SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053
Fax: +86 (0) 755 2671 0594
Email: ee.shenzhen@sgs.com

Appendix B for Test Report SZEM141100609004

Authorized Signature:

Jack Zhang
EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. 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.
The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

2 Content

3 Appendix_A: Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Part I – RF Conducted Power of Transmitter for GSM850

TEST CONDITIONS	RF Output Power(Conducted)					
	Channel128(L)		Channel190(M)		Channel251(H)	
	824.2MHz		836.6 MHz		848.8 MHz	
Tnom/ Vnom	Measured(dBm)	Limit (dBm)	Measured(dBm)	Limit (dBm)	Measured(dBm)	Limit (dBm)
GSM/TM1	32.38	38.5	32.37	38.5	32.31	38.5

Part 2– Effective Radiated Power of Transmitter (ERP) for GSM850

Test Mode	Freq. (MHz)	Meas. Level (dBm)	Substitution Antenna Type	SGP (dBm)	Substitution Gain(dBd)	Cable Loss (dB)	Substitution Level(ERP) / dBm	Limit (dBm)	Result
GSM/TM1	824.2	32.73	Dipole Ant.	38.19	-4.90	0.6	32.69	38.5	Pass
GSM/TM1	836.6	32.72	Dipole Ant.	38.33	-5.02	0.6	32.71	38.5	Pass
GSM/TM1	848.8	32.66	Dipole Ant.	38.23	-5.00	0.6	32.63	38.5	Pass

Note1:

a. For getting the ERP (Efficient Radiated Power) in substitution method, the following formula should be taken to calculate it,

ERP [dBm] = SGP [dBm] – Cable Loss [dB] + Gain [dBd]

b. SGP=Signal Generator Level

Note2:

RBW > emission bandwidth, VBW > 3 x RBW.

Detector: RMS

Part I – RF Conducted Power of Transmitter for GSM1900

	RF Output Power(Conducted)					
TEST CONDITIONS	Channel128(L)		Channel190(M)		Channel251(H)	
	1850.2MHz		1880.0 MHz		1909.8 MHz	
Tnom/ Vnom	Measured(dBm)	Limit (dBm)	Measured(dBm)	Limit (dBm)	Measured(dBm)	Limit (dBm)
GSM/TM1	30.14	33	29.36	33	29.28	33

Part 2– Effective Isotropic Radiated Power of Transmitter (EIRP) for GSM1900

Test Mode	Freq. (MHz)	Meas. Level (dBm)	Substitution Antenna Type	SGP (dBm)	Substitution Gain(dBi)	Cable Loss (dB)	Substitution Level(EIRP) / dBm	Limit (dBm)	Result
GSM/TM1	1850.2	32.64	Horn Ant.	29.09	4.5	1	32.59	33	Pass
GSM/TM1	1880.0	31.86	Horn Ant.	28.23	4.5	1	31.73	33	Pass
GSM/TM1	1909.8	31.78	Horn Ant.	28.20	4.5	1	31.70	33	Pass

Note1:

a. For getting the EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

EIRP [dBm] = SGP [dBm] – Cable Loss [dB] + Gain [dBi]

b. SGP=Signal Generator Level

Note2:

RBW > emission bandwidth, VBW > 3 x RBW.

Detector: RMS

4 Appendix_B: Field Strength of Spurious Radiation

Part I - Test Plots

4.1 For GSM

4.1.1 Test Band = GSM850

4.1.1.1 Test Mode = GSM/TM1

Frequency (MHz)	**Level (dBuV/m)**	**Limit Line (dBuV/m)**	**Over Limit (dB)**	**Polarization**
39.528	-68.9	-13.0	-55.9	Vertical
77.233	-67.0	-13.0	-54.0	Vertical
141.777	-73.2	-13.0	-60.2	Vertical
230.488	-70.8	-13.0	-57.8	Vertical
375.939	-67.5	-13.0	-54.5	Vertical
659.110	-62.3	-13.0	-49.3	Vertical
1673.978	-44.6	-13.0	-31.6	Vertical
2509.725	-41.0	-13.0	-28.0	Vertical
3348.556	-43.8	-13.0	-30.8	Vertical
4183.536	-37.2	-13.0	-24.2	Vertical
6741.053	-38.4	-13.0	-25.4	Vertical
8404.132	-35.9	-13.0	-22.9	Vertical

Frequency (MHz)	**Level (dBuV/m)**	**Limit Line (dBuV/m)**	**Over Limit (dB)**	**Polarization**
45.076	-67.4	-13.0	-54.4	Horizontal
104.813	-69.8	-13.0	-56.8	Horizontal
207.499	-69.5	-13.0	-56.5	Horizontal
302.694	-68.5	-13.0	-55.5	Horizontal
421.722	-65.1	-13.0	-52.1	Horizontal
648.378	-62.5	-13.0	-49.5	Horizontal
1673.978	-35.5	-13.0	-22.5	Horizontal
2509.725	-40.2	-13.0	-27.2	Horizontal
3348.556	-39.3	-13.0	-26.3	Horizontal
4183.536	-30.1	-13.0	-17.1	Horizontal
6062.989	-39.2	-13.0	-26.2	Horizontal
7936.532	-37.1	-13.0	-24.1	Horizontal

4.1.2 Test Band = GSM1900

4.1.2.1 Test Mode = GSM/TM1

Frequency (MHz)	**Level (dBuV/m)**	**Limit Line (dBuV/m)**	**Over Limit (dB)**	**Polarization**
37.628	-73.3	-13.0	-60.3	Vertical
73.040	-72.9	-13.0	-59.9	Vertical
153.905	-76.4	-13.0	-63.4	Vertical
287.202	-69.5	-13.0	-56.5	Vertical
437.232	-68.5	-13.0	-55.5	Vertical
736.955	-62.9	-13.0	-49.9	Vertical
3759.831	-30.5	-13.0	-17.5	Vertical
5026.073	-41.8	-13.0	-28.8	Vertical
5636.772	-36.8	-13.0	-23.8	Vertical
7521.645	-34.9	-13.0	-21.9	Vertical
10072.830	-32.4	-13.0	-19.4	Vertical
12289.276	-30.5	-13.0	-17.5	Vertical

Frequency (MHz)	**Level (dBuV/m)**	**Limit Line (dBuV/m)**	**Over Limit (dB)**	**Polarization**
35.121	-68.9	-13.0	-55.9	Horizontal
106.548	-72.2	-13.0	-59.2	Horizontal
233.535	-67.2	-13.0	-54.2	Horizontal
379.660	-66.6	-13.0	-53.6	Horizontal
546.610	-63.4	-13.0	-50.4	Horizontal
746.697	-61.0	-13.0	-48.0	Horizontal
3759.831	-25.2	-13.0	-12.2	Horizontal
4972.330	-42.2	-13.0	-29.2	Horizontal
6088.229	-39.5	-13.0	-26.5	Horizontal
7616.578	-37.9	-13.0	-24.9	Horizontal
9823.299	-33.6	-13.0	-20.6	Horizontal
12875.326	-29.8	-13.0	-16.8	Horizontal

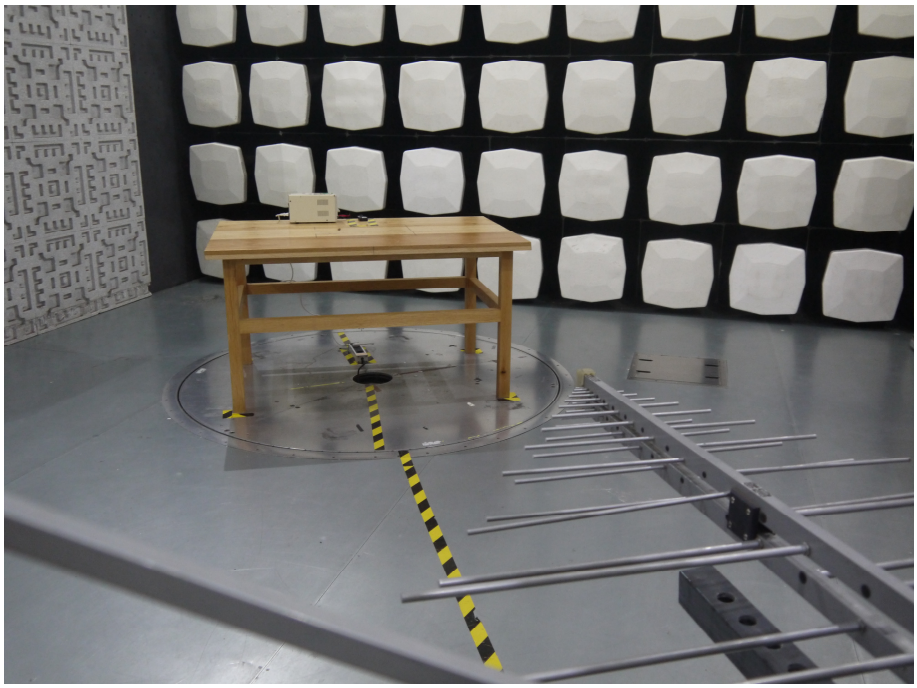
NOTE:

1) The disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

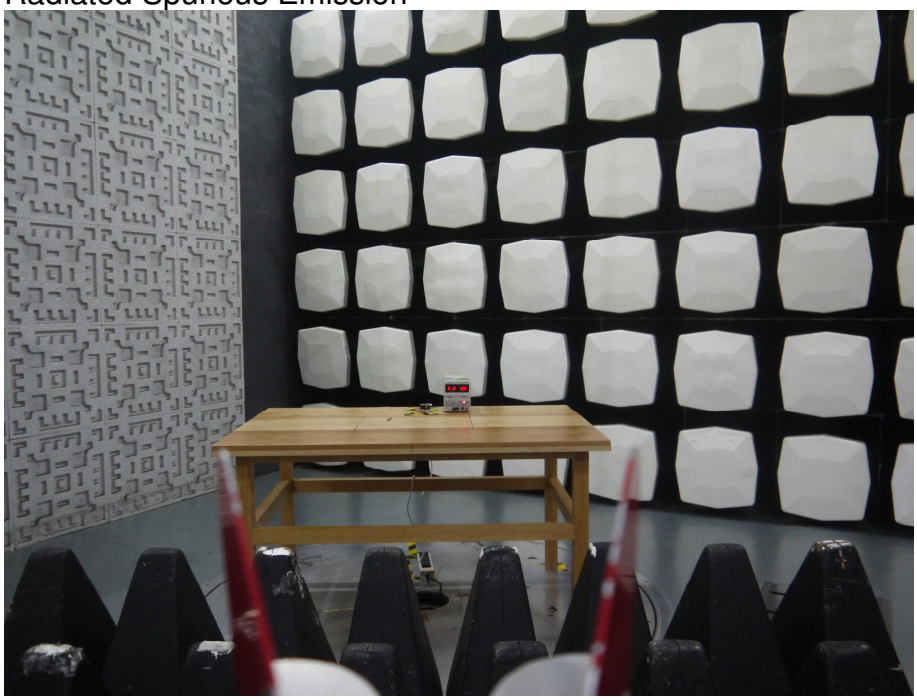
2) Pretest was performed at the EUT in low, middle, high channel, but only the worst test channel(Channel 190 for GSM850 and Channel 661 for GSM1900)and only the data of the worst case show in the test report.

5 Appendix I: Test Setup

Radiated Emission



Radiated Spurious Emission



The End