



47 CFR PART 15 SUBPART B

TEST REPORT

of

CDMA 1X Wireless Data Terminal

Model Name: MG880+
Brand Name: ZTE中兴
Report No.: SZ08120080E02
FCC ID: Q78-MG880PLUS

prepared for

ZTE Corporation

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District,
Shenzhen, Guangdong, P.R.China

prepared by

Shenzhen Electronic Product Quality Testing Center Morlab Laboratory

3/F, Electronic Testing Building, Shahe Road, Xili,
Nanshan District, Shenzhen, 518055 P. R. China

Tel: +86 755 86130398

Fax: +86 755 86130218



NOTE: This test report can be duplicated completely for the legal use with the approval of the applicant; it shall not be reproduced except in full, without the written approval of Shenzhen Electronic Product Quality Testing Center Morlab Laboratory. Any objections should be raised to us within thirty workdays since the date of issue.

TABLE OF CONTENTS

1.	TEST CERTIFICATION	3
2.	GENERAL INFORMATION	4
2.1	EUT Description	4
2.2	Test Standards and Results	5
2.3	Facilities and Accreditations	6
2.3.1	Facilities	6
2.3.2	Test Environment Conditions.....	6
2.3.3	Measurement Uncertainty	6
3.	TEST CONDITIONS SETTING.....	7
3.1	Test Mode	7
3.2	Test Setup and Equipments List.....	8
3.2.1	Conducted Emission.....	8
3.2.2	Radiated Emission.....	9
4.	47 CFR PART 15B REQUIREMENTS	10
4.1	Conducted Emission	10
4.1.1	Requirement	10
4.1.2	Test Description	10
4.1.3	Test Result	10
4.1.3.1	Call Mode (Pass).....	10
4.2	Radiated Emission	12
4.2.1	Requirement	12
4.2.2	Test Description	12
4.2.3	Test Result	12

1. TEST CERTIFICATION

Equipment under Test: CDMA 1X Wireless Data Terminal

Brand Name: ZTE中兴

Model Name: MG880+

FCC ID: Q78-MG880PLUS

Applicant: ZTE Corporation

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District,
Shenzhen, Guangdong, P.R.China

Manufacturer: ZTE Corporation

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District,
Shenzhen, Guangdong, P.R.China

Test Standards: 47 CFR Part 15 Subpart B

Test Date December 13, 2008 –December 20, 2008

Test Result: PASS

* We Hereby Certify That:

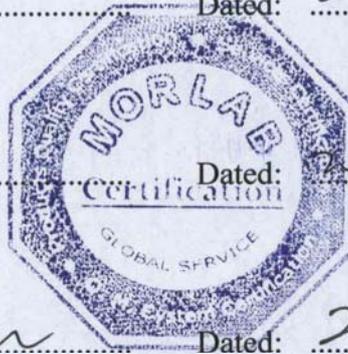
The equipment under test was tested by Shenzhen Electronic Product Quality Testing Center Morlab Laboratory. The test data, data evaluation, test procedures and equipment configurations shown in this report were made in accordance with the requirement of related FCC rules.

The test results of this report only apply for the tested sample equipment identified above. The test report shall be invalid without all the signatures of the test engineer, the reviewer and the approver.

Tested by: Che Shuxiang Dated: 2009.01.05
Che Shuxiang

Reviewed by: Wei Yanquan Dated: 2009.01.05
Wei Yanquan

Approved by: Shu Luan Dated: 2009.01.05
Shu Luan



2. GENERAL INFORMATION

2.1 EUT Description

EUT Type: CDMA 1X Wireless Data Terminal
Model Name.....: MG880+
Serial No.: N/A
Hardware Version.....: MG880+MB_D3
Software Version: EVDO V3.4.0
Modulation Type: CMDA1X
Emission Designator: 1M25F9W

Note 1: The EUT is a model of CDMA 1X Wireless Data Terminal. When testing, the EUT was power by a USB point, and a connecting between EUT and base station was established at the start of the test, and maintained during the all test in this report.

Note 2: The EUT can receive the electric power from the PC via USB point.

Note 3: For a more detailed description, 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 Subpart B:

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	Test date
1	15.107	Conducted Emission	PASS	2008-12-18
2	15.109	Radiated Emission	PASS	2008-12-18

NOTE:

The tests were performed according to the method of measurements prescribed in ANSI C63.4 2003.

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 Service for Conformity Assessment (CNAS) 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):	96

2.3.3 Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

Uncertainty of Conducted Emission:	±1.8dB
Uncertainty of Radiated Emission:	±3.1dB

3. TEST CONDITIONS SETTING

3.1 Test Mode

1. The test modes of the EUT are showed as below:

(1) Call Mode:

The EUT configuration of the emission tests was EUT + PC.

During the measurement. A communication link was established between the MS and a System Simulator (SS).

(2) Idle Mode:

The EUT configuration of the emission tests was EUT + PC.

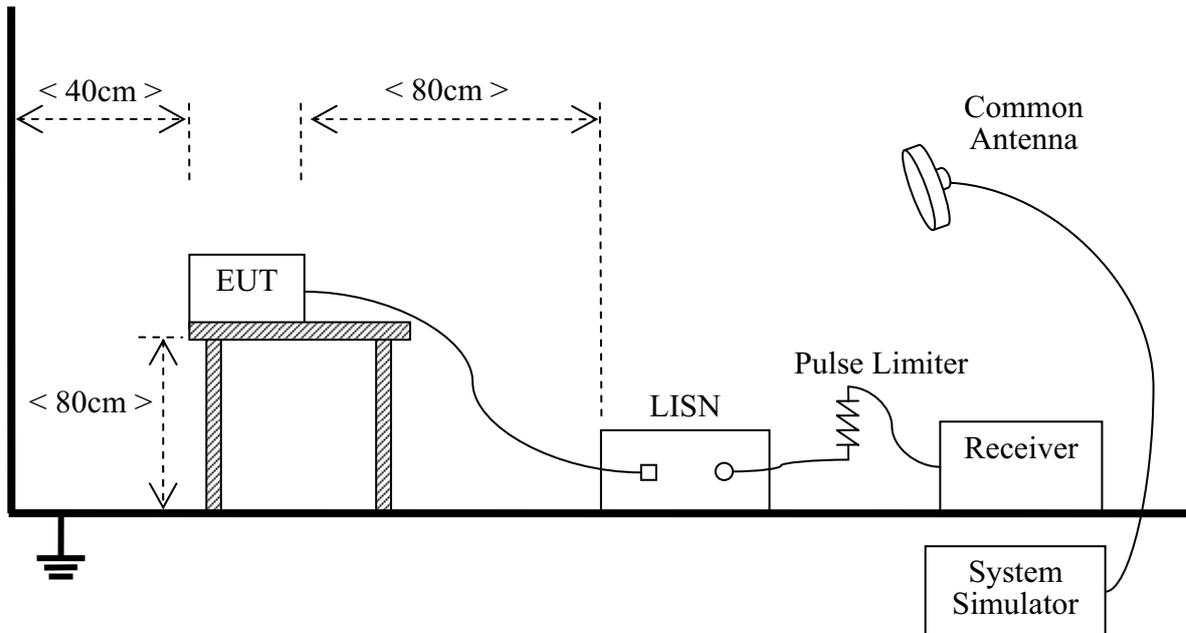
During the measurement. The MS was registered to the base station simulator but no call was set up.

NOTE: All test modes are performed, only the **Call Mode** was recorded in this report.

3.2 Test Setup and Equipments List

3.2.1 Conducted Emission

A. Test Setup:



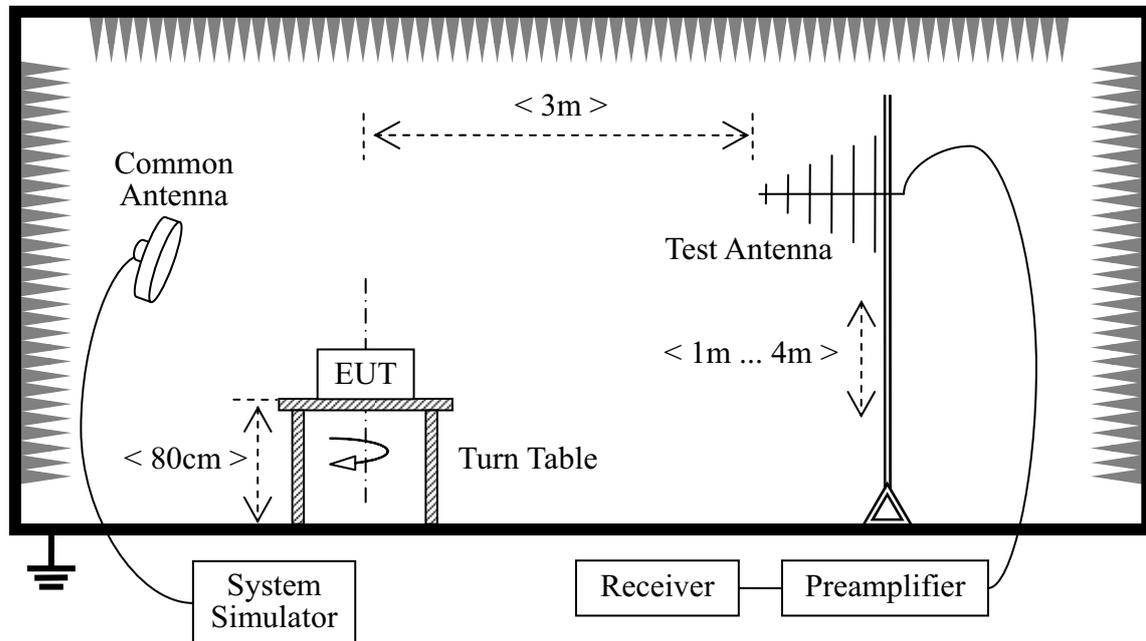
The EUT is placed on a 0.8m high insulating table, which stands on the grounded conducting floor, and keeps 0.4m away from the grounded conducting wall. The EUT is connected to the power mains through a LISN which provides $50\Omega/50\mu\text{H}$ of coupling impedance for the measuring instrument. The Common Antenna is used for the call between the EUT and the System Simulator (SS). A Pulse Limiter is used to protect the measuring instrument. The factors of the whole test system are calibrated to correct the reading.

B. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Receiver	Agilent	E7405A	US44210471	2008.09	1year
LISN	Schwarzbeck	NSLK 8127	812744	2008.09	1year
Pulse Limiter (20dB)	Schwarzbeck	VTSD 9561-D	9391	(n.a.)	(n.a.)
System Simulator	Agilent	E5515C	GB43130131	2008.09	1year
Personal Computer	IBM	IBM_T20	(n.a.)	(n.a.)	(n.a.)
Bluetooth-Headset	Nokia	HS-36W	(n.a.)	(n.a.)	(n.a.)
T-Flash Card	SanDisk	256MB	(n.a.)	(n.a.)	(n.a.)

3.2.2 Radiated Emission

C. Test Setup:



The test is performed in a 3m Semi-Anechoic Chamber; the antenna factor, cable loss and so on of the site (factors) is calculated to correct the reading. The EUT is placed on a 0.8m high insulating Turn Table, and keeps 3m away from the Test Antenna, which is mounted on a variable-height antenna master tower. The Common Antenna is used for the call between the EUT and the System Simulator (SS).

D. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Receiver	Agilent	E7405A	US44210471	2008.09	1year
Semi-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2008.08	2year
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2008.08	1year
Test Antenna - Horn	Schwarzbeck	BBHA 9120C	9120C-384	2008.08	1year
System Simulator	Agilent	E5515C	GB43130131	2008.09	1year
Personal Computer	IBM	IBM_T20	(n.a.)	(n.a.)	(n.a.)
Bluetooth-Headset	Nokia	HS-36W	(n.a.)	(n.a.)	(n.a.)
T-Flash Card	SanDisk	256MB	(n.a.)	(n.a.)	(n.a.)

4. 47 CFR PART 15B REQUIREMENTS

4.1 Conducted Emission

4.1.1 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/50 Ω 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
5 - 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 0.15 - 0.50MHz.

4.1.2 Test Description

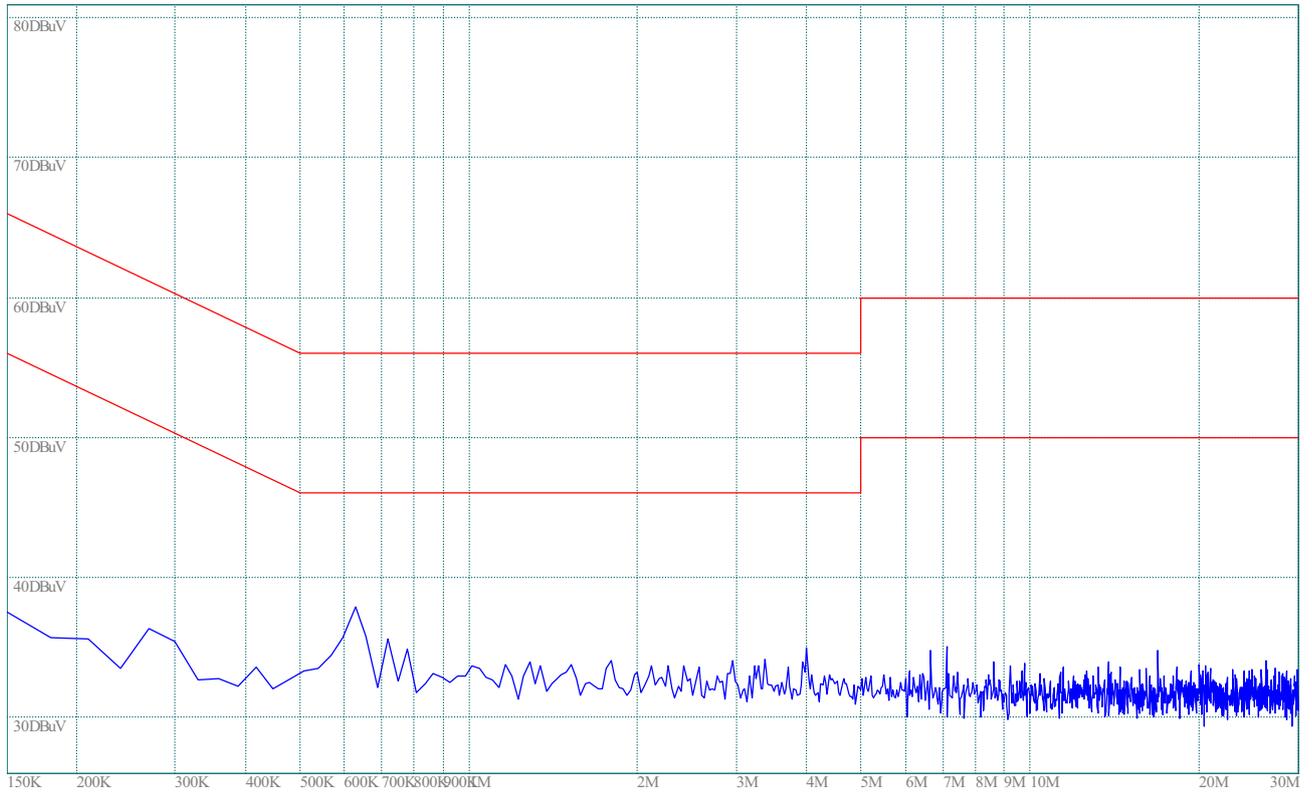
See section 3.2.1 of this report.

4.1.3 Test Result

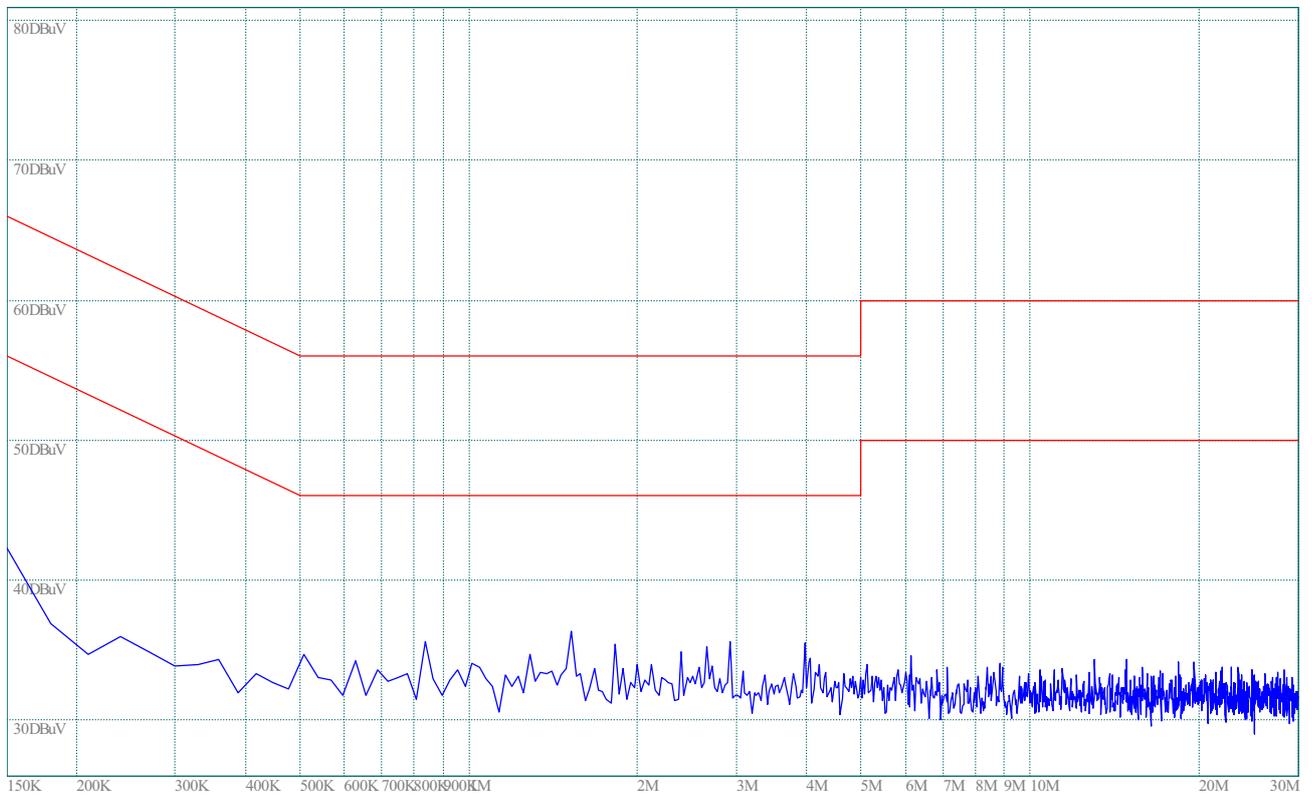
The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. All test modes are considered, refer to recorded points and plots below.

4.1.3.1 Call Mode (Pass)

A. Test Plot And Suspicious Points:



(Plot A: L Phase)



(Plot B: N Phase)

4.2 Radiated Emission

4.2.1 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.

4.2.2 Test Description

See section 3.2.2 of this report.

4.2.3 Test Result

The maximum radiated emission is searched using PK, QP and AV detectors; the emission levels more than the limits, and that have narrow margins from the limits will be re-measured with AV and QP detectors. Both the vertical and the horizontal polarizations of the Test Antenna are considered to perform the tests. All test modes are considered, refer to recorded points and plots below.

4.2.3.1 Call Mode (Pass)

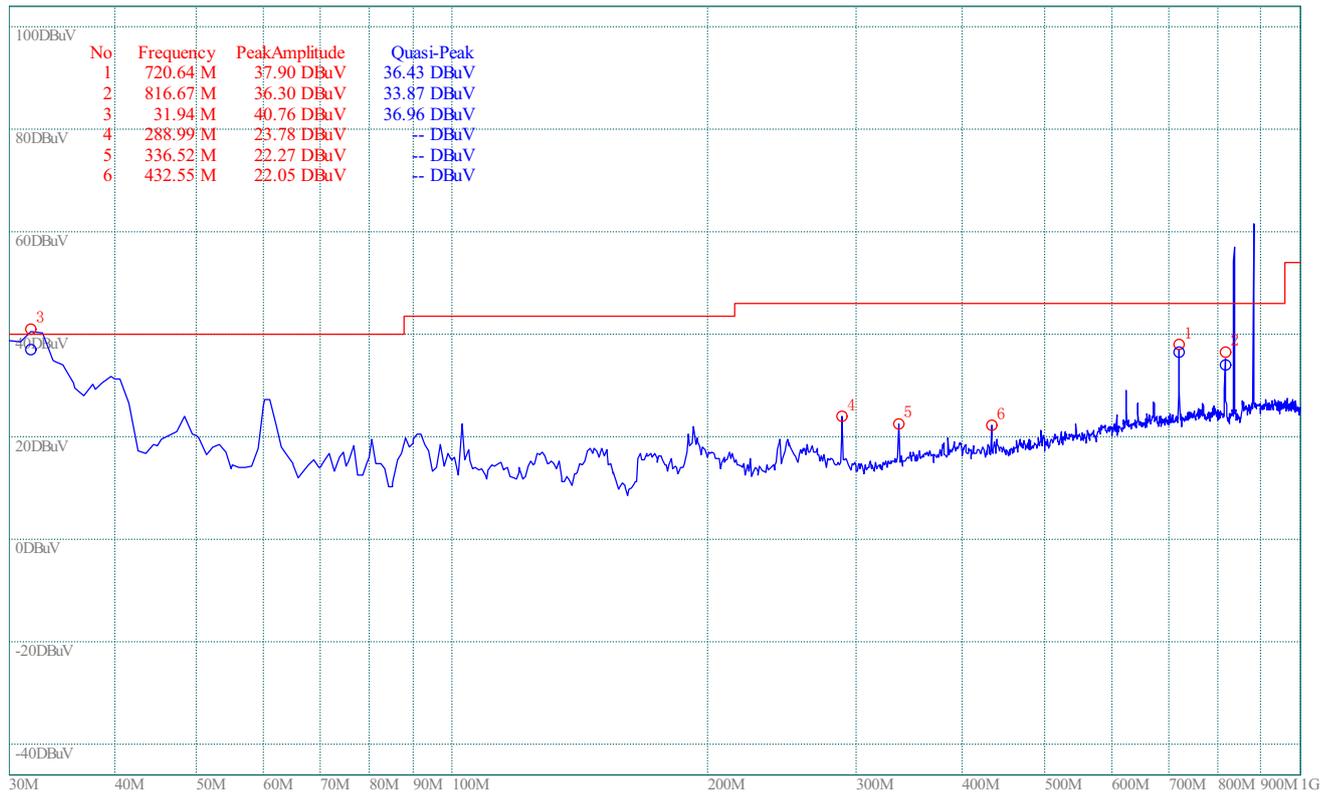
A: Test Verdict Recorded for Suspicious Points:

No.	Frequency (MHz)	Emission Level ($\text{dB}\mu\text{V/m}$)			Quasi-Peak Limit ($\text{dB}\mu\text{V/m}$)	Result
		Peak	Quasi-Peak	Antenna Polarization		
1	31.94	40.76	36.96	Vertical	40.0	PASS
2	720.64	37.90	36.43	Vertical	46.0	PASS
3	816.67	36.30	33.87	Vertical	46.0	PASS
4	33.88	30.56	--	Horizontal	40.0	PASS
5	288.99	25.38	22.25	Horizontal	46.0	PASS
6	720.64	37.93	36.32	Horizontal	46.0	PASS
7	816.67	42.25	38.49	Horizontal	46.0	PASS

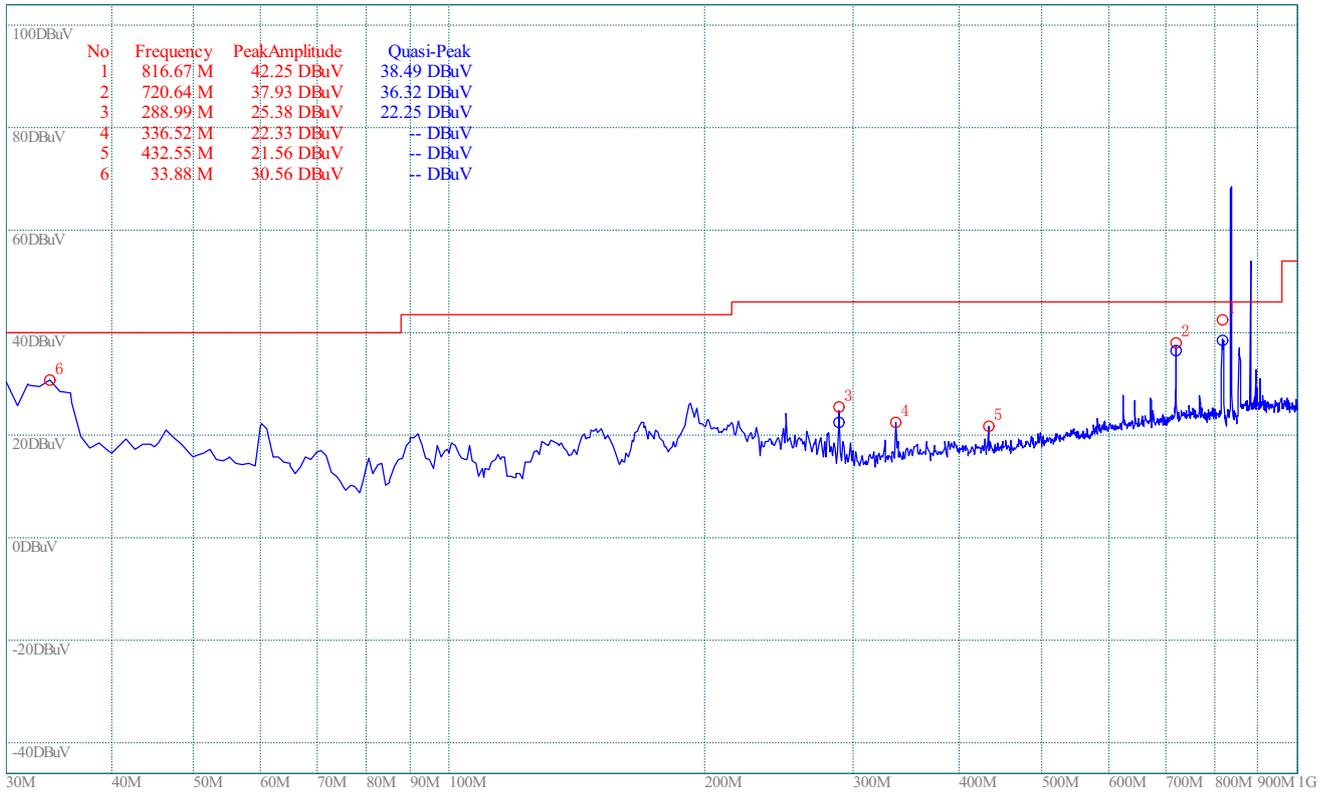
Note: "--" in the table above means that the emissions are too small to be measured and are at least 10 dB below the limit.

Following is the plots for emission measurement; please note that marked spikes with circle should be ignored because they are MS and SS carrier frequency.

B. Test Plot



(Plot A: Test Antenna Vertical)



(Plot B: Test Antenna Horizontal)

** END OF REPORT **