588 West Jindu Road, Songjiang District, Shanghai, China

Telephone: +86 (0) 21 6191 5666 Fax: +86 (0) 21 6191 5655 Report No.: SHEMO10030019301

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EMC TEST REPORT

Application No.: SHEMO10030019301

Applicant: SIERRA WIRELESS Inc

FCC ID: N7NQ2687 Equipment Under Test (EUT):

NOTE: The following sample(s) submitted was/were identified on behalf of the client as

Product Name: Airprime Q2687

Brand Name: WAVECOM

Model Name: Airprime Q2687

Marketing Name: AirPrime Q2687 Intelligent Embedded Module

Standards: FCC PART 15:2008 Section B

Date of Receipt: Feb 16, 2010

Date of Test: Mar 22, 2010 to Mar 23,2010

Date of Issue: Mar 23,2010

Test Result : PASS*

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

Tino Pan

E&E Section Manager

SGS-CSTC(Shanghai) Co., Ltd.

Jack Wu E&E Project Engineer

SGS-CSTC(Shanghai)Co.,Ltd

Jack Wu

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2 Test Summary

Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission	CFR 47 Part 15.109	ANSI C63.4: 2003	Class B	PASS
30MHz-1000MHz	CFK 47 Fait 13.109	ANSI C03.4: 2003	Class B	PASS
Conducted Emission	CED 47 Part 15 107	ANSI C63.4: 2003	Class D	PASS
150KHz-30MHz	CFR 47 Part 15.107	ANSI C03.4: 2003	Class B	PASS

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4 General Information

4.1 Client Information

Applicant: SIERRA WIRELESS Inc

Address of Applicant: 13811 Wireless Way Richmond, British Columbia Canada,

V6V 3A4

Manufacturer: SIERRA WIRELESS Inc

Address of 13811 Wireless Way Richmond, British Columbia Canada,

Manufacturer: V6V 3A4

4.2 General Description of E.U.T.

Product Name: Airprime Q2687

Brand Name: WAVECOM

Model Name: Airprime Q2687

Marketing Name: AirPrime Q2687 Intelligent Embedded Module

FCC ID: N7NQ2687

Support Frequency Band: GSM 850/1900/900/1800

Testing frequency Band: GSM 850/1900

Hardware Version: 520

Software Version: Firmware 7.43

IMEI: 35406001385405

4.3 Details of support units

Name / Function Model No. Remark

N/A N/A N/A

4.4 Standards Applicable for Testing

The standards used were CFR 47 Part 15B:

Table 1: Tests Carried Out Under CFR 47 Part 15B:

	Standard	
FCC Part 15 Subpart B	Radiated Emission	V

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FCC F	Part 15 Subpart B	Conducted Emission	√
×	Indicates that the	e test is not applicable	
$\sqrt{}$	Indicates that the	e test is applicable	

4.5 Test Location

Tests were performed at SGS E&E EMC lab

SGS-CSTC EMC Laboratory, No.588 West Jindu Road, Songjiang District, Shanghai, China Tel:+86 21 6191 5666 Fax:+86 21 6191 5655

4.6 **Test Facility**

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

• CNAS (No. CNAS L0599)

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing. Date of expiry: 2011-07-29.

• FCC - Registration No.: 402683

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683, Expiry Date: 2012-03-17.

• Industry Canada (IC) - IC Assigned Code: 8617A

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A. Expiry Date: 2011-09-29.

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5 Equipment Used during Test

Radiated Emission

	Natiated Emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal.Due date
1	EMI test receiver	Rohde & Schwarz	ESU40	100109	2009-6-4	2010-6-3
2	ANTENNA	SCHWARZBECK	VULB9168	9168-313	2009-6-4	2010-6-3
3	ANTENNA	SCHWARZBECK	BBHA9120D	9120D-679	2009-6-4	2010-6-3
4	ANTENNA	SCHWARZBECK	BBHA9170	9170-373	2009-6-4	2010-6-3
5	TURNTABLE	INNCO	DS 2000S-1T	/	/	/
6	UNIVERSAL RADIO COMMUNICATION TESTER	Rohde & Schwarz	CMU 200	112012	2009-08-25	2010-08-24
7	DC Power	KIKUSUI	PMC35-3	NF100260	2010-1-16	2011-1-15

Conducted Emission

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
1	EMI test receiver	Rohde & Schwarz	ESCS30	100086	2009-06-26	2010-06-25
2	Line impedance stabilization network	SCHWARZBECK	NSLK8127	8127-490	2009-07-30	2010-07-29
3	DC Power	ShangHai SongBao	WBH3200	1	2009-12-11	2010-12-10
4	UNIVERSAL RADIO COMMUNICATION TESTER	Rohde & Schwarz	CMU 200	112012	2009-08-25	2010-08-24

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General Equipment

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal.Due date
1	Atmosphere pressure meter	Shanghai ZhongXuan Electronic Co;Ltd	BY-2003P	1	2009-10-15	2010-10-14
2	CLAMP METER	FLUKE	316	86080010	2009-04-21	2010-04-20
3	Thermo-Hygrometer	ZHICHEN	ZC1-2	01050033	2009-10-21	2010-10-20
4	Digital illuminance meter	TES electrical electronic Corp.	TES-1330A	050602219	2009-10-16	2010-10-15

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6 Emission Test Results

6.1 Radiated Emissions

Test Requirement: CFR 47 Part 15.109
Test Method: ANSI C63.4:2003
Test Date: Mar 22, 2010
Frequency Range: 30MHz to 1GHz

Measurement Distance: 3m

Detector: Peak for pre-scan (120kHz resolution bandwidth)

Result: PASS

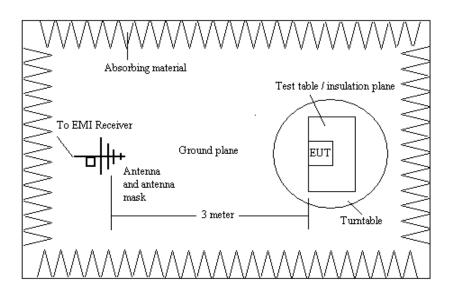
6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 24.0 °C Humidity: 45 % RH Atmospheric Pressure: 1012 mbar

EUT Operation: Test in GSM 850/1900 idle mode.

6.1.2 Test setup:



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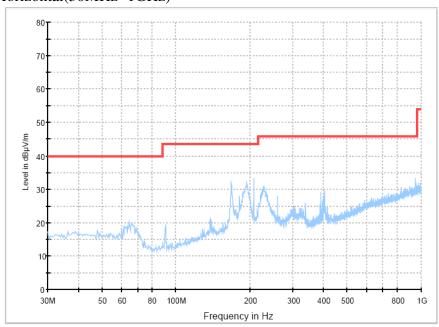
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6.1.3 Measurement Data:

Test in GSM 850 idle mode. Horizontal(30MHz -1GHz)



Frequency	Actual Lecel QP	Limit	Margin
(MHz)	(dBuV/m)	(dBuV/m)	(dB)
30.00	妆	40.0	*
100.00	*	43.5	*
160.00	*	43.5	*
200.00	*	43.5	*
800.00	**	46.0	*
1000.00	*	54.0	*

[&]quot;" means the emission level is 6dB lower than the relevant limit.

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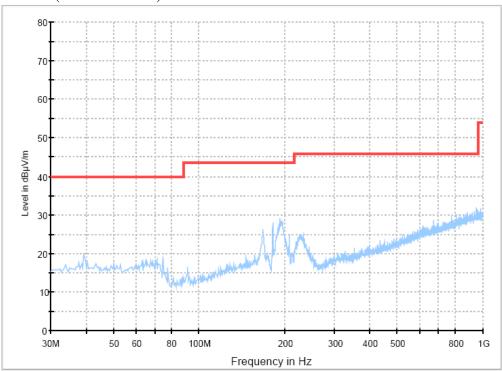
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Vertical (30MHz -1GHz):



Frequency	Actual Lecel QP	Limit	Margin
(MHz)	(dBuV/m)	(dBuV/m)	(dB)
30.00	*	40.0	*
100.00	*	43.5	*
160.00	*	43.5	*
200.00	*	43.5	*
800.00	*	46.0	*
1000.00	*	54.0	*

[&]quot;*" means the emission level is 6dB lower than the relevant limit.

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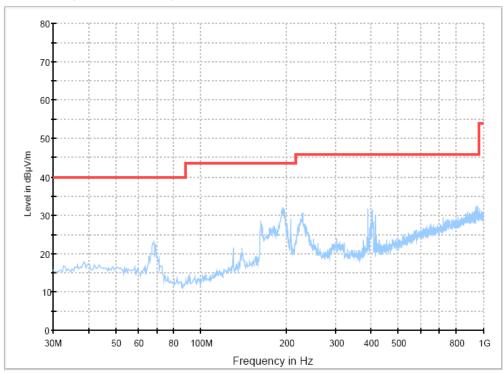
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Test in GSM 1900 idle mode. Horizontal(30MHz -1GHz)



Frequency	Actual Lecel QP	Limit	Margin
(MHz)	(dBuV/m)	(dBuV/m)	(dB)
30.00	*	40.0	*
100.00	*	43.5	*
160.00	*	43.5	*
200.00	*	43.5	*
800.00	*	46.0	*
1000.00	*	54.0	*

[&]quot;" means the emission level is 6dB lower than the relevant limit.

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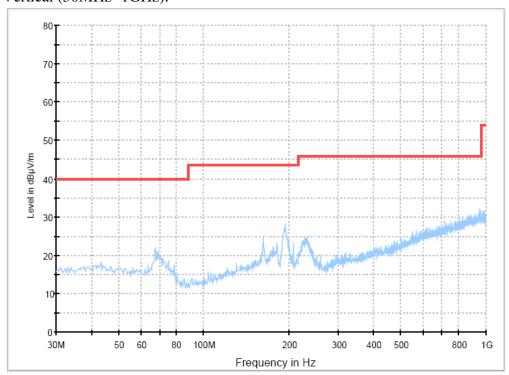
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Vertical (30MHz -1GHz):



Frequency	Actual Lecel QP	Limit	Margin
(MHz)	(dBuV/m)	(dBuV/m)	(dB)
30.00	*	40.0	*
100.00	*	43.5	*
160.00	*	43.5	*
200.00	*	43.5	*
800.00	*	46.0	*
1000.00	*	54.0	*

[&]quot;*" means the emission level is 6dB lower than the relevant limit.

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6.2 **Conducted Emissions**

Test Requirement: CFR 47 part 15.107
Test Method: ANSI C63.4:2003

Test Date: Mar 22,2010

Frequency Range: 150kHz to 30MHz

Limit:

Frequency of Emission (MHz)	Conducted Limit (dBµV)		
	Quasi-peak	Average	
0.15-0.5	66 to 56 *	56 to 46 *	
0.5-5	56	46	
5-30	60	50	

Decreases with the logarithm of the frequency.

Result: PASS

6.2.1 E.U.T. Operation

Operating Environment:

Temperature: 23.0°C Humidity: 45% RH Atmospheric Pressure: 1012 mbar

EUT Operation: Test in GSM 850/1900 mode.

6.2.2 Test Result and Measurement Data

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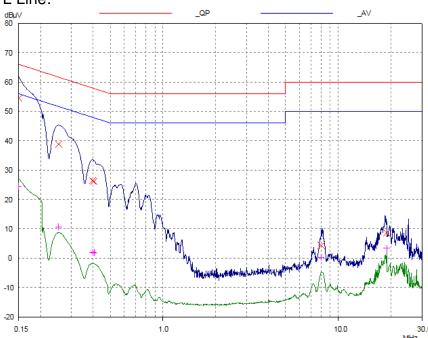
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GSM 850 idle mode.

L Line:



Final Measurement Results

Frequency	QP Level	QP Limit	QP Delta
MHz	dΒμV	dΒμV	dB
0.15	54.58	66.00	11.42
0.25406	38.87	61.62	22.75
0.39729	26.32	57.91	31.59
0.40369	26.14	57.78	31.64
7.99593	4.30	60.00	55.70
18.86329	8.61	60.00	51.39
Frequency	AV Level	AV Limit	AV Delta
MHz	dΒμV	dΒμV	dB
0.15	24.41	56.00	31.59
0.25406	10.59	51.62	41.03
0.39729	1.95	47.91	45.96
0.40369	1.89	47.78	45.89
7.99593	0.20	50.00	49.80
18.86329	3.28	50.00	46.72

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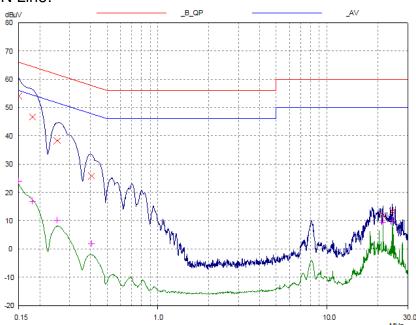
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N Line:



Final Measurement Results

Frequency	QP Level	QP Limit	QP Delta
MHz	dΒμV	dΒμV	dB
0.15	54.03	66.00	11.97
0.18095	46.61	64.44	17.83
0.25406	38.26	61.62	23.36
0.40369	25.75	57.78	32.03
21.43365	12.05	60.00	47.95
24.35426	13.23	60.00	46.77
Frequency	AV Level	AV Limit	AV Delta
MHz	dΒμV	dΒμV	dB
0.15	23.91	56.00	32.09
0.18095	16.92	54.44	37.52
0.25406	10.11	51.62	41.51
0.40369	1.77	47.78	46.01
21.43365	9.51	50.00	40.49
24.35426	10.16	50.00	39.84

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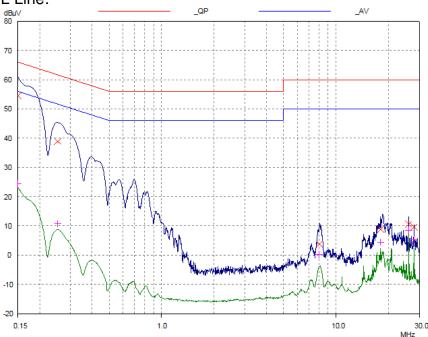
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GSM 1900 idle mode

L Line:



Final Measurement Results

Frequency	QP Level	QP Limit	QP Delta
MHz	dBµV	dΒμV	dB
0.15	54.48	66.00	11.52
0.25406	38.91	61.62	22.71
7.99593	3.76	60.00	56.24
17.98096	8.82	60.00	51.18
26.06442	10.54	60.00	49.46
28.00625	9.58	60.00	50.42
Frequency	AV Level	AV Limit	AV Delta
MHz	dΒμV	dBμV	dB
0.15	24.34	56.00	31.66
0.25406	10.67	51.62	40.95
7.99593	0.13	50.00	49.87
17.98096	4.42	50.00	45.58
26.06442	8.40	50.00	41.60
28.00625	5.22	50.00	44.78

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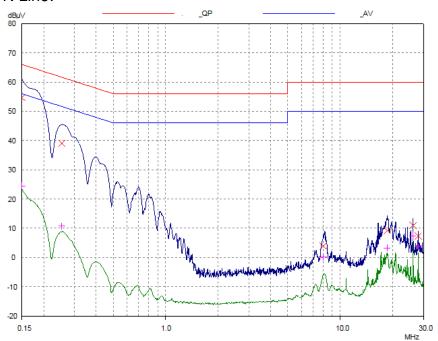
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N Line:



Final Measurement Results

Frequency	QP Level	QP Limit	QP Delta
MHz	dΒμV	dΒμV	dB
0.15	54.64	66.00	11.36
0.25406	39.03	61.62	22.59
7.99593	3.94	60.00	56.06
18.56447	9.20	60.00	50.80
26.06442	10.94	60.00	49.06
28.00625	7.30	60.00	52.70
Frequency	AV Level	AV Limit	AV Delta
MHz	dΒμV	dΒμV	dB
0.45	04.40	F6 00	24.50
0.15	24.48	56.00	31.52
0.25406	10.75	51.62	40.87
0.25406	10.75	51.62	40.87
0.25406 7.99593	10.75 0.13	51.62 50.00	40.87 49.87
0.25406 7.99593 18.56447	10.75 0.13 3.13	51.62 50.00 50.00	40.87 49.87 46.87

End of Report~