Variant FCC RF Test Report

APPLICANT	:	Hewlett Packard Company
EQUIPMENT	:	HP iPAQ KB1
BRAND NAME	:	HP
MODEL NAME	:	HSTNH-P21C
FCC ID	:	B94HHP21C
STANDARD	:	FCC 47 CFR Part 2, 22(H), 24(E)
CLASSIFICATION	:	PCS Licensed Transmitter Held to Ear (PCE)
Tx/Rx FREQUENCY RANGE	:	GSM850 : 824.2 ~ 848.8 MHz / 869.2 ~ 893.8 MHz GSM1900 : 1850.2 ~ 1909.8 MHz / 1930.2 ~ 1989.8 MHz WCDMA Band V : 826.4 ~ 846.6 MHz / 871.4 ~ 891.6 MHz WCDMA Band II : 1852.4 ~ 1907.6 MHz / 1932.4 ~ 1987.6 MHz
MAX. ERP POWER	:	WCDMA Band V (RMC 12.2Kbps) : 0.13 W

This is a variant report which is only valid combined with the original report. The product was received on Aug. 10, 2009 and completely tested on Aug. 14, 2009. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

Roy Wu

Roy Wu / Manager

Testing Laboratory 1190

SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

TABLE OF CONTENTS

REVISION HISTORY **3**

SUMMARY OF TEST RESULT **4**

1 GENERAL DESCRIPTION **5**

1.1 Applicant 5
1.2 Manufacturer 5
1.3 Feature of Equipment under Test 5
1.4 Testing Site 7
1.5 Applied Standards 7
1.6 Ancillary Equipment List 7

2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST **8**

2.1 Test Mode 8
2.2 Connection Diagram of Test System 8

3 TEST RESULT **9**

3.1 Effective Radiated Power Measurement 9
3.2 Field Strength of Spurious Radiation Measurement 12

4 LIST OF MEASURING EQUIPMENT **16**

5 UNCERTAINTY OF EVALUATION **17**

6 CERTIFICATION OF TAF ACCREDITATION **18**

APPENDIX A. PHOTOGRAPHS OF EUT

APPENDIX B. SETUP PHOTOGRAPHS

APPENDIX C. HARDWARE RELEASE NOTES

APPENDIX D. ORIGINAL REPORT

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG961307-04	Rev. 01	This is a variant report which can be referred to appendix C for hardware release notes for HW and SW change. All the test cases were performed on original report which can be referred to Sporton Report Number FG961307 as appendix D. Based on the original report; only worst case of ERP and Field Strength of Spurious Radiation was verified for HW and SW change.	Aug. 18, 2009

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	§22.913(a)(2)	RSS-132(4.4) SRSP-503(5.1.3)	Effective Radiated Power	< 7 Watts for FCC (<6.3 Watts for IC)	PASS	-
3.2	§2.1053 §22.917(a) §24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1)	Field Strength of Spurious Radiation	< $43+10\log_{10}$(P[Watts])	PASS	Under limit 14.22 dB at 13156 MHz

1 General Description

1.1 Applicant

Hewlett Packard Company
3000 Hanover Street, Palo Alto, CA 94304

1.2 Manufacturer

Pegatron Corporation
5F., No. 76, Ligong St., Beitou Dist., Taipei City 112, Taiwan (R.O.C.)

1.3 Feature of Equipment under Test

Product Feature & Specification	
Equipment	HP iPAQ KB1
Brand Name	HP
Model Name	HSTNH-P21C
FCC ID	B94HHP21C
Tx Frequency	GSM850 : 824 MHz ~ 849 MHz GSM1900 : 1850 MHz ~ 1910 MHz WCDMA Band V : 824 MHz ~ 849 MHz WCDMA Band II : 1850 MHz ~ 1910 MHz
Rx Frequency	GSM850 : 869 MHz ~ 894 MHz GSM1900 : 1930 MHz ~ 1990 MHz WCDMA Band V : 869 MHz ~ 894 MHz WCDMA Band II : 1930 MHz ~ 1990 MHz
Maximum ERP	WCDMA Band V (RMC 12.2Kbps) : 0.13 W (21.07 dBm)
Antenna Type	Fixed Internal Antenna
HW Version	DVT2
SW Version	Obsidian_0.30.88.03
Type of Modulation	GSM / GPRS : GMSK EDGE : 8PSK WCDMA : QPSK HSDPA : QPSK / 16QAM
EUT Stage	Identical Prototype

Remark:

1. For other wireless features of this EUT, the test report will be issued separately.
2. This test report recorded only product characteristics and test results of PCS Licensed Transmitter Held to Ear (PCE).

List of Accessory:

Specification of Accessory		
AC Adapter 1	**Manufacturer**	Flextronics
	Brand Name	HP
	Part Number	538745-001
	Power Rating	I/P:100-240Vac, 50-60Hz, 200mA; O/P: 5Vdc, 1A
AC Adapter 2	**Manufacturer**	Phihong
	Brand Name	HP
	Model Name	PSAA05A-050 (for US) PSAA05N-050 (for Argentina)
	Power Rating	I/P:100-240Vac, 50-60Hz, 200mA; O/P: 5Vdc, 1A
	DC Power Cord Type	1.8 meter shielded cable without ferrite core
Battery 1	**Brand Name**	HP
	Model Name	HSTNH-T21C-H
	Power Rating	3.7Vdc, 11.3Wh
	Type	Li-ion
Battery 2	**Brand Name**	HP
	Model Name	HSTNH-T21C-S
	Power Rating	3.7Vdc, 5.7Wh
	Type	Li-ion
Earphone	**Brand Name**	foster
	Model Name	492854
	Signal Line Type	1.3 meter non-shielded cable without ferrite core
USB Cable	**Brand Name**	Foxconn
	Model Name	486113-001
	Signal Line Type	1.2 meter shielded cable without ferrite core
LCD Panel	**Brand Name**	Samsung Mobile Display
	Model Name	AMS250CU01

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. For accessories equipped with this EUT, please refer to the appendix of the external photo.
3. PSAA05A-050 and PSAA05N-050 have the same circuit design. The difference between these models is plug, only PSAA05A-050 (for US) was used for the test.

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	**Sporton Site No.**	**FCC/IC Registration No.**
	03CH07-HY	TW1022/4086B-1

1.5 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- Preliminary Guidance for Receiving Applications for Certification of 3G Device. May 9, 2006.
- FCC 47 CFR Part 2, 22(H), 24(E)
- ANSI C63.4-2003
- ANSI / TIA / EIA-603-C-2004
- IC RSS-132 Issue 2
- IC RSS-133 Issue 5

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.

2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B (DoC), recorded in a separate test report.

1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU200	N/A	N/A	Unshielded, 1.8 m

2 Test Configuration of Equipment under Test

2.1 Test Mode

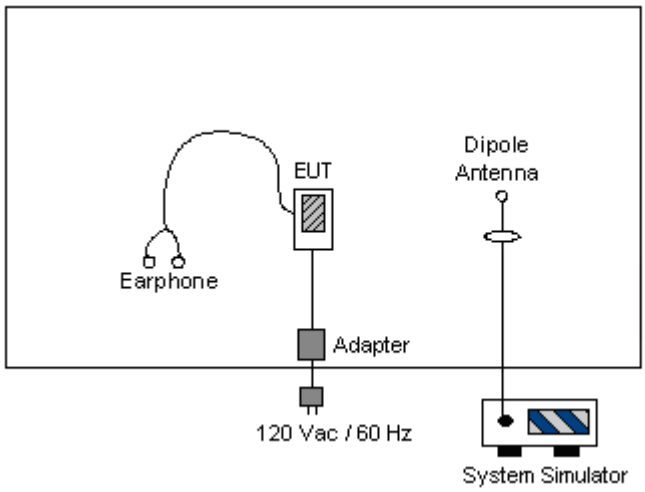
During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

Frequency range investigated for radiated emission is as follows:

1. 30 MHz to 9000 MHz for WCDMA Band V.

Test Modes	
Band	**Radiated TCs**
WCDMA Band V	■ RMC 12.2Kbps Link

2.2 Connection Diagram of Test System



3 Test Result

3.1 Effective Radiated Power Measurement

3.1.1 Description of the ERP Measurement

ERP is measured by substitution method according to
ANSI / TIA / EIA-603-C-2004. The ERP of mobile transmitters must not exceed 7 Watts.

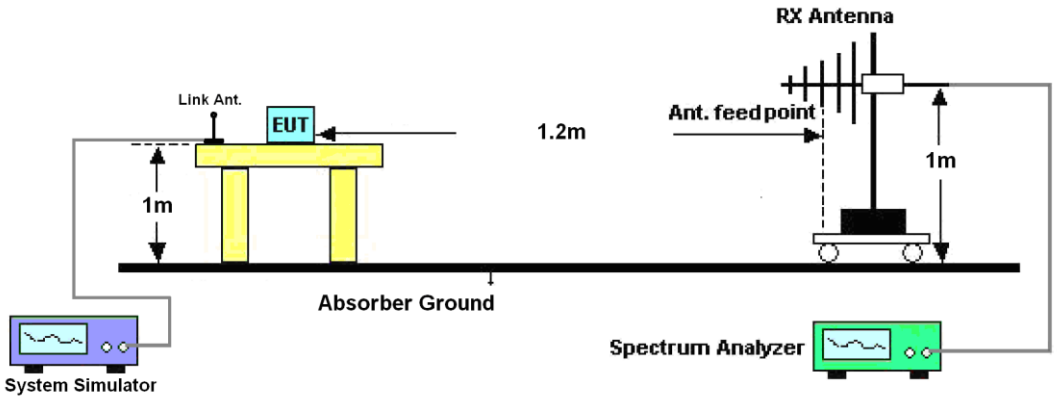
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The EUT was placed on a turntable with 1.0 meter height in a fully anechoic chamber.
2. The EUT was set at 1.2 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiated power.
4. The height of the receiving antenna is adjusted to look for the maximum ERP.
5. Taking the record of maximum ERP.
6. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
7. The conducted power at the terminal of the dipole antenna is measured.
8. Repeat step 3 to step 5 to get the maximum ERP of the substitution antenna.
9. ERP = Ps + Et – Es + Gs = Ps + Rt – Rs + Gs
   Ps (dBm)：Input power to substitution antenna.
   Gs (dBi or dBd)：Substitution antenna Gain.
   Et = Rt + AF
   Es = Rs + AF
   AF (dB/m)：Receive antenna factor
   Rt：The highest received signal in spectrum analyzer for EUT.
   Rs：The highest received signal in spectrum analyzer for substitution antenna.

3.1.4 Test Setup



3.1.5 Test Result of ERP

WCDMA Band V (RMC 12.2Kbps) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**ERP (dBm)**	**ERP (W)**
826.40	-27.28	-48.12	0.00	-1.08	19.76	0.09
836.40	-27.37	-48.28	0.00	-0.93	19.98	0.10
846.60	-26.52	-48.35	0.00	-0.76	21.07	0.13
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**ERP (dBm)**	**ERP (W)**
826.40	-40.54	-47.97	0.00	-1.08	6.35	0.00
836.40	-40.73	-48.01	0.00	-0.93	6.35	0.00
846.60	-40.08	-48.05	0.00	-0.76	7.21	0.01

3.2 Field Strength of Spurious Radiation Measurement

3.2.1 Description of Field Strength of Spurious Radiated Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

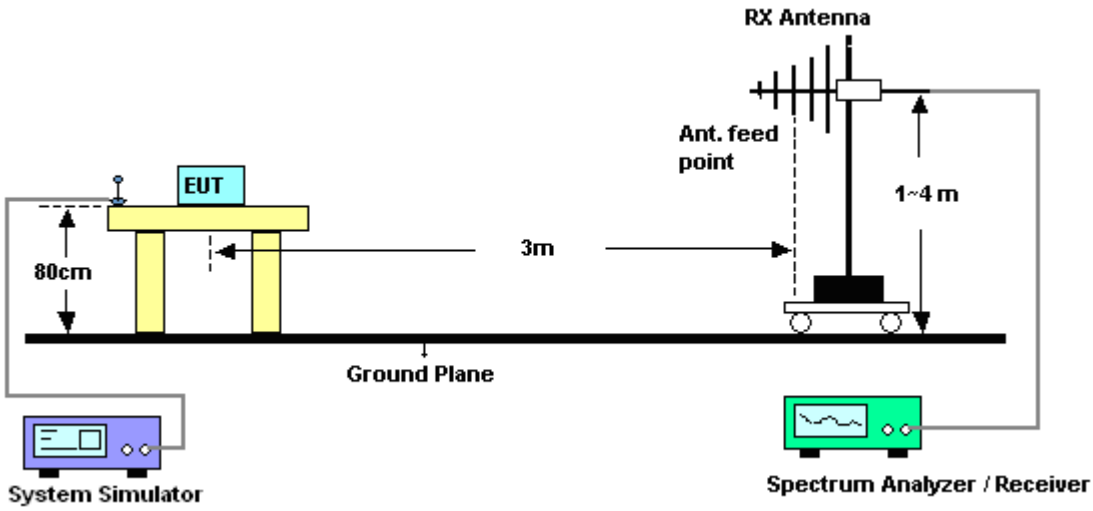
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

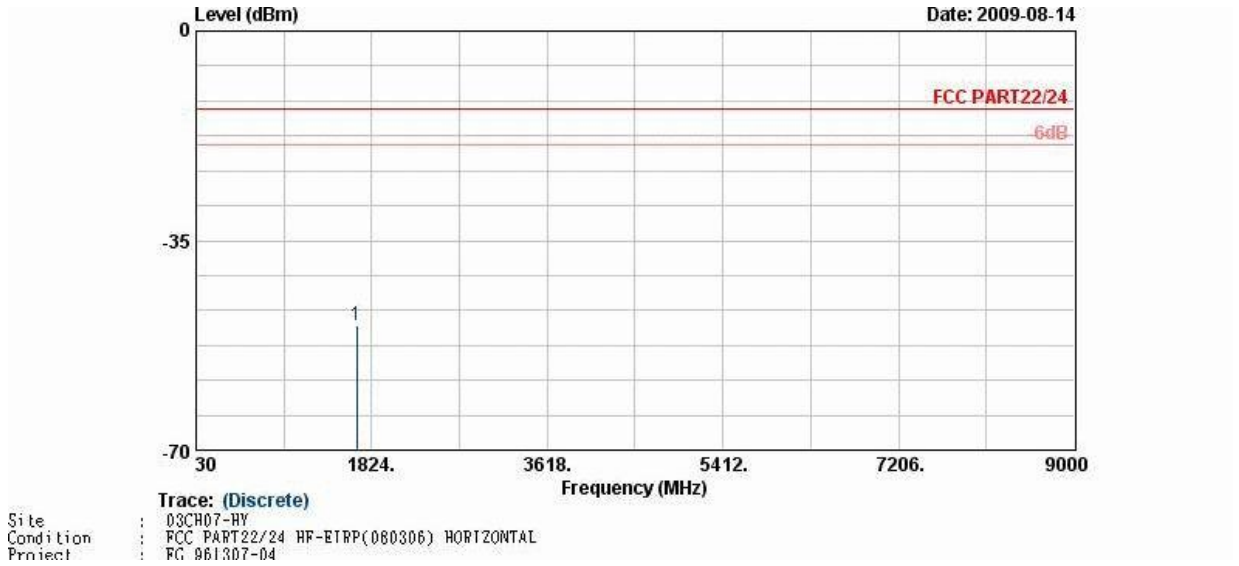
1. The EUT was placed on a rotatable wooden table with 0.8 meter about ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15

3.2.4 Test Setup



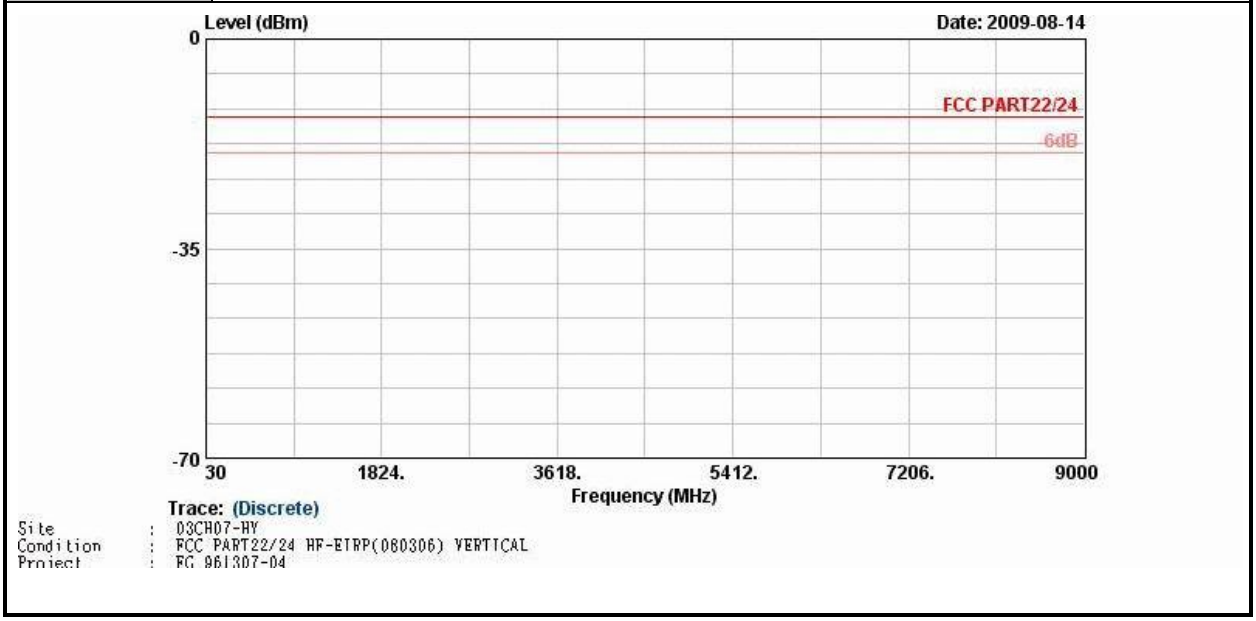
3.2.5 Test Result of Field Strength of Spurious Radiated

Band :	WCDMA Band V	**Temperature :**	28~29°C
Test Mode :	RMC 12.2Kbps Link	**Relative Humidity :**	39~40%
Test Engineer :	Kay Wu	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1669	-49.29	-13	-36.29	-56.42	-49.14	3.39	5.39	H	Pass

Band :	WCDMA Band V	**Temperature :**	28~29°C
Test Mode :	RMC 12.2Kbps Link	**Relative Humidity :**	39~40%
Test Engineer :	Kay Wu	**Polarization :**	Vertical
Remark :	1. Spurious emissions within 30-1000MHz were found more than 20dB below limit line. 2. Spurious emissions within 1000MHz ~ 10th harmonic were not found any signals.		



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz~1GHz	Nov. 20, 2008	Nov. 19, 2009	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP	101067	9kHz~30GHz	Dec. 02, 2008	Dec. 01, 2009	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1G~18GHz	Aug. 18, 2008	Aug. 17, 2009	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1G~26.5GHz	Dec. 17, 2008	Dec. 16, 2009	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10~1000MHz. 32dB.GAIN	Mar. 27, 2009	Mar. 26, 2010	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00066584	1G~18GHz	Aug. 05, 2009	Aug. 04. 2010	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz~30 MHz	May 22, 2008	May 21, 2010	Radiation (03CH07-HY)
SHF-EHF Horn	SCHWARZBECK	BBHA 9170	BBHA9170251	15G~40GHz	Oct. 16, 2008	Oct. 15, 2009	Radiation (03CH07-HY)
System Simulator	R&S	CMU200	117997	N/A	May 14, 2009	May 13, 2011	Radiation (03CH07-HY)
Bluetooth Base Station	R&S	CBT32	100519	N/A	May. 12, 2009	May. 11, 2011	Radiation (03CH07-HY)

5 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Contribution	Uncertainty of x_i		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.41	Normal(k=2)	0.21
Antenna factor calibration	0.83	Normal(k=2)	0.42
Cable loss calibration	0.25	Normal(k=2)	0.13
Pre Amplifier Gain calibration	0.27	Normal(k=2)	0.14
RCV/SPA specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site imperfection	1.43	Rectangular	0.83
Mismatch	+0.39/-0.41	U-shaped	0.28
Combined standard uncertainty Uc(y)	**1.27**		
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	**2.54**		

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Contribution	Uncertainty of x_i		$u(x_i)$	Ci	$Ci*u(x_i$
	dB	Probability Distribution			
Receiver reading	±0.10	Normal(k=1)	0.10	1	0.10
Antenna factor calibration	±1.70	Normal(k=2)	0.85	1	0.85
Cable loss calibration	±0.50	Normal(k=2)	0.25	1	0.25
Receiver Correction	±2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	±1.50	Rectangular	0.87	1	0.87
Site imperfection	±2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR Γ1= 0.197 Antenna VSWR Γ2= 0.194 Uncertainty=20log(1-Γ1*Γ2)	+0.34/-0.35	U-shaped	0.244	1	0.244
Combined standard uncertainty Uc(y)	**2.36**				
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	**4.72**				

6 Certification of TAF Accreditation

Certificate No. : L1190-090417

財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

This is to certify that

Sporton International Inc.
EMC & Wireless Communications Laboratory
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

is accredited in respect of laboratory

Accreditation Criteria	:	ISO/IEC 17025:2005
Accreditation Number	:	1190
Originally Accredited	:	December 15, 2003
Effective Period	:	January 10, 2007 to January 09, 2010
Accredited Scope	:	Testing Field, see described in the Appendix
Specific Accreditation Program	:	Accreditation Program for Designated Testing Laboratory for Commodities Inspection Accreditation Program for Telecommunication Equipment Testing Laboratory Accreditation Program for BSMI Mutual Recognition Arrangment with Foreign Authorities

Jay-San Chen
President, Taiwan Accreditation Foundation
Date : April 17, 2009

P1, total 20 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix

Appendix A. Photographs of EUT

Please refer to Sporton report number EP961307-04 as below.

Appendix C. Hardware Release Notes

Hardware Release Notes

Hewlett Packard

Codename: Obsidian

EVT2 to DVT2 build

<July 20, 2009>

Note: This Hardware Release Note Template is not providing a mandatory format for release notes. Vendors are free to use whatever format they fill is suitable for their release notes. However, in any case all the information requested in this document shall appear as well in the vendor's release notes.

1. Purpose

The purpose of this document is to outline the HW changes from EVT2 to DVT2. It includes the reason for change and solution implemented in each phase of development build phase.

2. Electrical Changes from EVT2 to DVT2

Electrical Changes
For Halogen-free request 1. Change CON1401, CON1901, D1401, D2004, D801, D802, D2001, D2003, D2005, D2101, U1802 and U1803 to Halogen-free component.
To improve the Headset mode sending Distortion 1. Change C708 to NM (no mount).
To improve the Headset mode sending Distortion 1. Change C1838 from 0.1uF/6.3V(0201) to 0 ohm 2. Change R1834 from 0 ohm(0201) to 0.1uF/6.3V(0201) 3. Change C1839 from NM to 0 ohm(0201) 4. Change R1826 from 0 ohm(0201) to NM 5. Change C1842 from 0 ohm(0201) to 0.1uF/6.3V(0201)
To improve the luminance of EL lamp 1. Change R2043 to 150ohm
To improve the RF D-sense performance. 1. Change the L1401 from BLM15BA100SN1D to BLM15BA220SN1D 2. Change RP1401 to 0201 10K Ohm (R1412/R1414/R1415/R1419) 3. Add 0402 0 Ohm(R1421~R1425) at SD IF
To fix the LCM Flicker issue 1. Change the C1628/C1629/C1630 from 0603 4.7uF to 0805 10uF 2. Change the C1610/C1612 from 0402 1uF to 0603 4.7uF 3. Change the L1601/L1603 from 6.8uH to 4.7uH
To ensure the working stability of U1803 1. Add R1817 to ensure the voltage level of GPIO85.
To find tune the saturation point of light sensor 1. Change R1404 from 1M to 300K
To improve the efficiency of status LED 1. Change R2005 to 300Ohm, R2026 to 120Ohm
To ensure the USB_VBUS don't damage capacitor 1. Change C802 from 0402/6.3V to 0603/10V
Can differentiate the HW version between EVT2 and DVT2 1. Change R1003 to 845K

RF
No store for WALSIN 0 ohm Jumper 1. Change R1505 and R1514 from WALSIN/WR04X000PTL to TA-I/RM04JTN0 (DVT1 0ohms-> DNT2 0 ohms)
Modified WCMA BC1 current consumption 1. Change C2715 => MURATA/LQW15AN10NH00 (DVT1 N.M.-> DNT2 10nH) 2. Change C2712 => 1A20-01PC600 (DVT1 33pF -> DNT2 3.6pF)
Modified WCMA BC5 current consumption 1. Change C2810 => MURATA/LQW15AN5N6C10D (DVT1 8.2nH -> DNT2 5.6nH) 2. Change C2806 => 11G23207R074360 MLCC TAIYO/UMK105CH070DW-F (DVT1 10pF -> DNT2 7pF)

Obsidian_SW_Release_Notice_V0 30 75 03P

Enable feature FEATURE_MMGSDI_MCC_VERIFICATION again, this feature will automatically detect and sets NV_GPRS_ANITE_GCF_I (947) to 1 for a "Test SIM" and 0 for a commercial SIM. Some NV items' setting will be ignored if a Test SIM is inserted, hard code will be used, like scan time
Report 0x380 to FTM application if NV_BAND_PREF_I is 0x180, to fix FTM Radio Access Technology and Band Selection display blank issue

Obsidian_SW_Release_Notice_V0.21.59.03

[OB864]
1. Revert luxiao's change in sdmemory driver.
2. Try to fix the issue caused by SD initialization issue when resuming from suspend.
[TD864] don't register sdbus driver as power-managed devices
[SAP]ObsidianTD2458. Recommit SAP pin issue.
1. When TAI get PinstatusCb() from modem, it will change the phone ready state immediately.
2. In sap profile, when SAP disconnect, delay 5s and then open the phone.
Change FOTA server time out registry key setting from default 7 Days to 1 Hour
[USSD] Obsidian TD1647. Add code to parse an USSD cause value and translate to unsupported command.
[OB1139]UIM_USIM_MBDN is not read and go into default, so that SendRefreshCompleted(TRUE) not called
[Wifi] fix Obsidian TD 2172: Wi-Fi connecton is turned off after turning off power and then on in Phone and BT connection off state.
Enable USB2PC
[OB2470]Fix the issue that BT icon will disapeared when WiFi button is pressed.
[AT&T UE]Add some png files for some folder
show nothing on shuwdown aniscreen title bar
[ModemLink]Fixed Macro ATT_SPECIFIC define issue.
Disable VCP for charging timeout function.
Fix sometimes the touch will lose function issue after the call in very tricky condition.(20090610)
Rootcause: the GPIOIst thread and Sensor service is not sync during the phone call state change
revert Group tag index fix for SIM Manager according to the disscussion with BLStream. Now group tag index will start from 1
remove EF_GAS/EF_AAS checking before reading/writing group/ANR tag
fix a memory leak issue
TD1318,2126 - Possible workaround for Aircomm testing where CMU unable to read 1900 power class of the device.
[Application] BLStream Update 6/10's drop
disable Adaptxt
[Westtek]Update to 5.3.1142
remove adaptxt from CTO, otherwise the CTO would not be installed successful.

Obsidian_SW_Release_Notice_V0.21.60.03

HP_IzbLimit NITZ handler under CM_SS_EVENT_SRV_CHANGED evnet condition
[AMSS][Phonebook]Fix TD1823- Error Handler of SIM Reading
[audio][TD1772]Remove some video type file from ringtone support list.
[HP Theme]Update to 1.3.0.11
[FLO DRM]Add FLO DRM for AT&T
[ObTD#1844]Clean boot will reset RTC to 2009/01/01 12:00PM
[OB2695]: Disable auto-close-camera-when-inactive function to avoid OB2695 issue.

[LockScreen]Add this cab for test
[SAP] Revert commit 3733. Need further study.
close media player when shut down
[OB2326][New Fn Feature] Support FN key for multi key press function. Fix TD#2326 (0615)
[HP Theme]Currently we need add this jpg because it seems Theme monitor dll is not workable.
[OB2126] - Removing workaround and adding actual fix for PowerClass 1900 bug in Aircomm testing. Qualcomm has accepted HP solution and they will release it later date.

Obsidian_SW_Release_Notice_V0.21.63.03

FTM - Fixing up Obsidian TD 2311 and 2165 to display GSM 2/3 screen and Call drop list.
[AT&T]Update AT&T Music icon and IM icon
Update code base to Qualcomm SBA526005
But I did not include NV and RIL/TAI related code change in SBA526005, the reason is there is a big change in NV and RIL/TAI, most of fix in RIL/TAI is double fix with our code base and there is no any open bugs in our database related to those changes so far.
This merge will not impact the check in of r3909, r3910, r3913, r3916 of main trunk
We will review the remaining changes and update code later to align with Qualcomm code base for any of potential risk and next merge.
revert Qualcomm SBA526005 BT registry change to previously version, because driver engineer told me the change is useless and will have big side effect. We will continue to check with Qualcomm
[APPS]Update HP_DataConnect_XML_v1.75ppc_iPAQ.
According to Marketing requirements, change all occurrences of "Mobile Phone" in network connection names to "iPAQ"
[NV] Change comments only
Remove the USB Mass Storage support from platforms
Change the device string from "HP iPAQ USB Device" to "HP iPAQ USB".

Obsidian_SW_Release_Notice_V0.21.65.03

[MusicID2]Update to 1.1.0.0 version
[AT&T Update]Add AT&T Update application
[Pocket Express]Update to 4.70.32 LR
[audio]add headset irq as wakeup source
update memory layout. this change has been verified in both retail build and ship build.
[OB2430, OB2448, OB 2837] Fix display issue.
merge ril devel branch, update to 5.2.6005
[OB2246][SR00166171]1.time.c: add some debug message for tracing the time information when issue happens.
2.time_tod.c: add a potential fix for time
[OB 2710]Add space after "Master reset done.", change "software" to "softwares" and change "Click Start" to "Click Start in CustEngnScr1_0409.html.
[Modem Link]Change device name to HP iPAQ USB Modem
[Application]Update to BLStream 6/22 drop.
[APPS]Update SJWC_201106_20090622_OBS
[Java] Modify Java UAProfile
[FLO DRM]Merge Sly registry to obsidian for some related issues
show complete aniscreen

[OB1831] Make a workaround for [Defect #512 - GSM-BTR-1-1830] TU fails to receive Push SI message with blank fields.
Correct POP3 port to 110
[OB2469]: DUT would auto reboot when suspend/resume repeatedly.
[Java] Change default connection profile name to "iPAQ WAP" first, before Stephan release new xml drop; in future, Stephan will set corresponding value in xml files
Fix an error, the range of bank3 should be 69-94
[RIL] Increase Packet count function's performance
[APPS]Update Arcsoft MMS_Dshow_Camera_Streaming Player
Change transport type from 1 (IMAP4) to 0 (POP3) for earthlink and BellSouth by ATT specification

Obsidian_SW_Release_Notice_V0.21.67.03

TD 2811 - Added missing case for Registration Denied during PIN1 locking.
[AT&T Update]Update to 1.0.0.2
merge code for DVT HW
[Lockscreen]Remove Lockscreen.cab
[BT][OPP/FTP] fix Obsidian TD1790 [Defect #488 - GSM-BTR-1-1992] Bluetooth: when a BT transaction such as OPP or FTP, there is no user confirmation present
root cause: MSFT UI don't match the requirement.
fix: make a shadow to add a confirm UI.
[BT][OPP/FTP] fix message error
[AT&T UE]1,Modify the name of the folder from "Microsoft Service" to "Microsoft Services"; 2,Remove the Microsoft My phone cpl from the setting directory
revert SD driver to to r3183
merge change for Obsidian DVT build
[jIM Plug in]Update the jIM plug from Chris to solve Camera LTK rotation issue
[Modem] Workaround to avoid "can't attach to EDGE" issue because MMR_CELL_SERVICE_IND event is lost, and mm_serving_plmn.egprs_supported is not set to 0
Bug fixed for the GPIO key function abnormal
FN/SHIFT/SYM key not work after resume device
SEND/END key could not wake up device.
Copied the MS sample code for USB Mass storage class function driver and modified for our use.
1. Added a thread to call SystemIdleTimerReset every 30 seconds, if the USB Mass Storage Class driver is in use and the USB cable is connected. So when USB Mass Storage is being used by PC user, the device will not suspend.
2. Allow the device to show up in PC side even when there is no SD card in the slot. However, on PC side, it will prompt you to insert card if you try to open that device.
[jIM]Add CIRType registry to TD2830
[Application]Update to BLStream's 6/24 drop
[User Agent] Change User Agent "HP-KB1" to "HP_KB1" based on Bryan's confirm
[BT][OPP/FTP]set the confirm UI timeout from 5s to 10s
[AT&T UE]1, Change the MusicID from binary to stub; 2, Change the name of link file: "JETCET PRINT.lnk" to "Jet Cet Print.lnk", "MusicID 2.lnk" to "Music ID.lnk".
[Battery]Revert 3895 commit, enable charging over temperature notification

[OB2895]Fix the TD 2895
[HP Theme]Update HP Theme to 1.3.0.12
speedup anisreen when startup
[AT&T UE]Change the "ShopApplication.lnk" to "Shop Applications.lnk"
[AT&T Certificate]Follow the document 13340_36.pdf to add certificates for AT&T

Obsidian_SW_Release_Notice_V0.30.69.03

Update the driver date and version in USB Modem INFO, for WHQL test requirement.
Factory BootStrap
Temp solution for Display DIM issue.
[FLO DRM]Revert to 1.0-20081217-0039 because 1.0-20090625-0146 does not work normally.
[audio]acoustic parameters update to V13B
[keyboard]Revert to previously version to lower the risk of the side effect of new code

Obsidian_SW_Release_Notice_V0.30.71.03

[Application]Update to BLStream 6/29's drop
[BT][OPP/FTP] fix Obsidian TD1790 [Defect #488 - GSM-BTR-1-1992] Bluetooth: when a BT transaction such as OPP or FTP there is no user confirmation present
root cause: There is %5 failure that cannot pop up msg box when user send multi vcard to DUT at the same time and choice "NO" or timeout.
reason: there is no enough time to destroy msg box, which cause the new msg box cannot be created if DUT receive muilt vcard at the same time. so we delay 50ms if we don't recevie this OPP.
[USB]Remove it for side effect for the J/K and receiver sensitivity performance
[Modem] Disable Fatal Err Message in ship ROM, give modem a chance to try if error can be recover, and try if QXDM log will not be broken by FATAL Error. it will not affect exception FATAL ERR function

Obsidian_SW_Release_Notice_V0.30.80.03

fix HPQ 817 - [6.5] - ATT Power Up / Down Animation Performance
Change the position of ADC Calibration related items in NV table and also update sensor driver for BT cases
[Music]Use small size Confess to Impress.wma(2M) to replace the Familiar Places.wma(8M) for saving flash
TD 1272 - Wrong RSSI indicator count..Changed preferred method for RSSI display to use raw dBm value from RIL to allow 1-1 match to ATT requirement.
[HP Theme]Update BLStream's STK Titanium plug in
Change the charging current, by EE's requirement.
[audio]codec tx gain 0xca62 to 0x1a00

Obsidian_SW_Release_Notice_V0.30.82.03

[Sensor] Update to 20090707_Sensor.rar:
1. Bug fixed for TD#3036
- Config GPIO 76 to input/pull-down in suspend mode.
- Turn off VREG_WLAN in suspend mode
- control MPP17 in order to save power.

Fix the bug that some sd card have special partition table
[Keypad] Update to 20090707_keypad driver;
1. Bug fixed for the GPIO keys function abnormal.
2. Implement the multi key press with CAP key.
[Sprite Backup][TD3098]Use right registry for pbf file to fix TD3098
[APPS]Add Arcsoft localization resources(0416, 0C0A)
[Audio]modify notification in call setting registry setting
Try to fix the TD bug 2355 : USB can not be recognized if device is rebooted automatically with USB connected.
add notification when clean bootup
[audio]acoustic parameters update to V15
[LockScreen]Use Microsoft new lockscreen cab for wipe issue in retail build
Revert to old version for cleartype issue

Obsidian_SW_Release_Notice_V0.30.84.03

[jIM]Update to 2.0.0.B69
Update to BLStream 7/13's drop
[cvc]update to 2.5.3-907131
change clean boot message "clean boot" to "Factory Restore is Done"
[HP Theme]Update to 1.3.0.21
[Notification] 1, set "Play Sound" to ON under Sounds & Notifications – SMS/MMS/Email;
2. Disable all pop up notifications under Sounds & Notifications (Notifications tab)

Obsidian_SW_Release_Notice_V0.30.85.03

[APPS]Update localization resources for Westtek
[OB TD3215]Use sign fakecpl.cpl to avoid the pop up issue
[FactoryRestore]Fix the loc issue for FactoryRestore
[java]update to 2.0.1.1.08
Fix GPIO key related bugs.
1. Hardware key can not work after HOME key down without key up message.
2. Send windows virtual key by sending VK_LWIN directly not by customized VK code.
[OB3065]Override IDS_DENIED="No service" to "SOS call only"
[AT&T UE][OB TD 3222]Change the order for some directories
[LockScreen]Update the cab per Microsoft requirement for Wipe issue.
[APPS]Update localization for Arcsoft Camera
[DataConnect XML]Update to DataConnect XML 1.76
[Charging]Change the timeout from 1 hour to 3 hours for CC charging period.
[OB TD 3226]Disables WMP RAM caching

Obsidian_SW_Release_Notice_V0.30.87.03

[jIM]Update to 2.0.0.B70
ODM_SIMLOCK_DATA_LEN==512 bytes only can store 13 plmns, change to 1000 in order to meet new PRD 14 plmns

[Audio]modify power up control
[bug:Unknown window on front of today screen]Remove WS_POPUP and try if this bug is fixed.
Change WiFi Button Behavior to consistence with the definition of PRD
[BT][HCI] add a workaround for passing BQP testing(PTS V3.200)
[Obsidian TD3088] [Defect #939 - GSM-BTR-1-0736] EONS: Fail: TU Constantly Displays "AT&T MicroCell" Even when registered to 3G Micro Network
[BT][BPP/BIP] remove BPP and BIP profiles
[Audio]add Qualcomm workaround solution for obsidian TD3063 keep sample rate 48K in voice call
[Application]Update to BLStream 7/20 drop.
[TD3345]Increase Obsidian font size by one notch higher per AT&T and HP marketing requirement

Obsidian_SW_Release_Notice_V0.30.88.03

[Audio]eliminate the pop noise when device sleep then wake up
[USBFN]Try to fix the TD bug 3351 : When disable "Use USB Charging" than insert USB cable,battery still charging.
[TWC]Update to new version
[StarWars]Update to 1.1.7.5
[Reminder][TD:3344]Per Marketing requirement, set the "repeat" box of reminder default to enable
[AT&T UE]Fix Jetcet Print icon display issue.
[HP Theme]Update STK and CB 's latest cpr
[ATTWifi][TD:3363]Replace the icon per AT&T LE ROM requirement.(This icon is 90*90 size, actually we need 45*45 for better effect.)
[Audio]fix headset key irq bug when sleep and wakeup
[VoiceCommander]We don't need this item because Obsidian dose not have a dedicated key for the VoiceCommander.
[BT][SAp] modify for passing BQB test case: TC_SERVER_RPS_BV_01_I, disable this workaround when SAP connected.
[TD3360][AT&T CDR-CON-3074] device requirement - CLIR (calling line identification restriction) control through ATD command does not work.Added parser for #31#,*31#,*82,*67.
[BSP] Update BSP version to 5.2.6008
[TD1831] [Defect #512 - GSM-BTR-1-1830] TU fails to receive Push SI message with blank fields. Make a workaround to handle the case that the SI-ID flag is present even if its contents is NULL.
[java]update it to 2.0.1.1.09
[audio]modify headset mic gain as device mic gain setting in 3pole headset MMA mode
[09platform][Obsidian][Keypad] Update to 20090722_Keypad.rar
1. Bug Fix for TD#3348
2. Remove APP5 key for Camera function, call CreateProcess() directly in keypad driver.
[09platform][Obsidian][Backlight/Sensor/Display] Update to 20090722_DisplayBacklightSensor.rar
1. Bug Fix for TD#3208, 3216
[Obsidian] Fix Backlight issue

Appendix D. Original Report

Please refer to Sporton Report Number FG961307 as below.