HYUNDAI CALIBRATION & CERTIFICATION TECH. CO., LTD.

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EMI REPORT (DoC)

PANTECH&CURITEL COMMUNICATIONS, INC.

110-1, ONGJEONG-RI, TONGJIN-EUP, GIMPO-SI, GYOUNGGI-DO, 415-865, KOREA

Date of Issue: December 15, 2006
Test Report No.: HCT-SAR06-1208
Test Site: HYUNDAI CALIBRATION & CERTIFICATION TECHNOLOGIES CO., LTD.

MODEL : **PN-E335**

Classification/ Standard(s):	FCC PART 15 CLASS B / CISPR 22 CLASS B
Equipment (EUT) Type:	Dual-Band CDMA phone with Bluetooth- Prototype
Trade Name/Model(s):	UTStarcom / PN-E335
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.

HYUNDAI C-Tech. 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).

Ki Soo Kim

Report prepared by : Ki-Soo Kim
Manager of Product Compliance Team

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1. GENERAL INFORMATION

1.1 Product Description

The PANTECH&CURITEL PN-E335 Dual- Band CDMA Phone with Bluetooth phone. Its basic purpose is used for communications. It transmits from CDMA (824.70~848.31), PCS CDMA (1851.25~1908.75) MHz and receives from CDMA (869.70~893.31), PCS CDMA (1931.25~1988.75) MHz.The RF power is rated at CDMA (0.282W), PCS CDMA (0.256 W).

FCC ID	PP4PN-E335
EUT Type	Dual-Band CDMA Phone with Bluetooth- Prototype
Model	PN-E335
TX Frequency	824.70 — 848.31 MHz (CDMA) 1851.25 — 1908.75 MHz (PCS CDMA)
RX Frequency	869.70 — 893.31 MHz (CDMA) 1931.25 — 1988.75 MHz (PCS CDMA)
FCC Classification	Licensed Portable Transmitter Held to Ear (PCE)
Max RF. Output Power	0.282W ERP CDMA (24.5dBm) 0.256W EIRP PCS CDMA (24.1dBm)
Modulation	CDMA/ PCS CDMA

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
CDMA Phone	PANTECH&CURITEL	PN-E330	PP4PN-E330	Adaptor/ P.C
Adaptor	PANTECH&CURITEL	PTA-5010C6US	N/A	CDMA Phone
Head-Set	PANTECH&CURITEL	-	N/A	EUT
Notebook P.C	TOSHIBA	PSA50K-04007	DoC	N/A
Adapter	TOSHIBA	ADP-60RH A	DoC	Notebook P.C
MOUSE	H.P	M-S48a	DoC	P.C
PRINTER	H/P	C4569A	DoC	P.C

1.4 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4/1992. Radiated testing was performed at an antenna to EUT distance of 3 meters.

1.5 Test Facility

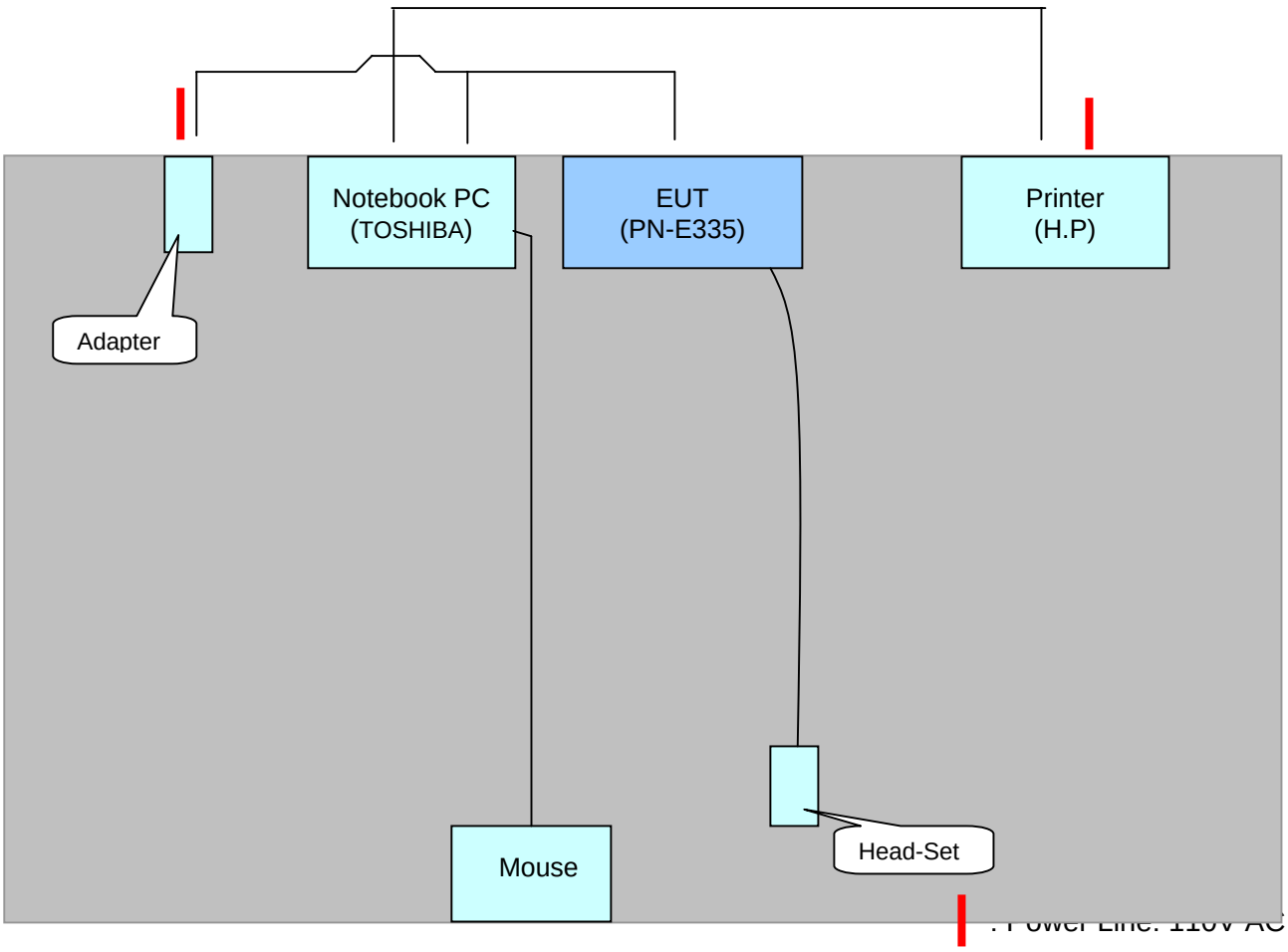
The open area test site and conducted measurement facility used to collect the radiated data are located at the 254-1,Maekok-Ri, Hobup-Myun, Ichon-Si, Kyoungki-Do, 467-701, KOREA. The site is constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. Detailed description 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 worse operating conditions.

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



[Configuration of Tested System]

3. CONDUCETD AND RADIATED EMISSION TESTS SUMMARY

3.1 Conducted Emissions Tests

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

==========

Humidity Level : 37 % Temperature: 24.8 °C
Limit apply to : CISPR 22 CLASS B
Result : PASSED BY – 14.3 dB
Operating Condition : CHARGING BATTERY
Detector : CISPR Quasi-Peak (6 dB Bandwidth: 9 KHz)

Power Line Conducted Emissions				FCC Class B	
Frequency (MHz)	Amplitude (dBuV)	Conductor	Result	Limit (dBuv)	Margin (dB)
2.7100	41.7	HOT	Quasi-Peak	56	-14.3
0.5500	28.2	HOT	Average	46	-17.8
2.6850	41.4	NEUTRAL	Quasi-Peak	56	-14.6
2.6800	25.6	NEUTRAL	Average	46	-20.4

Line Conducted Emissions Tabulated Data

Measured by : Keun-Ho Park / Engineer Date : December 19, 2006

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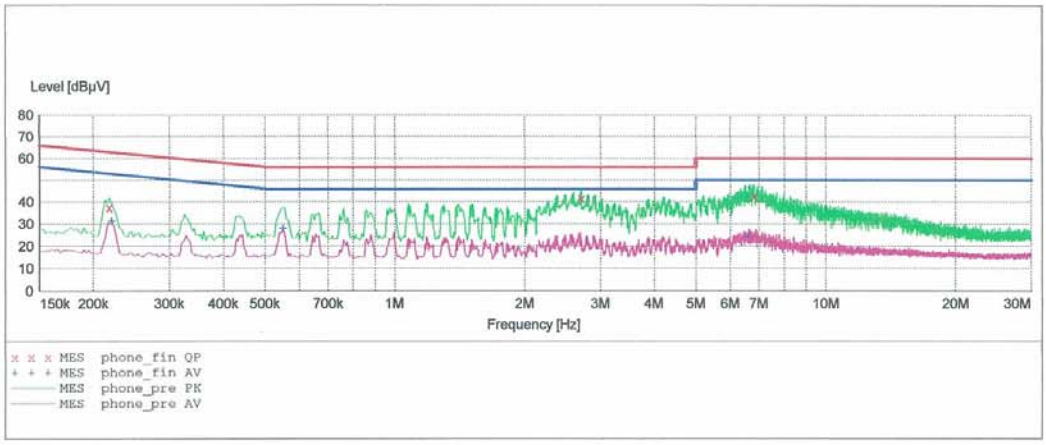
EMC TEST LAB.

```
EUT:                    PN-E335
Manufacturer:           PANTECH@CURITEL
Operating Condition:    CHARGING
Test Site:              SHIELD ROOM
Operator:               KEUN-HO PARK
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	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
0.217600	37.50	10.1	63	25.4	---	---
2.710000	41.70	10.3	56	14.3	---	---
6.810000	42.80	10.3	60	17.2	---	---

MEASUREMENT RESULT: "phone_fin AV"

12/19/2006 7:39PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.220100	31.40	10.1	53	21.5	---	---
0.550000	28.20	10.1	46	17.8	---	---
6.615000	24.70	10.3	50	25.3	---	---

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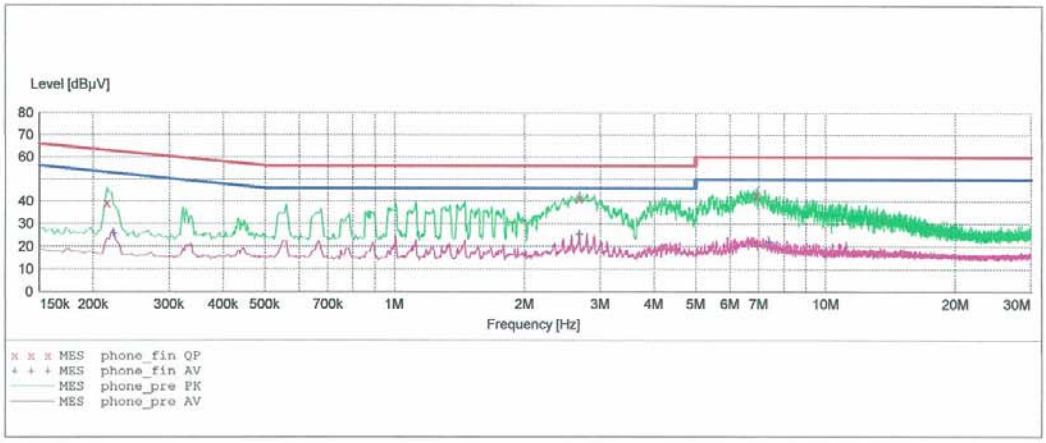
EMC TEST LAB.

```
EUT:                    PN-E335
Manufacturer:           PANTECH@CURITEL
Operating Condition:    CHARGING
Test Site:              SHIELD ROOM
Operator:               KEUN-HO PARK
Test Specification:     CISPR 22 CLASS B
Comment:                N
```

SCAN TABLE: "CISPR 22 Voltage"

```
Short Description:                  CISPR 22 Voltage
Start       Stop        Step        Detector    Meas.      IF        Transducer
Frequency   Frequency   Width                   Time       Bandw.
150.1 kHz   500.0 kHz   2.5 kHz     MaxPeak     10.0 ms    9 kHz     None
                                    Average
500.0 kHz   5.0 MHz     5.0 kHz     MaxPeak     10.0 ms    9 kHz     None
                                    Average
5.0 MHz     30.0 MHz    5.0 kHz     MaxPeak     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
0.215100	39.50	10.1	63	23.5	---	---
2.685000	41.40	10.3	56	14.6	---	---
6.925000	42.90	10.3	60	17.1	---	---

MEASUREMENT RESULT: "phone_fin AV"

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Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.222600	26.00	10.1	53	26.7	---	---
2.680000	25.60	10.3	46	20.4	---	---
7.385000	22.20	10.3	50	27.8	---	---

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6.2 Radiated Emissions Tests

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

==========

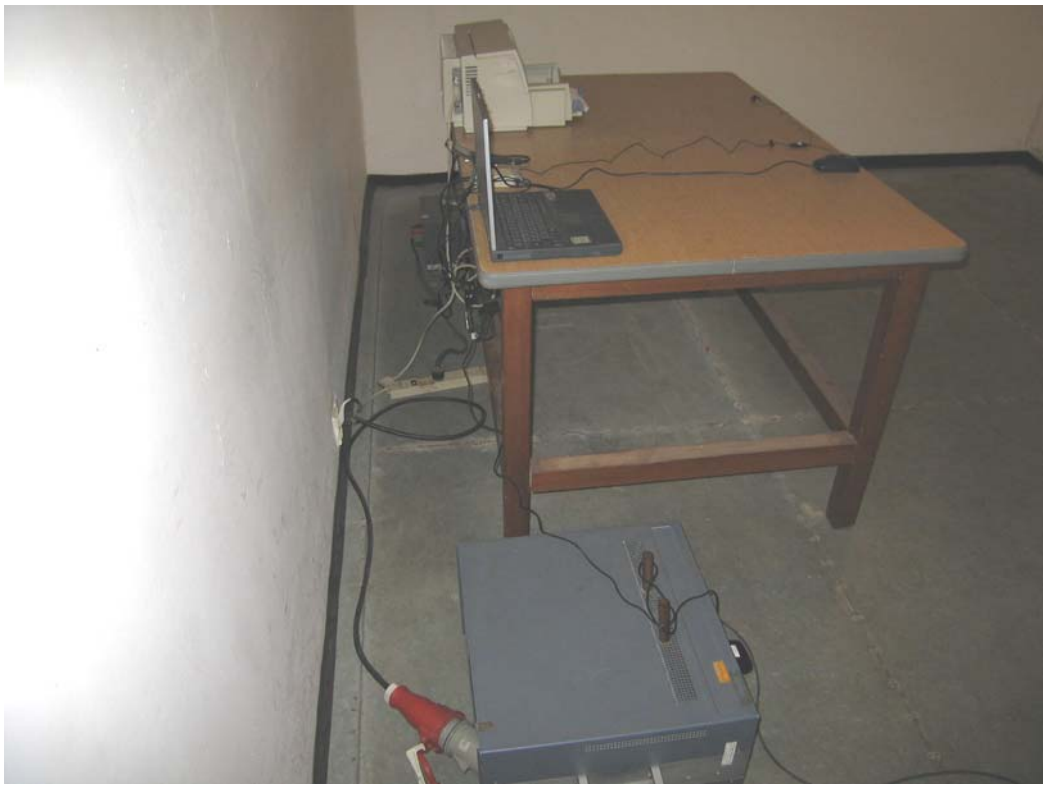
Humidity Level : 37 % Temperature: 24.8 °C
Limit apply to : FCC PART 15 CLASS B
Result : PASSED BY – 4.5 dB
Operating Condition : Charging Battery
Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 KHz)

Frequency MHz	Reading dBuV	Ant. Factor dB	Cable Loss dB	ANT POL (H/V)	Total dBuV/m	Limit dBuV/m	Margin dB
92.10	21.9	9.1	2.1	V	33.1	43.5	-10.4
97.00	23.3	9.7	2.2	V	35.2	43.5	-8.3
241.70	17.7	17.3	3.5	V	38.5	46	-7.5
296.30	18.1	19.5	4.0	V	41.5	46	-4.5
385.40	15.2	16.8	4.5	V	36.5	46	-9.5
462.90	13.9	18.6	4.9	V	37.4	46	-8.6
279.60	13.0	18.4	3.8	H	35.2	46	-10.8
354.10	13.8	16.5	4.3	H	34.6	46	-11.4
417.50	13.7	17.4	4.7	H	35.8	46	-10.2
462.50	10.6	18.6	4.9	H	34.1	46	-11.9
582.50	7.2	20.8	5.5	H	33.5	46	-12.5
623.10	8.9	21.9	5.7	H	36.5	46	-9.5

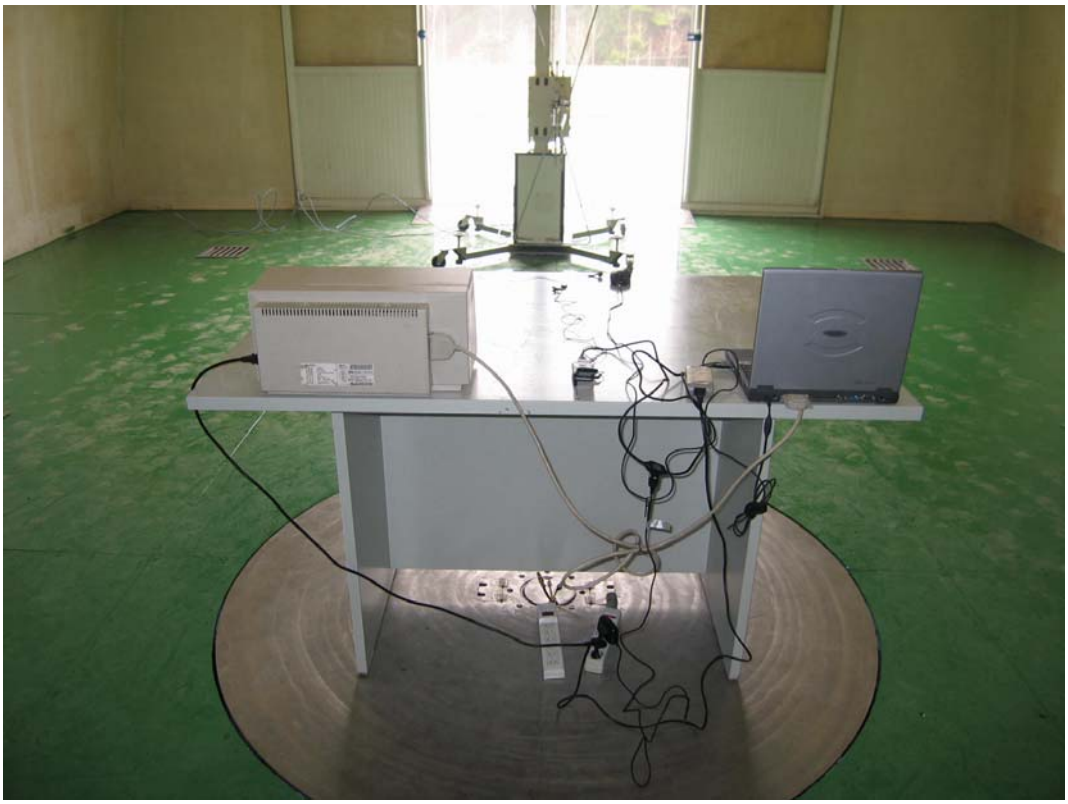
Keun Ho. Park

Measured by : Keun-Ho Park / Engineer Date : October 19, 2006

3.3.1 Conducted Emission



3.3.2 Radiated Emission



4.1 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 is obtained. The Antenna Factor of 7.4 and a Cable Factor of 1.1 is added. The 30 dBuV/m value was mathematically converted to its corresponding level in uV/m.

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

Level in uV/m = Common Antilogarithm [(30 dBuV/m)/20] = 31.6 uV/m

5.1 Test Equipment

Type	Manufacture	Model Number	CAL Due Date
EMI Test Receiver	Rohde & Schwarz	ESI40	2007.11.16
EMI Test Receiver	Rohde & Schwarz	ESCI	2007.08.24
LISN	Rohde & Schwarz	ESH2-Z5	2007.04.26
LISN	EMCO	703125	2007.04.26
Loop Antenna	Rohde & Schwarz	HFH2-Z2	2006.12.20
TRILOG Antenna	Schwarzbeck	VULB 9160	2007.04.17
Antenna Position Tower	HD	MA240	N/A
Turn Table	EMCO	1050	N/A
Power Analyzer	Voltech	PM 3300	2007.03.22
Reference Network Impedance	Voltech	IEC 555	N/A
AC Power Source	PACIFIC	Magnetic Module	N/A
AC Power Source	PACIFIC	360-AMX	2007.11.25
Controller	HD GmbH	HD 100	N/A
SlideBar	HD GmbH	KMS 560	N/A
PULSE LIMITER	Rohde & Schwarz	ESH3-Z2	2007.11.16

6.1 Conclusion

The data collected shows that the PANTECH&CURITEL Dual- Band CDMA Phone with Bluetooth. FCC ID: PP4PN-E330 Complies with §15.107 and §15.109 of the FCC Rules.