HAC TEST REPORT

Test Report No. : 29CE0264-HO-01-M

Applicant	:	**SHARP CORPORATION**
Type of Equipment	:	**W-CDMA / GSM Mobile Phone**
Model No.	:	**PV300**
FCC ID	:	**APYNAR0065**
Test regulation	:	**ANSI C63.19 : 2007**
Test Result	:	**Complied**
HAC M Category	:	**M3**

1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the above regulation.
4. The test results in this report are traceable to the national or international standards.

Date of test: January 5 to 6, 2009

Tested by:
Miyo Kishimoto
EMC Services

Approved by :
Hironobu Shimoji
Assistant Site Manager of EMC Services

UL Japan, Inc.
Head Office EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
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SECTION 1: Client information

Company Name	:	SHARP CORPORATION
Address	:	492 Minosho-cho, Yamatokoriyama-city, NARA 639-1186, JAPAN
Telephone Number	:	+81-743-55-4022
Facsimile Number	:	+81-743-55-2553
Contact Person	:	Juri Sugiyama

SECTION 2: Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment		:	W-CDMA / GSM Mobile Phone
Model No.		:	PV300
Serial No.		:	P3-240
Battery	Model Name	:	PV-BL51(Rechargeable Lithium-ion battery)
	Rating	:	DC3.7V/1250mAh
	Manufacture	:	SHARP
Option Battery		:	N/A
Accessories		:	Earphone
Size		:	W:130mm D:60mm H:15.9mm
Receipt Date of Sample		:	December 5, 2008
Modification of EUT		:	No modification by the test lab
Country of Manufacture		:	Japan
Condition of EUT		:	Engineering prototype (Not for Sale: This sample is not mass-produced items.)

SECTION 3 : Test standard information

3.1 Requirements for compliance testing defined by the FCC

The Federal Communications Commission (FCC) has adopted specific hearing aid compatibility rules for digital wireless telephones.
The standard for compatibility of digital wireless phones with hearing aids is set forth in American National Standard Institute (ANSI) standard C63.19.
ANSI C63.19 contains two sets of standards: one for reduced radio frequency (RF) interference to enable acoustic coupling with hearing aids that do not operate in telecoil mode, and a separate standard to enable inductive coupling with hearing aids operating in telecoil mode. A digital wireless handset is considered hearing aid compatible for acoustic coupling if it meets a "U3" or "M3" rating under the ANSI standard.

The "M" rating indicates the amount of reduction of RF interference between telephones and hearing aids in acoustic coupling mode, while the "T" rating represents inductive coupling with hearing aids that are operating in telecoil mode.

3.2 Procedure and result

No.	Item	Test Procedure	Limit	Remarks	Exclusion	Result
1	RF Emission GSM850 E-filed	ANSI C63.19 :2007	FCC47 CFR 20.19 ANSI C63.19:2007	HAC Measurement	N/A	Complied M4
2	RF Emission GSM850 H-filed				N/A	Complied M4
3	RF Emission PCS1900 E-filed				N/A	Complied M3
4	RF Emission PCS1900 H-filed				N/A	Complied M3
5	RF Emission WCDMA IV E-filed				N/A	Complied M4
6	RF Emission WCDMA IV H-filed				N/A	Complied M4
Note: UL Japan Inc. 's HAC Work Procedures QPM64						

3.3 M Category limit

All digital transmission modes in all frequency bands contained in a HAC phone must meet M3 or M4 levels.

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14
Category	**AWF(dB)**	**Limits for E-Field Emissions (V/m) < 960MHz**	**Limits for H-Field Emissions (A/m) < 960MHz**
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

3.4 Test Location

*Shielded room for SAR testings
UL Japan, Inc. Head Office EMC Lab. *NVLAP Lab. code: 200572-0
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116 Facsimile : +81 596 24 8124

3.5 Confirmation before HAC testing

Correlation of Output Power between EMC and HAC tests
Maximum power is used and agrees with EMC/SAR reports and tune-up procedure.
Therefore, It was checked that the antenna port power was correlated within 0~+5% (FCC requirements)
The result is shown in Section 6.1.

3.6 Confirmation after HAC testing

It was checked that the power drift [W] is within ±5%.The verification of power drift during the HAC test is that DASY4 system calculates the power drift by measureing the e-filed at the same location at beginning and the end of the scan measurement for each test position.

DASY4 system calucation Power drift value[dB] =20log(Ea)/(Eb) or 20log(Ha)/(Hb)
Before SAR testing : Eb[V/m] or Hb[A/m]
After SAR testing : Ea[V/m] or Ha[A/m]

Limit of power drift[W] =+/-5%
X[dB]=10log[P]=10log(1.05/1)=10log(1.05)-10log(1)=0.212dB

from E-filed relations with power.
p=E^2/η=E^2/120π
E= η H=120 πH
The correlation of H-filed and the E-filed is equal

Therefore, The correlation of power and the E-filed
XdB=10log(P)=10log(E)^2=20log(E)

Therefore,
The calculated power drift of DASY4 System must be the less than +/-0.212dB.

3.7 Evaluation procedure

The evaluation was performed with the following procedure:

Step1-Step 4 were measured for both E and H-filed measurements.

Step 1: Height Check
Height Check is used to visually verify the z-coordinate with one single point, similar to the verification of the phantom reference points. The pre requirement is that the Calibrate HAC phantom mode is executed. After this is done, the probe can be positioned to the Height Check point which is at 0.5mm above the center of the Test Arch.

Step 2: Device Reference Point
Device Reference Point is the point on the lower surface of the Test Arch frame where the EUT is positioned. The thickness of the Arch frame is 6.3mm, leading to a z-coordinat of 353.7mm for measurements involving EUT. The upper surface of a calibration dipole is however closer to the top surface. A distance of 5.3mm leads to a z-coordinate of 354.7mm
for the measurements involving dipoles.

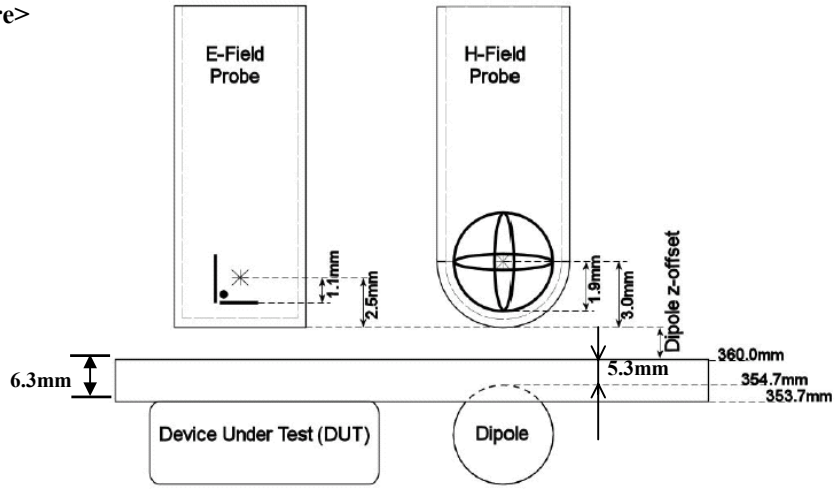
Step 3: Grid Reference Point
Grid Reference Point is the anchor point for the measurement grid at the center of the Teat Arch phantom upper surface at Z=0.The scanning height for HAC scans anchorees to this point is set by the z offset in the job. It is determined from the following contrrobutions:
- Standard version ANSI C63.19-2007 (15mm to the probe sensor center) Refer to the Reference figure.
- Probe sensor offset (sensor calibration center to tip: 2.5mm for ER3D probe, 3.0mm for H3DV6 probe)
- Probe sensor extension (sensor extension from the calibration center: 1.1mm for ER3D probe, 1.9mm for H3DV6 probe)
- Device offset (EUT 6.3mm or dipole 5.3mm)

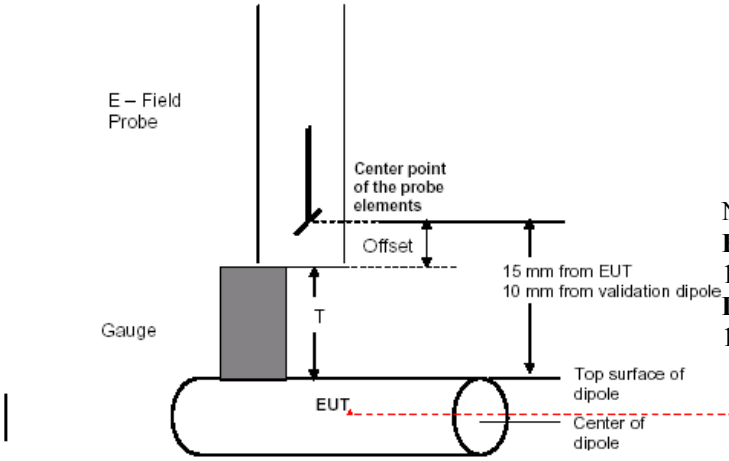
The 5 x 5 cm square scanning area for measurements involving EUT is given by the ANSI-C63.19. The default grid resolution of 5mm is refined using the interpolation algorithm also applied in the postprocessor.

The system performed a 360º rotation for maximum reading at the final measurement location.

Step 4: Drift Power
The system performed a drift evaluation by measuring the field at the reference position.

<Reference figure>





Note:
EUT measurement :
15mm to the probe sensor center
Dipole Validation:
10mm to the probe sensor center

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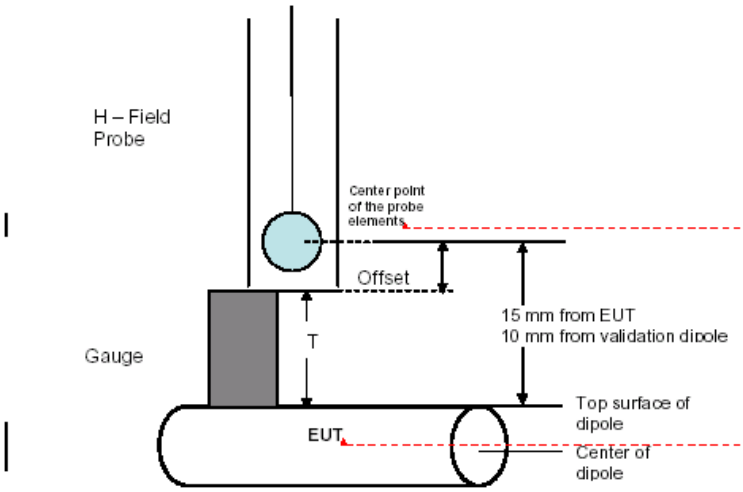

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Note:
EUT measurement :
15mm to the probe sensor center
Dipole Validation:
10mm to the probe sensor center

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3.8 Probe Modulation Factor (PMF)

The E-field free space probes (ER3DV6) as well as the H-field probe (H3DV6) are calibrated for unmodulated (CW) fields.

According to the Standard the results measured in the scan must be multiplied with the PMF to obtain the peak values. As long as the probes are not calibrated for specific modulations, the PMF must be obtained for the following cases:

<Evaluation Procedure for Unknown PMF>
The proposed measurement setup corresponds to the procedure as required in the standard.

1. Installed a validation dipole for the appropriate frequency band under the Test Arch Phantom and select the proper phantom section according to the probe type installed (E- or H-field).
Move the probe to the field reference point. (Do not move the probe between the subsequent CW and modulated measurements.)

2. Install the field probe in the setup.

3. The modulated signal to the dipole must be monitored to record peak amplitude and compared to a CW signal with the same peak envelope level.
We used a directional coupler and a spectrum analyzer in zero span mode set to the operating frequency to determined the peak envelope level of the modulated signal properly, the settings of a spectrum analyzer was as follows:

- Resolution bandwidth >= emission bandwidth
- Video bandwidth >= 20kHz
- Span: zero
- Center Frequency: nominal center frequency of channel
  Amplitude Scale: Liner
- Detection: Peak detection*
- Trigger: Video
- Sweep rate : The sweep time setting to allow a full transmission cycle, displaying the on and off time

*The Peak transmit power is the maximum of the RMS power during a transmit burst.

4. Define a DASY4 document and set the procedure properties (frequency, modulation frequency and crest factor) according to the measured signal. Define a multimeter job for the field reading.

5. Define a second procedure for the evaluation of the CW signal (frequency set as above,modulation frequency = 0, crest factor = 1) and a multimeter job.

The PMF measurement procedure is as followa;

1. Modulated signal measurement: Connect the modulated signal using the appropriate frequency via the cable to the dipole.

2. Run the multimeter in the procedure with the corresponding modulation setting in continuous mode.

3. Adjust the signal amplitude to achieve the same field level display in the multimeter as during the WD field scan. Read the multimeter display.

4. Read the envelope peak on the monitor in order to adjust the CW signal later to the same level.

5. Switch the signal source off and verify that the ambient and instrumentation noise level is at least 10 dB lower (a factor of 3 in field).

6. CW measurement: Change the signal to CW at the same center frequency, without touching or moving the dipole in the setup.

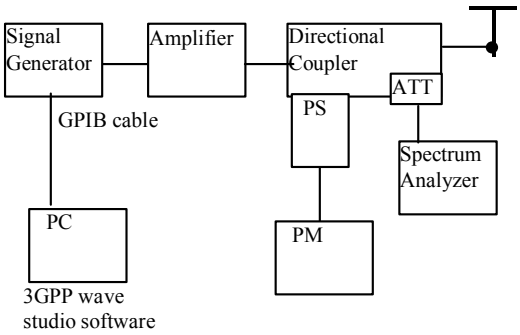
7. Adjust the CW signal amplitude to the same peak level on the spectrum analyzer.

8. Run the multimeter in the CW procedure in continuous mode.

9. Read the multimeter total field display.

10. Calculate the Probe Modulation Factor as the ratio between the CW multimeter field reading and the reading for the applicable modulation. I.e., PMF = E_{CW} / E_{mod} and similar for H.

Perform the above setup and procedure for both E-field and H-field probes.



System configuration for PMF measurement

<Result of PMF>

GSM850MHz E-filed

Peak Field lin V/m	DASY4 V/m	PMF lin
47	16	2.91
63	21	2.95
84	28	2.98
112	37	3.02
150	49	3.06
200	64	3.10
266	85	3.14
355	111	3.19
473	147	3.23
631	193	3.27
841	254	3.31
1122	334	3.36

GSM 850MHz H-Filed

Peak Field lin A/m	DASY4 A/m	PMF lin
0.14	0.05	2.94
0.19	0.07	2.81
0.25	0.09	2.70
0.34	0.13	2.60
0.45	0.18	2.53
0.6	0.24	2.47
0.8	0.33	2.42
1.07	0.45	2.38
1.43	0.61	2.36
1.91	0.81	2.35
2.54	1.08	2.35
3.39	1.44	2.36

PCS1900MHz E-filed

Peak Field lin V/m	DASY4 V/m	PMF lin
47	16	2.87
63	22	2.90
84	29	2.94
112	38	2.98
150	50	3.02
200	65	3.06
266	86	3.09
355	113	3.13
473	149	3.17
631	196	3.21
841	259	3.25
1122	341	3.29

PCS1900MHz H-Filed

Peak Field lin A/m	DASY4 A/m	PMF lin
0.14	0.05	2.92
0.19	0.07	2.67
0.25	0.10	2.49
0.34	0.14	2.35
0.45	0.20	2.25
0.6	0.28	2.18
0.8	0.37	2.14
1.07	0.50	2.13
1.43	0.67	2.15
1.91	0.87	2.19
2.54	1.12	2.27
3.39	1.42	2.38

WCDMA IV band E-filed

Peak Field lin V/m	DASY4 V/m	PMF lin
47	50	0.94
63	67	0.93
84	91	0.93
112	122	0.92
150	164	0.91
200	221	0.90
266	296	0.90
355	399	0.89
473	535	0.88
631	720	0.88
841	967	0.87
1122	1301	0.86

WCDMA IV band H-Filed

Peak Field lin A/m	DASY4 A/m	PMF lin
0.14	0.14	0.98
0.19	0.20	0.97
0.25	0.26	0.97
0.34	0.36	0.96
0.45	0.48	0.95
0.6	0.64	0.93
0.8	0.87	0.91
1.07	1.19	0.90
1.43	1.64	0.87
1.91	2.24	0.85
2.54	3.07	0.83
3.39	4.24	0.80

<Decision of PMF>

It was apply the PMF for the worst case field after exclusion. The value would therefore be the absolute worst case or less if this value is inside an excluded subgrid.

SECTION 4 : Operation of E.U.T. during testing

4.1 Operating modes for HAC testing

4.1.1 Setting of EUT

1. GSM 850 mode
2. GSM 850 with Bluetooth active mode
3. PCS 1900 mode
4. PCS 1900 mode with Bluetooth active mode
5. WCDMA IV band mode
6. WCDMA IV band mode with Bluetooth active mode

<GSM 850 mode>

Tx frequency band	: 824.2MHz – 848.8MHz
UP Link Channel	: 128ch(824.2MHz)
	190ch(836.6MHz)
	251ch(848.8MHz)
Modulation	: GMSK
Crest factor	: 8.3
AWF	: -5dB

<PCS 1900 mode>

Frequency band	: 1850.2MHz – 1909.8MHz
UP Link Channel	: 512ch(1850.2MHz)
	661ch(1880.0MHz)
	810ch(1909.8MHz)
Modulation	: GMSK
Crest factor	: 8.3
AWF	: -5dB

<WCDMA IV band mode>

Frequency band	: 1712.4MHz – 1752.6MHz
Channel	: 1312ch(1712.4MHz)
	1413ch(1732.6MHz)
	1513ch(1752.6MHz)
Modulation	: QPSK
Crest factor	: 1
AWF	: 0dB

Note: A communication link was set up from Wireless Communications Tester (Agilent).
The EUT was command to operate at maximum transmit power.
(Maximum transmit power of GSM mode:GSM850 <Power level : 5> / PCS1900 <Power level : 0>)
(Maximum transmit power of WCDMAmode: Band IV < TPC all ones >)

<3GPP with Bluetooth active mode>

Frequency band	: 2402MHz – 2480MHz
Modulation	: FHSS

Note: A BT communication link was set up with the head mike with Bluetooh.

SECTION 5 : Test surrounding

5.1 Measurement uncertainty

The uncertainty budget has been determined for the DASY4 measurement system according to the SPEAG documents[1]and is given in the following Table.

Error Description	Uncertainty value ± %	Probability distribution	divisor	(ci) E	(ci) H	Standard Uncertainty E	Standard Uncertainty H
Measurement System							
Probe calibration	±5.1	Normal	1	1	1	±5.1	±5.1
Axial isotropy of the probe	±4.7	Rectangular	√3	1	1	±2.7	±2.7
Sensor Displacement	±16.5	Rectangular	√3	1	0.145	±9.5	±1.4
Boundary effects	±2.4	Rectangular	√3	1	1	±1.4	±1.4
Probe linearity	±4.7	Rectangular	√3	1	1	±2.7	±2.7
Scaling to Peak Envelope Power	±2.0	Rectangular	√3	1	1	±1.2	±1.2
System Detection limit	±1.0	Rectangular	√3	1	1	±0.6	±0.6
Readout electronics	±0.3	Normal	1	1	1	±0.3	±0.3
Response time	±0.8	Rectangular	√3	1	1	±0.5	±0.5
Integration time	±2.6	Rectangular	√3	1	1	±1.5	±1.5
RF ambient Noise	±3.0	Rectangular	√3	1	1	±1.7	±1.7
RF ambient Reflections	±12.0	Rectangular	√3	1	1	±6.9	±6.9
Probe Positioner	±1.2	Rectangular	√3	1	0.67	±0.7	±0.5
Probe positioning	±4.7	Rectangular	√3	1	0.67	±2.7	±1.8
Extrap.and Interpolation	±1.0	Rectangular	√3	1	1	±0.6	±0.6
Test Sample Related							
Device positioning Vertical	±4.7	Rectangular	√3	1	0.67	±2.7	±1.8
Device positioning Lateral	±1.0	Rectangular	√3	1	1	±0.6	±0.6
Device holder and Phantom	±2.4	Rectangular	√3	1	1	±1.4	±1.4
Power drift	±5.0	Rectangular	√3	1	1	±2.9	±2.9
Phantom and Setup							
Phantom Thickness	±2.4	Rectangular	√3	1	0.67	±1.4	±0.9
							±4.8
Combined Standard Uncertainty						±14.7	±10.9
Expanded Std. Uncertainty on Power(k=2)						**±29.4**	**±21.8**
Expanded Std. Uncertainty on Filed(k=1)						**±14.7**	**±10.9**

SECTION 6 : Confirmation before HAC testing

6.1 Output Power Measurement results

6.1.1 GSM 850

This data is reference data of EMC test. (Report No. 29CE0264-HO-01-F)
Date of test: December 9, 2008

GSM850 EMC Power						
Mode	Ch	Frequency [MHz]	P/M Reading [dBm]	Atten. Loss [dB]	Cable Loss [dB]	Result [dBm]
GSM (GMSK/1slot)	Low	824.2	8.6	20.0	4.1	32.7
	Mid	836.6	8.4	20.0	4.1	32.5
	High	848.8	8.1	20.0	4.1	32.2

Results = P/M Reading + Atten.Loss + Cable Loss

This DATA is a result of execution in before HAC testing.

GSM850 HAC Power								
Mode	Ch	Frequency [MHz]	P/M Reading [dBm] PK	P/M Reading [dBm] AVG	Atten. [dB]	Cable Loss [dB]	Result [dBm] PK	Result [dBm] AVG
GSM (GMSK/1slot)	Low	824.2	12.32	2.86	20.0	0.4	32.72	23.26
	Mid	836.6	12.12	2.65	20.0	0.4	32.52	23.05
	High	848.8	12.01	2.39	20.0	0.4	32.41	22.79

Results = P/M Reading + Atten.Loss + Cable Loss

<PCS1900>

This data is reference data of EMC test. (Report No. 29CE0264-HO-01-H)
Date of test: December 9, 2008

PCS1900 EMC Power						
Mode	Ch	Frequency [MHz]	P/M Reading [dBm]	Atten. Loss [dB]	Cable Loss [dB]	Result [dBm]
GSM (GMSK/1slot)	Low	1850.2	5.1	20.0	4.0	29.1
	Mid	1880.0	5.3	20.0	4.0	29.3
	High	1909.8	5.5	20.0	4.0	29.5

Results = P/M Reading + Atten.Loss + Cable Loss

This DATA is a result of execution in before HAC testing.

PCS1900 HAC Power								
Mode	Ch	Frequency [MHz]	P/M Reading [dBm] PK	P/M Reading [dBm] AVG	Atten. [dB]	Cable Loss [dB]	Result [dBm] PK	Result [dBm] AVG
GSM (GMSK/1slot)	Low	1850.2	8.50	-0.92	20.0	0.6	29.10	19.68
	Mid	1880.0	8.74	-0.76	20.0	0.6	29.34	19.84
	High	1909.8	8.93	-0.61	20.0	0.6	29.53	19.99

Results = P/M Reading + Atten.Loss + Cable Loss

<WCDMA IV>

This data is reference data of EMC test. (Report No. 29CE0264-HO-01-J)
Date of test: December 9, 2008

WCDMA IV band						
Mode	Ch	Frequency [MHz]	P/M Reading [dBm]	Atten. [dB]	Cable Loss [dB]	Result [dBm]
RMC 12.2kbps	Low	1712.4	8.8	10.0	4.2	23.0
	Mid	1732.6	8.8	10.0	4.2	23.0
	High	1752.6	8.7	10.0	4.2	22.9
AMR	Low	1712.4	8.7	10.0	4.2	22.9
	Mid	1732.6	8.6	10.0	4.2	22.8
	High	1752.6	8.5	10.0	4.2	22.7

Results = P/M Reading + Atten.Loss + Cable Loss

This DATA is a result of execution in before HACtesting.

WCDMA V band HAC Power								
Mode	Ch	Frequency [MHz]	P/M Reading [dBm] PK	P/M Reading [dBm] AVG	Atten. [dB]	Cable Loss [dB]	Result [dBm] PK	Result [dBm] AVG
RMC 12.2kbps	Low	1712.4	12.40	8.80	10.0	4.2	26.60	23.00
	Mid	1732.6	12.20	8.80	10.0	4.2	26.40	23.00
	High	1752.6	12.40	8.70	10.0	4.2	26.60	22.90
AMR	Mid	1732.6	12.10	8.60	10.0	4.2	26.30	22.80

Results = P/M Reading + Atten.Loss + Cable Loss

SECTION 7 : Measurement results

7.1 E-Filed (GSM850 / PCS1900)

Ambient temperature (deg.c.)	:	**23.5**	Model	:	**PV300**
Relative Humidity (%)	:	**37**	Serial No.	:	**P3-240**
Atmospheric Pressure	:	**101.4 kPa**	Crest factor	:	**8.3**
Date	:	**January 5, 2009**	Measured By	:	**Miyo Kishimoto**

HAC Result E-Field					
Mode	Channel	AWF	PMF	PK-Field [V/m]	Result
GSM 850	Low	-5	2.91	**121.2**	**M4**
GSM 850	Mid	-5	2.95	**148.5**	**M4**
GSM 850	High	-5	2.91	**121.0**	**M4**
GSM 850 + BT	Low	-5	2.91	**120.9**	**M4**
GSM 850 + BT	Mid	-5	2.95	**148.1**	**M4**
GSM 850 + BT	High	-5	2.91	**120.4**	**M4**

HAC Result E-Field					
Band	Channel	AWF	PMF	PK-Field [V/m]	Result
PCS 1900	Low	-5	2.87	**47.8**	**M3**
PCS 1900	Mid	-5	2.87	**54.9**	**M3**
PCS 1900	High	-5	2.87	**55.6**	**M3**
PCS 1900 + BT	Low	-5	2.87	**49.1**	**M3**
PCS 1900 + BT	Mid	-5	2.87	**55.6**	**M3**
PCS 1900 + BT	High	-5	2.87	**56.6**	**M3**

*See Appendix 3 for measurement data plots.

7.2 E-Filed (WCDMA IV)

Ambient temperature (deg.c.)	:	**23.5**	Model	:	**PV300**
Relative Humidity (%)	:	**37**	Serial No.	:	**P3-240**
Atmospheric Pressure	:	**101.4 kPa**	Crest factor	:	**1**
Date	:	**January 5, 2009**	Measured By	:	**Miyo Kishimoto**

HAC Result E-Field					
Mode	Channel	AWF	PMF	PK-Field [V/m]	Result
WCDMA IV (RMC 12.2k)	Low	0	0.94	**29.9**	**M4**
WCDMA IV (RMC 12.2k)	Mid	0	0.94	**28.2**	**M4**
WCDMA IV (RMC 12.2k)	High	0	0.94	**29.6**	**M4**
WCDMA IV (AMR)	Low	0	0.94	**30.1**	**M4**
WCDMA IV (RMC 12.2k)+BT	Low	0	0.94	**30.9**	**M4**
WCDMA IV (RMC 12.2k)+BT	Mid	0	0.94	**29.7**	**M4**
WCDMA IV (RMC 12.2k)+BT	High	0	0.94	**30.4**	**M4**
WCDMA IV (AMR) +BT	High	0	0.94	**30.9**	**M4**

*See Appendix 3 for measurement data plots.

7.3 H-Filed (GSM850 / PCS1900)

Ambient temperature (deg.c.)	:	**23.0**	Model	:	**PV300**
Relative Humidity (%)	:	**32**	Serial No.	:	**P3-240**
Atmospheric Pressure	:	**102.1 kPa**	Crest factor	:	**8.3**
Date	:	**January 6, 2009**	Measured By	:	**Miyo Kishimoto**

HAC Result H-Field					
Mode	Channel	AWF	PMF	PK-Field [A/m]	Result
GSM 850	Low	-5	2.94	**0.207**	**M4**
GSM 850	Mid	-5	2.94	**0.260**	**M4**
GSM 850	High	-5	2.94	**0.213**	**M4**
GSM 850 + BT	Low	-5	2.94	**0.207**	**M4**
GSM 850 + BT	Mid	-5	2.94	**0.274**	**M4**
GSM 850 + BT	High	-5	2.94	**0.216**	**M4**

HAC Result H-Field					
Band	Channel	AWF	PMF	PK-Field [A/m]	Result
PCS 1900	Low	-5	2.92	**0.155**	**M3**
PCS 1900	Mid	-5	2.92	**0.174**	**M3**
PCS 1900	High	-5	2.92	**0.182**	**M3**
PCS 1900 + BT	Low	-5	2.92	**0.158**	**M3**
PCS 1900 + BT	Mid	-5	2.92	**0.174**	**M3**
PCS 1900 + BT	High	-5	2.92	**0.186**	**M3**

*See Appendix 3 for measurement data plots.

7.4 H-Filed (WCDMA IV)

Ambient temperature (deg.c.)	:	**23.0**	Model	:	**PV300**
Relative Humidity (%)	:	**32**	Serial No.	:	**P3-240**
Atmospheric Pressure	:	**102.1 kPa**	Crest factor	:	**1**
Date	:	**January 6, 2009**	Measured By	:	**Miyo Kishimoto**

HAC Result H-Field					
Mode	Channel	AWF	PMF	PK-Field [A/m]	Result
WCDMA IV (RMC 12.2k)	Low	0	0.98	**0.092**	**M4**
WCDMA IV (RMC 12.2k)	Mid	0	0.98	**0.084**	**M4**
WCDMA IV (RMC 12.2k)	High	0	0.98	**0.096**	**M4**
WCDMA IV (AMR)	High	0	0.98	**0.091**	**M4**
WCDMA IV (RMC 12.2k)+BT	Low	0	0.98	**0.093**	**M4**
WCDMA IV (RMC 12.2k)+BT	Mid	0	0.98	**0.085**	**M4**
WCDMA IV (RMC 12.2k)+BT	High	0	0.98	**0.096**	**M4**
WCDMA IV (AMR) +BT	High	0	0.98	**0.094**	**M4**