HCT CO., LTD.

PRODUCT COMPLIANCE DIVISION
SAN 136-1, AMI-RI , BUBAL-EUP, ICHEON-SI, KYOUNGKI-DO, 467-701, KOREA
TEL : +82 31 639 8518 FAX : +82 31 639 8525 www.hct.co.kr

EMI REPORT (DoC)

PANTECH&CURITEL COMMUNICATIONS, INC. **110-1, ONGJEONG-RI, TONGJIN-EUP, GIMPO-SI, GYOUNGGI-DO, 415-865, KOREA**	Date of Issue: November 01, 2007 Test Report No.: HCT-F07-1102 Test Site: HCT CO., LTD.

MODEL: **PX-600**

Classification/ Standard(s):	FCC PART 15 Subpart B / CISPR 22 CLASS B
Equipment (EUT) Type:	Dual-Band CDMA USB Modem
Trade Name/Model(s):	PANTECH&CURITEL COMMUNICATIONS, INC. / PX-600
Port/ Connector(s):	DC In port

The device bearing the trade name and model specified above, has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2003.(See Test Report if any modifications were made for compliance)

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

HCT certifies that no party to application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse of 1988,21 U.S.C.853(a).

Report prepared by	**Approved by**
: Doo Hwan Ryu	**: Sang Jun Lee**
Test engineer of EMC Tech.Part	**Manager of EMC Tech.Part**

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1. GENERAL INFORMATION

1.1 Product Description

The PANTECH&CURITEL COMMUNICATIONS, INC. Dual-Band CDMA USB Modem/PX-600 Its basic purpose is used for communications. It transmits from CDMA 835 (824.7 – 848.31) MHz, PCS1900 (1851.25 – 1908.75) MHz and receives from CDMA 835 (869.70 – 893.31) MHz, PCS1900 (1931.25 – 1988.75) MHz.

MODEL	PX-600
EUT Type	Dual-Band CDMA USB Modem/PX-600
TX Frequency	824.70 – 848.31(CDMA 835) 1851.25 – 1908.75(PCS 1900)
RX Frequency	869.70 – 893.31(CDMA 835) 1931.25 – 1988.75(PCS 1900)
Modulation	CDMA 835/ PCS 1900

1.2 Related Submittal(s) / Grant(s)

ORIGINAL SUBMITTAL ONLY

1.3 Tested System Details

The Model names for all equipment, plus descriptions used in the tested system (including inserted cards) are:

DEVICE TYPE	MANUFACTURER	MODEL NUMBER/ PART NUMBER	FCC ID / DoC	CONNECTED TO
EUT(PX-600)	PANTECH&CURITEL COMMUNICATIONS, INC.	PX-600	PX-600	PC
PC	DELL	OPTIPLEX GX620	-	EUT
Monitor	DELL	1704FPTt	-	PC
Mouse	DELL	MO56U0	-	PC
Keyboard	DELL	SK-8115	-	PC
Printer	H.P	C4569A	-	PC

1.4 Cable Description

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (M)
EUT(PX-600)	**USB**	**N**	**N**	**- (P, D)**
PC	**USB(Mouse)**	**N/A**	**Y**	**1.8(D)**
	USB(Keyboard)	**N/A**	**Y**	**1.8(D)**
	D-Sub(Monitor)	**N/A**	**Y**	**1.6(D)**
	Parallel(Printer)	**N/A**	**Y**	**1.8(D)**
	AC-In	**N**	**Y**	**1.8(P)**
Monitor	**AC-In**	**N**	**N/A**	**1.8(P)**
Printer	**AC-In**	**N**	**N/A**	**1.8(P)**

The marked "(D)" means the Data Cable and "(P)" means the Power Cable.

1.5 Noise Suppression Parts on Cable. (I/O CABLE)

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
EUT(PX-600)	USB	N	-	Y	PC end
PC	D-Sub	Y	Both end	Y	Both end
	USB(Keyboard)	N	-	Y	PC end
	USB(Mouse)	N	-	Y	PC end
	Parallel(Printer)	N	-	Y	Both end

1.6 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4/2003. Radiated testing was performed at an antenna to EUT distance of 3 meters.

1.7 Test Facility

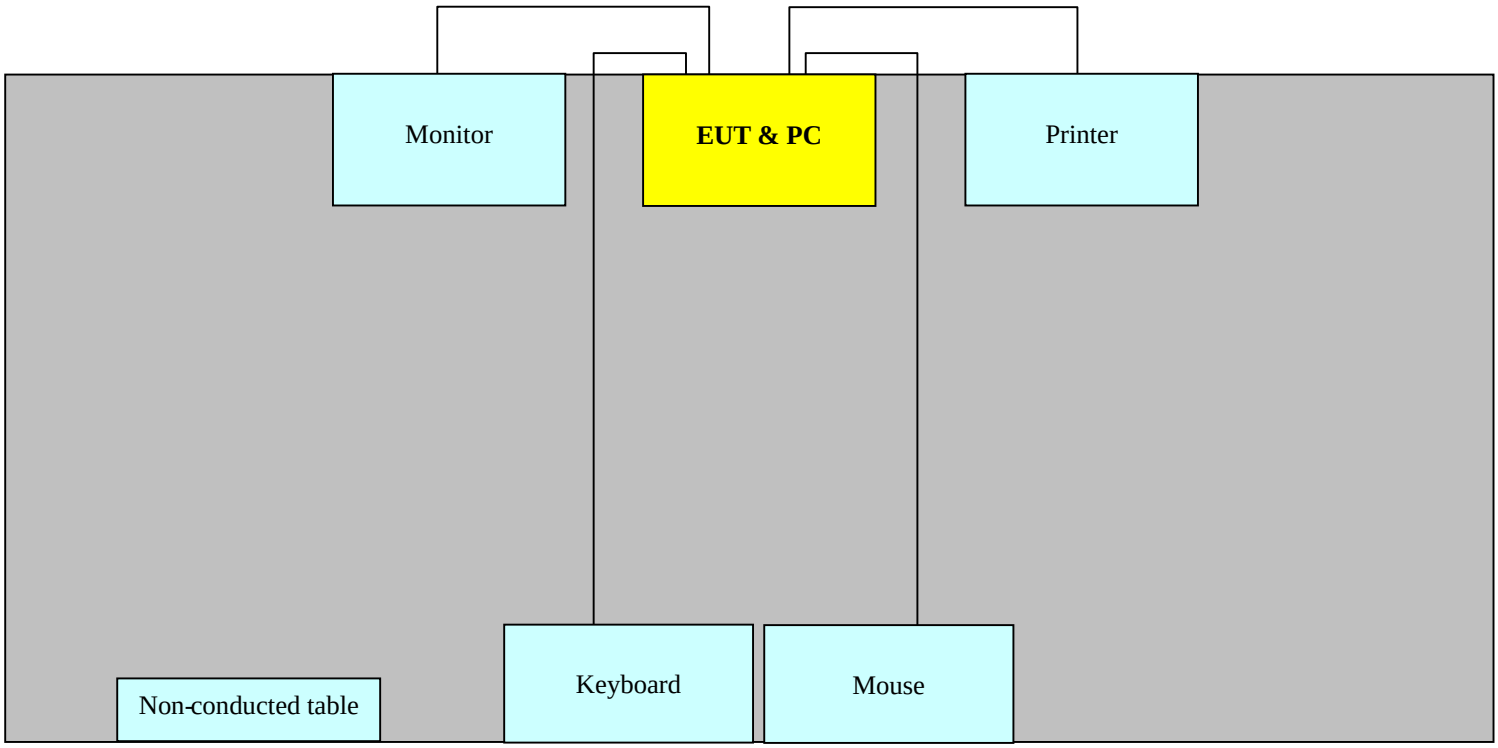
The open area test site and conducted measurement facility used to collect the radiated data are located at the 254-1,Maekok-Ri, Hobup-Myun, Ichon-Si, Kyoungki-Do, 467-701, KOREA. The site is constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated July 6, 2006(Registration Number: 90661)

2.SYSTEM TEST CONFIGURATION

2.1 Configuration of Test system

Line Conducted Test : EUT was connected to LISN, all other supporting equipment were Connected to another LISN. Preliminary Power line Conducted Emission tests were performed by using the procedure in ANSI C63.4/2003 7.2.3 to determine the worst operating conditions.

Radiated Emission Test : Preliminary Radiated Emissions tests were performed by using the procedure in ANSI C63.4/2003 8.3.1.1 to determine the worst operating condition. Final Radiated Emission tests were performed at 3 meter open area test site.



Power Line: 110V AC

[Configuration of Tested System]

3. PRELIMINARY TEST

3.1 Conducted Emission Test

During Preliminary Tests, the following operating mode was investigated

Operation Mode	The worst operating condition
Idle (835,1900) Mode	X

3. 2 Radiated Emission Test

During Preliminary Test, the Following operation mode was investigated

Operation Mode	The worst operating condition
Idle (835,1900) Mode	X

4. CONDUCTED AND RADIATED EMISSION TESTS SUMMARY

4.1 Conducted Emission Test

The following table shows the highest levels of conducted emissions on both polarization of hot and neutral line.

==========

Limit apply to	: CISPR 22 CLASS B
Result	: PASSED BY – 7.4 dB
Operating Condition	: Idle mode
Detector	: CISPR Quasi-Peak (6 dB Bandwidth: 9 kHz)
Temperature	: 26.0 °C
Humidity Level	: 42.0 %
Test Date	: October 30, 2007

Power Line Conducted Emissions			CISPR 22 Class B		
Frequency (MHz)	Amplitude (dBuV)	Conductor	Result	Limit (dBuv)	Margin (dB)
0.5400	38.6	HOT	Quasi-Peak	56.0	-17.4
0.5400	38.6	HOT	Average	46.0	-7.4
0.2001	43.3	NEUTRAL	Quasi-Peak	63.6	-20.3
0.2026	41.4	NEUTRAL	Average	53.5	-12.1

Line Conducted Emission Tabulated Data

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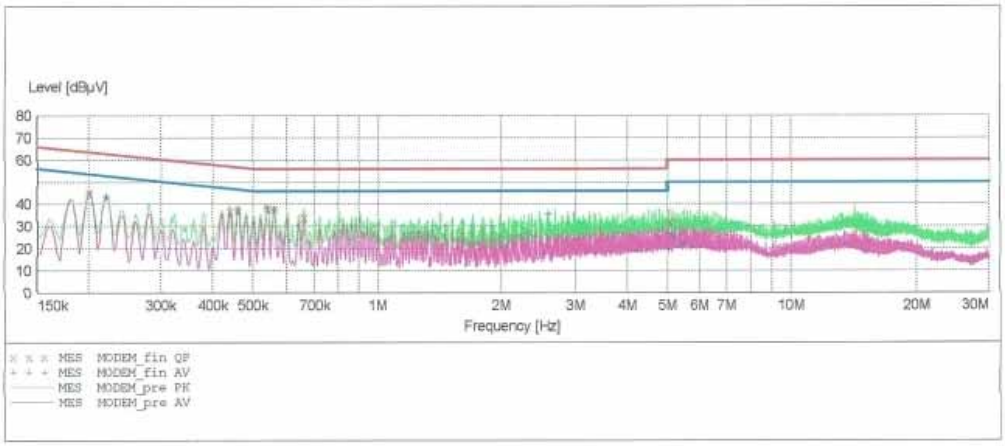
EUT: PX-600
Manufacturer: PANTECH&CURITEL
Operating Condition: IDLE MODE
Test Site: SHIELD ROOM
Operator: DH-RYU
Test Specification: CISPR 22 CLASS B
Comment: H

SCAN TABLE: "CISPR 22 Voltage"

Short Description: CISPR 22 Voltage

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.1 kHz	500.0 kHz	2.5 kHz	MaxPeak Average	10.0 ms	9 kHz	None
500.0 kHz	5.0 MHz	5.0 kHz	MaxPeak Average	10.0 ms	9 kHz	None
5.0 MHz	30.0 MHz	5.0 kHz	MaxPeak Average	10.0 ms	9 kHz	None



MEASUREMENT RESULT: "MODEM_fin QP"

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Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.200100	45.10	10.0	64	18.5	---	---
0.440100	36.90	10.0	57	20.1	---	---
0.460100	37.60	10.1	57	19.1	---	---
0.540000	38.60	10.1	56	17.4	---	---
0.560000	38.00	10.1	56	18.0	---	---
0.660000	34.20	10.1	56	21.8	---	---
5.055000	32.10	10.6	60	27.9	---	---
5.495000	28.30	10.7	60	31.7	---	---
14.265000	26.80	11.8	60	33.2	---	---

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MEASUREMENT RESULT: "MODEM_fin AV"

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Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.200100	45.00	10.0	54	8.6	---	---
0.220100	43.60	10.0	53	9.2	---	---
0.460100	37.40	10.1	47	9.3	---	---
0.540000	38.60	10.1	46	7.4	---	---
0.560000	37.90	10.1	46	8.1	---	---
2.585000	35.70	10.4	46	10.3	---	---
5.050000	19.70	10.6	50	30.3	---	---
5.155000	26.40	10.6	50	23.6	---	---
5.475000	21.90	10.7	50	28.1	---	---

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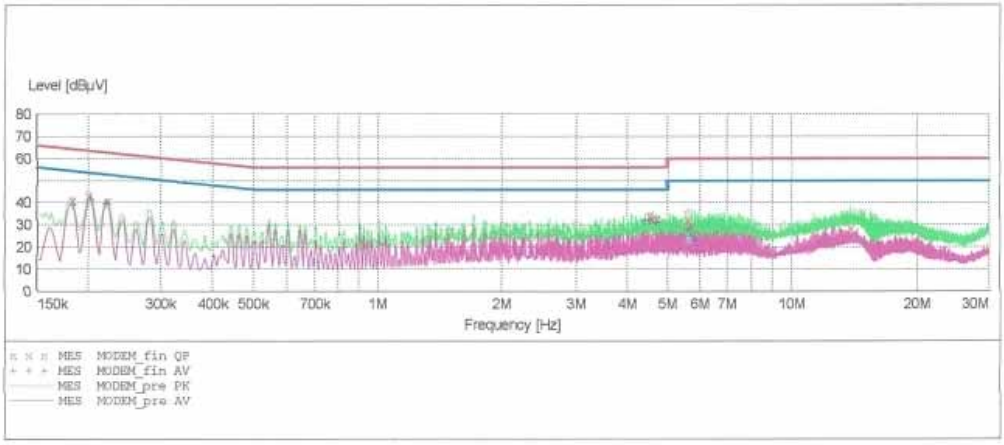
EMC TEST LAB.

EUT: PX-600
Manufacturer: PANTECH&CURITEL
Operating Condition: IDLE MODE
Test Site: SHIELD ROOM
Operator: DH-RYU
Test Specification: CISPR 22 CLASS B
Comment: N

SCAN TABLE: "CISPR 22 Voltage"

Short Description: CISPR 22 Voltage

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.1 kHz	500.0 kHz	2.5 kHz	MaxPeak Average	10.0 ms	9 kHz	None
500.0 kHz	5.0 MHz	5.0 kHz	MaxPeak Average	10.0 ms	9 kHz	None
5.0 MHz	30.0 MHz	5.0 kHz	MaxPeak Average	10.0 ms	9 kHz	None



MEASUREMENT RESULT: "MODEM_fin QP"

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Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.182600	41.00	10.0	64	23.4	---	---
0.200100	43.30	10.0	64	20.3	---	---
0.222600	40.80	10.0	63	21.9	---	---
4.505000	34.00	10.6	56	22.0	---	---
4.605000	32.60	10.6	56	23.4	---	---
4.705000	32.90	10.6	56	23.1	---	---
5.615000	32.30	10.7	60	27.7	---	---
5.715000	29.20	10.7	60	30.8	---	---
13.850000	28.60	11.7	60	31.4	---	---

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MEASUREMENT RESULT: "MODEM_fin AV"

10/30/2007 3:40PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.182600	39.40	10.0	54	15.0	---	---
0.202600	41.40	10.0	54	12.1	---	---
0.220100	39.60	10.0	53	13.2	---	---
4.405000	32.30	10.6	46	13.7	---	---
4.505000	32.30	10.6	46	13.7	---	---
4.705000	31.20	10.6	46	14.8	---	---
5.615000	28.20	10.7	50	21.8	---	---
5.715000	25.20	10.7	50	24.8	---	---
5.815000	22.80	10.7	50	27.2	---	---

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4.2 Radiated Emission Test

The following table shows the highest levels of Radiated Emissions on both polarization of horizontal and vertical.

==========

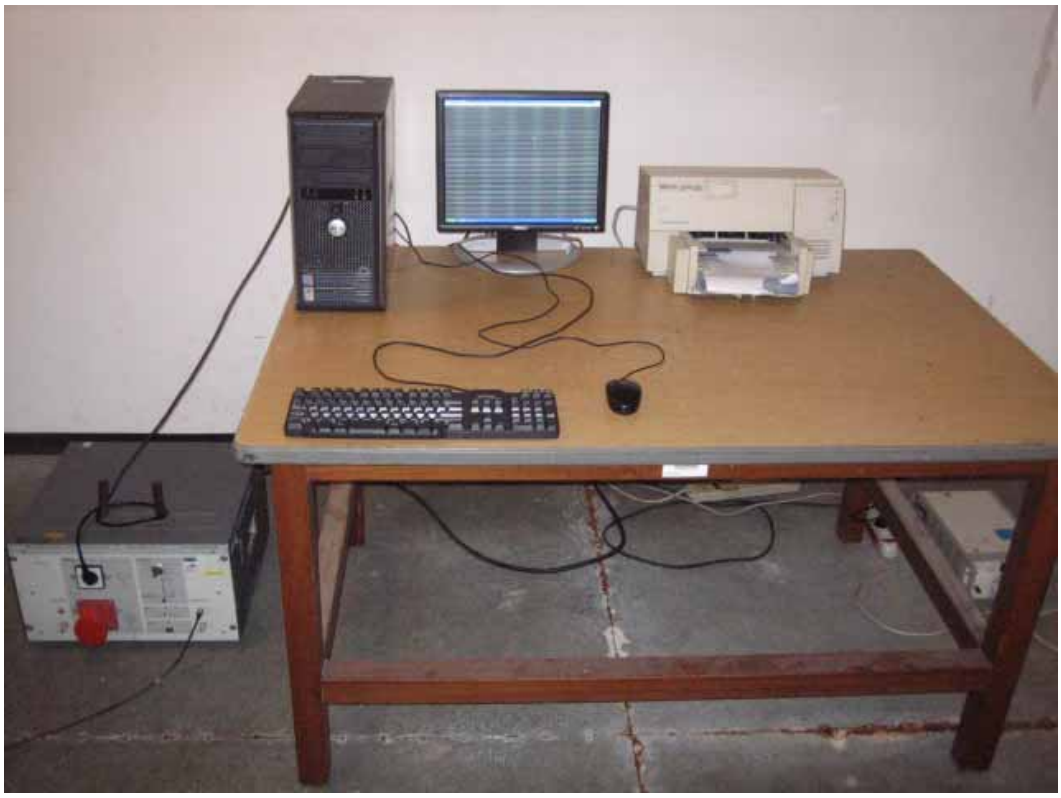
Limit apply to	: FCC PART 15 Subpart B
Result	: PASSED BY – 10.2 dB
Operating Condition	: Idle mode
Detector	: CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)
Temperature	: 26.0 °C
Humidity Level	: 42.0 %
Test Date	: October 30, 2007

Frequency MHz	Reading dBuV	Ant. Factor dB	Cable Loss dB	ANT POL (H/V)	Total dBuV/m	Limit dBuV/m	Margin dB
40.3	15.3	13.0	1.5	V	29.8	40.0	-10.2
141.7	12.2	12.5	2.8	V	27.5	43.5	-16.0
180.0	9.8	10.6	3.2	V	23.6	43.5	-19.9
241.2	9.8	10.9	3.7	H	24.4	46.0	-21.6
329.5	6.4	13.4	4.3	H	24.1	46.0	-21.9
343.7	7.0	13.7	4.4	H	25.2	46.0	-20.9

*** For measurement over 1 GHz, noise level is more than 10 dB below the limit.

4.3 Test Setup Photos

4.3.1 Conducted Emission



4.3.2 Radiated Emission

5. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor.
The basic equation with a sample calculation is as follows:

FS = RA + AF + CF

where FS = Field Strength

RA = Receiver Amplitude

AF = Antenna Factor

CF = Cable Attenuation Factor

Assume a receiver reading of 21.5 dBuV/m is obtained. The Antenna Factor of 7.4 dB and a Cable Factor of 1.1 dB is added. The 30 dBuV/m value is mathematically converted to its corresponding level in uV/m.

FS = 21.5 + 7.4 + 1.1 = 30 dBuV/m

Radiated emission limits

Frequency of emission	Field strength	
	μV / m	dB μV / m
30 ~ 88	100	40.0
88 ~ 216	150	43.5
216 ~ 960	200	46.0
Above 960	500	54.0

6. Test Equipment

Type	Manufacture	Model Number	Next CAL Date
EMI Test Receiver	Rohde & Schwarz	ESI40	2007.11.06
EMI Test Receiver	Rohde & Schwarz	ESCI	2008.06.01
LISN	EMCO	703125	2008.02.03
LISN	Rohde & Schwarz	ESH2-Z5	2008.04.20
LISN	Rohde & Schwarz	ESH3-Z5	2008.06.13
LISN	EMCO	3816/2	2008.06.13
Attenuator	Rohde & Schwarz	ESH3-Z2	2008.10.30
TRILOG Antenna	Schwarzbeck	VULB9168	2008.03.19
Communication Antenna	TDK	LPDA-0802	N/A
Antenna Position Tower	HD	240/520/00	N/A
Turn Table	EMCO	1060	N/A
AC Power Source	PACIFIC	Magnetic Module	N/A
Base Station	Rohde & Schwarz	CMU 200	2008.02.27
Horn Antenna	Schwarzbeck	BBHA 9120D	2008.03.31
RF-Amplifier	MITEQ	AMF-6D-00101800-35.20P.PS	2008.01.24
Bluetooth Base Station	TESCOM	TC-3000A	2008.01.19

7. Conclusion

The data collected shows that the PANTECH&CURITEL COMMUNICATIONS, INC. Dual-Band CDMA USB Modem. MODEL: PX-600 Complies with §15.107 and §15.109 of the FCC Rules.