



 <b>ESTECH Co., Ltd.</b> Rm. 1015, World Venture Center II, 426-5 Gasan-dong, Guncheon-gu, Seoul, 158-803, Korea	   	<b>Electromagnetic Interference Test Report</b>

## Test Report for FCC

FCC ID:V2X-PM155

Report Number		ESTF150712-017			
Applicant	Company name	POINTMOBILE CO., LTD			
	Address	1412, World Meridian Venture Center-1, 60-24, Gasan-dong, Geumcheon-gu, Seoul, Korea 153-781			
	Telephone	82-2-2113-7275			
Product	Product name	PDA			
	Model No.	CHD FIVE	Manufacturer	POINTMOBILE CO., LTD	
	Serial No.	NONE	Country of origin	KOREA	
Test date	2007-11-15 ~ 2007-11-16		Date of issue	21-Dec-07	
Testing location	ESTECH. Co., Ltd. 97-1 Hoiuk-Ri Majang-Myon, Icheon-city, KyungKi-Do, Korea				
Standard	FCC PART 15 2007 , ANSI C 63.4 2003				
Test item	<input checked="" type="checkbox"/> Conducted Emission	<input type="checkbox"/> Class A	<input checked="" type="checkbox"/> Class B	Test result	OK
	<input checked="" type="checkbox"/> Radiated Emission	<input type="checkbox"/> Class A	<input checked="" type="checkbox"/> Class B	Test result	OK
Measurement facility registration number		94696			
Tested by	Engineer J.H.Kim 				
Reviewed by	Engineering Manager J.M.Yang 				
Abbreviation	OK, Pass = Passed, Fail = Failed, N/A = not applicable				
<p>* Note</p> <ul style="list-style-type: none"> <li>- Basic model is CHD Five and additional model is Metrologic SP58xx Series.</li> <li>- This test report is not permitted to copy partly without our permission</li> <li>- This test result is dependent on only equipment to be used</li> <li>- This test result based on a single evaluation of one sample of the above mentioned</li> </ul>					

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### Appendix 1. Spectral diagram



## 1. Laboratory Information

### 1.1 General

This EUT (Equipment Under Test) has been shown to be capable of compliance with the applicable technical standards and is tested in accordance with the measurement procedures as indicated in this report.

ESTECH Lab attests to accuracy of test data. All measurement reported herein were performed by ESTECH Co., Ltd.

ESTECH Lab assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

### 1.2 Test Lab.

Corporation Name : ESTECH Co. Ltd

Head Office : Rm 1015, World Venture Center II, 426-5, Gasan-dong, Geumcheon-gu, Seoul, Korea  
(Safety & Telecom. Test Lab)

EMC Test Lab : 58-1 Osan-Ri, GaNam-Myon, YeoJoo-Gun, KyungKi-Do, Korea  
97-1 Hoiuk-Ri Majang-Myon, Icheon-city, KyungKi-Do, Korea

### 1.3 Official Qualification(s)

MIC : Granted Accreditation from Ministry of Information & Communication for EMC, Safety and Telecommunication

KOLAS : Accredited Lab By Korea Laboratory Accreditation Schema base on CENELEC requirements

FCC : Filed Laboratory at Federal Communications Commission

VCCI : Granted Accreditation from Voluntary Control Council for Interference from ITE

**ESTECH Co., Ltd.**

Rm 1015, World Venture Center II,  
426-5 Gasan-dong, Guncheon-gu,  
Seoul, 158-803, Korea



## Electromagnetic Interference Test Report

## 2. Description of EUT

### 2.1 Summary of Equipment Under Test

Product name : PDA  
 Model Number : CHD FIVE  
 Serial Number : NONE  
 Manufacturer : POINTMOBILE CO., LTD  
 Country of origin : KOREA  
 Rating : AC 100-240V ~ 50/60Hz 0.3A , OUTPUT : DC 5V 2.0A  
 X-tal list(s) : 32.768KHz/3.6864MHz/24.576MHz/29.4912MHz  
 Receipt Date : 13-Jul-07

### 2.2 General descriptions of EUT

#### PHYSICAL CHARACTERISTICS

**DIMENSIONS** 200 x 78 x 28 mm / 7.87 x 3.07 x 1.10 in.  
 At grip: 64 mm / 2.51 in. (W)  
**WEIGHT** 360 g / 12.7 oz (incl. battery)

#### PERFORMANCE CHARACTERISTICS

**DISPLAY** 3.5 in. (89mm) QVGA (240 x 320 pixels)  
 65K color Transflective TFT-LCD  
 backlight, touch screen  
**OPERATING SYSTEM** Windows® CE 5.0 Professional  
**PROCESSOR** Intel® X-Scale PXA255 400MHz  
 32bit RISC Processor  
**MEMORY** 128MB RAM  
 128MB ROM (M-system Disk on chip)  
**EXPANSION SLOT** Secure Digital (user accessible)

#### WIRELESS DATA COMMUNICATION

**WLAN** IEEE 802.11 b/g (optional)  
**BLUETOOTH** IEEE 802.15 Bluetooth® (optional)

#### SERIAL COMMUNICATION

**INTERFACES** Electrical : Integrated RS232  
 up to 115.2 Kbps  
 USB : High speed USB and mini  
 USB connector (USB 1.1)

#### POWER MANAGEMENT

**POWER SUPPLY** Standard Battery : 4.2V, 2,000mAh Li-ion  
 Extended Battery : 4.2V, 3,000mAh Li-ion  
**ADAPTOR** 5V 2A, 110/230V AC

#### AUDIO & VIBRATOR

**AUDIO** Loud speaker (20Ø, 88dB/+/-3dB) and  
 Ear (Stereo) / Mic. Jack  
**VIBRATOR** Vibration motor 12,000rpm 80mA

#### INTEGRATED SCANNER OPTION

**1D LASER** SE950/955, Opticon VLM4122  
**2D IMAGER** Symbol SE4400

#### KEYPAD OPTIONS

**KEYPAD** QWERTY or Numeric Backlit Keypad

#### USER ENVIRONMENT

**OPERATING TEMP.** -10°C ~ 50°C (14°F ~ 122°F)  
**STORAGE TEMP.** -20°C ~ 70°C (-4°F ~ 158°F)  
**DROP** With stand drops from 1.5 meters  
**RESISTENCE** (5 ft) onto concrete  
**SEALING** IP64 standard for water and  
 dust resistance

#### PERIPHERALS and ACCESSORISE

**STANDARD ACCESSORIES** Hand-strap, STD battery, Stylus pen  
 Quick reference manual, Adaptor  
**CRADLE** Single-slot USB/RS232 charging  
 cradle with spare battery well  
**SYNC CABLE** USB client, serial interface and  
 charging cable  
**GUN-HANDLE PORTABLE PRINTER** Pistol grip  
 Portable thermal printer  
 with MSR reader, Serial/USB and  
 Bluetooth interface

### 3. Test Standards

#### Test Standard : FCC PART 15 (2007)

This Standard sets out the regulations under which an intentional, unintentional, or incidental radiator may be operated without an individual license. It also contains the technical specifications, administrative requirements and other conditions relating to the marketing of Part 15 devices.

#### Test Method : ANSI C 63.4 (2003)

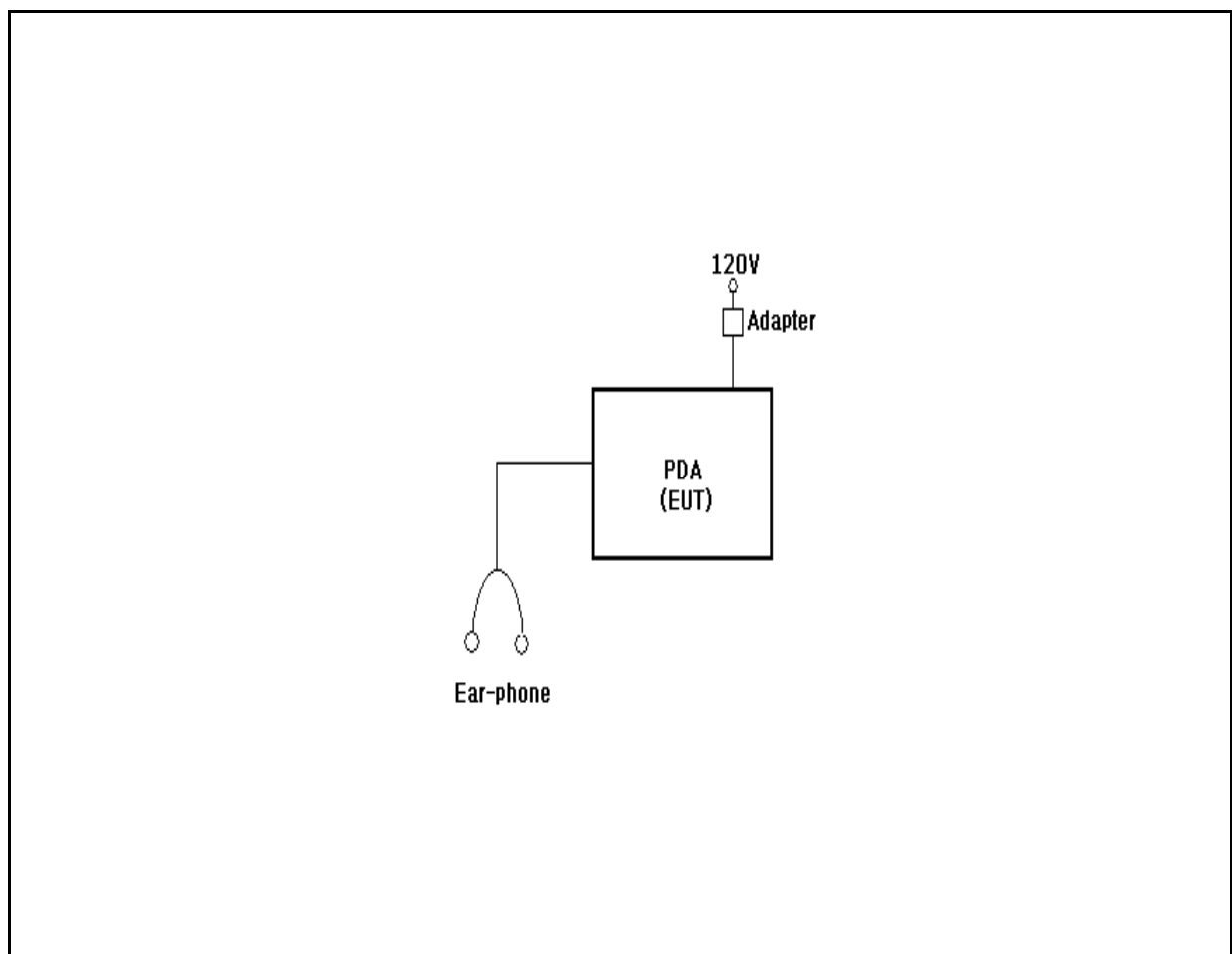
This standard sets forth uniform methods of measurement of radio-frequency (RF) signals and noise emitted from both unintentional and intentional emitters of RF energy in the frequency range 9 kHz to 40 GHz. Methods for the measurement of radiated and AC power-line conducted radio noise are covered and may be applied to any such equipment unless otherwise specified by individual equipment requirements. These methods cover measurement of certain devices that deliberately radiate energy, such as intentional emitters, but does not cover licensed transmitters. This standard is not intended for certification/approval of avionic equipment or for industrial, scientific, and medical (ISM) equipment. These methods apply to the measurement of individual units or systems comprised of multiple units.

## 4.Measurement Condition(Test mode : PDA)

### 4.1 EUT Operation.

- \* The EUT was in the following operation mode during all testing
- \* The operational conditions of the EUT was determined by the manufacturer according to the typical use of the EUT with respect to the expected highest level of emission.
- \* After setting as test arrangment diagram, tested image data and "H" character doing display on PDA Screen.

### 4.2 Configuration and Peripherals

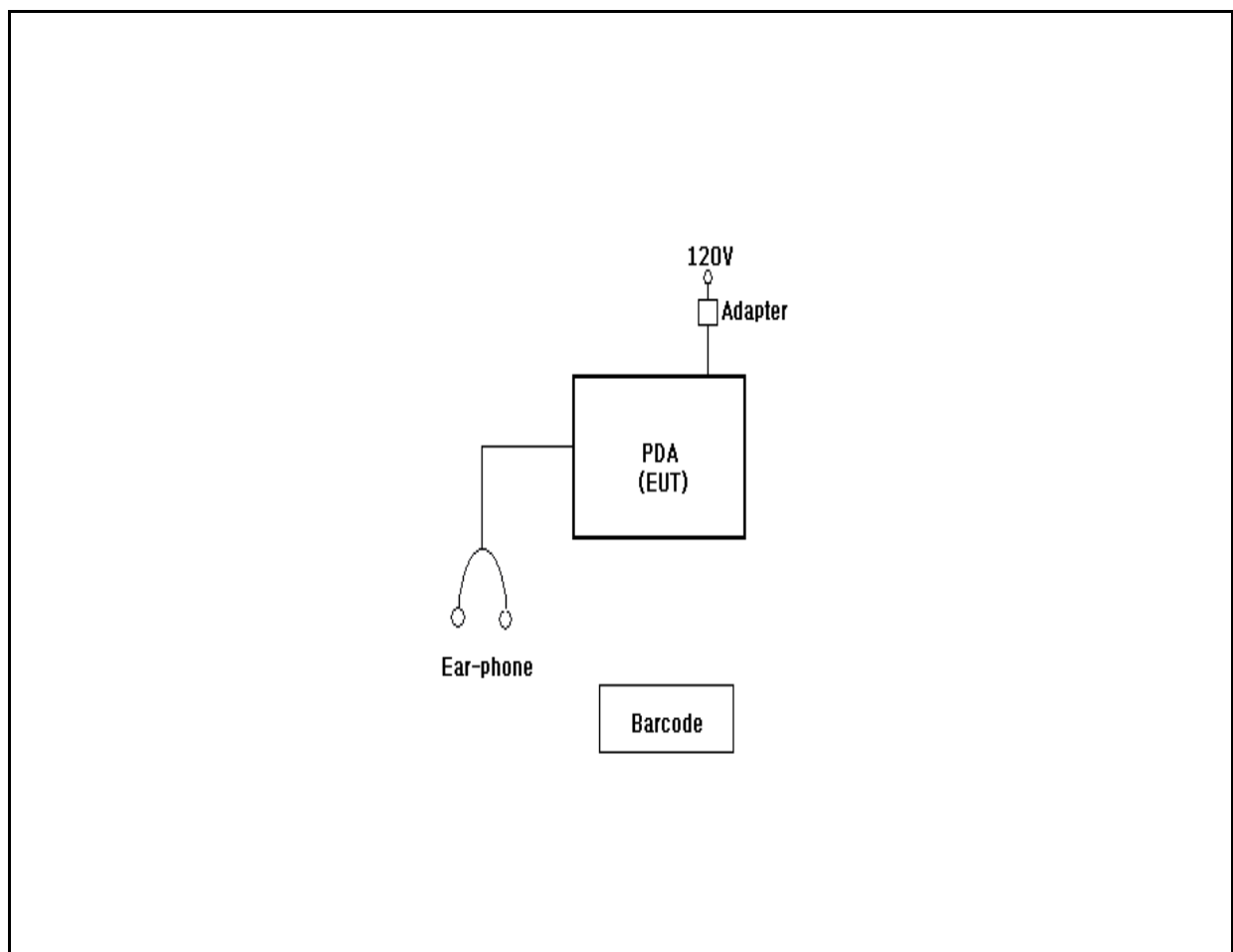


## 4. Measurement Condition(Test mode : SCANNER)

### 4.1 EUT Operation.

- \* The EUT was in the following operation mode during all testing
- \* The operational conditions of the EUT was determined by the manufacturer according to the typical use of the EUT with respect to the expected highest level of emission.
- \* After setting as test arrangement diagram, we tested the EUT under continuous Scanning mode

### 4.2 Configuration and Peripherals

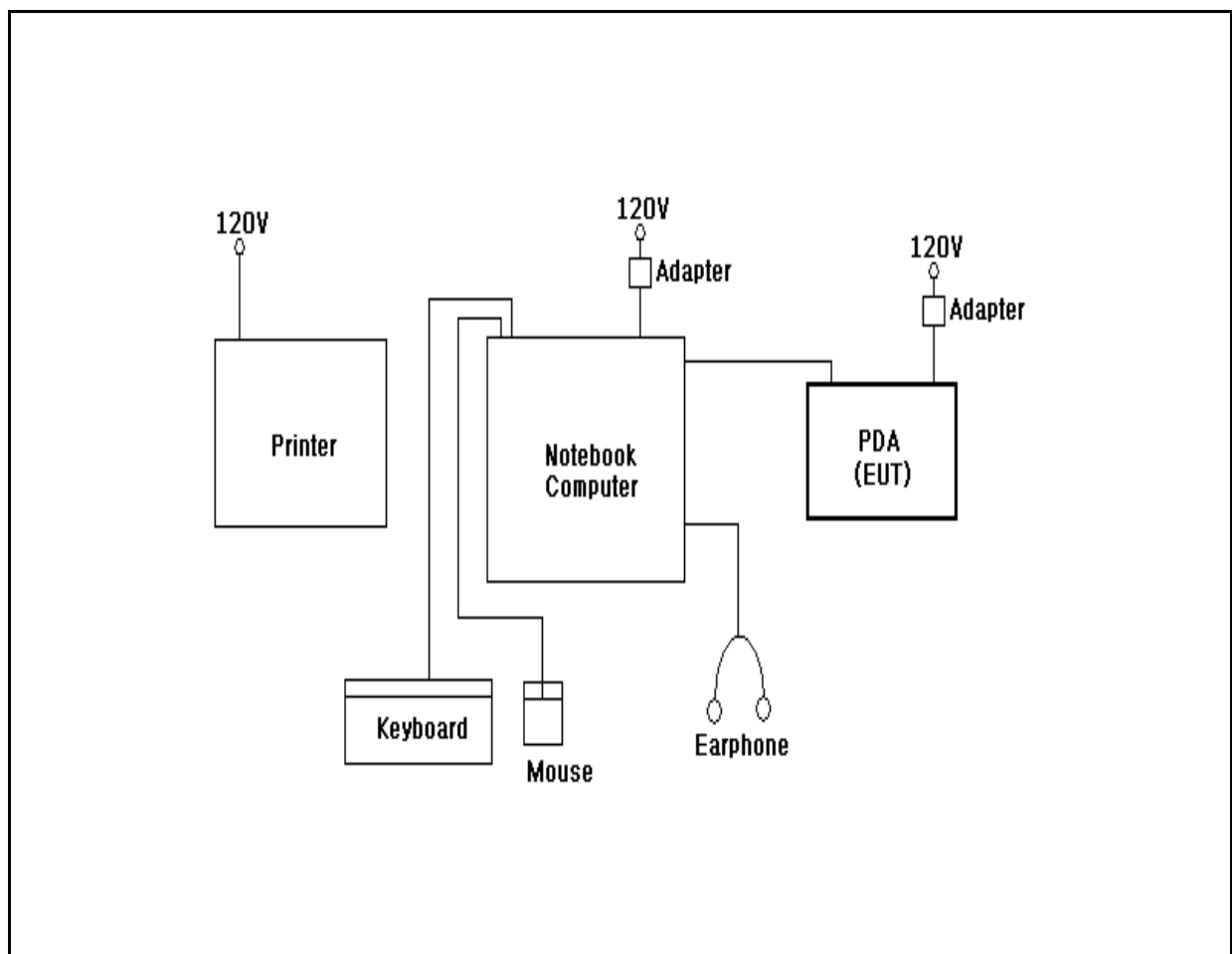


## 4. Measurement Condition(Test mode : PC Link)

### 4.1 EUT Operation.

- \* The EUT was in the following operation mode during all testing
- \* The operational conditions of the EUT was determined by the manufacturer according to the typical use of the EUT with respect to the expected highest level of emission.
- \* After connect the EUT to Note PC, tested image data under reading/writing.

### 4.2 Configuration and Peripherals





#### 4.3 EUT and Support equipment (Test mode : PDA)

Equipment Name	Model Name	S/N	Manufacturer	Remark (FCC ID)
PDA	CHD FIVE	NONE	POINTMOBILE CO., LTD	EUT
ADAPTER	PSC11R-050	P72010387A1	Phihong(Dongguan)Electronics Co.,Ltd	—
EARPHONE	NONE	NONE	LG Electronics Inc.	—

#### 4.4 Cable Connecting (Test mode : PDA)

Start Equipment		End Equipment		Cable Standard		Remark
Name	I/O port	Name	I/O port	Length	Shielded	
PDA	POWER	Adapter	—	2	N	—
PDA	Earphone	Ear-phone	—	1	N	—

#### 4.3 EUT and Support equipment (Test mode : SCANNER)

Equipment Name	Model Name	S/N	Manufacturer	Remark (FCC ID)
PDA	CHD FIVE	NONE	POINTMOBILE CO., LTD	EUT
ADAPTER	PSC11R-050	P72010387A1	Phihong(Dongguan)Electronics Co.,Ltd	—
EARPHONE	NONE	NONE	LG Electronics Inc.	—

#### 4.4 Cable Connecting (Test mode : SCANNER)

Start Equipment		End Equipment		Cable Standard		Remark
Name	I/O port	Name	I/O port	Length	Shielded	
PDA	POWER	Adapter	—	2	N	—
PDA	Earphone	Ear-phone	—	1	N	—

#### 4.3 EUT and Support equipment (Test mode : PC Link)

Equipment Name	Model Name	S/N	Manufacturer	Remark (FCC ID)
PDA	CHD FIVE	NONE	POINTMOBILE CO., LTD	EUT
Adapter	PSC11R-050	P72010387A1	Phihong(Dongguan)Electronics Co.,Ltd	-
Notebook Computer	PP11L	CN-004571-48643-53E-1495	Dell Asia Pacific Sdn.	-
Adapter	PA-1650-05DK	71615-52P-0475	Dongguang Lite Power 2nd Plant	
Keyboard	SK-8115	71616-76C-08JP	YET FOUNDATE LTD	
Printer	LQ-570H+	B1021095782	Trigem Computer Inc	
Mouse	Wheel Mouse Optical	0154202-4	Microsoft	
Earphone	NONE	NONE	LG Electronics Inc.	

#### 4.4 Cable Connecting (Test mode : PC Link)

Start Equipment		End Equipment		Cable Standard		Remark
Name	I/O port	Name	I/O port	Length	Shielded	
PDA	USB	Notebook Computer	USB	1.5	Y	-
PDA	Earphone	Earphone	-	1	N	-
Notebook Computer	USB	Keyboard	USB	2	Y	
Notebook Computer	USB	Mouse	USB	2	Y	
Notebook Computer	Parallel	Printer	Parallel	2	Y	
Notebook Computer	Power	Adapter	-	2	N	

## 5. Measurement of radiated disturbance (Test mode : PDA)

Above 30 MHz Electric Field strength was measured in accordance with FCC Part 15 (2007) & ANSI C 63.4 (2003). The test setup was made according to FCC Part 15 (2007) & ANSI C 63.4 (2003) on an open test site, which allows a 3m distance measurement. The EUT was placed in the center of wooden turntable. The height of this table was 0.8m. The measurement was conducted with both horizontal and vertical antenna polarization. The turntable has fully rotated. For further description of the configuration refer to the picture of the test setup.

### 5.1 Measurement equipments (Test mode : PDA)

Equipment Name	Type	Manufacturer	Serial No.	Next Calibration date
TEST Receiver	ESPC	Rohde & Schwarz	845296/021	2008. 1. 23
Spectrum Analyzer	R3261C	ADVANTEST	61720116	2008. 4. 20
LogBicon Antenna	VULB 9160	Schwarzbeck	3142	2008. 5. 07
Amplifier	8447F	HP	2805A02972	2008. 6. 26
Turn Table	2087	EMCO	2129	—
Antenna Mast	2070-01	EMCO	9702-203	—
ANT Mast Controller	2090	EMCO	1535	—
Turn Table Controller	2090	EMCO	1535	—

### 5.2 Environmental Condition (Test mode : PDA)

Test Place : Open site(3m)  
 Temperature (°C) : 6 °C  
 Humidity (%) : 49 %

## 5. Measurement of radiated disturbance (Test mode : SCANNER)

Above 30 MHz Electric Field strength was measured in accordance with FCC Part 15 (2007) & ANSI C 63.4 (2003). The test setup was made according to FCC Part 15 (2007) & ANSI C 63.4 (2003) on an open test site, which allows a 3m distance measurement. The EUT was placed in the center of wooden turntable. The height of this table was 0.8m. The measurement was conducted with both horizontal and vertical antenna polarization. The turntable has fully rotated. For further description of the configuration refer to the picture of the test setup.

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Antenna Mast	2070-01	EMCO	9702-203	—
ANT Mast Controller	2090	EMCO	1535	—
Turn Table Controller	2090	EMCO	1535	—

### 5.2 Environmental Condition (Test mode : SCANNER)

Test Place : Open site(3m)  
 Temperature (°C) : 14 °C  
 Humidity (%) : 49 %

## 5. Measurement of radiated disturbance (Test mode : PC Link)

Above 30 MHz Electric Field strength was measured in accordance with FCC Part 15 (2007) & ANSI C 63.4 (2003). The test setup was made according to FCC Part 15 (2007) & ANSI C 63.4 (2003) on an open test site, which allows a 3m distance measurement. The EUT was placed in the center of wooden turntable. The height of this table was 0.8m. The measurement was conducted with both horizontal and vertical antenna polarization. The turntable has fully rotated. For further description of the configuration refer to the picture of the test setup.

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Equipment Name	Type	Manufacturer	Serial No.	Next Calibration date
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Spectrum Analyzer	R3261C	ADVANTEST	61720116	2008. 4. 20
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Amplifier	8447F	HP	2805A02972	2008. 6. 26
Turn Table	2087	EMCO	2129	–
Antenna Mast	2070-01	EMCO	9702-203	–
ANT Mast Controller	2090	EMCO	1535	–
Turn Table Controller	2090	EMCO	1535	–

### 5.2 Environmental Condition (Test mode : PC Link)

Test Place : Open site(3m)  
 Temperature (°C) : 5 °C  
 Humidity (%) : 49 %

### 5.3 Test data (Test mode : PDA)

Test Date : 16-Nov-07

Measurement Distance : 3 m

Frequency (MHz)	Reading (dB $\mu$ V)	Position (V/H)	Height (m)	Correction Factor		Result Value		
				Ant Factor (dB)	Cable (dB)	Limit (dB $\mu$ V/m)	Result (dB $\mu$ V/m)	Margin (dB)
61.62	9.40	H	2.6	11.28	1.2	40.0	21.93	-18.07
81.43	6.90	H	2.5	7.98	1.4	40.0	16.28	-23.72
113.95	10.10	V	1.0	10.62	1.7	43.5	22.37	-21.13
123.01	8.20	H	1.8	11.40	1.7	43.5	21.32	-22.18
140.21	16.20	V	1.0	12.73	1.8	43.5	30.77	-12.73
168.21	7.90	H	1.8	12.22	2.0	43.5	22.12	-21.38
172.04	17.80	H	1.6	11.91	2.0	43.5	31.74	-11.76
196.84	11.80	V	1.0	9.87	2.2	43.5	23.88	-19.62
221.21	16.70	H	1.4	10.42	2.4	46.0	29.53	-16.47
245.77	23.90	H	1.2	11.36	2.6	46.0	37.84	-8.16
270.35	20.40	H	1.2	12.17	2.7	46.0	35.30	-10.70
294.94	25.10	H	1.2	12.95	2.9	46.0	40.98	-5.02
344.09	14.20	H	1.2	14.10	3.3	46.0	31.56	-14.44
398.23	17.00	H	1.1	15.27	3.6	46.0	35.84	-10.16
497.66	15.50	H	1.0	17.16	4.2	46.0	36.88	-9.12
596.11	11.20	H	1.0	19.58	4.7	46.0	35.48	-10.52
696.26	8.30	H	1.0	20.54	5.3	46.0	34.09	-11.91
796.00	8.70	H	1.0	22.14	5.9	46.0	36.74	-9.26
Remark	H : Horizontal, V : Vertical *Checked in all 3 axis and the maximum measured data were reported. *CL = Cable Loss-Amplifier Gain(In case of above1000Mhz) *CL = Cable Loss(In case of below1000Mhz) *The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120KHz for Quasi-peak detection at frequency below 1GHz.							

### 5.3 Test data (Test mode : SCANNER)

Test Date : 16-Nov-07

Measurement Distance : 3 m

Frequency (MHz)	Reading (dB $\mu$ V)	Position (V/H)	Height (m)	Correction Factor		Result Value		
				Ant Factor (dB)	Cable (dB)	Limit (dB $\mu$ V/m)	Result (dB $\mu$ V/m)	Margin (dB)
61.72	9.20	H	2.7	11.27	1.2	40.0	21.71	-18.29
74.42	8.20	V	1.0	9.03	1.3	40.0	18.57	-21.43
113.95	11.10	V	1.0	10.62	1.7	43.5	23.37	-20.13
123.01	8.40	H	1.8	11.40	1.7	43.5	21.52	-21.98
140.24	17.40	V	1.0	12.73	1.8	43.5	31.97	-11.53
172.04	17.10	H	1.4	11.91	2.0	43.5	31.04	-12.46
196.81	11.70	V	1.0	9.87	2.2	43.5	23.78	-19.72
221.20	15.20	H	1.3	10.42	2.4	46.0	28.03	-17.97
245.76	24.00	H	1.2	11.36	2.6	46.0	37.94	-8.06
270.36	22.60	V	1.0	12.17	2.7	46.0	37.50	-8.50
294.94	24.10	H	1.1	12.95	2.9	46.0	39.98	-6.02
344.09	13.90	H	1.0	14.10	3.3	46.0	31.26	-14.74
398.23	16.20	H	1.0	15.27	3.6	46.0	35.04	-10.96
497.65	15.20	H	1.0	17.16	4.2	46.0	36.58	-9.42
596.11	11.50	H	1.0	19.58	4.7	46.0	35.78	-10.22
696.21	7.40	H	1.0	20.54	5.3	46.0	33.19	-12.81
796.02	6.90	H	1.0	22.14	5.9	46.0	34.94	-11.06
Remark	H : Horizontal, V : Vertical *Checked in all 3 axis and the maximum measured data were reported. *CL = Cable Loss-Amplifier Gain(In case of above1000Mhz) *CL = Cable Loss(In case of below1000Mhz) *The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120KHz for Quasi-peak detection at frequency below 1GHz.							



### 5.3 Test data (Test mode : PC Link)

Test Date : 16-Nov-07

Measurement Distance : 3 m

Frequency (MHz)	Reading (dB $\mu$ V)	Position (V/H)	Height (m)	Correction Factor		Result Value		
				Ant Factor (dB)	Cable (dB)	Limit (dB $\mu$ V/m)	Result (dB $\mu$ V/m)	Margin (dB)
43.93	16.20	V	1.0	12.07	1.1	40.0	29.33	-10.67
74.96	13.60	V	1.0	8.93	1.3	40.0	23.87	-16.13
112.07	17.10	H	2.1	10.44	1.6	43.5	29.19	-14.31
137.39	14.50	V	1.0	12.53	1.8	43.5	28.85	-14.65
166.27	12.90	V	1.0	12.38	2.0	43.5	27.26	-16.24
195.41	14.90	H	1.6	9.99	2.2	43.5	27.09	-16.41
201.25	14.80	H	1.3	9.66	2.2	43.5	26.70	-16.80
216.01	18.90	H	1.3	10.22	2.4	46.0	31.48	-14.52
240.00	17.40	H	1.2	11.14	2.5	46.0	31.06	-14.94
261.25	15.60	H	1.2	11.88	2.7	46.0	30.15	-15.85
336.00	12.20	H	1.1	13.92	3.2	46.0	29.32	-16.68
380.12	16.70	H	1.1	14.88	3.5	46.0	35.06	-10.94
400.00	15.60	H	1.0	15.31	3.6	46.0	34.49	-11.51
480.00	9.20	H	1.0	16.98	4.1	46.0	30.28	-15.72
497.24	12.10	H	1.0	17.15	4.2	46.0	33.47	-12.53
576.00	7.90	H	1.0	19.01	4.6	46.0	31.48	-14.52
600.00	7.10	V	1.0	19.69	4.7	46.0	31.52	-14.48
700.00	4.30	H	1.0	20.57	5.3	46.0	30.13	-15.87
800.00	3.60	H	1.0	22.15	5.9	46.0	31.65	-14.35
Remark	H : Horizontal, V : Vertical *Checked in all 3 axis and the maximum measured data were reported. *CL = Cable Loss-Amplifier Gain(In case of above1000Mhz) *CL = Cable Loss(In case of below1000Mhz) *The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120KHz for Quasi-peak detection at frequency below 1GHz.							

## 6. Measurement of conducted disturbance (Test mode : PDA)

The continuous disturbance voltage of AC Mains in the frequency from 0.15 to 30 MHz was measured in accordance to FCC Part 15 (2007) & ANSI C 63.4 (2003) The test setup was made according to FCC Part 15 (2007) & ANSI C 63.4 (2003) in a shielded Room. The EUT was placed on a non-conductive table at least 80 above the ground plan. A grounded vertical reference plane was positioned in a distance of 40cm from the EUT. The distance from the EUT to other metal surfaces was at least 0.8m. The EUT was only earthen by its power cord through the line impedance stabilizing network. The power cord has been bundled to a length of 1.0m.. The test receiver with Quasi Peak detector complies with CISPR 16.

### 6.1 Measurement equipments (Test mode : PDA)

Equipment Name	Type	Manufacturer	Serial No.	Next Calibration date
LISN	ESH3-Z5	Schwarzbeck	838979/010	2008. 2. 28
LISN	NNLA8120A	Schwarzbeck	8120161	2008. 2. 28
TEST Receiver	ESPI7	Rohde & Schwarz	100185	2008. 8. 27
Pulse Limiter	ESH3Z2	Rohde & Schwarz	NONE	—

### 6.2 Environmental Condition (Test mode : PDA)

Test Place : Shielded Room

Temperature (°C) : 21 °C

Humidity (%) : 41 %

## 6. Measurement of conducted disturbance (Test mode : SCANNER)

The continuous disturbance voltage of AC Mains in the frequency from 0.15 to 30 MHz was measured in accordance to FCC Part 15 (2007) & ANSI C 63.4 (2003). The test setup was made according to FCC Part 15 (2007) & ANSI C 63.4 (2003) in a shielded Room. The EUT was placed on a non-conductive table at least 80 above the ground plan. A grounded vertical reference plane was positioned in a distance of 40cm from the EUT. The distance from the EUT to other metal surfaces was at least 0.8m. The EUT was only earthen by its power cord through the line impedance stabilizing network. The power cord has been bundled to a length of 1.0m.. The test receiver with Quasi Peak detector complies with CISPR 16.

### 6.1 Measurement equipments (Test mode : SCANNER)

Equipment Name	Type	Manufacturer	Serial No.	Next Calibration date
LISN	ESH3-Z5	Schwarzbeck	838979/010	2008. 2. 28
LISN	NNLA8120A	Schwarzbeck	8120161	2008. 2. 28
TEST Receiver	ESPI7	Rohde & Schwarz	100185	2008. 8. 27
Pulse Limiter	ESH3Z2	Rohde & Schwarz	NONE	—

### 6.2 Environmental Condition (Test mode : SCANNER)

Test Place : Shielded Room

Temperature (°C) : 21 °C

Humidity (%) : 43 %

## 6. Measurement of conducted disturbance (Test mode : PC Link)

The continuous disturbance voltage of AC Mains in the frequency from 0.15 to 30 MHz was measured in accordance to FCC Part 15 (2007) & ANSI C 63.4 (2003). The test setup was made according to FCC Part 15 (2007) & ANSI C 63.4 (2003) in a shielded Room. The EUT was placed on a non-conductive table at least 80 above the ground plan. A grounded vertical reference plane was positioned in a distance of 40cm from the EUT. The distance from the EUT to other metal surfaces was at least 0.8m. The EUT was only earthen by its power cord through the line impedance stabilizing network. The power cord has been bundled to a length of 1.0m.. The test receiver with Quasi Peak detector complies with CISPR 16.

### 6.1 Measurement equipments (Test mode : PC Link)

Equipment Name	Type	Manufacturer	Serial No.	Next Calibration date
LISN	ESH3-Z5	Schwarzbeck	838979/010	2008. 2. 28
LISN	NNLA8120A	Schwarzbeck	8120161	2008. 2. 28
TEST Receiver	ESPI7	Rohde & Schwarz	100185	2008. 8. 27
Pulse Limiter	ESH3Z2	Rohde & Schwarz	NONE	—

### 6.2 Environmental Condition (Test mode : PC Link)

Test Place : Shielded Room

Temperature (°C) : 21 °C

Humidity (%) : 46 %

### 6.3 Test data (Test mode : PDA)

Test Date : 15-Nov-07

Frequency (MHz)	Correction Factor		Line (H/N)	Quasi-peak Value			Average Value		
	Lisn (dB)	Cable (dB)		Limit (dB $\mu$ V)	Reading (dB $\mu$ V)	Result (dB $\mu$ V)	Limit (dB $\mu$ V)	Reading (dB $\mu$ V)	Result (dB)
0.17	0.15	0.0	N	65.01	40.29	40.48	55.01	23.97	24.16
0.19	0.13	0.0	N	64.08	36.37	36.55	54.08	25.06	25.24
0.20	0.12	0.1	N	63.61	36.04	36.21	53.61	22.64	22.81
0.23	0.12	0.1	N	62.63	35.59	35.77	52.63	21.91	22.09
0.26	0.13	0.1	N	61.59	35.65	35.83	51.59	23.27	23.45
0.49	0.15	0.1	H	56.17	36.25	36.49	46.17	30.48	30.72
0.52	0.15	0.1	H	56.00	34.98	35.22	46.00	30.16	30.40
0.61	0.16	0.1	H	56.00	24.34	24.61	46.00	20.25	20.52
0.69	0.16	0.1	H	56.00	26.58	26.87	46.00	19.90	20.19
1.11	0.25	0.2	H	56.00	24.72	25.14	46.00	21.18	21.60
1.34	0.26	0.2	N	56.00	24.14	24.59	46.00	18.94	19.39
1.36	0.26	0.2	H	56.00	24.25	24.71	46.00	18.24	18.70
6.79	0.45	0.6	H	60.00	24.57	25.59	50.00	13.26	14.28
7.87	0.52	0.6	H	60.00	27.36	28.50	50.00	15.23	16.37
8.09	0.53	0.6	N	60.00	22.29	23.46	50.00	17.27	18.44
8.40	0.55	0.7	H	60.00	27.22	28.42	50.00	19.84	21.04
9.60	0.62	0.7	H	60.00	26.40	27.74	50.00	16.10	17.44
11.39	0.70	0.8	H	60.00	23.34	24.85	50.00	13.53	15.04
Remark	H : Hot Line, N : Neutral Line								

### 6.3 Test data (Test mode : SCANNER)

Test Date : 15-Nov-07

Frequency (MHz)	Correction Factor		Line (H/N)	Quasi-peak Value			Average Value		
	Lisn (dB)	Cable (dB)		Limit (dB $\mu$ V)	Reading (dB $\mu$ V)	Result (dB $\mu$ V)	Limit (dB $\mu$ V)	Reading (dB $\mu$ V)	Result (dB)
0.16	0.17	0.0	H	65.73	40.70	40.91	55.73	26.35	26.56
0.17	0.16	0.0	N	65.21	38.17	38.37	55.21	24.82	25.02
0.18	0.14	0.0	N	64.30	36.57	36.75	54.30	23.70	23.88
0.22	0.12	0.1	N	62.89	36.02	36.19	52.89	22.12	22.29
0.23	0.12	0.1	N	62.45	36.18	36.36	52.45	21.69	21.87
0.49	0.15	0.1	H	56.13	37.36	37.60	46.13	30.88	31.12
0.51	0.15	0.1	H	56.00	34.94	35.18	46.00	24.96	25.20
0.78	0.18	0.1	H	56.00	26.39	26.71	46.00	19.47	19.79
1.14	0.26	0.2	H	56.00	24.78	25.21	46.00	20.85	21.28
1.24	0.26	0.2	N	56.00	26.82	27.26	46.00	20.05	20.49
1.28	0.26	0.2	H	56.00	25.87	26.32	46.00	19.73	20.18
1.29	0.26	0.2	N	56.00	24.78	25.23	46.00	17.64	18.09
5.92	0.42	0.5	H	60.00	22.95	23.90	50.00	13.79	14.74
6.74	0.45	0.6	H	60.00	24.08	25.10	50.00	11.96	12.98
7.72	0.51	0.6	N	60.00	22.11	23.23	50.00	14.66	15.78
7.79	0.51	0.6	H	60.00	27.81	28.94	50.00	16.66	17.79
8.72	0.57	0.7	H	60.00	28.09	29.33	50.00	19.69	20.93
9.49	0.62	0.7	H	60.00	25.58	26.91	50.00	19.22	20.55
Remark	H : Hot Line, N : Neutral Line								

### 6.3 Test data (Test mode : PC Link)

Test Date : 15-Nov-07

Frequency (MHz)	Correction Factor		Line (H/N)	Quasi-peak Value			Average Value		
	Lisn (dB)	Cable (dB)		Limit (dB $\mu$ V)	Reading (dB $\mu$ V)	Result (dB $\mu$ V)	Limit (dB $\mu$ V)	Reading (dB $\mu$ V)	Result (dB)
0.15	0.17	0.0	H	65.94	40.85	41.06	55.94	27.46	27.67
0.17	0.16	0.0	N	65.21	34.57	34.77	55.21	27.32	27.52
0.18	0.15	0.0	N	64.72	36.32	36.51	54.72	25.50	25.69
0.19	0.13	0.0	H	63.99	35.45	35.63	53.99	25.79	25.97
0.20	0.12	0.0	N	63.78	34.61	34.78	53.78	23.56	23.73
0.49	0.15	0.1	H	56.10	39.44	39.68	46.10	34.14	34.38
0.50	0.15	0.1	N	56.08	36.15	36.39	46.08	30.82	31.06
0.57	0.15	0.1	H	56.00	24.71	24.97	46.00	22.53	22.79
0.67	0.16	0.1	H	56.00	27.93	28.21	46.00	23.23	23.51
0.82	0.19	0.1	H	56.00	27.39	27.73	46.00	20.86	21.20
1.19	0.26	0.2	H	56.00	26.20	26.63	46.00	22.45	22.88
1.26	0.26	0.2	H	56.00	27.48	27.92	46.00	22.74	23.18
8.67	0.57	0.7	H	60.00	31.61	32.85	50.00	24.62	25.86
16.34	0.86	1.0	N	60.00	34.56	36.44	50.00	29.37	31.25
19.87	0.93	1.2	H	60.00	34.69	36.77	50.00	30.15	32.23
20.61	0.93	1.2	N	60.00	36.17	38.28	50.00	30.56	32.67
29.27	0.95	1.5	H	60.00	33.00	35.42	50.00	28.49	30.91
29.29	0.95	1.5	N	60.00	33.23	35.65	50.00	27.59	30.01
Remark	H : Hot Line, N : Neutral Line								



## 7. Photographs of test setup (Test mode : PDA)

### 7.1 Setup for Radiated Test : 30 ~ 1000 MHz

[ Front ]



[ Rear ]





## 7. Photographs of test setup (Test mode : SCANNER)

### 7.1 Setup for Radiated Test : 30 ~ 1000 MHz

[ Front ]



[ Rear ]



## 7. Photographs of test setup (Test mode : PC Link)

### 7.1 Setup for Radiated Test : 30 ~ 1000 MHz

[ Front ]



[ Rear ]



## 7.2 Setup for Conducted Test : 0.15 ~ 30 MHz (Test mode :PDA)

[ Front ]



[ Rear ]





## 7.2 Setup for Conducted Test : 0.15 ~ 30 MHz (Test mode : SCANNER)

[ Front ]



[ Rear ]



## 7.2 Setup for Conducted Test : 0.15 ~ 30 MHz (Test mode : PC Link)

[ Front ]



[ Rear ]





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**Electromagnetic  
Interference  
Test Report**

## 8. Photographs of EUT

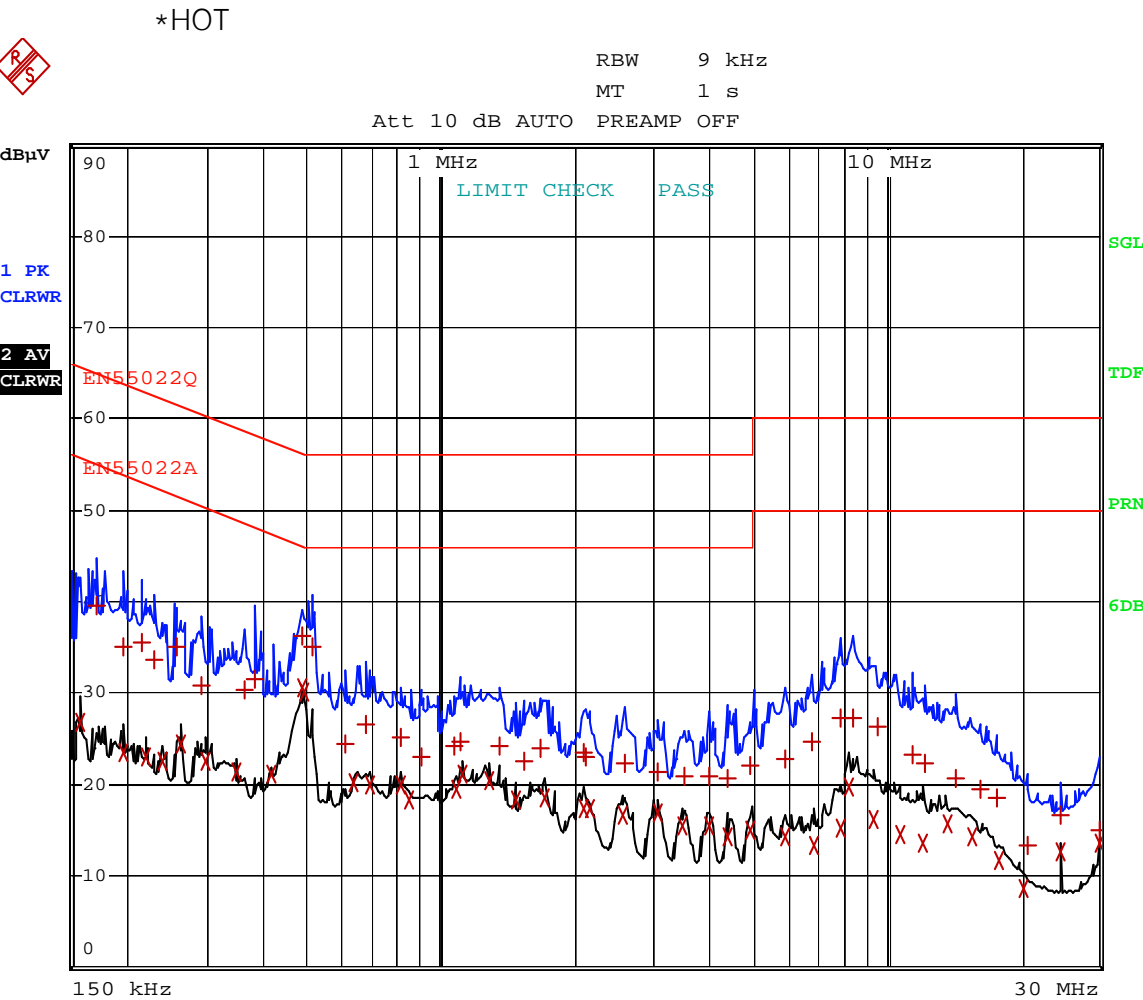
[ Front ]



[ Rear ]



Appendix 1. Spectral diagram (Test mode : PDA)



Comment: CHD Five PDA HOT  
Date: 15.NOV.2007 09:56:47

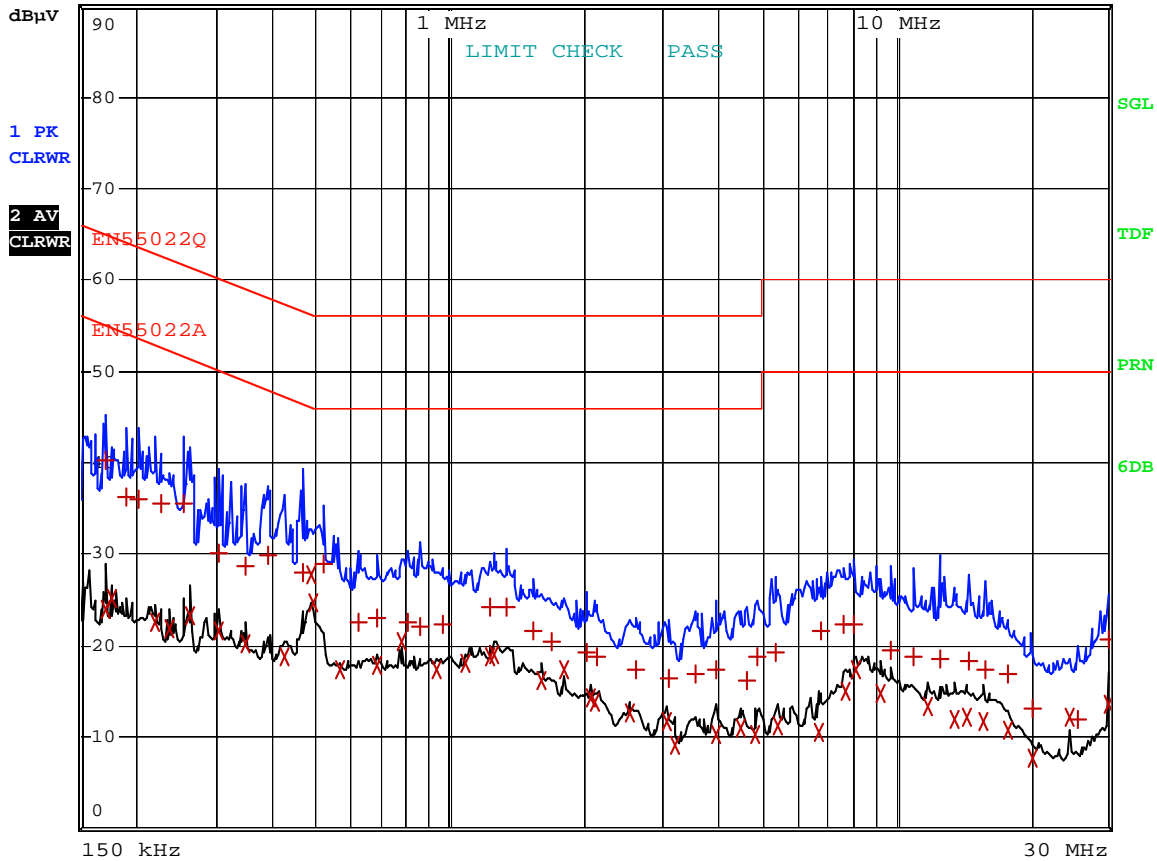


\*NEUTRAL

RBW 9 kHz

MT 1 s

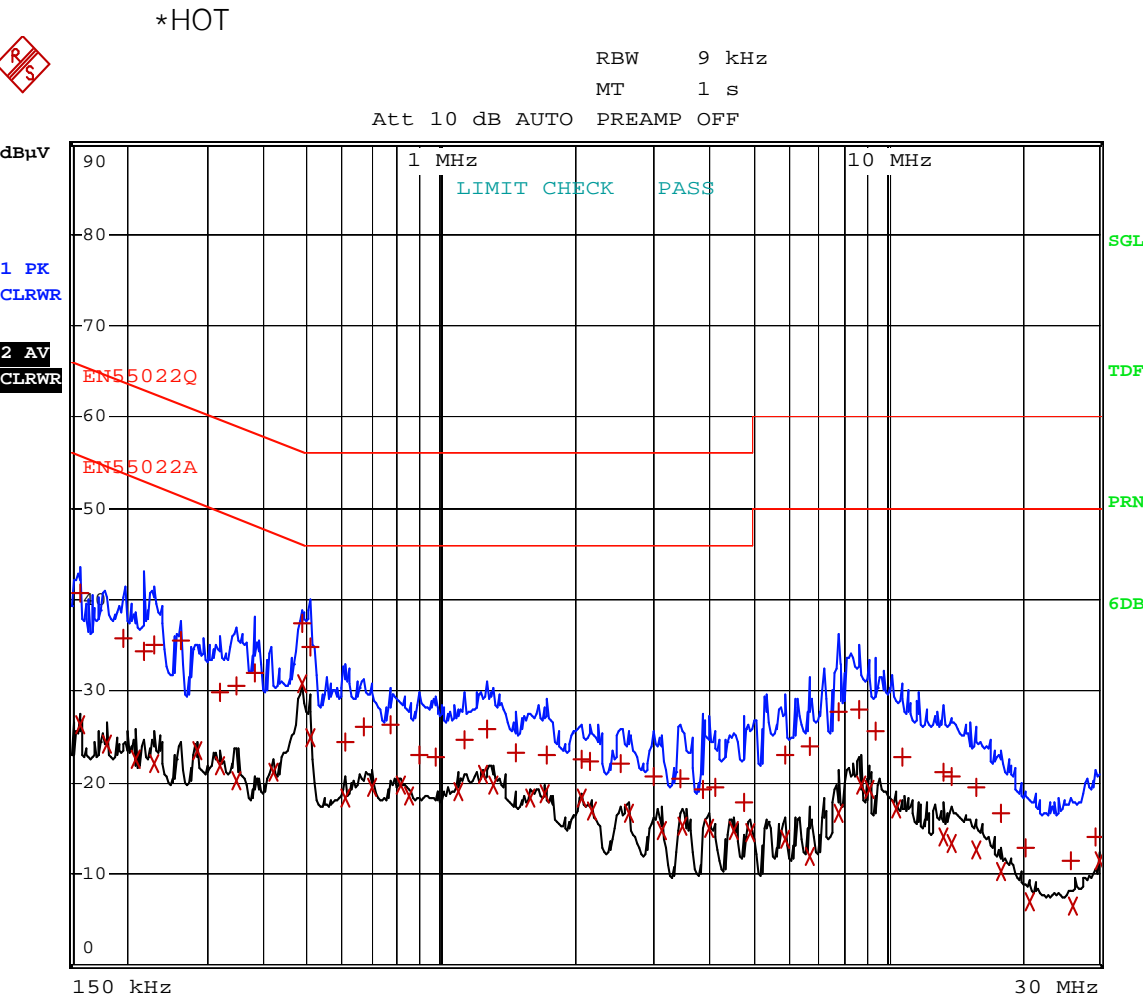
Att 10 dB AUTO PREAMP OFF



Comment: CHD Five PDA NEUTRAL  
Date: 15.NOV.2007 10:02:29



Appendix 1. Spectral diagram (Test mode : SCANNER)



Comment: CHD Five SCANNER HOT  
Date: 15.NOV.2007 09:35:55

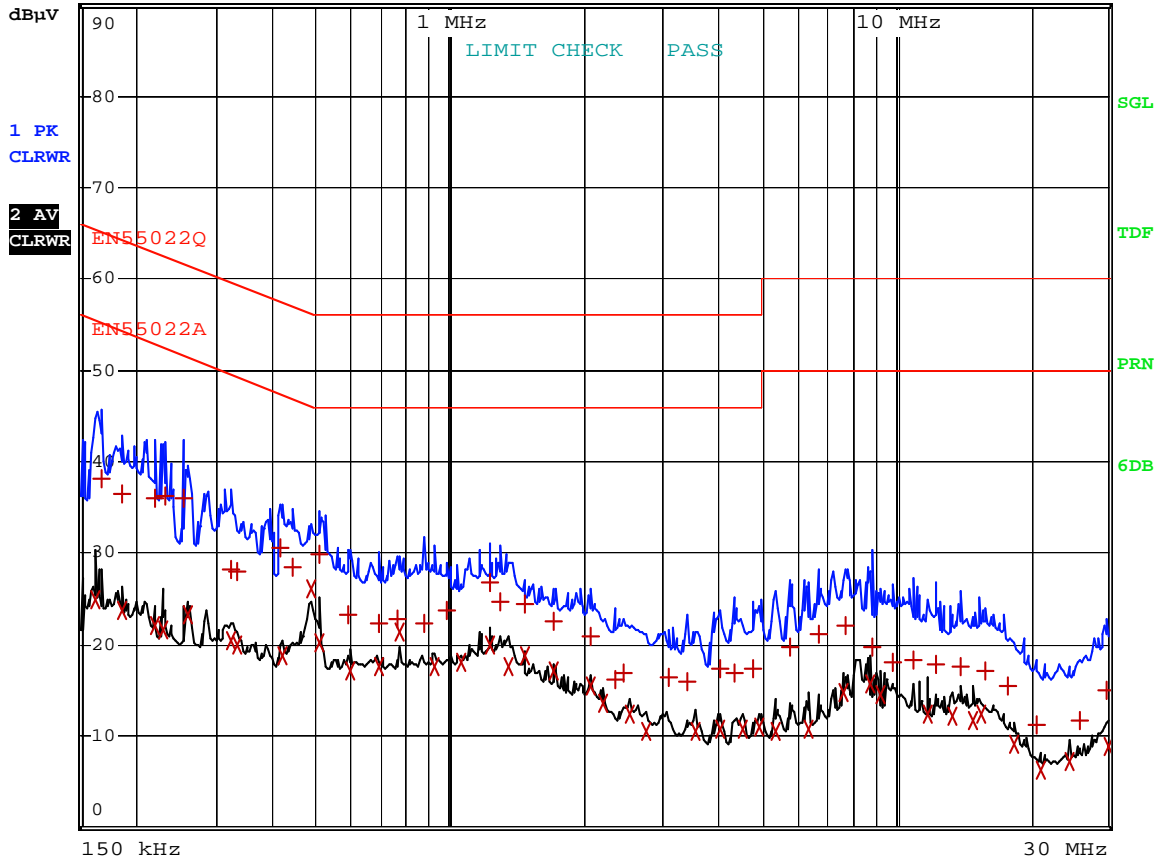
\*NEUTRAL



RBW 9 kHz

MT 1 s

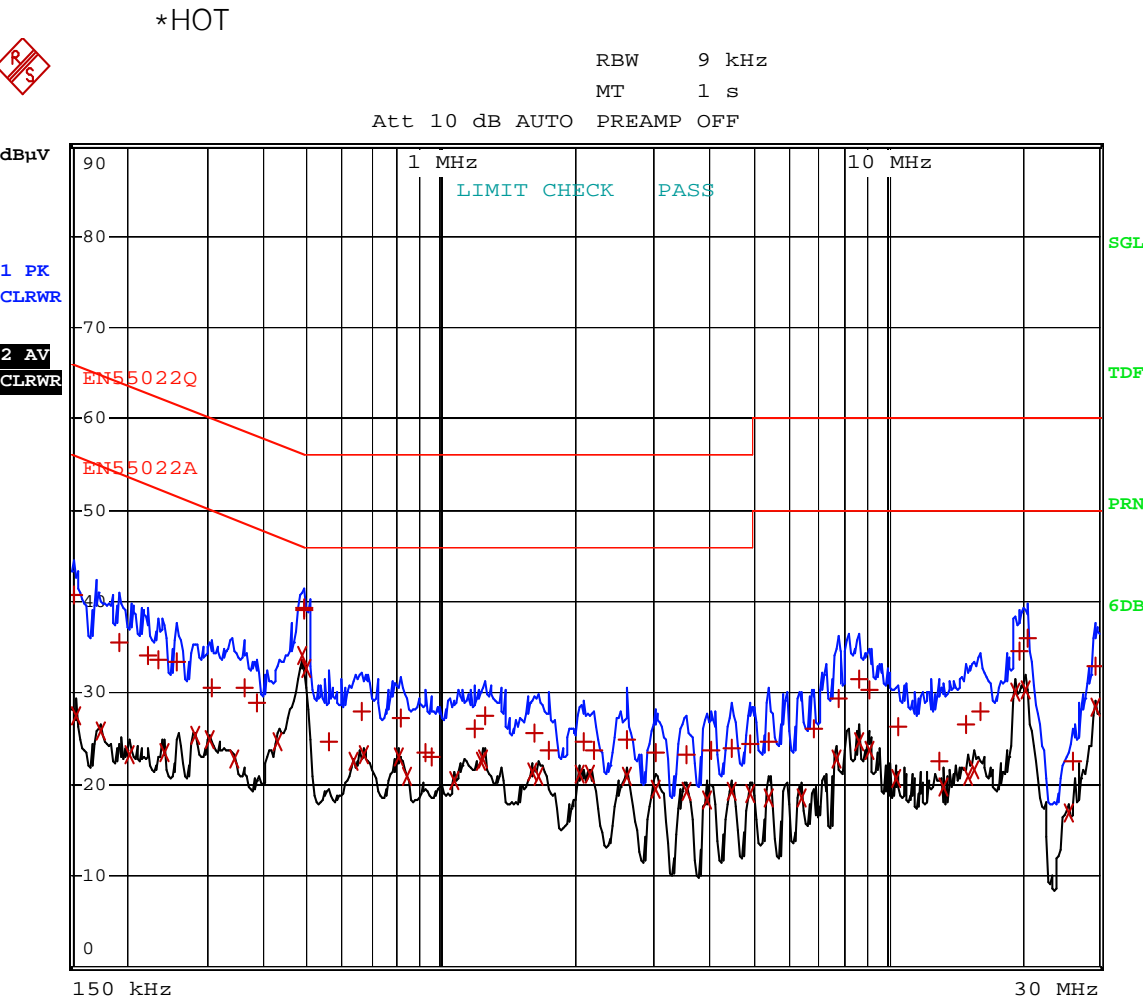
Att 10 dB AUTO PREAMP OFF



Comment: CHD FiVE SCANNER NEUTRAL

Date: 15.NOV.2007 09:30:41

Appendix 1. Spectral diagram (Test mode : PC Link)



Comment: CHD FiVE PCLINK HOT  
Date: 15.NOV.2007 10:18:57

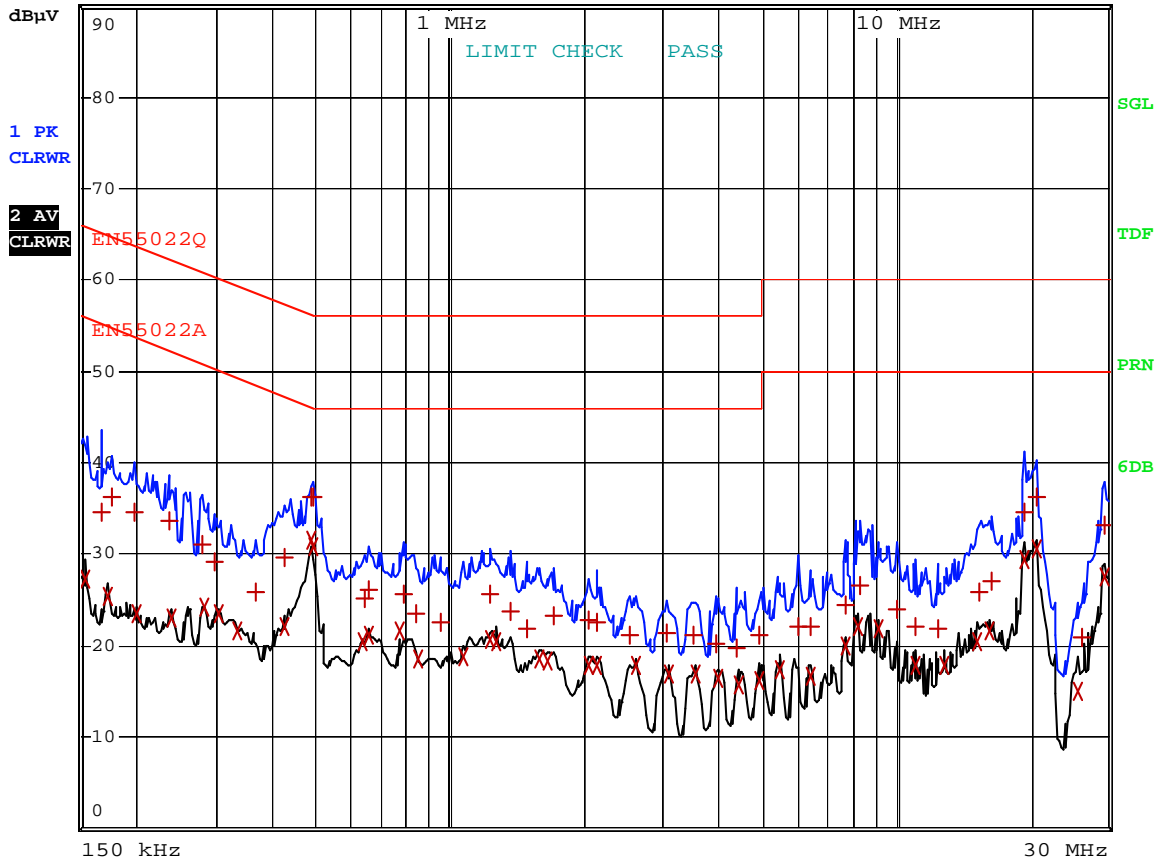


\*NEUTRAL

RBW 9 kHz

MT 1 s

Att 10 dB AUTO PREAMP OFF



Comment: CHD FiVE PCLINK NEUTRAL

Date: 15.NOV.2007 10:13:25