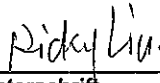


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Test Report No.:			
Auftraggeber: Client:	Uni-Art Precise Products Ltd. 11-12/F., YUE XIU IND'L BLDG. 87 HUNG TO ROAD, KWUN TONG, KOWLOON HONG KONG		
Gegenstand der Prüfung: Wireless Speaker Receiver Test item:			
Bezeichnung: Identification:	SP1492	FCC ID: FCC ID	MVASP1490-001R
Wareneingangs-Nr.: Receipt No.:	173028879	Eingangsdatum: Date of receipt:	26.03.2007
Prüfart: 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 C63.4:2003 Conduct Emissions with limits described at FCC Part 15 subpart B section 15.107 Radiated Emissions with limits described at FCC Part 15 Subpart B section 15.109 38 dB rejection described at FCC Part 15 Subpart B section 15.121		
Prüfergebnis: Test Result:	Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). The test item passed the test specification(s).		
Prüflaboratorium: Testing Laboratory:	TÜV Rheinland (Guangdong) Ltd.		
geprüft/ tested by:		kontrolliert/ checked by:	
11. June. 2007 Datum Name/Stellung Unterschrift Date Name/Position Signature Ricky Liu/Project Engineer 		12. Jun. 2007 Datum Name/Stellung Unterschrift Date Name/Position Signature Dave Xie/Project Manager 	
Sonstiges/ Other Aspects:			
Abkürzungen: P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet		Abbreviations: P(ass) = passed F(ail) = failed N/A = not applicable N/T = not tested	
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.			

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TEST SUMMARY

5.1 CONDUCTED EMISSION FOR FCC PART 15 PER SECTION 15.107(A)

RESULT: Pass

5.2 RADIATED EMISSION FOR FCC PART 15 PER SECTION 15.109(A)

RESULT: Pass

5.3 38 dB REJECTION SIGNAL FROM CELLULAR FREQUENCY BAND

RESULT: Pass

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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

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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	29.01.2008
Horn Antenna	Rohde & Schwarz	HF906	100014	29.01.2008
3m Semi-anechoic chamber	Albatross Projects	9X6X6	----	29.01.2008
EMI Test Receiver	Rohde & Schwarz	ESI26	838786/013	29.01.2008
Communications Test Set	Rohde & Schwarz	CMU200	1100.0008.02	29.01.2008
Communications Test Set	HP	HP8920A	3438A05187	29.01.2008

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

Uncertainty for conducted emissions measurements is $\pm 2.51\text{dB}$.

Uncertainty for radiated emissions measurements is $\pm 4.9\text{dB}$ (30MHz-1GHz), $\pm 4.84\text{dB}$ (>1GHz).

The reported expanded uncertainty is based on a standard uncertainty multiply by a coverage factor $k=2$, providing a level of confidence of approximately 95%.

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 with registration number 97379.

3 General Product Information

Brief description of the test sample:

The EUT is Wireless Speaker Receiver with 2 operating frequencies. An auto tune function can be found in the sample: in case there is not signal detected, the local oscillator is continuously switching for these 2 receiving frequencies.

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3.1 Product Function and Intended Use

For details, refer to user manual.

3.2 Ratings and System Details

Frequency range	:	912.00MHz, 913.00MHz
Number of channels	:	2 (auto tunable)
Type of antenna	:	Integral antenna
FCC ID:		MVASP1490- 001R
Power supply	:	DC 12V from AC/DC adaptor; 12×“AA“ size Alkaline batteries (6 per speaker)
Ports	:	DC power input
Protection Class	:	III

Refer to document for further information

3.3 Independent Operation Modes

The basic operation modes are:

Receiving with volume, freq. auto adjustable

For further information refer to User Manual

3.4 Submitted Documents

Block Diagram
Circuit Diagram
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 power switching supply Adaptor:

Model	: PS15A-1201000U
Input	: AC 100-240V, 50/60Hz
Output	: DC 12V / 1A
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 Constructional Data Form or 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

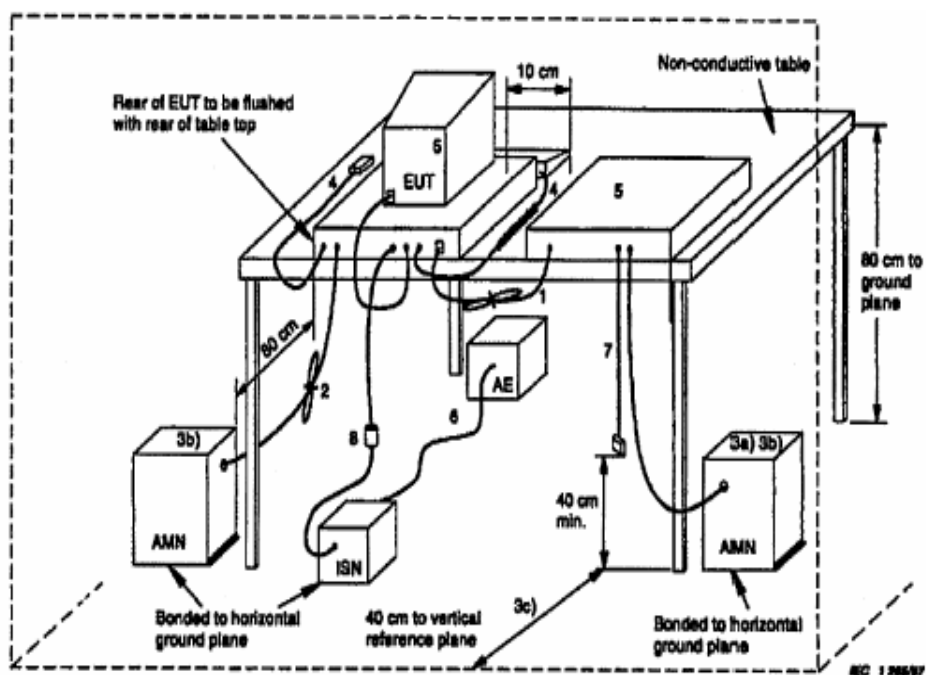
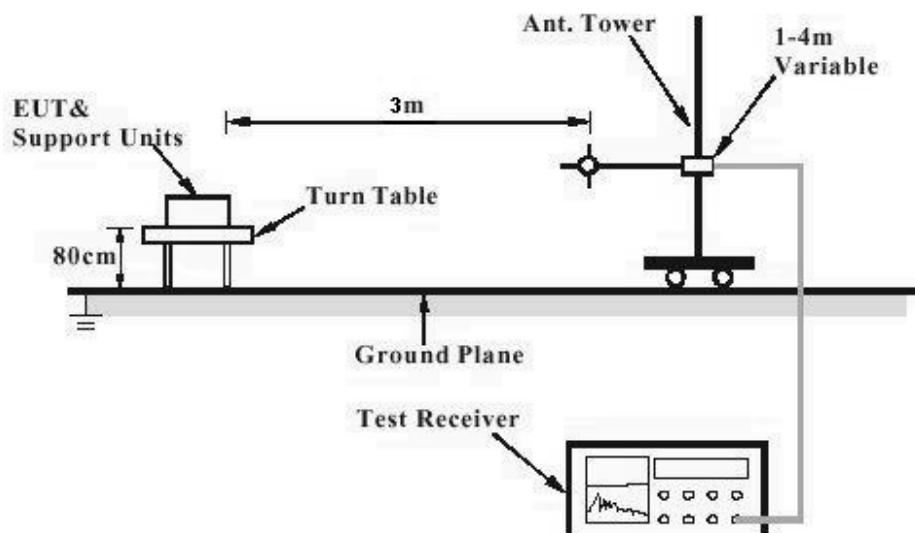


Diagram 2 of Measurement Equipment Configuration for Testing Radiated Emission



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5 Test Results EMISSION

5.1 Conducted Emission for FCC Part 15 Per Section 15.107(a)

RESULT:

Pass

Date of testing : 28.03.2007
Test specification : FCC Part 15 Per Section 15.107(a)
Limits : FCC Part 15 Per Section 15.107(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 : Receiving
Temperature : 23°C
Humidity : 48%

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

Frequency [MHz]	Line	QP [dBμV]	AV [dBμV]	Quasi Peak Limit [dBμV]	Average Limit [dBμV]
0.154	L	47.1	21.5	65.7	55.7
0.186	L	43.5	18.7	64.2	54.2
0.226	L	38.6	16.6	62.5	52.5
0.158	N	47.5	25.8	65.5	55.5
0.174	N	46.2	23.7	64.7	54.7
0.214	N	40.3	40.3	63.0	53.0

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5.2 Radiated Emission for FCC Part 15 Per Section 15.109(a)

RESULT:

Pass

Date of testing : 28.03.2007
Test specification : FCC Part 15 Per Section 15.109(a)
Limit : FCC Part 15 Per Section 15.109(a)
Operation mode: Receiving
Deviations from Standard Test procedures : None
Test procedure : Procedure specified in ANSI C63.4 were followed
Kind of test site : 3m Semi-anechoic chamber
Temperature : 23°C
Humidity : 48%

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 [dB μ V/m]	AV [dB μ V/m]	Polarity	Limit [dB μ V/m]
31.670	29.9	---	V	40.0
53.245	31.9	---	V	40.0
64.814	25.7	---	V	40.0
96.616	27.3	---	V	43.5
106.225	31.9	---	V	43.5
919.963	25.5	---	V	46.0
2703.939	---	38.7	H	54.0
3605.253	---	35.6	H	54.0
2703.945	---	40.5	V	54.0
3605.256	---	39.3	V	54.0

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5.3 38 dB rejection signal from Cellular Frequency band

RESULT:

Pass

Date of testing : 28.03.2007
 Test specification : FCC Part 15 Per Section 15.121(b)
 Limit : FCC Part 15 Per Section 15.121(b)
 Operation mode: Receiving
 Test procedure Procedure specified in ANSI C63.4 were followed
 Kind of test site : Shielded room
 Test signal : RF signal FM at 1kHz audio, 19kHz pilot with 75kHz deviation
 Reference level : -40dBm

Test procedure: set the wanted signal to establish a reference sensitivity (12dB SINAD) and then increased the signal level by 3dB, the level of wanted signal was -40dBm, then the unwanted mobile signal was injected into the submitted sample receiver and increased in level until the SINAD was reduced to 12dB, the level of unwanted mobile signal was greater than 17dBm, and then repeated above test steps for other cellular frequencies. Test result are listed as following table:

Table 4: 38 dB Rejection

Injection frequency(Cellular) in MHz	Level 12dB SINAD at injected frequency in dBm	Rejection in dB	Limit in dB
824.04	>17	>40	38
836.00	>17	>40	38
848.97	>17	>40	38
869.04	>17	>40	38
881.00	>17	>40	38
893.97	>17	>40	38

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6 Photographs of the Test Set-Up

Photograph 1: Set up for Conducted Emission on AC Mains



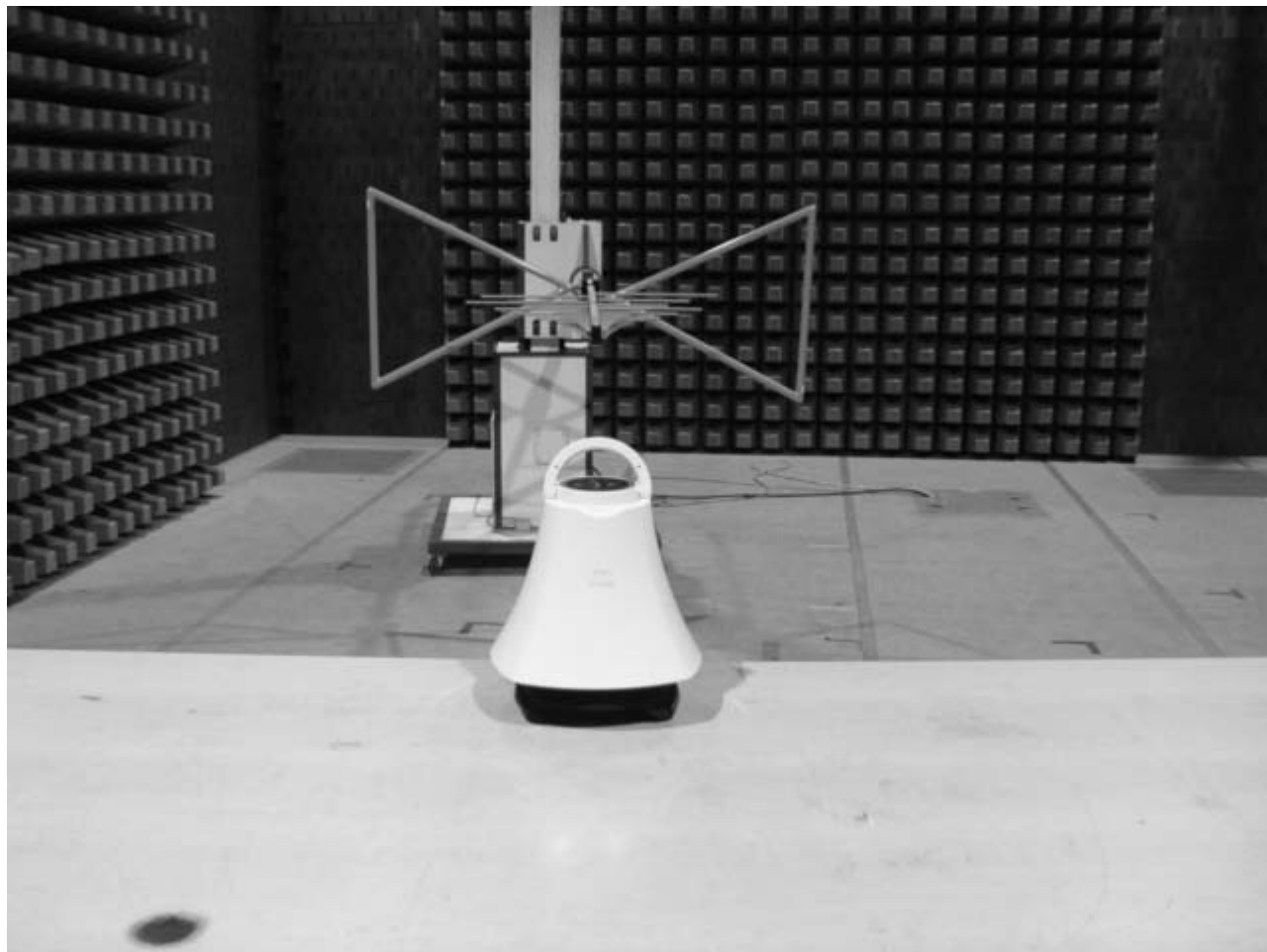
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Photograph 2: Set-up for Radiation Measurement Below 1GHz



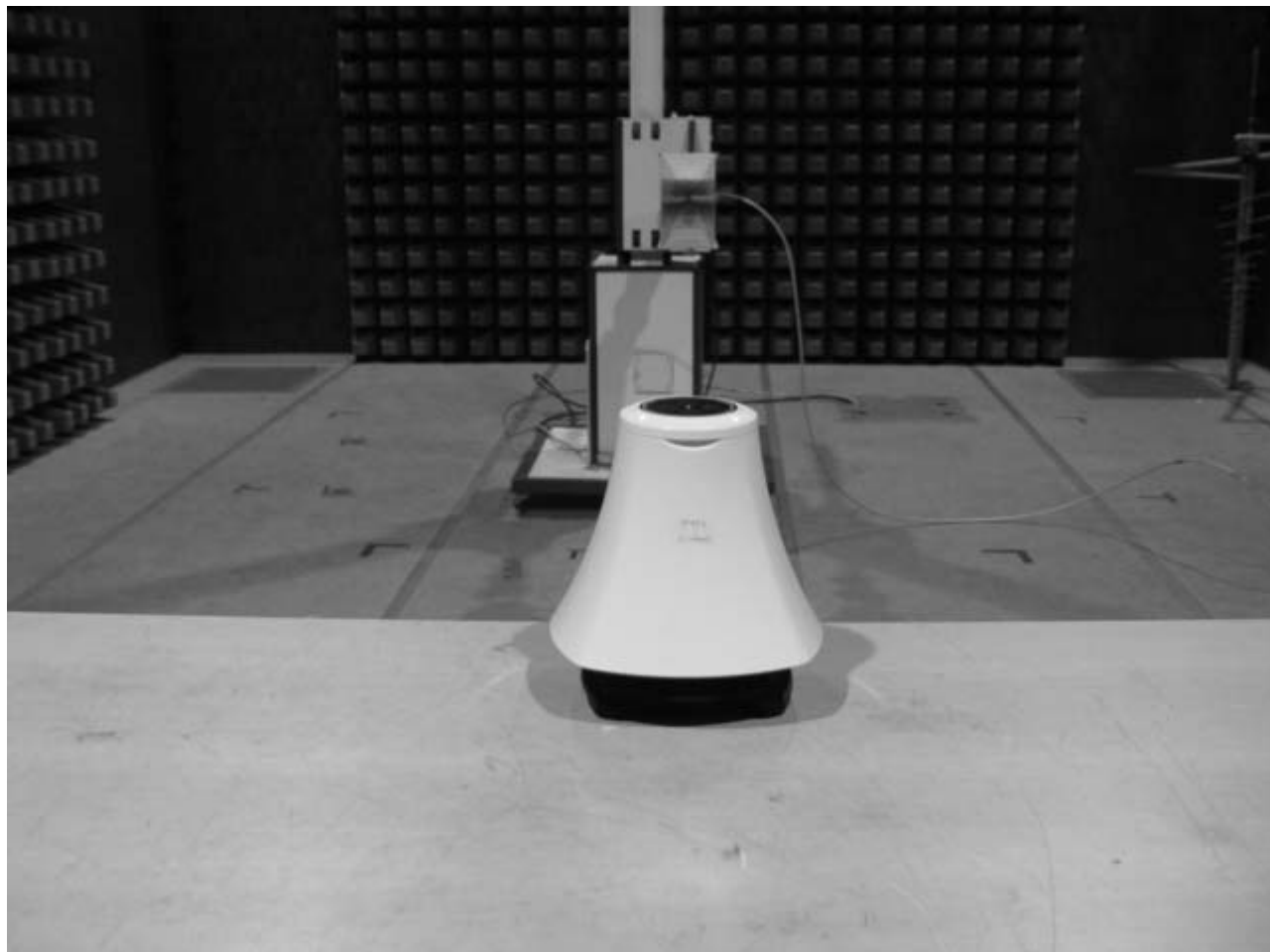
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Photograph 3: Set-up for Radiation Measurement Above 1GHz



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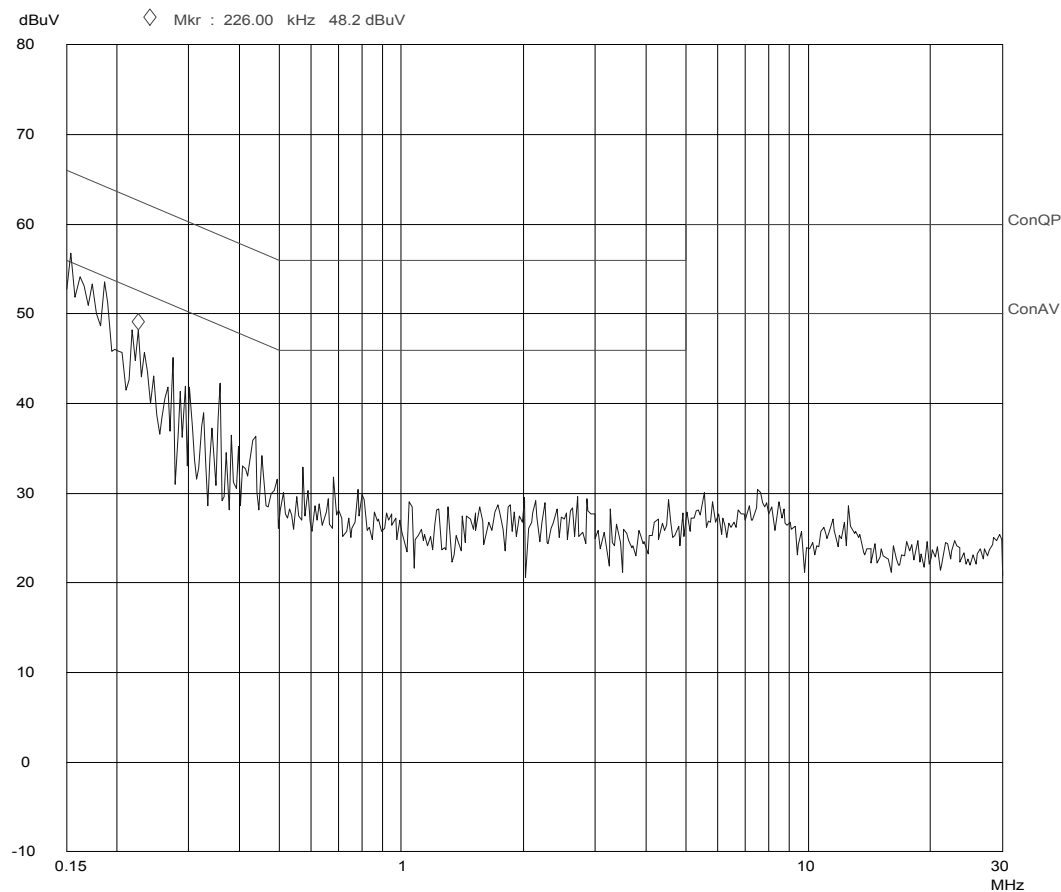
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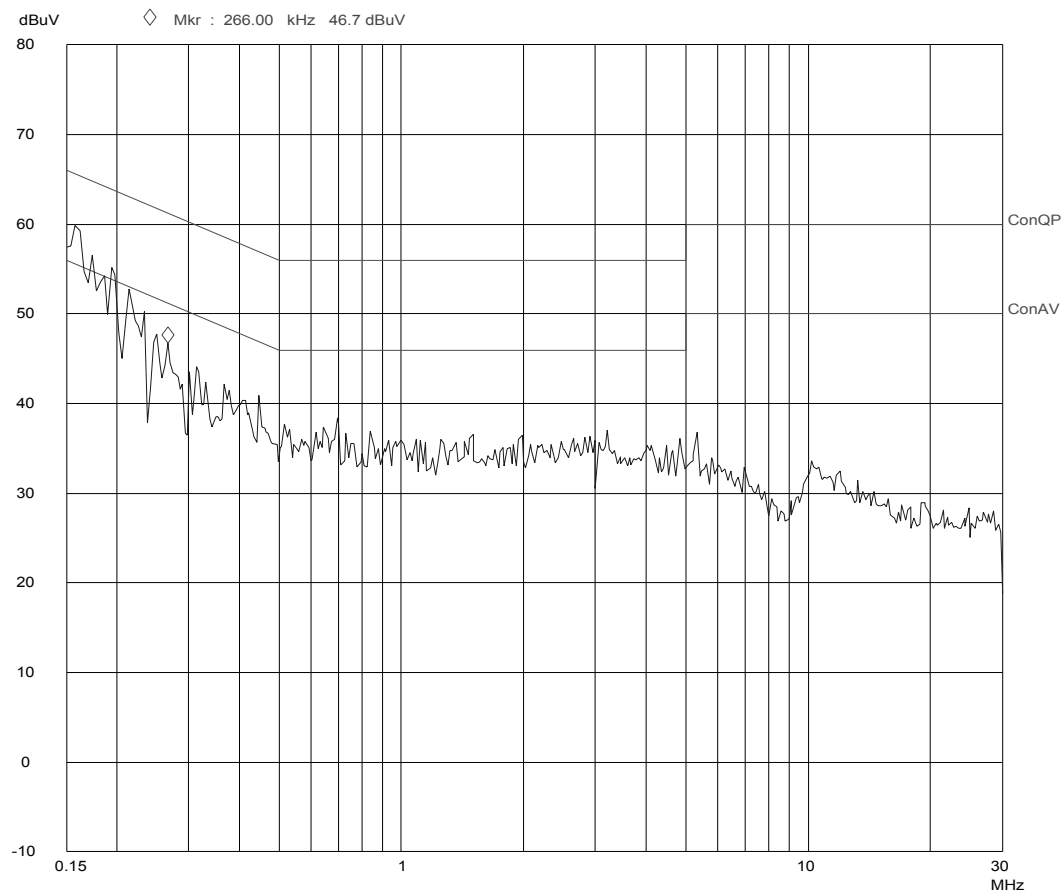
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Conducted Disturbance

EUT: M/N:SP1492
 Op Cond: RS
 Test Spec: L
 Comment: AC 120V/60Hz



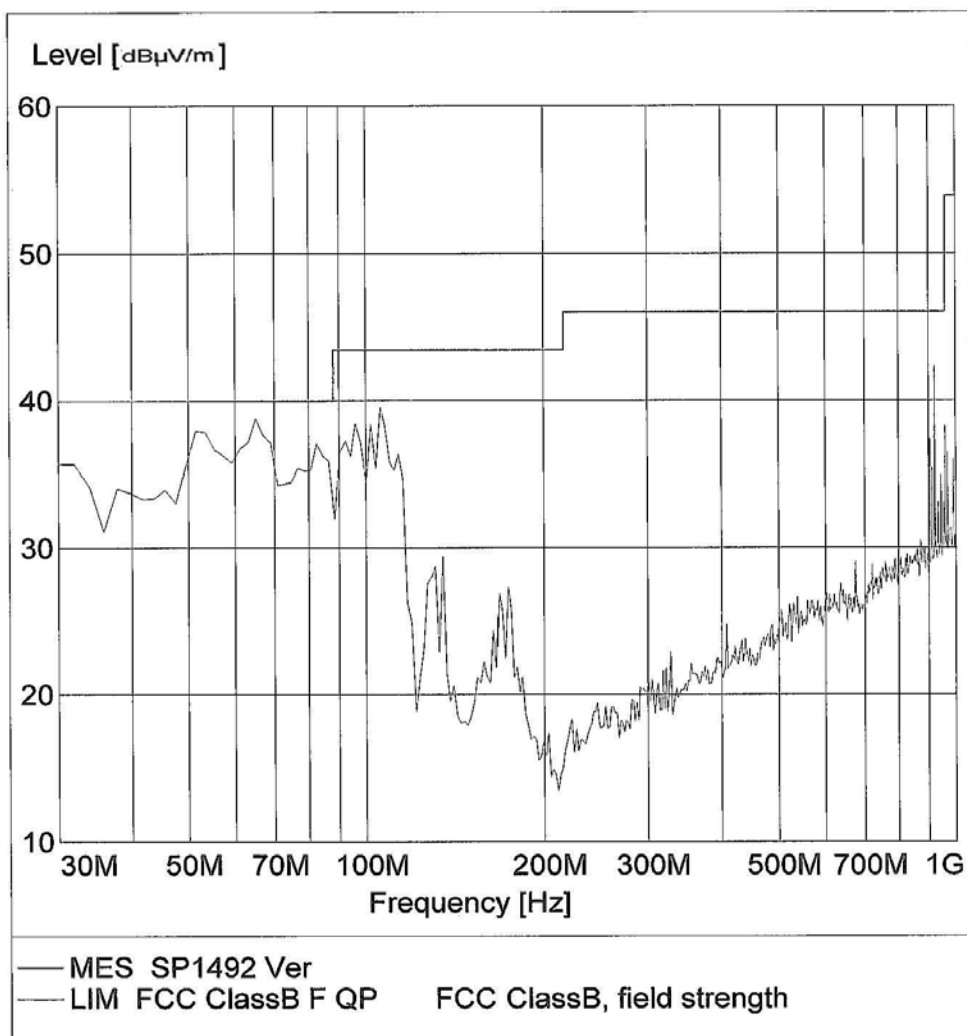
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Conducted Disturbance

EUT: M/N:SP1492
 Op Cond: RS
 Test Spec: N
 Comment: AC 120V/60Hz



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Radiated Disturbance

EUT: M/N:SP1492
 Manufacturer:
 Operating Condition: ON
 Test Site: SMQ EMC Lab.SAC
 Test Specification: Vertical
 Comment : AC 120V/60Hz



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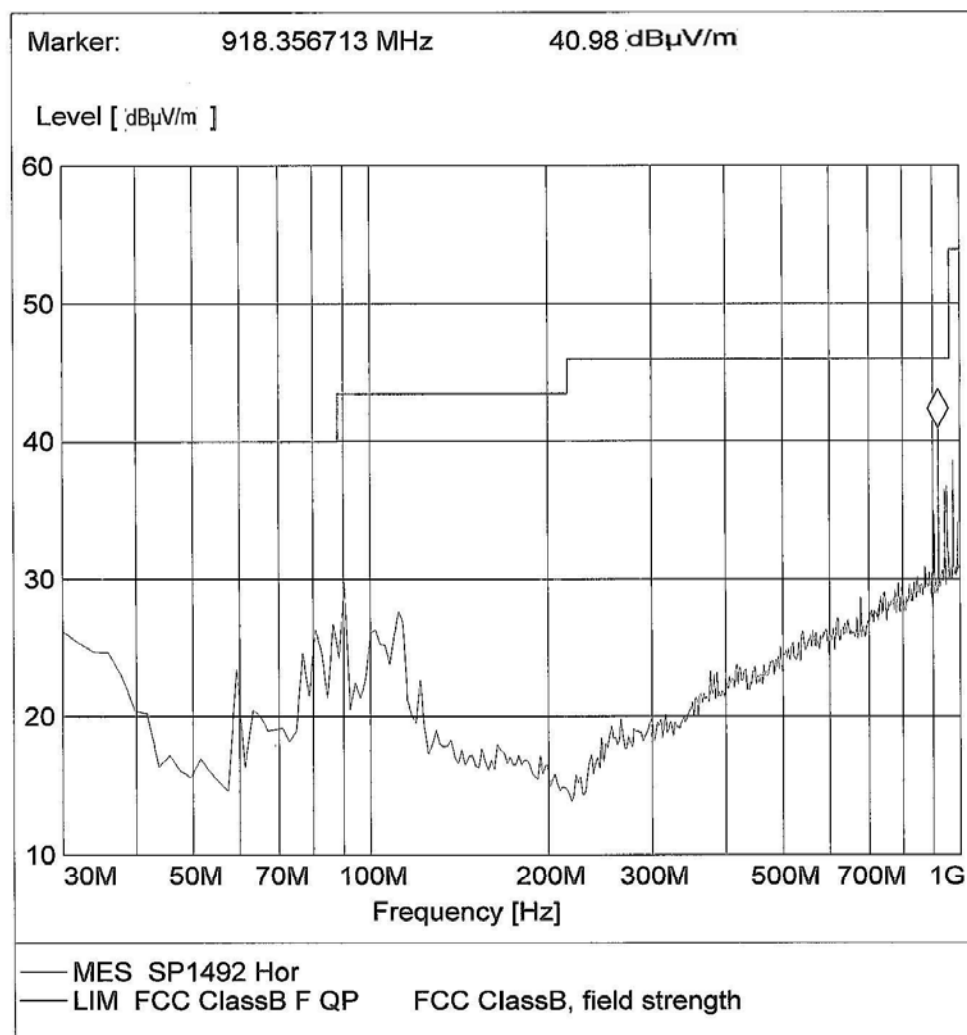
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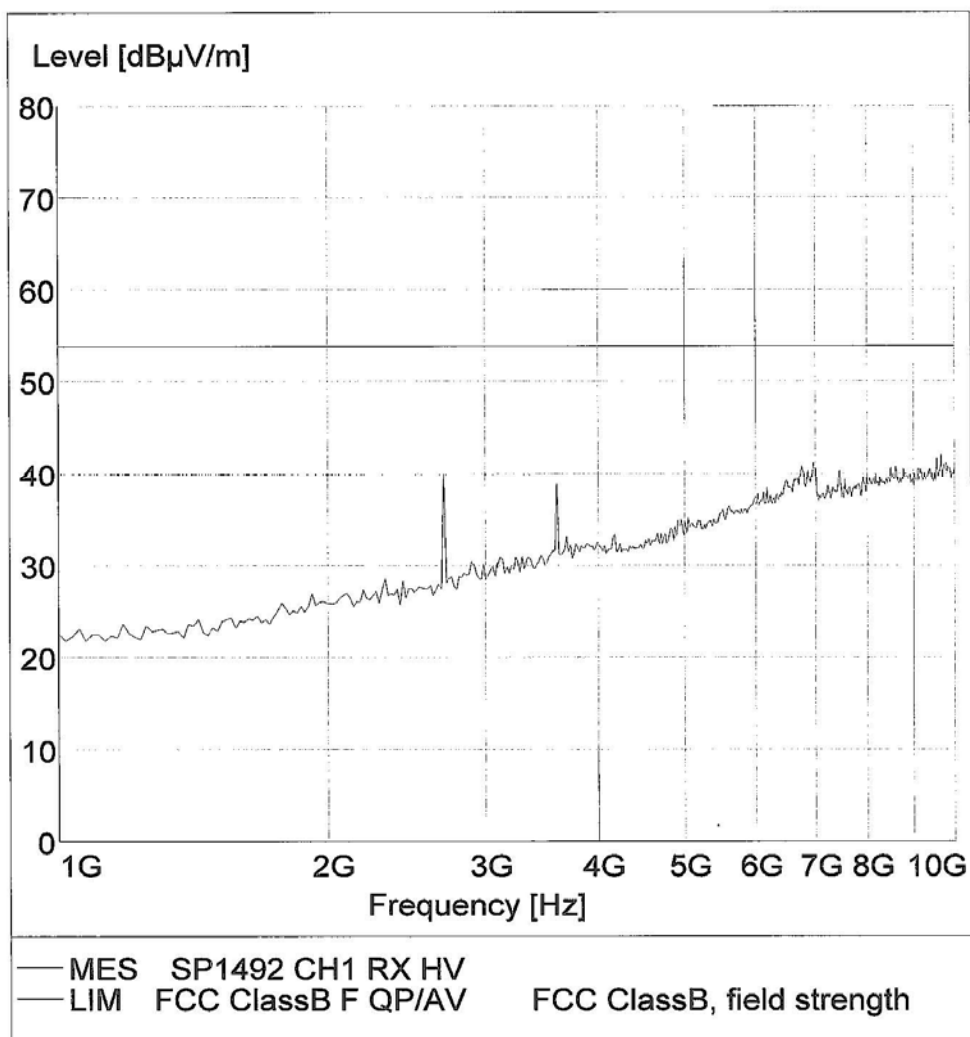
Radiated Disturbance

EUT: M/N:SP1492
 Manufacturer:
 Operating Condition: ON
 Test Site: SMQ EMC Lab.SAC
 Test Specification: Horizontal
 Comment : AC 120V/60Hz



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Radiated Disturbance

EUT: M/N:SP1492
 Manufacturer:
 Operating Condition: RX CH1
 Test Site: SMQ EMC Lab.SAC
 Operator:
 Test Specification: Vertical
 Comment : AC 120V/60Hz



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Radiated Disturbance

EUT: M/N:SP1492
Manufacturer:
Operating Condition: RX CH1
Test Site: SMQ EMC Lab.SAC
Operator:
Test Specification: Horizontal
Comment : AC 120V/60Hz

