



47 CFR PART 15 SUBPART B

TEST REPORT

of

GSM Mobile Phone

Model Name: i117
Brand Name: VeryKool
Report No.: SH10040010E01
FCC ID: WA6I117

prepared for

verykool USA, Inc
4350 Executive Drive, Suite 100, San Diego, CA 92121, USA



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1. TEST CERTIFICATION

Equipment under Test: GSM Mobile Phone

Brand Name: VeryKool
 Model Name: i117
 FCC ID: WA6I117
 Applicant: verykool USA, Inc
 4350 Executive Drive. Suite 100, San Diego, CA 92121, USA
 Manufacturer: Verykool USA Inc.
 4350 Executive Dr. #100, San Diego, CA 92121, USA

Test Standards: 47 CFR Part 15 Subpart B

Test Date(s): May. 3 ,2010 –May.5 , 2010

Test Result: PASS

* We Hereby Certify That:

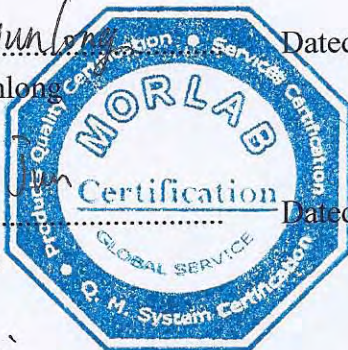
The equipment under test was tested by Shenzhen Electronic Product Quality Testing Center Morlab Laboratory. The test data, data evaluation, test procedures and equipment configurations shown in this report were made in accordance with the requirement of related FCC rules.

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: *Huangyunlong* Dated: *2010.5.10*
 Huangyunlong

Reviewed by: *ZhangJun* Dated: *2010.5.10*
 ZhangJun

Approved by: *WeiBei* Dated: *2010.5.10*
 Wei Bei



2. GENERAL INFORMATION

2.1 EUT Description

EUT Type.....: GSM Mobile Phone
Model Name: i117
Serial No.....: (n.a., marked #1 by test site)
Hardware Version: LKAM512B2
Software Version: LKAQR01_8_5_1_0T03G0206_M512
Modulation Type.....: GMSK
Ancillary Equipment 1: Battery
 Brand name: Verykool
 Mode Name.: 06CA31936
 Capacitance: 1000mAh
 Rated voltage: 3.7V
 Charge limited: 4.2V
 Manufacturer: SHENZHEN BAK BATTERY CO.,LTD
 BAK INDUSTRIAL ZONE KUICHONG
 ST LONGGANG DISTRICT
 SHENZHEN GUANGDONG CHINA
Ancillary Equipment 2: AC Adapter
 Model Name: ASUC1-050050
 Brand Name: verykool
 Rated Input: 100—240V AC 0.3A
 Rated Output: 5.0V DC 500mA
 Manufacturer: Aquilstar Co.,Ltd.

Note 1: A communication link between the EUT and a System Simulator (SS) is established at the start of the test, and maintained during the all test in this report.

Note 2: 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
1	15.107	Conducted Emission	PASS
2	15.109	Radiated Emission	PASS

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 Laboratories (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

3. TEST CONDITIONS SETTING

3.1 GSM Test Mode

1. During the measurement, the GSM radio is working. The test modes of the EUT are showed as below:

(1) Traffic operating mode

The EUT configuration of the emission tests is EUT + Battery + Charger.

A communication link was established between the EUT and a System Simulator (SS). The EUT operated at GSM 1900MHz and maximum output power (level 0).and operated at GSM 850MHz and maximum output power (level 5)

(2) Idle operating mode

The EUT configuration of the emission tests is EUT + Battery + Charger.

The EUT was registered to the base station simulator but no call was set up.

(3) earphone operating mode

The EUT configuration of the emission tests is EUT + Battery + earphone.

A communication link was established between the EUT and a System Simulator (SS). The EUT operated at GSM 850MHz mid ARFCN (190) and maximum output power (level 5).And operated at GSM 1900MHz and maximum output power (level 0)

3.2 FM Test Mode

The EUT configuration of the emission tests is EUT + Battery + earphone

During the measurement, the earphone was connected to the EUT.FM function was established.

Note: In Conducted Emission , the worst case is (Traffic operating GSM1900 mode)

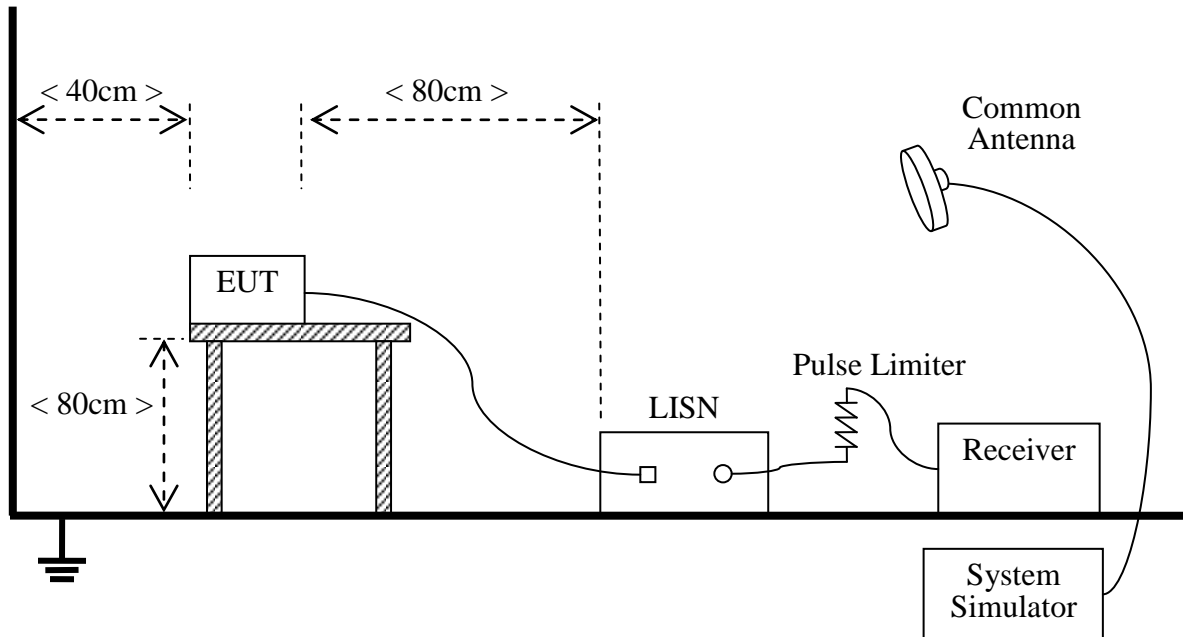
Note: In Radiated Emission , the worst case is (Traffic operating GSM1900 mode)

Note: All test modes are performed, only the worst case was recorded in this report.

3.3 Test Setup and Equipments List

3.3.1 Conducted Emission

A. Test Setup:



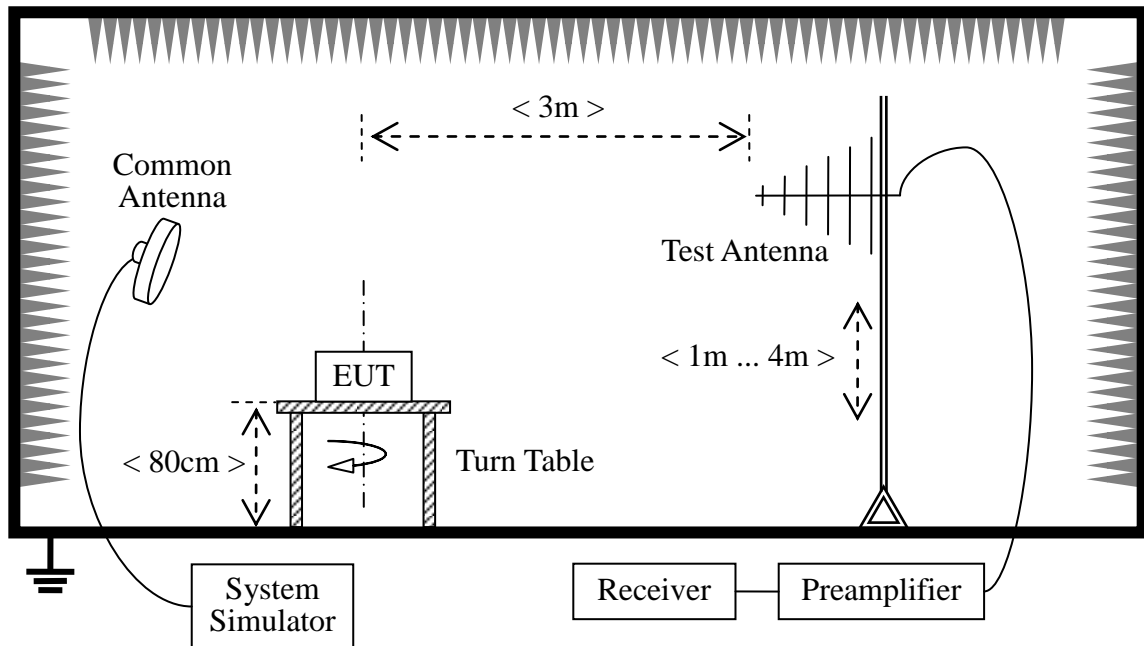
The EUT is placed on a 0.8m high insulating table, which stands on the grounded conducting floor, and keeps 0.4m away from the grounded conducting wall. The EUT is connected to the power mains through a LISN which provides $50\Omega/50\mu\text{H}$ of coupling impedance for the measuring instrument. The 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	Rohde&Schwarz	ESCI3	100666	2009.11	1year
LISN	Rohde&Schwarz	ENV216	812744	2009.11	1year
System Simulator	Rohde&Schwarz	CMU200	105571	2009.12.	1year
Personal Computer	Lenovo	(n.a.)	(n.a.)	(n.a.)	(n.a.)

3.3.2 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	Rohde&Schwarz	ESCI3	100666	2009.11	1 year
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2009.11	1 year
Test Antenna - Bi-Log	Rohde&Schwarz	HL562	100385	2009.11	1 year
System Simulator	Rohde&Schwarz	CMU200	105571	2009.12	1 year
Personal Computer	Lenovo	(n.a.)	(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
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 0.15 - 0.50MHz.

4.1.2 Test Description

See section 2.3.1 of this report.

4.1.3 Test Result

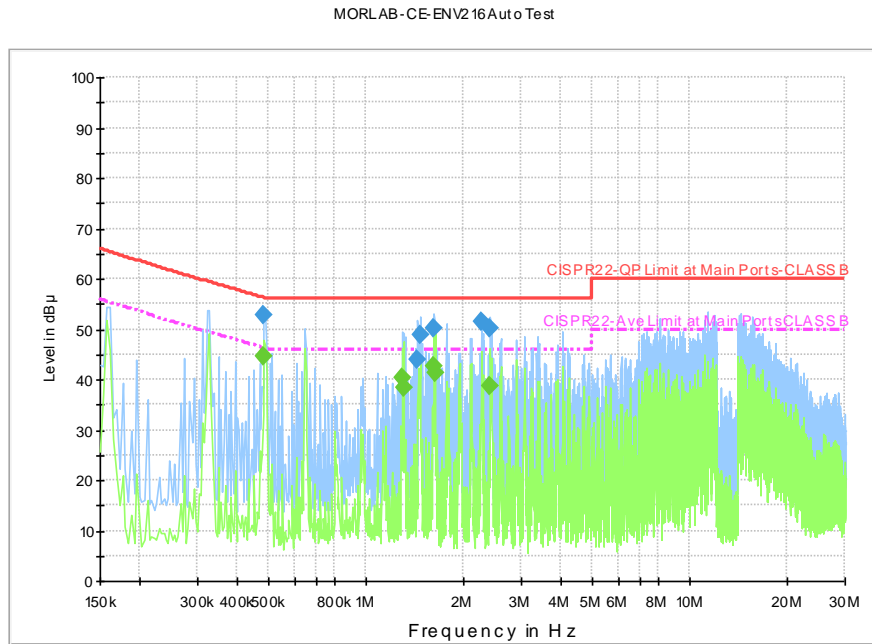
The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines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

A. Test Verdict Recorded for Suspicious Points:

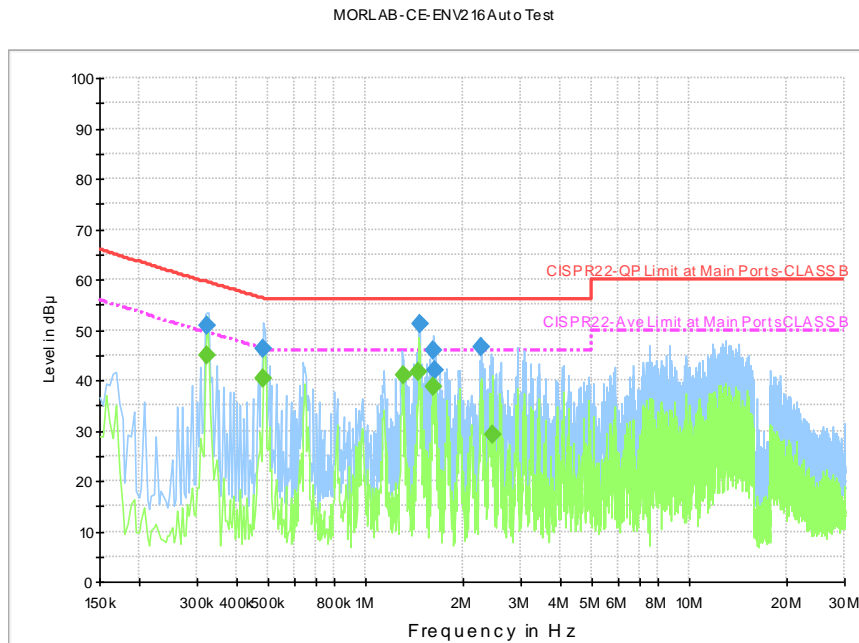
Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Band width (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.321638	50.7	1000.000	9.000	N	9.7	8.8	59.5	PASS
0.482081	46.3	1000.000	9.000	N	9.7	10.0	56.3	PASS
1.459669	51.1	1000.000	9.000	N	9.7	4.9	56.0	PASS
1.612650	46.1	1000.000	9.000	N	9.7	10.0	56.0	PASS
1.635038	42.1	1000.000	9.000	N	9.7	13.9	56.0	PASS
2.269350	46.6	1000.000	9.000	N	9.8	9.4	56.0	PASS
0.482081	52.9	1000.000	9.000	L1	9.7	3.4	56.3	PASS
1.437281	44.0	1000.000	9.000	L1	9.8	12.0	56.0	PASS
1.467131	48.7	1000.000	9.000	L1	9.8	7.3	56.0	PASS
1.616381	50.0	1000.000	9.000	L1	9.8	6.0	56.0	PASS
2.254425	51.4	1000.000	9.000	L1	9.8	4.6	56.0	PASS
2.411138	50.2	1000.000	9.000	L1	9.8	5.8	56.0	PASS

Frequency (MHz)	Average (dB μ V)	Meas. Time (ms)	Band width (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.321638	45.0	1000.000	9.000	N	9.7	4.4	49.4	PASS
0.482081	40.5	1000.000	9.000	N	9.7	5.8	46.3	PASS
1.295494	41.0	1000.000	9.000	N	9.7	5.0	46.0	PASS
1.455938	41.6	1000.000	9.000	N	9.7	4.4	46.0	PASS
1.612650	38.6	1000.000	9.000	N	9.7	7.4	46.0	PASS
2.444719	29.2	1000.000	9.000	N	9.8	16.8	46.0	PASS
0.482081	44.7	1000.000	9.000	L1	9.7	1.6	46.3	PASS
1.291762	40.5	1000.000	9.000	L1	9.7	5.5	46.0	PASS
1.299225	38.3	1000.000	9.000	L1	9.7	7.7	46.0	PASS
1.616381	42.5	1000.000	9.000	L1	9.8	3.5	46.0	PASS
1.623844	41.3	1000.000	9.000	L1	9.8	4.7	46.0	PASS
2.411138	38.8	1000.000	9.000	L1	9.8	7.2	46.0	PASS

B. Test Plot:



(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 2.3.2 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.

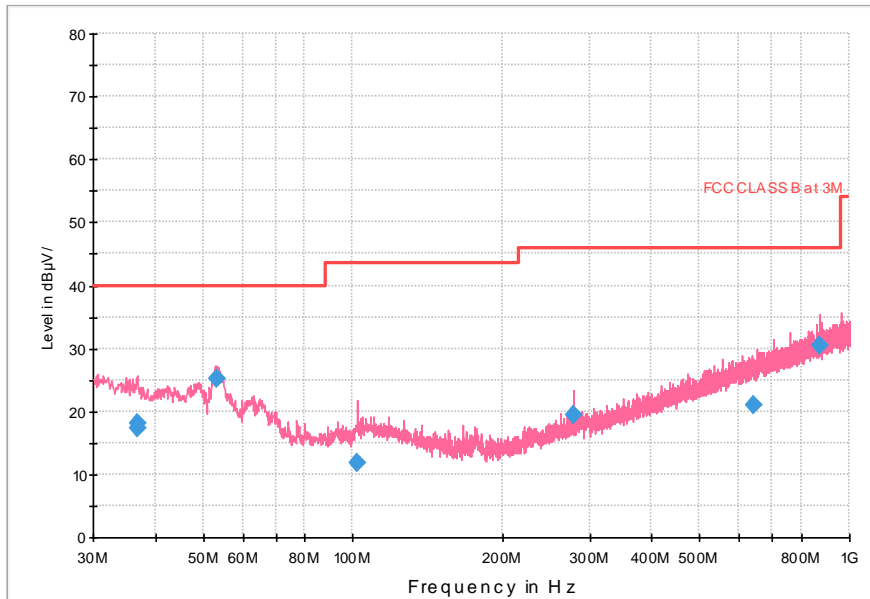
A. Test Verdict Recorded for Suspicious Points:

Frequency (MHz)	QuasiPeak (dBμ)	Antenna height (cm)	Polarity	Turntable position	Corr. (dB)	Margin (dB)	Limit (dBμ V/m)	Verdict
32.06125	17.7	200.0	H	144.0	19.3	22.3	40.0	PASS
105.1750	8.9	100.0	H	138.0	11.2	34.6	43.5	PASS
166.0425	12.1	100.0	H	42.0	9.8	31.4	43.5	PASS
279.1687	21.0	200.0	H	58.0	13.6	25.0	46.0	PASS
466.1362	16.8	100.0	H	321.0	19.4	29.2	46.0	PASS
871.1112	30.1	200.0	H	343.0	26.5	15.9	46.0	PASS
36.91125	17.4	100.0	V	248.0	16.6	22.6	40.0	PASS
36.91125	18.1	100.0	V	248.0	16.6	21.9	40.0	PASS
53.15875	25.1	100.0	V	0.0	6.8	14.9	40.0	PASS
102.0225	11.8	100.0	V	53.0	11.0	31.7	43.5	PASS
279.1687	19.3	200.0	V	0.0	13.6	26.7	46.0	PASS
641.9487	20.9	200.0	V	86.0	22.9	25.1	46.0	PASS

B. Test Plot:

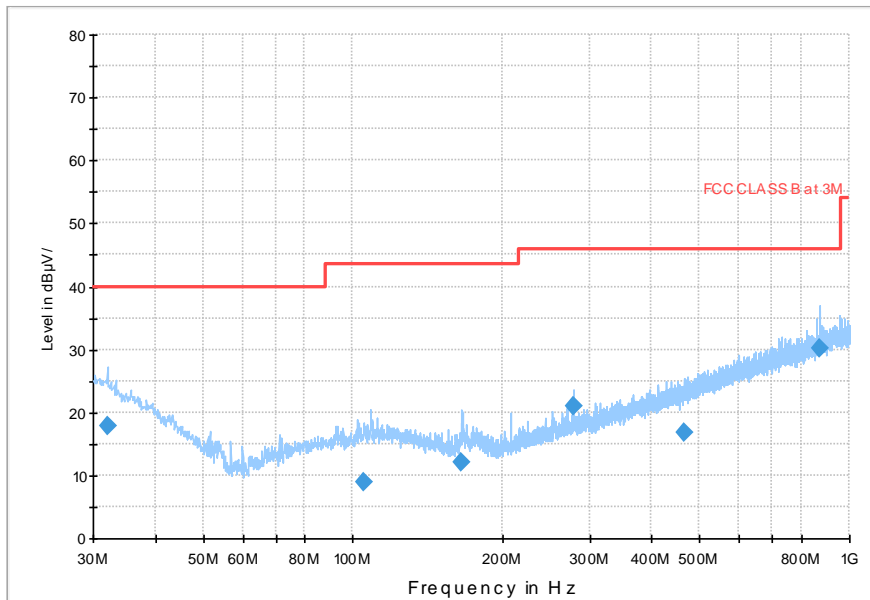
Note: Following is the plots for emission measurement; please note that marked spikes with circle should be ignored because they are MS and SS carrier frequency.

MORLAB-RE_HL562 Auto-FCC limit Test



(Plot A: Test Antenna Vertical)

MORLAB-RE_HL562 Auto-FCC limit Test



(Plot B: Test Antenna Horizontal)

** END OF REPORT **