.2	+2.0	+1.7	+0.9	+0.0 270	70.1	82.3 Bandedge reading 100 sweep average 120 kHz RBW	-12.2	Vert 174

Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **Part 24 RF Power and Block Edge Plot Block C (Radiated)**
Work Order #: **85535** Date: 11/9/2006
Test Type: **Radiated Scan** Time: 16:07:57
Equipment: **Ultra Portable Computer** Sequence#: 6
Manufacturer: Vulcan Portals, Inc. Tested By: Ryan Rutledge
Model: Flipstart 1000 Series
S/N: 003401-A068G01T

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Ultra Portable Computer*	Vulcan Portals, Inc.	Flipstart 1000 Series	003401-A068G01T

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table. Evaluation of RF Output Power is performed without peripherals attached to the EUT. Frequency: 1880 MHz. Modulation: CDMA, 1xRTT. RF Output Power RBW=3 MHz, VBW=3 MHz 110Vac, 60 Hz, 22°C, 38% relative humidity.

Transducer Legend:

T1=ANT-AN01412-121305 Model 3115	T2=Cable ANP05422 - 60"
T3=CAB-P05419-031506	T4=P05206 40GHz

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	1879.920M	96.5	+26.2	+2.0	+1.7	+0.9	+0.0 210	127.3	130.7 Peak Power Reading 3 MHz RBW	-3.4	Horiz 170
2	1879.930M	91.4	+26.2	+2.0	+1.7	+0.9	+0.0 271	122.2	130.7 Peak Power Reading 3 MHz RBW	-8.5	Vert 180

RF OUTPUT POWER AND BANDEDGE

RF OUTPUT POWER AND BANDEDGE

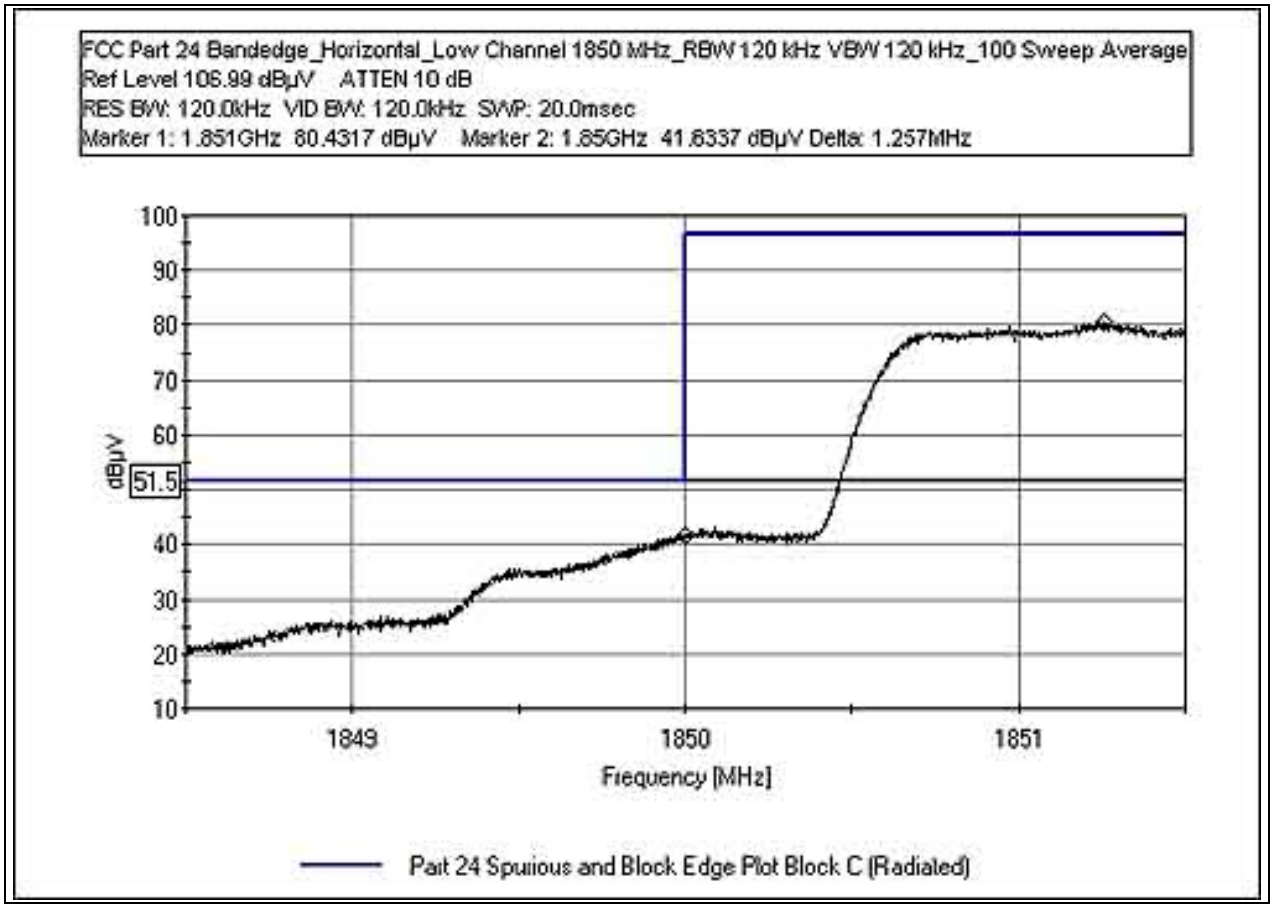
BANDEDGE HORIZONTAL 1850 MHz

Test Setup: The EUT is placed on the wooden table. Evaluation of spurious emission is conducted without peripherals attached to the EUT. Measurement is identical to radiated spurious emission. Modulations: Bluetooth, 802.11 b, 802.11g

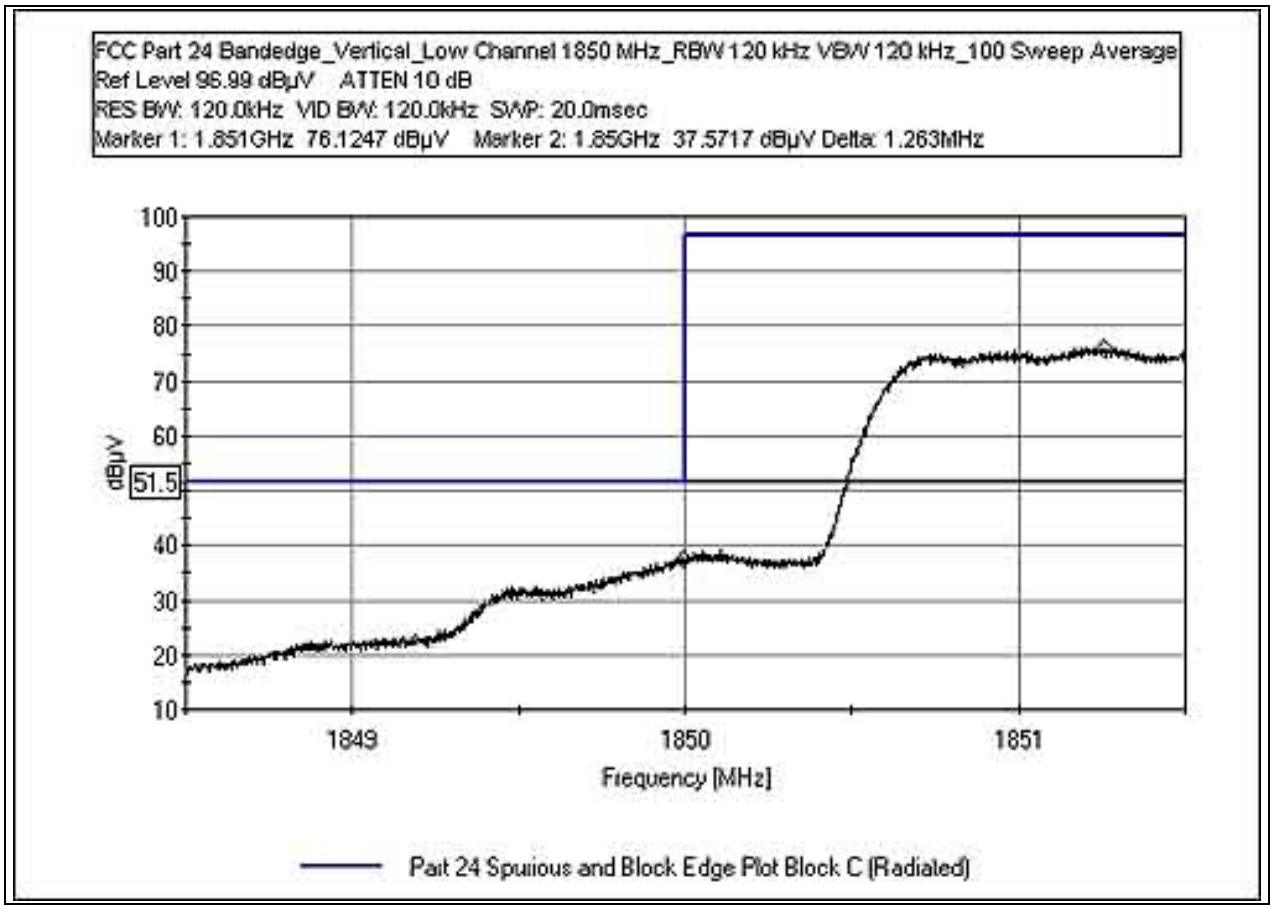
Test Equipment

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Bothell 5m Cable Set	P05444	NA	NA	P05444	112805	112807
PreAmp	01517	HP	8447D	2944A08601	071006	071008
BILOG	1993	Chase	CBL6111C	2456	021405	021407
Spectrum Analyzer	02673	Agilent	E4446A	US44300437	061606	061607
Wireless Communication Test Set	NA	Agilent	E5515C	NCR	NCR	NCR
Horn Antenna	1467	EMCO	3115	9012-3604	12/13/05	12/13/07
Cable	P05374	Beldon	RG-214	RG-214#27	11/29/04	11/29/06

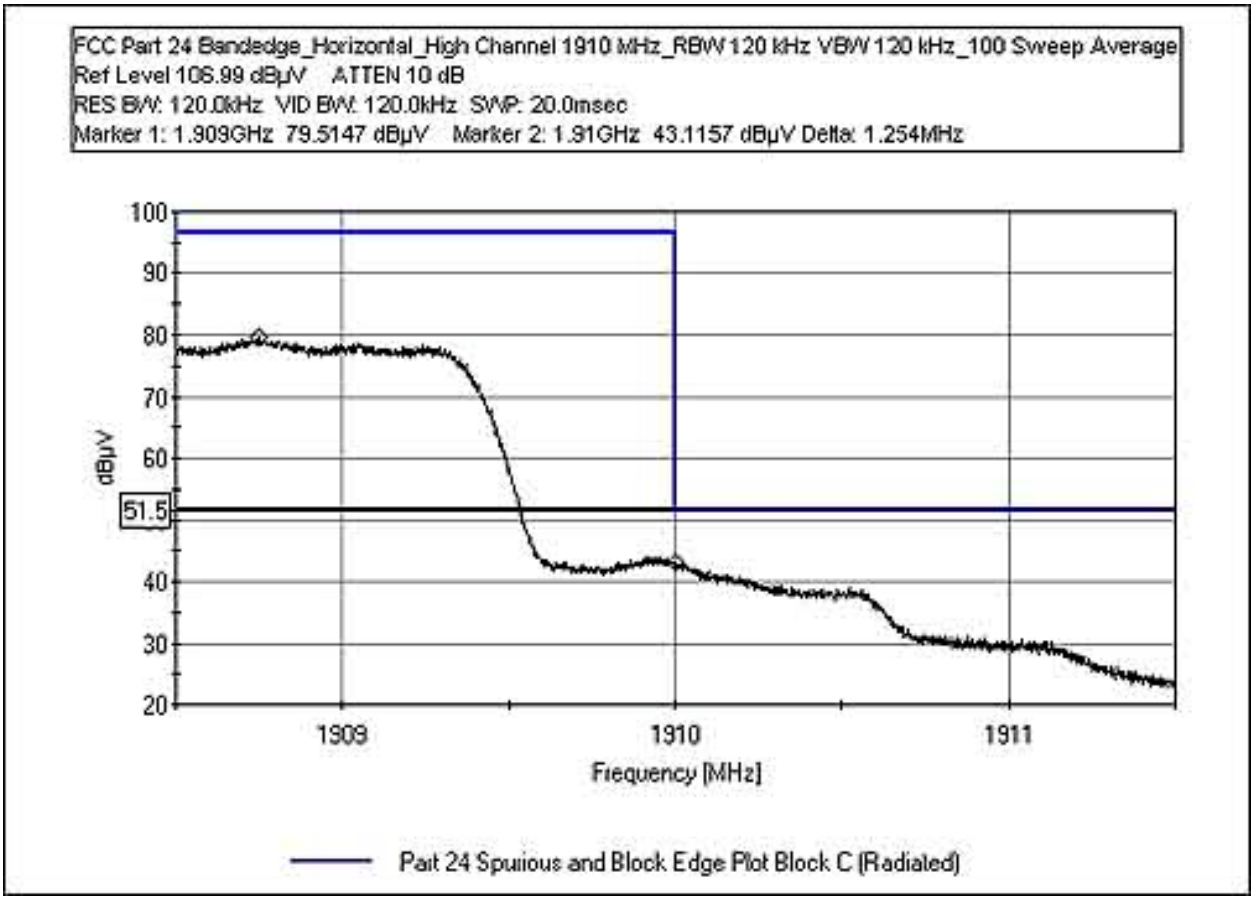
NCR = No Calibration Required



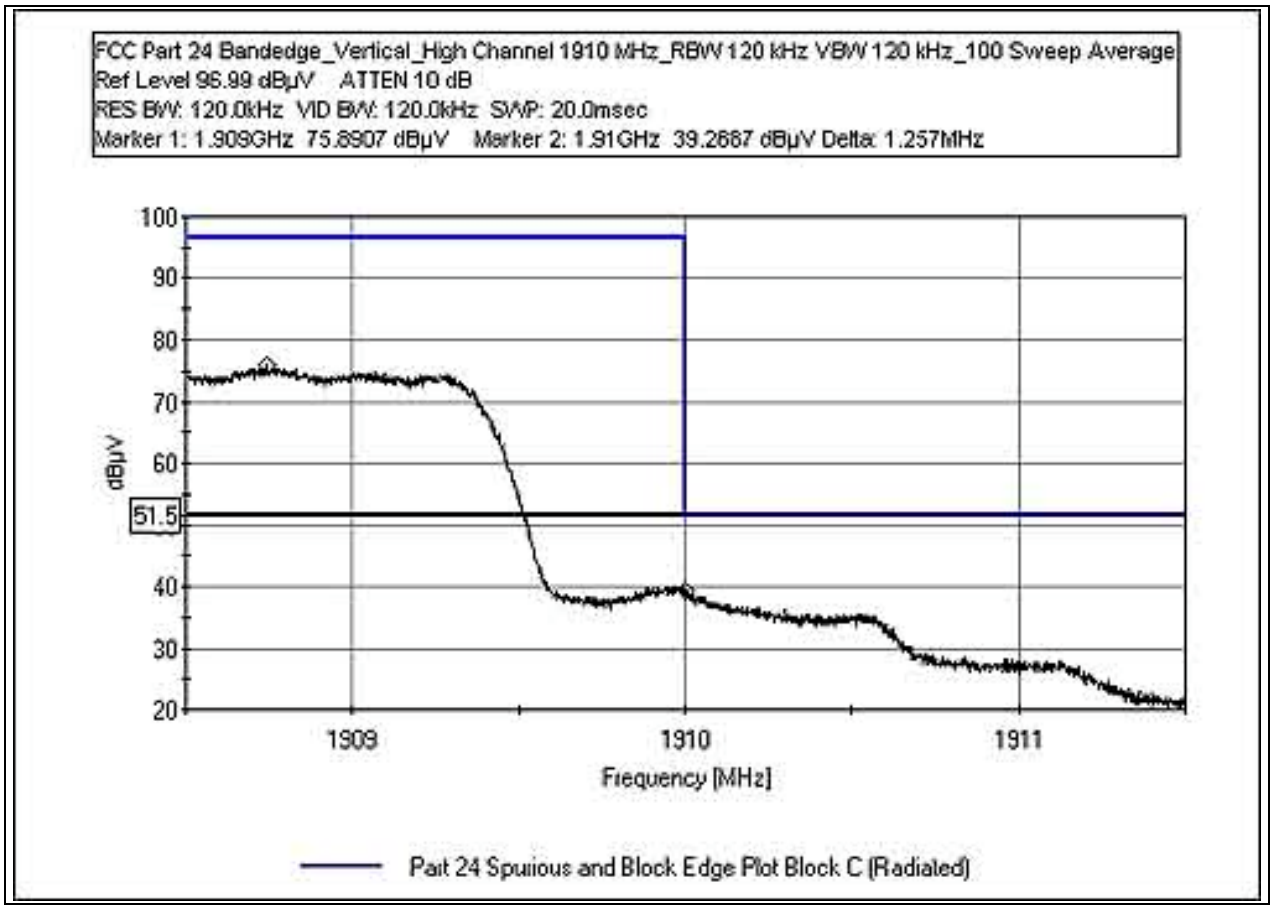
BANDEDGE VERTICAL 1850 MHz



BANDEDGE HORIZONTAL 1910 MHz

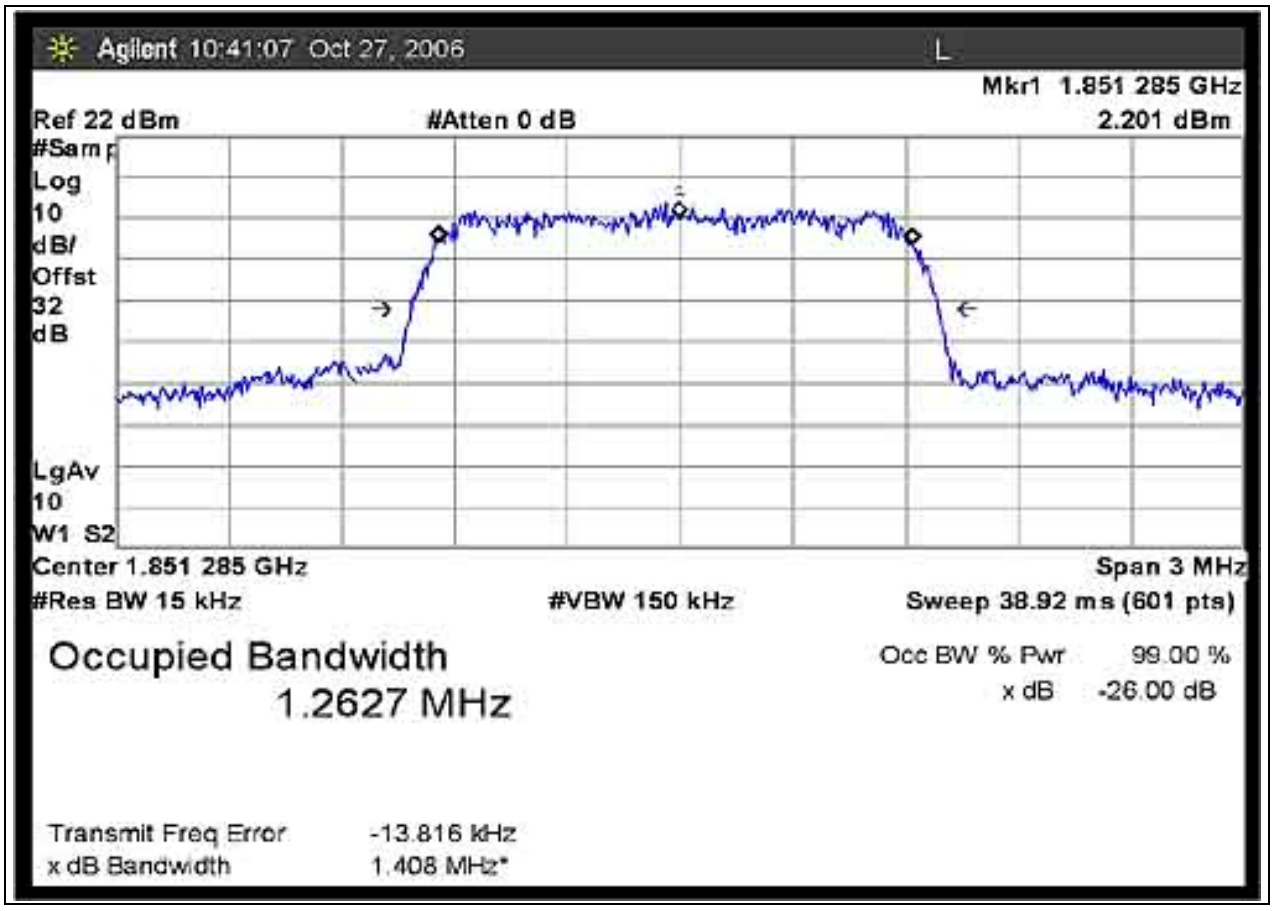


BANDEDGE VERTICAL 1910 MHz

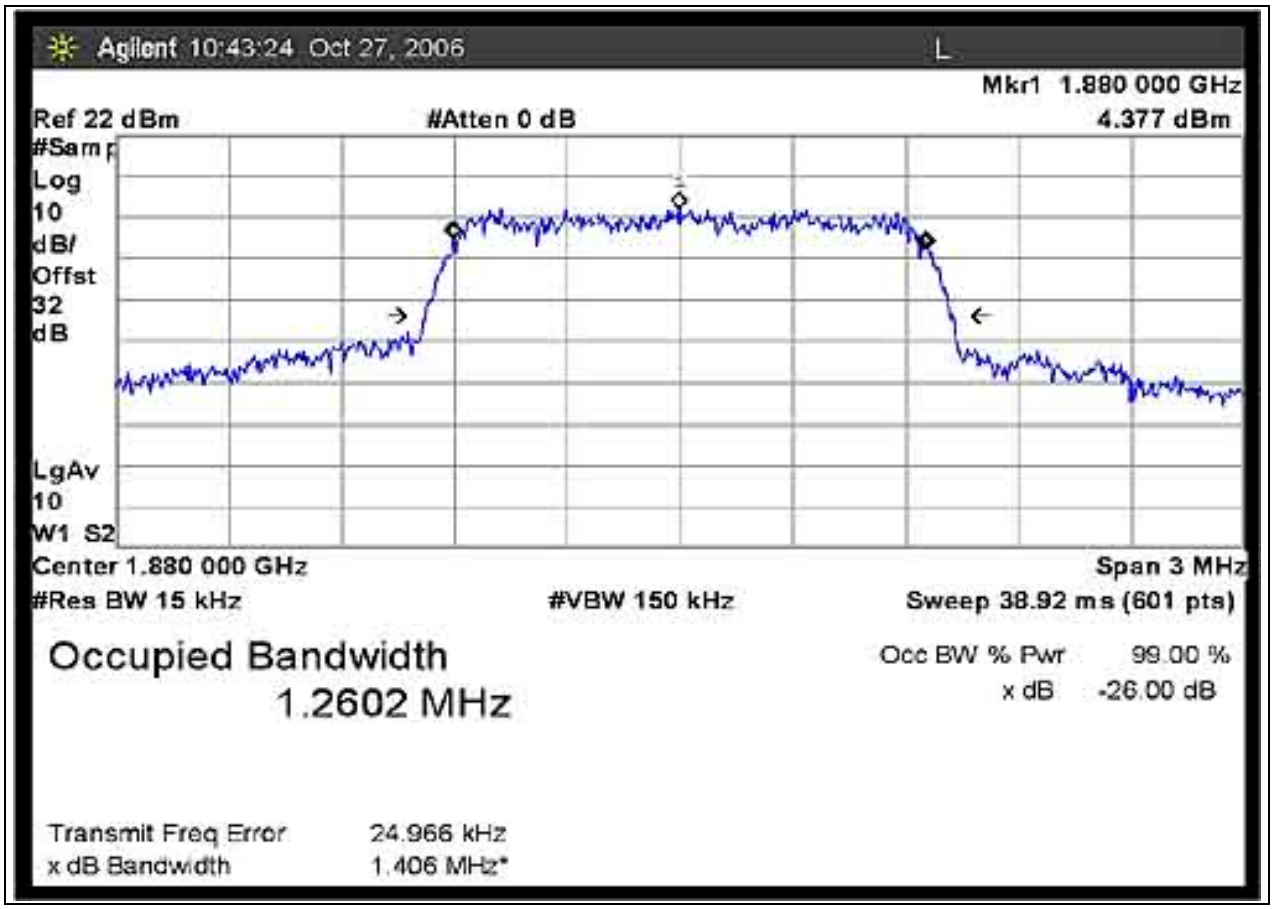


OCCUPIED BANDWIDTH 1850 MHz

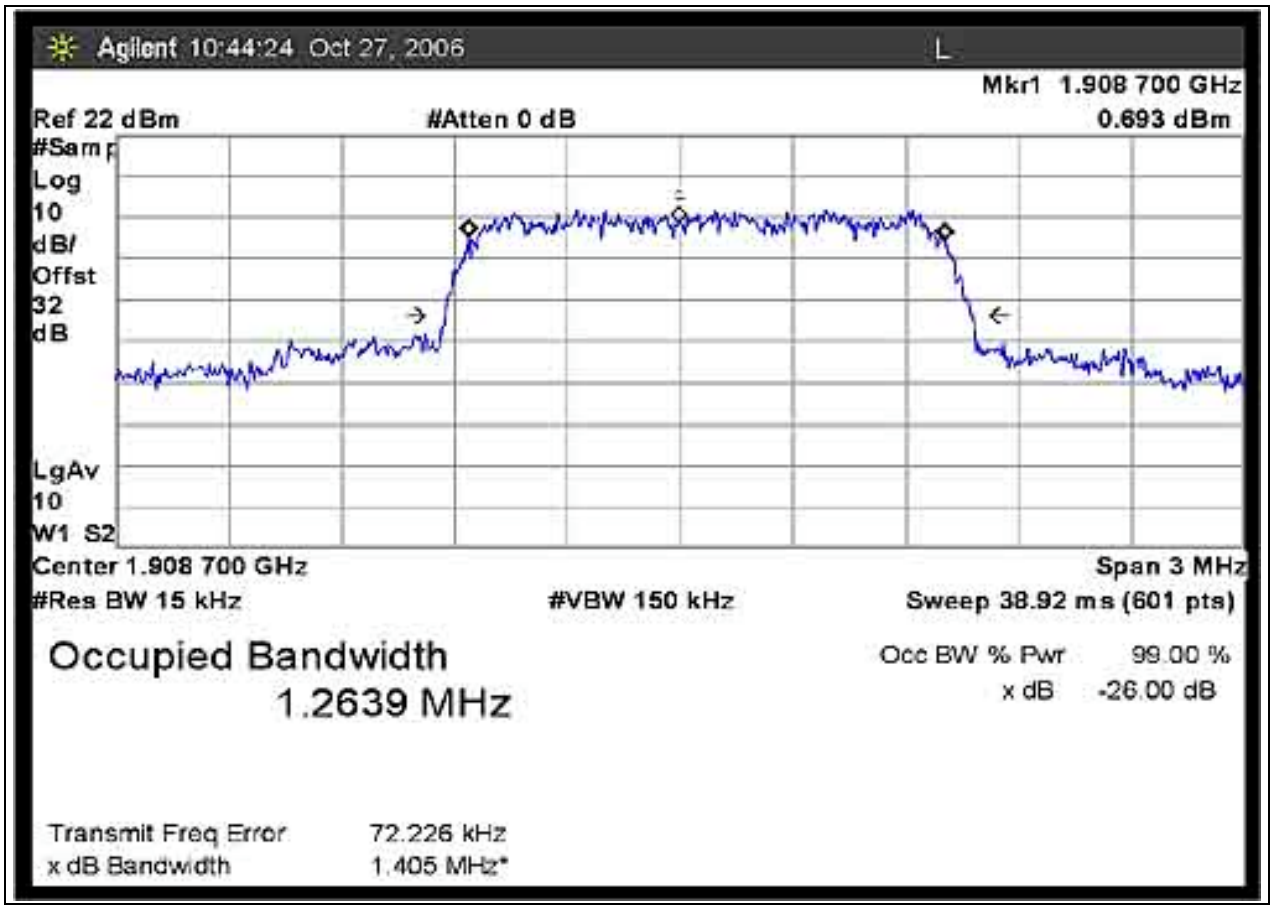
Test Conditions: The EUT is placed on the wooden table. Evaluation of 99% BW and occupied BW is conducted without peripherals attached to the EUT. evaluation performed at RF output port.



OCCUPIED BANDWIDTH 1880 MHz



OCCUPIED BANDWIDTH 1908 MHz



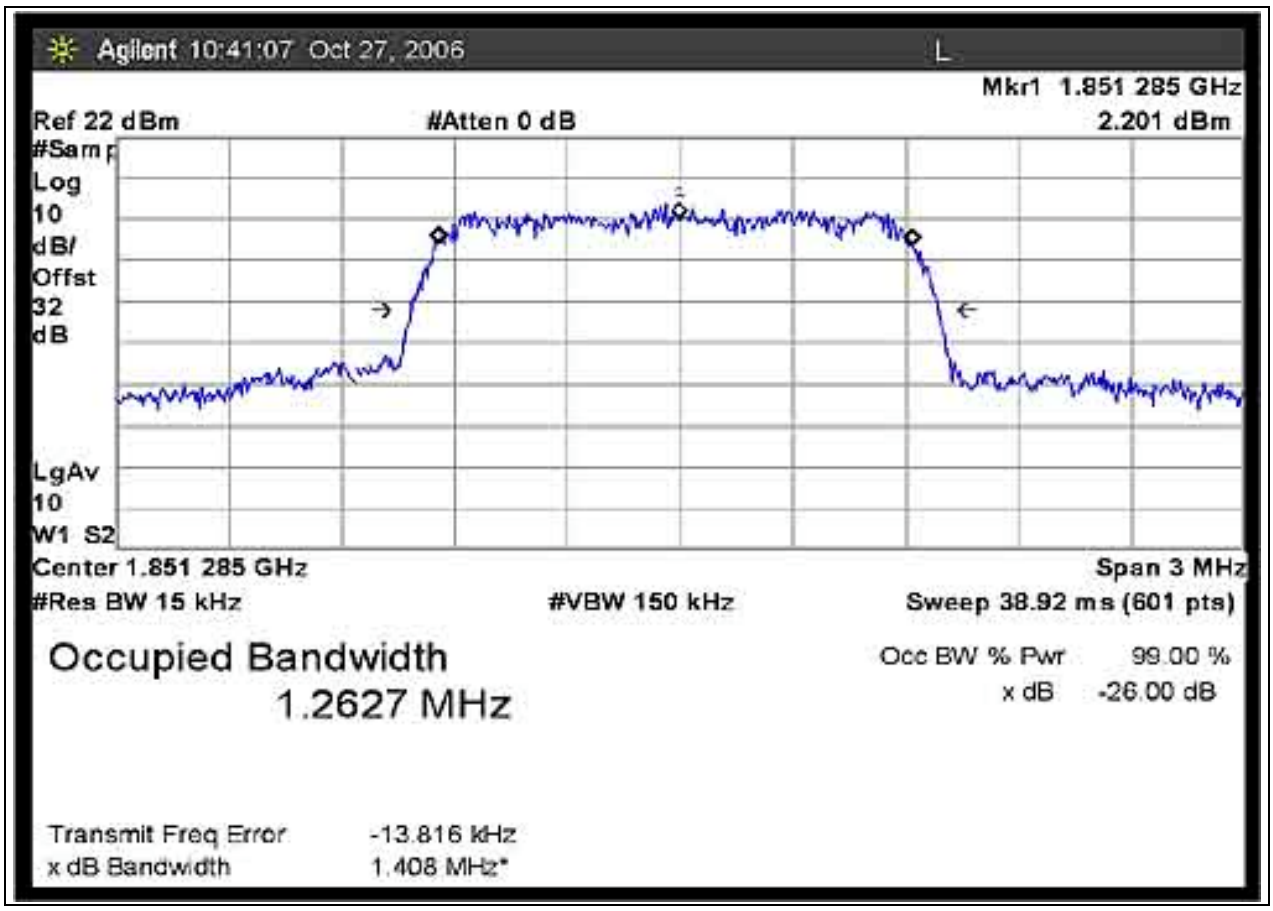
Test Equipment for all Direct Connect Testing

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02673	Agilent	E4446A	US44300437	061606	061608
Cable	P05206	Pasterneck	NA	NA	020805	020807
2.4 GHz HPF	02745	K&L	11SH10-3000	2	030806	030808
2.4 GHz LPF	02747	K&L	11SL10-20000	7	030706	030708

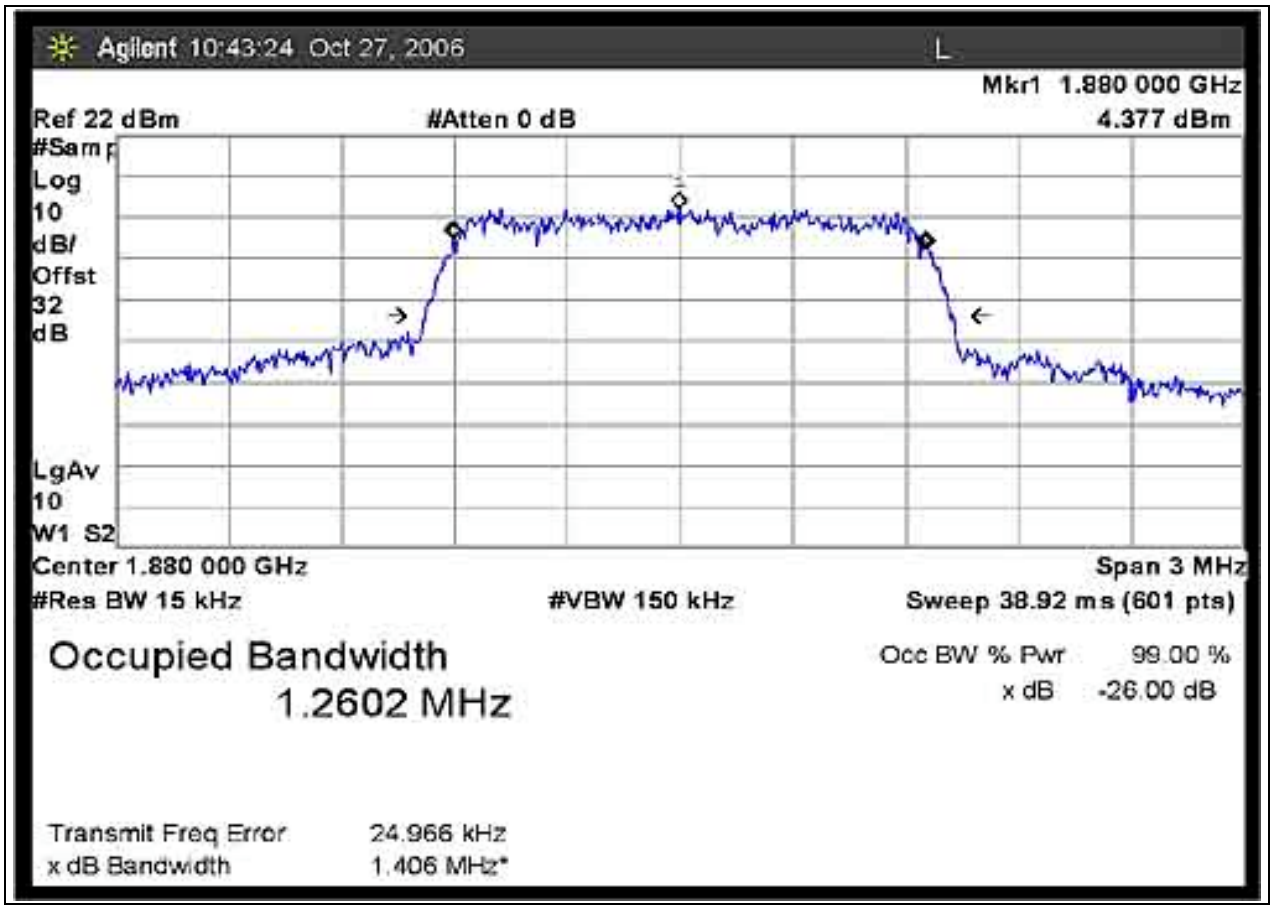
PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP

99% BANDWIDTH 1850 MHz

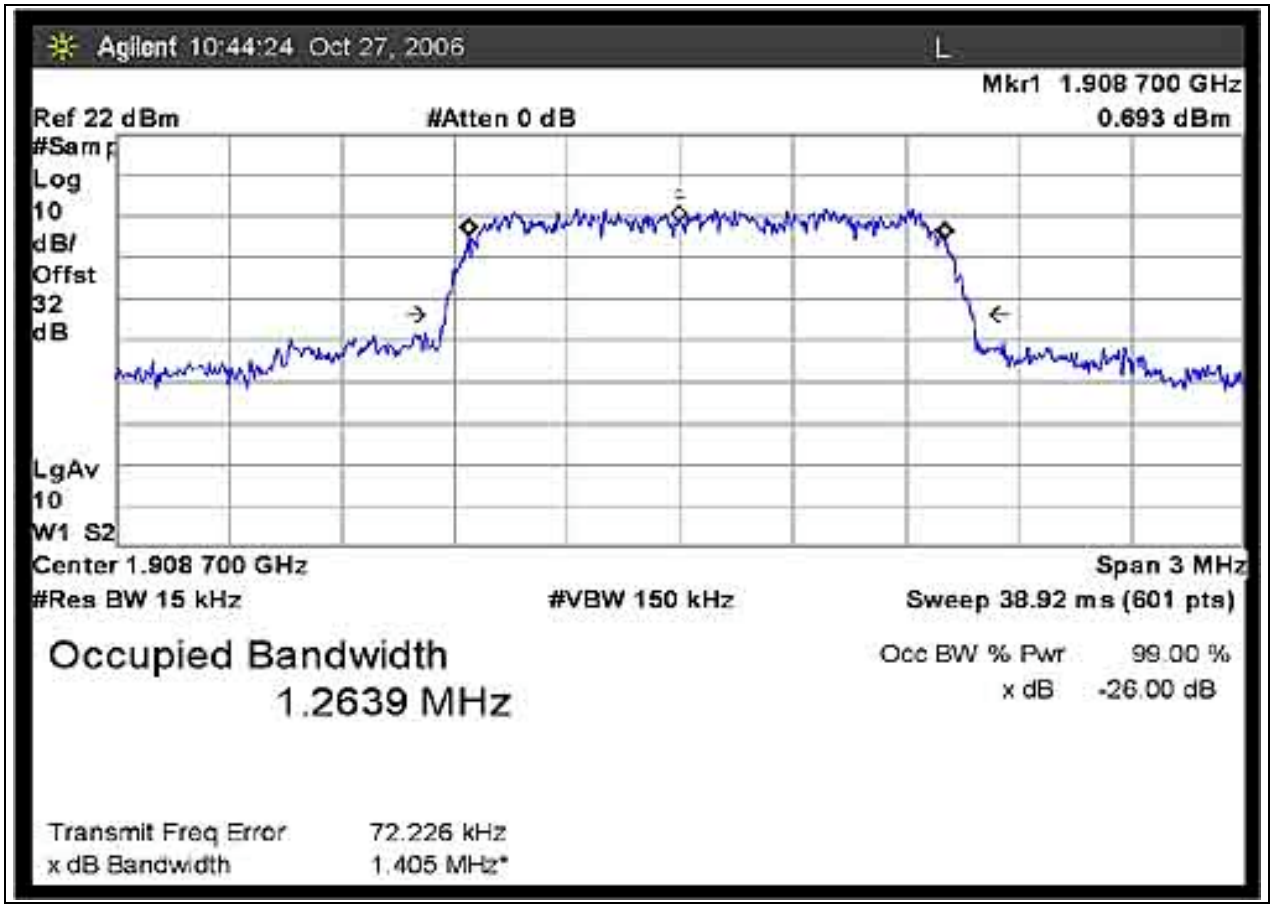
Test Conditions: The EUT is placed on the wooden table. Evaluation of 99% BW and occupied BW is conducted without peripherals attached to the EUT. evaluation performed at RF output port.



99% BANDWIDTH 1880 MHz



99% BANDWIDTH 1908 MHz



FCC 2.1033(c)(14)/2.1053/24.238 - FIELD STRENGTH OF SPURIOUS RADIATION

Test Location:	CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717		
Customer:	**Vulcan Portals, Inc.**		
Specification:	**FCC 24.238 Radiated Spurious Emission**		
Work Order #:	**85535**	Date:	10/18/2006
Test Type:	**Radiated Scan**	Time:	16:53:43
Equipment:	**Ultra Portable Computer**	Sequence#:	5
Manufacturer:	Vulcan Portals, Inc.	Tested By:	Eddie Wong
Model:	Flipstart 1000 Series		
S/N:	003401-A068G01T		

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Ultra Portable Computer*	Vulcan Portals, Inc.	Flipstart 1000 Series	003401-A068G01T

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

NOTE: RF Output power was lowered for final certification in order to pass band edge limits. Spurious emissions measurements reported were taken before reducing power, and represent a worse case configuration. The EUT is placed on the wooden table. Evaluation of spurious emission is conducted without peripherals attached to the EUT. Frequency: 1850 MHz, 1880 MHz, and 1908.76 MHz. Modulation: CDMA, psuedo random. Frequency range of measurement = 9 kHz - 20 GHz. Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz - 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz - 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz - 20000 MHz RBW=1 MHz, VBW=1 MHz. 110Vac, 60 Hz, 21°C, 43% relative humidity.

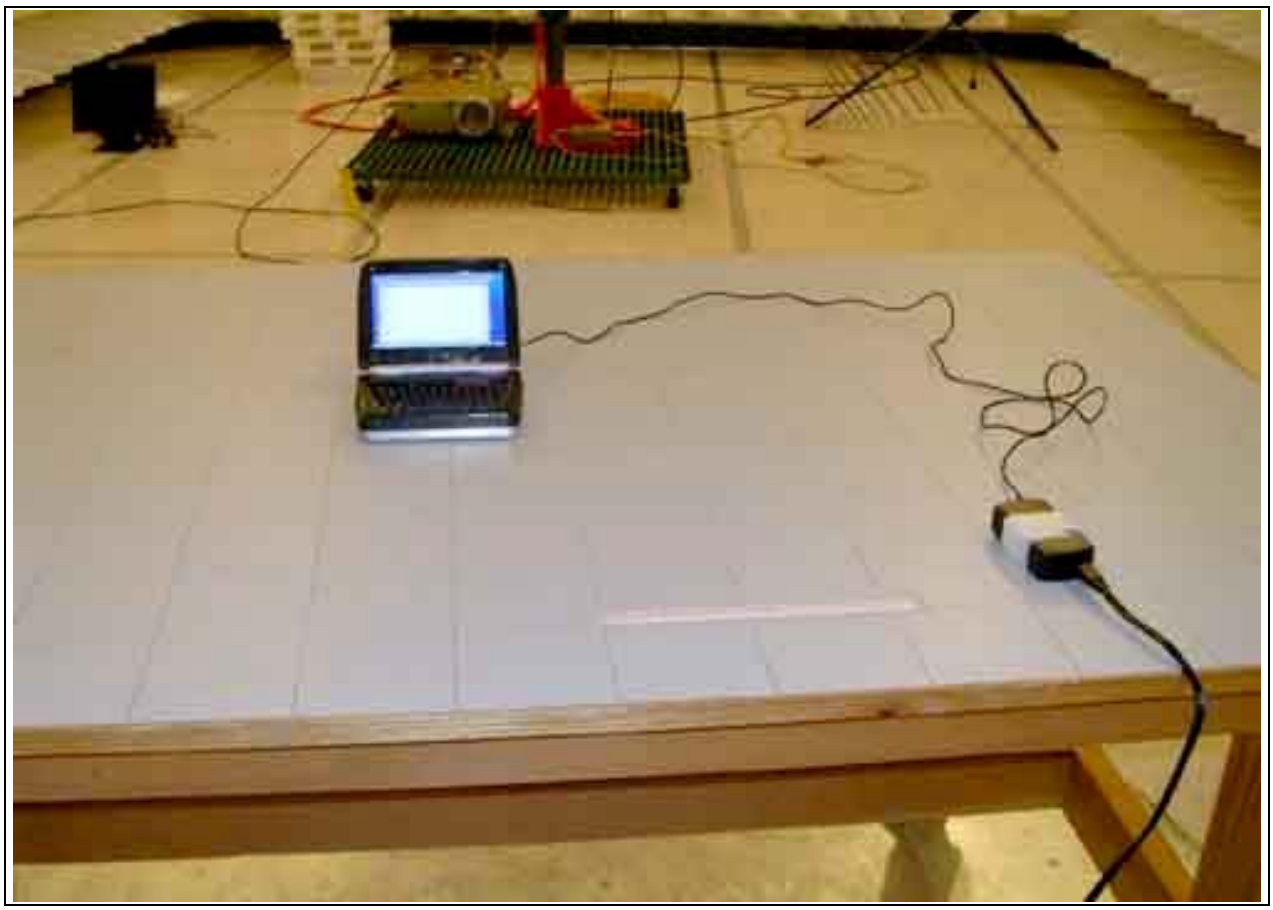
Operating Frequency: 1850 MHz - 1908 MHz
Channels: Low, Mid and High
Highest Measured Output Power: 29.60 EIRP(dBm)= 0.912 EIRP(Watts)
Distance: 3 meters
Limit: 43+10Log(P) 42.60 dBc

Freq. (MHz)	Reference Level (dBm)	Antenna Polarity (H/V)	dBc
5,553.70	-36.2	Horiz	65.80
3,702.30	-39.5	Horiz	69.10
7,404.53	-39.6	Vert	69.20
3,703.00	-40.7	Vert	70.30
5,553.90	-41.1	Vert	70.70
7,404.00	-44.2	Horiz	73.80
3,760.82	-32.5	Horiz	62.10
5,640.77	-35.7	Vert	65.30
3,760.77	-38.9	Vert	68.50
5,640.97	-41.5	Horiz	71.10
7,520.77	-41.7	Horiz	71.30
7,520.77	-41.8	Vert	71.40
5,725.70	-29.5	Vert	59.10
3,816.77	-33.6	Horiz	63.20
5,727.10	-34.4	Horiz	64.00
3,816.88	-34.5	Vert	64.10
7,635.10	-39	Vert	68.60
7,635.10	-41.8	Horiz	71.40

Test Equipment

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
9kHz-30MHz						
Active Loop ant	00052	Emco	6502	2156	022006	022008
30MHz-1000MHz						
Bothell 5m Cable Set	P05444	NA	NA	P05444	112805	112807
PreAmp	01517	HP	8447D	2944A08601	071006	071008
BILOG	1993	Chase	CBL6111C	2456	021405	021407
Spectrum Analyzer	02673	Agilent	E4446A	US44300437	061606	061607
1GHz-18GHz						
2.4 GHz HPF (Bothell's)	02745	K&L	11SH10-3000	2	030806	030808
2.4 GHz LPF (Bothell's)	02040	K&L	11SL10-20000	7	030706	030708
1 GHz HPG (Bothell's)	02750	K&L	9SH10-1000	2	030706	030708
Pre-amp	1271	HP	83017A	3123A00464	100305	100307
Cable Heliax	P04085	Andrew	NA	NA	031506	031508
Cable 30MHz-40GHz	P05422	Pasterneck	NA	NA	051106	051108
Cable 30MHz-40GHz	P05206	Pasterneck	NA	NA	020805	020807
Horn Antenna	1412	EMCO	3115	9006-4854	010605	010607
18GHz-26GHz						
18-26.5 GHz Horn Antenna	02742	Dorado	GH-42-25	05-1203	041406	041408

PHOTOGRAPH SHOWING RADIATED EMISSIONS



Radiated Emissions - Front View

PHOTOGRAPH SHOWING RADIATED EMISSIONS

Radiated Emissions - Back View