FCC Test Report (Part 15 Subpart B)

FCC ID	:	**YPVITALCOMSUN**
Applicant	:	**ITALCOM GROUP**
		1728 Coral Way, Coral Gables, Miami, Florida, United States 33145

Sample Description

Product Name	:	**3G Mobile**
Model No.	:	SUN
Serial No.	:	N/A
Trademark	:	NYX Mobile

Receipt Date	:	2013-09-26
Test Date	:	2013-09-27 to 2013-10-28
Issue Date	:	2013-11-05
Test Standard(s)	:	**FCC CFR Title 47 Part 15 Subpart B**
Conclusions	:	**PASSED***

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

Test/Witness Engineer : Jason Deng

Approved & Authorized : Winkey Wang

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 the report.

CONTENT

1. General Information

1.1. Client Information

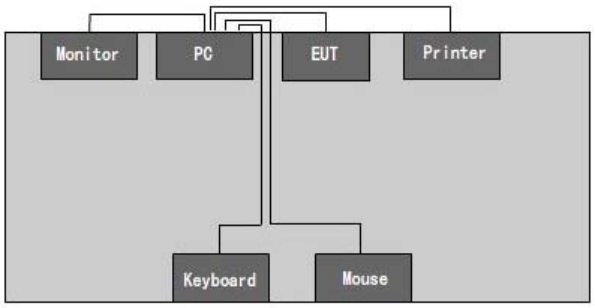
Applicant	:	ITALCOM GROUP
Address	:	1728 Coral Way, Coral Gables, Miami, Florida, United States 33145
Manufacturer	:	Sunry Technology LTD
Address	:	18F, Dawning Building #12 Keji South Road, Hi-Tech Park, Nanshan District, Shenzhen, China

1.2. General Description of EUT (Equipment Under Test)

Product Name	:	**3G Mobile**
Model No.	:	SUN
Serial No.	:	N/A
Trademark	:	NYX Mobile
Power Supply	:	Travel charger: Input 100-240V~ 50/60Hz, 0.15A, Output DC 5V, 500mA Rechargeable Li-ion Battery DC 3.7V

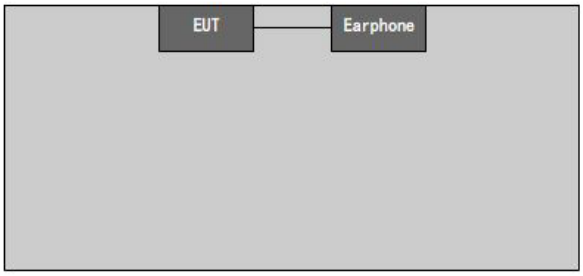
1.3. Block Diagram Showing The Configuration of System Tested

Downloading mode



Playing mode & Recording mode

FM receiver mode



1.4. Description of Support Units

Name	Model	Serial Number	Manufacturer
Printer	HP1020	CNCJ410726	HP
LCD Monitor	G205HV	10306738385	ACER
Host PC	ASPIREM1830	PTSF90C00305005CAC3000	ACER
Keyboard	SK-9625	KBUSB1580500037E0100	ACER
Mouse	MS.11200.014	M-UAY-ACR2	ACER

1.5. External I/O Cable

Cable Description	Length(m)	From/ Port	To
Shielding Detachable USB Cable	1.5	Host PC	Mouse
Shielding Detachable K/B Cable	1.5	Host PC	Keyboard
Shielding Detachable serial Cable	1.5	Host PC	Printer
Shielding Detachable VGA Cable	1.5	Host PC	LCD Monitor
Unshielding Detachable USB Cable	0.8	EUT	Host PC
Unshielding earphone Cable	1.0	EUT	--

1.6. Software of Support

"winthrax" exercise software was used for Downloading mode

1.7. Description of Test Mode

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Test Mode	Description
Downloading mode	Keep the EUT in EUT transfer data with pc mode**(Worst case)**
Playing mode	Keep the EUT in Playing mode
Recording mode	Keep the EUT in Recording mode
FM receiver mode	Keep the EUT in FM receiver mode

Remark: 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.**

1.8. Laboratory Location

Shenzhen Certification Technology Service Co., Ltd.
Address: 2F, Building B, East Area of Nanchang Second Industrial Zone, Gushu 2nd Road, Bao'an District, Shenzhen 518126, P.R. China

At the time of testing, the Laboratory is accredited. It is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 197647.
Tel:86-755-86375552 Fax: 86-755-26736857

2. Test Results Summary

FCC Part15, Subpart B				
Section	**Test Method**	**Test Item**	**Limit**	**Result**
Part15.109	ANSI C63.4:2003	Radiated Emission	Class B	PASSED
Part15.107	ANSI C63.4:2003	Conducted Emission	Class B	PASSED
Note: "PASSED" - The EUT complies with the essential requirements in the standard.				

3. Test Instruments List

Item	Test Equipment	Manufacturer	Model No.	Cal. Date	Cal. Due date
1	Bilog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	May 25, 2013	May 24, 2014
2	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	May 30, 2013	May 29, 2014
3	Coaxial Cable	N/A	N/A	Apr. 01, 2013	Mar. 31, 2014
4	Coaxial Cable	N/A	N/A	Apr. 01, 2013	Mar. 31, 2014
5	Coaxial cable	N/A	N/A	Apr. 01, 2013	Mar. 31, 2014
6	Coaxial Cable	N/A	N/A	Apr. 01, 2013	Mar. 31, 2014
7	Coaxial Cable	N/A	N/A	Apr. 01, 2013	Mar. 31, 2014
8	Amplifier (10kHz-1.3GHz)	HP	8447D	Apr. 01, 2013	Mar. 31, 2014
9	Amplifier (1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	Jun. 09, 2013	Jun. 08, 2014
10	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	Apr. 01, 2013	Mar. 31, 2014
11	Horn Antenna	ETS-LINDGREN	3160	Mar. 30, 2013	Mar. 29, 2014
12	Positioning Controller	UC	UC3000	N/A	N/A
13	Spectrum analyzer 9kHz-30GHz	Rohde & Schwarz	FSP	May 29, 2013	May 28, 2014
14	EMI Test Receiver	Rohde & Schwarz	ESPI	Apr. 01, 2013	Mar. 31, 2014
15	Loop antenna	Laplace instrument	RF300	May 25, 2013	May 24,, 2014
16	Universal radio communication tester	Rhode & Schwarz	CMU200	May 29, 2013	May 28, 2014
17	Signal Analyzer	Rohde & Schwarz	FSIQ3	May 29, 2013	May 28, 2014
18	AMN	Rohde & Schwarz	ENV216	May 29, 2013	May 28, 2014
19	AMN	Rohde & Schwarz	NSLK8126	May 29, 2013	May 28, 2014
20	EMI Test Receiver	Rohde & Schwarz	ESCI	May 29, 2013	May 28, 2014

4. Conducted Emission Test

4.1. Test Standard and Limit

4.1.1. Test Standard

FCC Part15 B Section 15.107 Class B

4.1.2. Test Method

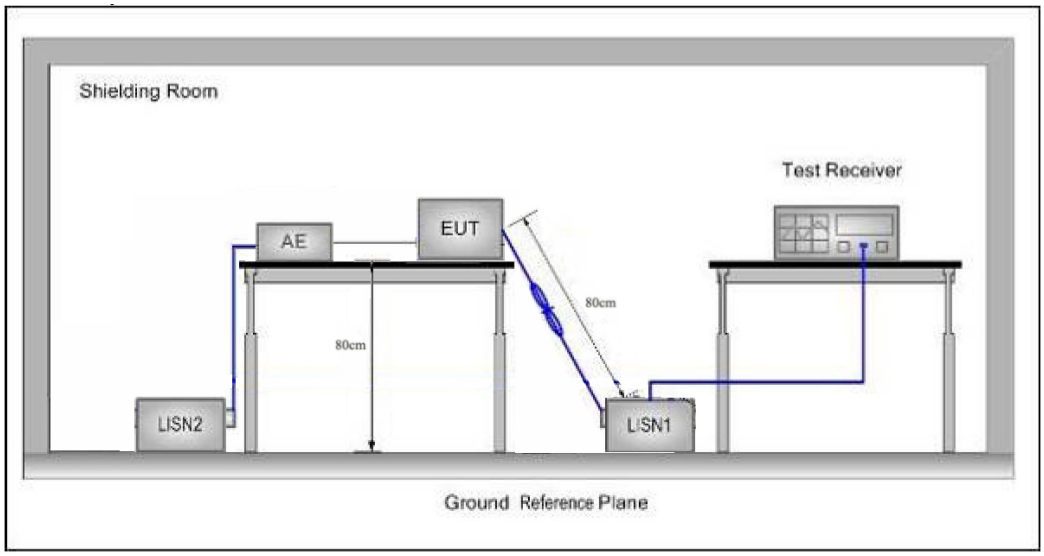
ANSI C63.4:2003

4.1.3. Test Limit

Conducted Disturbance Test Limit

Frequency	Maximum RF Line Voltage (dBμV)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50
Remark: (1) *Decreasing linearly with logarithm of the frequency. (2) The lower limit shall apply at the transition frequencies.		

4.2. Test Setup



4.3. Test Procedure

1) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

2) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And

for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.

The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

4.4. Test Data

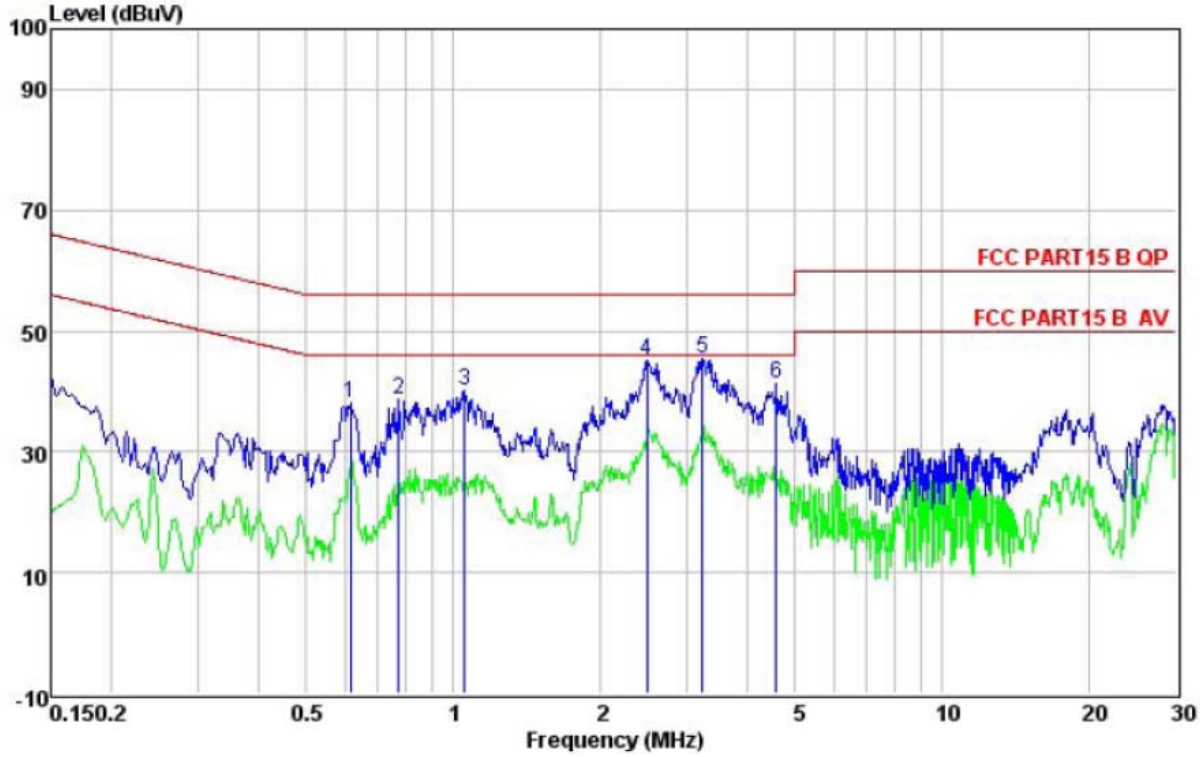
Remark:

During the test, pre-scan the Downloading mode, playing mode, Recording mode & FM receiver mode, and found the Downloading mode is the worst case.

The emissions worst-case are shown in Test Results of the following pages.

Conducted Emission Test Data

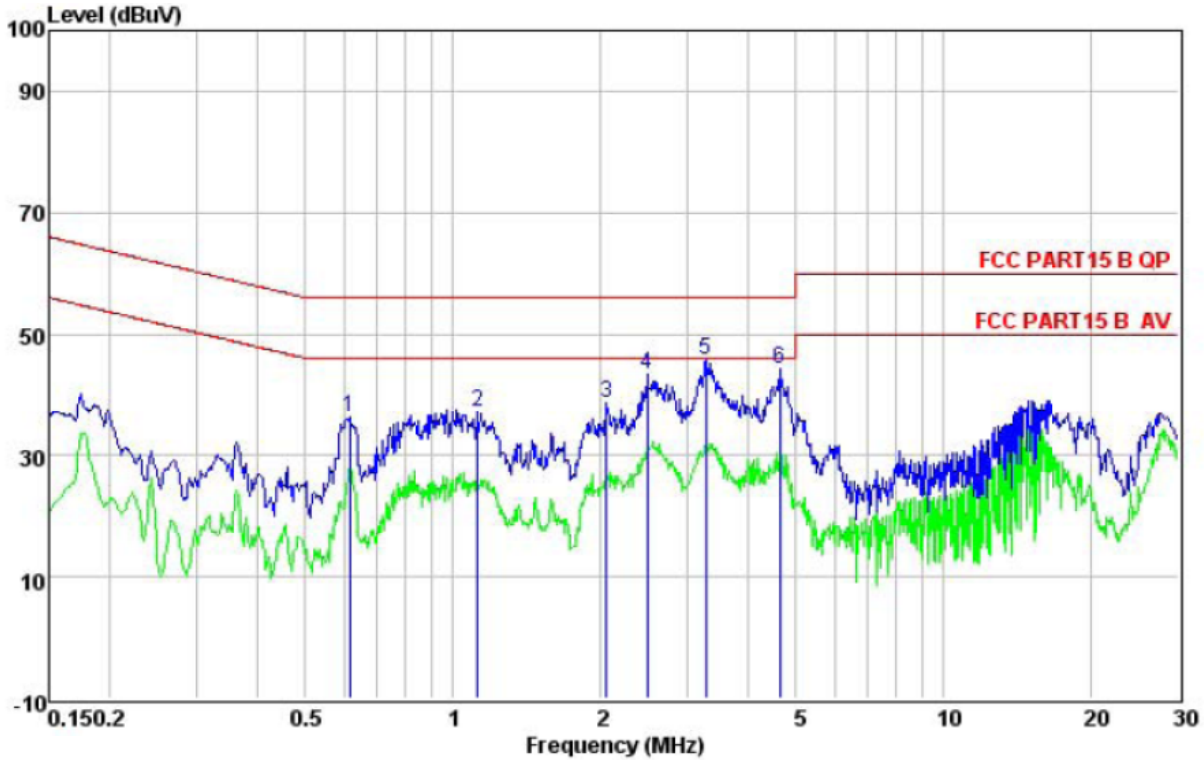
EUT:	3G Mobile M/N: SUN
Operating Condition:	Downloading mode
Test Site:	Shielded room
Operator:	Wilson
Test Specification:	AC120V/60Hz
Polarization:	Line
Note	Tem:25℃ Hum:50%



	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.614	27.00	10.21	0.77	37.98	56.00	-18.02	QP
2	0.771	27.76	10.19	0.79	38.74	56.00	-17.26	QP
3	1.054	29.18	10.21	0.84	40.23	56.00	-15.77	QP
4	2.487	33.83	10.28	0.95	45.06	56.00	-10.94	QP
5	3.224	34.32	10.29	0.90	45.51	56.00	-10.49	QP
6	4.574	30.24	10.29	0.88	41.41	56.00	-14.59	QP

Conducted Emission Test Data

EUT:	3G Mobile M/N: SUN
Operating Condition:	Downloading mode
Test Site:	Shielded room
Operator:	Wilson
Test Specification:	AC 120V/60Hz
Polarization:	Neutral
Note	Tem:25℃ Hum:50%



	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.614	25.36	10.21	0.77	36.34	56.00	-19.66	QP
2	1.123	26.18	10.21	0.79	37.18	56.00	-18.82	QP
3	2.055	27.57	10.27	0.96	38.80	56.00	-17.20	QP
4	2.487	32.17	10.27	0.95	43.39	56.00	-12.61	QP
5	3.276	34.68	10.28	0.90	45.86	56.00	-10.14	QP
6	4.622	32.97	10.28	0.88	44.13	56.00	-11.87	QP

5. Radiated Emission Test

5.1. Test Standard and Limit

5.1.1. Test Standard

FCC Part15 B Section 15.109

5.1.2 Test Method

ANSI C63.4:2003

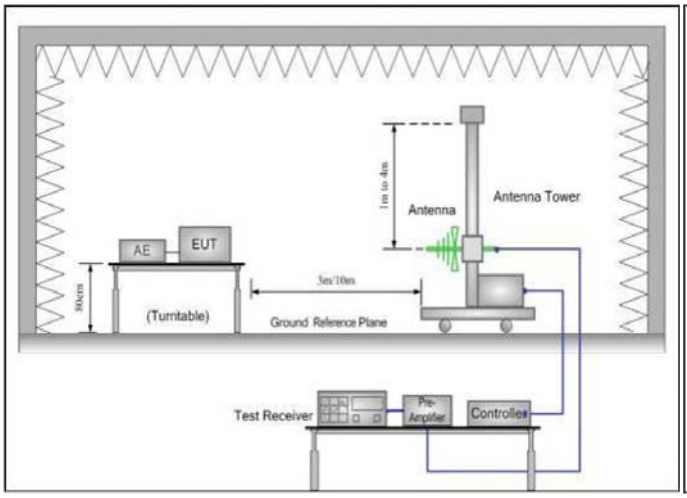
5.1.3 Test Limit

Radiated Emission Test Limit (Class B)

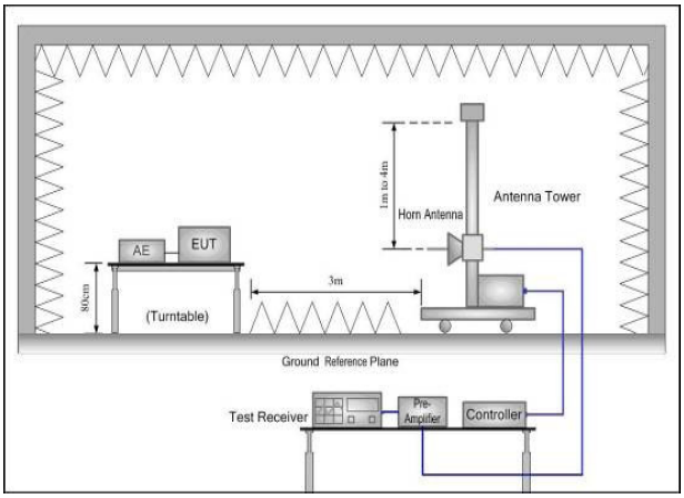
Frequency (MHz)	Limit (dBμV/m)	
	At 3m Distance	
30MHz~88MHz	40	Quasi-peak
88MHz~216MHz	43.5	Quasi-peak
216MHz~960MHz	46	Quasi-peak
960MHz~1000MHz	54	Quasi-peak
Above 1000MHz	54	Average
	74	Peak
Remark: 1. The lower limit shall apply at the transition frequency.		

5.2. Test Setup

Below 1GHz



Above 1GHz



5.3. 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 camber. 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.

5.4. Test Data

Remark:
During the test, pre-scan the Downloading mode, playing mode, Recording mode& FM receiver mode, and found the Downloading mode is the worst case.
The emissions worst-case are shown in Test Results of the following pages.

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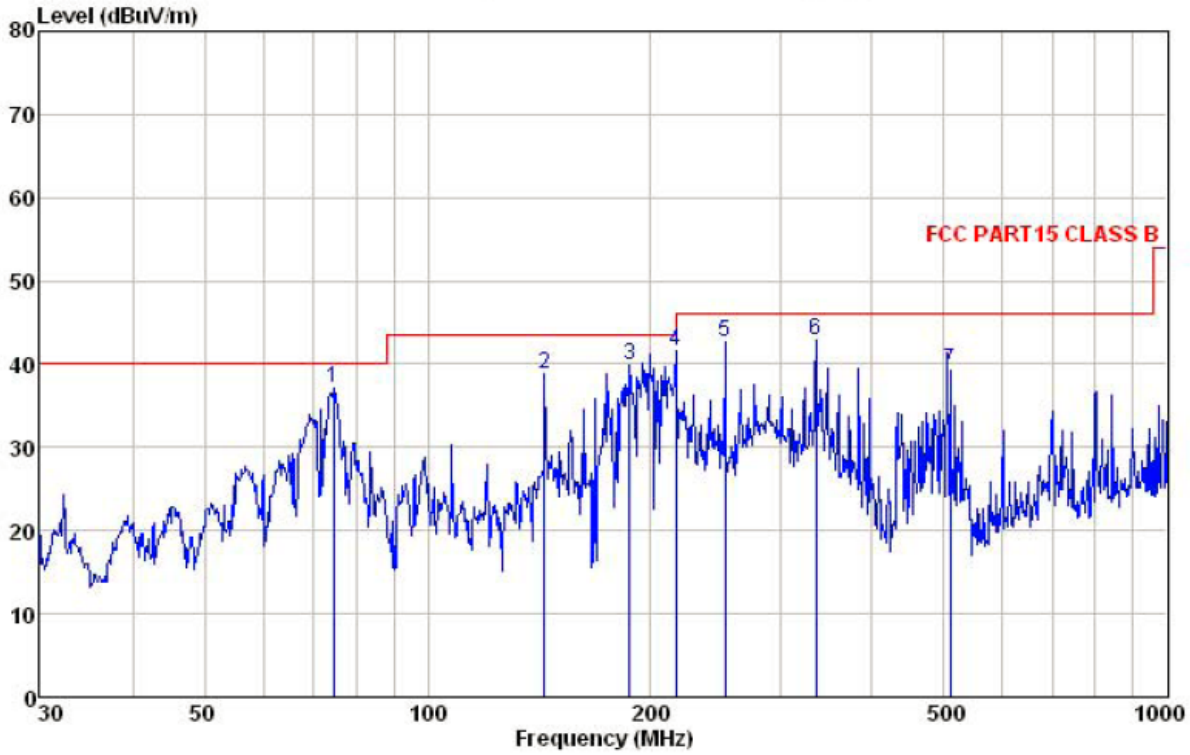
Radiated Emission Test Data (Below 1GHz)

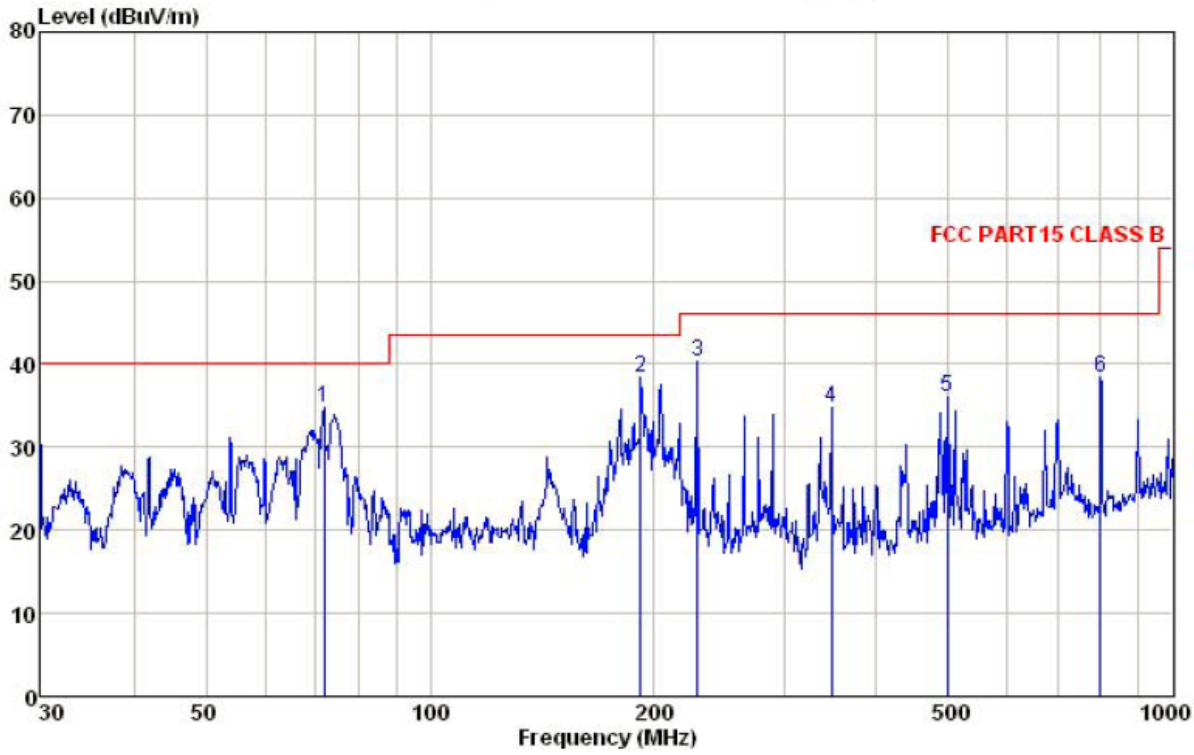
EUT:	3G Mobile M/N: SUN
Operating Condition:	Downloading mode
Test Site:	3m Chamber
Operator:	Wilson
Test Specification:	AC 120V/60Hz
Polarization:	Vertical
Note	Tem:25℃ Hum:50%



	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	74.657	57.76	7.80	1.63	30.13	37.06	40.00	-2.94	
2	143.830	57.44	8.22	2.44	29.32	38.78	43.50	-4.72	
3	187.096	55.75	10.32	2.78	29.06	39.79	43.50	-3.71	
4	216.024	57.32	11.07	2.85	29.74	41.50	46.00	-4.50	
5	252.063	57.46	12.07	2.82	29.59	42.76	46.00	-3.24	
6	336.035	55.44	13.99	3.05	29.61	42.87	46.00	-3.13	
7	510.044	49.33	16.79	3.67	30.52	39.27	46.00	-6.73	

Radiated Emission Test Data (Below 1GHz)

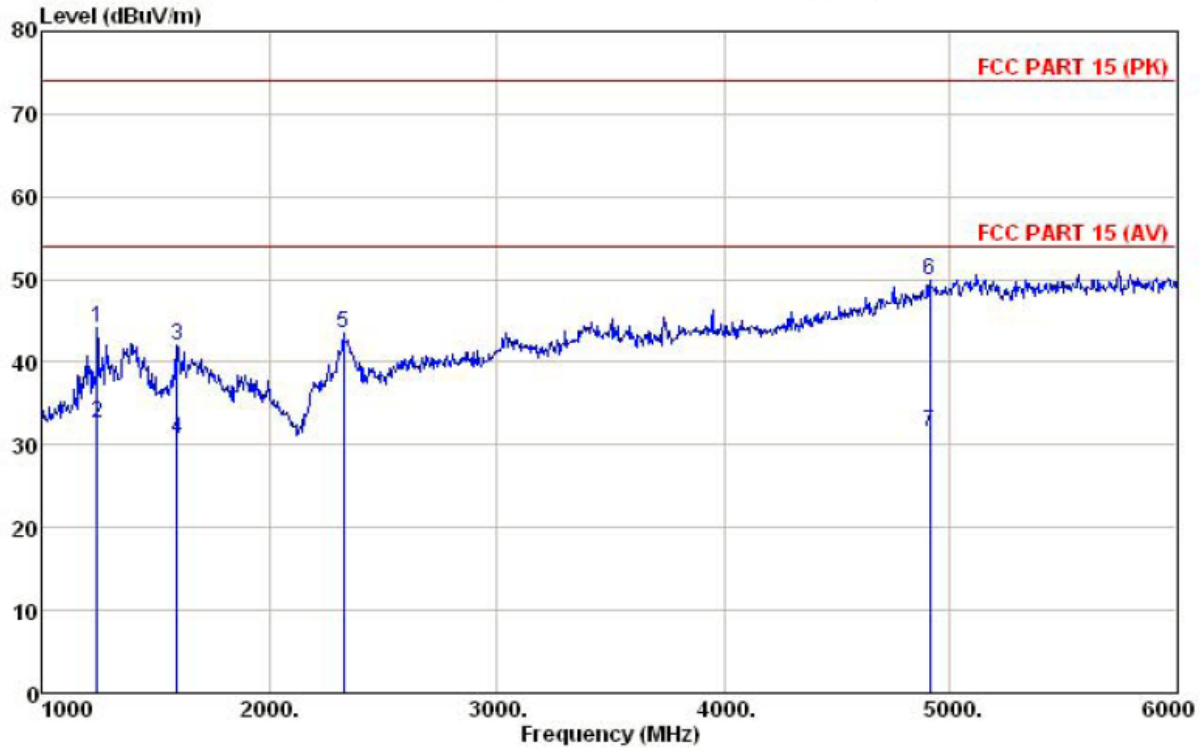
EUT:	3G Mobile M/N: SUN
Operating Condition:	Downloading mode
Test Site:	3m Chamber
Operator:	Wilson
Test Specification:	AC 120V/60Hz
Polarization:	Horizontal
Note	Tem:25℃ Hum:50%



	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	72.084	55.12	8.26	1.56	30.14	34.80	40.00	-5.20	
2	191.745	54.77	10.56	2.81	29.83	38.31	43.50	-5.19	
3	228.490	55.67	11.57	2.84	29.68	40.40	46.00	-5.60	
4	348.027	47.00	14.25	3.09	29.67	34.67	46.00	-11.33	
5	497.677	46.47	16.52	3.60	30.52	36.07	46.00	-9.93	
6	798.980	44.45	20.06	4.35	30.41	38.45	46.00	-7.55	

Radiated Emission Test Data (Above 1GHz)

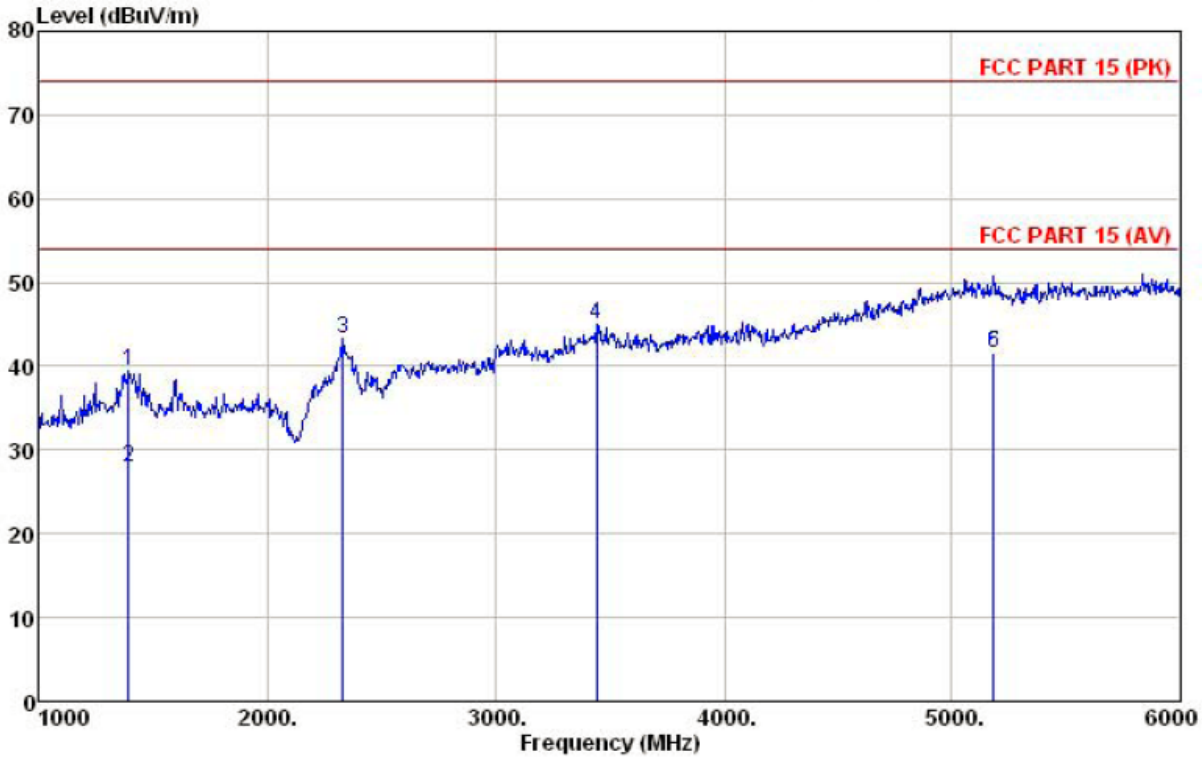
EUT:	3G Mobile M/N: SUN
Operating Condition:	Downloading mode
Test Site:	3m Chamber
Operator:	Wilson
Test Specification:	AC 120V/60Hz
Polarization:	Vertical
Note	Tem:25℃ Hum:50%



	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	1240.000	56.10	25.49	3.54	40.90	44.23	74.00	-29.77	Peak
2	1240.000	44.54	25.49	3.54	40.90	32.67	54.00	-21.33	Average
3	1590.000	53.93	24.98	4.08	40.97	42.02	74.00	-31.98	Peak
4	1590.000	42.73	24.98	4.08	40.97	30.82	54.00	-23.18	Average
5	2325.000	46.22	27.89	5.35	35.98	43.48	74.00	-30.52	Peak
6	4915.000	49.36	31.59	9.02	40.10	49.87	74.00	-24.13	Peak
7	4915.000	31.16	31.59	9.02	40.10	31.67	54.00	-22.33	Average

Radiated Emission Test Data (Above 1 GHz)

EUT:	3G Mobile M/N: SUN
Operating Condition:	Downloading mode
Test Site:	3m Chamber
Operator:	Wilson
Test Specification:	AC 120V/60Hz
Polarization:	Horizontal
Note	Tem:25℃ Hum:50%



	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	1390.000	51.18	25.50	3.70	40.94	39.44	74.00	-34.56	Peak
2	1390.000	39.64	25.50	3.70	40.94	27.90	54.00	-26.10	Average
3	2330.000	45.96	27.89	5.35	35.98	43.22	74.00	-30.78	Peak
4	3440.000	49.25	28.60	6.36	39.21	45.00	74.00	-29.00	Peak
5	5185.000	40.64	31.96	9.13	40.08	41.65	74.00	-32.35	Peak
6	5185.000	40.64	31.96	9.13	40.08	41.65	54.00	-12.35	Average