



SGS-CSTC Standards Technical Services Ltd.

No.198 Kezhu Road, Science Town Economic& Technology
Development District Guangzhou, China 510663
Telephone: +86 (0) 20 8215 5555
Fax: +86 (0) 20 8207 5059
Email: sgs_internet_operations@sgs.com

FEDERAL COMMUNICATIONS COMMISSION
Registration number: 556682

Report No.: SZEMO061102400RFI
Page: 1 of 24
FCC ID: TW5GC8102

FCC TEST REPORT

Application No. : SZEMO061102400RF
Applicant: Shenzhen Gospell Smarthome Electronic Co., Ltd.
FCC ID: TW5GC8102
Fundamental Carrier Frequency : 5.725-5.875GHz
Equipment Under Test (EUT):
Name: Wireless Camera/ wireless receiver
Item No.: Camera: GC8102
Receiver: GC7002/GC7003♣
♣ Please refer to section 2 of this report which indicates which item was actually tested and which were electrically identical.
Standards: FCC PART 15 Supart C: 2006
Date of Receipt: 20 November 2006
Date of Test: 20 to 29 November 2006
Date of Issue: 30 November 2006

Test Result :	PASS *
----------------------	---------------

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

Authorized Signature:

Robinson Lo
Laboratory Manager

This report refers to the General Conditions for Inspection and Testing Services, printed overleaf
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. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.
This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.



2 Test Summary

Test	Test Requirement	Standard Paragraph	Result
Conducted Emission	FCC PART 15 :2006	Section 15.207	PASS
Field Strength of Harmonics or other Frequency	FCC PART 15 :2006	Section 15.249 (a) Section 15.209	PASS *
Occupied Bandwidth	FCC PART 15 :2006	Section 15.249	PASS
Band Edges Measurement	FCC PART 15 :2006	Section 15.249 (d)	PASS

♣ Remark:

Camera: GC8102

Receiver: GC7002/GC7003

Only the sample in the pictures in this report was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above items, with only difference being the outer decoration.



3 Contents

	Page
1 COVER PAGE.....	1
2 TEST SUMMARY	2
3 CONTENTS	3
4 GENERAL INFORMATION	4
4.1 CLIENT INFORMATION	4
4.2 GENERAL DESCRIPTION OF E.U.T.	4
4.3 DESCRIPTION OF SUPPORT UNITS	4
4.4 STANDARDS APPLICABLE FOR TESTING.....	4
4.5 TEST LOCATION	4
4.6 OTHER INFORMATION REQUESTED BY THE CUSTOMER	4
5 TEST RESULTS	5
5.1 TEST INSTRUMENTS.....	5
5.2 E.U.T. OPERATION	5
5.3 TEST PROCEDURE & MEASUREMENT DATA	6
5.3.1 <i>Conducted Emissions</i>	6
5.3.2 <i>Radiated Emissions</i>	10
5.3.3 <i>Band Edges Measurement</i>	19
5.3.4 <i>Occupied Bandwidth</i>	21
5.3.5 <i>Antenna Requirement</i>	24



4 General Information

4.1 Client Information

Applicant Name: Shenzhen Gospell Smarthome Electronic Co., Ltd.
Applicant Address: West, 5F/Block 2, Vision(SZ) Park, South Hi-Tech park, nanshan,
Shenzhen, P.R.China

4.2 General Description of E.U.T.

Product Name: Wireless Camera/ wireless receiver
Item No.: Camera: GC8102
Receiver: GC7002/GC7003♣
Power Supply: Camera : 8.0V DC (120V 60Hz 100mA adapter)
Receiver: 8.0V DC (120V 60Hz 100mA adapter)

4.3 Description of Support Units

The EUT was tested as an independent unit.

4.4 Standards Applicable for Testing

The customer requested FCC tests for Wireless Camera/ wireless receiver.
The standard used was FCC PART 15, SUBPART C (2006) section 15.249.

4.5 Test Location

All tests were performed at:-

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory, No.198 Kezhu Road, Science Town Economic& Technology Development District Guangzhou, China 510663

Tel: +86 20 8215 5555 Fax: +86 20 8207 5059

4.6 Other Information Requested by the Customer

None.



5 Test Results

5.1 Test Instruments

Item	Test Equipment	Manufacturer	Serial No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	SEL0017	28-04-2005	27-04-2007
2	EMI Test Receiver	Rohde & Schwarz	100249	22-09-2006	21-09-2007
3	EMI Test Receiver	Agilent	8565E	22-09-2006	21-09-2007
4	EMI Test software	AUDIX	E3	N/A	N/A
5	Coaxial cable	SGS	SEL0028	20-05-2006	19-05-2007
6	BiConiLog Antenna	ETS-LINDGREN	00042673	03-03-2006	02-03-2007
7	Pre-amplifier	Agilent Technologies	2944A10861	26-08-2006	25-08-2007
8	Double-ridged horn	ETS-LINDGREN	00035926	30-12-2004	29-12-2006
9	Pre-amplifier	Rohde & Schwarz	1091457	29-07-2005	28-07-2007
9	Cable	MCE Mobile Communications	249439	20-05-2006	19-05-2007
10	Shielding Room	ZhongYu Electron	SEL0042	N/A	N/A
11	LISN	ETS-LINDGREN	00033512	19-09-2006	18-09-2007
12	EMI Test Receiver	Rohde & Schwarz	100119	03-03-2006	02-03-2007
13	Coaxial Cable	SGS	SEL0024	20-05-2006	19-05-2007

5.2 E.U.T. Operation

Input voltage: Carema: 8.0V DC(120V 60Hz 100mA adapter)
Operating Environment:
Temperature: 24.0 °C
Humidity: 52 % RH
Atmospheric Pressure: 1015 mbar
EUT Operation: Test in transmitting mode:



5.3 Test Procedure & Measurement Data

5.3.1 Conducted Emissions

Test Requirement: FCC Part15 B
Test Method: ANSI C63.4
Test Date: 27 November 2006
Frequency Range: 150KHz to 30MHz
Class / Severity: Class B
Detector: Peak for pre-scan (9kHz Resolution Bandwidth)
Operating Environment:
 Temperature: 24.0 °C Humidity: 52 % RH Atmospheric Pressure: 1015 mbar
EUT Operation: Test in normal mode. For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage.

5.3.1.1 Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

The following Quasi-Peak and Average measurements were performed on the EUT.:



SGS-CSTC Standards Technical Services Co., Ltd.

Report No.: SZEMO061102400RFI

Page: 7 of 24

Camera:

Channel 1

Line.

Frequency (MHz)	Cable Loss (dB)	LISN Factor (dB)	Read Level (dBuV)	Level (dBuV)	Limit Line (dBuV)	Over Limit (dB)	Remark
0.154	-0.01	-0.05	33.95	33.89	65.78	-31.89	QP
0.154	-0.01	-0.05	10.09	10.03	55.78	-45.75	Average
0.229	-0.07	-0.04	32.53	32.42	62.49	-30.07	QP
0.229	-0.07	-0.04	5.38	5.27	52.49	-47.22	Average
0.313	0.00	-0.04	33.16	33.12	59.89	-26.77	QP
0.313	0.00	-0.04	9.25	9.21	49.89	-40.68	Average
0.675	0.00	-0.05	20.28	20.23	56.00	-35.77	QP
0.675	0.00	-0.05	1.67	1.62	46.00	-44.38	Average
0.961	0.09	-0.05	11.86	11.90	56.00	-44.10	QP
0.961	0.09	-0.05	1.29	1.33	46.00	-44.67	Average
1.473	0.10	-0.06	8.69	8.73	56.00	-47.27	QP
1.473	0.10	-0.06	0.26	0.30	46.00	-45.70	Average

Neutral.

Frequency (MHz)	Cable Loss (dB)	LISN Factor (dB)	Read Level (dBuV)	Level (dBuV)	Limit Line (dBuV)	Over Limit (dB)	Remark
0.156	-0.01	-0.05	32.92	32.86	65.67	-32.81	QP
0.156	-0.01	-0.05	11.92	11.86	55.67	-43.81	Average
0.176	-0.05	-0.04	32.58	32.49	64.67	-32.18	QP
0.176	-0.05	-0.04	8.15	8.06	54.67	-46.61	Average
0.228	-0.07	-0.04	1.68	1.57	52.52	-50.95	Average
0.228	-0.07	-0.04	29.56	29.45	62.52	-33.07	QP
0.305	0.00	-0.04	28.32	28.28	60.11	-31.83	QP
0.305	0.00	-0.04	3.59	3.55	50.11	-46.56	Average
0.449	0.00	-0.04	22.81	22.77	56.89	-34.12	QP
0.449	0.00	-0.04	2.09	2.05	46.89	-44.84	Average
0.675	0.00	-0.04	0.28	0.24	46.00	-45.76	Average
0.675	0.00	-0.04	10.16	10.12	56.00	-45.88	QP



SGS-CSTC Standards Technical Services Co., Ltd.

Report No.: SZEMO061102400RFI

Page: 8 of 24

Channel3

Line.

Frequency (MHz)	Cable Loss (dB)	LISN Factor (dB)	Read Level (dBuV)	Level (dBuV)	Limit Line (dBuV)	Over Limit (dB)	Remark
0.162	-0.03	-0.05	34.62	34.54	65.36	-30.82	QP
0.162	-0.03	-0.05	7.88	7.80	55.36	-47.56	Average
0.297	0.00	-0.04	33.65	33.61	60.33	-26.72	QP
0.297	0.00	-0.04	8.25	8.21	50.33	-42.12	Average
0.362	0.00	-0.04	32.81	32.77	58.68	-25.91	QP
0.362	0.00	-0.04	6.27	6.23	48.68	-42.45	Average
0.532	0.00	-0.04	25.58	25.54	56.00	-30.46	QP
0.532	0.00	-0.04	3.69	3.65	46.00	-42.35	Average
0.658	0.00	-0.05	5.19	5.14	46.00	-40.86	Average
0.658	0.00	-0.05	21.38	21.33	56.00	-34.67	QP
1.046	0.10	-0.05	2.31	2.36	46.00	-43.64	Average
1.046	0.10	-0.05	13.67	13.72	56.00	-42.28	QP

Neutral.

Frequency (MHz)	Cable Loss (dB)	LISN Factor (dB)	Read Level (dBuV)	Level (dBuV)	Limit Line (dBuV)	Over Limit (dB)	Remark
0.171	-0.05	-0.04	32.92	32.83	64.91	-32.08	QP
0.171	-0.05	-0.04	10.56	10.47	54.91	-44.44	Average
0.201	-0.10	-0.04	31.59	31.45	63.57	-32.12	QP
0.201	-0.10	-0.04	6.34	6.20	53.57	-47.37	Average
0.234	-0.06	-0.04	29.68	29.58	62.31	-32.73	QP
0.234	-0.06	-0.04	7.31	7.21	52.31	-45.10	Average
0.325	0.00	-0.04	27.81	27.77	59.58	-31.81	QP
0.325	0.00	-0.04	3.93	3.89	49.58	-45.69	Average
0.552	0.00	-0.04	1.67	1.63	46.00	-44.37	Average
0.552	0.00	-0.04	11.59	11.55	56.00	-44.45	QP
0.708	0.00	-0.04	11.26	11.22	56.00	-44.78	QP
0.708	0.00	-0.04	1.64	1.60	46.00	-44.40	Average



SGS-CSTC Standards Technical Services Co., Ltd.

Report No.: SZEMO061102400RFI

Page: 9 of 24

Channel 4

Line.

Frequency (MHz)	Cable Loss (dB)	LISN Factor (dB)	Read Level (dBuV)	Level (dBuV)	Limit Line (dBuV)	Over Limit (dB)	Remark
0.159	-0.02	-0.05	35.26	35.19	65.52	-30.33	QP
0.159	-0.02	-0.05	10.08	10.01	55.52	-45.51	Average
0.187	-0.08	-0.05	33.60	33.47	64.17	-30.70	QP
0.187	-0.08	-0.05	6.28	6.15	54.17	-48.02	Average
0.402	0.00	-0.04	30.28	30.24	57.81	-27.57	QP
0.402	0.00	-0.04	5.27	5.23	47.81	-42.58	Average
0.553	0.00	-0.04	25.16	25.12	56.00	-30.88	QP
0.553	0.00	-0.04	3.35	3.31	46.00	-42.69	Average
0.695	0.00	-0.05	2.46	2.41	46.00	-43.59	QP
0.695	0.00	-0.05	20.38	20.33	56.00	-35.67	Average
1.172	0.10	-0.05	0.96	1.01	46.00	-44.99	QP
1.172	0.10	-0.05	11.38	11.43	56.00	-44.57	Average

Neutral.

Frequency (MHz)	Cable Loss (dB)	LISN Factor (dB)	Read Level (dBuV)	Level (dBuV)	Limit Line (dBuV)	Over Limit (dB)	Remark
0.163	-0.03	-0.05	32.76	32.68	65.31	-32.63	QP
0.163	-0.03	-0.05	5.37	5.29	55.31	-50.02	Average
0.243	-0.05	-0.04	29.23	29.14	61.99	-32.85	QP
0.243	-0.05	-0.04	1.38	1.29	51.99	-50.70	Average
0.274	-0.02	-0.04	29.36	29.30	60.98	-31.68	QP
0.274	-0.02	-0.04	1.23	1.17	50.98	-49.81	Average
0.433	0.00	-0.04	25.07	25.03	57.19	-32.16	QP
0.433	0.00	-0.04	1.38	1.34	47.19	-45.85	Average
0.735	0.01	-0.04	1.28	1.25	46.00	-44.75	QP
0.735	0.01	-0.04	10.39	10.36	56.00	-45.64	Average
1.310	0.10	-0.05	10.37	10.42	56.00	-45.58	QP
1.310	0.10	-0.05	1.36	1.41	46.00	-44.59	Average



5.3.2 Radiated Emissions

5.3.2.1 Test in transmitting mode

Test Requirement: FCC Part15 C
Test Method: Based on FCC Part15 C Section 15.249
Test Date: 24 November 2006
Measurement Distance: 3m (Semi-Anechoic Chamber)
Frequency range: 30 MHz – 10GHz for transmitting mode.
Test instrumentation resolution bandwidth
120 kHz (30 MHz - 1000 MHz), 1 MHz (1000 M – 40GHz)
Operation: Receive antenna scan height 1 - 4 m, polarization Vertical/
Horizontal

Requirements:

Fundamental Frequency (MHz)	Field Strength of Fundamental (dBuV/m @ 3m)	Field Strength of Harmonics and Spurious Emissions (dBuV/m @ 3m)
902 to 928	94.0	54.0
2400 to 2483.5	94.0	54.0
5725 to 5875	94.0	54.0
24000 to 24250	108.0	68.0

The fundamental frequency of the EUT is 5725 to 5875 MHz

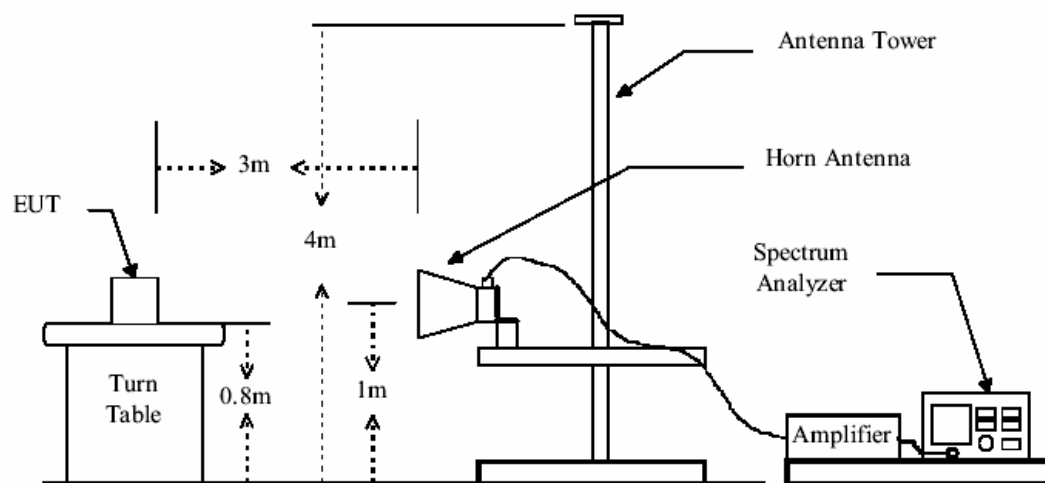
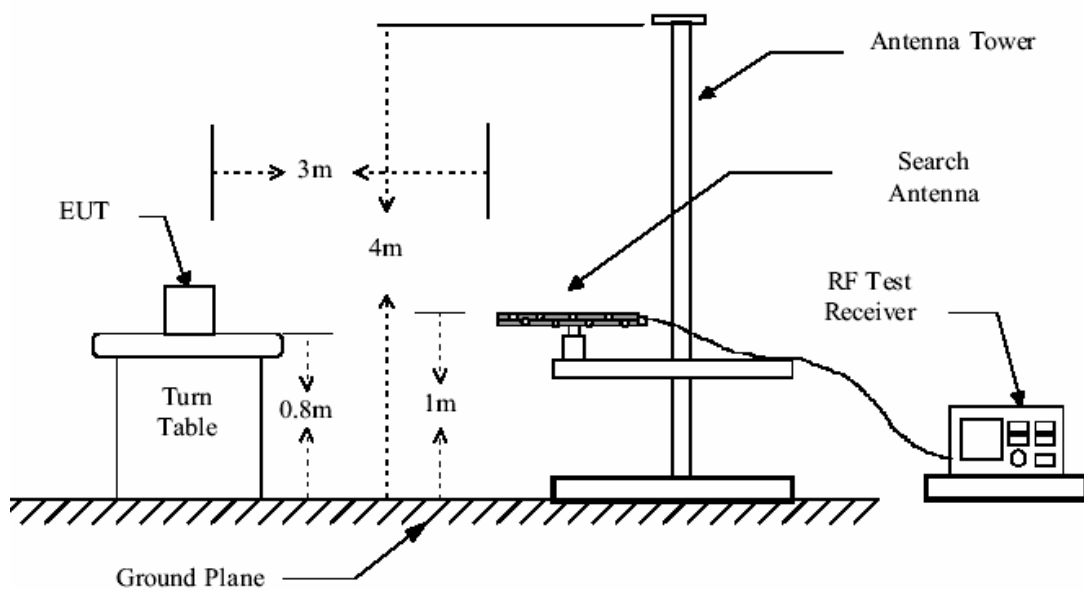
The limit for average field strength dBuV/m for the fundamental frequency = 94.0 dBuV/m.

No fundamental is allowed in the restricted bands.

The limit for average field strength dBuV/m for the harmonics and spurious frequencies = 54.0 dBuV/m. Spurious in the restricted bands must be less than 54.0 dBuV/m or 15.209.

Test Procedure: The procedure used was ANSI Standard C63.4-2003. The receiver was scanned from 30MHz to 40GHz. When an emission was found, the table was rotated to produce the maximum signal strength. An initial pre-scan was performed for in peak detection mode using the receiver. The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes. For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. The worst case emissions were reported.

Test Configuration:





SGS-CSTC Standards Technical Services Co., Ltd.

Report No.: SZEMO061102400RFI

Page: 12 of 24

The field strength is calculated by adding the Antenna Factor, Cable Factor & Peramplifier . The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Peramlifer Factor

The following test results were performed on the **Channel-1** of EUT:

For Radiated Emission(30M—1GHz)

Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)
44.550	0.70	9.61	28.10	43.71	25.92	40.00	-14.08
82.380	1.10	7.95	27.99	36.75	17.81	40.00	-22.19
138.640	1.29	8.04	27.54	32.93	14.72	43.50	-28.78
226.910	1.56	11.56	27.02	32.04	18.14	46.00	-27.86
357.860	2.08	15.59	27.14	31.60	22.13	46.00	-23.87
579.020	2.68	19.22	27.64	32.39	26.65	46.00	-19.35

Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)
47.460	0.75	9.27	28.11	32.31	14.22	40.00	-25.78
82.380	1.10	7.95	27.99	38.03	19.09	40.00	-20.91
148.340	1.31	8.86	27.47	33.12	15.82	43.50	-27.68
250.190	1.68	12.30	26.91	32.91	19.98	46.00	-26.02
388.900	2.17	16.17	27.34	33.13	24.13	46.00	-21.87
692.510	2.89	21.54	27.31	31.61	28.73	46.00	-17.27



SGS-CSTC Standards Technical Services Co., Ltd.

Report No.: SZEMO061102400RFI

Page: 13 of 24

Above 1GHz

Peak Measurement					
Test Frequency (GHz)	Measuring Level (dBuV/m)		Limits (dBuV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
5.738	90.20	83.20	114.00	23.80	30.80
Average Measurement					
5.738	70.30	63.20	94.00	23.70	28.80

(2). Harmonics & Spurious Emissions

Peak Measurement					
Test Frequency (MHz)	Measuring Level (dBuV/m)		Limits (dBuV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
2) 11476.14	61.53	51.12	74.0	12.47	22.88
3) 17214.32	45.67	35.41	74.0	28.33	39.59
4) 22952.12	N/A	N/A	74.0	N/A	N/A
5) 28690.24	N/A	N/A	74.0	N/A	N/A
6) 34428.27	N/A	N/A	74.0	N/A	N/A
7) 40166.34	N/A	N/A	74.0	N/A	N/A
8) 45904.19	N/A	N/A	74.0	N/A	N/A
Average Measurement					
2) 11476.14	45.84	39.85	54.0	8.16	14.15
3) 17214.32	36.20	30.60	54.0	17.80	23.40
4) 22952.12	N/A	N/A	54.0	N/A	N/A
5) 28690.24	N/A	N/A	54.0	N/A	N/A
6) 34428.27	N/A	N/A	54.0	N/A	N/A
7) 40166.34	N/A	N/A	54.0	N/A	N/A
8) 45904.19	N/A	N/A	54.0	N/A	N/A



SGS-CSTC Standards Technical Services Co., Ltd.

Report No.: SZEMO061102400RFI

Page: 14 of 24

N/A: refer to remark 1).

Remark:

1). For this intentional radiator operates below 10 GHz, the spectrum shall be investigated to the tenth harmonic of the highest fundamental frequency. And above the fourth harmonic of this intentional radiator, the disturbance is very low. So the test result only displays to 3rd harmonic.

2). According to 15.249 (e) As shown in Section 15.35(b), for frequencies above 1000 MHz, the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

TEST RESULTS: The unit does meet the FCC requirements.

The following test results were performed on the **Channel-3** of EUT:

For Radiated Emission(30M—1GHz)

Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)
76.260	1.10	8.36	27.97	46.2	27.69	40.0	-12.31
95.950	1.16	8.95	27.91	46.74	28.94	43.5	-14.56
104.540	1.21	8.87	27.83	49.28	31.53	43.5	-11.97
159.230	1.34	9.56	27.39	43.26	26.77	43.5	-16.73
211.100	1.47	10.81	27.09	40.12	25.31	43.5	-18.19
334.910	2.08	15.53	27.12	39.89	30.38	46.0	-15.62

Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)
55.225	0.80	7.87	28.08	34.52	15.11	40.0	-24.89
81.550	1.10	7.87	27.99	34.25	15.23	40.0	-24.77
117.625	1.25	8.07	27.71	35.10	16.71	43.5	-26.79
186.850	1.38	10.04	27.22	35.15	19.35	43.5	-24.15
285.325	1.84	13.27	26.77	32.81	21.15	46.0	-24.85
431.575	2.34	16.54	27.51	33.01	24.38	46.0	-21.62



SGS-CSTC Standards Technical Services Co., Ltd.

Report No.: SZEMO061102400RFI

Page: 15 of 24

Above 1GHz

Peak Measurement

Test Frequency (GHz)	Measuring Level (dBuV/m)		Limits (dBuV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
5.787	89.90	82.70	114.00	24.10	31.30
Average Measurement					
5.787	69.50	62.40	94.0	24.50	31.60

(2). Harmonics & Spurious Emissions

Peak Measurement

Test Frequency (MHz)	Measuring Level (dBuV/m)		Limits (dBuV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
2) 11574.12	60.53	50.12	74.0	13.47	23.88
3) 1736121	45.67	35.41	74.0	28.33	38.59
4) 23148.45	N/A	N/A	74.0	N/A	N/A
5) 28935.67	N/A	N/A	74.0	N/A	N/A
6) 34722.49	N/A	N/A	74.0	N/A	N/A
7) 40509.33	N/A	N/A	74.0	N/A	N/A
8) 46296.61	N/A	N/A	74.0	N/A	N/A
Average Measurement					
2) 11574.12	45.84	38.85	54.0	8.16	15.15
3) 1736121	36.20	30.60	54.0	17.80	23.40
4) 23148.45	N/A	N/A	54.0	N/A	N/A
5) 28935.67	N/A	N/A	54.0	N/A	N/A
6) 34722.49	N/A	N/A	54.0	N/A	N/A
7) 40509.33	N/A	N/A	54.0	N/A	N/A
8) 46296.61	N/A	N/A	54.0	N/A	N/A



SGS-CSTC Standards Technical Services Co., Ltd.

Report No.: SZEMO061102400RFI

Page: 16 of 24

N/A: refer to remark 1).

Remark:

- 1). For this intentional radiator operates below 10 GHz, the spectrum shall be investigated to the tenth harmonic of the highest fundamental frequency. And above the fourth harmonic of this intentional radiator, the disturbance is very low. So the test result only displays to 3rd harmonic.
- 2). According to 15.249 (e) As shown in Section 15.35(b), for frequencies above 1000 MHz, the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

The following test results were performed on the **Channel-4** of EUT:

For Radiated Emission(30M—1GHz)

Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)
40.670	0.62	10.93	28.09	46.61	30.07	40.00	-9.93
49.400	0.79	8.16	28.11	41.71	22.55	40.00	-17.45
92.080	1.12	8.78	27.93	36.01	17.98	43.50	-25.52
171.620	1.36	9.55	27.31	41.33	24.93	43.50	-18.57
259.890	1.72	12.51	26.87	42.71	30.07	46.00	-15.93
578.050	2.68	19.16	27.64	33.25	27.45	46.00	-18.55

Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)
43.580	0.68	10.53	28.10	41.61	24.72	40.00	-15.28
78.500	1.05	7.59	28.00	45.95	26.59	40.00	-13.41
127.000	1.27	7.75	27.63	44.09	25.48	43.50	-18.02
219.150	1.51	11.18	27.05	48.22	33.86	46.00	-12.14
249.220	1.67	12.27	26.92	51.17	38.19	46.00	-7.81
342.340	2.04	15.22	27.04	39.05	29.27	46.00	-16.73



SGS-CSTC Standards Technical Services Co., Ltd.

Report No.: SZEMO061102400RFI
Page: 17 of 24

Above 1GHz

Peak Measurement					
Test Frequency (GHz)	Measuring Level (dBuV/m)		Limits (dBuV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
5.813	87.8	78.6	114.0	26.20	35.40
Average Measurement					
5.813	67.4	58.2	94.0	26.60	35.80

(2). Harmonics & Spurious Emissions

Peak Measurement					
Test Frequency (MHz)	Measuring Level (dBuV/m)		Limits (dBuV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
2) 11626.21	58.52	48.11	74.0	15.48	25.89
3) 17439.20	42.63	36.71	74.0	31.37	37.29
4) 23252.13	N/A	N/A	74.0	N/A	N/A
5) 29065.51	N/A	N/A	74.0	N/A	N/A
6) 34878.50	N/A	N/A	74.0	N/A	N/A
7) 40691.61	N/A	N/A	74.0	N/A	N/A
8) 46504.14	N/A	N/A	74.0	N/A	N/A
Average Measurement					
2) 11626.21	44.21	38.34	54.0	9.79	15.66
3) 17439.20	35.20	30.60	54.0	18.80	23.40
4) 23252.13	N/A	N/A	54.0	N/A	N/A
5) 29065.51	N/A	N/A	54.0	N/A	N/A
6) 34878.50	N/A	N/A	54.0	N/A	N/A
7) 40691.61	N/A	N/A	54.0	N/A	N/A
8) 46504.14	N/A	N/A	54.0	N/A	N/A



SGS-CSTC Standards Technical Services Co., Ltd.

Report No.: SZEMO061102400RFI

Page: 18 of 24

N/A: refer to remark 1).

Remark:

- 1). For this intentional radiator operates below 10 GHz, the spectrum shall be investigated to the tenth harmonic of the highest fundamental frequency. And above the fourth harmonic of this intentional radiator, the disturbance is very low. So the test result only displays to 3rd harmonic.
- 2). According to 15.249 (e) As shown in Section 15.35(b), for frequencies above 1000 MHz, the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.



5.3.3 Band Edges Measurement

Test Requirement: FCC Part15 C

Test Method: Based on FCC Part15 C Section 15.249.

Test Date: 25 November 2006

Requirements:

Regulation 15.249

Emission radiated outside of the specified frequency band, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiate emission limits in Section 15.209, whichever is the lesser attenuation.

Test Procedures:

The transmitter output was connected to the spectrum analyzer via a low loss cable. Set both RBW and VBW of spectrum analyzer to 100 kHz with suitable frequency span including 100 kHz bandwidth from band edge. The band edges were measured and recorded.

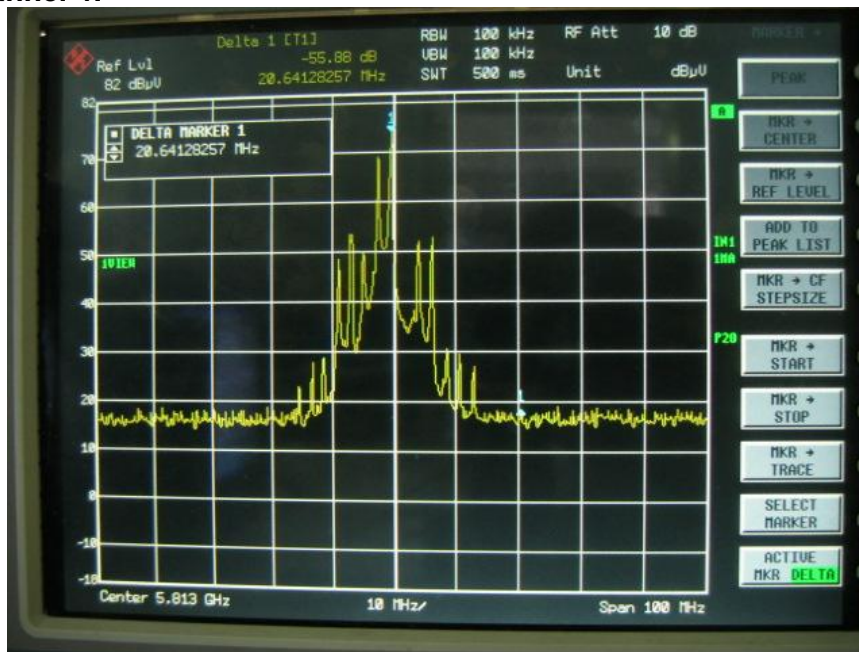
Test Result:

Please refer to the measurement graph and data.

Channel 1:



Channel 4:





5.3.4 Occupied Bandwidth

Test Requirement: FCC Part 15 C

Test Method: Based on FCC Part15 C Section 15.249:

Operation within the band 5.725 – 5.875GHz

Test Date: 03 November 2006

Requirements: 15.249 (d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

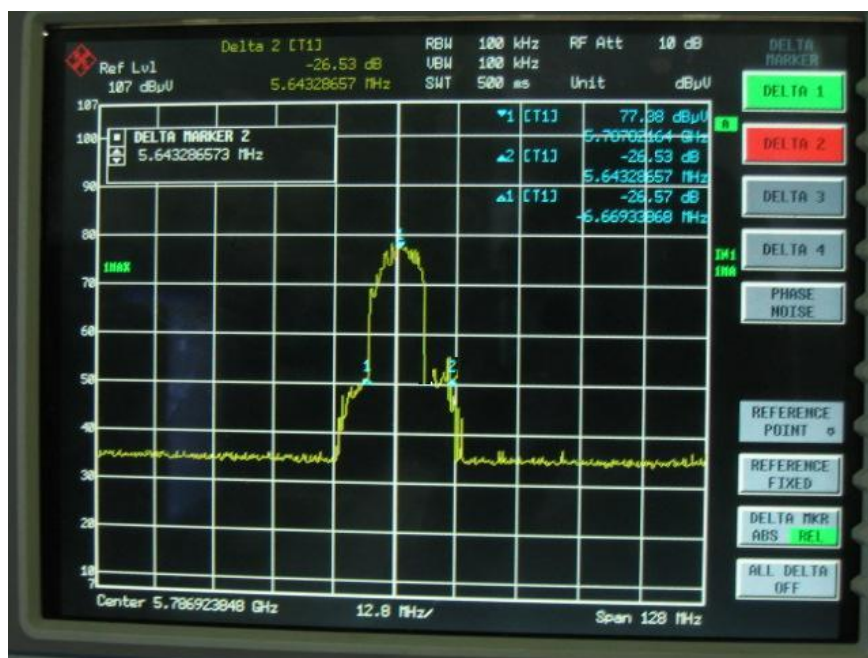
Method of measurement: A small sample of the transmitter output was fed into the Spectrum Analyzer and the attached plot was taken. The vertical is set to 10dB per division. The horizontal scale is set to 1MHz per division.

The occupied bandwidth and band edge as below:

Channel 1:



Channel 3:



Channel 4:



The test result for the Emissions radiated outside of the specified frequency bands, please refer the section 5.3.2 of this report.

The results: The unit does meet the FCC requirements.



5.3.5 Antenna Requirement

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247(b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.