

Hewlett-Packard Company

sp400f
(Quatech Veyron Rev C)

Report No. HEWP0041

Report Prepared By



www.nwemc.com
1-888-EMI-CERT

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EMC Test Report



22975 NW Evergreen Parkway
Suite 400
Hillsboro, Oregon 97124

Certificate of Test
Last Date of Test: June 25, 2009
Hewlett-Packard Company
Model: sp400f (Quatech Veyron Rev C)

Emissions			
Test Description	Specification	Test Method	Pass/Fail
Spurious Radiated Emissions	FCC 15.247 (DTS):2009	ANSI C63.4:2003 KDB No. 558074	Pass

Modifications made to the product

See the Modifications section of this report

Test Facility

The measurement facility used to collect the data is located at:

Northwest EMC, Inc.
22975 NW Evergreen Parkway, Suite 400
Hillsboro, OR 97124

Phone: (503) 844-4066 Fax: 844-3826

This site has been fully described in a report filed with and accepted by the FCC (Federal Communications Commission) and Industry Canada (Site filing #2834D-1).

Approved By:

Don Facteau, IS Manager



NVLAP Lab Code: 200630-0

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America.

Product compliance is the responsibility of the client, therefore the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. This Report may only be duplicated in its entirety. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test.

Revision Number	Description	Date	Page Number
00	None		

Barometric Pressure

The recorded barometric pressure has been normalized to sea level.

FCC: Accredited by NVLAP for performance of FCC radio, digital, and ISM device testing. Our Open Area Test Sites, certification chambers, and conducted measurement facilities have been fully described in reports filed with the FCC and accepted by the FCC in letters maintained in our files. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by the FCC as a Telecommunications Certification Body (TCB). This allows Northwest EMC to certify transmitters to FCC specifications in accordance with 47 CFR 2.960 and 2.962.



NVLAP: Northwest EMC, Inc. is accredited under the United States Department of Commerce, National Institute of Standards and Technology, and National Voluntary Laboratory Accreditation Program for satisfactory compliance with the requirements of ISO/IEC 17025 for Testing Laboratories. The NVLAP accreditation encompasses Electromagnetic Compatibility Testing in accordance with the European Union EMC Directive 2004/108/EC, and ANSI C63.4. Additionally, Northwest EMC is accredited by NVLAP to perform radio testing in accordance with the European Union R&TTE Directive 1999/5/EEC, the requirements of FCC, and the RSS radio standards for Industry Canada.



NVLAP LAB CODE 200629-0
NVLAP LAB CODE 200630-0
NVLAP LAB CODE 200676-0
NVLAP LAB CODE 200761-0

Industry Canada: Accredited by NVLAP for performance of Industry Canada RSS and ICES testing. Our Open Area Test Sites and certification chambers comply with RSS-Gen, Issue 2 and have been filed with Industry Canada and accepted. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by NIST and recognized by Industry Canada as a Certification Body (CB) per the APEC Mutual Recognition Arrangement (MRA). This allows Northwest EMC to certify transmitters to Industry Canada technical requirements. (*Site Filing Numbers - Hillsboro: 2834D-1, 2834D-2, Sultan: 2834C-1, Irvine: 2834B-1, 2834B-2*)



CAB: Designated by NIST and validated by the European Commission as a Conformity Assessment Body (CAB) to conduct tests and approve products to the EMC directive and transmitters to the R&TTE directive, as described in the U.S. - EU Mutual Recognition Agreement.



NEMKO: Assessed and accredited by NEMKO (Norwegian testing and certification body) for European emissions and immunity testing. As a result of NEMKO's laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification (Authorization No. ELA 119).



Australia/New Zealand: The National Association of Testing Authorities (NATA), Australia has been appointed by the ACA as an accreditation body to accredit test laboratories and competent bodies for EMC standards. Accredited test reports or assessments by competent bodies must carry the NATA logo. Test reports made by an overseas laboratory that has been accredited for the relevant standards by an overseas accreditation body that has a Mutual Recognition Agreement (MRA) with NATA are also accepted as technical grounds for product conformity. The report should be endorsed with the respective logo of the accreditation body (NVLAP).



VCCI: Accepted as an Associate Member to the VCCI, Acceptance No. 564. Conducted and radiated measurement facilities have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. (*Registration Numbers. - Hillsboro: C-1071, R-1025, C-2687, T-289, and R-2318, Irvine: R-1943, C-2766, and T-298, Sultan: R-871, C-1784, and T-294.*)



BSMI: Northwest EMC has been designated by NIST and validated by C-Taipei (BSMI) as a CAB to conduct tests as described in the APEC Mutual Recognition Agreement (US0017). License No.SL2-IN-E-1017.



GOST: Northwest EMC, Inc. has been assessed and accredited by the Russian Certification bodies Certinform VNIINMASH, CERTINFO, SAMTES, and Federal CHEC, to perform EMC and Hygienic testing for Information Technology Products. As a result of their laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification



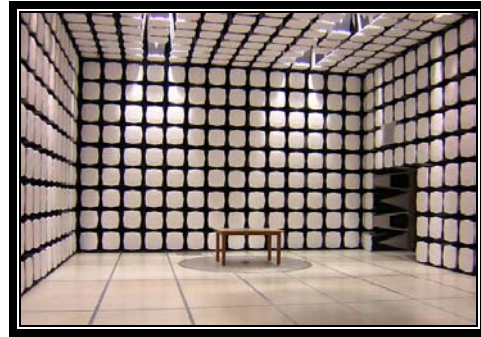
KCC: Northwest EMC, Inc is a CAB designated by MRA partners and recognized by Korea. (*Assigned Lab Numbers: Hillsboro: US0017, Irvine: US0158, Sultan: US0157*)



SCOPE

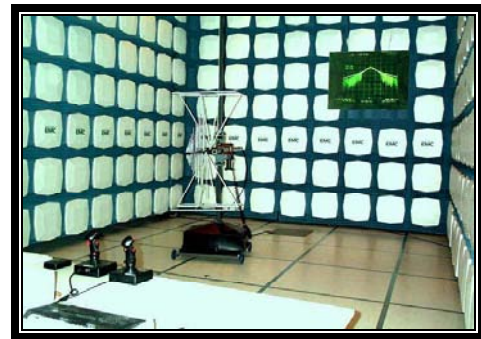
For details on the Scopes of our Accreditations, please visit:

<http://www.nwemc.com/accreditations/>



**California – Orange County Facility
Labs OC01 – OC13**

41 Tesla Ave. Irvine, CA 92618
(888) 364-2378 Fax: (503) 844-3826



**Oregon – Evergreen Facility
Labs EV01 – EV11**

22975 NW Evergreen Pkwy. Suite 400 Hillsboro, OR 97124
(503) 844-4066 Fax: (503) 844-3826



**Washington – Sultan Facility
Labs SU01 – SU07**

14128 339th Ave. SE Sultan, WA 98294
(888) 364-2378

Party Requesting the Test

Company Name:	Hewlett-Packard Company
Address:	1000 NE Circle Blvd
City, State, Zip:	Corvallis, OR 97330
Test Requested By:	Myra Long
Model:	sp400f (Quatech Veyron Rev C)
First Date of Test:	June 25, 2009
Last Date of Test:	June 25, 2009
Receipt Date of Samples:	June 11, 2009
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test**Functional Description of the EUT (Equipment Under Test):**

802.11b/g radio module and antenna PCA with chip antenna

Testing Objective:

Seeking Class 2 Permissive change under FCC 15.247 to add a new antenna, and obtain limited modular approval for use in the Hewlett-Packard Model sp400f.

CONFIGURATION 1 HEWP0041**Software/Firmware Running during test**

Description	Version
UDP Server	6.0

EUT

Description	Manufacturer	Model/Part Number	Serial Number
Antenna	Hewlett Packard	AF216M245001	None
Wifi Module	Quatech	Quatech Veyron (Rev C) - P/N: 830-8000-02F-G Rev F	000B6B774D11
Host: HP Handheld SP400F All In One Scanner Printer	Hewlett Packard	CE190A	MY95691278

Peripherals in test setup boundary

Description	Manufacturer	Model/Part Number	Serial Number
HP Handheld 400 Series Extended Life Battery	Hewlett Packard	CE199A	None
Battery Adapter Hand Mount	Hewlett Packard	CE192A	None

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC	PA	0.2m	PA	HP Handheld 400 Series Extended Life Battery	Battery Adapter Hand Mount
USB	Yes	1.8m	No	Host: HP Handheld SP400F All In One Scanner Printer	Unterminated

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Equipment modifications					
Item	Date	Test	Modification	Note	Disposition of EUT
1	6/25/2009	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

MODES OF OPERATION

Transmitting 802.11(b), 1 Mbps
 Transmitting 802.11(b), 11 Mbps
 Transmitting 802.11(g), 6 Mbps
 Transmitting 802.11(g), 36 Mbps
 Transmitting 802.11(g), 54 Mbps

CHANNELS TESTED

Low Channel, 2412 MHz
 Mid Channel, 2437 MHz
 High Channel, 2462 MHz

POWER SETTINGS INVESTIGATED

Battery

FREQUENCY RANGE INVESTIGATED

Start Frequency 30 MHz Stop Frequency 25 GHz

CLOCKS AND OSCILLATORS

Not Provided

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAY	12/11/2008	13
Pre-Amplifier	Miteq	AM-1616-1000	AOL	5/19/2008	16
Antenna, Biconilog	EMCO	3141	AXE	1/15/2008	24
EV01 Cables		Bilog Cables	EVA	5/19/2008	16
High Pass Filter	Micro-Tronics	HPM50111	HFO	8/21/2008	13
Pre-Amplifier	Miteq	AMF-4D-010100-24-10P	APW	5/19/2008	16
Antenna, Horn	EMCO	3115	AHC	8/12/2008	24
EV01 Cables		Double Ridge Horn Cables	EVB	5/19/2008	16
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	6/30/2008	13
Antenna, Horn	ETS	3160-07	AHU	NCR	0
EV01 Cables		Standard Gain Horns Cables	EVF	11/13/2008	13
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	6/30/2008	13
Antenna, Horn	ETS	3160-08	AHV	NCR	0
EV01 Cables		Standard Gain Horns Cables	EVF	11/13/2008	13
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	12/2/2008	13
Antenna, Horn	ETS	3160-09	AHG	NCR	0
EV01 Cables		18-26GHz Standard Gain Horn Cable	EVD	12/2/2008	13

MEASUREMENT BANDWIDTHS

Frequency Range	Peak Data	Quasi-Peak Data	Average Data
(MHz)	(kHz)	(kHz)	(kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

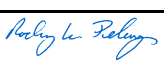
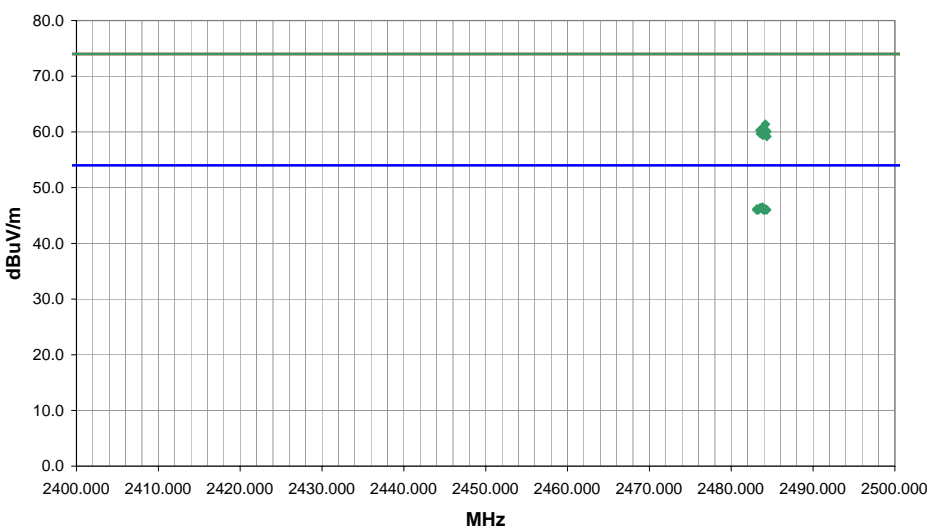
Measurements were made using the bandwidths and detectors specified. No video filter was used.

MEASUREMENT UNCERTAINTY


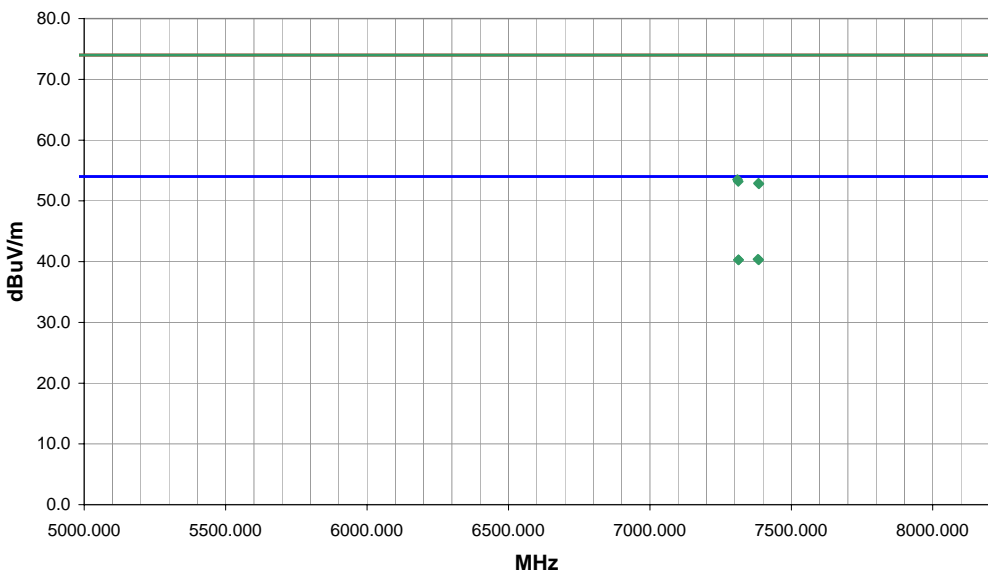
A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. The measurement uncertainty estimation is available upon request.


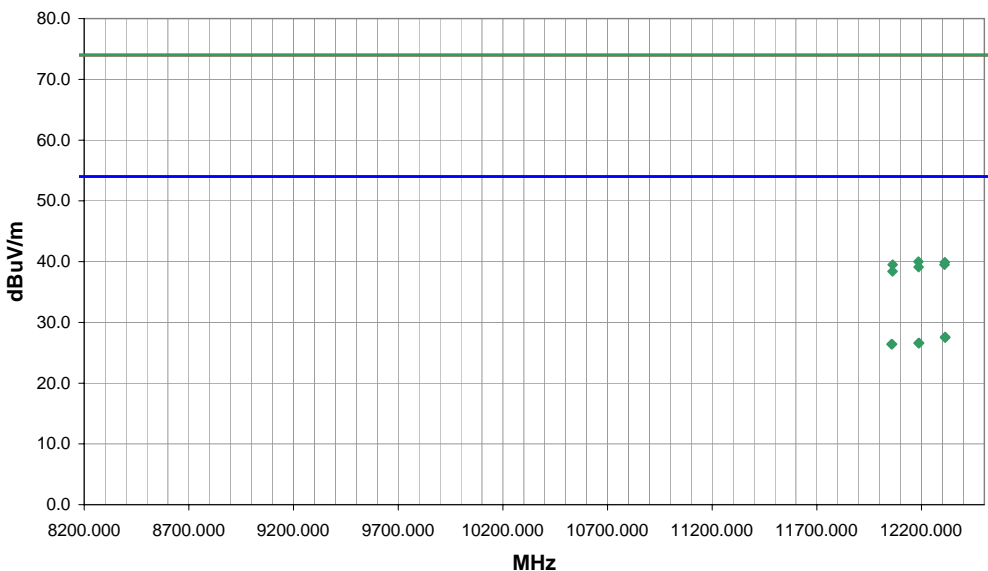
TEST DESCRIPTION

The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.4:2003). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

NORTHWEST										PSA 2008.07.21			
EMC										EMI 2009.4.13			
SPURIOUS RADIATED EMISSIONS													
EUT: sp400f (Quatech Veyron Rev C)					Work Order: HEWP0041								
Serial Number: 000B6B774D11					Date: 06/25/09								
Customer: Hewlett-Packard Company					Temperature: 20								
Attendees: Myra Long, Andrew Queisser					Humidity: 33%								
Project: None					Barometric Pres.: 30.1								
Tested by: Rod Peloquin					Power: Battery		Job Site: EV01						
TEST SPECIFICATIONS					Test Method								
FCC 15.247 (DTS):2009					ANSI C63.4:2003, KDB No. 558074								
TEST PARAMETERS													
Antenna Height(s) (m)					1 - 4		Test Distance (m)		3				
COMMENTS													
Radio installed in sp400.													
EUT OPERATING MODES													
Transmitting 802.11, high channel													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #		3											
Configuration #		1											
Results		Pass											
													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
2483.817	24.3	2.2	318.0	1.6	3.0	20.0	V-Horn	AV	0.0	46.5	54.0	-7.5	High channel, 36 Mbps, EUT vertical
2483.533	24.2	2.2	329.0	1.5	3.0	20.0	V-Horn	AV	0.0	46.4	54.0	-7.6	High channel, 6 Mbps, EUT vertical
2483.147	24.0	2.2	331.0	1.0	3.0	20.0	V-Horn	AV	0.0	46.2	54.0	-7.8	High channel, 1 Mbps, EUT vertical
2483.862	23.9	2.2	163.0	1.7	3.0	20.0	H-Horn	AV	0.0	46.1	54.0	-7.9	High channel, 6 Mbps, EUT horizontal
2483.878	23.9	2.2	289.0	1.0	3.0	20.0	H-Horn	AV	0.0	46.1	54.0	-7.9	High channel, 1 Mbps, EUT horizontal
2484.028	23.9	2.2	335.0	1.7	3.0	20.0	H-Horn	AV	0.0	46.1	54.0	-7.9	High channel, 36 Mbps, EUT horizontal
2484.170	23.9	2.2	76.0	1.7	3.0	20.0	H-Horn	AV	0.0	46.1	54.0	-7.9	High channel, 6 Mbps, EUT vertical
2484.190	23.9	2.2	283.0	1.7	3.0	20.0	H-Horn	AV	0.0	46.1	54.0	-7.9	High channel, 6 Mbps, EUT on side
2484.273	23.9	2.2	345.0	1.0	3.0	20.0	H-Horn	AV	0.0	46.1	54.0	-7.9	High channel, 11 Mbps, EUT horizontal
2483.137	23.8	2.2	43.0	1.6	3.0	20.0	H-Horn	AV	0.0	46.0	54.0	-8.0	High channel, 54 Mbps, EUT horizontal
2483.310	23.8	2.2	14.0	1.3	3.0	20.0	V-Horn	AV	0.0	46.0	54.0	-8.0	High channel, 11 Mbps, EUT vertical
2484.007	23.8	2.2	42.0	1.0	3.0	20.0	H-Horn	AV	0.0	46.0	54.0	-8.0	High channel, 6 Mbps, EUT on side
2484.015	23.8	2.2	250.0	1.5	3.0	20.0	V-Horn	AV	0.0	46.0	54.0	-8.0	High channel, 54 Mbps, EUT vertical
2484.320	23.8	2.2	335.0	1.0	3.0	20.0	V-Horn	AV	0.0	46.0	54.0	-8.0	High channel, 6 Mbps, EUT horizontal
2484.187	39.2	2.2	318.0	1.6	3.0	20.0	V-Horn	PK	0.0	61.4	74.0	-12.6	High channel, 36 Mbps, EUT vertical
2483.968	38.7	2.2	42.0	1.0	3.0	20.0	H-Horn	PK	0.0	60.9	74.0	-13.1	High channel, 6 Mbps, EUT on side
2483.770	38.3	2.2	283.0	1.7	3.0	20.0	H-Horn	PK	0.0	60.5	74.0	-13.5	High channel, 6 Mbps, EUT on side
2483.517	38.1	2.2	43.0	1.6	3.0	20.0	H-Horn	PK	0.0	60.3	74.0	-13.7	High channel, 54 Mbps, EUT horizontal
2483.750	38.1	2.2	329.0	1.5	3.0	20.0	V-Horn	PK	0.0	60.3	74.0	-13.7	High channel, 6 Mbps, EUT vertical
2484.043	38.1	2.2	250.0	1.5	3.0	20.0	V-Horn	PK	0.0	60.3	74.0	-13.7	High channel, 54 Mbps, EUT vertical

NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2008.07.21 EMI 2009.4.13																							
EMC																											
EUT: sp400f (Quatech Veyron Rev C)		Work Order: HEWP0041																									
Serial Number: 000B6B774D11		Date: 06/25/09																									
Customer: Hewlett-Packard Company		Temperature: 20																									
Attendees: None		Humidity: 33%																									
Project: None		Barometric Pres.: 30.1																									
Tested by: Rod Peloquin		Power: Battery		Job Site: EV01																							
TEST SPECIFICATIONS		Test Method																									
FCC 15.247 (DTS):2009		ANSI C63.4:2003, KDB No. 558074																									
TEST PARAMETERS																											
Antenna Height(s) (m)		1 - 4		Test Distance (m)		3																					
COMMENTS																											
Radio installed in sp400.																											
EUT OPERATING MODES																											
Transmitting 802.11(b), 1 Mbps																											
DEVIATIONS FROM TEST STANDARD																											
No deviations.																											
Run #		4																									
Configuration #		1																									
Results		Pass		Signature		Rodolfo L. Polo																					
80.0 70.0 60.0 50.0 40.0 30.0 20.0 10.0 0.0		dBuV/m		3000.000 3200.000 3400.000 3600.000 3800.000 4000.000 4200.000 4400.000 4600.000 4800.000 5000.000		MHz																					
Freq (MHz)		Amplitude (dBuV)		Factor (dB)		Azimuth (degrees)		Height (meters)		Distance (meters)		External Attenuation (dB)		Polarity		Detector		Distance Adjustment (dB)		Adjusted dBuV/m		Spec. Limit dBuV/m		Compared to Spec. (dB)		Comments	
4923.990		42.5		9.9		34.0		1.3		3.0		0.0		H-Horn		AV		0.0		52.4		54.0		-1.6		High Channel, 1 Mbps, EUT vertical	
4923.988		42.4		9.9		208.0		1.2		3.0		0.0		V-Horn		AV		0.0		52.3		54.0		-1.7		High Channel, 1 Mbps, EUT vertical	
4873.983		41.5		9.7		34.0		1.3		3.0		0.0		H-Horn		AV		0.0		51.2		54.0		-2.8		Mid Channel, 1 Mbps, EUT vertical	
4874.000		40.7		9.7		208.0		1.2		3.0		0.0		V-Horn		AV		0.0		50.4		54.0		-3.6		Mid Channel, 1 Mbps, EUT vertical	
4823.980		37.8		9.5		34.0		1.3		3.0		0.0		H-Horn		AV		0.0		47.3		54.0		-6.7		Low Channel, 1 Mbps, EUT vertical	
4873.933		36.7		9.7		351.0		1.0		3.0		0.0		H-Horn		AV		0.0		46.4		54.0		-7.6		Mid Channel, 1 Mbps, EUT on side	
4923.970		36.5		9.9		348.0		1.0		3.0		0.0		H-Horn		AV		0.0		46.4		54.0		-7.6		High Channel, 1 Mbps, EUT on side	
4823.992		35.6		9.5		208.0		1.2		3.0		0.0		V-Horn		AV		0.0		45.1		54.0		-8.9		Low Channel, 1 Mbps, EUT vertical	
4873.975		33.8		9.7		227.0		1.1		3.0		0.0		V-Horn		AV		0.0		43.5		54.0		-10.5		Mid Channel, 1 Mbps, EUT vertical	
4925.900		30.0		9.9		210.0		1.3		3.0		0.0		V-Horn		AV		0.0		39.9		54.0		-14.1		High Channel, 11 Mbps, EUT vertical	
4922.092		28.1		9.9		348.0		1.0		3.0		0.0		H-Horn		AV		0.0		38.0		54.0		-16.0		High Channel, 11 Mbps, EUT on side	
4925.600		26.6		9.9		354.0		1.0		3.0		0.0		H-Horn		AV		0.0		36.5		54.0		-17.5		High Channel, 54 Mbps, EUT on side	
4923.973		46.1		9.9		34.0		1.3		3.0		0.0		H-Horn		PK		0.0		56.0		74.0		-18.0		High Channel, 1 Mbps, EUT vertical	
4921.942		25.9		9.9		354.0		1.0		3.0		0.0		H-Horn		AV		0.0		35.8		54.0		-18.2		High Channel, 36 Mbps, EUT on side	
4924.092		45.8		9.9		208.0		1.2		3.0		0.0		V-Horn		PK		0.0		55.7		74.0		-18.3		High Channel, 1 Mbps, EUT vertical	
4923.983		25.4		9.9		354.0		1.0		3.0		0.0		H-Horn		AV		0.0		35.3		54.0		-18.7		High Channel, 6 Mbps, EUT on side	
4874.070		45.5		9.7		34.0		1.3		3.0		0.0		H-Horn		PK		0.0		55.2		74.0		-18.8		Mid Channel, 1 Mbps, EUT vertical	
4874.008		44.4		9.7		208.0		1.2		3.0		0.0		V-Horn		PK		0.0		54.1		74.0		-19.9		Mid Channel, 1 Mbps, EUT vertical	
4923.737		43.9		9.9		210.0		1.3		3.0		0.0		V-Horn		PK		0.0		53.8		74.0		-20.2		High Channel, 11 Mbps, EUT vertical	
4823.930		43.2		9.5		34.0		1.3		3.0		0.0		H-Horn		PK		0.0		52.7		74.0		-21.3		Low Channel, 1 Mbps, EUT vertical	

NORTHWEST EMC										SPURIOUS RADIATED EMISSIONS				PSA 2008.07.21 EMI 2009.4.13	
EUT: sp400f (Quatech Veyron Rev C)										Work Order: HEWP0041					
Serial Number: 000B6B774D11										Date: 06/25/09					
Customer: Hewlett-Packard Company										Temperature: 20					
Attendees: None										Humidity: 33%					
Project: None										Barometric Pres.: 30.1					
Tested by: Rod Peloquin					Power: Battery					Job Site: EV01					
TEST SPECIFICATIONS										Test Method					
FCC 15.247 (DTS):2009										ANSI C63.4:2003, KDB No. 558074					
TEST PARAMETERS															
Antenna Height(s) (m)				1 - 4				Test Distance (m)				3			
COMMENTS															
Radio installed in sp400.															
EUT OPERATING MODES															
Transmitting 802.11(b), 1 Mbps															
DEVIATIONS FROM TEST STANDARD															
No deviations.															
Run #		5		 Signature											
Configuration #		1													
Results		Pass													
															
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments		
7382.008	24.7	15.7	359.0	1.9	3.0	0.0	V-Horn	AV	0.0	40.4	54.0	-13.6	High Channel, 1 Mbps		
7312.750	24.8	15.5	55.0	1.0	3.0	0.0	V-Horn	AV	0.0	40.3	54.0	-13.7	Mid Channel, 1 Mbps		
7313.375	24.8	15.5	36.0	1.5	3.0	0.0	H-Horn	AV	0.0	40.3	54.0	-13.7	Mid Channel, 1 Mbps		
7385.017	24.6	15.7	315.0	1.0	3.0	0.0	H-Horn	AV	0.0	40.3	54.0	-13.7	High Channel, 1 Mbps		
7309.400	38.0	15.5	36.0	1.5	3.0	0.0	H-Horn	PK	0.0	53.5	74.0	-20.5	Mid Channel, 1 Mbps		
7312.708	37.7	15.5	55.0	1.0	3.0	0.0	V-Horn	PK	0.0	53.2	74.0	-20.8	Mid Channel, 1 Mbps		
7383.750	37.2	15.7	359.0	1.9	3.0	0.0	V-Horn	PK	0.0	52.9	74.0	-21.1	High Channel, 1 Mbps		
7385.592	37.1	15.7	315.0	1.0	3.0	0.0	H-Horn	PK	0.0	52.8	74.0	-21.2	High Channel, 1 Mbps		

NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2008.07.21 EMI 2009.4.13									
EMC													
EUT: sp400f (Quatech Veyron Rev C)			Work Order: HEWP0041										
Serial Number: 000B6B774D11			Date: 06/25/09										
Customer: Hewlett-Packard Company			Temperature: 20										
Attendees: None			Humidity: 33%										
Project: None			Barometric Pres.: 30.1										
Tested by: Rod Peloquin		Power: Battery		Job Site: EV01									
TEST SPECIFICATIONS			Test Method										
FCC 15.247 (DTS):2009			ANSI C63.4:2003, KDB No. 558074										
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3									
COMMENTS													
Radio installed in sp400													
EUT OPERATING MODES													
Transmitting 802.11(b), 1 Mbps													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #	6		 Signature										
Configuration #	1												
Results	Pass												
													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
12312.770	30.1	-2.5	98.0	1.0	3.0	0.0	V-Horn	AV	0.0	27.6	54.0	-26.4	High Channel, 1 Mbps
12312.970	30.0	-2.5	260.0	1.0	3.0	0.0	H-Horn	AV	0.0	27.5	54.0	-26.5	High Channel, 1 Mbps
12186.180	29.8	-3.2	145.0	1.0	3.0	0.0	V-Horn	AV	0.0	26.6	54.0	-27.4	Mid Channel, 1 Mbps
12188.210	29.8	-3.2	220.0	1.0	3.0	0.0	H-Horn	AV	0.0	26.6	54.0	-27.4	Mid Channel, 1 Mbps
12057.060	30.3	-3.9	151.0	1.0	3.0	0.0	H-Horn	AV	0.0	26.4	54.0	-27.6	Low Channel, 1 Mbps
12059.160	30.3	-3.9	44.0	1.0	3.0	0.0	V-Horn	AV	0.0	26.4	54.0	-27.6	Low Channel, 1 Mbps
12185.290	43.2	-3.2	220.0	1.0	3.0	0.0	H-Horn	PK	0.0	40.0	74.0	-34.0	Mid Channel, 1 Mbps
12311.530	42.4	-2.5	98.0	1.0	3.0	0.0	V-Horn	PK	0.0	39.9	74.0	-34.1	High Channel, 1 Mbps
12062.030	43.4	-3.9	151.0	1.0	3.0	0.0	H-Horn	PK	0.0	39.5	74.0	-34.5	Low Channel, 1 Mbps
12309.530	42.0	-2.5	260.0	1.0	3.0	0.0	H-Horn	PK	0.0	39.5	74.0	-34.5	High Channel, 1 Mbps
12185.940	42.3	-3.2	145.0	1.0	3.0	0.0	V-Horn	PK	0.0	39.1	74.0	-34.9	Mid Channel, 1 Mbps
12061.450	42.3	-3.9	44.0	1.0	3.0	0.0	V-Horn	PK	0.0	38.4	74.0	-35.6	Low Channel, 1 Mbps





