



47 CFR PART 15B

TEST REPORT

of

GSM Mobile Phone Watch

Model Name: M500
Brand Name: WATCHFONE
Report No.: SZ07030048E03
FCC ID: U8RM500

prepared for

SMS Technology Australia PTY Ltd.

Suite 8 Harbour Point, Marina Shopping Village Santa Barbara Road,
Hope Island Queensland 4212, Australia



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1. TEST CERTIFICATION

Equipment under Test: GSM Mobile Phone Watch

Application Type: Certification

FCC ID: U8RM500

Model Name: M500

Brand Name: WATCHFONE

Applicant Information: SMS Technology Australia PTY Ltd.

Address: Suite 8 Harbour Point,
Marina Shopping Village Santa Barbara Road,
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Test Standards: 47 CFR Part 15B

Test Date(s): April 21, 2007 - April 22, 2007

Test Result: PASS

* We Hereby Certify That:

The equipment was tested by Shenzhen Electronic Product Quality Testing Center Morlab Laboratory. The test results of this report only apply for the sample equipment identified above. The test data, data evaluation, test procedures and equipment configurations shown in this report were made according to the requirements of related FCC rules. The test report shall be invalid without all the signatures of the test engineer, the reviewer and the approver.

Tested by:	<u>Ni Yong</u> Ni Yong	Dated:	<u>2007. 4. 23</u>
Reviewed by:	<u>Zhang Weimin</u> Zhang Weimin	Dated:	<u>2007. 4. 23</u>
Approved by:	<u>Shu Luan</u> Shu Luan	Dated:	<u>2007. 4. 23</u>



2. GENERAL INFORMATION

2.1 Test Sample Information

For the test sample received from/supplied by the applicant, we summarized as below:

1. Equipment under Test (EUT)

EUT Description.....: GSM Mobile Phone Watch
Model Name.....: M500
Manufacturer.....: ELECA (HK) LTD
59th Floor, Diwang Commercial Centr 5002 ShenNan Road, Shenzhen,
P. R. China
Serial No.....: (n.a., marked #1 by test site)
Hardware Version.....: V1.0
Software Version.....: V0.0.1
Power Supply.....: Battery
Model Name: M500
Brand Name: ELECA
Manufacturer: ELECA POWER TECH. LTD.
Serial No.: (n.a., marked #1 by test site)
Capacitance: 400mAh
Voltage: Rated Normal Voltage: 3.7VDC
Lowest Extreme Voltage: 3.5VDC
Highest Extreme Voltage: 4.2VDC

2. Ancillary Equipments (AE)

AE-1.....: USB Cable
Model Name: (n.a.)
Brand Name: (n.a.)
Manufacturer: (n.a.)
Serial No.: (n.a., marked #1 by test site)
Wire Length: 150cm

3. Test Sample Configuration

- (a) The Test Sample (EUT) is classified as a "Class B digital device", which is mainly considered as a computer peripheral in this test report.
- (b) For more detailed description about the Test Sample (EUT), please refer to specification or user's manual supplied by the applicant and/or manufacturer.

2.2 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 for the FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 15 (10-1-05 Edition)	Radio Frequency Devices

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Result	Date of Test
1	15.107	Conducted Emissions	PASS	2007-4-22
2	15.109	Radiated Emissions	PASS	2007-4-22

2.3 Facilities and Accreditations

2.3.1 Facilities

Shenzhen Electronic Product Quality Testing Center Morlab Laboratory is a testing organization accredited by China National Accreditation Board for Laboratories (CNAL) according to ISO/IEC 17025. The accreditation certificate number is L1659.

All measurement facilities used to collect the measurement data are located at Electronic Testing Building, Shahe Road, Xili, Nanshan District, Shenzhen 518055 CHINA. The test site is constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22; the FCC registration number is 741109.

2.3.2 Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	20 - 25
Relative Humidity (%):	40 - 60
Atmospheric Pressure (kPa):	960

3. 47 CFR PART 15B REQUIREMENT

3.1 Test Modes

According to the description of Test Sample Configuration in section 2.1 of this test report, several test modes are employed to perform tests as below for the actual application:

1. USB Test Mode

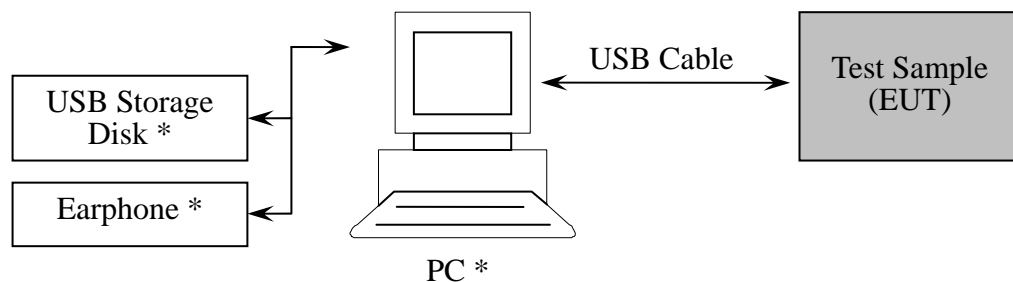
The Test Sample (EUT) operates as a peripheral equipment of the computer (PC).

A file is transferred continually between the PC and the internal memory of the EUT through the USB Cable (AE-1).

The Test Sample (EUT) is powered by the Battery, which is also charged with the USB Cable (AE-1) powered by 120V 60Hz AC mains supply.

The PC as host is also configured with other peripheral equipments connected to it for a minimum of two different types of available I/O protocols, here a USB Storage Disk for the USB I/O protocol of the PC and a Earphone for the Audio I/O protocol of the PC are employed; The PC is powered by 120V 60Hz AC mains supply.

The figure below is the test configuration for the Test Sample (EUT) employed in this test report under this test mode (Note: * indicates the equipments supplied by test site for testing):



3.2 Conducted Emissions

3.2.1 Requirement

According to FCC section 15.107, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50Ohm line impedance stabilization network (LISN).

Frequency Range (MHz)	Conducted Limit (dB μ V)	
	Quai-Peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
0.50 - 30	60	50

NOTE:

- The limit subjects to the Class B digital device.
- The lower limit shall apply at the band edges.
- The limit decreases linearly with the logarithm of the frequency in the range from 0.15MHz to 0.50MHz.

3.2.2 Test Procedure

- The test frequency range is from 150kHz to 30MHz.
- The Peak (PK) detector is employed to sweep the conducted interference over the test frequency range.
- For the swept signals that are more than or have narrow negative margins beyond the Average (AV) and Quasi-peak (QP) limit lines, the AV and QP detectors are employed to measure these suspect signals to find their maximum QP and AV readings.
- Both L Phase and N Phase lines of the power mains connected to the Test Sample (EUT) are employed to perform this test.
- All Test Modes for the Test Sample (EUT) listed in section 3.1 are employed to perform this test.

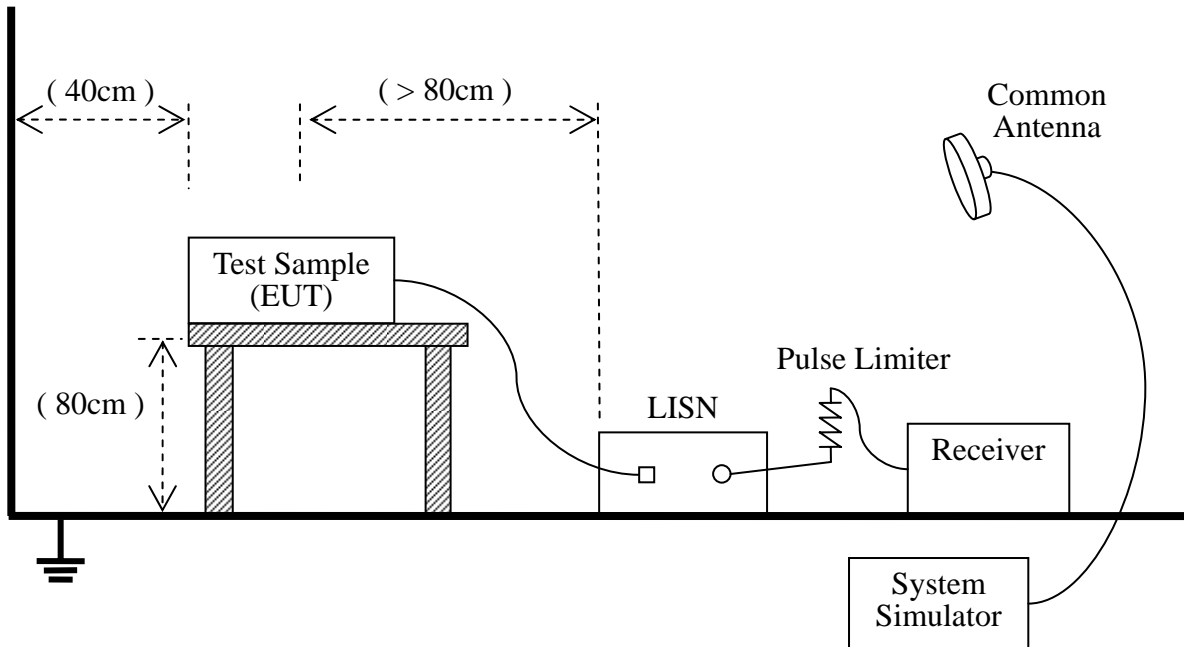
3.2.3 Test Setup

1. Test Setup Sketch

The Test Sample (EUT) is placed on a 0.8m high insulating table, which stands on the grounded conducting floor, and keeps 0.4m away from the grounded conducting wall. The Test Sample (EUT) is connected to the power mains through a LISN which provides 50 μ H/50Ohm of coupling

impedance for the measuring instrument of a Receiver. A Pulse Limiter is employed to protect the measuring instrument. The factors of the whole test system are calibrated to correct the reading.

The Test Sample (EUT) works together with a System Simulator via a Common Antenna.



2. Equipments List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Receiver	Agilent	E7405A	US44210471	2006.07	1year
LISN	Schwarzbeck	NSLK 8127	812744	2006.08	1year
Pulse Limiter (20dB)	Schwarzbeck	VTSD 9561-D	9391	(n.a.)	(n.a.)
System Simulator	Agilent	E5515C	GB43130131	2006.06	1year
Common Antenna	(n.a.)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
USB Storage Disk	DEC	256MB	(n.a.)	(n.a.)	(n.a.)
Earphone	(n.a.)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
PC	HP	Pavilion ze2202	CNF5460DNL	(n.a.)	(n.a.)

3.2.4 Test Result

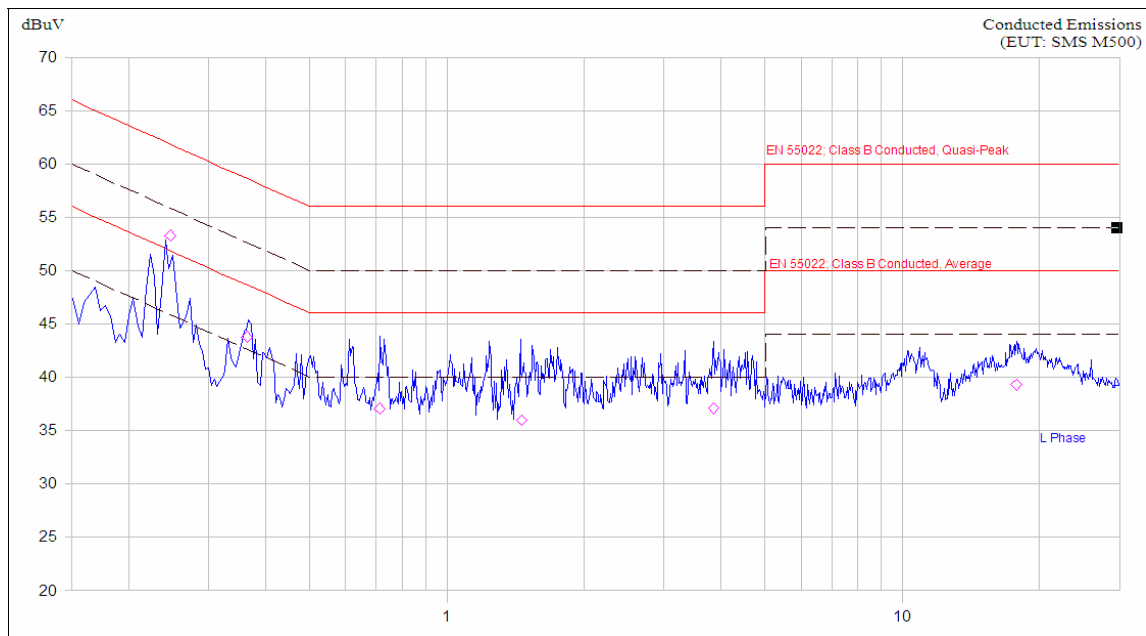
1. USB Test Mode

a) Test Verdict Recorded for Suspect Points

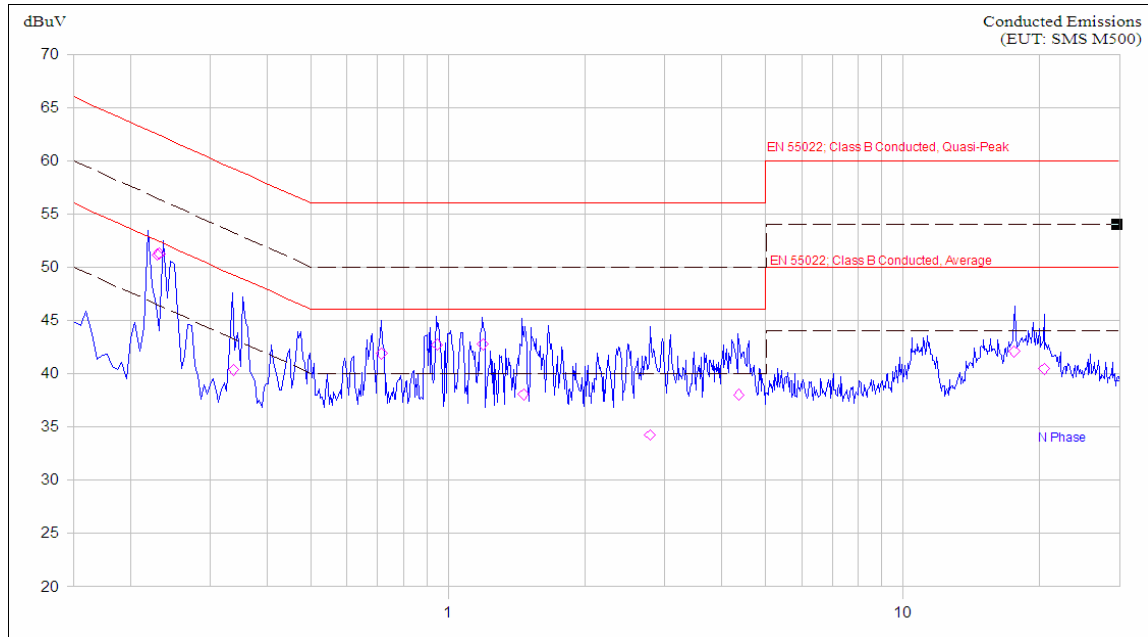
No.	@Frequency (MHz)	Suspect Emission Levels (dBμV)				Limit (dBμV)		Verdict
		PK	QP	AV	Phase	QP	AV	
1	0.247	53.3	48.9	43.4	L	61.9	51.9	PASS

No.	@Frequency (MHz)	Suspect Emission Levels (dB μ V)				Limit (dB μ V)		Verdict
		PK	QP	AV	Phase	QP	AV	
2	0.364	43.8	37.3	27.0	L	58.6	48.6	PASS
3	0.711	37.0	30.6	24.1	L	56.0	46.0	PASS
4	1.461	35.9	31.5	25.7	L	56.0	46.0	PASS
5	3.857	37.1	31.7	25.6	L	56.0	46.0	PASS
6	17.826	39.3	35.2	29.3	L	60.0	50.0	PASS
7	0.229	51.2	44.9	33.6	N	62.5	52.5	PASS
8	0.232	51.3	46.9	35.0	N	62.4	52.4	PASS
9	0.337	40.3	42.1	36.0	N	59.3	49.3	PASS
10	0.715	41.9	35.4	28.2	N	56.0	46.0	PASS
11	0.945	42.7	39.2	27.7	N	56.0	46.0	PASS
12	1.192	42.7	39.0	28.1	N	56.0	46.0	PASS
13	1.466	38.1	31.8	25.4	N	56.0	46.0	PASS
14	2.777	34.2	30.3	23.1	N	56.0	46.0	PASS
15	4.359	38.0	33.5	23.3	N	56.0	46.0	PASS
16	17.617	42.0	37.5	34.8	N	60.0	50.0	PASS
17	20.475	40.4	35.0	29.0	N	60.0	50.0	PASS

b) Test Plots



(Plot A: L Phase)



(Plot B: N Phase)

3.3 Radiated Emissions

3.3.1 Requirement

According to FCC section 15.109, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency range (MHz)	Field Strength	
	$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

NOTE:

- Field Strength ($\text{dB}\mu\text{V/m}$) = $20 \cdot \log[\text{Field Strength } (\mu\text{V/m})]$.
- In the emission tables above, the tighter limit applies at the band edges.

3.3.2 Test Procedure

- The test frequency range is from 30MHz to 1GHz.
- The Test Antenna is located at 1m height. The Peak (PK) detector is employed to sweep the radiated interference over the test frequency range while the Turn Table is located separately at the degree of $\text{DEG}_{\text{TT}}(\text{N}) = \text{N} \cdot 45$, $\text{N} \in [0, 8]$.
- For each swept signal that is more than or have narrow negative margins beyond the Quasi-peak (QP) limit line, rotate the Turn Table and vary the Test Antenna height until the emission is at its highest amplitude; then tuned the Receiver and use the QP detector to measure this suspect signal to find its maximum QP reading.
- Both the Vertical (V) and the Horizontal (H) polarizations of the Test Antenna are employed to perform this test.
- All Test Modes for the Test Sample (EUT) listed in section 3.1 are employed to perform this test.

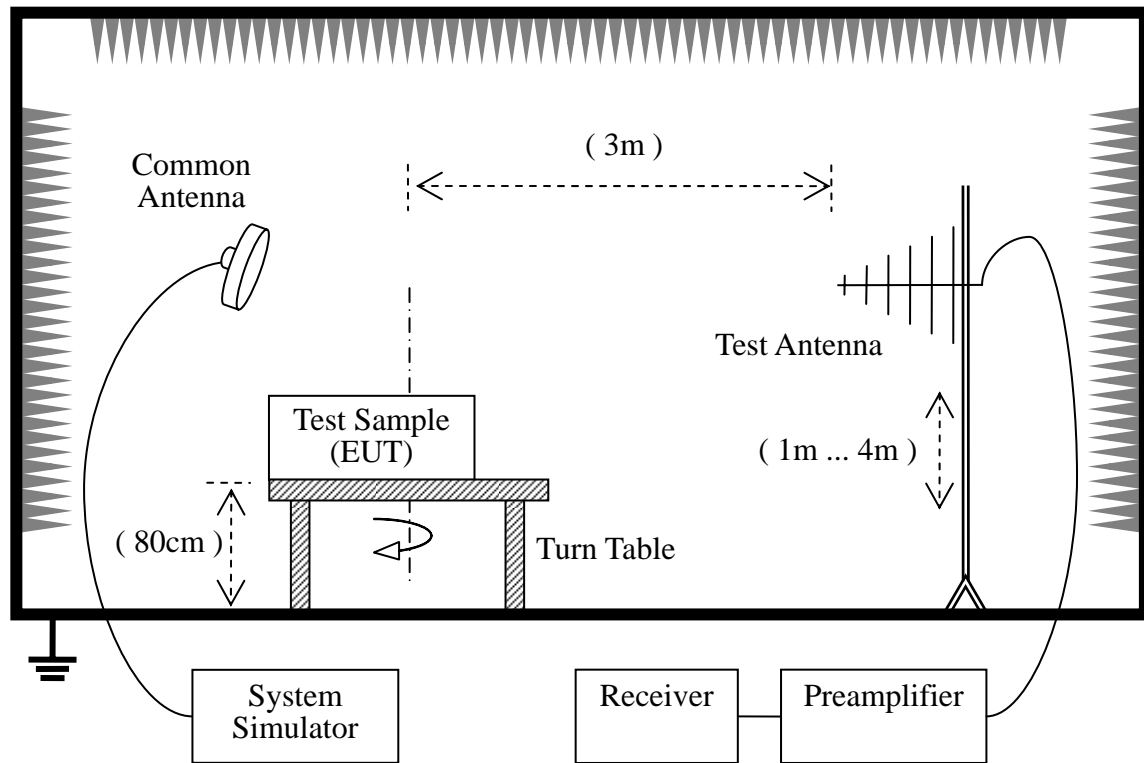
3.3.3 Test Setup

1. Test Setup Sketch

The test is performed in a 3m Semi-Anechoic Chamber. The Test Sample (EUT) is placed on a 0.8m high insulating Turn Table and keeps 3m away from the Test Antenna which is a Bi-Log one with working frequency range from 30MHz to 3GHz and is mounted on a variable-height antenna master

tower. If applicable, a Preamplifier is employed for the measuring instrument of a Receiver. The factors of the whole test system are calibrated to correct the reading.

The Test Sample (EUT) works together with a System Simulator (SS) via a Common Antenna.



2. Equipments List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Receiver	Agilent	E7405A	US44210471	2006.07	1year
Semi-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2006.08	2year
Test Antenna (Bi-Log)	Schwarzbeck	VULB 9163	9163-274	2006.07	1year
System Simulator	Agilent	E5515C	GB43130131	2006.06	1year
Preamplifier	(n.a.)	20dB	(n.a.)	(n.a.)	(n.a.)
Common Antenna	(n.a.)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
USB Storage Disk	DEC	256MB	(n.a.)	(n.a.)	(n.a.)
Earphone	(n.a.)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
PC	HP	Pavilion ze2202	CNF5460DNL	(n.a.)	(n.a.)

3.3.4 Test Result

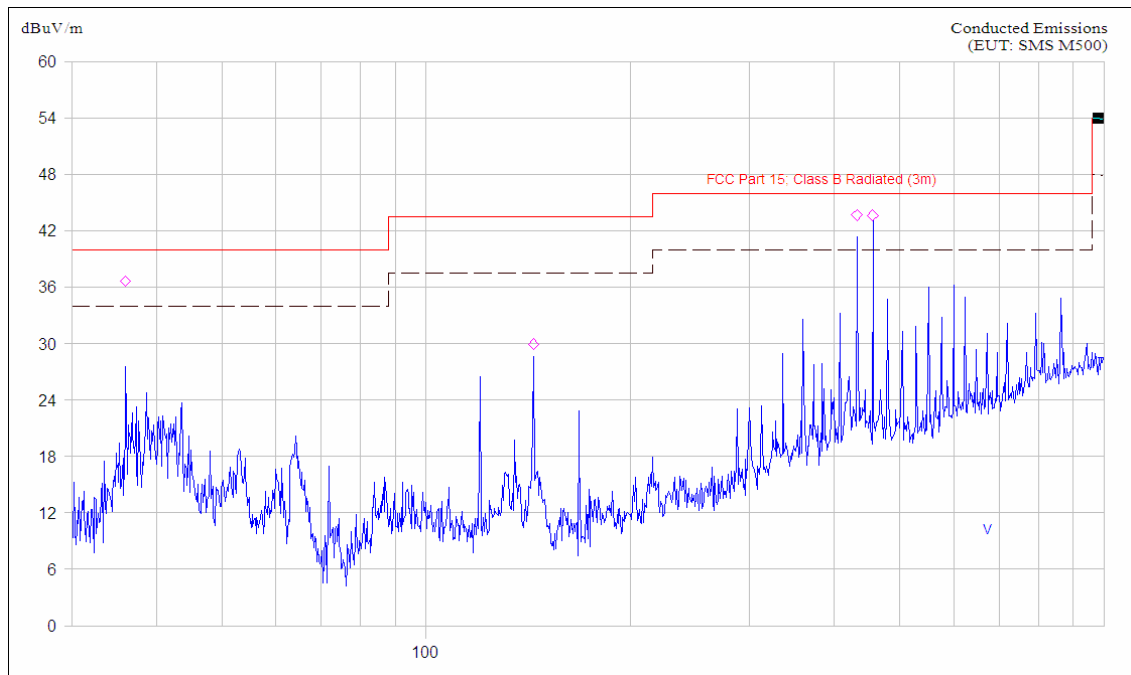
NOTE: the emissions of Test Sample (EUT) and SS carrier frequencies should be ignored.

1. USB Test Mode

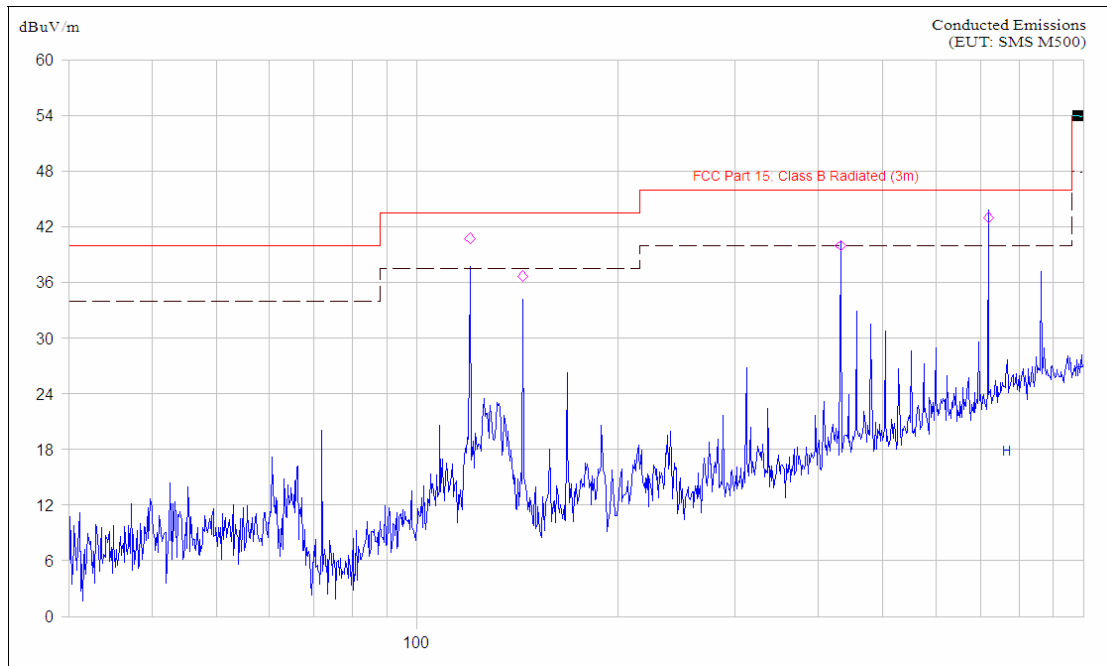
a) Test Verdict Recorded for Suspect Points

No.	@Frequency (MHz)	Suspect Emission Levels (dB μ V/m)			QP Limit (dB μ V/m)	Result
		PK	QK	Antenna Polarization		
1	43.045	32.5	22.5	V	40.0	PASS
2	144.020	33.9	32.4	V	43.5	PASS
3	432.056	42.2	40.0	V	46.0	PASS
4	456.056	43.9	43.0	V	46.0	PASS
5	120.005	39.8	38.7	H	43.5	PASS
6	720.087	45.0	43.0	H	46.0	PASS
7	864.113	44.1	41.8	H	46.0	PASS

b) Test Plots



(Plot A: Test Antenna Vertical)



** END OF REPORT **