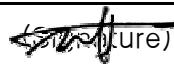


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Test Report for FCC

FCC ID:UCTMDH-501HD

Report Number		ESTF150708-015			
Applicant	Company name	WaveOn Inc.			
	Address	#302, 3F Gangnam Bldg. Yangjae-Dong, Seocho-Gu Seoul 137-130 Korea.			
	Telephone	82-2-575-4100			
Product	Product name	Real 5.1ch Gaming Headphone			
	Model name	MDH-501H/D	Manufacturer	WaveON Inc.	
	Serial number	WG-K-07550552707	Country of origin	KOREA	
Test date	2007-8-8 ~ 2007-8-9	Date of issue	21-Aug-07		
Testing location	ESTECH. Co., Ltd. 97-1 Hoiuk-Ri Majang-Myon, Icheon-city, KyungKi-Do, Korea				
Standard	FCC PART 15 2006 , 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"> - This test report is not permitted to copy partly without our permission - This test result is dependent on only equipment to be used - This test result based on a single evaluation of one sample of the above mentioned 					



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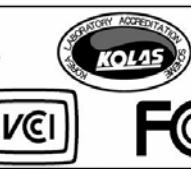


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Appendix 1. Spectral diagram

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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

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2. Description of EUT

2.1 Summary of Equipment Under Test

Product Name : Real 5.1ch Gaming Headphone
 Model Number : MDH-501H/D
 Serial Number : NONE
 Manufacturer : WaveON Inc.
 Country of origin : KOREA
 Rating : INPUT:120V, 60Hz, DC8V 300mA
 Receipt Date : 2007-01-08
 X-tal lists : 11.06MHz, 12.29MHz

2.2 General descriptions of EUT

▲ AON 5.1ch Headphone

❖ Impedance	Front / Center : 32 Ohm at 1KHz, 30mm Rear : 32 Ohm at 1KHz, 32mm Subwoofer : 32 Ohm at 1KHz, 43mm
❖ Frequency Response	18Hz ~ 22KHz
❖ Cord	Straight, 350cm
❖ Weight	280g (Headphone only)

▲ AON Dolby Decoder

❖ Input	SPDIF (Optical)-IN, DC-IN
❖ Output	7 Circuit Mini-Din Jack (2ea)
❖ Supported Audio Format	Dolby Pro Logic, Dolby Digital, Stereo PCM
❖ Frequency Response	20Hz ~ 20KHz
❖ Power Consumption	120W, DC8V, 300mA
❖ Output Power	Max. 150mW per channel
❖ Size	63 X 110 X 22mm (W X D X H)
❖ Weight	80g (decoder only)



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3. Test Standards

Test Standard : FCC PART 15 (2006)

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.



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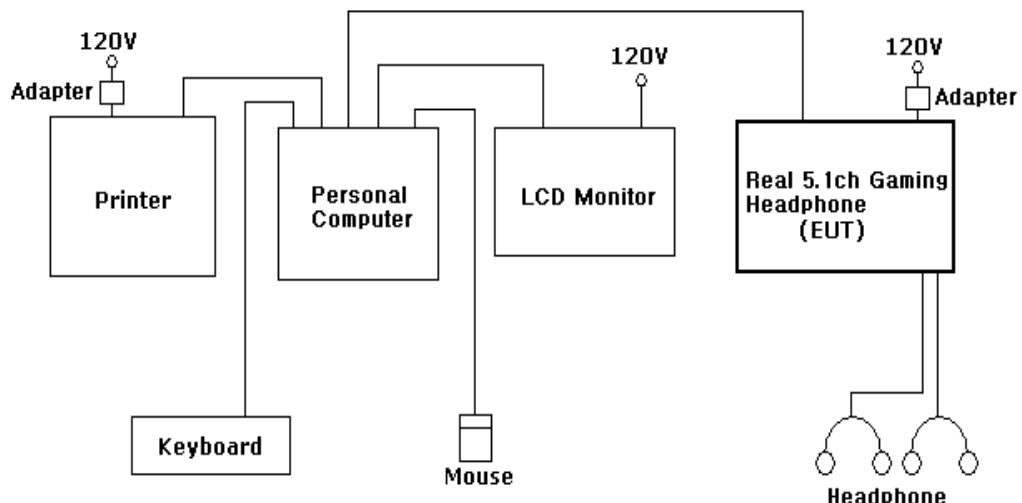
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4. Measurement Condition

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 playing Audio out

4.2 Configuration and Peripherals



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4.3 EUT and Support equipment

Equipment Name	Model Name	S/N	Manufacturer	Remark (FCC ID)
Real 5.1ch Gaming Headphone	MDH-501H/D	WG-K-07550552707	WaveON Inc.	EUT
AON 5.1ch Headphone	MDH-501H/D	NONE	WaveON Inc.	–
AON 5.1ch Headphone	MDH-501H/D	NONE	WaveON Inc.	–
Personal Computer	DCSM	8JRFJ1S	Dell Asia Pacific sdn	–
LCD Monitor	M1717AD	702SRXB36394	LG Electronics Inc	–
Keyboard	SK-8115	71616-61K-19FM	YET FOUNDATION LTD	–
Mouse	Wheel Mouse Optical	0154202-4	Microsoft	–
Printer	MJC-5750	NA34BFF313402V	SAMSUNG ELECTRONICS (SHAN DONG)DIGITAL PRINTING Co.,LTD.	–
Adapter	PA8040WB	0703016518	Bestec Electronics (Dongguan)Co.,Ltd.	–
Adapter	KNU-0803	NONE	SKY Electronics Co.,Ltd.	–

4.4 Cable Connecting

Start Equipment		End Equipment		Cable Standard		Remark
Name	I/O port	Name	I/O port	Length	Shielded	
Real 5.1ch Gaming Headphone	SPDIF-IN	Personal Computer	Digital out	1	N	
Real 5.1ch Gaming Headphone	Power	Adapter	–	2	N	
Personal Computer	USB	Keyboard	USB	2	Y	
Personal Computer	USB	Mouse	USB	2	Y	
Personal Computer	USB	Printer	USB	2	Y	
Printer	Power	Adapter	–	2	N	
Real 5.1ch Gaming Headphone	Headphone	Headphone	–	3	N	



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5. Measurement of radiated disturbance

Above 30 MHz Electric Field strength was measured in accordance with FCC Part 15 (2006) & ICES-003. The test setup was made according to 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

Equipment Name	Type	Manufacturer	Serial No.	Next Calibration date
TEST Receive	ESVS10	Rohde & Schwarz	838562/002	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 Place : Open site(3m)

Temperature (°C) : 28 °C

Humidity (%) : 52 %



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5.3 Test data

Test Date : 8-Aug-07

Measurement Distance : 3 m



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6. Measurement of conducted disturbance

The continuous disturbance voltage of AC Mains in the frequency from 0.15 to 30 MHz was measured in accordance to FCC Part 15 (2006) & ICES-003. The test setup was made according to ANSI C 63.4 (2003) in a shielded. The EUT was placed on a non-conductive table at least 80 cm 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

Equipment Name	Type	Manufacturer	Serial No.	Next Calibration date
LISN	NNLA8120A	Schwarzbeck	8120161	2008. 2. 28
LISN	ESH3-Z5	Schwarzbeck	838979/010	2008. 2. 28
TEST Receive	ESP17	Rohde & Schwarz	100185	2007. 8. 24
Pulse Limiter	ESH3Z2	Rohde & Schwarz	NONE	-

6.2 Environmental Condition

Test Place : Shield Room

Temperature (°C) : 21 °C

Humidity (%) : 46 %

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6.3 Test data

Test Date : 9-Aug-07

Frequency (MHz)	Correction Factor		Line (H/N)	Quasi-peak Value			Average Value		
	Lisn (dB)	Cable (dB)		Limit (dB μ V)	Reading (dB μ V)	Result (dB μ V)	Limit (dB μ V)	Reading (dB μ V)	Result (dB)
0.16	0.17	0.0	N	65.26	38.50	38.71	55.26	25.30	25.51
0.18	0.16	0.0	N	64.30	38.35	38.55	54.30	28.06	28.26
0.19	0.16	0.0	H	64.12	38.29	38.49	54.12	30.40	30.60
0.21	0.15	0.0	H	63.37	38.15	38.35	53.37	23.07	23.27
0.22	0.15	0.0	N	62.74	38.61	38.80	52.74	38.56	38.75
0.27	0.13	0.0	N	61.24	36.91	37.09	51.24	21.15	21.33
0.51	0.15	0.1	H	56.00	25.47	25.71	46.00	17.56	17.80
0.77	0.16	0.1	N	56.00	24.84	25.13	46.00	21.34	21.63
0.78	0.16	0.1	H	56.00	25.34	25.63	46.00	20.49	20.78
1.24	0.26	0.2	H	56.00	29.35	29.79	46.00	23.31	23.75
1.36	0.26	0.2	H	56.00	25.60	26.06	46.00	21.43	21.89
1.54	0.27	0.2	H	56.00	25.06	25.54	46.00	24.63	25.11
7.92	0.52	0.6	N	60.00	11.85	13.00	50.00	6.89	8.04
8.72	0.57	0.7	N	60.00	13.07	14.31	50.00	9.75	10.99
10.06	0.65	0.7	H	60.00	13.87	15.27	50.00	11.78	13.18
11.22	0.69	0.8	N	60.00	14.11	15.60	50.00	12.64	14.13
11.46	0.70	0.8	H	60.00	14.35	15.86	50.00	10.47	11.98
24.58	0.93	1.3	N	60.00	22.90	25.12	50.00	21.45	23.67
Remark	H : Hot Line, N : Neutral Line								



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7. Photographs of test setup

7.1 Setup for Radiated Test : 30 ~ 1000 MHz

[Front]



[Rear]





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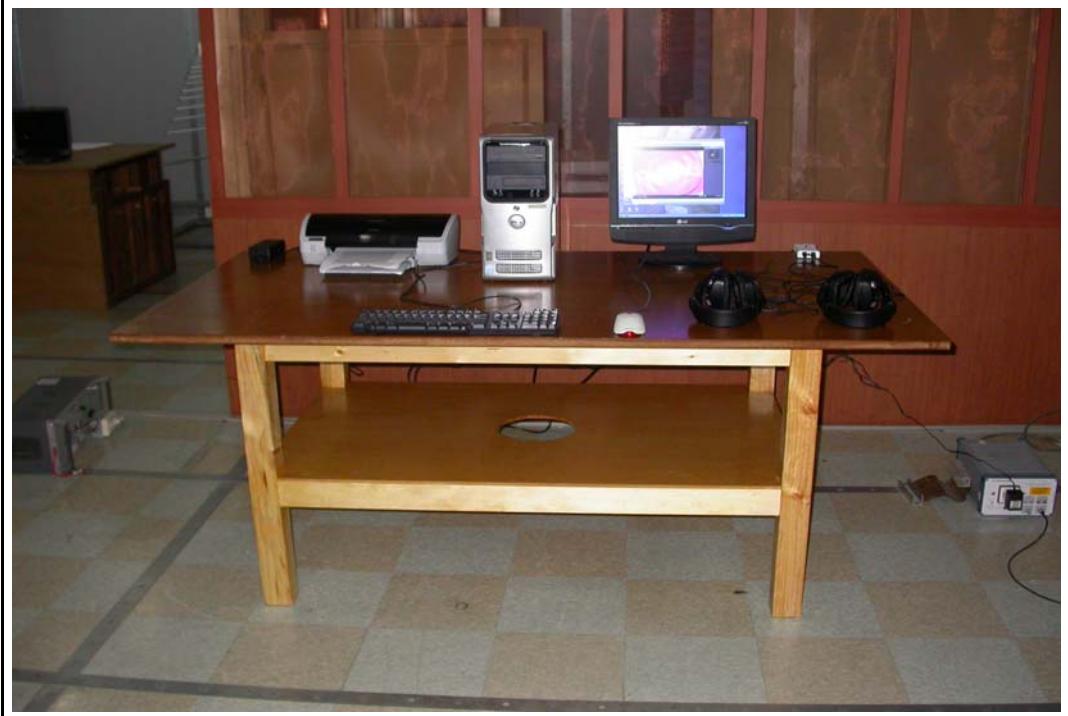
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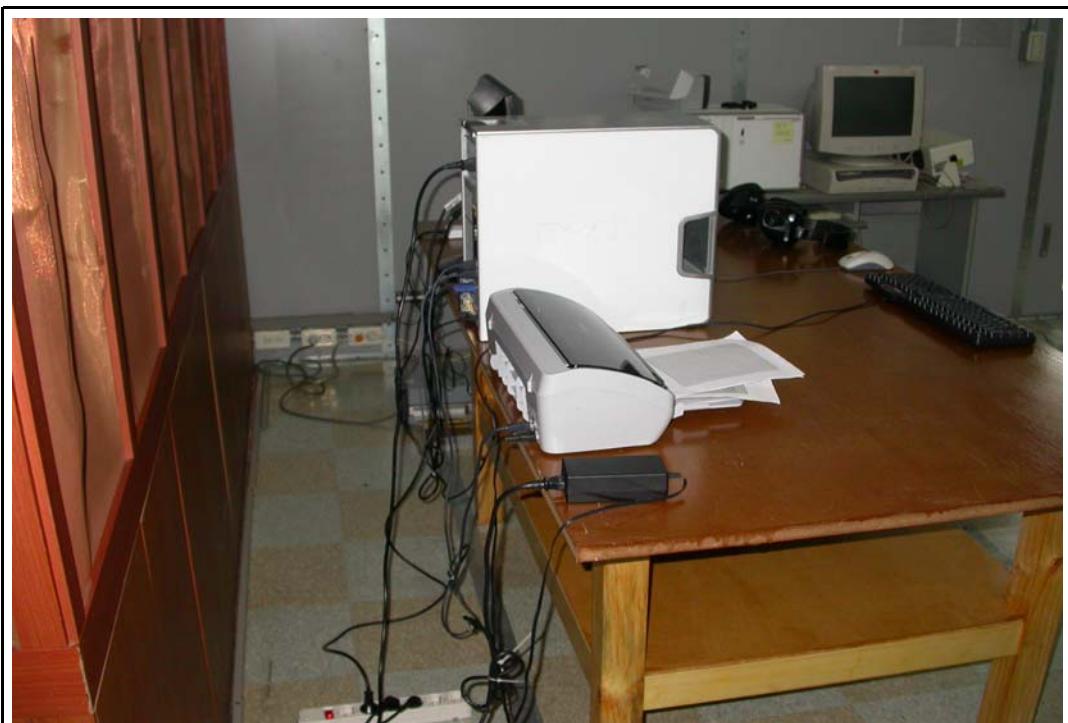
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7.2 Setup for Conducted Test : 0.15 ~ 30 MHz

[Front]



[Rear]





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8. Photographs of EUT(1)

[Front]



[Rear]





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8. Photographs of EUT(2)

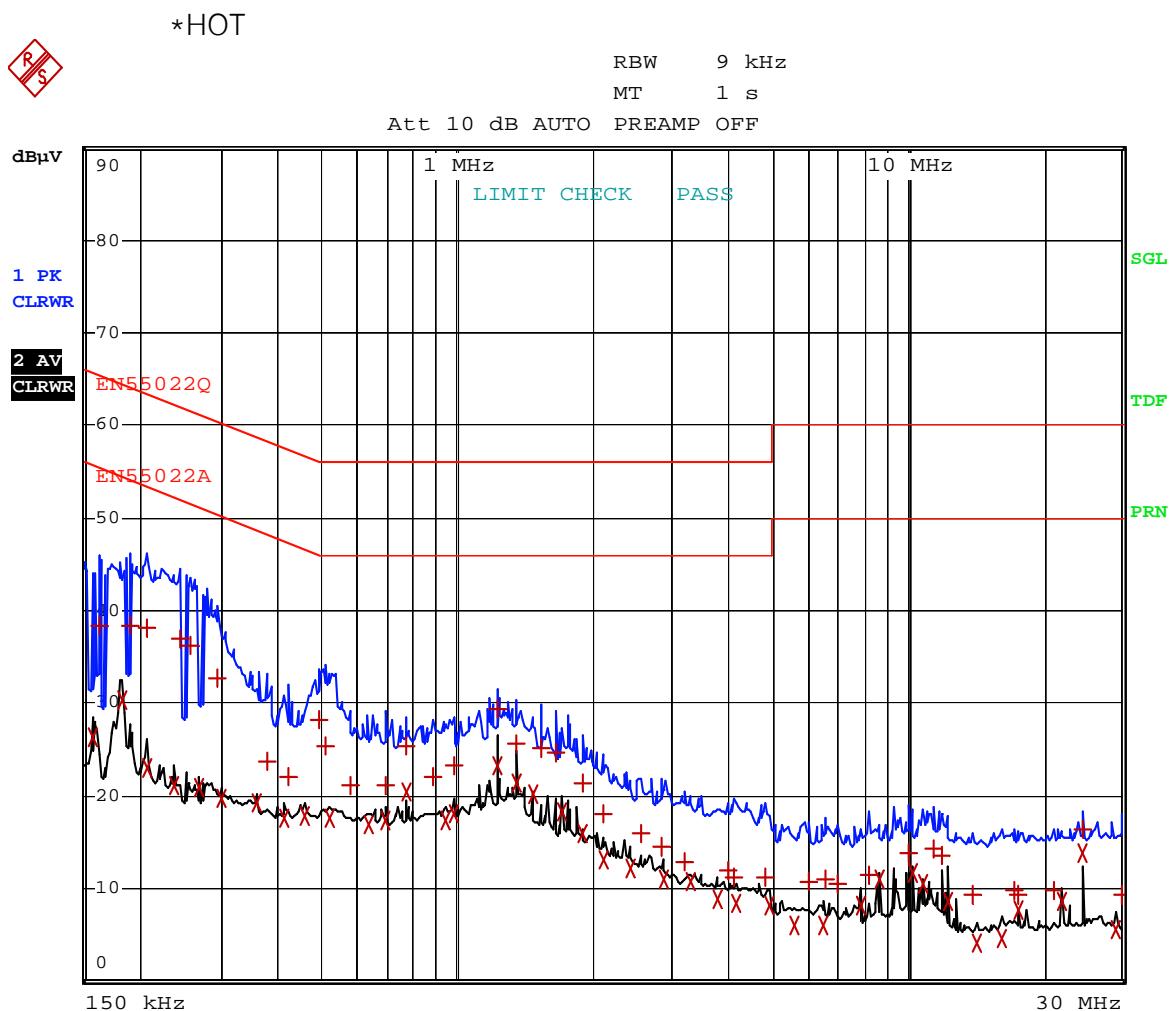
[Front]



[Rear]



Appendix 1. Spectral diagram

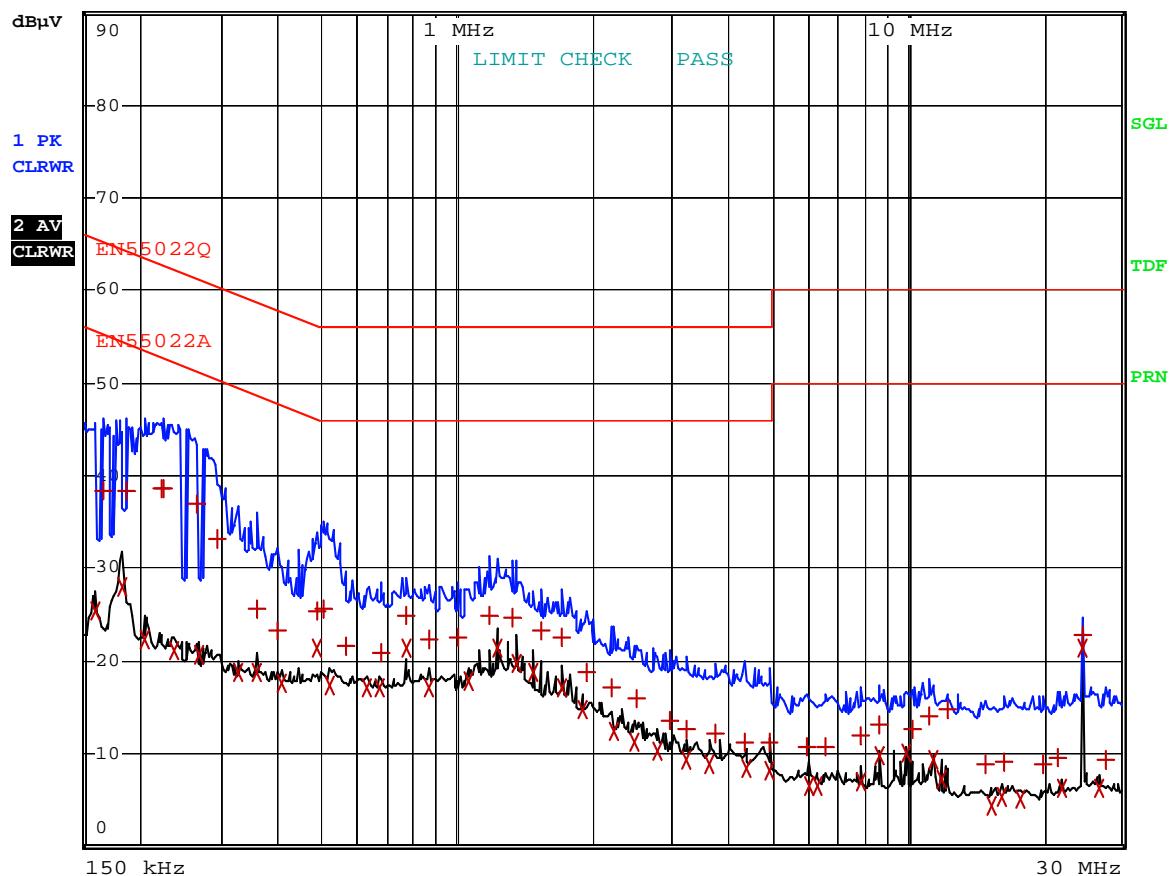


Comment: MDH-501H/D HOT
Date: 9.AUG.2007 16:11:53

*NEUTRAL



RBW 9 kHz
MT 1 s
Att 10 dB AUTO PREAMP OFF



Comment: MDH-501H/D NEUTRAL
Date: 9.AUG.2007 16:16:12