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EMI REPORT (DoC)

PANTECH&CURITEL COMMUNICATION,INC. **110-1,ONGJEONG-RI, TONGJIN-EUP,** **GIMPO-SI, GYOUNGGI-DO, 415-865, KOREA**	**Date of Issue: March 6, 2008** **Test Report No.: HCT-F08-0306** **Test Site: HCT CO., LTD.** **HCT FRN: 0005-8664-21**

FCC ID: **PP4X1**

Classification/ Standard(s):	FCC PART 15 Subpart B / CISPR 22 CLASS B
Equipment (EUT) Type:	Single-Band CDMA PCS Phone with Bluetooth
Trade Name/Model(s):	PANTECH&CURITEL COMMUNICATION,INC. / CDM8074
Port/ Connector(s):	DC Input Port / Ear Phone 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**
: Yong Hyun Lee	**: Sang Jun Lee**
Test engineer of EMC Tech.Part	**Manager of EMC Tech.Part**

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1 Product Description

The PANTECH&CURITEL COMMUNICATION,INC. CDM8074 Single-Band CDMA PCS Phone with Bluetooth. It's basic purpose is used for communications. It transmits from PCS1900 (1851.25 MHz – 1908.75 MHz) and receives from PCS1900 (1931.25 MHz – 1988.75 MHz).

MODEL	CDM8074
FCC ID	PP4X1
EUT Type	Single-Band CDMA PCS Phone with Bluetooth
TX Frequency	1851.25 MHz – 1908.75 MHz (PCS1900) 2402 MHz – 2480 MHz (Bluetooth)
RX Frequency	1931.25 MHz – 1988.75 MHz (PCS1900) 2402 MHz – 2480 MHz (Bluetooth)
Modulation	PCS1900 Bluetooth

1.2 Related Submittal(s) / Grant(s)

ORIGINAL SUBMITTAL ONLY

1.3 Tested System Details

All equipment descriptions used in the tested system (including inserted cards) are:

DEVICE TYPE	MANUFACTURER	MODEL NUMBER/ PART NUMBER	FCC ID / DoC	CONNECTED TO
Single-Band CDMA PCS Phone with Bluetooth	**PANTECH&CURITEL COMMUNICATION,INC**	**CDM8074**	**PP4X1**	**TA,Notebook PC**
Travel Adaptor	**UTSTARCOM**	**CNR4**	**-**	**EUT**
Notebook PC	**Toshiba**	**PSMA2K-01D002**	**DoC**	**EUT**
Notebook Adaptor	**Delta**	**SADP-65KB B**	**-**	**Notebook PC**
Mouse	**DELL**	**MO56U0**	**DoC**	**Notebook PC**
Ear phone	**-**	**-**	**-**	**EUT**
USB Cable	**-**	**-**	**-**	**EUT, PC**

1.4 Cable Description

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (M)
Single-Band CDMA PCS Phone with Bluetooth	**DC-In**	**N**	**N/A**	**(P)1.9**
	Ear Jack	**N/A**	**N**	**(D)1.6**
	USB Data	**N/A**	**Y**	**(D)1.1**
Notebook PC	**USB (Mouse)**	**N/A**	**Y**	**(D)1.8**

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
Dual-Band CDMA Phone with Bluetooth	**DC-In**	**Y**	**PC End**	**Y**	**EUT End**
	Ear Jack	**N**	**-**	**Y**	**EUT End**
	USB Data	**N**	**-**	**Y**	**Both End**
Notebook	**USB (Mouse)**	**N**	**-**	**Y**	**Notebook 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

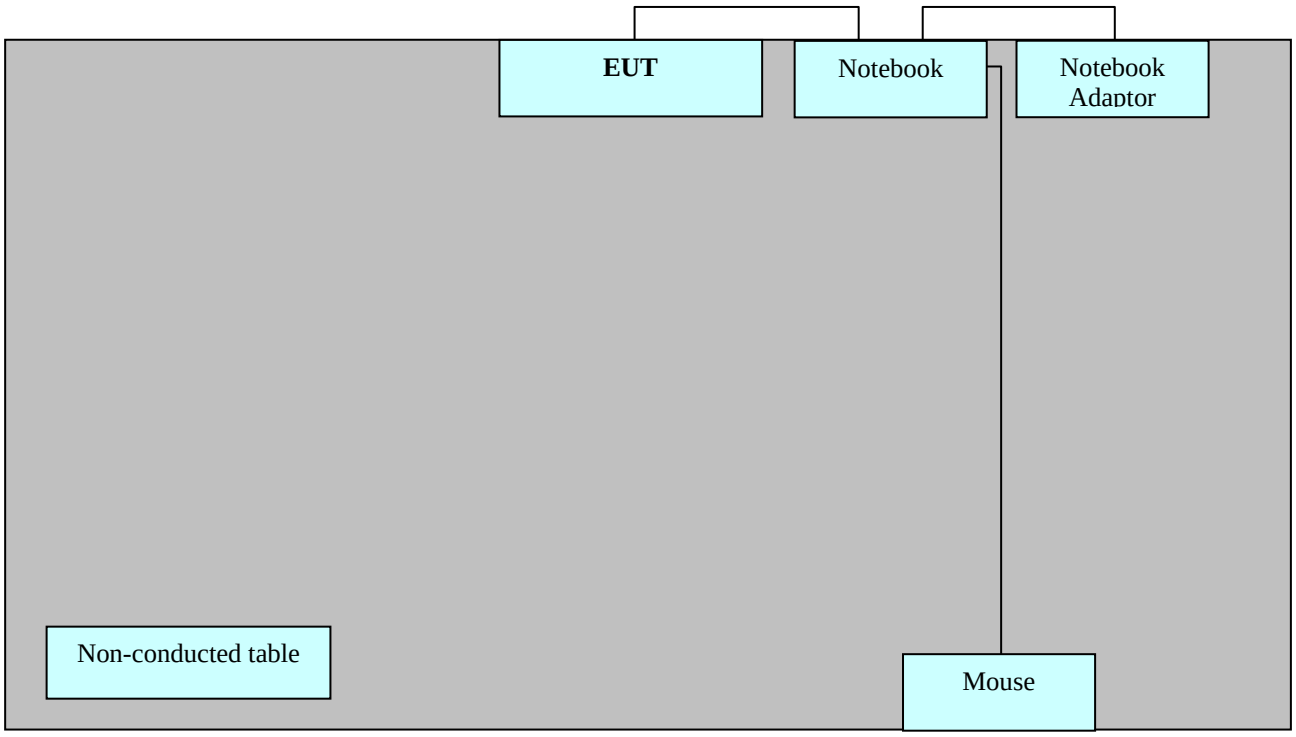
The open area test site and conducted measurement facility used to collect the radiated data are located at the 254-1,Maekok-Ri, Hobup-Myun, Ichon-Si, Kyoungki-Do, 467-701, KOREA. The site is constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. Detailed description 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 Emission 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
Camera Mode	○
Idle (1900) Mode	
Bluetooth Mode	
Data Communication Mode	

3. 2 Radiated Emission Test

During Preliminary Test, the Following operation mode was investigated

Operation Mode	The worst operating condition
Camera Mode	○
Idle (1900) Mode	
Bluetooth Mode	
Data Communication Mode	

4. CONDUCTED AND RADIATED EMISSION TEST 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 8.6 dB
Operating Condition	: Camera Mode
Detector	: Quasi-Peak, Average (6 dB Bandwidth: 9 kHz)
Temperature	: 24.2 °C
Humidity Level	: 32.5 %
Test Date	: March 4, 2008

Power Line Conducted Emissions				CISPR 22 Class B	
Frequency (MHz)	Amplitude (dBuV)	Conductor	Result	Limit (dBuV)	Margin (dB)
0.6040	47.4	HOT	Quasi-Peak	56.0	8.6
0.6000	19.8	HOT	Average	46.0	26.2
0.6880	43.7	NEUTRAL	Quasi-Peak	56.0	12.3
0.4276	30.5	NEUTRAL	Average	47.0	16.8

Line Conducted Emissions Tabulated Data

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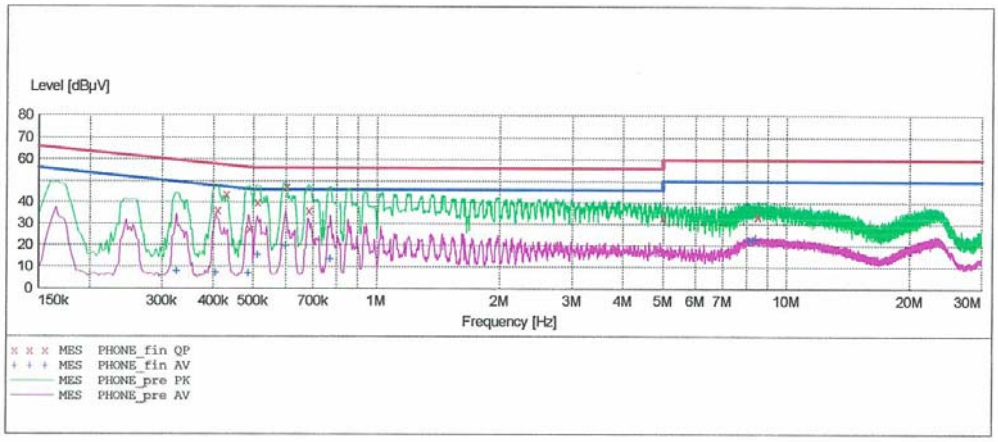
EMC TEST LAB.

EUT:	CDM8074
Manufacturer:	PANTECH&CURITEL
Operating Condition:	Camera Mode
Test Site:	SHIELD ROOM
Operator:	YH.LEE
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	4.0 kHz	MaxPeak Average	10.0 ms	9 kHz	None
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak Average	10.0 ms	9 kHz	None



MEASUREMENT RESULT: "PHONE_fin QP"

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Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.410100	36.50	10.0	58	21.2	---	---
0.430100	43.80	10.0	57	13.5	---	---
0.490100	27.70	10.1	56	28.5	---	---
0.512000	40.10	10.1	56	15.9	---	---
0.604000	47.40	10.1	56	8.6	---	---
0.684000	36.10	10.1	56	19.9	---	---
5.000000	33.00	10.6	56	23.0	---	---
8.492000	33.70	11.0	60	26.3	---	---
8.504000	33.80	11.0	60	26.2	---	---

Page 1/2 3/4/2008 7:36PM HCT EMC LAB

MEASUREMENT RESULT: "PHONE_fin AV"

3/4/2008 7:36PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.325100	8.20	10.0	50	41.3	---	---
0.405100	7.50	10.0	48	40.2	---	---
0.487600	7.40	10.1	46	38.8	---	---
0.512000	15.50	10.1	46	30.5	---	---
0.600000	19.80	10.1	46	26.2	---	---
0.772000	13.80	10.1	46	32.2	---	---
8.084000	22.60	11.0	50	27.4	---	---
8.280000	22.90	11.0	50	27.1	---	---
8.412000	23.00	11.0	50	27.0	---	---

Page 2/2 3/4/2008 7:36PM HCT EMC LAB

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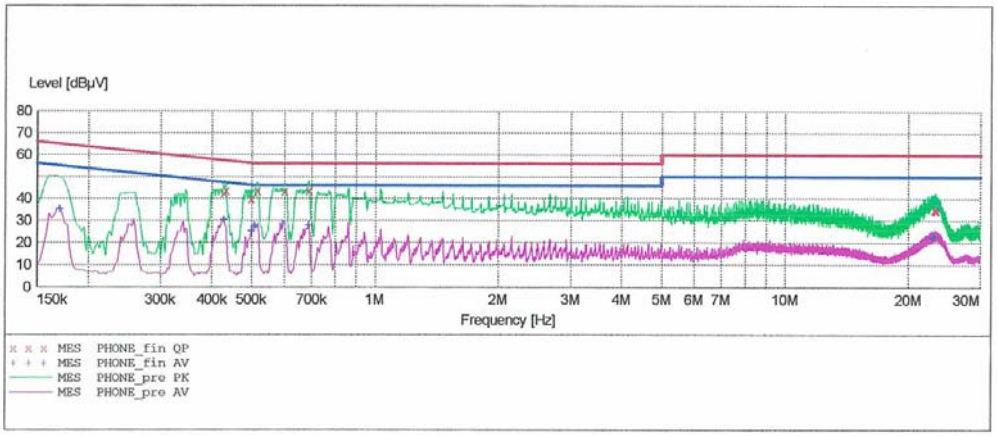
EMC TEST LAB.

EUT: CDM8074
Manufacturer: PANTECH&CURITEL
Operating Condition: Camera Mode
Test Site: SHIELD ROOM
Operator: YH.LEE
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	4.0 kHz	MaxPeak Average	10.0 ms	9 kHz	None
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak Average	10.0 ms	9 kHz	None



MEASUREMENT RESULT: "PHONE_fin QP"

3/4/2008 7:32PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.427600	42.70	10.0	57	14.6	---	---
0.432600	43.60	10.0	57	13.7	---	---
0.497600	39.90	10.1	56	16.1	---	---
0.516000	43.60	10.1	56	12.4	---	---
0.600000	43.40	10.1	56	12.6	---	---
0.688000	43.70	10.1	56	12.3	---	---
23.156000	35.20	12.5	60	24.8	---	---
23.284000	35.00	12.5	60	25.0	---	---
23.408000	34.80	12.5	60	25.2	---	---

Page 1/2 3/4/2008 7:32PM HCT EMC LAB

MEASUREMENT RESULT: "PHONE_fin AV"

3/4/2008 7:32PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.170100	35.50	10.0	55	19.5	---	---
0.427600	30.50	10.0	47	16.8	---	---
0.500000	25.40	10.1	46	20.6	---	---
0.508000	27.70	10.1	46	18.3	---	---
0.596000	28.70	10.1	46	17.3	---	---
0.688000	27.90	10.1	46	18.1	---	---
22.896000	22.70	12.5	50	27.3	---	---
23.168000	23.10	12.5	50	26.9	---	---
23.248000	23.00	12.5	50	27.0	---	---

Page 2/2 3/4/2008 7:32PM HCT EMC LAB

4.2 Radiated Emission Test

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

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Limit apply to	: FCC PART 15 Subpart B
Result	: PASSED BY 16.8 dB
Operating Condition	: Camera Mode
Detector	: Quasi-Peak (6 dB Bandwidth: 120 kHz)
Temperature	: 4.0 °C
Humidity Level	: 37.0 %
Test Date	: March 4, 2008

Frequency	Reading	Ant. Factor	Cable Loss	ANT POL	Total	Limit	Margin
MHz	dBuV/m	dB/m	dB	(H/V)	dBuV/m	dBuV/m	dB
168.0	7.2	12.3	3.1	H	22.6	43.5	20.9
205.0	10.9	9.2	3.4	H	23.5	43.5	20.0
216.0	13.5	9.7	3.5	H	26.7	43.5	16.8

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

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	2008.11.06
EMI Test Receiver	Rohde & Schwarz	ESCI	2008.06.01
LISN	EMCO	703125	2008.05.04
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
Base Station	Rohde & Schwarz	CMU 200	2009.02.28
Horn Antenna	Schwarzbeck	BBHA 9120D	2008.03.31
RF-Amplifier	MITEQ	AMF-6D-00101800-35.20P.PS	2008.04.25
Bluetooth Base Station	TESCOM	TC-3000A	2009.01.11

7. Conclusion

The data collected shows that the PANTECH&CURITEL COMMUNICATION, INC. Single-Band CDMA PCS Phone with Bluetooth. FCC ID: PP4X1 Complies with §15.107 and §15.109 of the FCC Rules.