Prüfbericht - Nr.: *Test Report No.:*	**16004795 001**	**Seite 1 von 17** *Page 1 of 17*
Auftraggeber: *Client:*	**Uni-Art Precise Products Ltd. 11-12/F., YUE XIU IND'L BLDG. 87 HUNG TO ROAD, KWUN TONG, KOWLOON HONG KONG**	
Gegenstand der Prüfung: *Test item:*	**Transmitter of Wireless Headphone**	
Bezeichnung: *Identification:*	**HP1391 (ARKON); Transmitter of System WHP141 (THOMSON); HP1491 (ARKON); Transmitter of System WHP151 (THOMSON)**	**FCC ID:** *FCC ID* **MVAWSP155 – 001T**
Wareneingangs-Nr.: *Receipt No.:*	**173015906**	**Eingangsdatum:** *Date of receipt:* **18.03.2005**
Prüfort: *Testing location:*	Shenzhen Bureau of Quality Technical Supervision Shenzhen Academy of Metrology and Quality Inspection Bldg, of Shenzhen Academy of Metrology and Quality Inspection, Longzhu Road, Nanshan, Shenzhen, P.R. China	Listed test laboratory according to FCC rules section 2.948 for measuring devices under Parts 15
Prüfgrundlage: *Test specification:*	**ANSI C63.4: 2001 Conduct Emissions with limits described at FCC Part 15 subpart C section 15.207 Radiated Emissions with limits described at FCC Part 15 Subpart C section 15.209 and 15.249**	
Prüfergebnis: *Test Result:*	**Der vorstehend beschriebene Prüfgegenstand wurde geprüft und entspricht oben genannter Prüfgrundlage.** The a. m. test item passed the test *specification*..	
Prüflaboratorium: *Testing Laboratory:*	**TÜV Rheinland (Guangdong) Ltd.**	

zusammengestellt/ *compiled by*:			**kontrolliert**/ *review by*::		
25 May 2005	Ricky Liu	Ricky Liu	27.05.2005	Yuxin Huang	
Datum *Date*	**Name** *Name*	**Unterschrift** *Signature*	**Datum** *Date*	**Name** *Name*	**Unterschrift** *Signature*

Sonstiges/ Other Aspects:

Abkürzungen:				*Abbreviations:*			
ok / P	=	*entspricht Prüfgrundlage*		*ok / P*	=	*passed*	
fail / F	=	*entspricht nicht Prüfgrundlage*		*fail / F*	=	*failed*	
n.a. / N	=	*nicht anwendbar*		*n.a. / N*	=	*not applicable*	

TEST SUMMARY

5.1 CONDUCTED EMISSION FOR FCC PART 15 PER SECTION 15.207(A)
RESULT: *ok*

5.2 RADIATED EMISSION FOR FCC PART 15 PER SECTION 15.209(A)
RESULT: *ok*

5.3 FUNDAMENTAL AND HARMONICS RADIATED EMISSION FOR FCC PART 15 PER SECTION 15.249(A)
RESULT: *ok*

Contents

1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix 1: Test result

2 Test Sites

2.1 Test Facilities

Shenzhen SMQ

Shenzhen Bureau of Quality Technical Supervision
Shenzhen Academy of Metrology and Quality Inspection
Bldg, of Shenzhen Academy of Metrology and Quality Inspection
Longzhu Road, Nanshan, Shenzhen,

P.R. China

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
Antenna	Chase	CBL6112B	2591	29.01.2006
Horn Antenna	Rohde & Schwarz	HF906	100014	29.01.2006
3m Semi-anechoic chamber	Albatross Projects	9X6X6	----	29.01.2006
EMI Test Receiver	Rohde & Schwarz	ESI26	838786/013	29.01.2006
Communications Test Set	Rohde & Schwarz	CMU200	1100.0008.02	29.01.2006
Communications Test Set	HP	HP8920A	3438A05187	29.01.2006
EMI Test Receiver	Rohde & Schwarz	ESCS30	100003	29.01.2006
AMN	Rohde & Schwarz	ESH3-Z5	100002	29.01.2006

2.3 Trace ability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for conducted emissions measurements is ± 3 dB.
The estimated combined standard uncertainty for radiated emissions measurements is ± 3 dB.

2.6 Location of original data

The original copies of all test data taken during actual testing were attached at Appendix 1 of this report and delivered to the applicant. A copy has been retained in the TUV Rheinland (Guangzhou) file for certification follow-up purposes.

2.7 Status of facility used for testing

Shenzhen Bureau of Quality Technical Supervision, Shenzhen Academy of Metrology and Quality Inspection, Bldg, of Shenzhen Academy of Metrology and Quality Inspection, Longzhu Road, Nanshan, Shenzhen, P.R.China is listed on the US Federal Communications Commission list of facilities approved to perform measurements

3 General Product Information

Brief description of the test sample:

The EUTs are 900MHz transmitters for a wireless headphone system with 3 channels available. Stereo audio signal input to the audio-in port of the sample and modulated as a FM signal for transition. 19kHz pilot signal is also included in the RF signal as complete FM transmission. The antenna type is integrated.

HP1391 is identical to HP1491 except that:

1. Audio signal is input to HP1391 through the 3.5mm audio signal plug of it. While in HP1491, RCA audio signal jack is provided for the audio signal input.
2. Contact lead is provided in HP1491 for the charge of headphone. While in HP1391, additional cable with power plug is used to charge the headphone.

HP1391 is transmitter part of system HP1390.
System HP1390 has an alternative system type designation: WHP141 with brand name "THOMSON".

HP1491 is transmitter part of system HP1490.
System HP1490 has an alternative system type designation: WHP151 with brand name "THOMSON".

Based the information above mentioned, all necessary tests are performed on the HP1391.

3.1 Product Function and Intended Use

For details, refer to technical document and the user manual.

3.2 Ratings and System Details

Frequency range	:	912.00MHz, 912.50 MHz ,913.00MHz
Number of channels	:	3 channels
Type of antenna	:	Integral antenna
FCC ID	:	MVAWHP141 – 001T
Power supply	:	AC/DC adaptor input
Ports	:	Audio input; 12V DC input; Charge port to headphone, output;
RF Power level		<50 mV/m
Protection Class	:	III

Refer to the technical document for further information

3.3 Independent Operation Modes

The basic operation modes are:

Transmitting and standby

For further information refer to User Manual

3.4 Submitted Documents

Block Diagram
Circuit Diagram
Components List
PCB layout
FCC label
User Manual
Photo document

4 Test Set-up and Operation Mode

4.1 Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Refer to Test set-up in chapter 5.

4.3 Special Accessories and Auxiliary Equipment

The product has been tested together with the following AC/DC Adaptor:

Model	: TEAD-28-120150U
Input	: AC 120V 60Hz 3W
Output	: DC 12V / 150mA
Protection class	: II

4.4 Countermeasures to achieve EMC Compliance

The test sample, which has been tested, contained the noise suppression parts as described in the technical document. No additional measures were employed to achieve compliance.

4.5 Test set-up

Diagram 1 of Measurement Equipment Configuration for Testing Conducted Emission

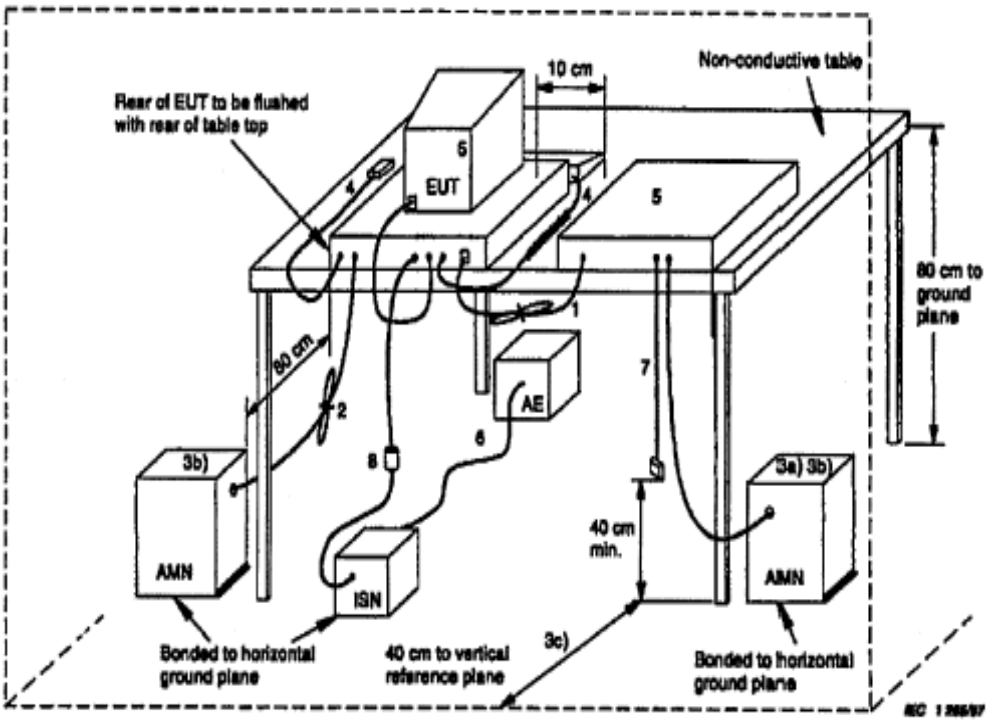


Diagram 2 of Measurement Equipment Configuration for Testing Radiated Emission

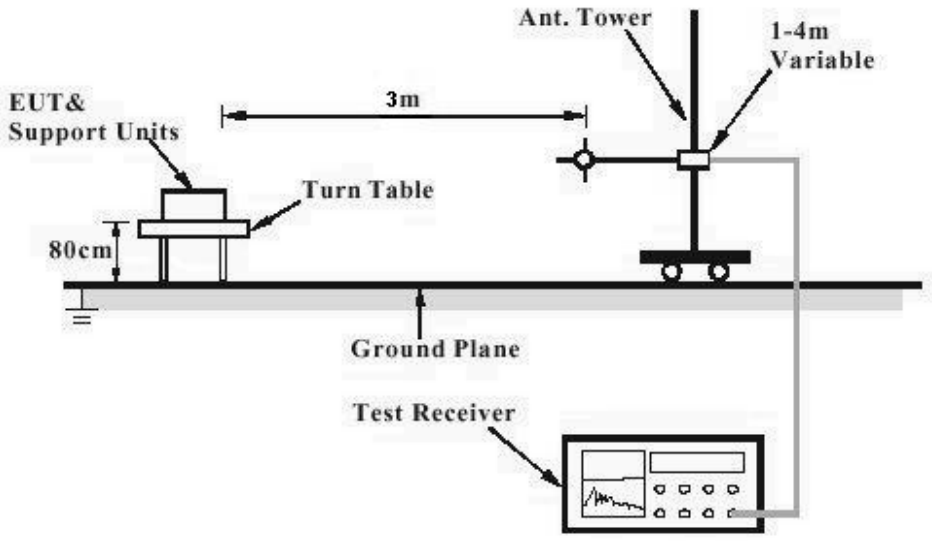


Diagram 3 of Equipment Configuration for Testing Conducted Emission

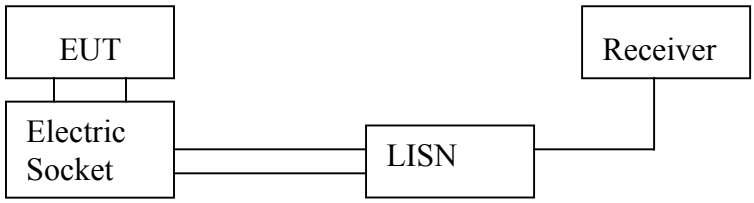


Diagram 4 of Equipment Configuration for Testing Radiated Emission

5 Test Results E M I S S I O N

5.1 Conducted Emission for FCC Part 15 Per Section 15.207(a)

RESULT: **ok**

Date of testing	:	21.03.2005
Test specification	:	FCC Part 15 Per Section 15.207(a)
Limits	:	FCC Part 15 Per Section 15.207(a)
Deviations from Standard Test procedures	:	None
Test procedure		Procedure specified in ANSI C63.4 were followed
Kind of test site	:	Shielded room
Operation mode	:	Transmitting at channel 2; Charging
Temperature	:	21°C
Humidity	:	52%

If the result of the measurement with the Quasi Peak detector is below the Average limit, the measurement with Average Detector has been omitted.
Disturbances other than those mentioned are small or not detectable.

The spectral diagrams in appendix 1 display the measurement of un-weighted peak values.

Table 2: Disturbance Voltage on AC Mains

Mode	Frequency [MHz]	Line	QP [dBµV]	AV [dBµV]	Quasi Peak Limit [dBµV]	Average Limit [dBµV]
Tx	0.189	L	42.4	13.6	64	54
	0.348	L	36.3	9.4	59	49
	0.685	L	31.1	6.2	56	46
Charging	0.183	L	43.7	14.7	64.3	54.3
	0.333	L	38.4	10.8	59.4	49.4
	0.685	L	30.6	6.1	56	46

5.2 Radiated Emission for FCC Part 15 Per Section 15.209(a)

RESULT: **ok**

Date of testing	:	21.03.2005
Test specification	:	FCC Part 15 Per Section 15.209(a)
Limits	:	FCC Part 15 Per Section 15.209(a)
Deviations from Standard Test procedures	:	None
Test procedure		Procedure specified in ANSI C63.4 were followed
Kind of test site	:	3m Semi-anechoic chamber
Operation mode	:	Transmitting at channel 1
Temperature	:	19°C
Humidity	:	50%

The final measurement for frequencies below 1000MHz is performed with Quasi Peak detector; the final measurement for frequencies above 1000MHz is performed with Average detector.

Disturbances other than those mentioned are small or not detectable.

The spectral diagrams in appendix 1 display the measurement of un-weighted peak values.

Table 3: Radiated Emission

Frequency [MHz]	**QP** [dBµV/m]	**AV** [dBµV/m]	**Polarity**	**Limit** [dBµV/m]
---*				

*) The disturbance measured is far below the limit and therefore, no final measurement was performed.

5.3 Fundamental and harmonics Radiated Emission for FCC Part 15 Per Section 15.249(a)

RESULT: **ok**

Date of testing	:	21.03.2005
Test specification	:	FCC Part 15 Per Section 15.249(a)
Limits	:	FCC Part 15 Per Section 15.249(a)
Deviations from Standard Test procedures	:	None
Test procedure		Procedure specified in ANSI C63.4 were followed
Kind of test site	:	3m Semi-anechoic chamber
Operation mode	:	Transmitting at channel 1
Temperature	:	19°C
Humidity	:	50%

Measurement was performed with unmodulated signal.
Polarization of the measurement for the larger power level: Vertical

Test conditions		Fundamental Frequency	
		Channel 1 (912.08MHz)	
T_{nom}(22°C)	Unit	(dBµV/m)	(mV/m)
	Horizontal	86.4	20.89
	Vertical	91.5	37.58
limit		93.979	50

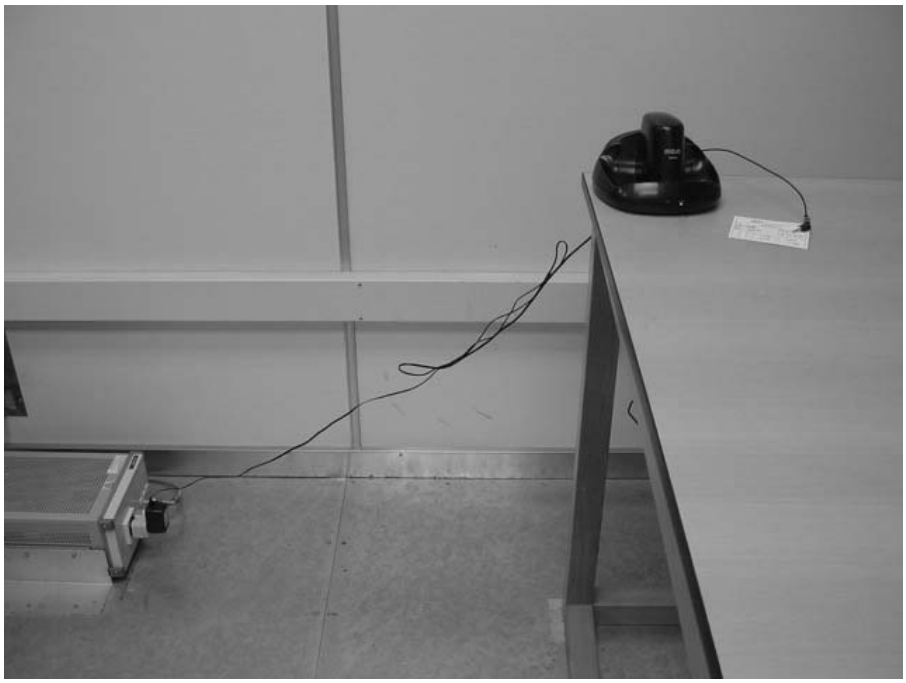
The final measurement for frequencies below 1000MHz is performed with Quasi Peak detector; the final measurement for frequencies above 1000MHz is performed with Average detector.

Disturbances other than those mentioned are small or not detectable.

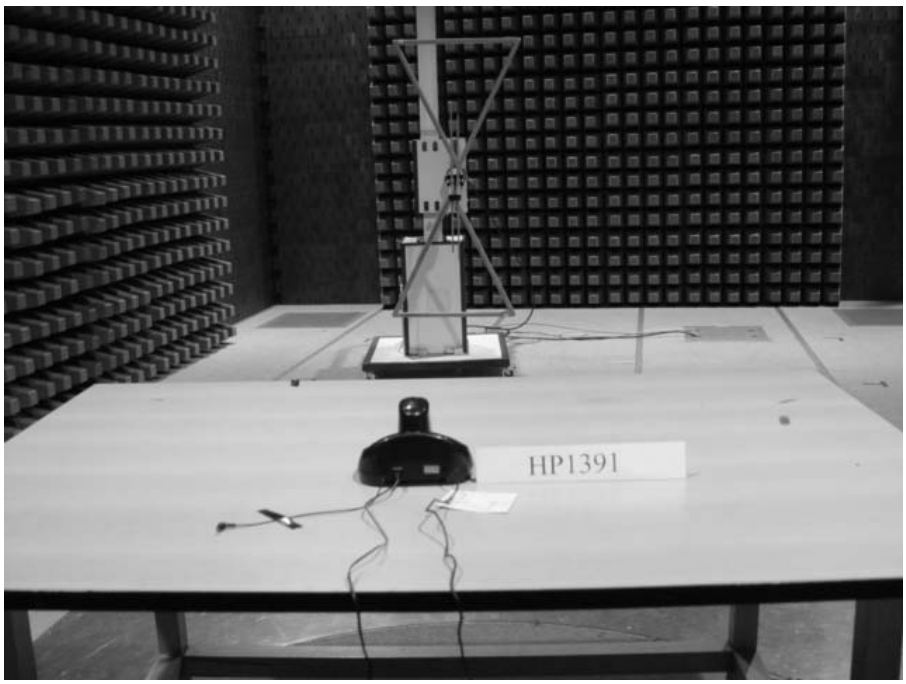
The spectral diagrams in appendix 1 display the measurement of un-weighted peak values.

6 Photographs of the Test Set-Up

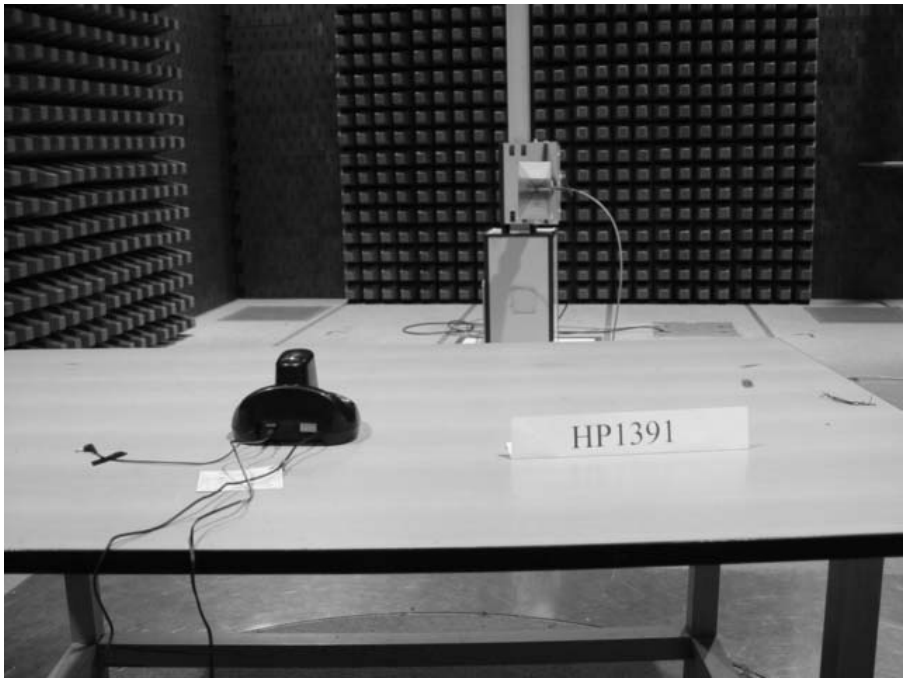
Photograph 1: Set-up for Conducted Emission on AC Mains



Photograph 2: Set-up for Radiation Measurement Below 1GHz



Photograph 3: Set-up for Radiation Measurement Above 1GHz



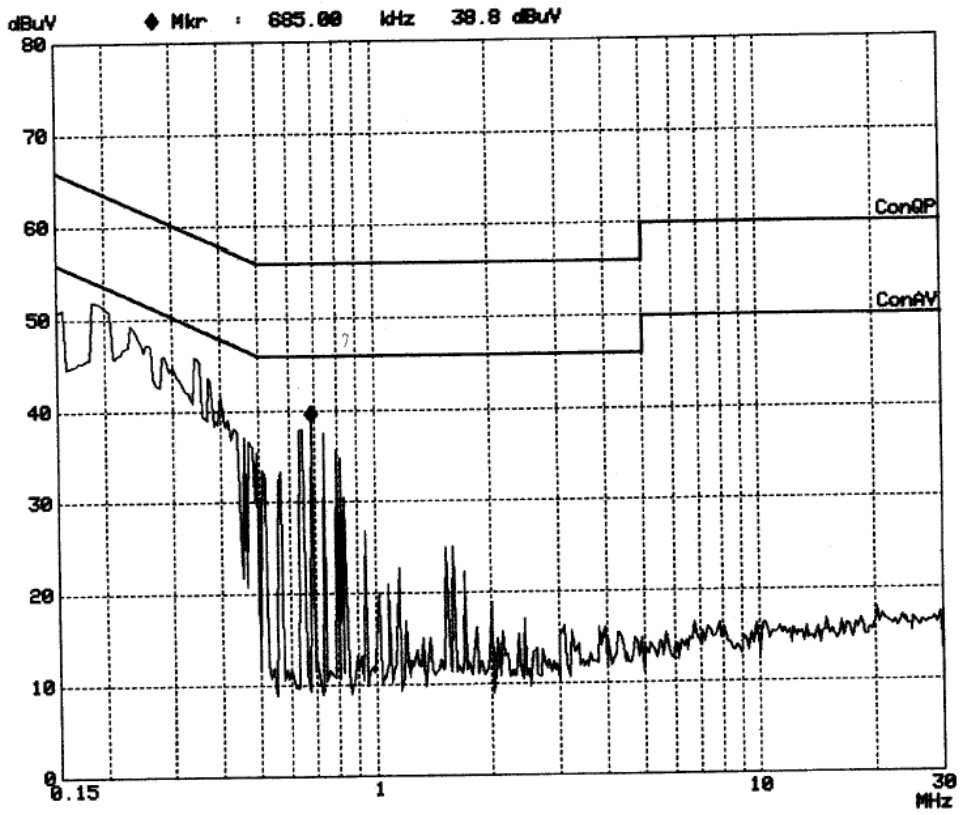
7 List of Tables

8 List of Photographs

Prüfbericht - Nr.: 16004795 001
Test Report No.:

Conducted Disturbance

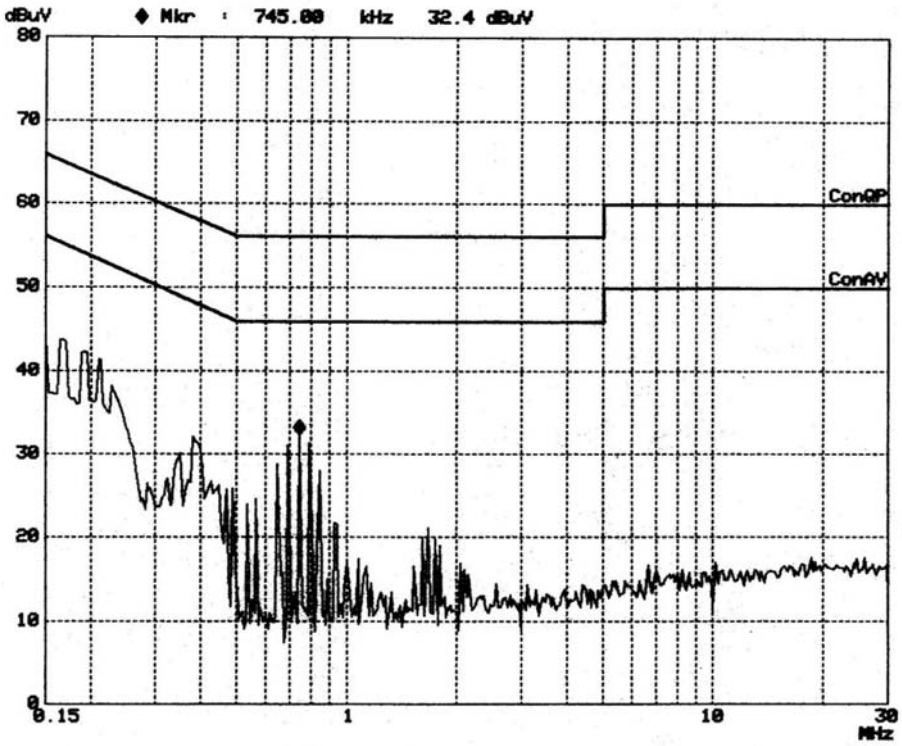
EUT:	M/N:SP1391
Op Cond:	TX(CH2)
Test Spec:	L
Comment:	AC 120V/60Hz
Date:	21. Mar 05 09:44



Prüfbericht - Nr.: 16004795 001
Test Report No.:

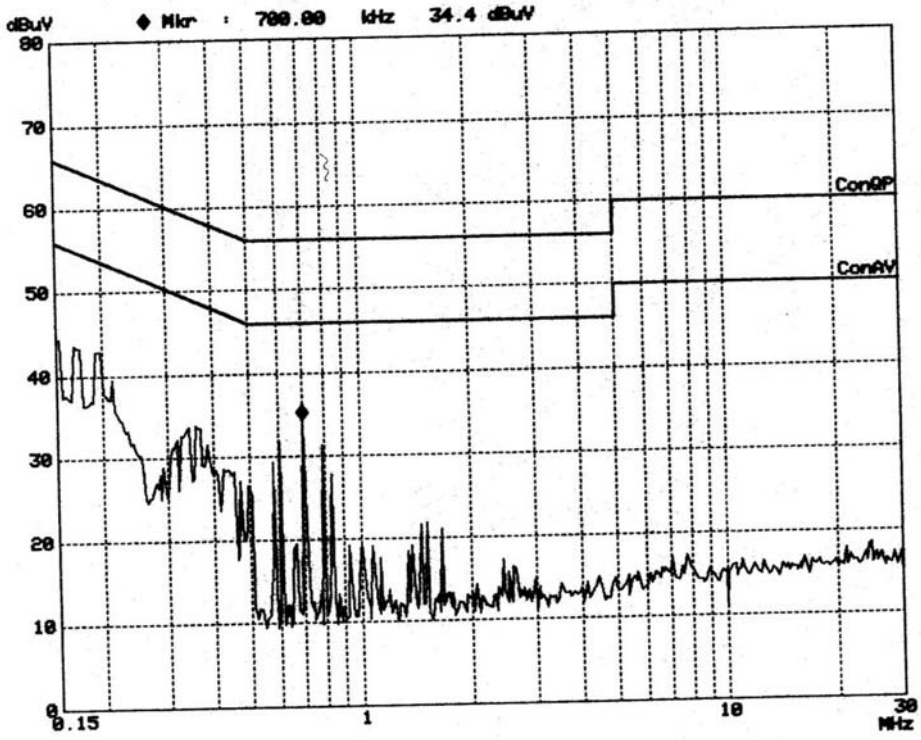
Conducted Disturbance

EUT:	M/N:SP1391
Op Cond:	TX(CH2)
Test Spec:	N
Comment:	AC 120V/60Hz
Date:	21. Mar 05 09:37

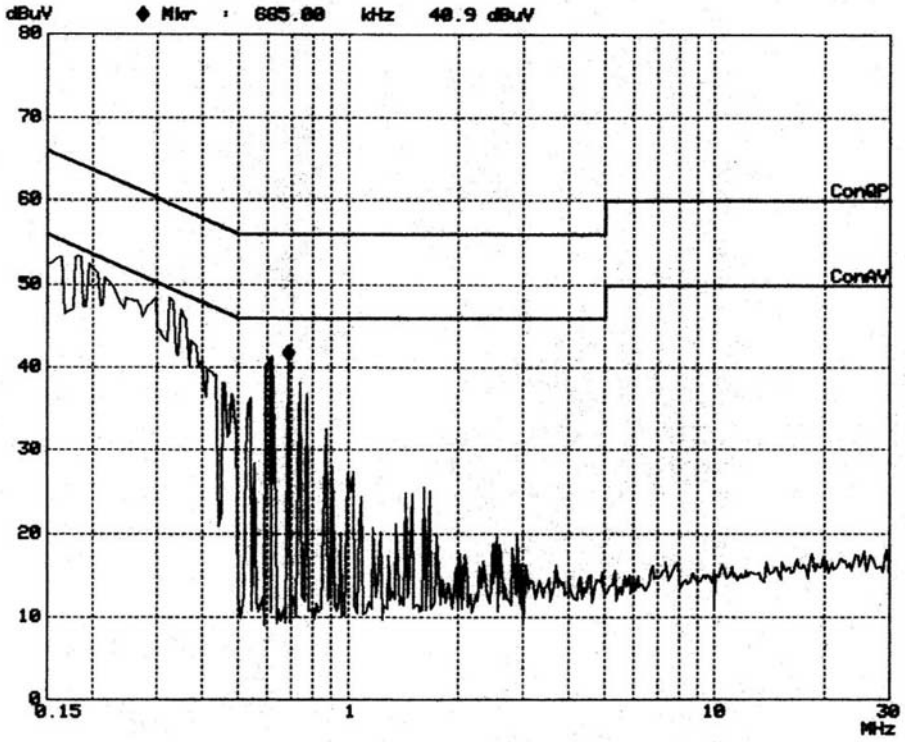


Conducted Disturbance

EUT:	M/N:SP1391
Op Cond:	Chargeing (+HP1592)
Test Spec:	N
Comment:	AC 120V/60Hz
Date:	21. Mar 05 09:57



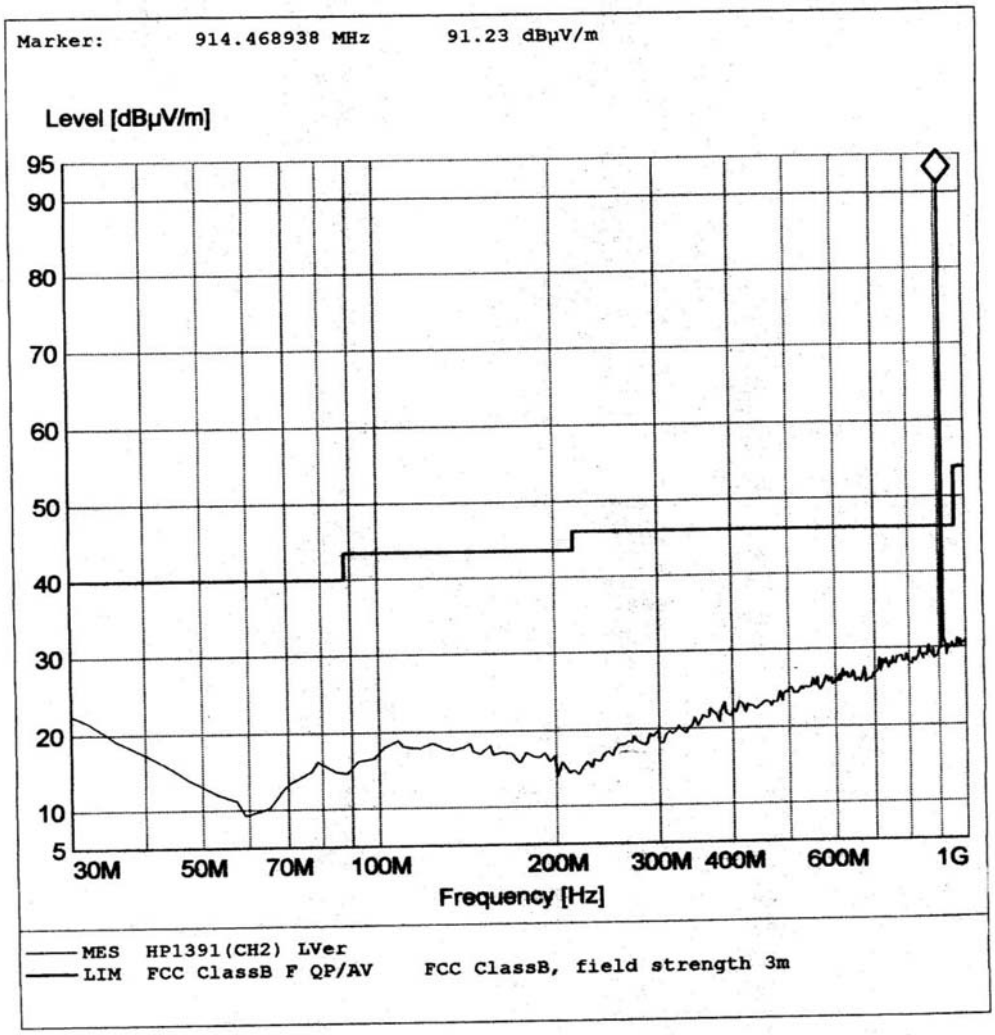
Conducted Disturbance
EUT: M/N:SP1391
Op Cond: Chargeing (+HP1392)
Test Spec: L
Comment: AC 120V/60Hz
Date: 21. Mar 05 09:53



Radiated Disturbance

FCC Part15

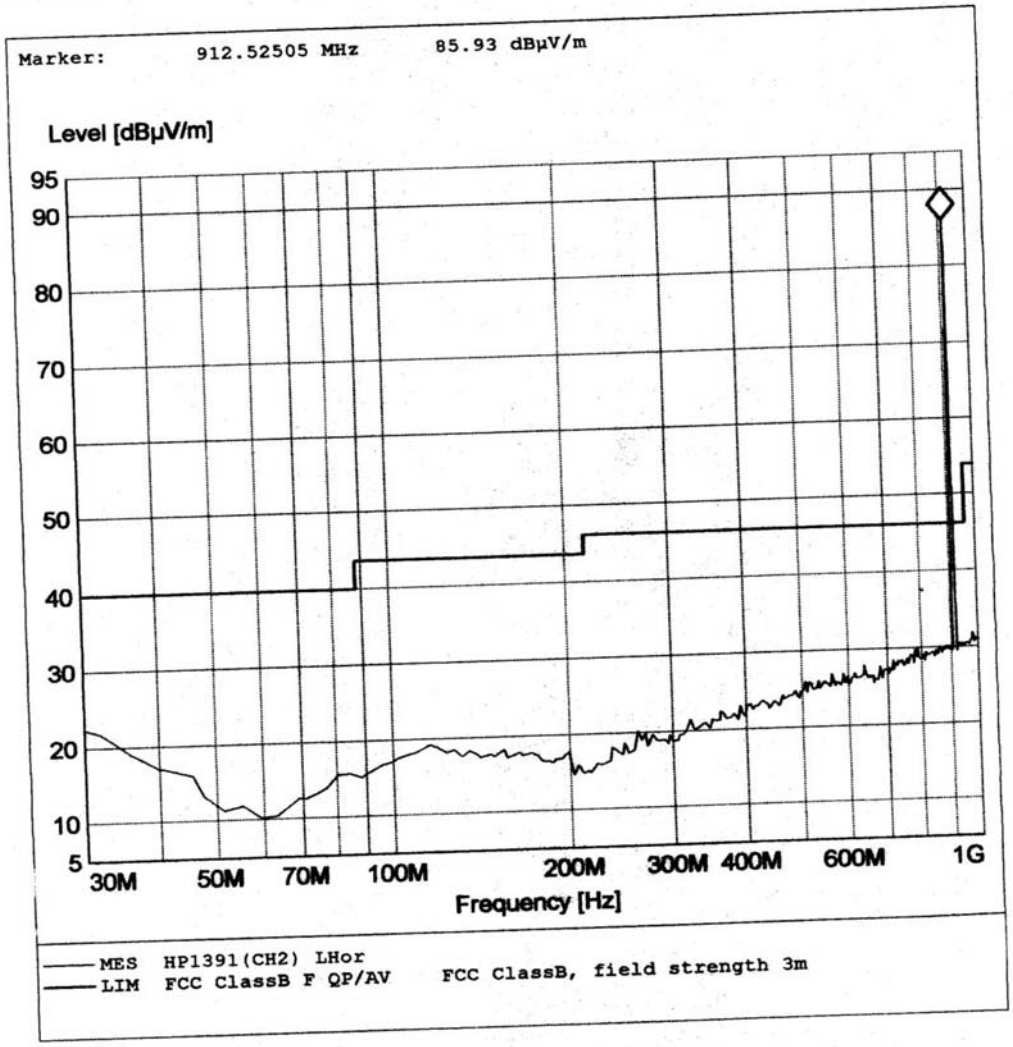
EUT: M/N:HP1391
Manufacturer:
Operating Condition: TX (CH2)
Test Site: SMQ EMC Lab.SAC
Operator:
Test Specification: Vertical
Comment: AC 120V/60Hz



Radiated Disturbance

FCC Part15

EUT: M/N:HP1391
Manufacturer:
Operating Condition: TX (CH2)
Test Site: SMQ EMC Lab.SAC
Operator:
Test Specification: Horizontal
Comment: AC 120V/60Hz

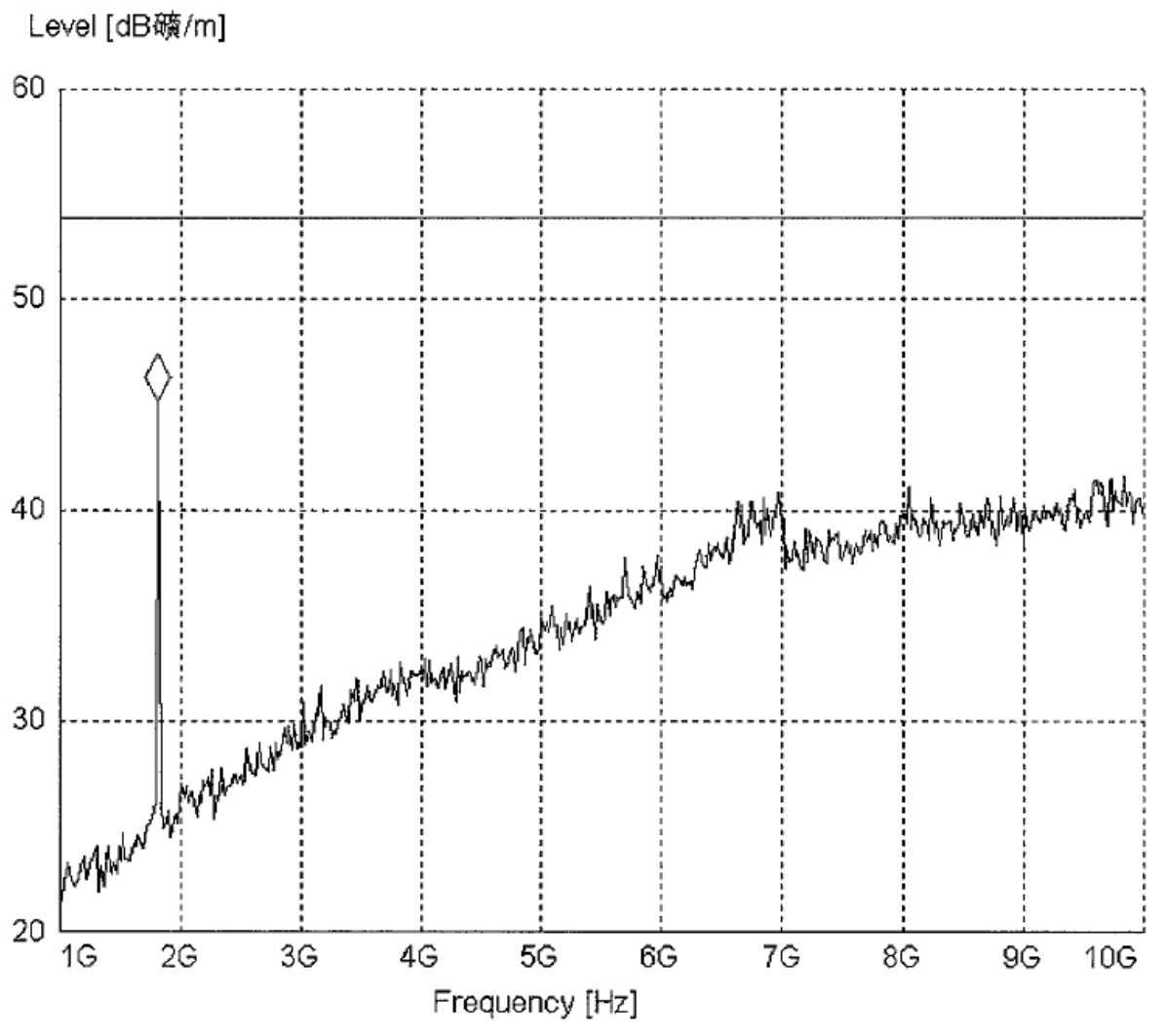


Prüfbericht - Nr.: 16004795 001
Test Report No.:

FCC Part15

EUT: M/N:HP13921
Manufacturer:
Operating Condition: TX (Ch2)
Test Site: SMQ EMC Lab.SAC
Operator:
Test Specification: Vertical
Comment: AC 120V/60Hz

Marker: 1.811623246 GHz 45.21 dB磭/m



——MES HP1391 CH2 H Ver
——LIM FCC ClassB F QP/AV FCC ClassB, field strength

Radiated Disturbance

FCC Part15

EUT: M/N:HP13921
Manufacturer:
Operating Condition: TX (Ch2)
Test Site: SMQ EMC Lab.SAC
Operator:
Test Specification: Horizontal
Comment: AC 120V/60Hz

Marker: 1.811623246 GHz 31.5 dBµV/m