TECHNICAL REPORT

卓時檢測 TIMEWAY TESTING LABORATORY

ISO/IEC17025 Accredited Lab.

Report No: FCC 0806056-01
File reference No: 2008-06-30

Applicant: Nextar, INC.

Product: GPS

Brand Name: N/A

Model No: K4

Test Standards: FCC Part 15 Subpart B: 2006

Test result: It is herewith confirmed and found to comply with the requirements set up by ANSI C63.4&FCC Part 15 regulations for the evaluation of electromagnetic compatibility

Approved By

Jack Chung

Manager

Dated: June 30, 2008

Results appearing herein relate only to the sample tested
The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD

East 5/Block 4, Anhua Industrial Zone, No.8, Tairan Rd. Chegongmiao, FuTian District, Shenzhen, CHINA.

Tel (755) 83448688 Fax (755) 83442996

Special Statement:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

CNAS-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

FCC-Registration No.: 899988

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 899988.

IC- Registration No.: IC5205A-01

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration IC No.: 5205A-01.

Test Report Conclusion

Content

1.0 General Details

1.1 Test Lab Details

Name : SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD
Address: East 5/Block 4, Anhua Industrial Zone, No.8,Tairan Rd. CheGongMiao, FuTian District, Shenzhen, CHINA.
Telephone: (755) 83448688
Fax: (755) 83442996

1.2 Applicant Details

Applicant: Nextar, INC.
Address: 1661 Fairplex Drive, La Verne, CA 91750. USA
Telephone: +1-909-392-8282
Fax: +1-909-392-8283

1.3 Description of EUT

Product: GPS
Manufacturer: WANLIDA GROUP CO., LTD.
Address: WANLIDA INDUSTRY ZONE, NANJING, FUJIAN, CHINA. 363601
Brand Name: N/A
Model Number: K4
Additional Model Number: N/A
Rating: Input: 5V DC，2A
Power Supply Model: KSAC0500200W1US, Input: 100-240V~, 1A，50/60Hz; Output: DC5V, 2A

1.4 Submitted Sample: 1 Sample

1.5 Test Duration

2008-06-17 to 2008-06-30

1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB
Radiated Emissions Uncertainty =4.7dB

1.7 Test Engineer

The sample tested by Terry Tong

Print Name: Terry Tong

2.0 List of Measurement Equipment

2.1 Conducted Emission Test

Name	Model No.	Serial No.	Manufacturer	Calibration Date	Calibration Cycle
EMI Test Receiver	ESCS30	830245/009	RS	2008.2.23	1Year
Coaxial Switch	MP59B	M70585	ANRITSU	N/A	N/A
LISN	NTFM8132	8132137	SCHWARZBECK	2008.2.24	1Year
LISN	NTFM8134	8134109	SCHWARZBECK	2008.2.24	1Year
LISN	NTFM8136	8136102	SCHWARZBECK	2008.2.24	1Year

2.2 Radiated electromagnetic disturbance test

Name	Model No.	Serial No.	Manufacturer	Calibration Date	Calibration Cycle
EMI Test Receiver	ESCS30	830245/009	RS	2008.2.23	1Year
Coaxial Switch	MP59B	M70585	ANRITSU	N/A	N/A
Spectrum Analyzer(with Tracking Generator)	MS2661C	MT72089	ANRITSU	2008.2.23	1Year
Amplifier	MH648A	M20494	ANRITSU	2008.2.24	1Year
Bilog Antenna	CBL6101C	2576	CHASE	2008.2.23	1Year

2.3 Auxiliary Equipment

Name	Model No.	Serial No.	Manufacturer	Calibration Date	Calibration Cycle
PC	8434	--	IBM	--	--
CRT Monitor	6331-4CN	23-DNWX3	IBM	--	--

2.4 I/O Cable

Cable No.	Port	Connector Type	Cable Type	Cable Length
1	VGA	VGA	Unshielded	1.5
2	AC	IEC	Unshielded	1.5
3	AC	IEC	Unshielded	2.0
4*	USB	USB	Unshielded	1.2

Note: * This USB cable provided by applicant and sold together with the EUT. Refer to Appendix for details.

3.0 Technical Details

3.1 Investigations Requested

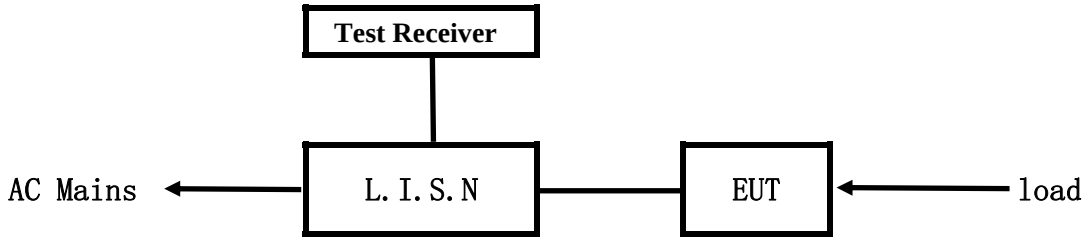
Perform Electromagnetic Interference [EMI] tests for FCC Requirement.

3.2 Test Standards

FCC Part 15 Subpart B: 2006

4.0 Conducted Power line Test

4.1 Schematics of the test

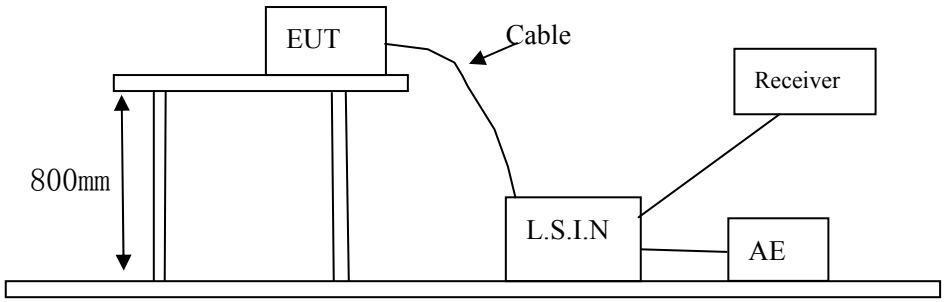


EUT: Equipment Under Test

4.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2003.The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2003.Cables and peripherals were moved to find the maximum emission levels for each frequency.

Block diagram of Test setup



4.3 Power line conducted Emission Limit

Frequency(MHz)	Class A Limits dB(μV)		Class B Limits dB(μV)	
	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level
0.15 ～ 0.50	79.00	66.00	66.00～56.00*	56.00～46.00*
0.50 ～ 5.00	73.00	60.00	56.00	46.00
5.00 ～ 30.00	73.00	60.00	60.00	50.00

Notes: 1. *decreasing linearly with logarithm of frequency.
2. The tighter limit shall apply at the transition frequencies

4.4 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

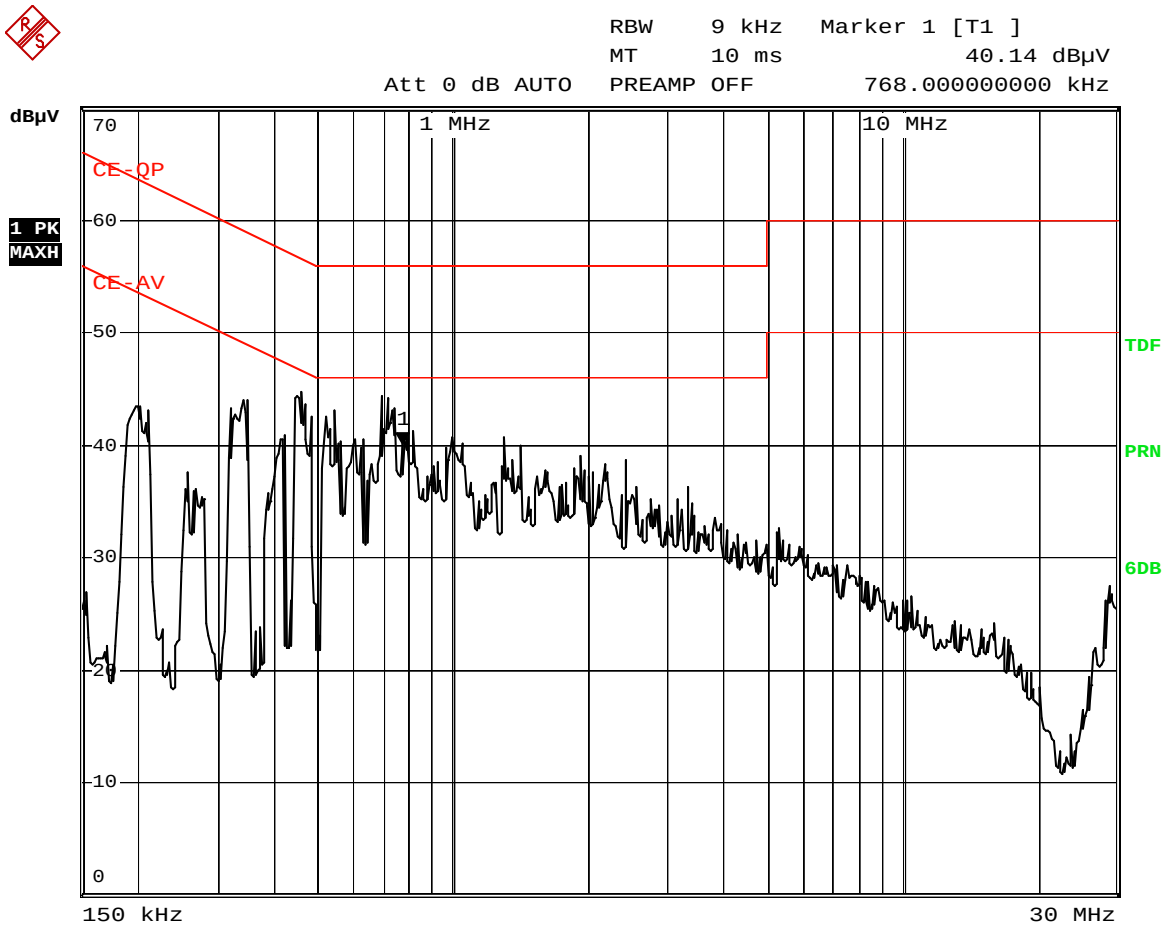
A: Conducted Emission on Live Terminal of the power line (150kHz to 30MHz)

EUT set Condition: GPS

Level **Class B**

Results: **Pass**

Please refer to following diagram for individual



Date: 18.JUN.2008 15:58:21

Frequency (MHz)	Reading(dBµV)				Limit (dBµV)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.462	40.43	28.10	-	-	56.70	46.70
0.696	38.32	23.32	-	-	56.00	46.00

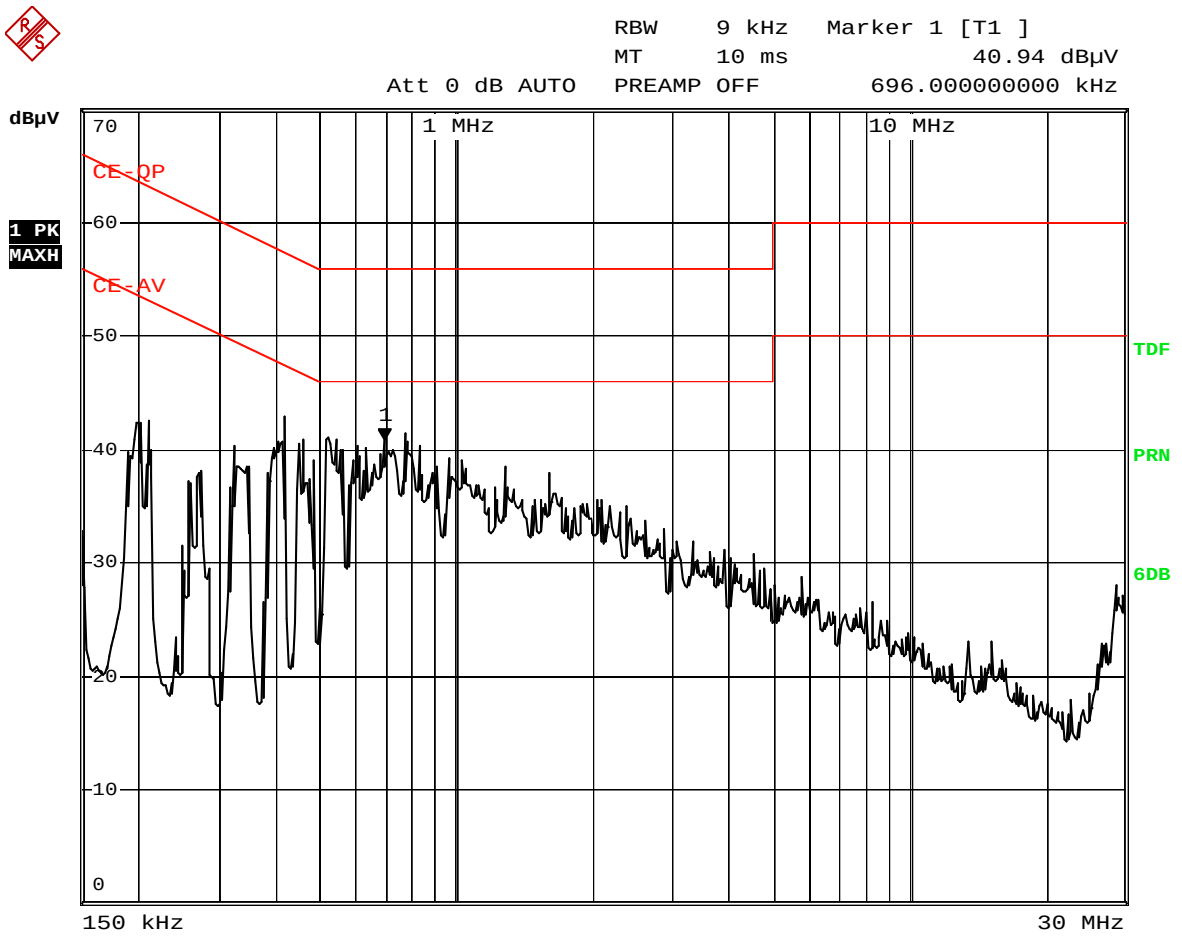
B: Conducted Emission on Neutral Terminal of the power line (150kHz to 30MHz)

EUT set Condition: GPS

Level **Class B**

Results: **Pass**

Please refer to following diagram for individual



Date: 18.JUN.2008 15:56:49

Frequency (MHz)	Reading(dBµV)				Limit (dBµV)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.418	-	-	40.21	21.10	57.50	47.50
0.772	-	-	37.11	19.76	56.00	46.00

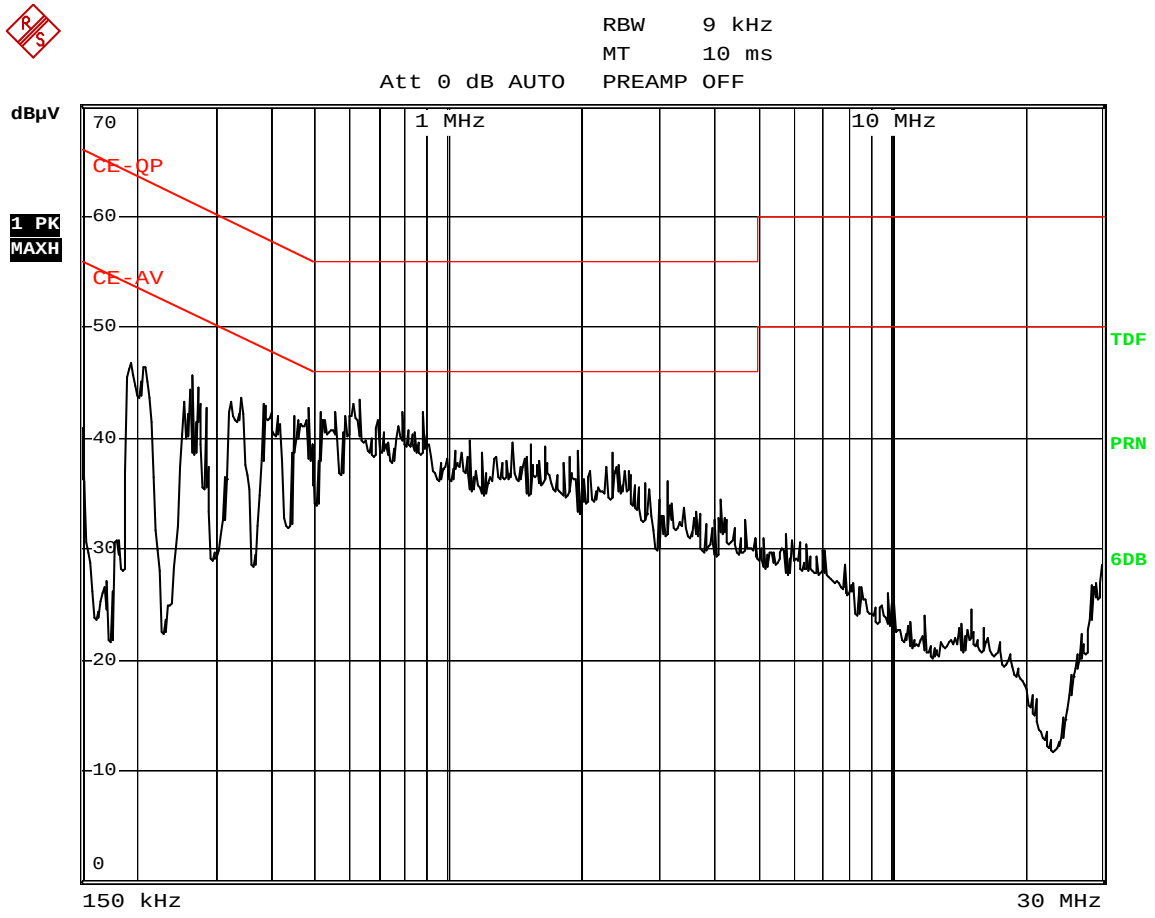
C: Conducted Emission on Live Terminal of the power line (150kHz to 30MHz)

EUT set Condition: Play Video

Level **Class B**

Results: **Pass**

Please refer to following diagram for individual



Date: 18.JUN.2008 15:51:17

Frequency (MHz)	Reading(dBµV)				Limit (dBµV)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.194	42.43	25.10	-	-	63.90	53.90
0.266	39.00	26.87	-	-	61.20	51.20
0.628	37.43	25.88	-	-	56.00	46.00

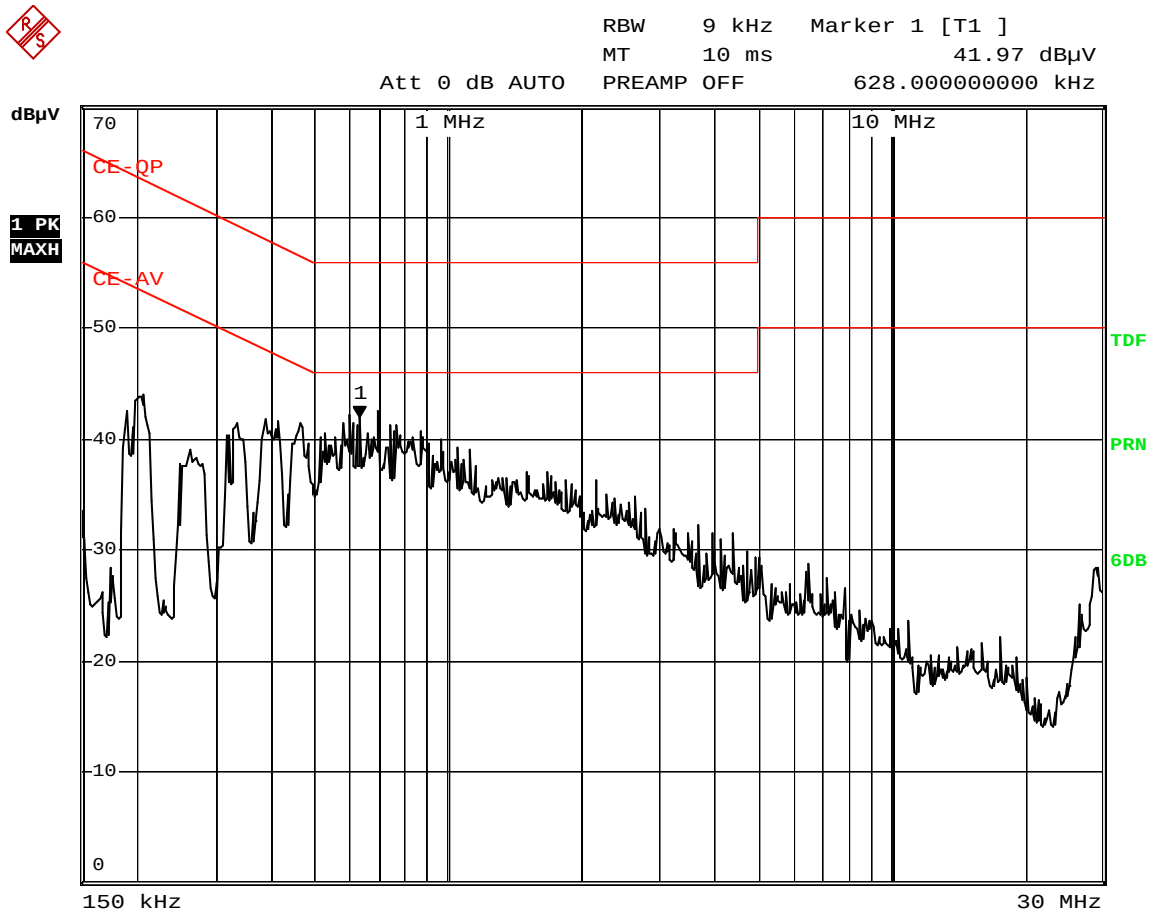
D: Conducted Emission on Neutral Terminal of the power line (150kHz to 30MHz)

EUT set Condition: Play Video

Level **Class B**

Results: **Pass**

Please refer to following diagram for individual



Date: 18.JUN.2008 15:53:45

Frequency (MHz)	Reading(dBµV)				Limit (dBµV)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.206	-	-	46.10	29.87	63.40	53.40
0.390	-	-	35.87	21.76	58.10	48.10
0.696	-	-	35.11	21.03	56.00	46.00

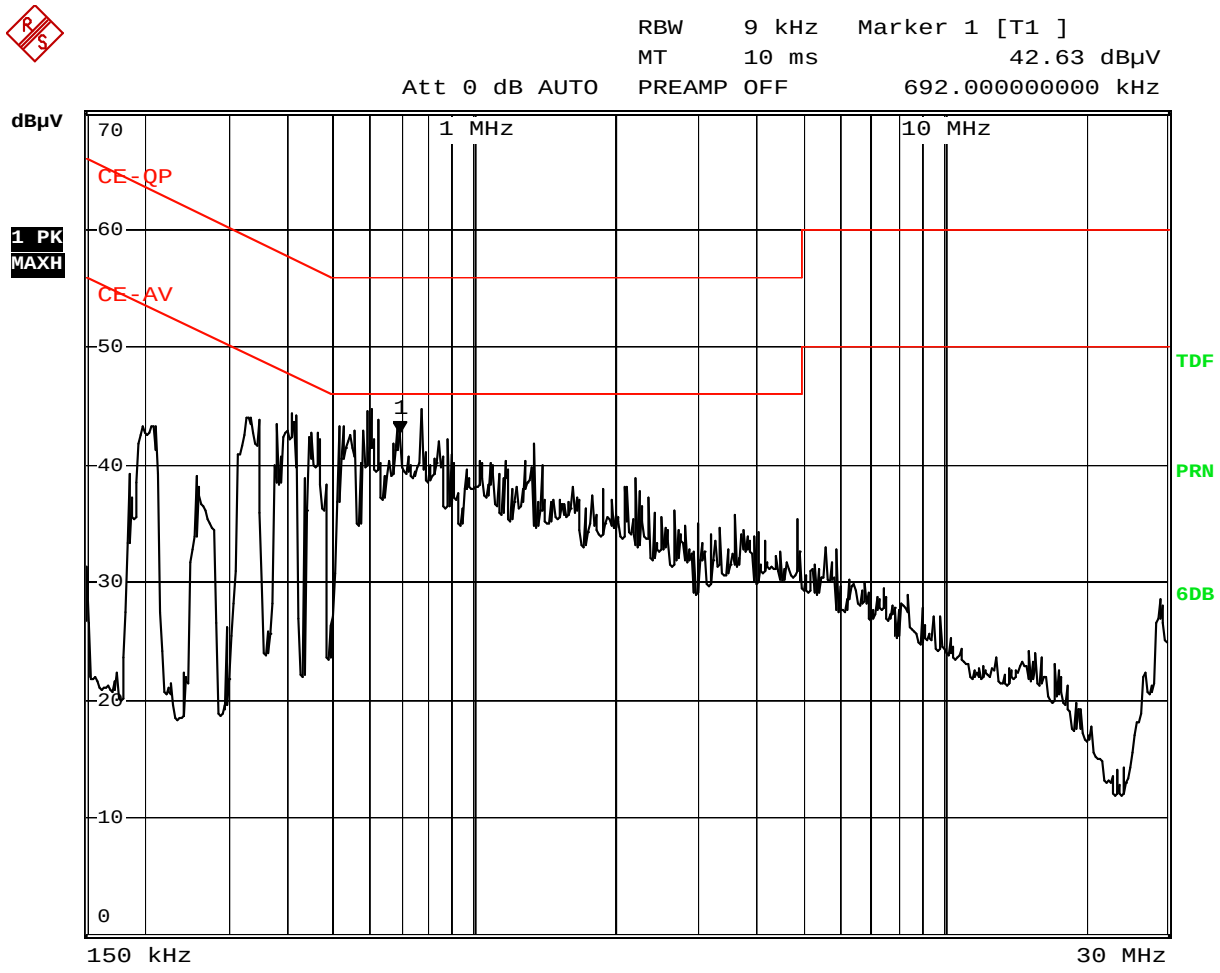
E: Conducted Emission on Live Terminal of the power line (150kHz to 30MHz)

EUT set Condition: Connect To PC

Level **Class B**

Results: **Pass**

Please refer to following diagram for individual



Date: 18.JUN.2008 16:00:50

Frequency (MHz)	Reading(dBµV)				Limit (dBµV)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.604	38.87	27.34	-	-	56.00	46.00
0.688	36.10	23.40	-	-	56.00	46.00

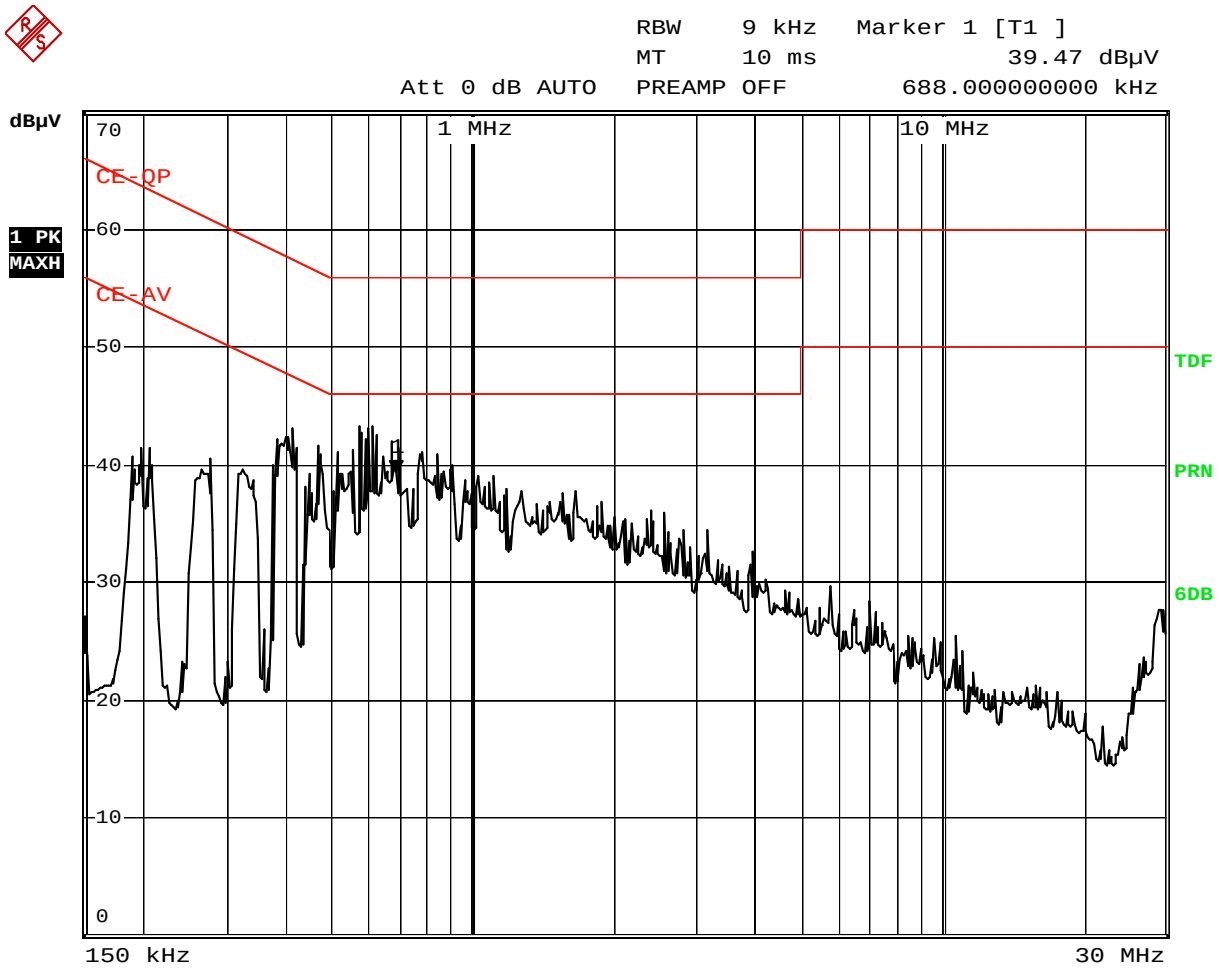
F: Conducted Emission on Neutral Terminal of the power line (150kHz to 30MHz)

EUT set Condition: Connect To PC

Level **Class B**

Results: **Pass**

Please refer to following diagram for individual



Date: 18.JUN.2008 16:02:26

Frequency (MHz)	Reading(dBµV)				Limit (dBµV)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.572	-	-	37.10	17.78	56.00	46.00
0.776	-	-	34.32	19.98	56.00	46.00

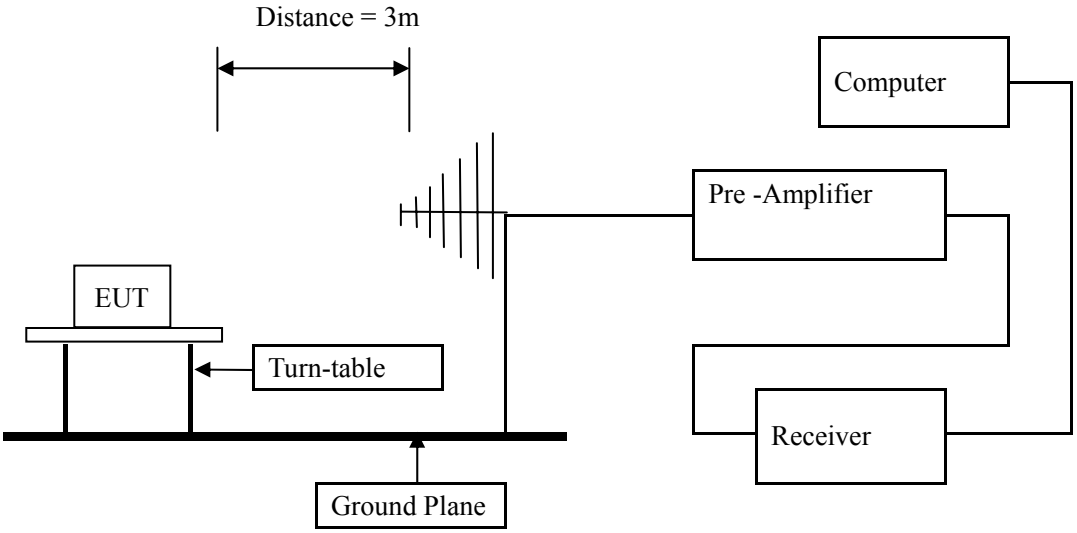
5.0 Radiated Disturbance Test

5.1 Schematics of the test

5.2 Test Method and test Procedure:

The EUT was tested according to ANSI C63.4 –2003, The frequency spectrum from 30MHz to 2GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak 0values with a resolution bandwidth of 120KHz. All readings are above 1GHz, peak values with a resolution bandwidth of 1MHz. Measurements were made at 3 meters.

Block diagram of Test setup



5.3 Radiated Emission Limit

Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
30-88	3	40.00
88-216	3	43.50
216-960	3	46.00
Above 960	3	54.00

Note: The lower limit shall apply at the transition frequencies

5.4 Test result

The frequency spectrum from 30MHz to 1GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120KHz. All readings are above 1GHz, peak values with a resolution bandwidth of 1MHz. Measurements were made at 3 meters.

A: Radiated Disturbance In Horizontal (30MHz----1000MHz)

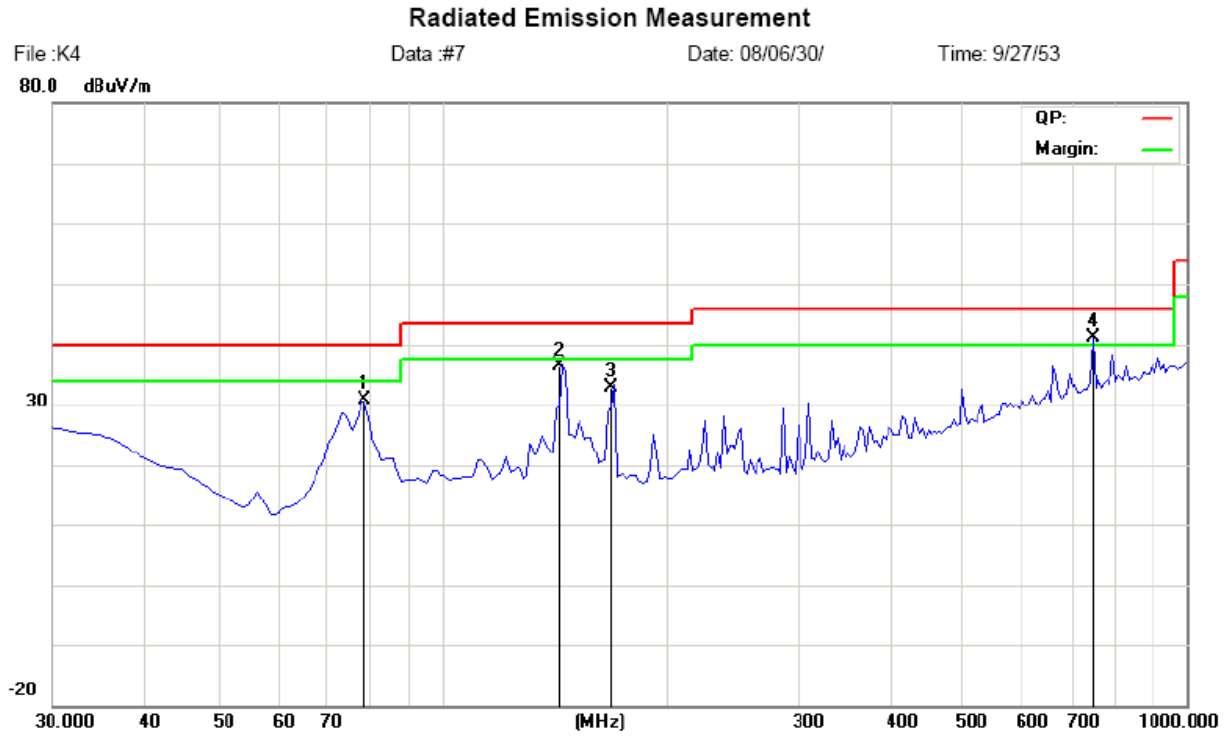
EUT set Condition: Connect To PC

Level: **Class B**

Results: **PASS**

Please refer to following diagram for individual

Picture of the test



Frequency (MHz)	Level@3m (dBμV/m)	Antenna Polarity	Limit@3m (dBμV/m)
78.500	30.77	H	40.00
143.998	36.27	H	43.50
167.996	32.83	H	43.50
748.225	41.03	H	46.00

A1: Radiated Disturbance In Horizontal (30MHz----1000MHz)

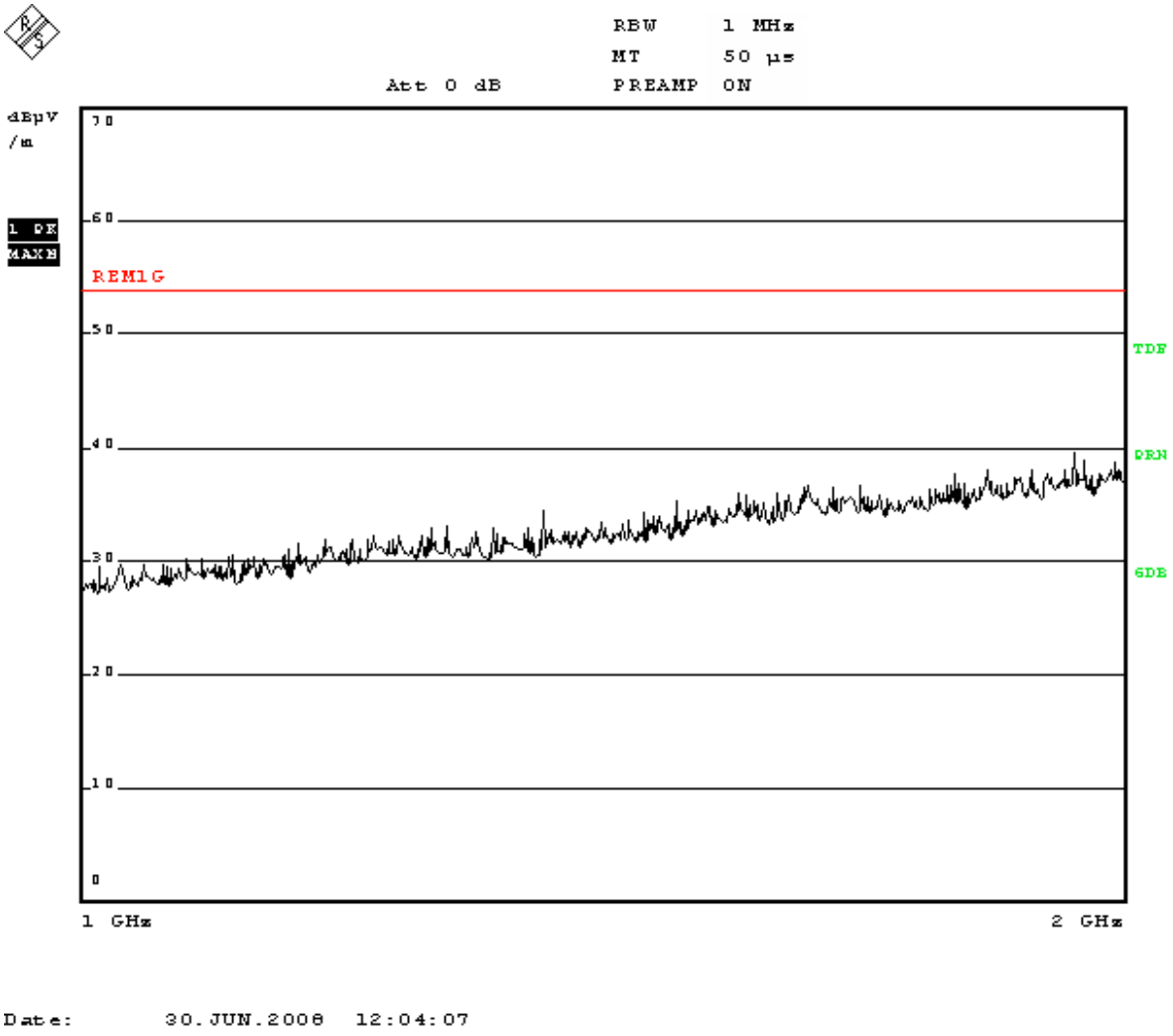
EUT set Condition: Connect To PC

Level: **Class B**

Results: **PASS**

Please refer to following diagram for individual

Picture of the test



Frequency (MHz)	Level@3m (dBµV/m)	Antenna Polarity	Limit@3m (dBµV/m)
-	-	H	-

Note: 1.From 1GHz to 2GHz, the emission level was below 10dB under the Limit at least.

2. For this mode of operation, Running one EMC test software on the memory of the EUT and scrolling H pattern to the Auxiliary Equipment

B: Radiated Disturbance In Vertical (30MHz----1000MHz)

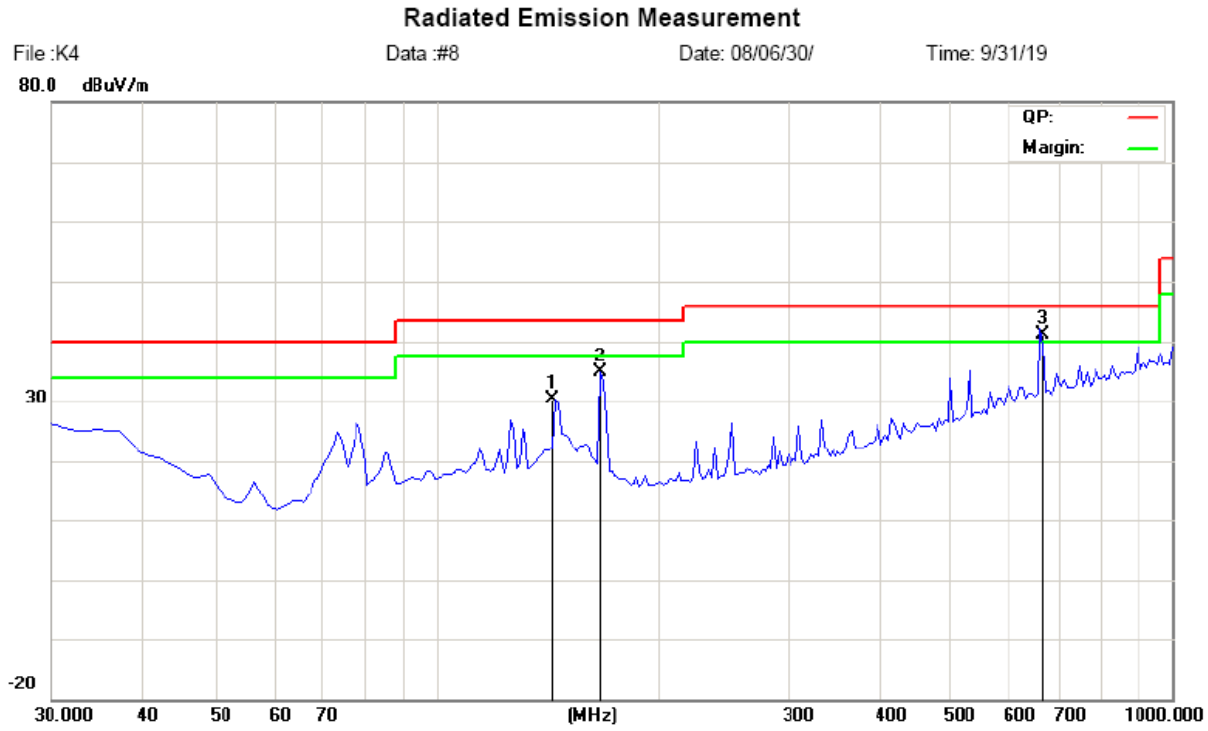
EUT set Condition: Connect To PC

Level: **Class B**

Results: **PASS**

Please refer to following diagram for individual

Picture of the test



Frequency (MHz)	Level@3m (dBμV/m)	Antenna Polarity	Limit@3m (dBμV/m)
143.400	30.39	V	43.50
167.225	34.91	V	43.50
665.775	41.08	V	46.00

B1: Radiated Disturbance In Vertical (30MHz----1000MHz)

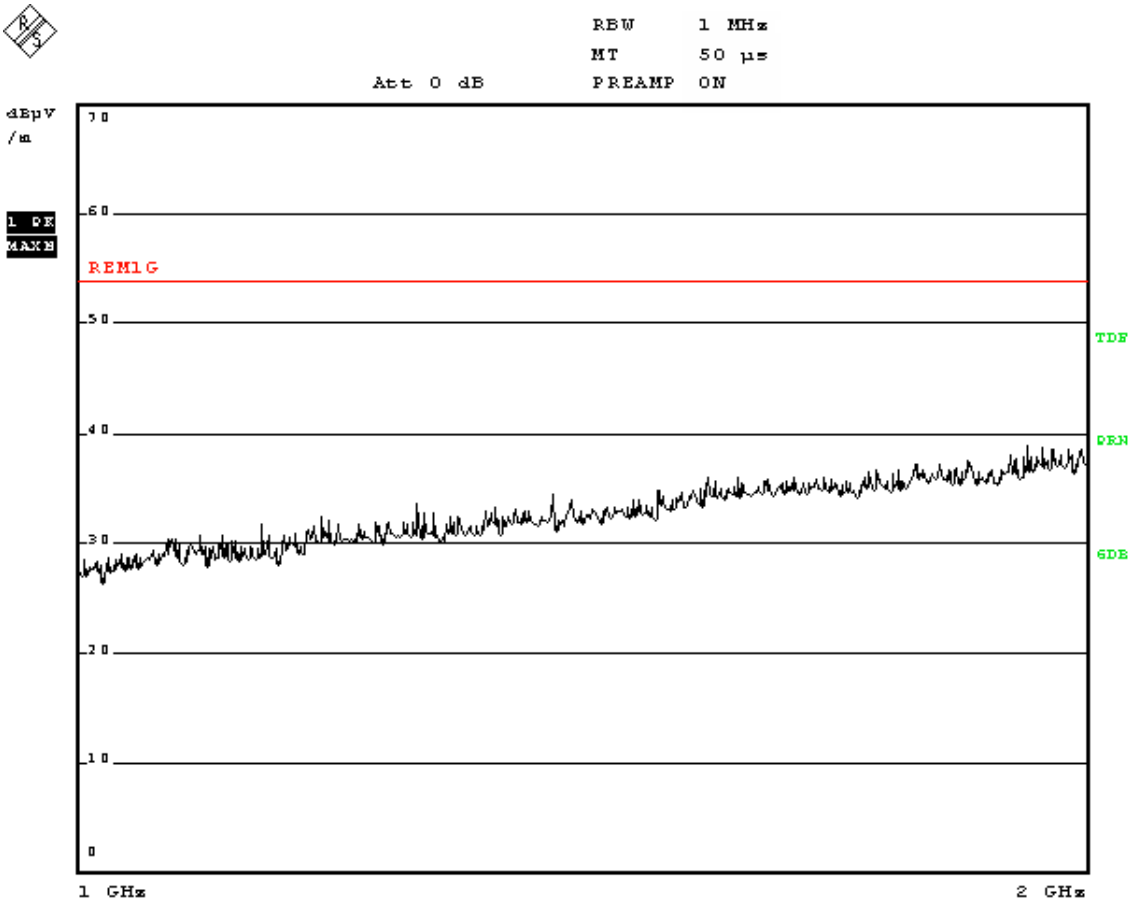
EUT set Condition: Connect To PC

Level: **Class B**

Results: **PASS**

Please refer to following diagram for individual

Picture of the test



Frequency (MHz)	Level@3m (dBµV/m)	Antenna Polarity	Limit@3m (dBµV/m)
-	-	V	-
-	-	V	-

Note: 1.From 1GHz to 2GHz, the emission level was below 10dB under the Limit at least.

2. For this mode of operation, Running one EMC test software on the memory of the EUT and scrolling H pattern to the Auxiliary Equipment

C: Radiated Disturbance In Horizontal (30MHz----1000MHz)

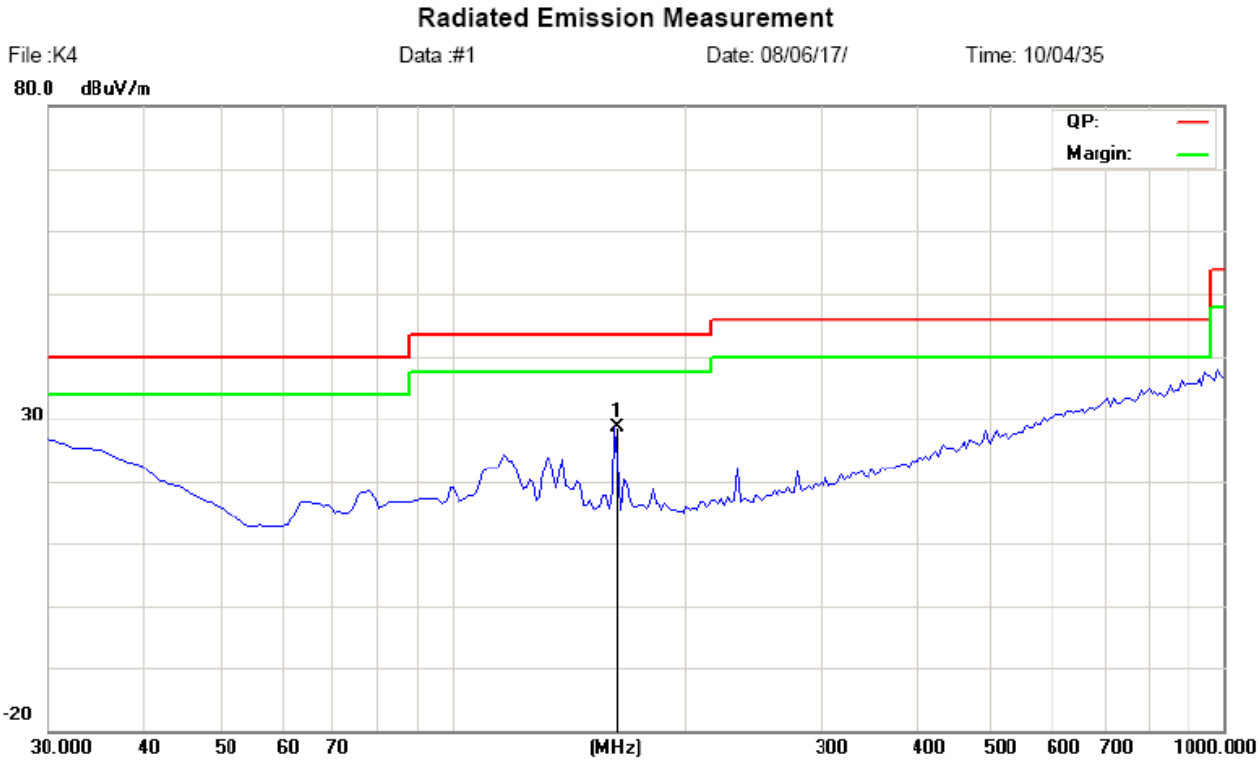
EUT set Condition: GPS

Level: **Class B**

Results: **PASS**

Please refer to following diagram for individual

Picture of the test



Frequency (MHz)	Level@3m (dBμV/m)	Antenna Polarity	Limit@3m (dBμV/m)
163.375	28.63	H	43.50

C1: Radiated Disturbance In Horizontal (30MHz----1000MHz)

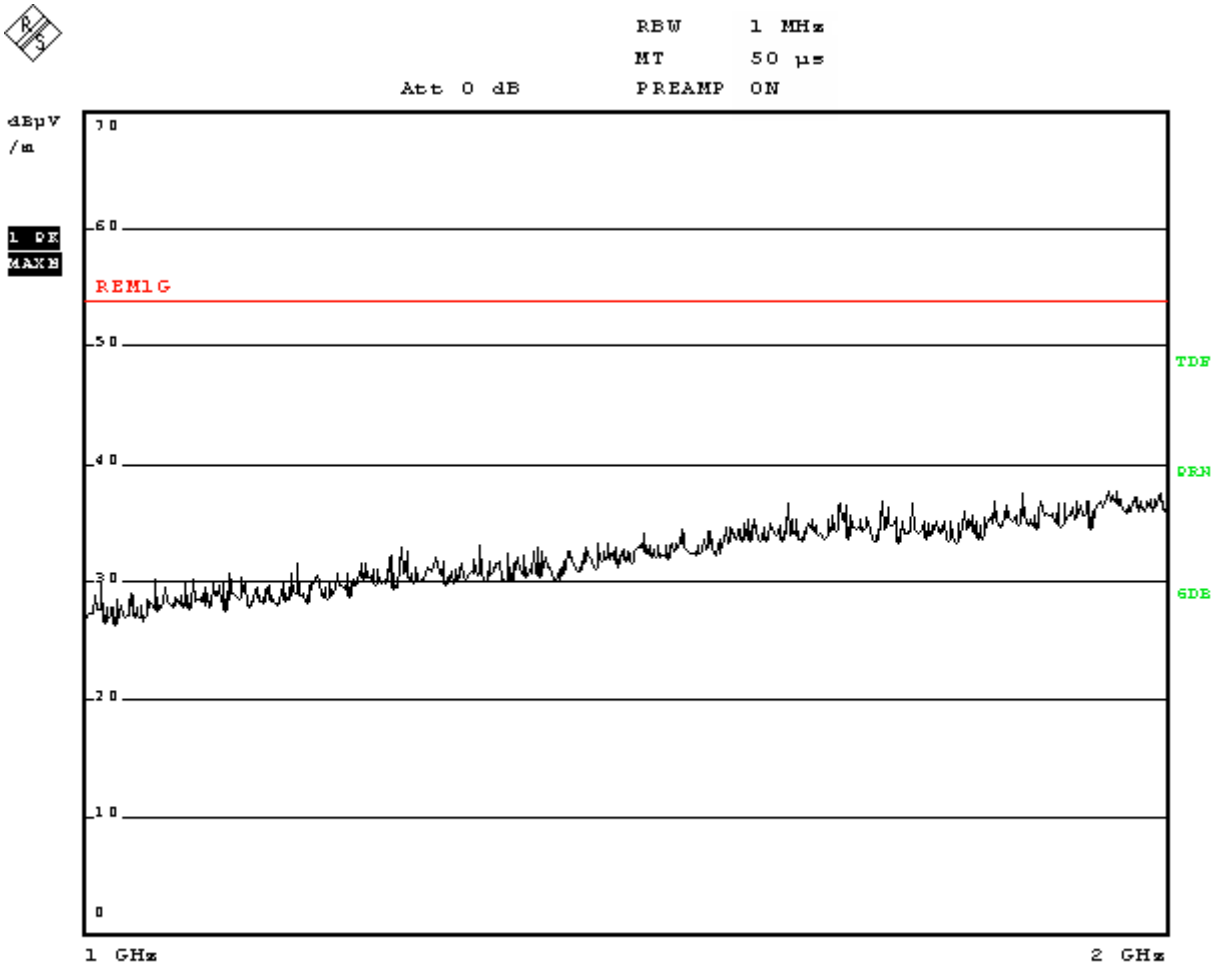
EUT set Condition: GPS

Level: **Class B**

Results: **PASS**

Please refer to following diagram for individual

Picture of the test



Date: 30.JUN.2008 12:01:19

Frequency (MHz)	Level@3m (dBµV/m)	Antenna Polarity	Limit@3m (dBµV/m)
-	-	H	-
-	-	H	-

-The test data shows much less than the limit, no necessary take down the records.

D: Radiated Disturbance In Vertical (30MHz----1000MHz)

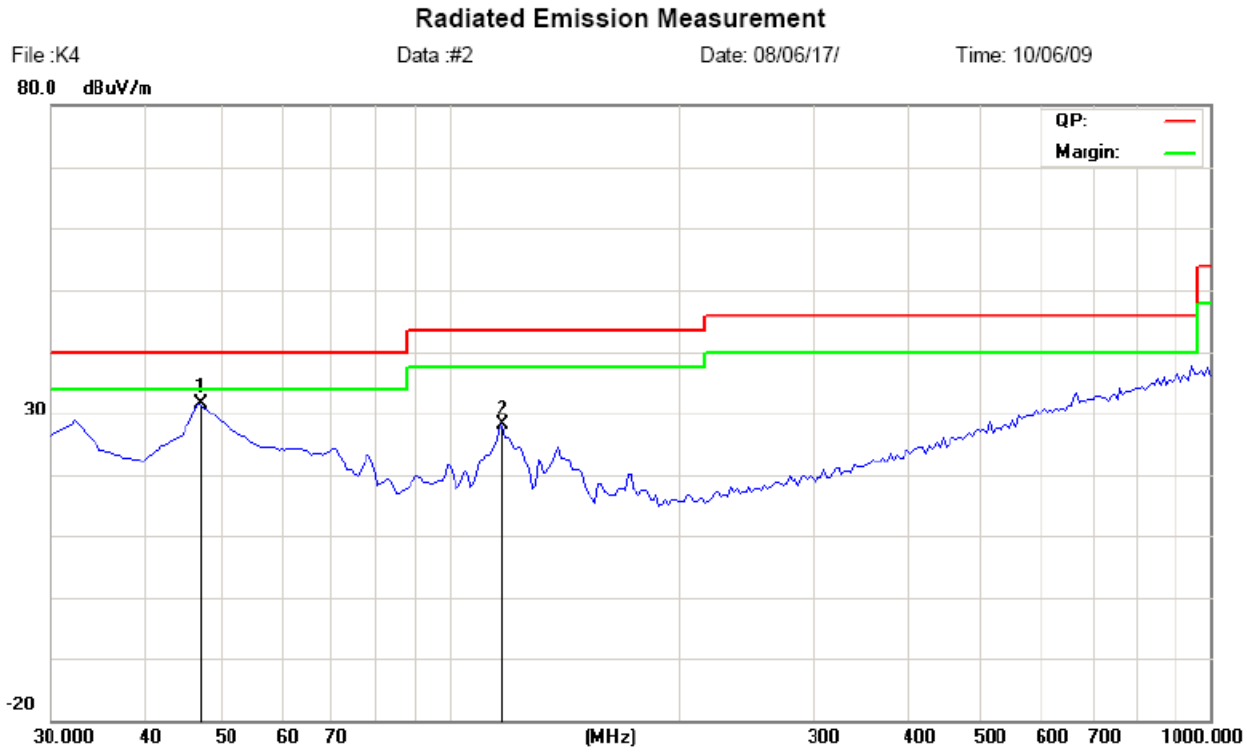
EUT set Condition: GPS

Level: **Class B**

Results: **PASS**

Please refer to following diagram for individual

Picture of the test



Frequency (MHz)	Level@3m (dBμV/m)	Antenna Polarity	Limit@3m (dBμV/m)
46.975	31.62	V	40.00
117.300	28.15	V	43.50

D1: Radiated Disturbance In Vertical (30MHz----1000MHz)

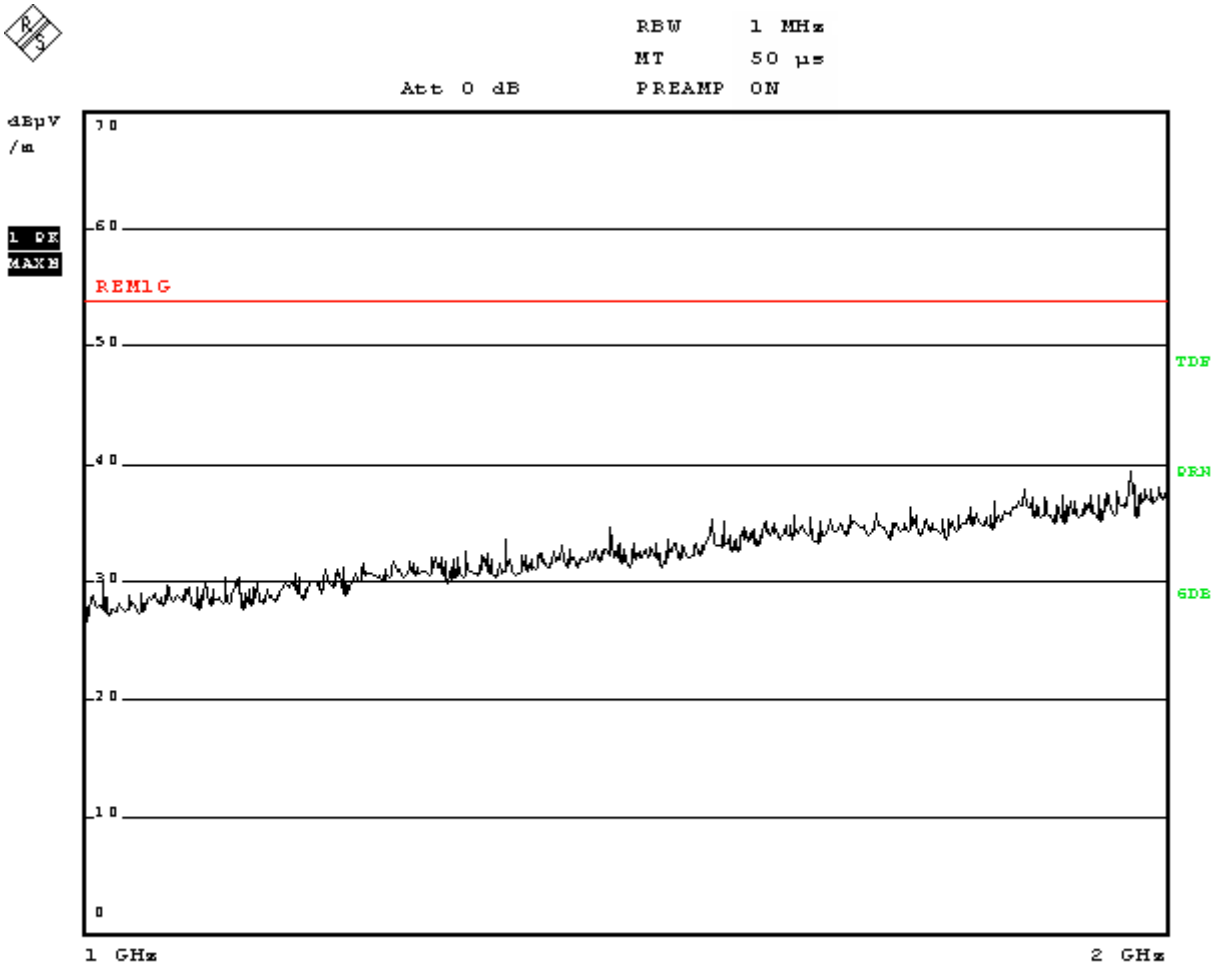
EUT set Condition: GPS

Level: **Class B**

Results: **PASS**

Please refer to following diagram for individual

Picture of the test



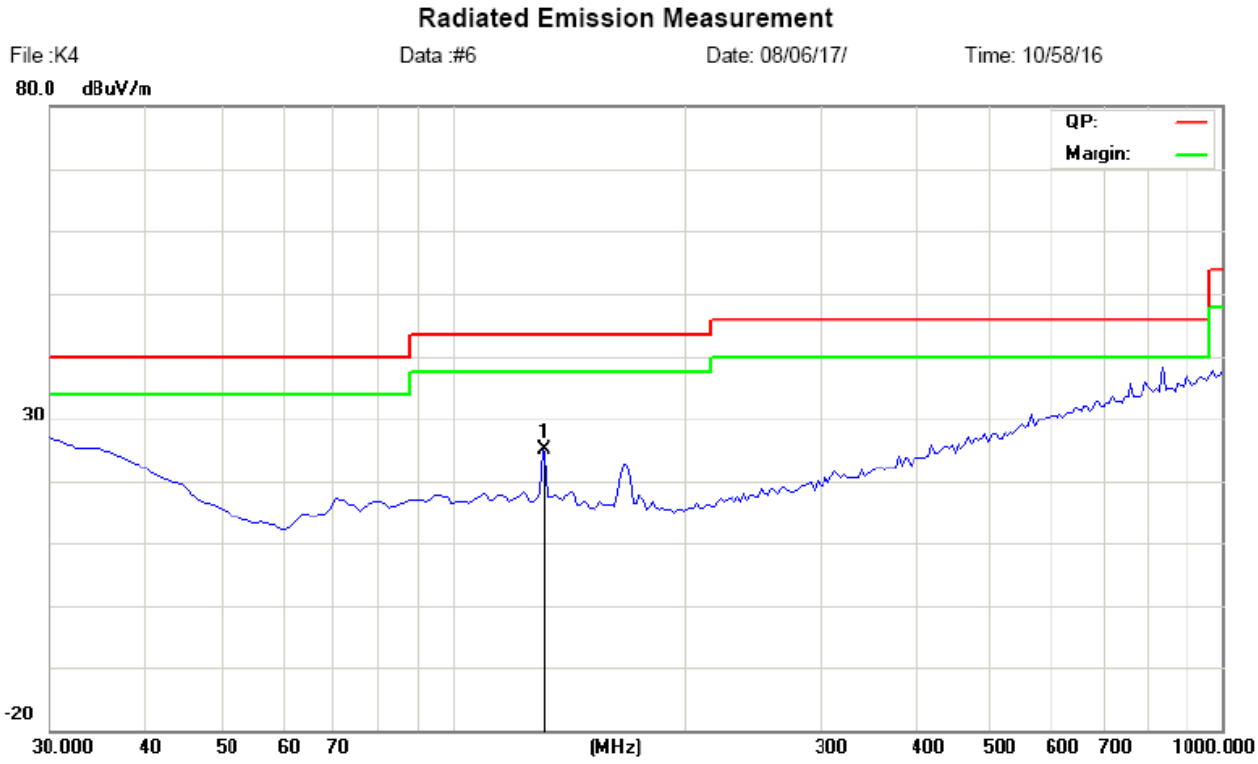
Date: 30.JUN.2008 12:01:47

Frequency (MHz)	Level@3m (dBµV/m)	Antenna Polarity	Limit@3m (dBµV/m)
-	-	V	-
-	-	V	-

-The test data shows much less than the limit, no necessary take down the records.

E: Radiated Disturbance In Horizontal (30MHz----1000MHz)

EUT set Condition: Play Video
Level: **Class B**
Results: **PASS**
Please refer to following diagram for individual
Picture of the test



Frequency (MHz)	Level@3m (dBμV/m)	Antenna Polarity	Limit@3m (dBμV/m)
131.850	25.03	H	43.50

E1: Radiated Disturbance In Horizontal (30MHz----1000MHz)

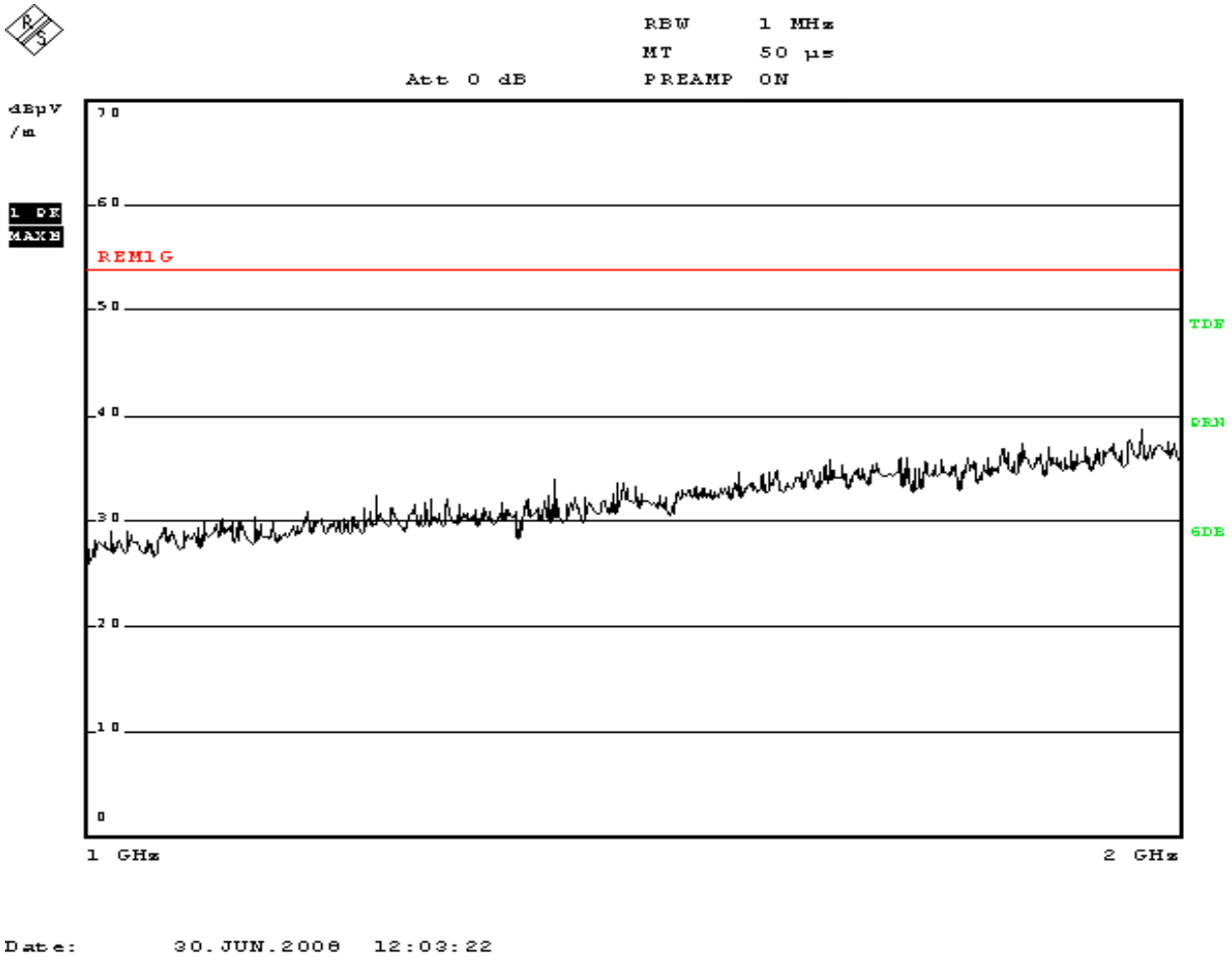
EUT set Condition: Play Video

Level: **Class B**

Results: **PASS**

Please refer to following diagram for individual

Picture of the test

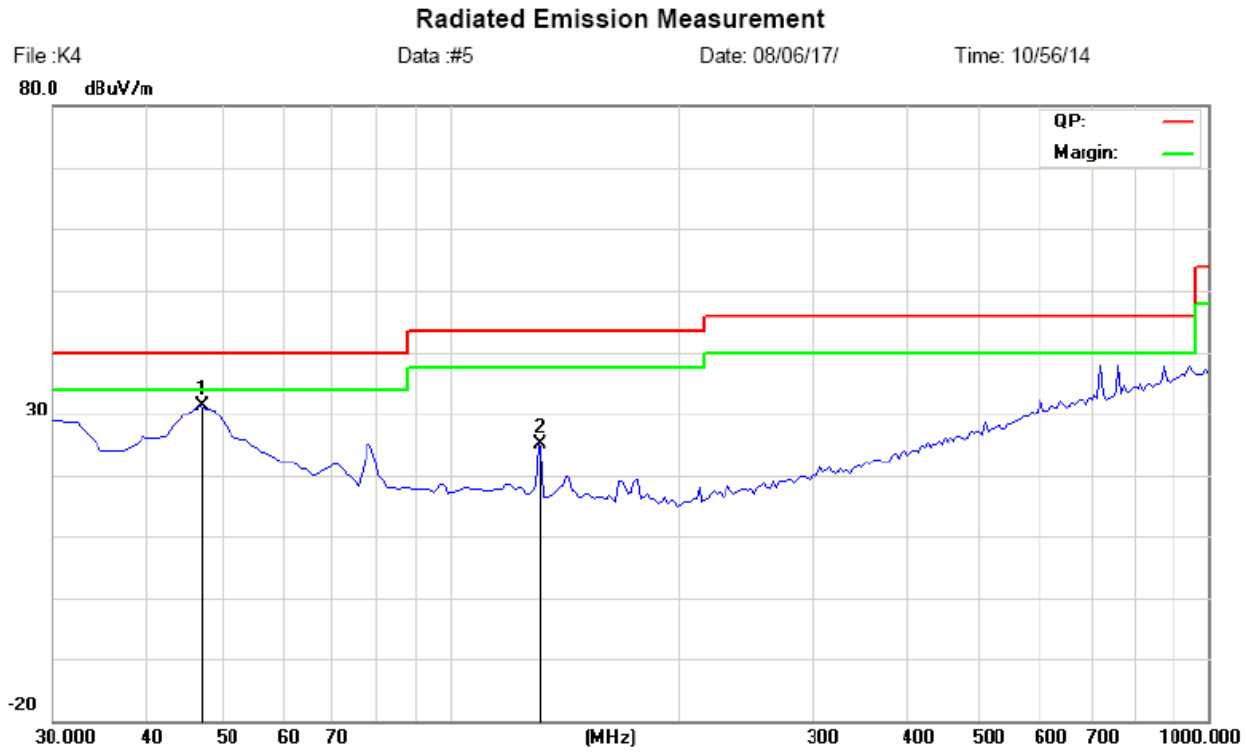


Frequency (MHz)	Level@3m (dBµV/m)	Antenna Polarity	Limit@3m (dBµV/m)
		H	
		H	
		H	

-The test data shows much less than the limit, no necessary take down the records.

F: Radiated Disturbance In Vertical (30MHz----1000MHz)

EUT set Condition: Play Video
Level: **Class B**
Results: **PASS**
Please refer to following diagram for individual
Picture of the test



Frequency (MHz)	Level@3m (dBμV/m)	Antenna Polarity	Limit@3m (dBμV/m)
46.975	31.29	V	40.00
131.850	25.05	V	43.50

F1: Radiated Disturbance In Vertical (30MHz----1000MHz)

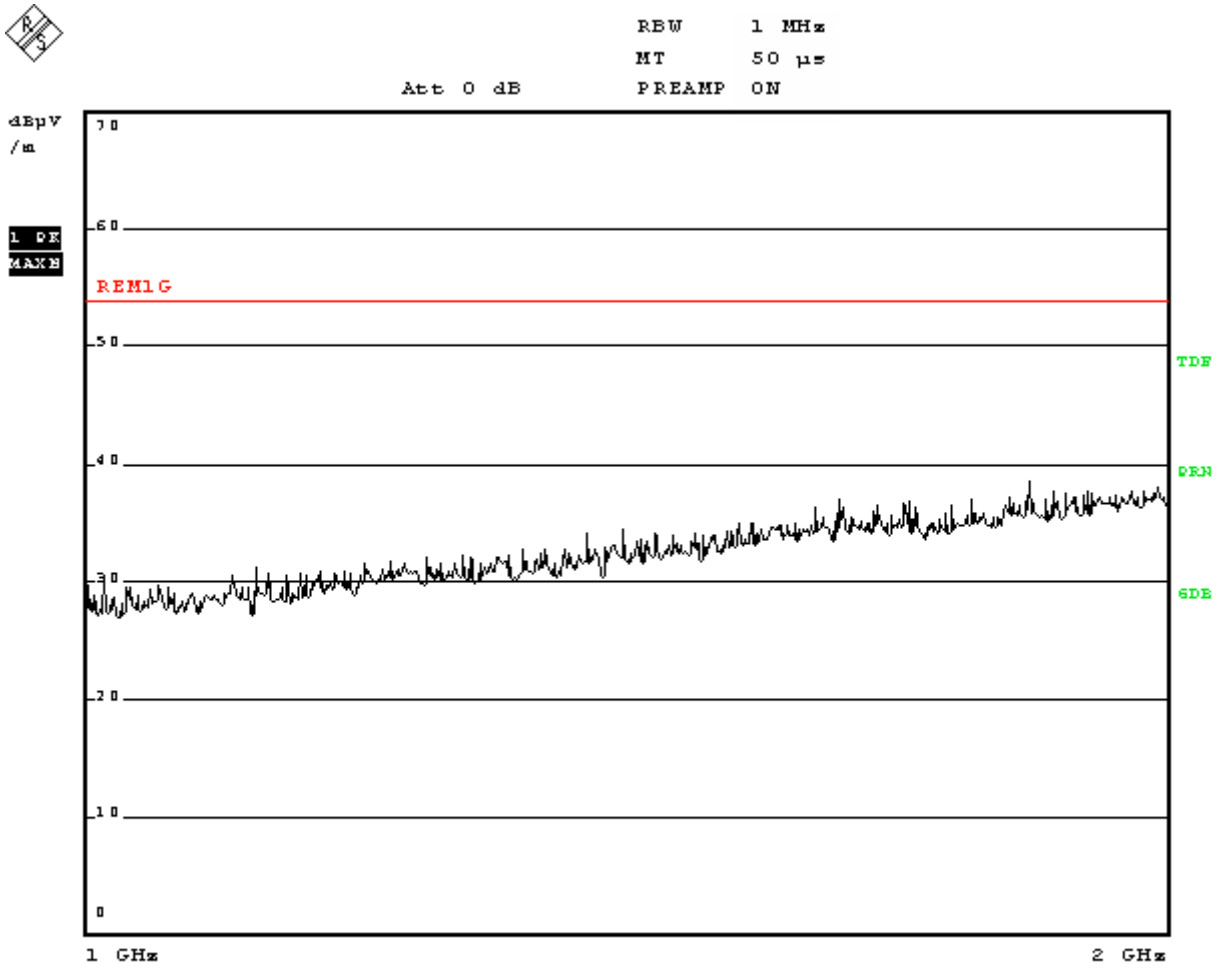
EUT set Condition: Play Video

Level: **Class B**

Results: **PASS**

Please refer to following diagram for individual

Picture of the test



Date: 30.JUN.2008 12:02:31

Frequency (MHz)	Level@3m (dBµV/m)	Antenna Polarity	Limit@3m (dBµV/m)
		V	
		V	

-The test data shows much less than the limit, no necessary take down the records.

6.0 FCC Label

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location: On the product body

7.0 Photo of testing

7.1 Radiated emission test view--

Playing

7.2 Photo for the EUT

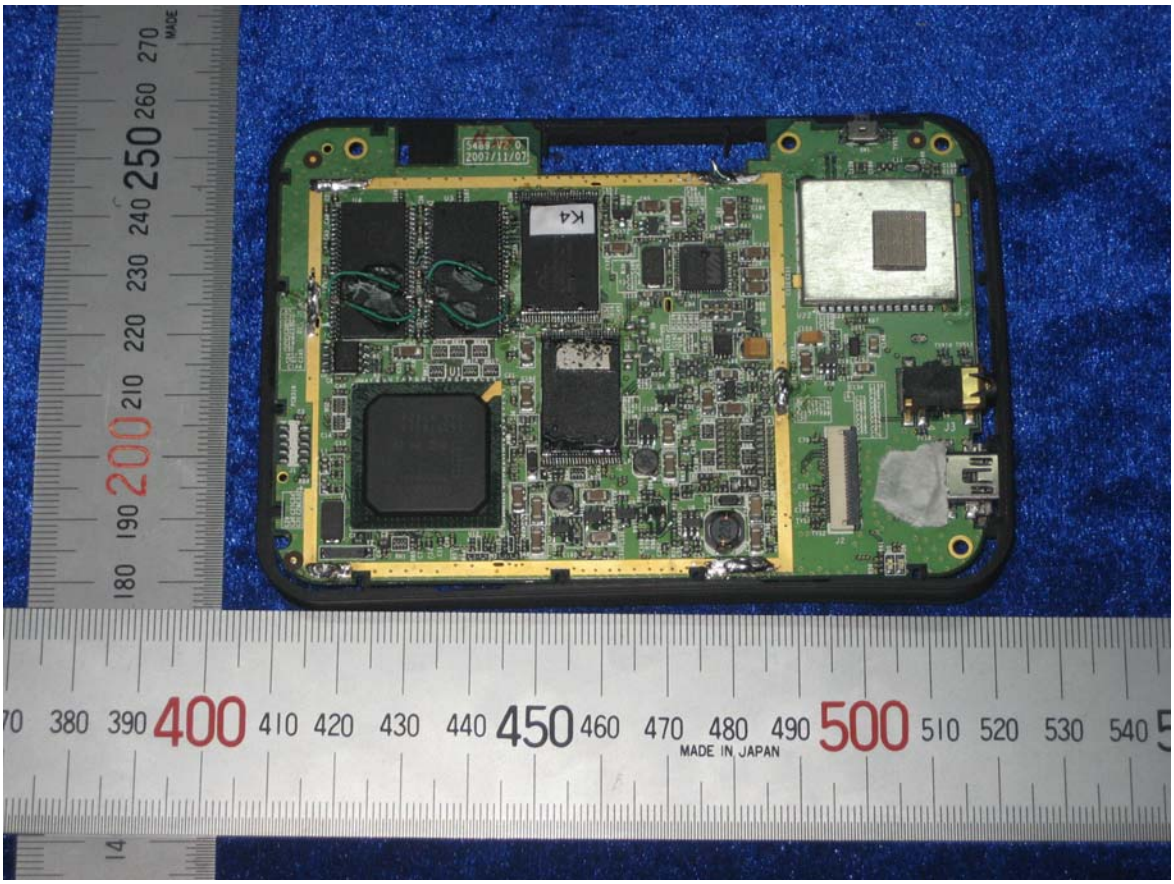
Front View

Back View

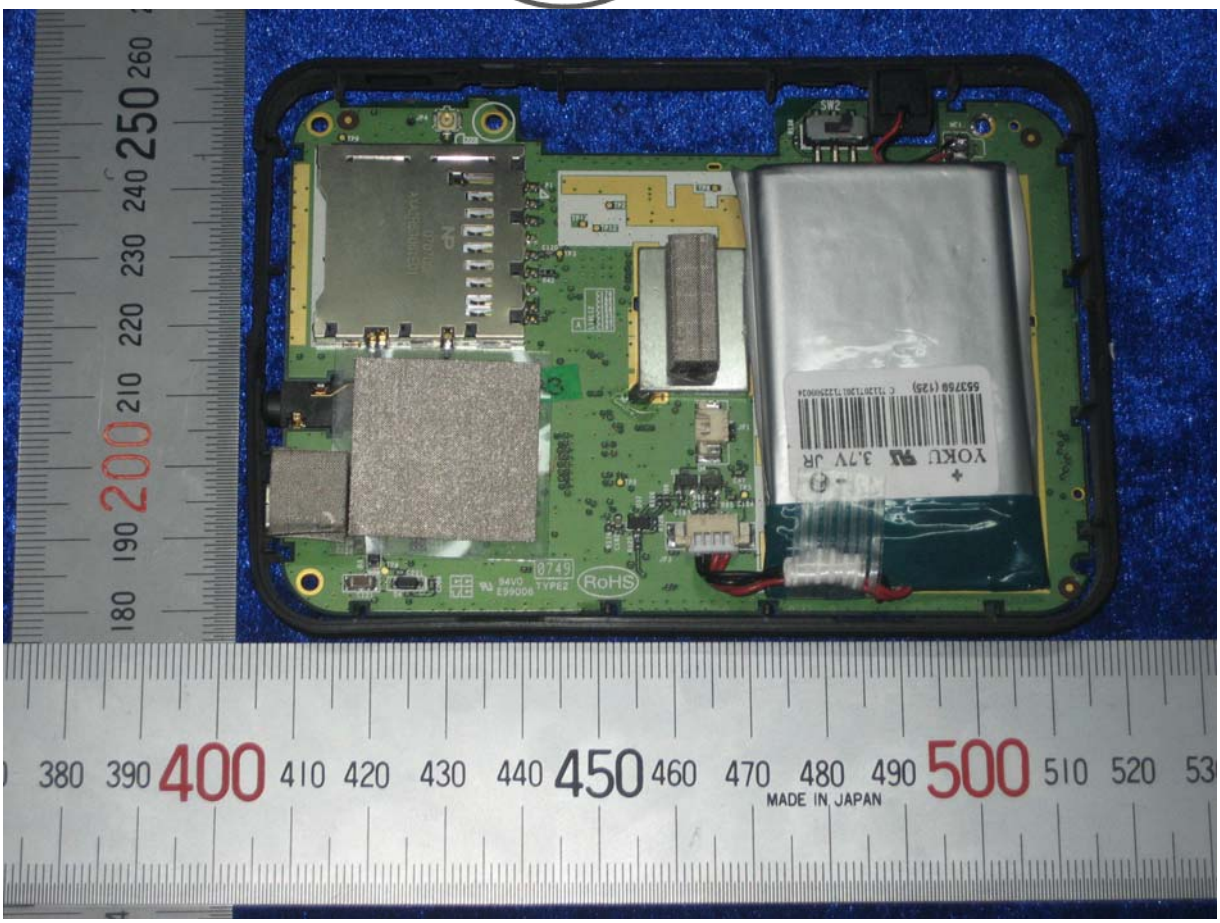
Interior View

Interior View

Interior View



Interior View



-End of the report-