

FCC TEST REPORT

of

MP3 PLAYER

FCC ID: WOWSH273G

Model No.: MP3 PLAYER

Brand Name: Walletex - WalletMP3

Report No.: FCC08-8027

Date: Sep 23, 2008

Prepared for

APS TECHNOLOGIES (SHENZHEN) LTD.

Unit 6A02, 6/F, Anlian Plaza, No.4018 Jintian Road, Futian District, Shenzhen,
China

Prepared by

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Table of Contents

1	Test Report Certification	3
2	General Information	4
2.1	Description of EUT	4
2.2	Objective	4
2.3	Test Standards and Results	4
2.4	List of Equipments Used	5
2.5	Test Facility	5
2.6	Environmental conditions	5
3	Conducted Emission Test	6
3.1	Limits of Conducted Emission	6
3.2	Test Instruments	6
3.3	Test Procedure	6
3.4	Test Setup	7
3.5	EUT Setup and Operating Conditions	7
3.6	Test Results	7
4	Radiated Emission Test	10
4.1	Limits of Radiated Emission	10
4.2	Test Instruments	10
4.3	Test Procedure	10
4.4	Test Setup	11
4.5	EUT Operating Conditions	11
4.6	Test Results	12
	Appendix I: Photographs of the Test Configuration	15

1 Test Report Certification

Product: MP3 PLAYER

FCC ID: WOWSH273G

Model No.: SH273-00

Applicant: APS TECHNOLOGIES (SHENZHEN) LTD.

Applicant Address: Unit 6A02, 6/F, Anlian Plaza, No.4018 Jintian Road, Futian District, Shenzhen, China

Manufacturer: APS TECHNOLOGIES (SHENZHEN) LTD.

Manufacturer Address: Unit 6A02, 6/F, Anlian Plaza, No.4018 Jintian Road, Futian District, Shenzhen, China

Test Standards: 47 CFR Part 2
47 CFR Part 15, Subpart B

Test Result: PASS

We, Shenzhen Electronic Product Quality Testing Center, hereby certify that the submitted samples of the above item, as detailed in chapter 2.1 of this report, has been tested in our facility. The test record, data evaluation and test configuration represented herein are true and accurate accounts of measurements of the sample's EMC characteristics under the conditions herein specified.

Tested by: Sheng Yongpan, Date: Sep. 23, 2008
Sheng Yongpan

Checked by: Smart Li, Date: Sep 23, 2008
Smart Li

Approved by: Wang Keqin, Date: Sept. 23, 2008
Wang Keqin

2 General Information

2.1 Description of EUT

Product: MP3 PLAYER

Model No.: SH273-00

Brand Name: /

Serial No.: /

I/O Signal Ports: /

Accessories: Earphone

NOTE:

1. The earphone is a part of the EUT. The test results don't apply if another headphone is used.
2. Please refer to Appendix I for the photographs of the EUT. For a more detailed features description about the EUT, please refer to User's Manual.

2.2 Objective

Perform EMC test according to FCC rules Part 2, Part 15 for FCC ID Certification.

2.3 Test Standards and Results

The EUT has been tested according to 47 CFR

- Part 2 Frequency Allocations and Radio Treaty Matters: General Rules and Regulations (10-1-05 Edition)
- Part 15 Radio Frequency Devices (2006-10-01 Edition)

Test items and the results are as bellow:

No	FCC Rules	Test Type	Result	Test Date
1	§15.107	Conducted Emission	PASS	2008.9.27
1	§15.109	Radiated Emission	PASS	2008.9.9

2.4 List of Equipments Used

Description	Manufacturer	Model No.	Cal. Due Date	Serial No.
Test Receiver	Rohde & Schwarz	ESIB26	2009.06.05	A0304218
Ultra Broadband Ant.	Rohde & Schwarz	HL562	2009.06.05	A0304224
Shield Room	Nanbo Tech	Site 1	2009.01.10	A0304188
Anechoic Chamber	Albatross	EMC12.8×6.8×6.4m ³	2009.04.10	A0304210
Test Receiver	Schwarzbeck	FCKL1528	2009.06.02	A0304230
LISN	Schwarzbeck	NSLK8127	2009.06.02	A0304233
Shield Room	Nanbo Tech	Site 3	2009.01.04	A9901141

2.5 Test Facility

Shenzhen Electronic Product Quality Testing Center (SET) is a third party testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS). according to ISO/IEC 17025. The accreditation certificate number is L1659.

The EMC chamber site No.1 (EMC12.8×6.8×6.4(m)), and the radiated and conducted Emission test equipments of SET are constructed and calibrated to meet the FCC requirements ANSI C63.4:2001 and CISPR 22/EN 55022. The FCC Registration Number is **261302**.

The EMC chamber site No.1 (EMC12.8×6.8×6.4(m)) also complies with Canada standard RSS 212, and acceptable to Industry Canada for the performance of radiated measurements. The Industry Canada Registration Number is **IC 5915**.

2.6 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

- Temperature: 15-35°C
- Humidity: 30-60 %
- Atmospheric pressure: 86-106 kPa

3 Conducted Emission Test

3.1 Limits of Conducted Emission

According to FCC §15.107, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dB μ V), Class B digital device	
	Quasi-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
0.50 - 30	60	50

NOTE:

1. The lower limit shall apply at the band edges.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

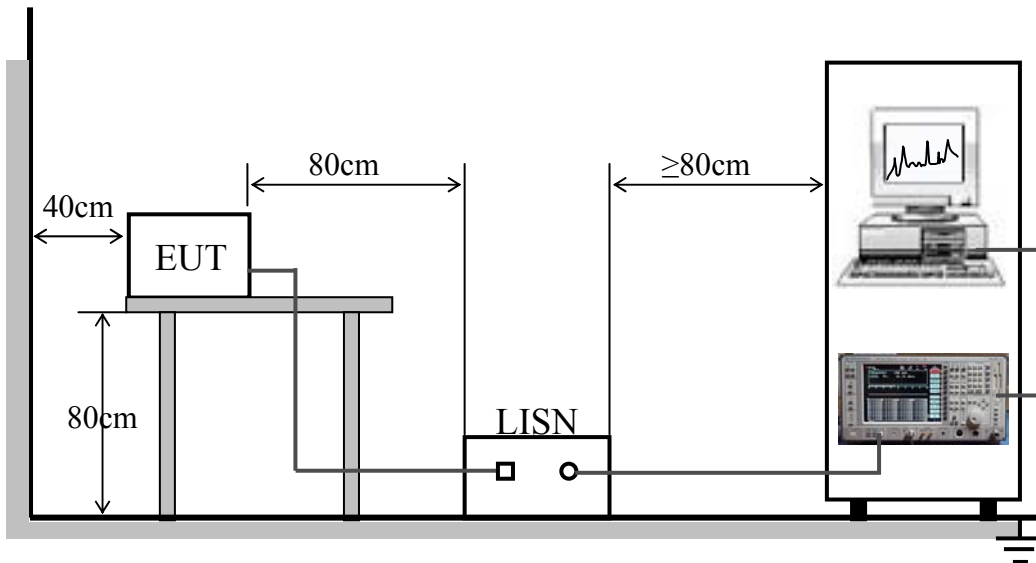
3.2 Test Instruments

Description	Manufacturer	Model No.	Cal. Due Date	Serial No.
Test Receiver	Schwarzbeck	FCKL1528	2009.06.02	A0304230
LISN	Schwarzbeck	NSLK8127	2009.06.02	A0304233
Shield Room	Nanbo Tech	Site 3	2009.01.04	A9901141

3.3 Test Procedure

- a. The EUT was placed on a 0.8m high insulating table and kept 0.4 meters from the conducting wall of shielded room.
- b. The EUT was connected to the power mains through a line impedance stabilization network (LISN). The LISN provide 50 Ω /50 μ H of coupling impedance for the measuring instrument.
- c. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- d. The frequency range from 150 kHz to 30 MHz was searched using CISPR Quasi-Peak and Average detector.

3.4 Test Setup



For the actual test configuration, please refer to the related item - Photographs of the Test Configuration.

3.5 EUT Setup and Operating Conditions

The EUT was connected to a PC and transferred data with it. The model of PC is IBM thinkpad T43. T43 was powered by AC 120V 60Hz.

The PC was equipped with USB mouse and printer.

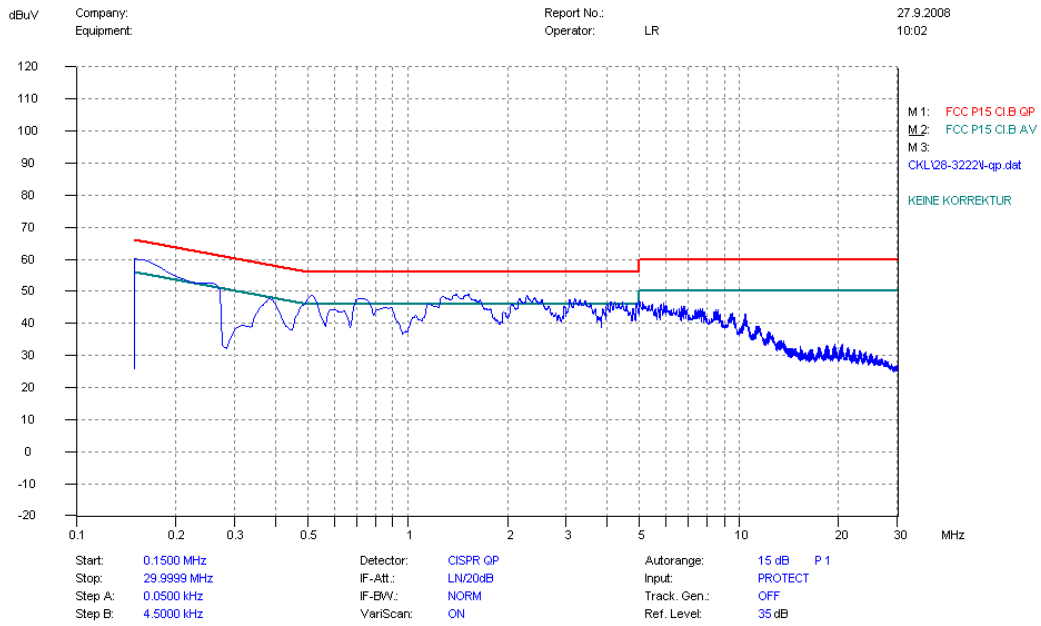
3.6 Test Results

No.	Freq. (MHz)	Limit Value (dB μ V)		Emission Level (dB μ V)	
		QP	AV	QP	AV
1	0.1500	66.0	56.0	60.20	39.20
2	0.5145	56.0	46.0	48.90	32.30
3	0.7305	56.0	46.0	48.30	31.20
4	1.3965	56.0	46.0	49.10	38.40
5	1.5225	56.0	46.0	48.30	39.10
6	2.2875	56.0	46.0	47.50	37.90

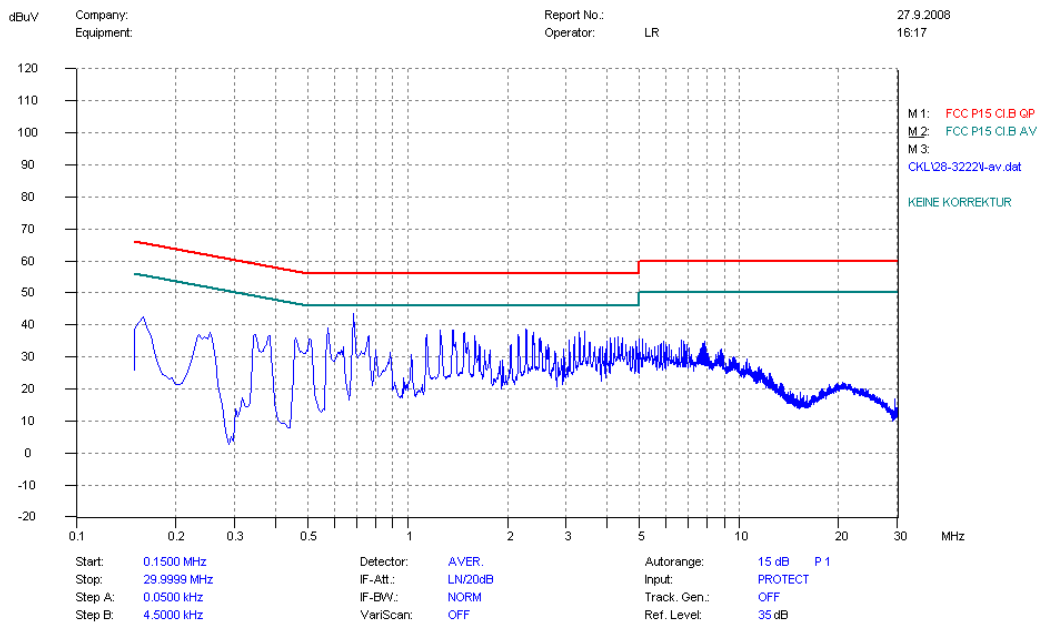
NOTE:

1. QP and AV are abbreviations of the quasi-peak and average individually.
2. The emission levels recorded above is the larger ones of both L phase and N phase.

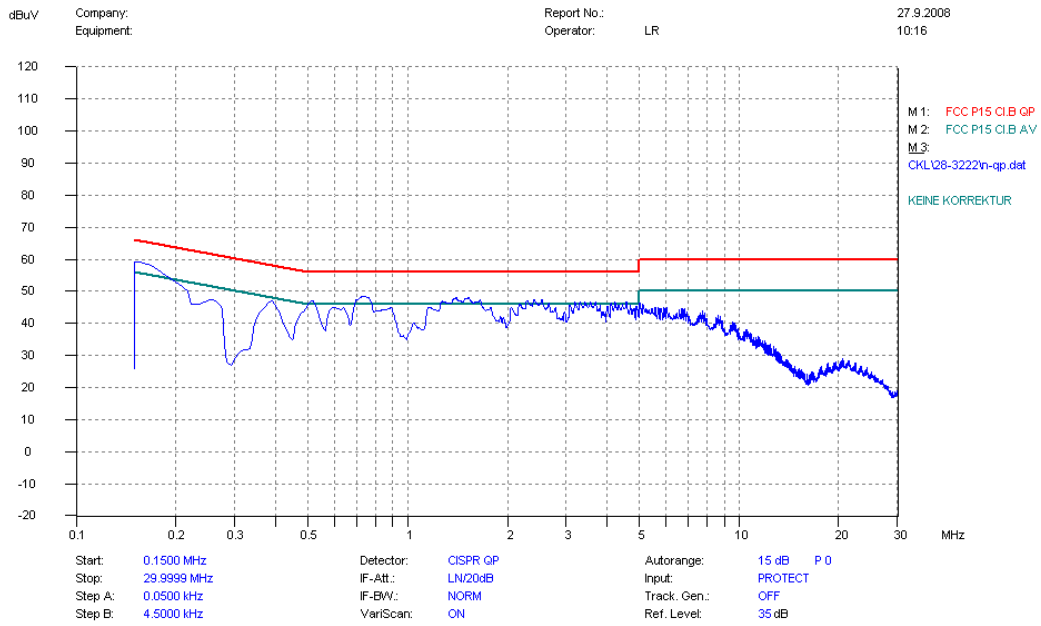
1. Mains terminal disturbance voltage, L phase, QP detector



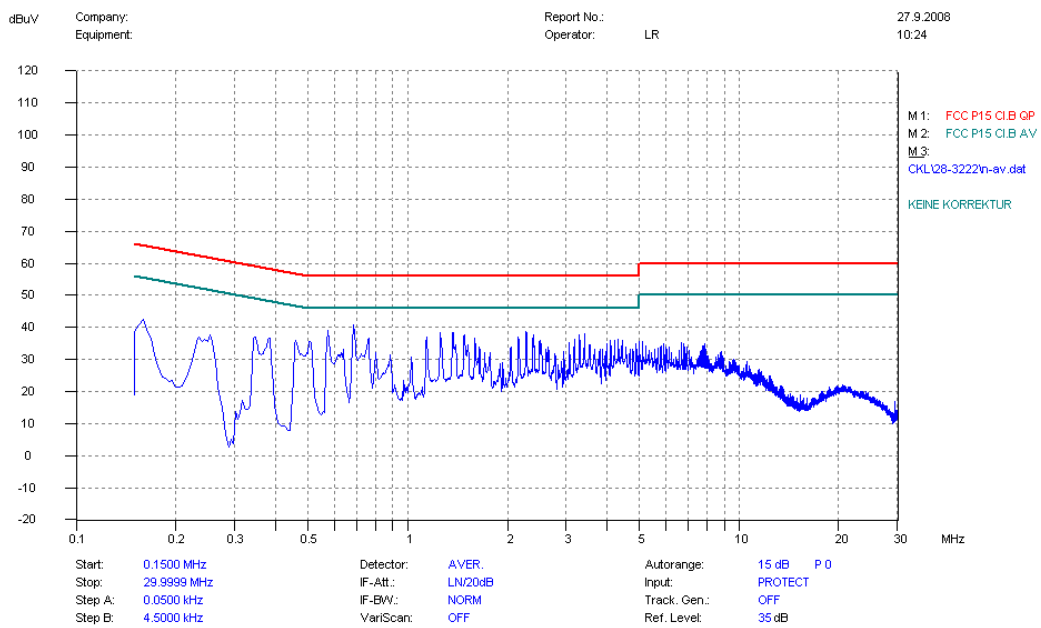
2. Mains terminal disturbance voltage, L phase, AV detector



3. Mains terminal disturbance voltage, N phase, QP detector



4. Mains terminal disturbance voltage, N phase, AV detector



4 Radiated Emission Test

4.1 Limits of Radiated Emission

The field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of Emission (MHz)	Field Strength ($\mu\text{V/m}$)	Field Strength (dB $\mu\text{V/m}$)
30 - 88	100	40
88 -216	150	43.5
216 - 960	200	46
Above 960	500	54

NOTE:

- Field Strength (dB $\mu\text{V/m}$)=20log Field Strength ($\mu\text{V/m}$).
- In the emission tables above, the tighter limit applies at the band edges.

4.2 Test Instruments

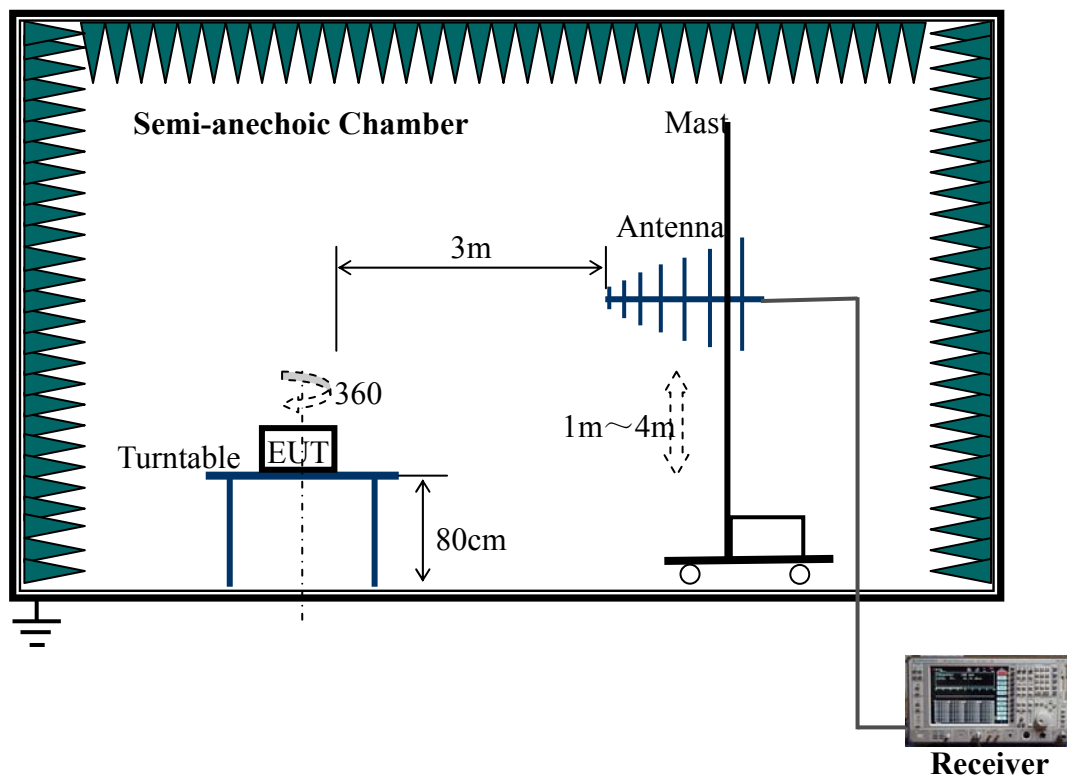
Description	Manufacturer	Model No.	Cal. Due Date	Serial No.
Test Receiver	Rohde & Schwarz	ESIB26	2009.06.05	A0304218
Ultra Broadband Ant.	Rohde & Schwarz	HL562	2009.06.05	A0304224
Shield Room	Nanbo Tech	Site 1	2009.01.10	A0304188
Anechoic Chamber	Albatross	EMC12.8×6.8×6.4m ³	2009.04.10	A0304210

4.3 Test Procedure

- The EUT was placed on the top of a ratable 0.8 meters above the ground at a semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna is a broadband antenna, and its height is varied from one meter to four meter above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to the heights from 1 to 4 meters and the ratable table was turned from 0 degrees to 360 degrees to find the maximum reading.

- e. The test-receiver system was set to Peak Detector Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emission that did not have 10 dB margin would be retested one by one using the quasi-peak method.

4.4 Test Setup



For the actual test configuration, please refer to the related item-Photographs of the Test Configuration.

4.5 EUT Operating Conditions

The EUT was tested both at MP3 play mode and USB mode.

When at MP3 mode, the EUT played a 1kHz signal continuously.

When at USB mode, the EUT transferred data with the PC.

4.6 Test Results

I: MP3 Mode

No.	Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	QP Limits (dB μ V/m)	Emission Level (dB μ V/m)
1	56.28	H	100	80	40	37.26
2	67.54	H	100	0	40	36.02
3	270.011	H	100	20	46	43.75
4	56.27	V	100	50	40	26.76
5	298.22	V	100	60	46	28.81
6	305.20	V	100	0	46	23.51

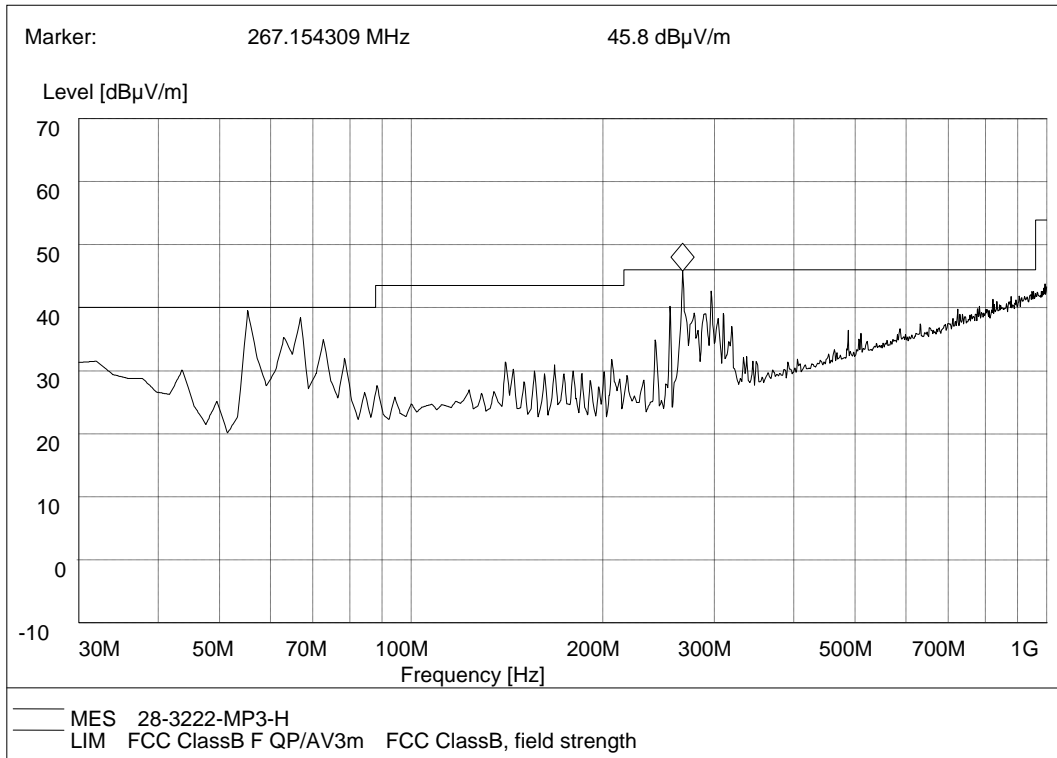
II: USB Mode

No.	Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	QP Limits (dB μ V/m)	Emission Level (dB μ V/m)
1	30	H	100	0	40	24.02
2	100	H	100	80	43.5	16.05
3	200	H	100	100	43.5	17.86
4	30	V	100	0	40	28.64
5	160.24	V	100	60	43.5	26.18
6	380.64	V	100	0	46	29.86

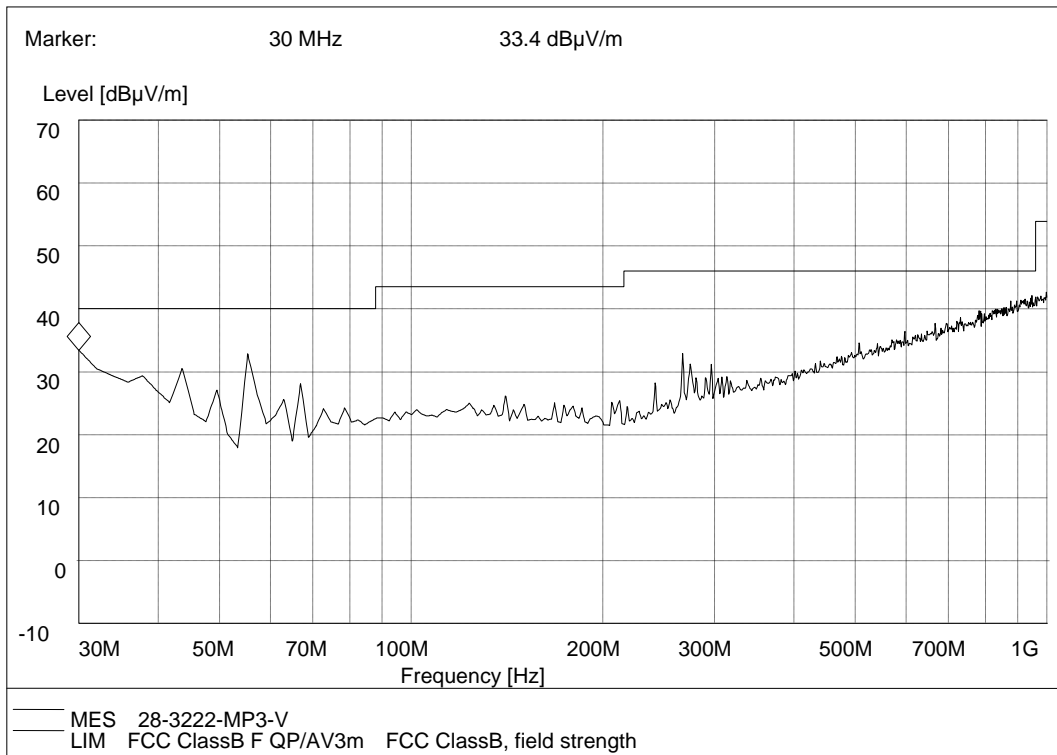
NOTE:

The SET uncertainty of radiated disturbance measurement is 3.2 dB, which is less than CISPR 16-1-4 allowed uncertainties 5.2dB.Measurement Plots of Radiated Emission Test

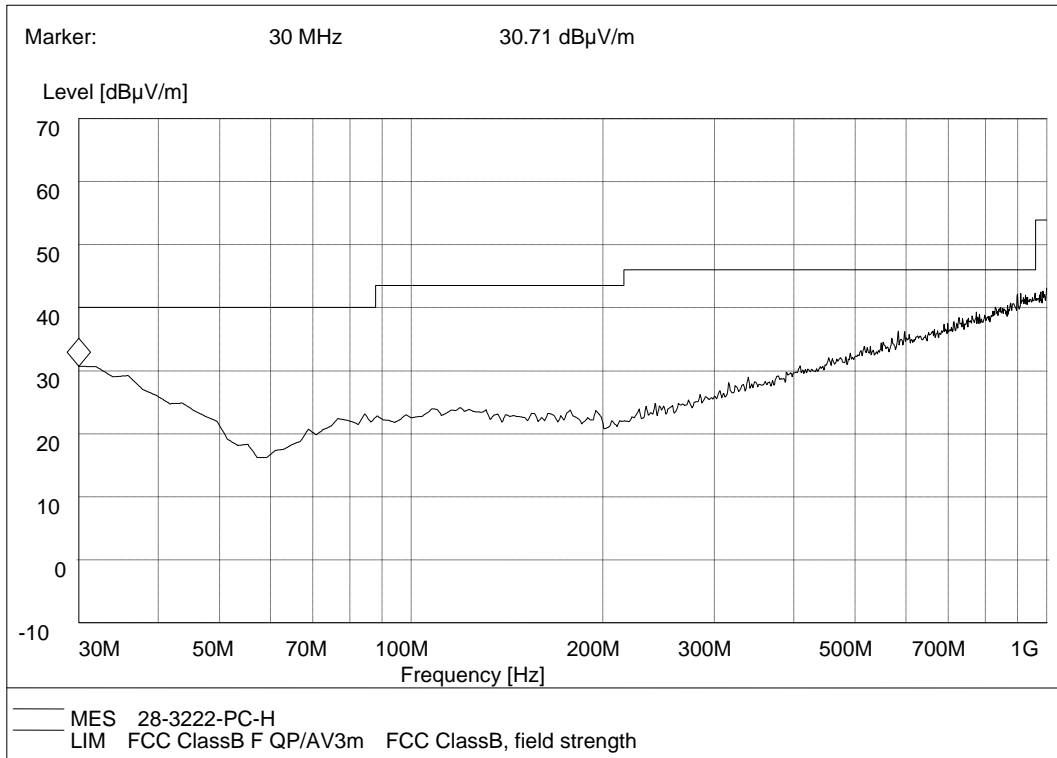
1. Electromagnetic radiation disturbances, antenna polarization: Horizontal, MP3 Mode



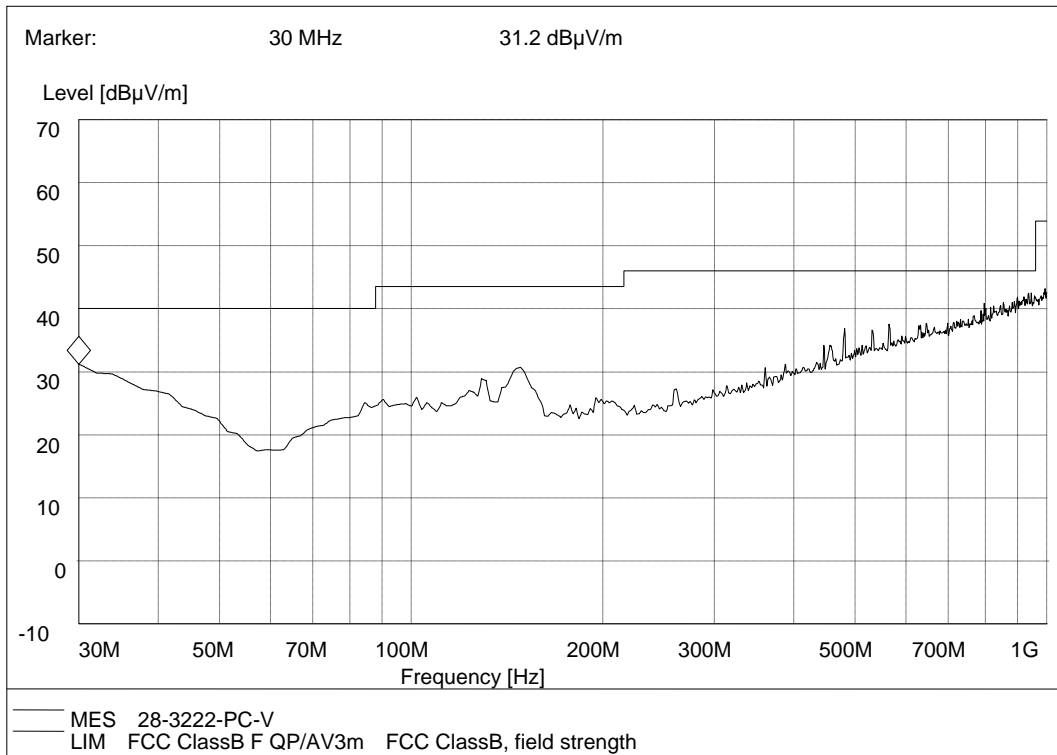
2. Electromagnetic radiation disturbances, antenna polarization: Vertical, MP3 Mode



3. Electromagnetic radiation disturbances, antenna polarization: Horizontal, USB Mode



4. Electromagnetic radiation disturbances, antenna polarization: Vertical, USB Mode

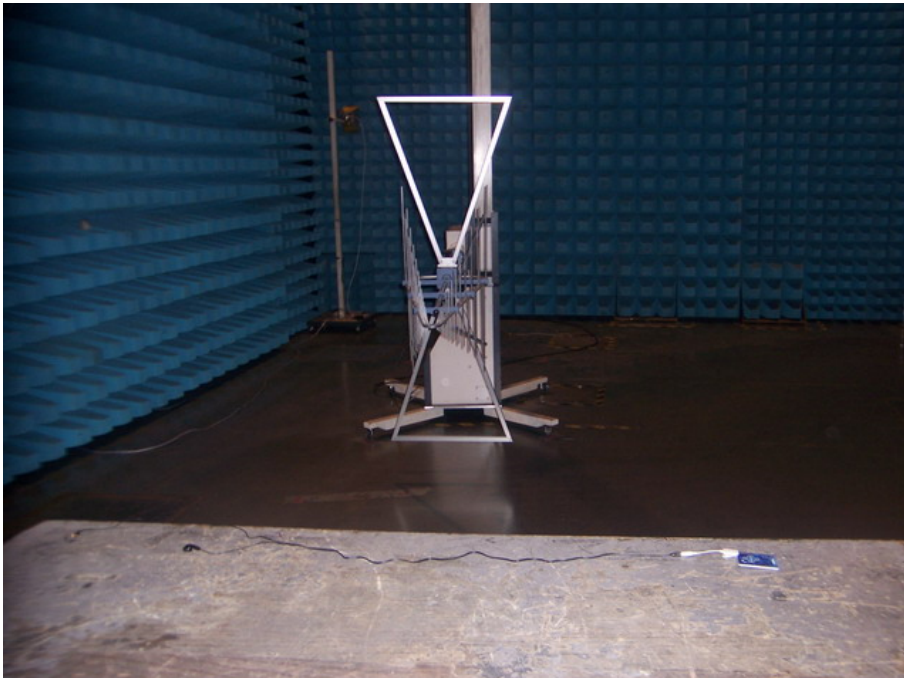


Appendix I: Photographs of the Test Configuration

1. Conducted Emission Test



2. Radiated Emission Test @ MP3 Mode



3. Radiated Emission Test @ USB Mode

