

APPLICATION FOR CERTIFICATION

On Behalf of

Enernet Corporation

PSG Serial Garteway, P/N 13800

Model Number: TGD13800

FCC ID: TGD13800

Prepared for : Enernet Corporation
307 Dewittshire Road, Dewitt NY 13214, U.S.A.

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
No. 6, Ke Feng Rd., 52 Block,
Shenzhen Science & Industrial Park,
Nantou, Shenzhen, Guangdong, China

Tel: (0755) 26639496
Fax: (0755) 26632877

Report Number : ACS-F09006
Date of Test : Apr.02, 2009
Date of Report : Apr.02, 2009

TABLE OF CONTENTS

Description	Page
FCC Test Report for Declaration of Conformity	
1. SUMMARY OF STANDARDS AND RESULTS	1-1
1.1. Description of Standards and Results.....	1-1
2. GENERAL INFORMATION	2-1
2.1. Description of Device (EUT)	2-1
2.2. Test Facility	2-2
2.3. Measurement Uncertainty (95% confidence levels, k=2)	2-2
3. POWER LINE CONDUCTED EMISSION TEST.....	3-1
3.1. Test Equipments.....	3-1
3.2. Block Diagram of Test Setup.....	3-1
3.3. Power Line Conducted Emission Test Limits	3-1
3.4. Configuration of EUT on Test	3-1
3.5. Operating Condition of EUT.....	3-2
3.6. Test Procedure.....	3-2
3.7. Power Line Conducted Emission Test Results.....	3-2
4. RADIATED EMISSION TEST	4-1
4.1. Test Equipment	4-1
4.2. Block Diagram of Test Setup.....	4-1
4.3. Radiated Emission Limit Standard: FCC 15.209 and 15.249	4-2
4.4. EUT Configuration on Test.....	4-3
4.5. Operating Condition of EUT.....	4-3
4.6. Test Procedure.....	4-3
4.7. Radiated Emission Test Results	4-3
5. 20DB BANDWIDTH TEST	5-1
5.1. Test Equipment	5-1
5.2. Limit.....	5-1
5.3. Test Results	5-1
6. DEVIATION TO TEST SPECIFICATIONS	6-1
7. PHOTOGRAPH OF TEST.....	7-1
7.1. Photos of Power Line Conducted Emission Test	7-1
7.2. Photos of Radiated Emission Test (In Anechoic Chamber).....	7-3
8. PHOTOGRAPH OF EUT.....	8-1

TEST REPORT CERTIFICATION

Applicant : Enernet Corporation
Manufacturer : Honortone Ltd.
EUT Description : PSG Serial Garteway, P/N 13800
FCC ID : TGD13800
(A) MODEL NO. : TGD13800
(B) SERIAL NO. : N/A
(C) POWER SUPPLY : DC 6V
(D) TEST VOLTAGE : DC 6V From Adapter input
AC 120V/60Hz

Test Procedure Used:

FCC Rules and Regulations Part 15 Subpart C 2008

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits both radiated and conducted emissions.

The test results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these tests. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Date of Test :

Apr.02, 2009

Prepared by :

Edie Huang
Edie Huang / Assistant

Reviewer :

Jamy Yu
Jamy Yu / Senior Engineer

Approved & Authorized Signer :

Ken Lu / Manager



1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION		
Description of Test Item	Standard	Results
Power Line Conducted Emission Test	FCC Part 15C: 15.207 ANSI C63.4-2003	PASS
Radiated Emission Test	FCC Part 15C: 15.209 FCC Part 15C: 15.249 ANSI C63.4-2003	PASS
20dB Bandwidth Test	FCC Part 15: 15.215	PASS

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Product name	: PSG Serial Gateway, P/N 13800
Model Number	: TGD13800
FCC ID	: TGD13800
Modulation	: OOK/ASK
Applicant	: Enernet Corporation 307 Dewittshire Road, Dewitt NY 13214, U.S.A.
Manufacturer	: Honortone Ltd. Lot No. 15-16, Western District of Science and Technology Park, Daya Bay Economy and Technology Development District, Huizhou City, China
Date of Test	: Apr.02, 2009
Date of Receipt	: Apr.01, 2009
Sample Type	: Prototype production

2.2. Tested Supporting System Details

2.2.1. Power Adapter

M/N	: G066620D22
Manufacturer	: GRACO
Cable	: Unshielded, Undetactable, 2.0m

2.3. Test Facility

Site Description

Name of Firm : Audix Technology (Shenzhen) Co., Ltd.
No. 6, Ke Feng Rd., 52 Block, Shenzhen
Science & Industrial Park, Nantou,
Shenzhen, Guangdong, China

3m Anechoic Chamber : Mar. 31, 2009 File on Federal
Communication Commission
Registration Number: 90454

3m & 10m Anechoic Chamber : Jan. 31, 2007 File on Federal
Communication Commission
Registration Number: 794232

EMC Lab. : Accredited by DATech, German
Registration Number: DAT-P-091/99-01
Feb. 02, 2009

Accredited by NVLAP, USA
NVLAP Code: 200372-0
Apr. 01, 2009

2.4. Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	MU	Remark
1	Uncertainty for Conduction emission test in No. 1 Conduction	2.88dB	
2	Uncertainty for Radiation Emission test in 3m chamber	3.86 dB	Polarize: V
		4.3 dB	Polarize: H
3	Uncertainty for test site temperature and humidity	0.1°C	
		1%	

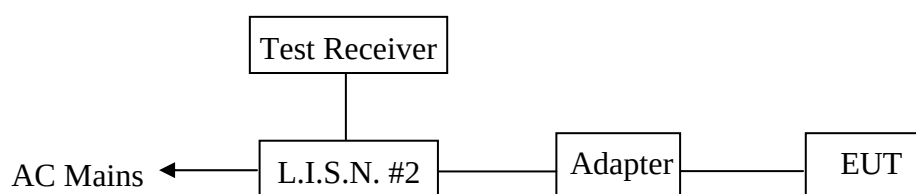
3. POWER LINE CONDUCTED EMISSION TEST

3.1. Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCI	100843	Oct.24, 08	1 Year
2.	L.I.S.N.#2	Kyoritsu	KNW-407	8-1636-1	May 10,08	1 Year
3.	Terminator	Hubersuhner	50Ω	No. 2	May 10,08	1 Year
4.	RF Cable	Fujikura	3D-2W	LISN Cable 1#	Nov.10, 08	1/2 Year
5.	Coaxial Switch	Anritsu	MP59B	M55367	Nov.10, 08	1/2 Year
6.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100341	Nov.10, 08	1/2 Year

3.2. Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and simulators



(EUT: PSG Serial Garteway, P/N 13800)

3.3. Power Line Conducted Emission Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.4. Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

3.4.1. PSG Serial Garteway, P/N 13800 (EUT)

Model Number : TGD13800

Serial Number : N/A

3.4.2. Support Equipment: As Tested Supporting System Detail, in Section 2.2..

3.5. Operating Condition of EUT

3.5.1. Setup the EUT as shown in Section 3.2..

3.5.2. Turned on the power of all equipment.

3.5.3. Let the EUT work in test modes (Tx 2G Mode with short antenna / Tx 2G Mode with long antenna) and tested it.

3.6. Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. 2#). This provides a 50 ohm coupling impedance for the EUT. Please refer the block diagram of the test setup and photographs. Power on the PC and let it work normally, we use a keyboard test software, let EUT working in test mode, then test it. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4: 2003 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESCI) is set at 10kHz.

The frequency range from 150kHz to 30MHz is checked.

The test result are reported on Section 3.7.

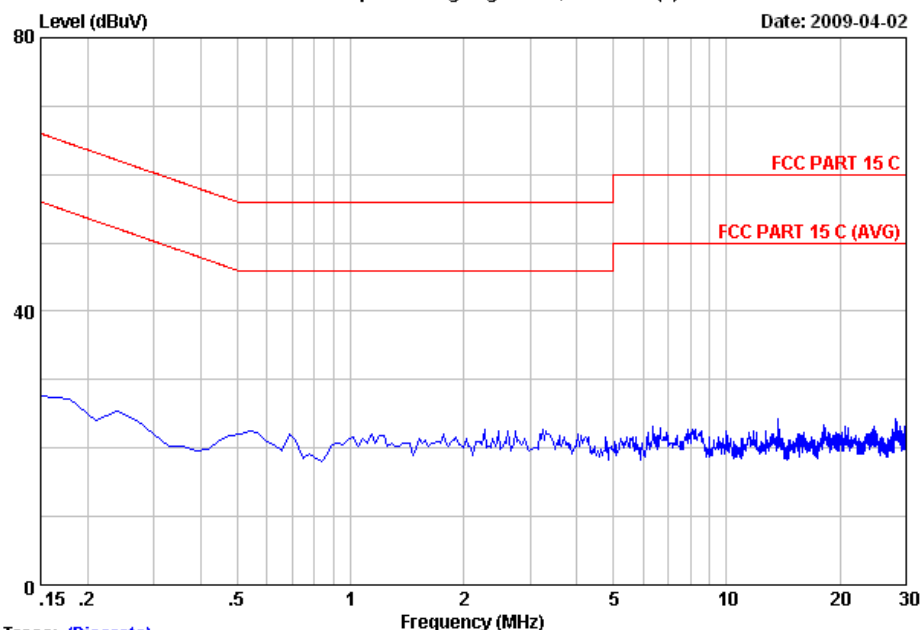
3.7. Power Line Conducted Emission Test Results

PASS.



NO.6 Ke Feng Road,Block 52,
Shenzhen Science&Industry Park
Nantou, Shenzhen,Guang dong, China.
Tel:+86-755-26639495
Fax:+86-755-26632877
Postcode:518057

Data: 5 File: D:\DATA\2008 Report\H\hongtong\ASC8Q1580.EM6 (8) Date: 2009-04-02



Trace: (Discrete)

Site no : Audix No.1 Conduction Data no : 5

Dis./Ant. : ** KNW407 1# VA

Limit : FCC PART 15 C

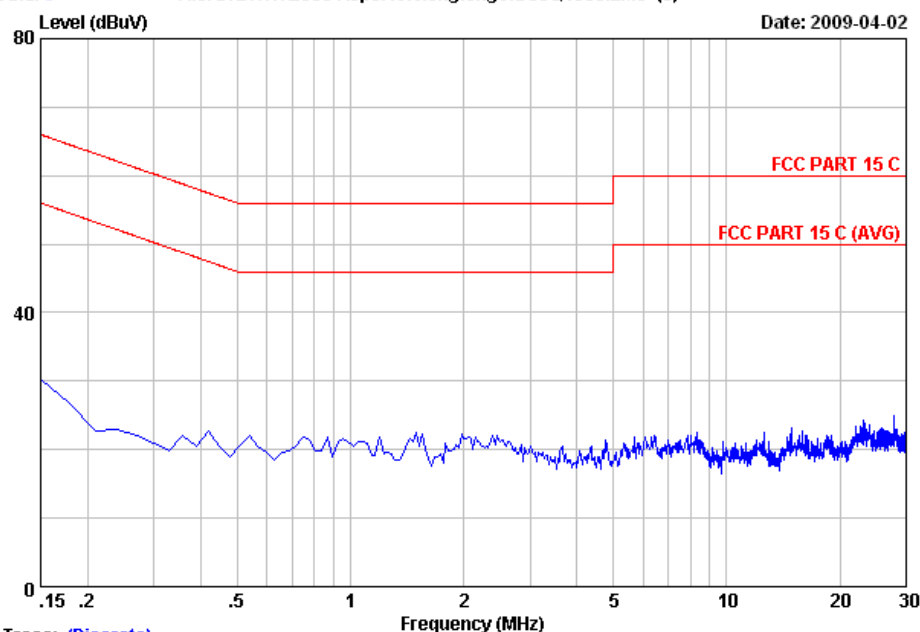
Env./Ins. : Temp:23'C Humi:54% Engineer : Power

EUT : Serial Garteway P/N:13800 M/N:TGD 13800

Power Rating : DC 6V From Adapter input AC 120V/60Hz

Test Mode : Tx 2G Mode with short antenna

Data: 6 File: D:\DATA\2008 Report\H\hongtong\ASC8Q1580.EM6 (8) Date: 2009-04-02



Trace: (Discrete)

Site no : Audix No.1 Conduction Data no : 6

Dis./Ant. : ** KNW407 1# VB

Limit : FCC PART 15 C

Env./Ins. : Temp:23'C Humi:54% Engineer : Power

EUT : Serial Garteway P/N:13800 M/N:TGD 13800

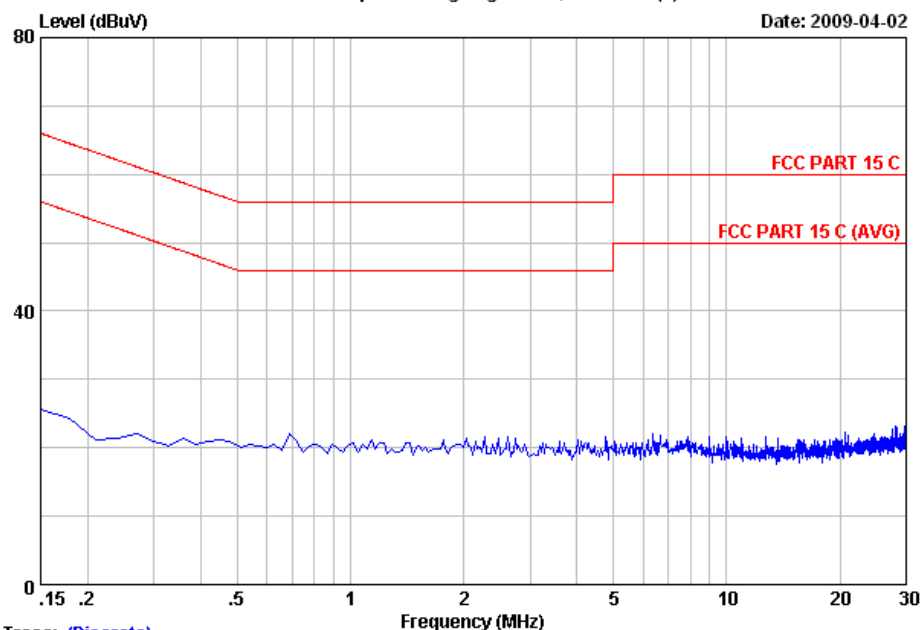
Power Rating : DC 6V From Adapter input AC 120V/60Hz

Test Mode : Tx 2G Mode with short antenna



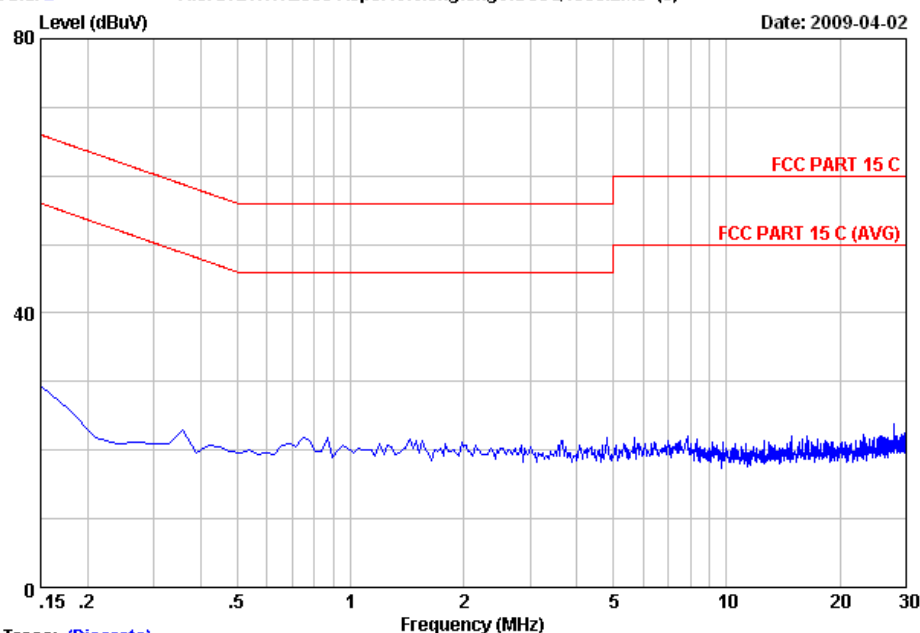
NO.6 Ke Feng Road,Block 52,
Shenzhen Science&Industry Park
Nantou, Shenzhen,Guang dong, China.
Tel:+86-755-26639495
Fax:+86-755-26632877
Postcode:518057

Data: 1 File: D:\DATA\2008 Report\H\hongtong\ASC8Q1580.EM6 (8) Date: 2009-04-02



Trace: (Discrete)
Site no : Audix No.1 Conduction Data no : 1
Dis./Ant. : ** KNW407 1# VA
Limit : FCC PART 15 C
Env./Ins. : Temp:23'C Humi:54% Engineer : Power
EUT : Serial Garteway P/N:13800 M/N:TGD 13800
Power Rating : DC 6V From Adapter input AC 120V/60Hz
Test Mode : Tx 2G Mode with long antenna

Data: 2 File: D:\DATA\2008 Report\H\hongtong\ASC8Q1580.EM6 (8) Date: 2009-04-02



Trace: (Discrete)
Site no : Audix No.1 Conduction Data no : 2
Dis./Ant. : ** KNW407 1# VB
Limit : FCC PART 15 C
Env./Ins. : Temp:23'C Humi:54% Engineer : Power
EUT : Serial Garteway P/N:13800 M/N:TGD 13800
Power Rating : DC 6V From Adapter input AC 120V/60Hz
Test Mode : Tx 2G Mode with long antenna

4. RADIATED EMISSION TEST

4.1. Test Equipment

Frequency rang: 30~1000MHz

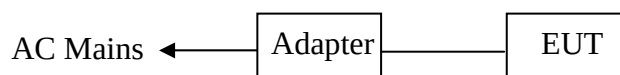
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber	AUDIX	N/A	N/A	Dec.05, 08	1/2 Year
2.	EMI Spectrum	Agilent	E4407B	MY41440292	May 10, 08	1 Year
3.	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	May 10, 08	1 Year
4.	Amplifier	HP	8447D	2648A04738	Nov.04, 08	1/2 Year
5.	Bilog Antenna	Schaffner	CBL6112D	25237	Nov.10, 08	1 Year
6.	RF Cable	JINGCHENG	JBY400	3# Chamber No.1	Nov.01, 08	1/2 Year
7.	RF Cable	JINGCHENG	JBY400	3# Chamber No.2	Nov.01, 08	1/2 Year
8.	RF Cable	JINGCHENG	JBY400	3# Chamber No.3	Nov.01, 08	1/2 Year
9.	RF Cable	JINGCHENG	JBY400	3# Chamber No.4	Nov.01, 08	1/2 Year
10.	Coaxial Switch	Anritsu	MP59B	M73989	Nov.01, 08	1/2 Year

Frequency rang: above 1000MHz

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May,10, 08	1 Year
2.	Horn Antenna	EMCO	3115	9607-4877	May, 27, 08	1.5 Year
3.	Horn Antenna	EMCO	3116	00060088	May 27, 08	1Year
4.	Amplifier	Agilent	8449B	3008A02495	Nov.06.08	1 Year
5.	RF Cable	Hubersuhner	SUCOFLEX102	28620/2	May.28, 08	1 Year
6.	RF Cable	Hubersuhner	SUCOFLEX102	271471/4	May.28, 08	1 Year
7.	RF Cable	Hubersuhner	SUCOFLEX102	29086/2	May.28, 08	1 Year

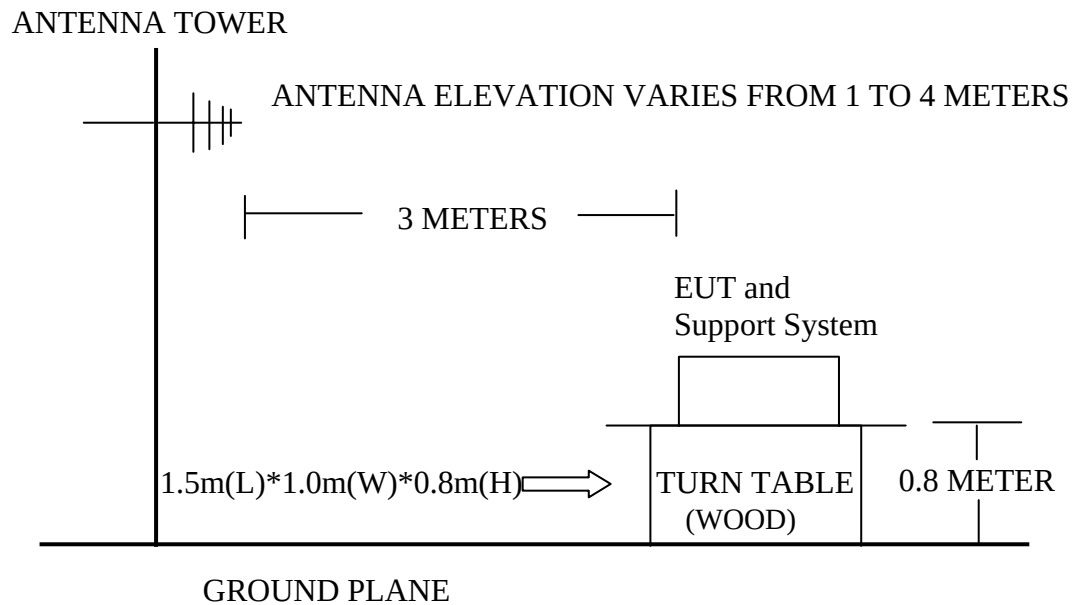
4.2. Block Diagram of Test Setup

4.2.1. Block Diagram of connection between EUT and simulators



(EUT: PSG Serial Garteway, P/N 13800)

4.2.2. Anechoic Chamber Setup Diagram



4.3. Radiated Emission Limit Standard: FCC 15.209 and 15.249

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000MHz	3	74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	
Field Strength of Fundamental emission for 2.4GHz-2.4835GHz	3	94.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average) 114.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak)	
Field Strength of Harmonics	3	74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	

- Remark :
- (1) Emission level $\text{dB}\mu\text{V} = 20 \log$ Emission level $\mu\text{V}/\text{m}$
 - (2) The smaller limit shall apply at the cross point between two frequency bands.
 - (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.
 - (4) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

4.4.EUT Configuration on Test

The following equipment are installed on Radiated Emission Test to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

4.4.1.PSG Serial Garteway, P/N 13800 (EUT)

Model Number : TGD13800
Serial Number : N/A

4.4.2.Support Equipment: As Tested Supporting System Detail, in Section 2.2..

4.5.Operating Condition of EUT

4.5.1.Setup the EUT as shown in Section 4.2.

4.5.2.Turned on the power of all equipment.

4.5.3.Let the EUT worked in test modes (Tx 2G Mode with short antenna / Tx 2G Mode with long antenna) and tested it.

4.6.Test Procedure

The EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on Test. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2003 on radiated emission Test.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the VBW is set at 1MHz and RBW is set at 1MHz,PK detector for peak emissions measurement above 1GHz.

The bandwidth of the VBW is set at 10Hz and RBW is set at 1MHz,PK detector for average emissions measurement above 1GHz.

The frequency range from 30MHz to 10th harmonic (25GHz) harmonic are checked. and no any emissions were found from 18GHz to 25 GHz, So the radiated emissions from 18GHz to 25GHz were not record.

The test modes (TX) is tested in Anechoic Chamber and all the scanning waveforms are reported with antenna in horizontal and vertical polarization on Section 4.7.

4.7.Radiated Emission Test Results

PASS.

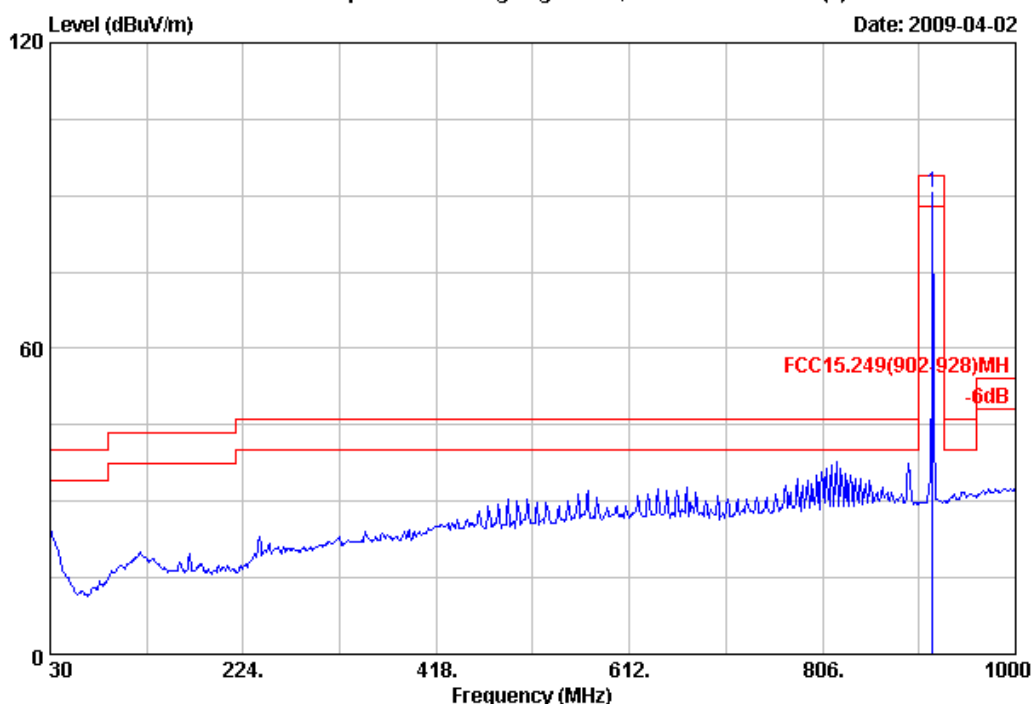
All the emissions from 30MHz to 25GHz were comply with the 15.209 and 15.249 Limit.

Test Frequency: 30MHz-1000MHz



No.6, Ke Feng Road, Block 52,
Shenzhen Science&Industry Park
Nantou Shenzhen, Guangdong, China
Tel: +86-755-26639495
Fax: +86-755-26632877
Postcode: 518057

Data: 2 File: D:\2008 Report Data\H\hongtong\ACS8Q1580S.EMI.bak.EM6 (4)



Site no. : AUDIX 3m chamber Data no. : 2
Dis. / Ant. : 3m CBL6112D Ant. pol. : HORIZONTAL
Limit : FCC15.249(902-928)MH
Env. / Ins. : 24°C/47% Engineer : Power
EUT : Serial Gateway, P/N 13800 M/N: TGD13800
Power Rating : DC 6V from adaptor input AC 120V/60Hz
Test Mode : Tx 2G mode with short antenna

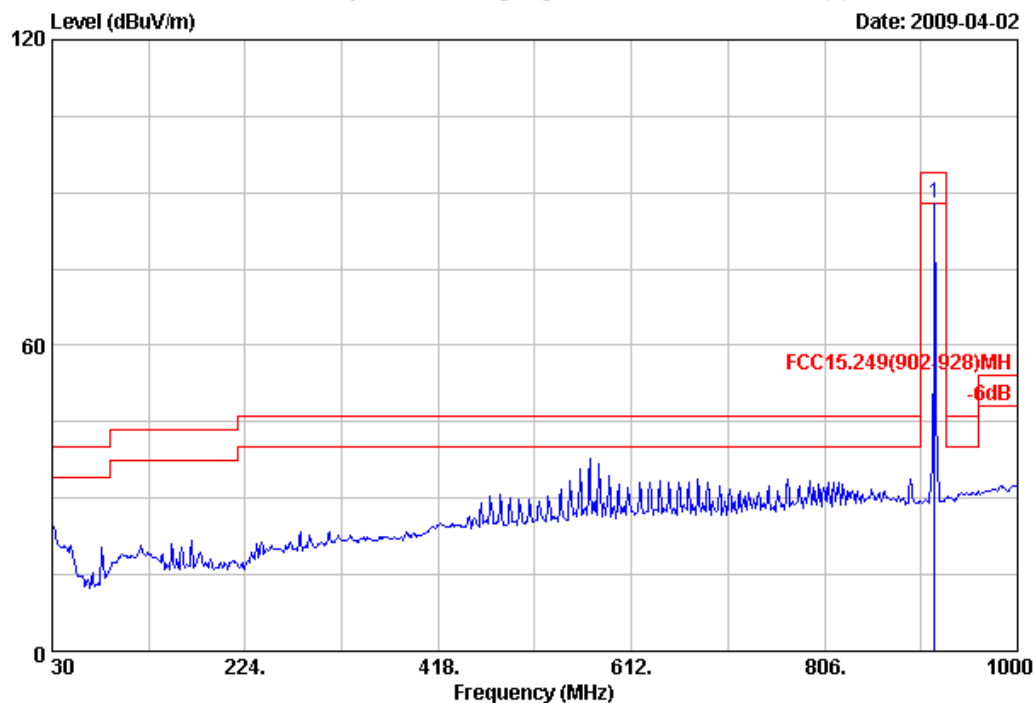
		Ant.	Cable		Emission			
Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1	916.521	20.16	3.89	66.63	90.68	94.00	3.32	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6, Ke Feng Road, Block 52,
Shenzhen Science&Industry Park
Nantou Shenzhen, Guangdong, China
Tel: +86-755-26639495
Fax: +86-755-26632877
Postcode: 518057

Data: 1 File: D:\2008 Report Data\H\hongtong\ACS8Q1580S.EMI.bak.EM6 (4)



Site no. : AUDIX 3m chamber Data no. : 1
Dis. / Ant. : 3m CBL6112D Ant. pol. : VERTICAL
Limit : FCC15.249(902-928)MH
Env. / Ins. : 24°C/47% Engineer : Power
EUT : Serial Gateway, P/N 13800 M/N: TGD13800
Power Rating : DC 6V from adaptor input AC 120V/60Hz
Test Mode : Tx 2G mode with short antenna

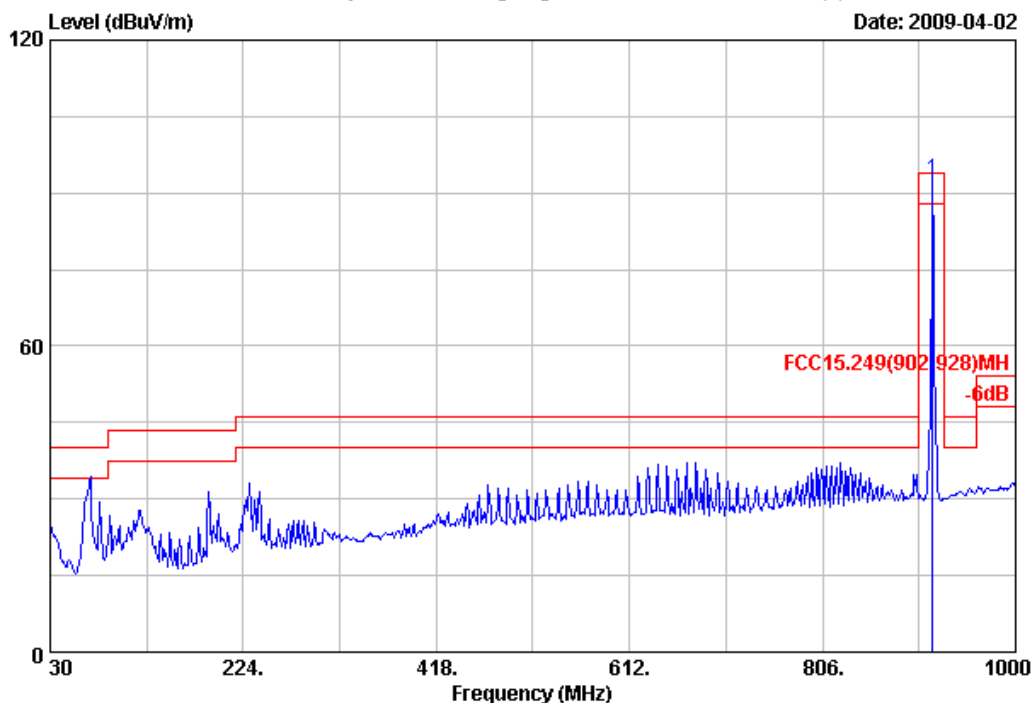
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission			Remark
					Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	916.521	20.16	3.89	63.73	87.78	94.00	6.22	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6, Ke Feng Road, Block 52,
Shenzhen Science&Industry Park
Nantou Shenzhen, Guangdong, China
Tel: +86-755-26639495
Fax: +86-755-26632877
Postcode: 518057

Data: 1 File: D:\2008 Report Data\H\hongtong\ACS8Q1580L.EML.bak.EM6 (4)



Site no. : AUDIX 3m chamber Data no. : 1
Dis. / Ant. : 3m CBL6112D Ant. pol. : HORIZONTAL
Limit : FCC15.249(902-928)MH
Env. / Ins. : 24°C/47% Engineer : Power
EUT : Serial Gateway, P/N 13800 M/N: TGD13800
Power Rating : DC 6V from adaptor input AC 120V/60Hz
Test Mode : Tx 2G mode with long antenna

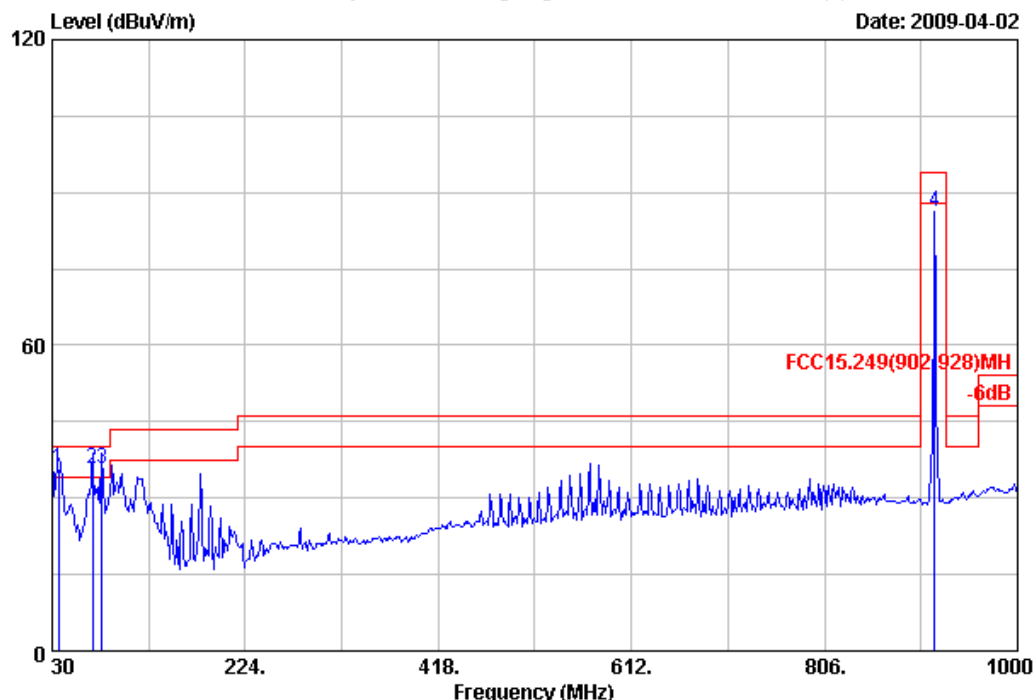
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	916.521	20.16	3.89	68.50	92.55	94.00	1.45	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6, Ke Feng Road, Block 52,
Shenzhen Science&Industry Park
Nantou Shenzhen, Guangdong, China
Tel: +86-755-26639495
Fax: +86-755-26632877
Postcode: 518057

Data: 2 File: D:\2008 Report Data\H\hongtong\ACS8Q1580L.EML.bak.EM6 (4)



Site no. : AUDIX 3m chamber Data no. : 2
Dis. / Ant. : 3m CBL6112D Ant. pol. : VERTICAL
Limit : FCC15.249(902-928)MH
Env. / Ins. : 24°C/47% Engineer : Power
EUT : Serial Gateway, P/N 13800 M/N: TGD13800
Power Rating : DC 6V from adaptor input AC 120V/60Hz
Test Mode : Tx 2G mode with long antenna

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	36.790	15.22	0.52	20.06	35.80	40.00	4.20	QP
2	70.740	6.47	0.75	28.45	35.67	40.00	4.33	QP
3	80.440	7.19	0.81	27.84	35.84	40.00	4.16	QP
4	916.521	20.16	3.89	62.03	86.08	94.00	7.92	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Test Frequency: 1000MHz-10000MHz

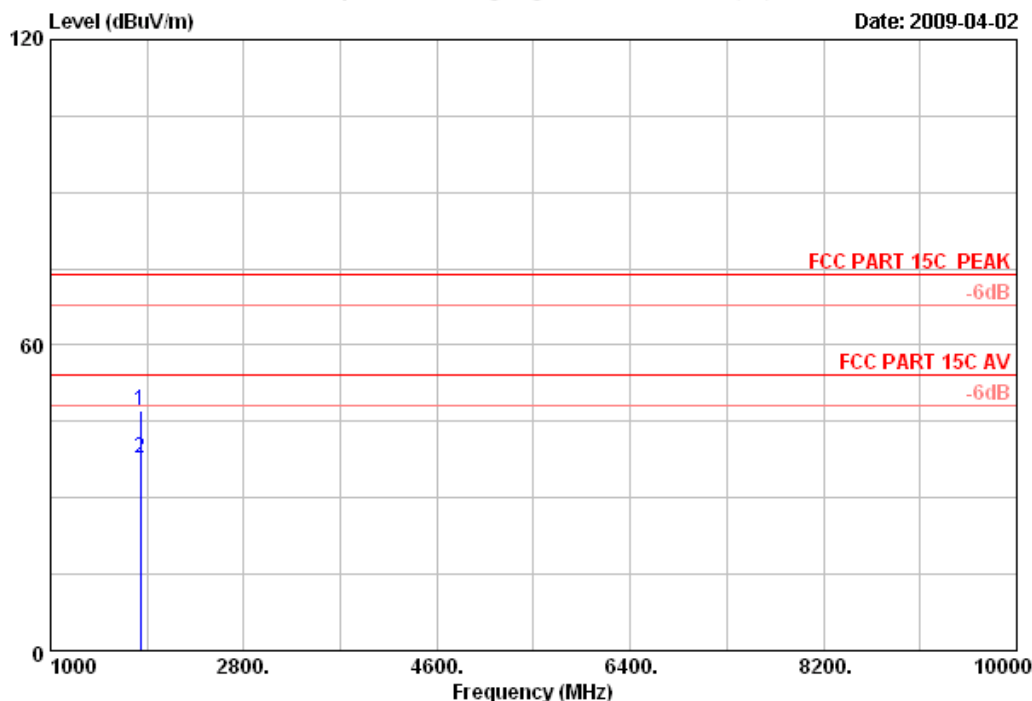


No.6 Ke Feng Road,Block 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 4

File: E:\2008 report data\Hihongtong\ACS8Q1580S.EM6 (12)

Date: 2009-04-02



Site no. : 3m Chamber Data no. : 4
Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Power
EUT : Serial Gateway,P/N 13800 M/N:TGD13800
Power Rating : DC 6V From Adaptor Input AC 120V/60Hz
Test mode : Tx 2G mode with short antenna
M/N :

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1841.000	27.23	5.86	36.34	50.35	47.10	74.00	26.90	Peak
2	1841.000	27.23	5.86	36.34	40.86	37.61	54.00	16.39	Average

Remarks:

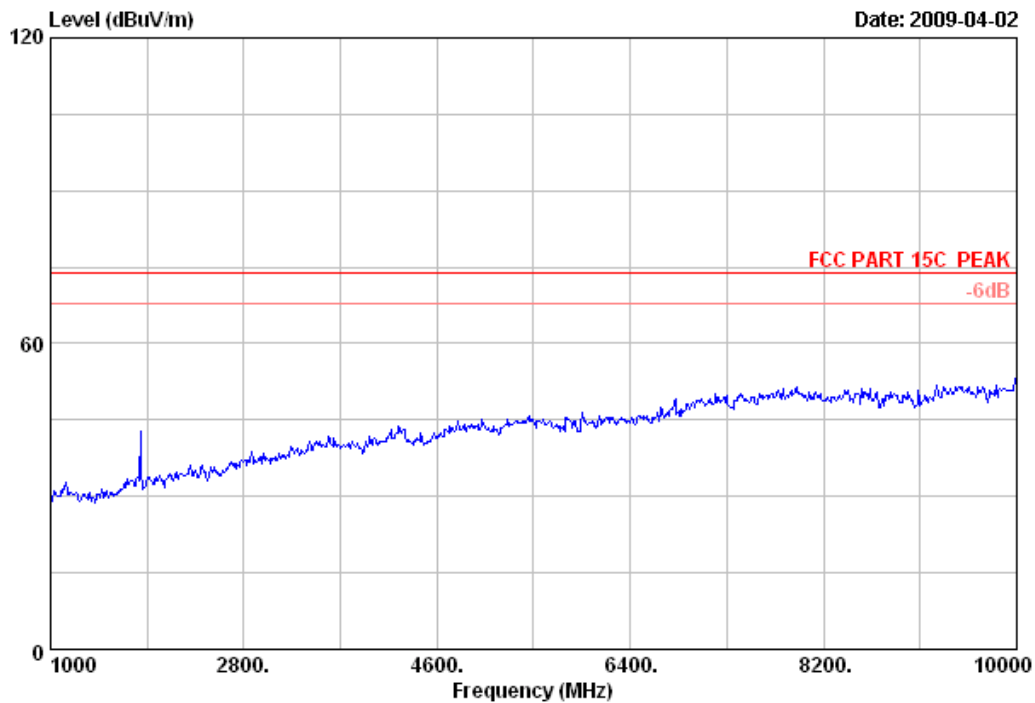
- Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,Block 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 3 File: E:\2008 report data\Hihongtong\ACS8Q1580S.EM6 (12)

Date: 2009-04-02

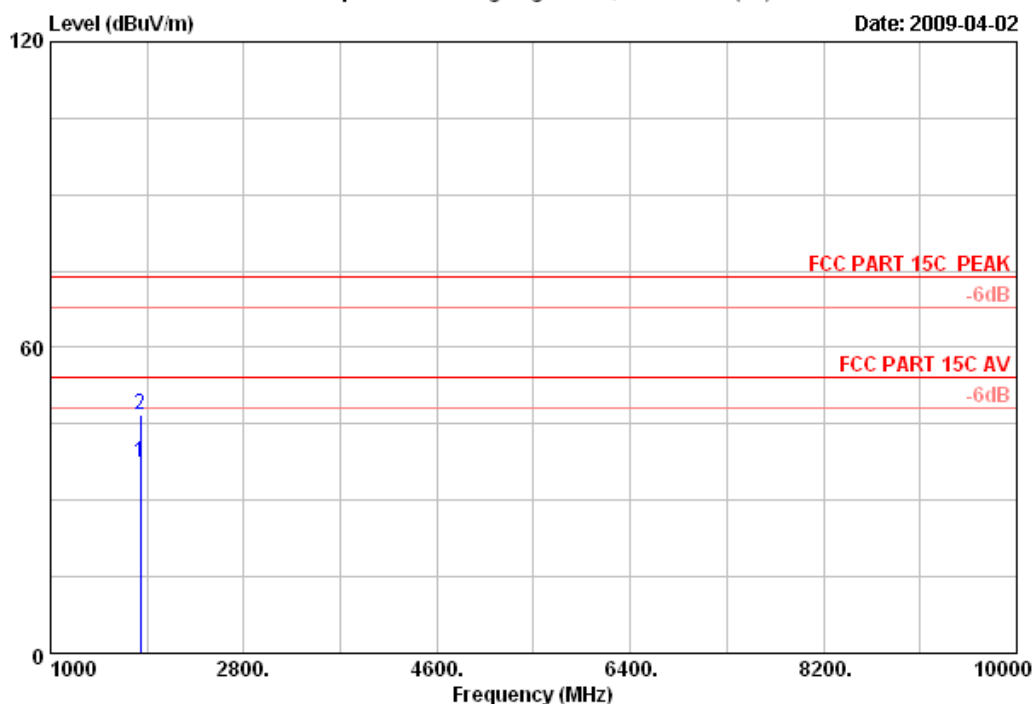


Site no.	: 3m Chamber	Data no.	: 3
Dis. / Ant.	: 3m 3115	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Power
EUT	: Serial Gateway, P/N 13800	M/N:	TGD13800
Power Rating	: DC 6V From Adaptor Input AC 120V/60Hz		
Test mode	: Tx 2G mode with short antenna		
M/N	:		



No.6 Ke Feng Road,Block 52,
ShenZhen Science & Industry Park
Noutou, ShenZhen, GuangDong, China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 2 File: E:\2008 report data\H\hongtong\ACS8Q1580S.EM6 (12)



Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Power
EUT : Serial Gateway, P/N 13800 M/N: TGD13800
Power Rating : DC 6V From Adaptor Input AC 120V/60Hz
Test mode : Tx 2G mode with short antenna
M/N :

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1841.000	27.23	5.86	36.34	40.80	37.55	54.00	16.45	Average
2	1841.000	27.23	5.86	36.34	49.98	46.73	74.00	27.27	Peak

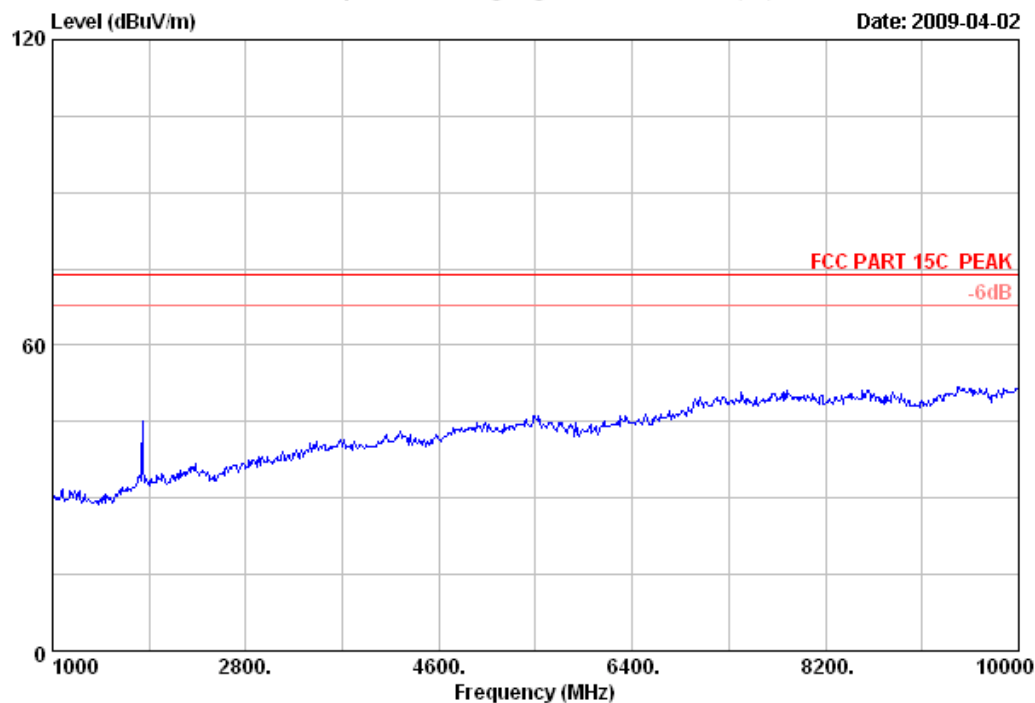
Remarks:

- Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
- The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,Block 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 1 File: E:\2008 report data\H\hongtong\ACS8Q1580S.EM6 (12)

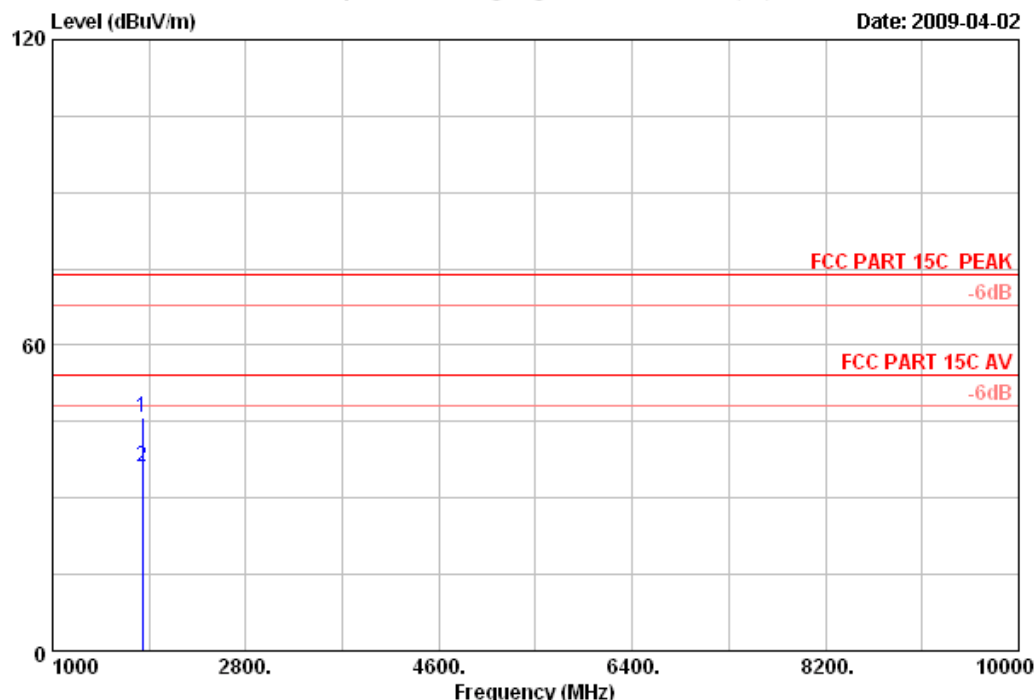


Site no.	: 3m Chamber	Data no.	: 1
Dis. / Ant.	: 3m 3115	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Power
EUT	: Serial Gateway, P/N 13800	M/N:	TGD13800
Power Rating	: DC 6V From Adaptor Input AC 120V/60Hz		
Test mode	: Tx 2G mode with short antenna		
M/N	:		



No.6 Ke Feng Road,Block 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 2 File: E:\2008 report data\H\hongtong\ACS8Q1580L.EM6 (12)



Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Power
EUT : Serial Garteway,P/N 13800 M/N:TGD13800
Power Rating : DC 6V From Adaptor Input AC 120V/60Hz
Test mode : Tx 2G mode with long antenna
M/N :

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1841.000	27.23	5.86	36.34	49.06	45.81	74.00	28.19	Peak
2	1841.000	27.23	5.86	36.34	39.29	36.04	54.00	17.96	Average

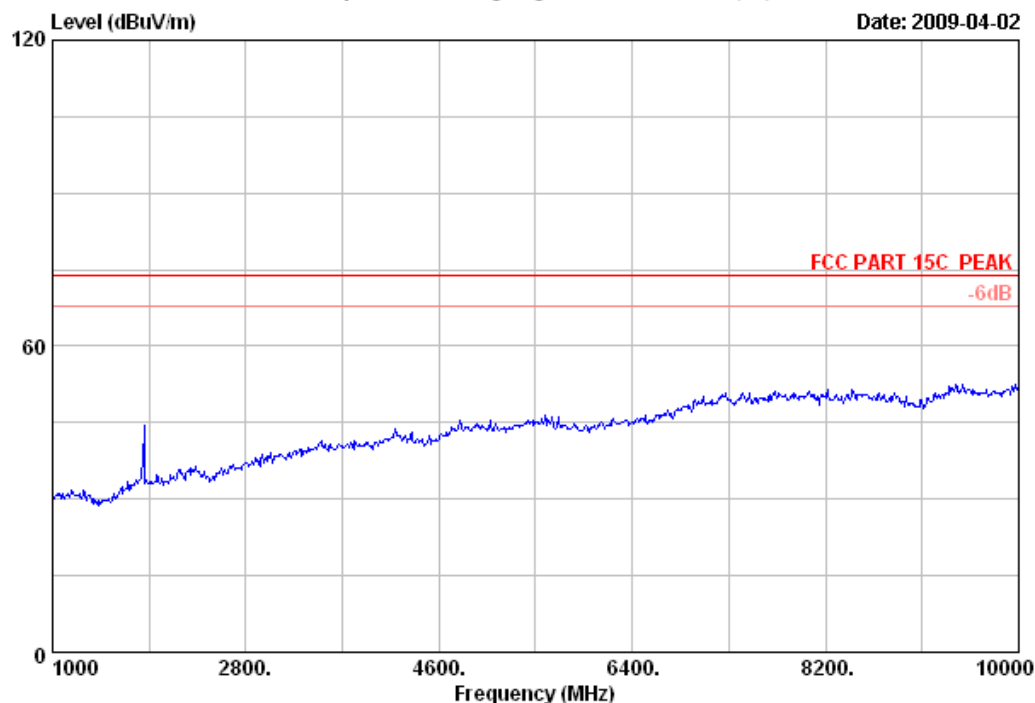
Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,Block 52,
ShenZhen Science & Industry Park
Noutou, ShenZhen, GuangDong, China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 1 File: E:\2008 report data\H\hongtong\ACS8Q1580L.EM6 (12)

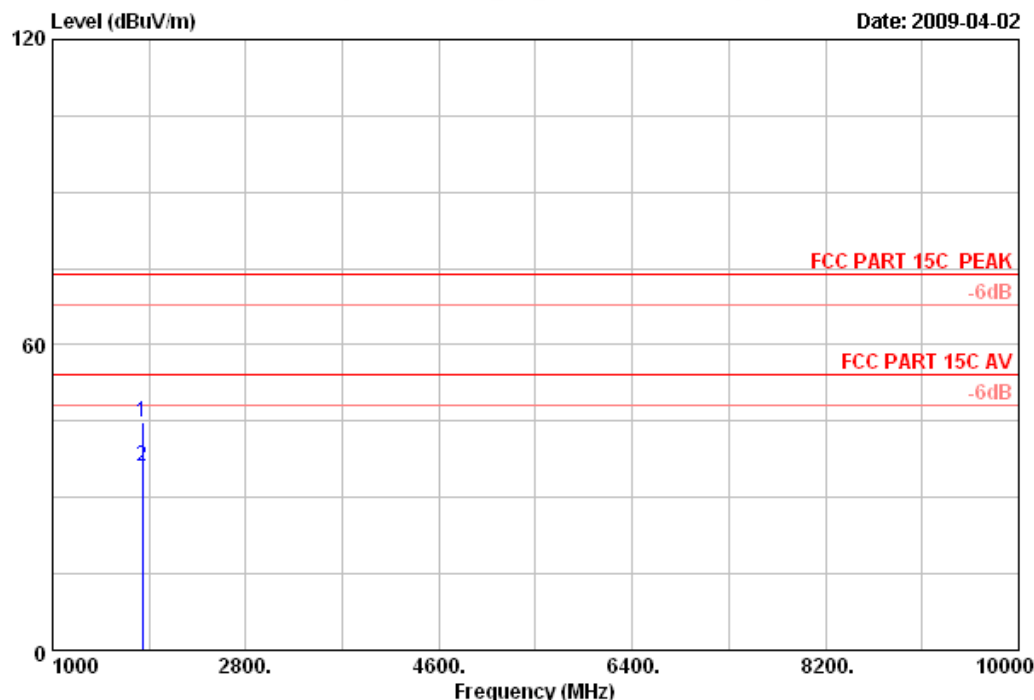


Site no.	: 3m Chamber	Data no.	: 1
Dis. / Ant.	: 3m 3115	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Power
EUT	: Serial Gateway, P/N 13800	M/N:	TGD13800
Power Rating	: DC 6V From Adaptor Input AC 120V/60Hz		
Test mode	: Tx 2G mode with long antenna		
M/N	:		



No.6 Ke Feng Road,Block 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 4 File: E:\2008 report data\H\hongtong\ACS8Q1580L.EM6 (12)



Site no. : 3m Chamber Data no. : 4
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Power
EUT : Serial Garteway,P/N 13800 M/N:TGD13800
Power Rating : DC 6V From Adaptor Input AC 120V/60Hz
Test mode : Tx 2G mode with long antenna
M/N :

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1841.000	27.23	5.86	36.34	48.10	44.85	74.00	29.15	Peak
2	1841.000	27.23	5.86	36.34	39.44	36.19	54.00	17.81	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

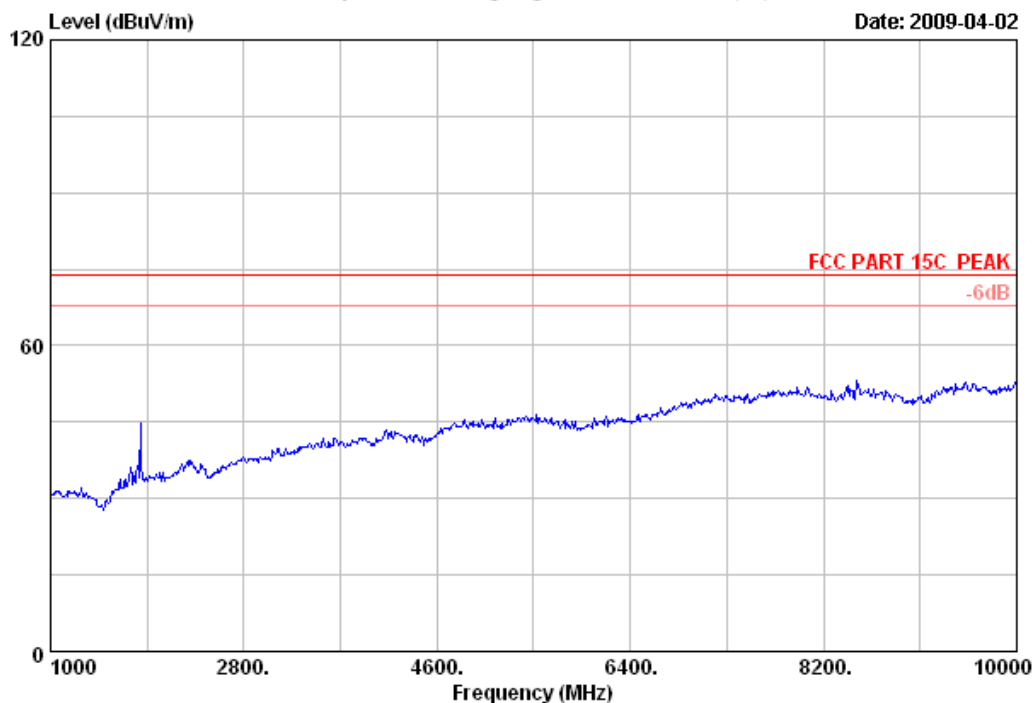


No.6 Ke Feng Road,Block 52,
ShenZhen Science & Industry Park
Noutou, ShenZhen, GuangDong, China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 3

File: E:\2008 report data\H\hongtong\ACS8Q1580L.EM6 (12)

Date: 2009-04-02



Site no.	: 3m Chamber	Data no.	: 3
Dis. / Ant.	: 3m 3115	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Power
EUT	: Serial Gateway, P/N 13800	M/N:	TGD13800
Power Rating	: DC 6V From Adaptor Input AC 120V/60Hz		
Test mode	: Tx 2G mode with long antenna		
M/N	:		

5. 20DB BANDWIDTH TEST

5.1. Test Equipment

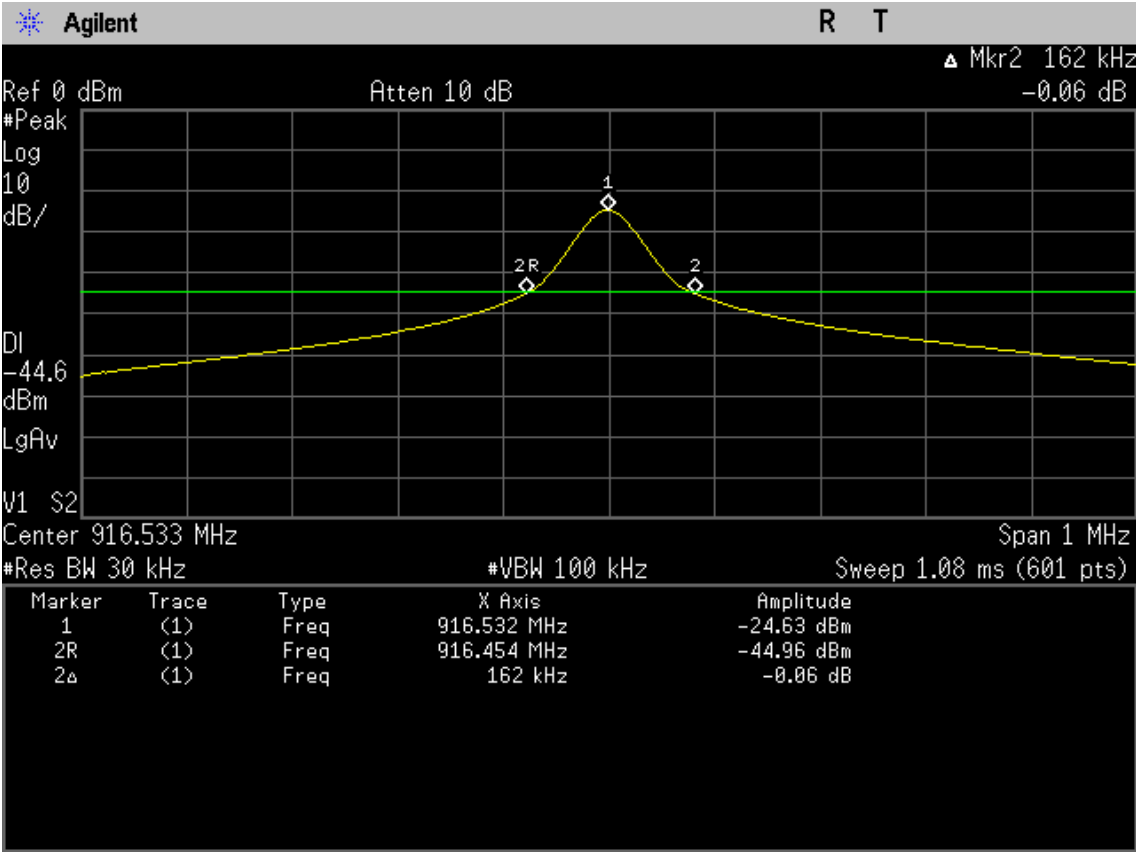
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4446A	US44300459	May,10, 08	1 Year
2	Attenuator	Agilent	8491B	MY39262165	May,28, 08	1 Year
3	RF Cable	Hubersuhner	SUCOFLEX 102	28618/2	May,28, 08	1Year

5.2. Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

5.3. Test Results

Pass

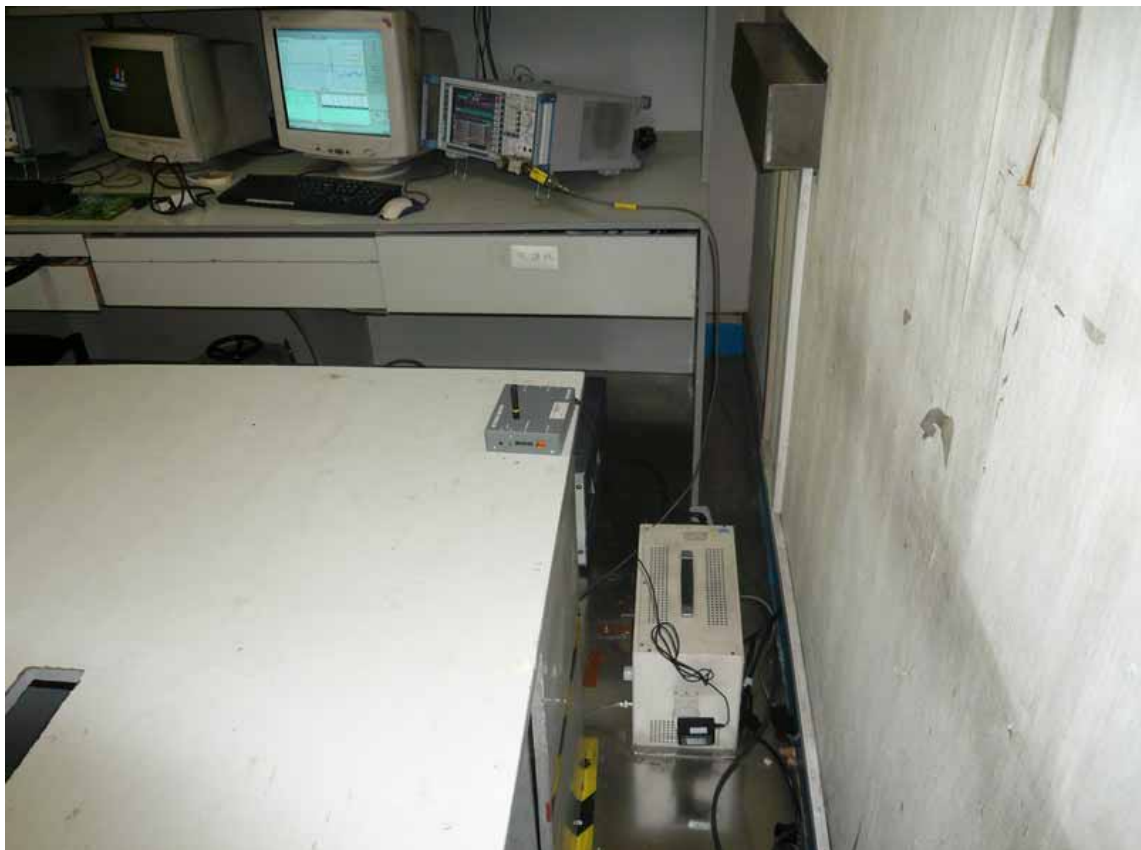


6. DEVIATION TO TEST SPECIFICATIONS

[NONE]

7. PHOTOGRAPH OF TEST

7.1.Photos of Power Line Conducted Emission Test (Short antenna)



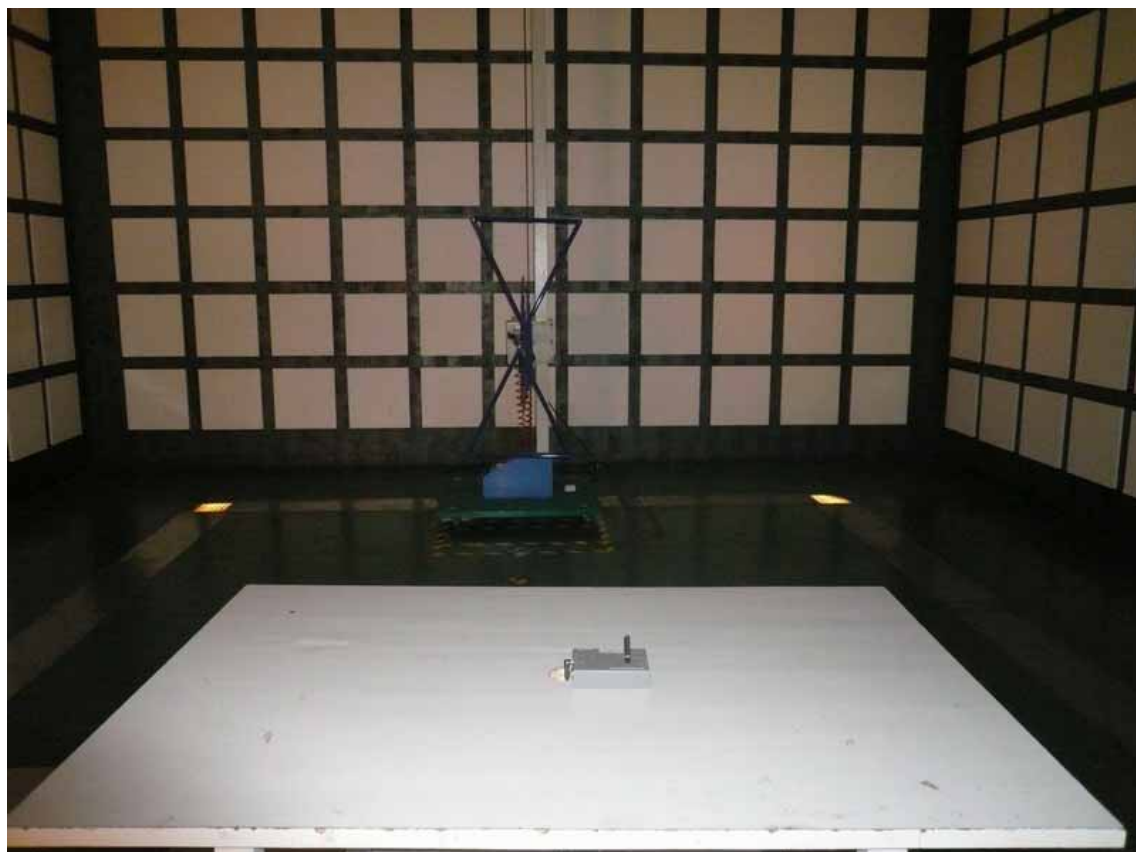
(Long antenna)



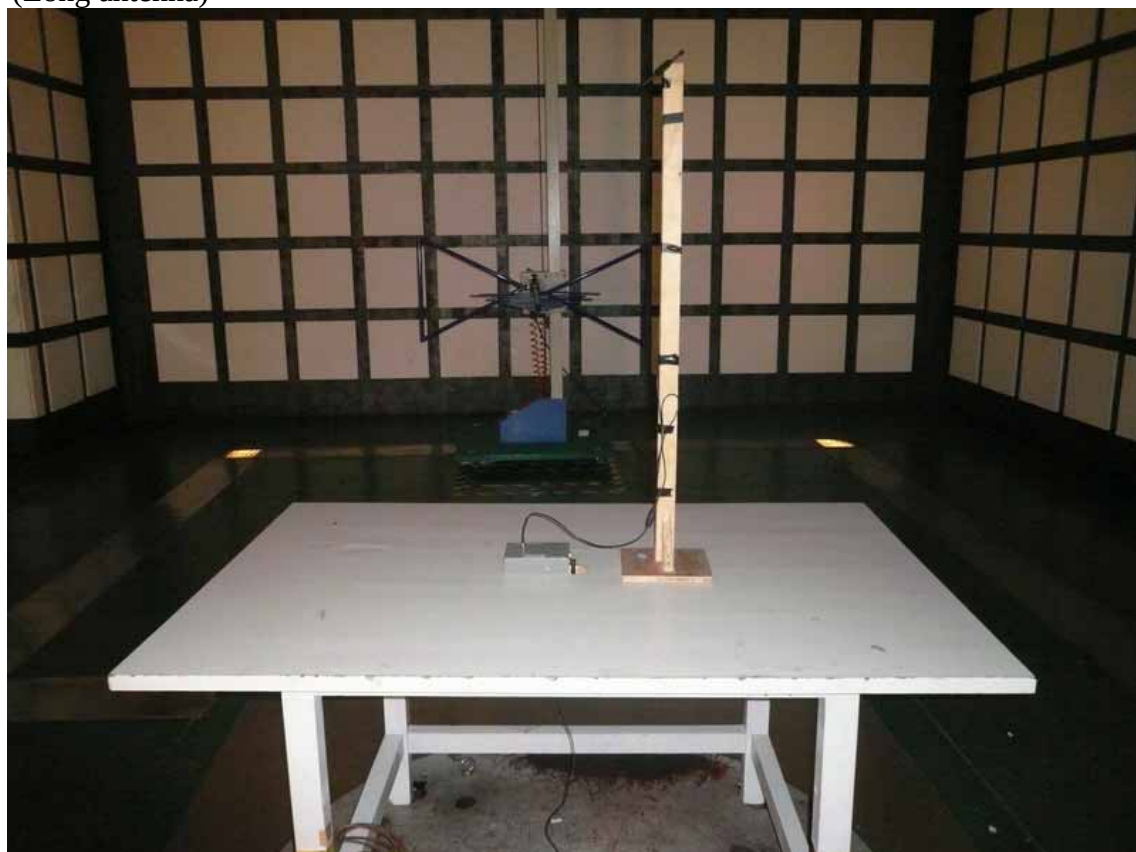
7.2.Photos of Radiated Emission Test (In Anechoic Chamber)

(30~1000MHz)

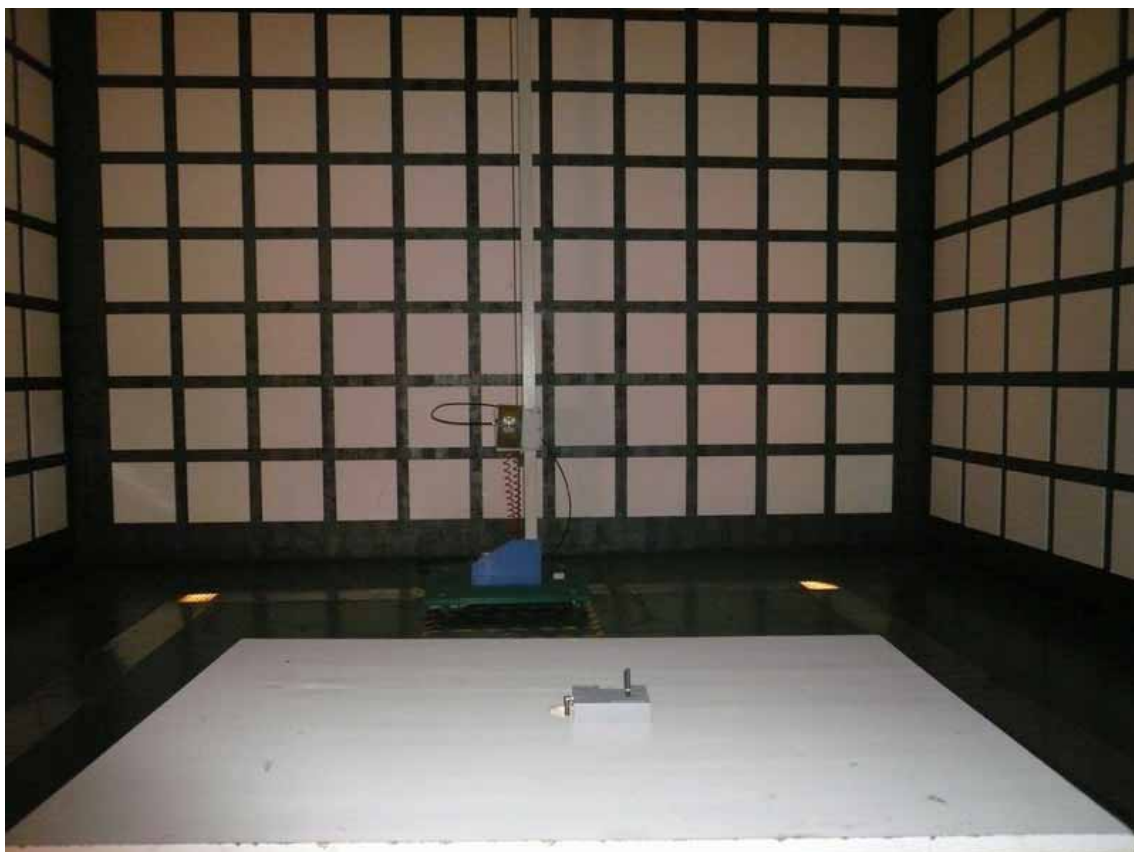
(Short antenna)



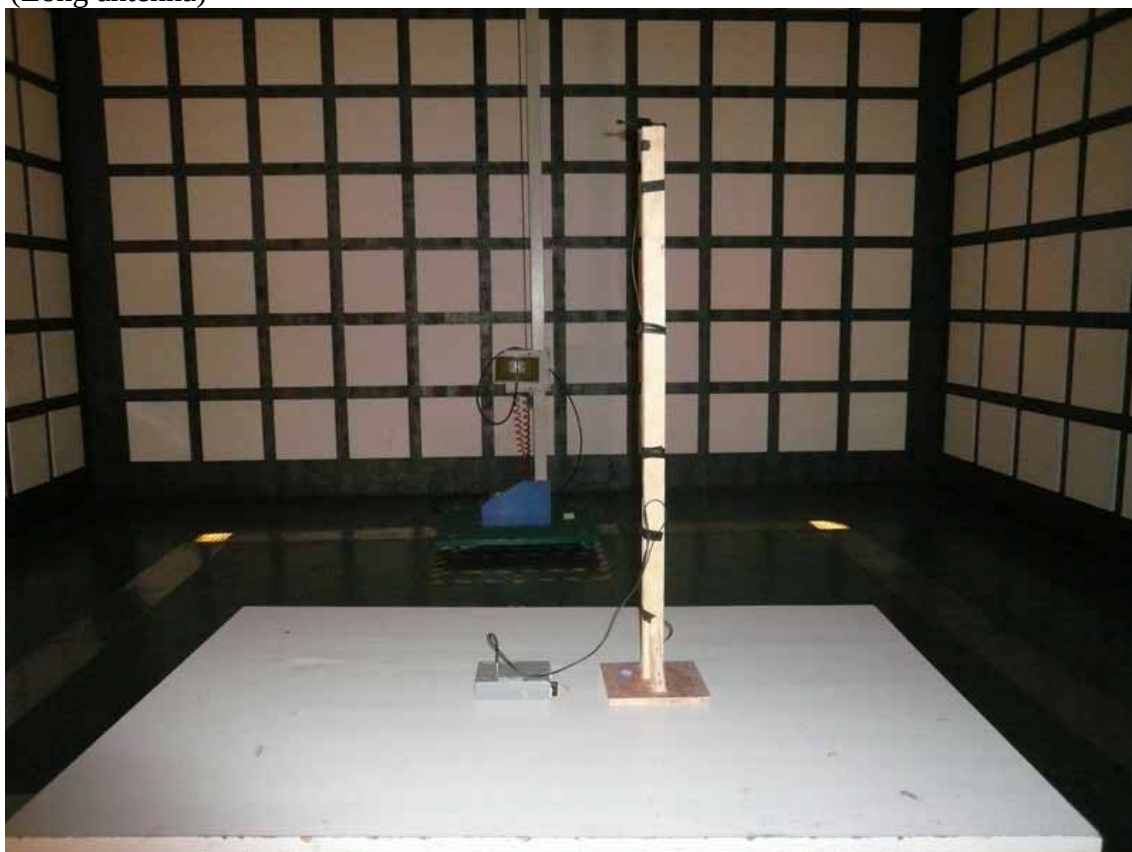
(Long antenna)



Above 1GHz
(Short antenna)



(Long antenna)



8. PHOTOGRAPH OF EUT

Figure 1
General Appearance of the EUT



Figure 2
General Appearance of the EUT



Figure 3
General Appearance of the EUT



Figure 4
General Appearance of the EUT



Figure 5
General Appearance of the EUT



Figure 6
Inside of the EUT



Figure 7
Inside of the EUT



Figure 8
Inside of the EUT



Figure 9
Inside of the EUT

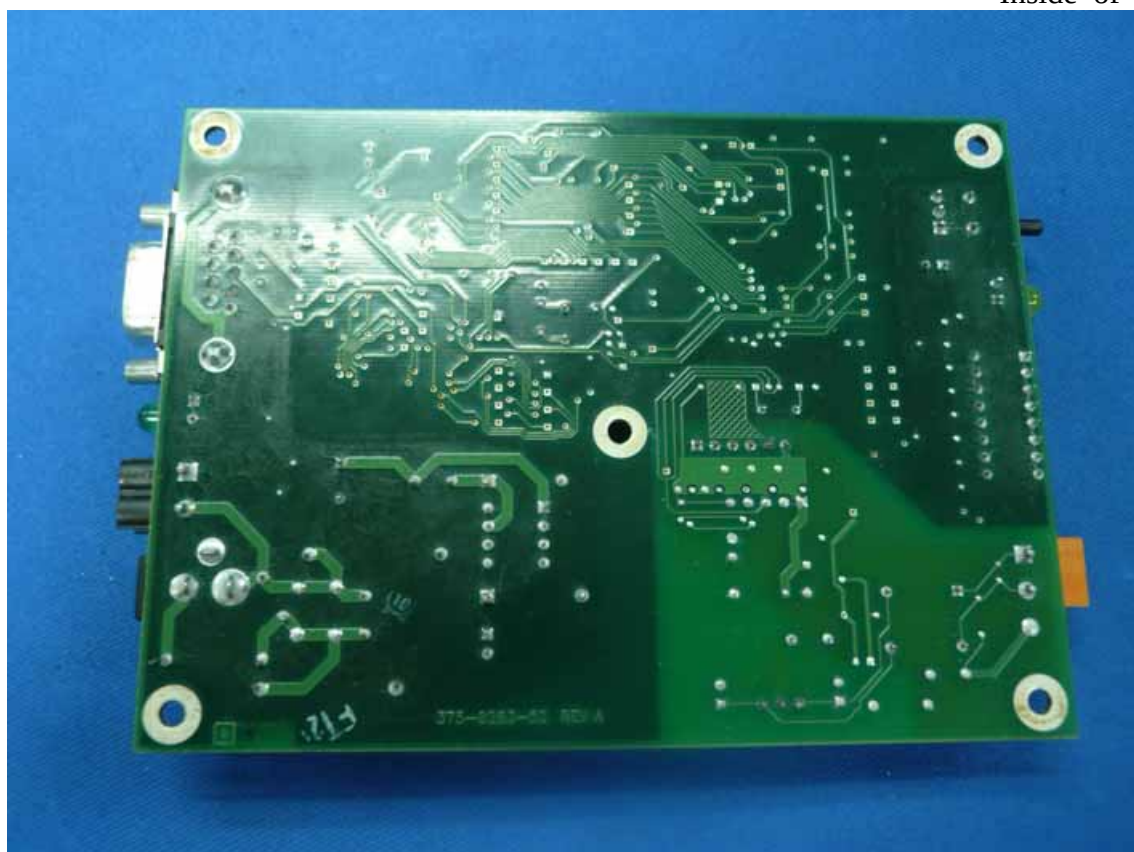


Figure 10
Inside of the EUT

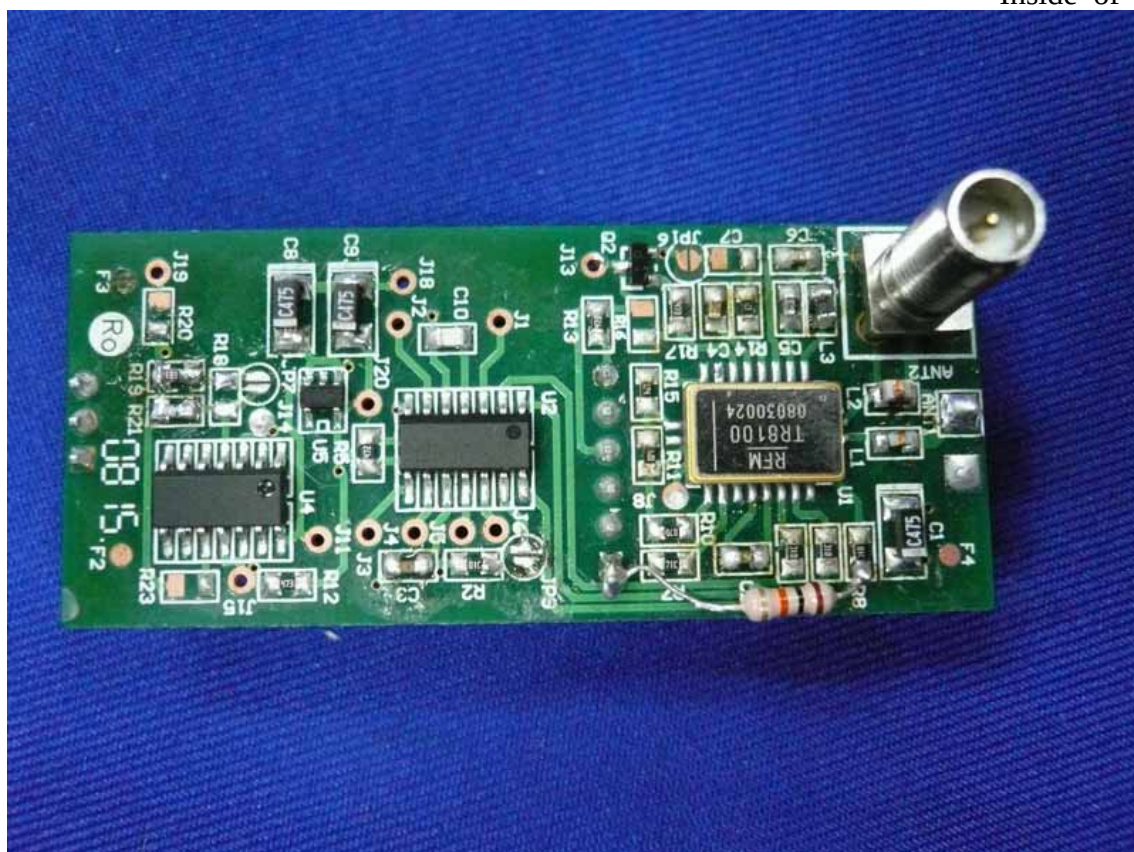


Figure 11
Inside of the EUT

