

FCC REPORT

Applicant: Shenzhen Lingdu Auto Electronics Co., Ltd

Address of Applicant: 1801-1808 Haiyun Building, No. 468 Minzhi Avenue, Longhua,
Shenzhen, Guangdong, China

Equipment Under Test (EUT)

Product Name: GS63E

Model No.: GS63E, GS63T, GS63S

FCC ID: 2ASWV-GS63E-W1

Applicable standards: FCC CFR Title 47 Part 15 Subpart B

Date of sample receipt: 11 Apr., 2019

Date of Test: 11 Apr., to 31 Jul., 2019

Date of report issued: 01 Aug., 2019

Test Result: PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

Version No.	Date	Description
00	01 Aug., 2019	Original

Tested by:

Carey Chen

Date:

01 Aug., 2019

Test Engineer

Reviewed by:

Wimer Zhang

Date:

01 Aug., 2019

Project Engineer

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4 Test Summary

Test Item	Section in CFR 47	Result
Conducted Emission	Part 15.107	Pass
Radiated Emission	Part 15.109	Pass
All measurement data were performed in accordance with ANSI C63.4:2014 of test method.		
<i>Remark:</i> 1. Pass: The EUT complies with the essential requirements in the standard. 2. N/A: The EUT not applicable of the test item.		

5 General Information

5.1 Client Information

Applicant:	Shenzhen Lingdu Auto Electronics Co., Ltd
Address:	1801-1808 Haiyun Building, No. 468 Minzhi Avenue, Longhua, Shenzhen, Guangdong, China
Manufacturer:	Shenzhen Lingdu Auto Electronics Co., Ltd
Address:	1801-1808 Haiyun Building, No. 468 Minzhi Avenue, Longhua, Shenzhen, Guangdong, China
Factory:	Dongguan KAKA Electronic Technology Co., Ltd
Address:	No.395, Huanshi East Road, Shitanpu, Tangxia Town, Dongguan, Guangdong, China

5.2 General Description of E.U.T.

Product Name:	GS63E
Model No.:	GS63E, GS63T, GS63S
Power supply:	Rechargeable Li-ion Battery DC3.7V-250mAh
DC adapter :	Model: HC-801 Input: DC 12-24V, 0.15A Output: DC 5.0V, 2.5A
Test Sample Condition:	The test samples were provided in good working order with no visible defects.
Remarks:	Model No.: GS63E, GS63T, GS63S were identical inside, the electrical circuit design, layout, components used and internal wiring, with Only the shell is a little different.

5.3 Test Mode

Conducted emission:	
PC mode	Keep the EUT in Downloading mode
Radiated emission:	
Charging+Recording mode	Keep the EUT in Charging+Recording(HDMI Output) mode
Charging+Playing mode	Keep the EUT in Charging+Playing(HDMI Output) mode
GPS mode	Keep the EUT in GPS receiver mode
The sample was placed 0.8m above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.	

5.4 Measurement Uncertainty

Parameters	Expanded Uncertainty
Conducted Emission (9kHz ~ 30MHz)	±1.60 dB (k=2)
Radiated Emission (9kHz ~ 30MHz)	±3.12 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	±4.54 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	±5.84 dB (k=2)
Radiated Emission (18GHz ~ 40GHz)	±3.36 dB (k=2)

5.5 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
Skyworth	Color LCD TV	24E12HR	K026709	N/A
GS Japan	Lead-acid battery	55D26R-MFZ	8362810610	N/A
DELL	PC	OPTIPLEX745	N/A	DoC
DELL	MONITOR	E178FPC	N/A	DoC
DELL	KEYBOARD	SK-8115	N/A	DoC
DELL	MOUSE	MOC5UO	N/A	DoC
LENOVO	Laptop	SL510	2847A65	DoC

5.6 Related Submittal(s) / Grant (s)

This is an original grant, no related submittals and grants.

5.7 Description of Cable Used

Cable Type	Description	Length	From	To
Detached USB Cable	Shielding	1.0m	EUT	PC
Non-separating USB Cable	Unshielded	3.5m	EUT	Car charger

5.8 Laboratory Facility

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

- **FCC - Designation No.: CN1211**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L6048**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/4346-01.pdf>

5.9 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
Address: No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,
Bao'an District, Shenzhen, Guangdong, China
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info@ccis-cb.com, Website: <http://www.ccis-cb.com>

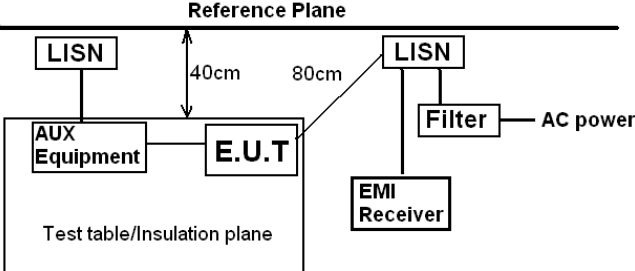
5.10 Test Instruments list

Radiated Emission:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	SAEMC	9m*6m*6m	966	07-22-2017	07-21-2020
Loop Antenna	SCHWARZBECK	FMZB1519B	00044	03-18-2019	03-17-2020
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-18-2019	03-17-2020
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-18-2019	03-17-2020
Horn Antenna	SCHWARZBECK	BBHA9120D	1805	06-22-2017	06-21-2020
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	11-21-2018	11-20-2019
EMI Test Software	AUDIX	E3	Version: 6.110919b		
Pre-amplifier	HP	8447D	2944A09358	03-18-2019	03-17-2020
Pre-amplifier	CD	PAP-1G18	11804	03-18-2019	03-17-2020
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-18-2019	03-17-2020
Spectrum analyzer	Rohde & Schwarz	FSP40	100363	11-21-2018	11-20-2019
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-18-2019	03-17-2020
Cable	ZDECL	Z108-NJ-NJ-81	1608458	03-18-2019	03-17-2020
Cable	MICRO-COAX	MFR64639	K10742-5	03-18-2019	03-17-2020
Cable	SUHNER	SUCOFLEX100	58193/4PE	03-18-2019	03-17-2020

Conducted Emission:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
EMI Test Receiver	Rohde & Schwarz	ESCI	101189	03-18-2019	03-17-2020
Pulse Limiter	SCHWARZBECK	OSRAM 2306	9731	03-18-2019	03-17-2020
LISN	CHASE	MN2050D	1447	03-18-2019	03-17-2020
LISN	Rohde & Schwarz	ESH3-Z5	8438621/010	07-21-2018	07-20-2021
Cable	HP	10503A	N/A	03-18-2019	03-17-2020
EMI Test Software	AUDIX	E3	Version: 6.110919b		

6 Test results and Measurement Data

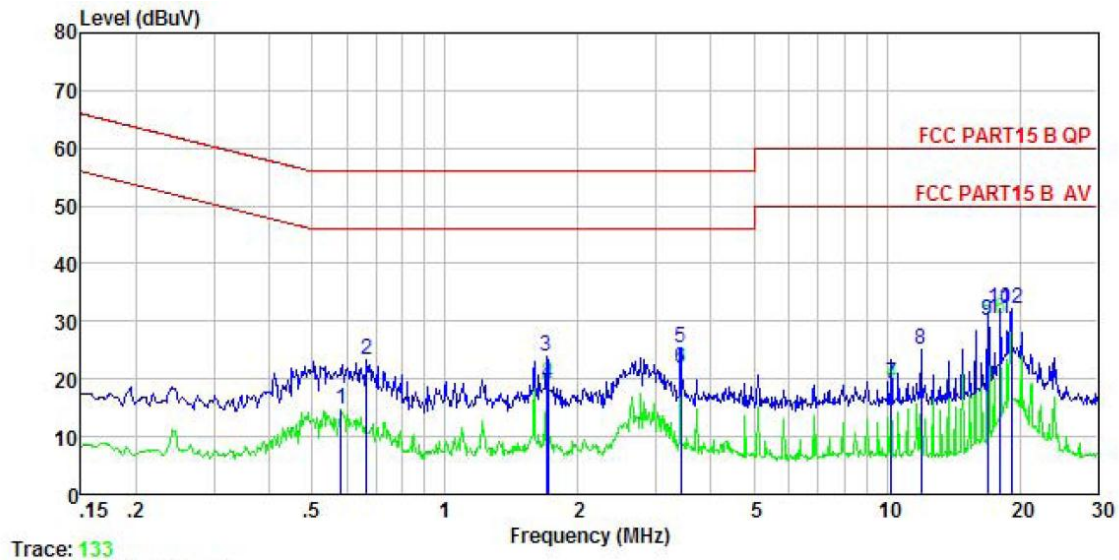
6.1 Conducted Emission

Test Requirement:	FCC Part 15 B Section 15.107		
Test Frequency Range:	150kHz to 30MHz		
Class / Severity:	Class B		
Receiver setup:	RBW=9kHz, VBW=30kHz		
Limit:	Frequency range (MHz)	Limit (dBμV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	0.5-30	60	50
* Decreases with the logarithm of the frequency.			
Test setup:	 Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m		
Test procedure	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.		
Test Instruments:	Refer to section 5.9 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	PASS		

Model No: GS63E, GS63T, GS63S were tested, of which GS63E was the worst, Will only put the worst case in the report.

Measurement data:

Product name:	GS63E	Product model:	GS63E
Test by:	Carey	Test mode:	PC mode
Test frequency:	150 kHz ~ 30 MHz	Phase:	Line
Test voltage:	AC 120 V/60 Hz	Environment:	Temp: 22.5℃ Humi: 55%

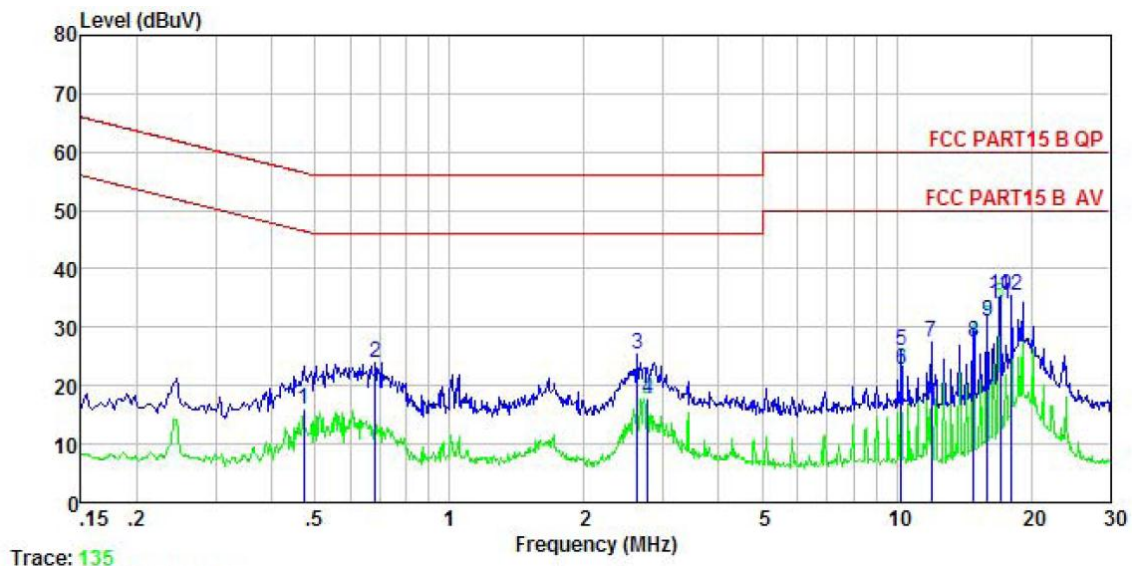


	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.582	4.46	-0.39	10.76	14.83	46.00	-31.17	Average
2	0.665	12.98	-0.38	10.77	23.37	56.00	-32.63	QP
3	1.698	13.31	-0.40	10.94	23.85	56.00	-32.15	QP
4	1.707	8.70	-0.40	10.94	19.24	46.00	-26.76	Average
5	3.417	14.94	-0.45	10.91	25.40	56.00	-30.60	QP
6	3.417	11.41	-0.45	10.91	21.87	46.00	-24.13	Average
7	10.233	8.87	-0.61	10.94	19.20	50.00	-30.80	Average
8	11.933	14.78	-0.64	10.92	25.06	60.00	-34.94	QP
9	16.928	19.92	-0.80	10.91	30.03	50.00	-19.97	Average
10	18.039	21.98	-0.87	10.92	32.03	60.00	-27.97	QP
11	18.039	20.38	-0.87	10.92	30.43	50.00	-19.57	Average
12	19.122	22.13	-0.92	10.92	32.13	60.00	-27.87	QP

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss.

Product name:	GS63E	Product model:	GS63E
Test by:	Carey	Test mode:	PC mode
Test frequency:	150 kHz ~ 30 MHz	Phase:	Neutral
Test voltage:	AC 120 V/60 Hz	Environment:	Temp: 22.5°C Humi: 55%

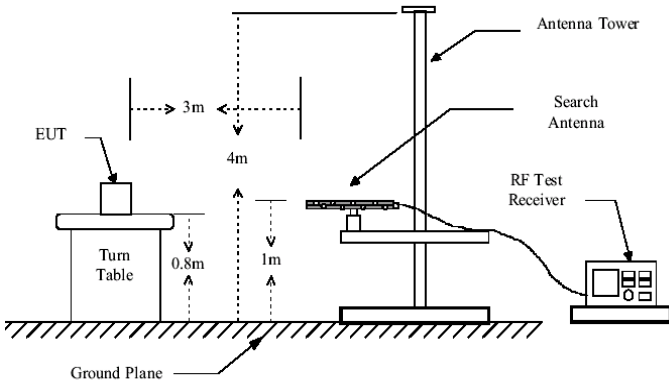
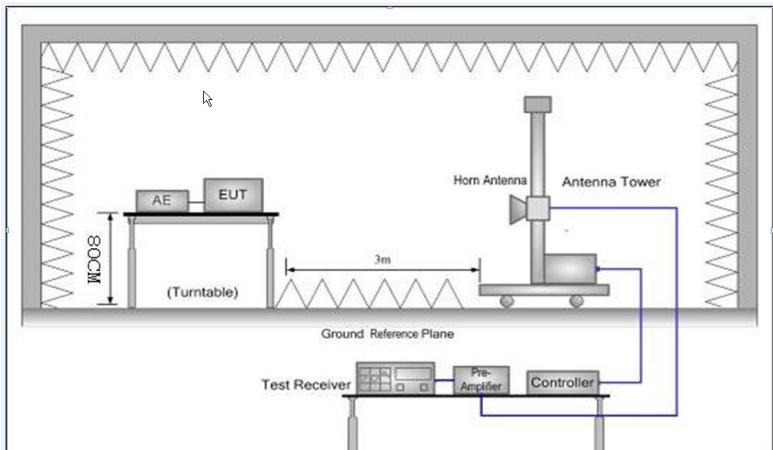


	Freq	Read	LISN	Cable	Level	Limit	Over	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.471	5.80	-0.65	10.75	15.90	46.49	-30.59	Average
2	0.683	13.85	-0.64	10.77	23.98	56.00	-32.02	QP
3	2.636	15.24	-0.67	10.93	25.50	56.00	-30.50	QP
4	2.779	7.59	-0.67	10.93	17.85	46.00	-28.15	Average
5	10.233	15.95	-0.79	10.94	26.10	60.00	-33.90	QP
6	10.233	12.69	-0.79	10.94	22.84	50.00	-27.16	Average
7	11.933	17.44	-0.80	10.92	27.56	60.00	-32.44	QP
8	14.828	17.44	-0.81	10.90	27.53	50.00	-22.47	Average
9	15.970	21.05	-0.94	10.91	31.02	50.00	-18.98	Average
10	17.018	25.53	-1.07	10.91	35.37	60.00	-24.63	QP
11	17.018	24.09	-1.07	10.91	33.93	50.00	-16.07	Average
12	18.039	25.69	-1.19	10.92	35.42	60.00	-24.58	QP

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss.

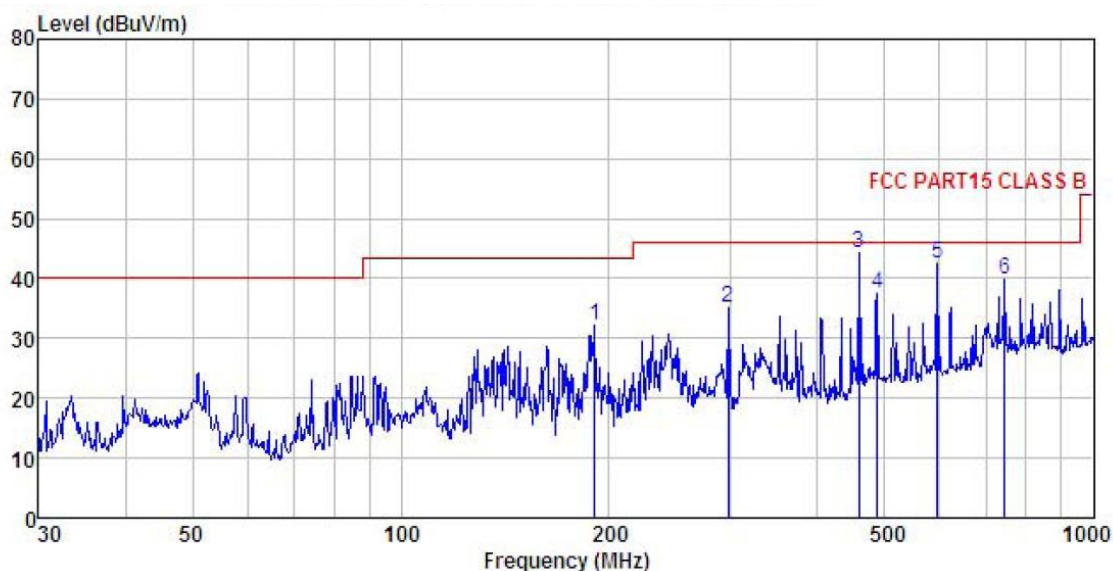
6.2 Radiated Emission

Test Requirement:	FCC Part 15 B Section 15.109				
Test Frequency Range:	30MHz to 25000MHz				
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		RMS	1MHz	3MHz	Average Value
Limit:	Frequency		Limit (dBuV/m @3m)		Remark
	30MHz-88MHz		40.0		Quasi-peak Value
	88MHz-216MHz		43.5		Quasi-peak Value
	216MHz-960MHz		46.0		Quasi-peak Value
	960MHz-1GHz		54.0		Quasi-peak Value
	Above 1GHz		54.0		Average Value
			74.0	Peak Value	
Test setup:	Below 1GHz				
					
Test setup:	Above 1GHz				
					

Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters 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. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	All of the observed value above 6GHz were the noise floor , which were no recorded , only worse case is reported

DC 12V:

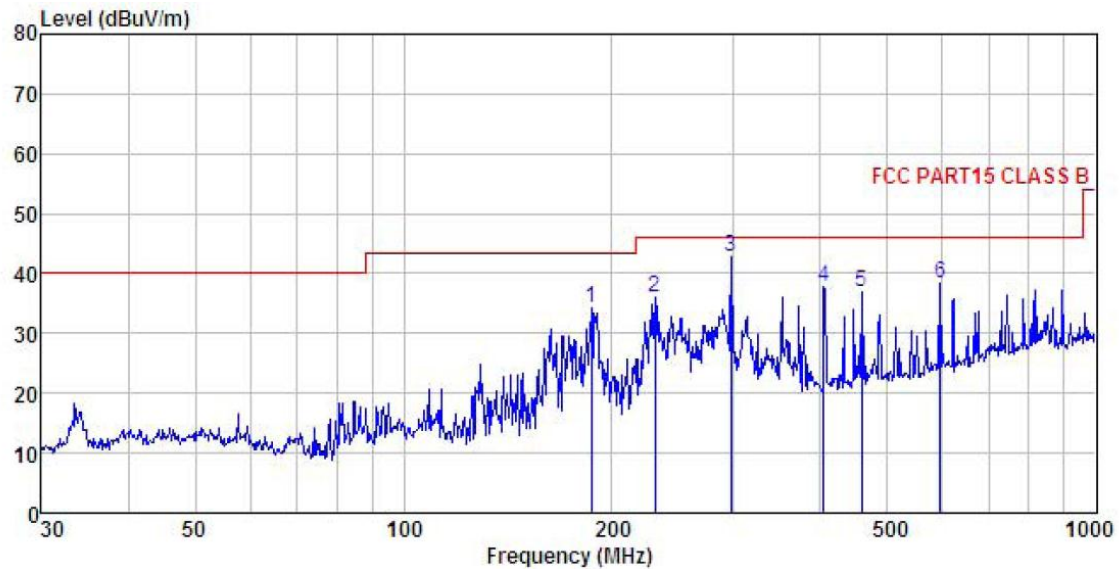
Product Name:	GS63E	Product model:	GS63E
Test By:	Carey	Test mode:	Charging&Recording mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Vertical
Test Voltage:	DC 12V	Environment:	Temp: 24℃ Huni: 57%



	Freq	Read Level	Antenna Factor	Cable Loss	Preamplifier Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	190.405	48.11	10.30	2.80	28.90	32.31	43.50	-11.19	QP
2	297.224	47.23	13.56	2.93	28.46	35.26	46.00	-10.74	QP
3	459.114	52.95	16.84	3.27	28.89	44.17	46.00	-1.83	QP
4	487.315	45.20	17.79	3.51	28.93	37.57	46.00	-8.43	QP
5	595.133	48.02	19.39	3.94	28.95	42.40	46.00	-3.60	QP
6	744.866	43.34	20.59	4.34	28.50	39.77	46.00	-6.23	QP

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Product Name:	GS63E	Product model:	GS63E
Test By:	Carey	Test mode:	Charging&Recording mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Horizontal
Test Voltage:	DC 12V	Environment:	Temp: 24℃ Humi: 57%



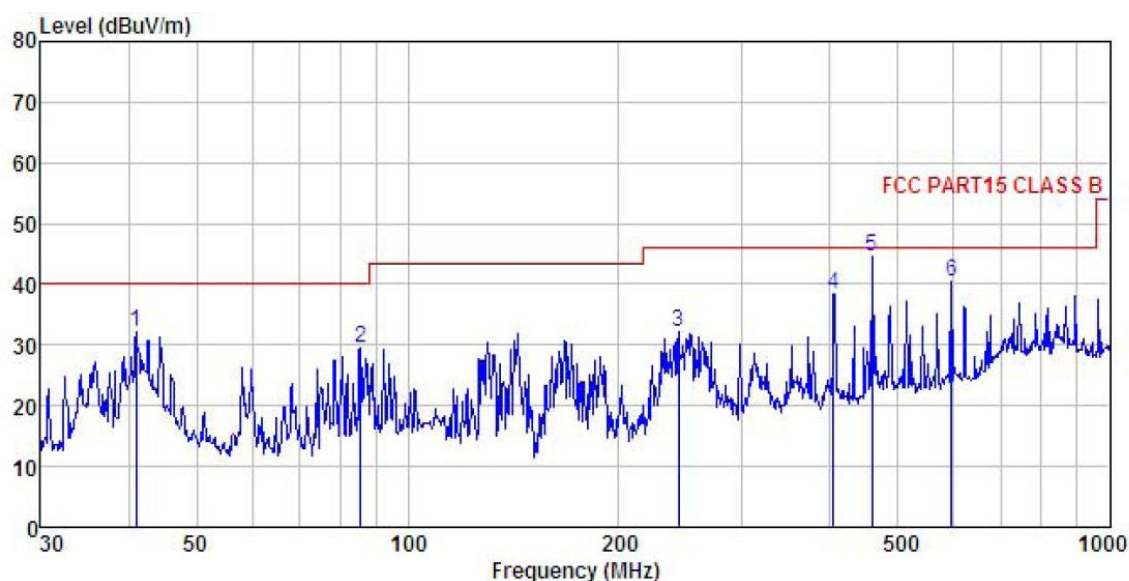
	ReadAntenna	Cable Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Level
MHz	dBuV	dB/m	dB	dB	dBuV/m
1	186.441	50.09	10.18	2.77	28.93
2	230.907	49.82	11.95	2.83	28.64
3	297.224	54.65	13.56	2.93	28.46
4	404.667	48.01	15.43	3.09	28.79
5	459.114	45.79	16.84	3.27	28.89
6	595.133	44.07	19.39	3.94	28.95

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

DC 24V:

Product Name:	GS63E	Product model:	GS63E
Test By:	Carey	Test mode:	Charging&Recording mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Vertical
Test Voltage:	DC 24V	Environment:	Temp: 24℃ Humi: 57%

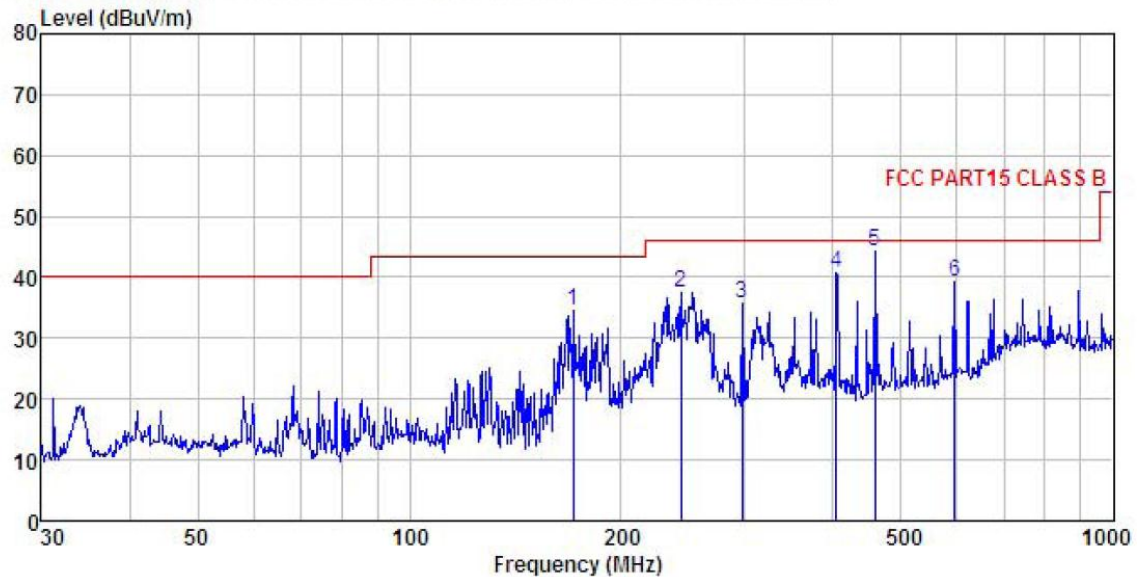


	ReadAntenna	Cable Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Level
-----	-----	-----	-----	-----	-----
MHz	dBuV	dB/m	dB	dB	dBuV/m
1	40.988	48.47	12.38	1.22	29.89
2	85.598	48.41	8.89	1.87	29.60
3	243.377	45.48	12.42	2.82	28.58
4	404.667	48.75	15.43	3.09	28.79
5	459.114	53.41	16.84	3.27	28.89
6	595.133	46.07	19.39	3.94	28.95

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	GS63E	Product model:	GS63E
Test By:	Carey	Test mode:	Charging&Recording mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Horizontal
Test Voltage:	DC 24V	Environment:	Temp: 24℃ Humi: 57%



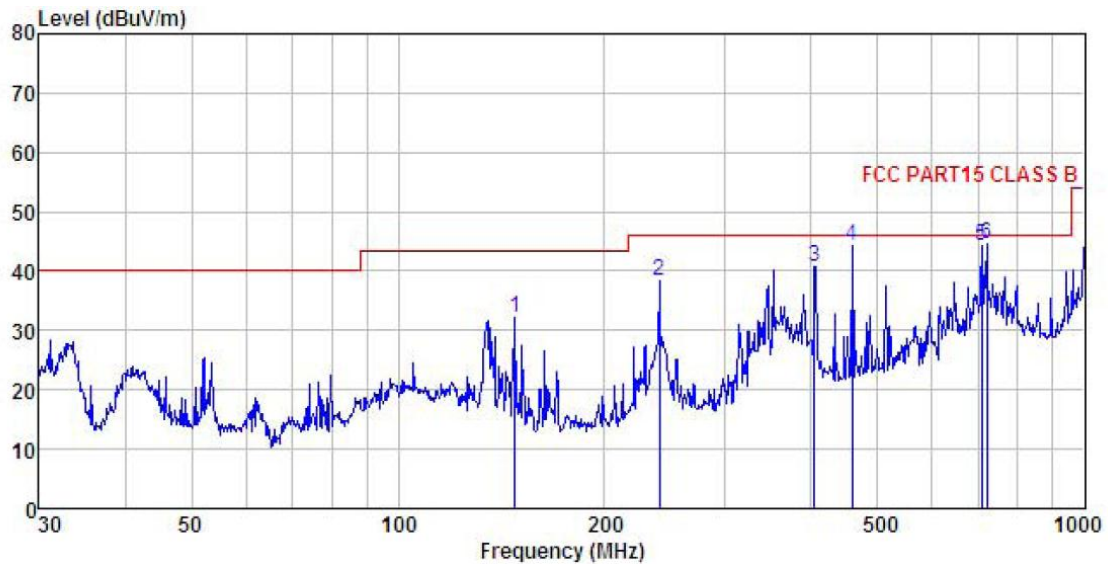
	ReadAntenna	Cable Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Level
MHz	dBuV	dB/m	dB	dB	dBuV/m
1	170.793	51.20	9.66	2.66	29.04
2	243.377	50.75	12.42	2.82	28.58
3	297.224	47.78	13.56	2.93	28.46
4	404.667	50.99	15.43	3.09	28.79
5	459.114	53.00	16.84	3.27	28.89
6	595.133	44.78	19.39	3.94	28.95

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

For AC:

Product Name:	GS63E	Product model:	GS63E
Test By:	Carey	Test mode:	PC mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Humi: 57%

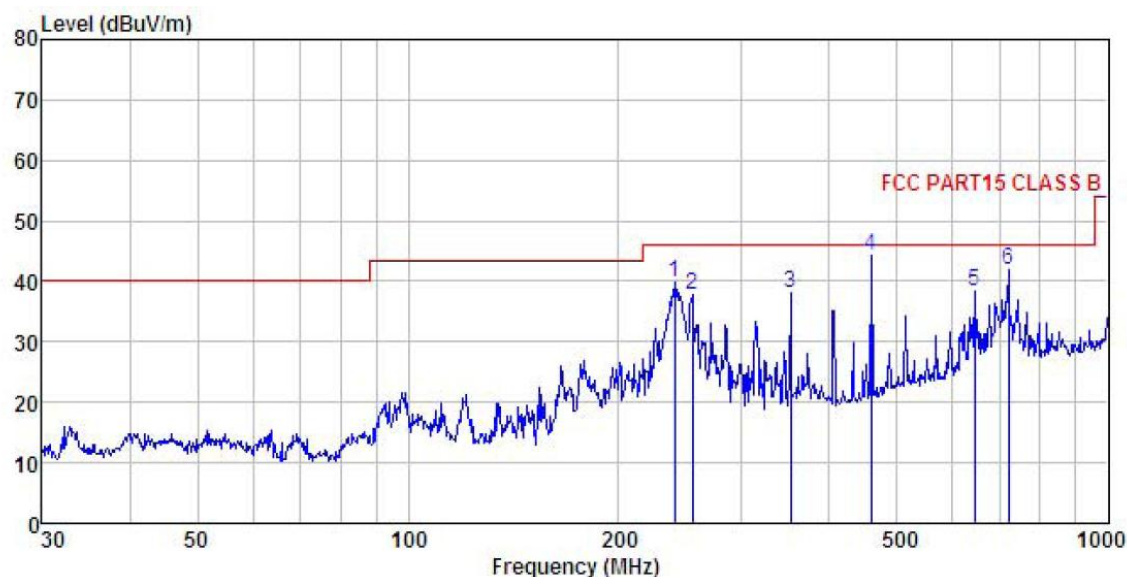


	Freq	ReadAntenna	Cable Preamp	Limit	Over	
	Level	Factor	Loss	Factor	Level	Limit
	MHz	dBuV	dB/m	dB	dB	dBuV/m
1	147.921	49.93	9.01	2.50	29.23	32.21
2	239.987	51.86	12.30	2.82	28.59	38.39
3	404.667	51.13	15.43	3.09	28.79	40.86
4	459.114	53.13	16.84	3.27	28.89	44.35
5	709.182	48.20	20.44	4.21	28.63	44.22
6	721.726	48.37	20.49	4.26	28.58	44.54

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	GS63E	Product model:	GS63E
Test By:	Carey	Test mode:	PC mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Humi: 57%



	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	239.987	53.20	12.30	2.82	28.59	39.73	46.00	-6.27	QP
2	254.728	50.73	12.78	2.82	28.53	37.80	46.00	-8.20	QP
3	351.708	48.81	14.62	3.10	28.57	37.96	46.00	-8.04	QP
4	459.114	52.99	16.84	3.27	28.89	44.21	46.00	-1.79	QP
5	645.120	43.57	19.69	3.87	28.79	38.34	46.00	-7.66	QP
6	721.726	45.78	20.49	4.26	28.58	41.95	46.00	-4.05	QP

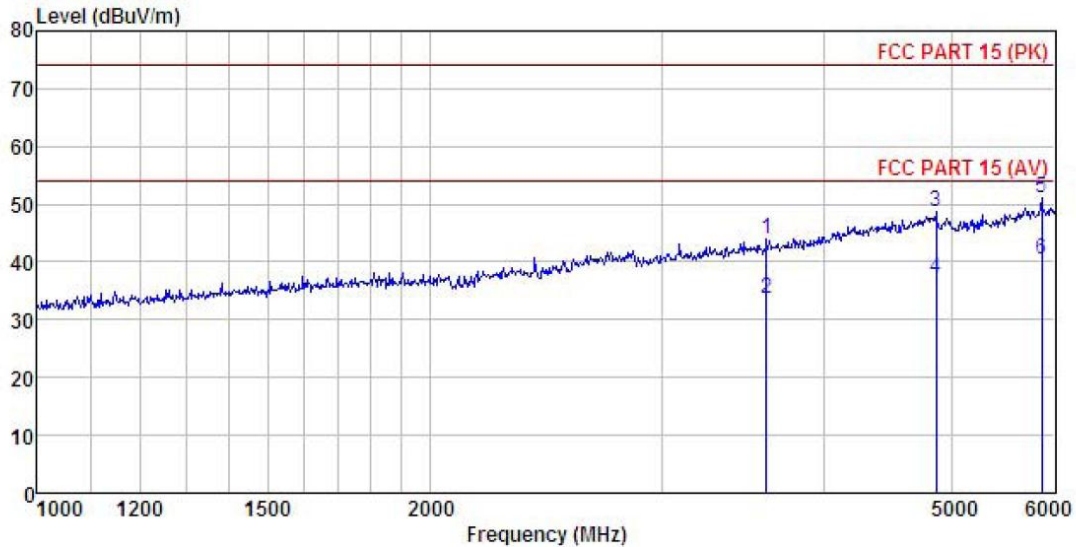
Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Above 1GHz:

For DC 12V:

Product Name:	GS63E	Product model:	GS63E
Test By:	Carey	Test mode:	Charging&Recording mode
Test Frequency:	1 GHz ~ 6 GHz	Polarization:	Vertical
Test Voltage:	DC 12V	Environment:	Temp: 24℃ Humi: 57%

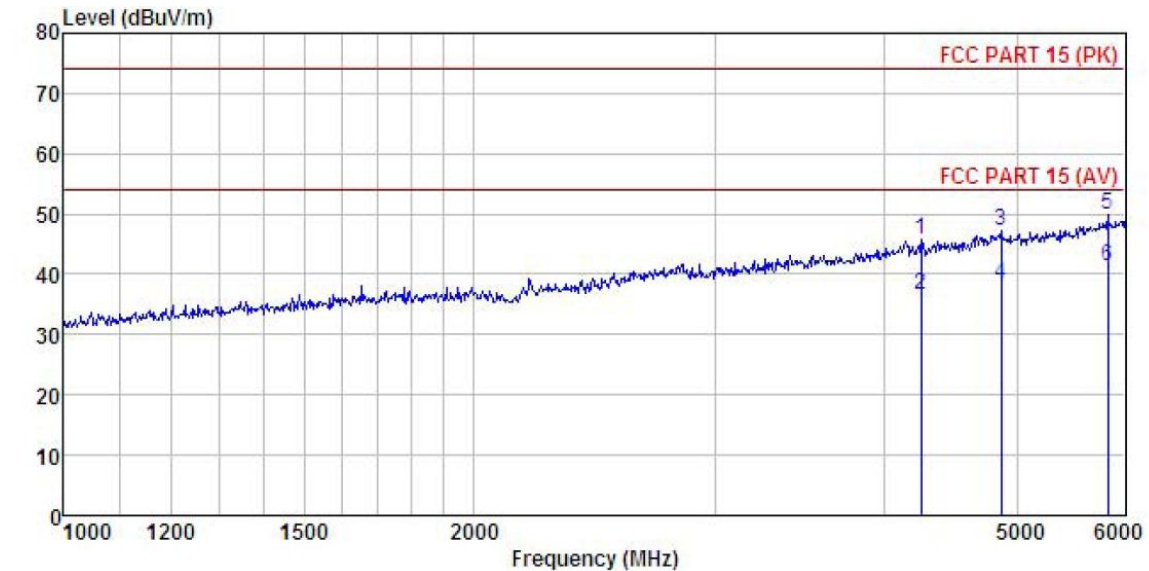


	Freq	ReadAntenna	Cable Preamp			Limit	Over		
		Level	Factor	Loss	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	3612.141	48.17	29.21	5.90	41.55	43.93	74.00	-30.07	Peak
2	3612.141	37.77	29.21	5.90	41.55	33.53	54.00	-20.47	Average
3	4864.797	49.57	31.69	6.84	41.83	48.74	74.00	-25.26	Peak
4	4864.797	38.14	31.69	6.84	41.83	37.31	54.00	-16.69	Average
5	5864.002	49.29	33.06	7.90	42.03	50.98	74.00	-23.02	Peak
6	5864.002	38.87	33.06	7.90	42.03	40.56	54.00	-13.44	Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	GS63E	Product model:	GS63E
Test By:	Carey	Test mode:	Charging&Recording mode
Test Frequency:	1 GHz ~ 6 GHz	Polarization:	Horizontal
Test Voltage:	DC 12V	Environment:	Temp: 24℃ Humi: 57%



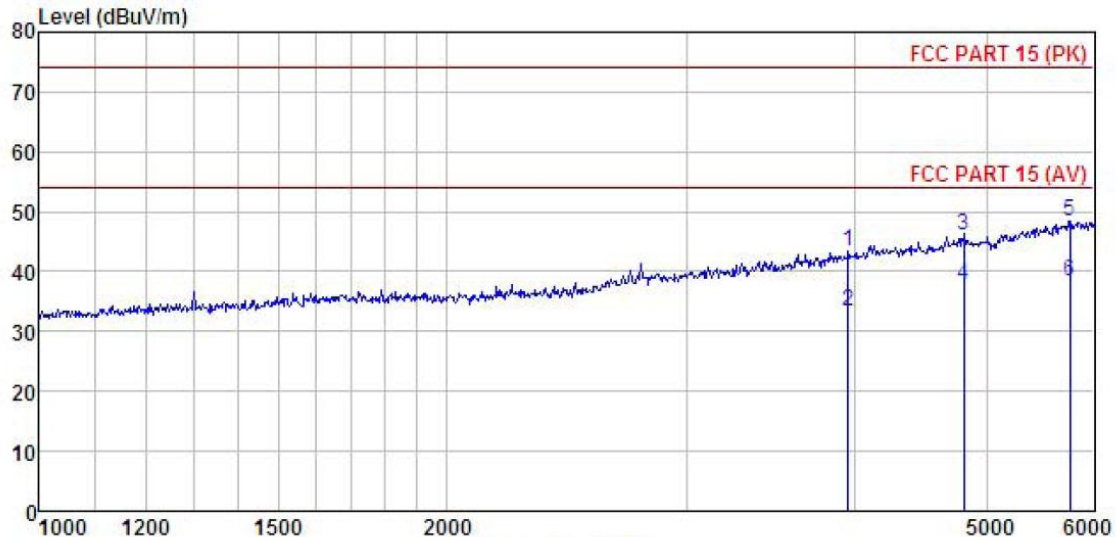
	ReadAntenna	Cable	Preamp		Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit
-----	-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	4253.563	48.29	30.67	6.48	41.85	45.87	74.00
2	4253.563	39.17	30.67	6.48	41.85	36.75	54.00
3	4864.797	48.01	31.69	6.84	41.83	47.18	74.00
4	4864.797	39.17	31.69	6.84	41.83	38.34	54.00
5	5829.869	48.34	33.00	7.90	42.03	49.96	74.00
6	5829.869	39.64	33.00	7.90	42.03	41.26	54.00

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamp Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

For DC 24V:

Product Name:	GS63E	Product model:	GS63E
Test By:	Carey	Test mode:	Charging&Recording mode
Test Frequency:	1 GHz ~ 6 GHz	Polarization:	Vertical
Test Voltage:	DC 24V	Environment:	Temp: 24℃ Humi: 57%

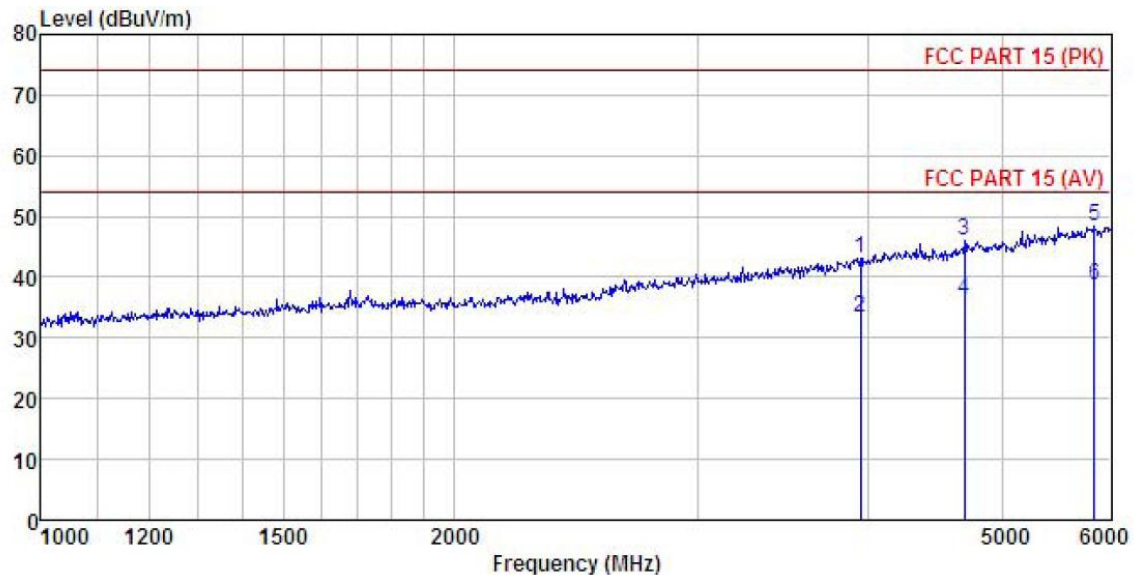


	Read	Antenna	Cable	Preamp		Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
-----	-----	-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	3950.383	46.76	30.12	6.10	41.80	43.38	74.00	-30.62 Peak
2	3950.383	36.82	30.12	6.10	41.80	33.44	54.00	-20.56 Average
3	4808.328	47.69	31.02	6.80	41.81	46.14	74.00	-27.86 Peak
4	4808.328	39.27	31.02	6.80	41.81	37.72	54.00	-16.28 Average
5	5762.199	47.26	32.65	7.79	41.98	48.45	74.00	-25.55 Peak
6	5762.199	37.28	32.65	7.79	41.98	38.47	54.00	-15.53 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	GS63E	Product model:	GS63E
Test By:	Carey	Test mode:	Charging&Recording mode
Test Frequency:	1 GHz ~ 6 GHz	Polarization:	Horizontal
Test Voltage:	DC 24V	Environment:	Temp: 24℃ Humi: 57%



	Freq	Read Level	Antenna Factor	Cable Loss	Preamplifier Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	3942.704	46.60	30.12	6.10	41.80	43.22	74.00	-30.78	Peak
2	3942.704	36.84	30.12	6.10	41.80	33.46	54.00	-20.54	Average
3	4697.350	48.02	30.81	6.85	41.99	46.10	74.00	-27.90	Peak
4	4697.350	38.25	30.81	6.85	41.99	36.33	54.00	-17.67	Average
5	5841.225	47.24	32.67	7.90	42.03	48.53	74.00	-25.47	Peak
6	5841.225	37.41	32.67	7.90	42.03	38.70	54.00	-15.30	Average

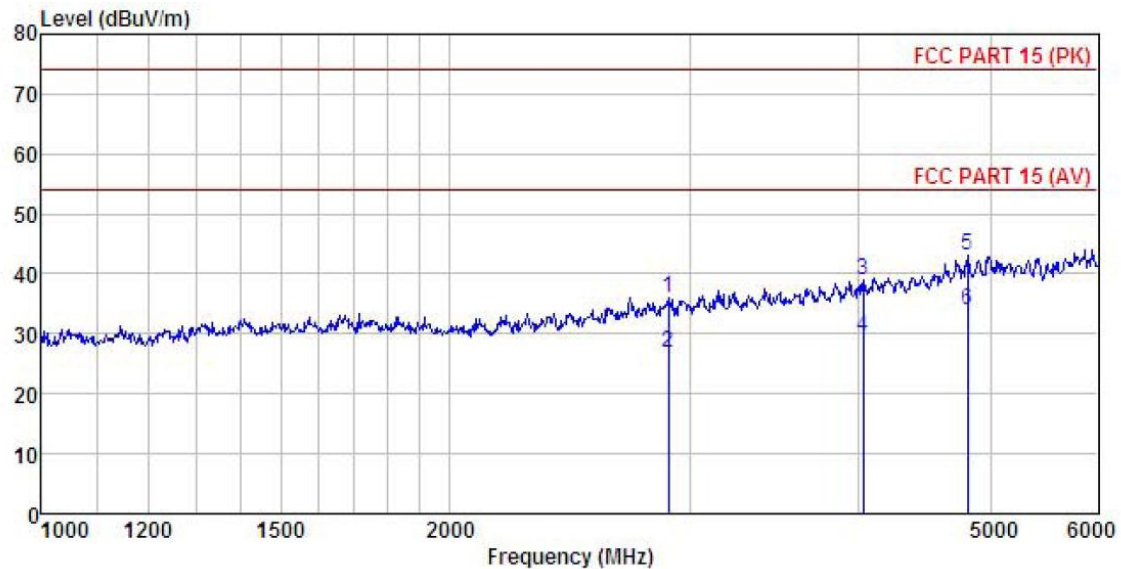
Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

For PC:

Above 1GHz:

Product Name:	GS63E	Product model:	GS63E
Test By:	Carey	Test mode:	PC mode
Test Frequency:	1 GHz ~ 6 GHz	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Humi: 57%

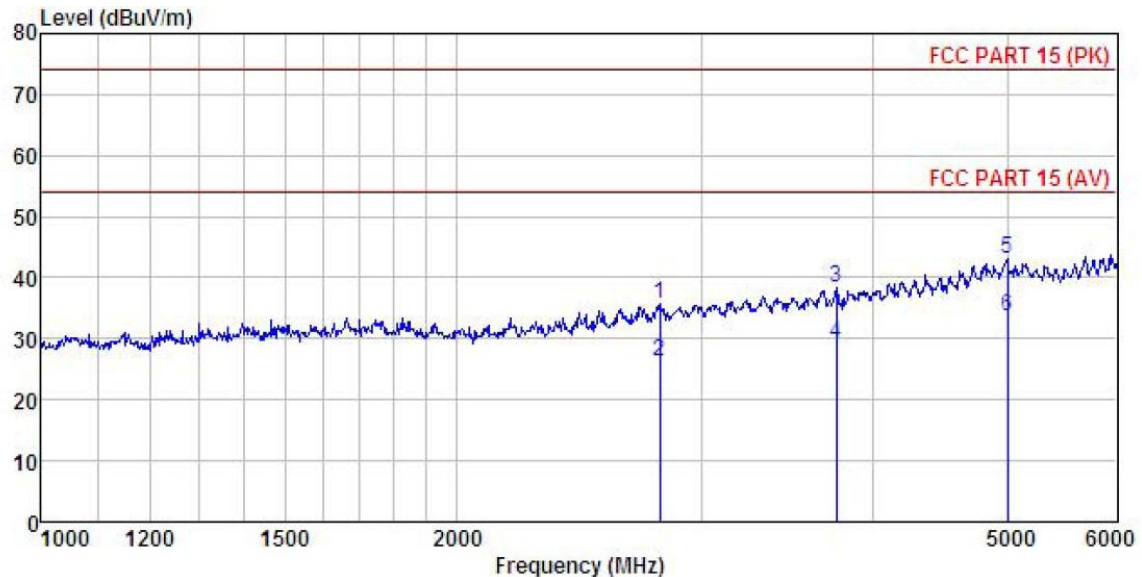


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2893.635	43.90	28.40	5.24	41.58	35.96	74.00	-38.04	Peak
2	2893.635	34.69	28.40	5.24	41.58	26.75	54.00	-27.25	Average
3	4030.897	44.50	30.26	6.15	41.81	39.10	74.00	-34.90	Peak
4	4030.897	35.04	30.26	6.15	41.81	29.64	54.00	-24.36	Average
5	4813.252	46.44	31.61	6.81	41.82	43.04	74.00	-30.96	Peak
6	4813.252	37.22	31.61	6.81	41.82	33.82	54.00	-20.18	Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	GS63E	Product model:	GS63E
Test By:	Carey	Test mode:	PC mode
Test Frequency:	1 GHz ~ 6 GHz	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Humi: 57%



	Freq	Read Level	Antenna Factor	Cable Loss	Preamplifier Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2801.799	43.91	28.23	5.13	41.66	35.61	74.00	-38.39	Peak
2	2801.799	34.53	28.23	5.13	41.66	26.23	54.00	-27.77	Average
3	3758.839	44.41	29.59	6.04	41.74	38.30	74.00	-35.70	Peak
4	3758.839	35.20	29.59	6.04	41.74	29.09	54.00	-24.91	Average
5	4997.811	46.10	31.90	6.94	41.88	43.06	74.00	-30.94	Peak
6	4997.811	36.64	31.90	6.94	41.88	33.60	54.00	-20.40	Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.