47 CFR PART 15 SUBPART B

TEST REPORT

of

CDMA 1x EV-DO USB Data Modem

Model Name:	**MV241**
Brand Name:	Axesstel Inc
Report No.:	SH10060012E04
FCC ID:	PH7MV241

prepared for

Axesstel Inc

6815 Flanders Drive,#210,San Diego,CA92121,USA

prepared by

Shenzhen Electronic Product Quality Testing Center

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Bluetooth® CTIA Authorized Test Lab LAB CODE 20081223-00

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1. TEST CERTIFICATION

Equipment under Test:	CDMA 1x EV-DO USB Data Modem
Brand Name:	Axesstel Inc
Model Name:	MV241
FCC ID:	PH7MV241
Applicant:	Axesstel Inc 6815 Flanders Drive,#210,San Diego,CA92121,USA
Manufacturer:	AsiaTelco Technologies Co. #289 Bisheng Road,Building-8,3F.Zhangjiang Hi-Tech Park,Pudong,Shanghai China
Test Standards:	47 CFR Part 15 Subpart B
Test Date(s):	July,20, 2010 –July, 29, 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: 2010.8.18
Huangyunlong

Reviewed by: Zhang Jun Dated: 2010.8.18
Zhang Jun

Approved by: Wei Bei Dated: 2010.8.18.
Wei Bei

2. GENERAL INFORMATION

2.1 EUT Description

EUT Type ..... :	CDMA 1x EV-DO USB Data Modem
Model Name ..... :	MV241
Serial No. ..... :	(n.a., marked #1 by test site)
Hardware Version ..... :	R890_P2
Software Version ..... :	1.0.3.9
Modulation Type..... :	QPSK
Frequency Range..... :	CDMA2000 Cellular: Tx: 824 MHz ~ 849 MHz; Rx: 869 MHz ~ 894 MHz CDMA2000 PCS: Tx: 1850 MHz ~1910 MHz;Rx: 1930 MHz ~ 1990 MHz
Ancillary Equipment ..... :	1: Notebook PC Model Name: THINKPAD R40e Brand Name: IBM

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
3.	ANSI C63.4-2003	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):	960

3. TEST CONDITIONS SETTING

3.1 CDMA Test Mode

1. During the measurement, the CDMA radio is working. The test modes of the EUT are showed as below:
   (1) Traffic operating CDMA 1xEVDO Rev A mode
   The EUT configuration of the emission tests is EUT +NoteBook
   A communication link was established between the EUT and a System Simulator (SS). The EUT operated at CDMA 800 mid ARFCN (384) and maximum output power (All up bit). The EUT operated at CDMA 1900 mid ARFCN (600) and maximum output power (All up bit).

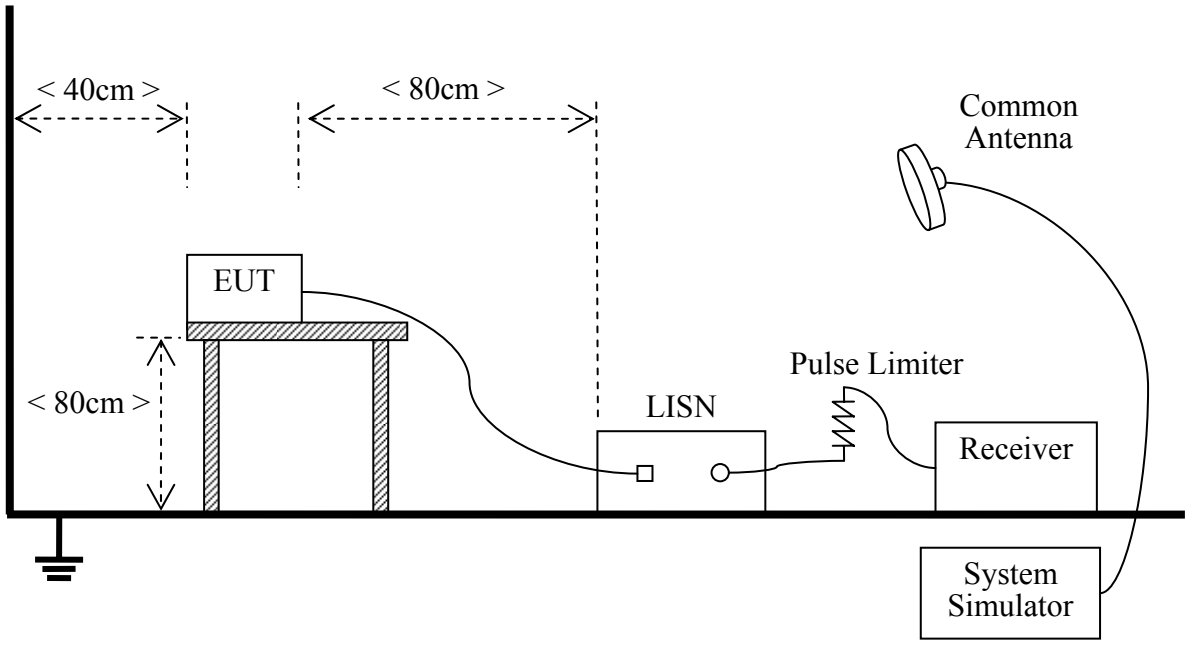
   (2) Idle operating mode
   The EUT configuration of the emission tests is EUT + NoteBook
   The EUT was registered to the base station simulator but no call was set up.

Note: All test modes are performed, only the worst cases are recorded in this report.
Note: In the Conducted Emission, the worst cases are operated at CDMA 1xEVDO 800
Note: In the Radiated Emission, the worst cases are operated at CDMA 1xEVDO 800/1900

3.2 Test Setup and Equipments List

3.2.1 Conducted Emission

A. Test Setup:



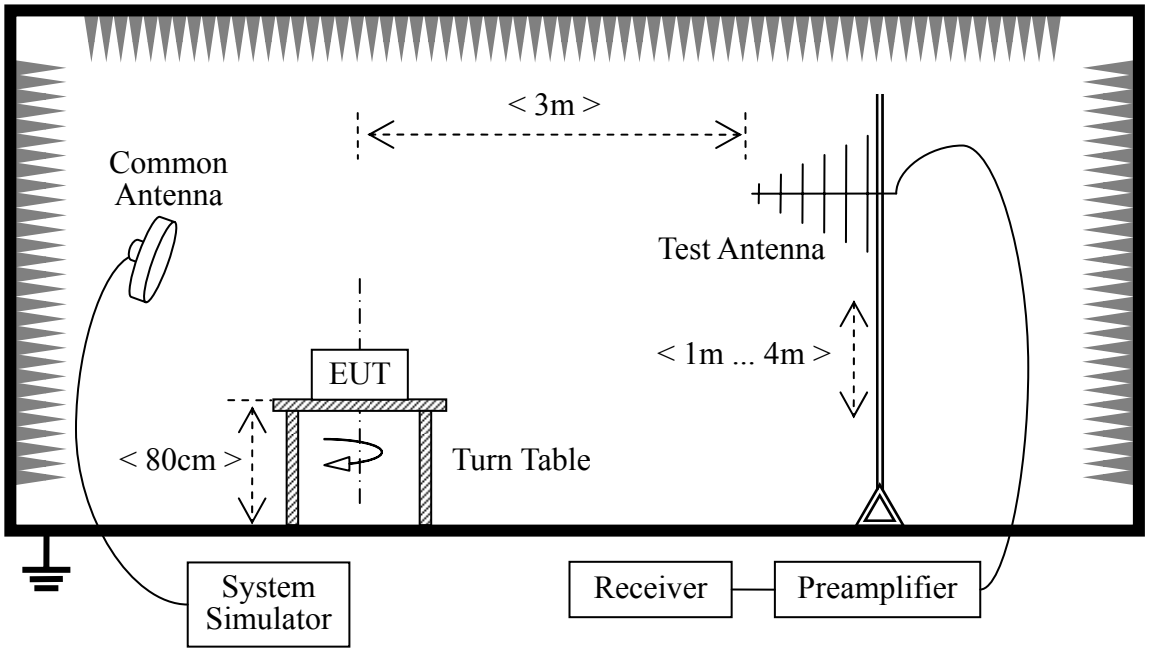
The EUT is placed on a 0.8m high insulating table, which stands on the grounded conducting floor, and keeps 0.4m away from the grounded conducting wall. The EUT is connected to the power mains through a LISN which provides 50Ω/50μH of coupling impedance for the measuring instrument. The Common Antenna 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.)

3.2.2 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	Rohde&Schwarz	ESCI3	100666	2009.10	1year
Full-Anechoic Chamber	ETS • LINDGREN	9m*6m*6m	(n.a.)	2009.10	1year
Test Antenna - Bi-Log	Rohde&Schwarz	HL562	100385	2009.10	1year
System Simulator	Rohde&Schwarz	CMU200	105571	2009.10	1year
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 50μH/50Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dBμV)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
0.50 - 30	60	50

NOTE:

a) The limit subjects to the Class B digital device.

b) The lower limit shall apply at the band edges.

c) 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

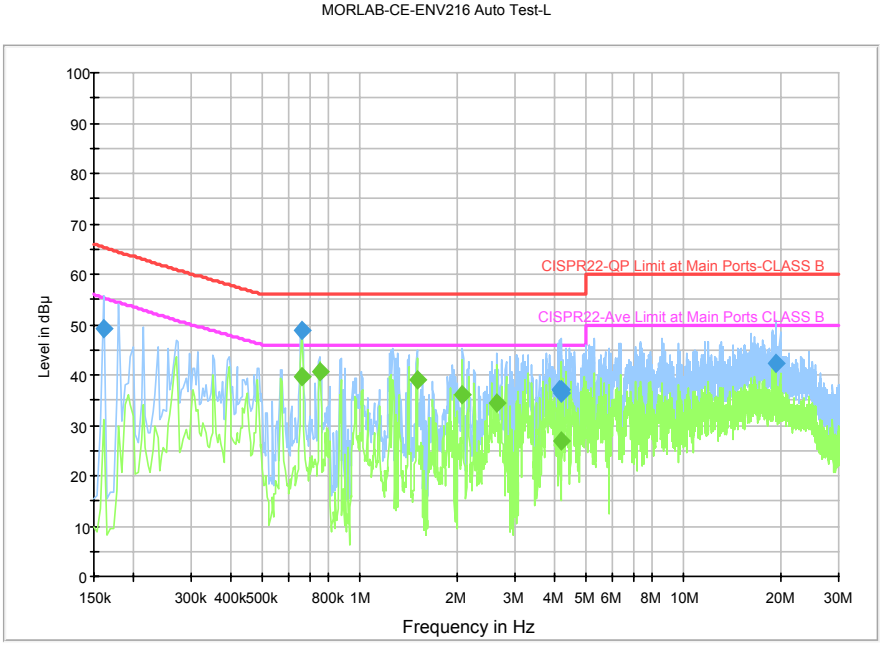
The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines 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:

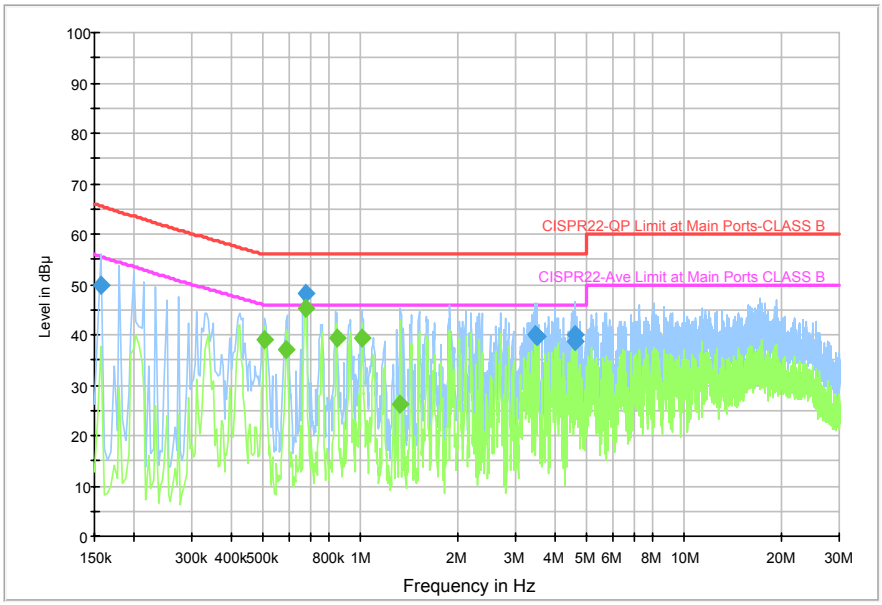
Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Band width (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.157462	49.8	1000.000	9.000	N	9.7	15.8	65.6	PASS
0.672375	48.2	1000.000	9.000	N	9.7	7.8	56.0	PASS
3.440962	40.0	1000.000	9.000	N	9.8	16.0	56.0	PASS
3.482006	39.7	1000.000	9.000	N	9.8	16.3	56.0	PASS
4.586456	38.8	1000.000	9.000	N	9.9	17.2	56.0	PASS
4.605112	40.0	1000.000	9.000	N	9.9	16.0	56.0	PASS
0.161194	49.1	1000.000	9.000	L1	9.5	16.3	65.4	PASS
0.661181	48.7	1000.000	9.000	L1	9.7	7.3	56.0	PASS
4.127512	37.1	1000.000	9.000	L1	9.9	18.9	56.0	PASS
4.157362	36.4	1000.000	9.000	L1	9.9	19.6	56.0	PASS
4.172288	36.9	1000.000	9.000	L1	9.9	19.1	56.0	PASS
19.171912	42.3	1000.000	9.000	L1	10.3	17.7	60.0	PASS

Frequency (MHz)	Average (dB μ V)	Meas. Time (ms)	Band width (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.504469	39.1	1000.000	9.000	N	9.7	6.9	46.0	PASS
0.586556	37.2	1000.000	9.000	N	9.7	8.8	46.0	PASS
0.672375	45.3	1000.000	9.000	N	9.7	0.7	46.0	PASS
0.840281	39.4	1000.000	9.000	N	9.7	6.6	46.0	PASS
1.008188	39.3	1000.000	9.000	N	9.7	6.7	46.0	PASS
1.325344	26.3	1000.000	9.000	N	9.7	19.7	46.0	PASS
0.657450	39.6	1000.000	9.000	L1	9.7	6.4	46.0	PASS
0.747000	40.6	1000.000	9.000	L1	9.7	5.4	46.0	PASS
1.496981	39.2	1000.000	9.000	L1	9.8	6.8	46.0	PASS
2.067862	36.1	1000.000	9.000	L1	9.7	9.9	46.0	PASS
2.642475	34.6	1000.000	9.000	L1	9.8	11.4	46.0	PASS
4.157362	26.7	1000.000	9.000	L1	9.9	19.3	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	
	μV/m	dBμV/m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

NOTE:

a) Field Strength (dBμV/m) = 20*log[Field Strength (μV/m)].

b) 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.

CDMA 1xEVDO mode

(1) Traffic operating CDMA mode

The EUT configuration of the emission tests is EUT + NoteBook

A communication link was established between the EUT and a System Simulator (SS). The EUT operated at CDMA 800 mid ARFCN (384) and maximum output power (All up bit). The EUT operated at CDMA 1900 mid ARFCN (600) and maximum output power (All up bit).

A. Test Verdict Recorded for Suspicious Points:

1. CDMA 800

No.	@Frequency (MHz)	Emission Level (dBμV/m)		Quasi-Peak Limit (dBμV/m)	Margin (dBμV/m)	Result
		QP	Antenna Polarization			
1	30.72750	33.3	V	40.0	6.7	PASS
2	45.27750	34.7	V	40.0	5.3	PASS
3	200.23500	33.8	V	43.5	9.7	PASS
4	399.69125	38.3	V	46.0	7.7	PASS
5	455.83000	34.6	V	46.0	11.4	PASS
6	531.73250	33.5	V	46.0	12.5	PASS
7	30.121250	32.6	H	40.0	7.4	PASS
8	45.277500	34.2	H	40.0	5.8	PASS
9	192.353750	14.5	H	43.5	29.0	PASS
10	200.235000	33.4	H	43.5	10.1	PASS
11	399.691250	37.5	H	46.0	8.5	PASS
12	530.398750	31.5	H	46.0	14.5	PASS

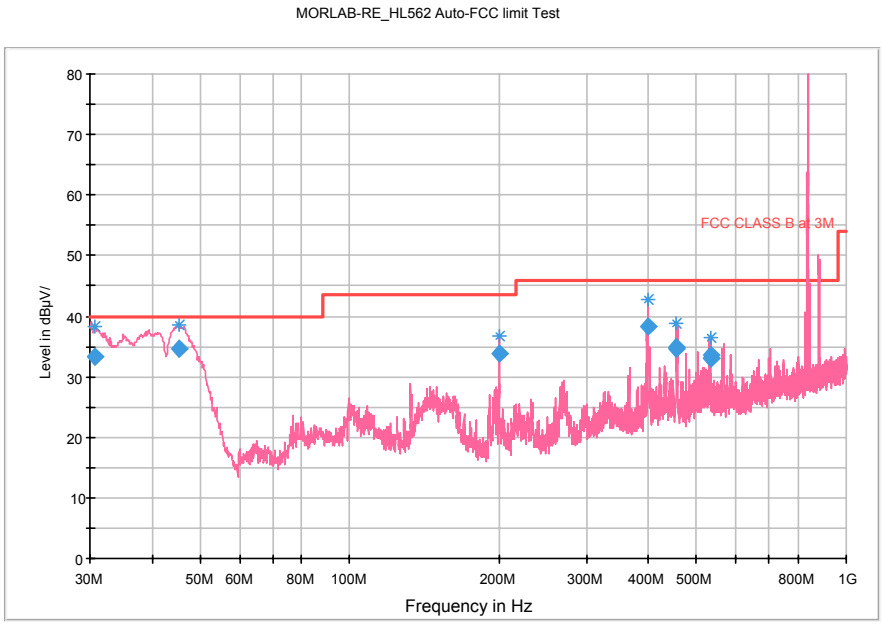
2. CDMA 1900

No.	@Frequency (MHz)	Emission Level (dBμV/m)		Quasi-Peak Limit (dBμV/m)	Margin (dBμV/m)	Result
		QP	Antenna Polarization			
1	39.093750	33.3	V	40.0	6.7	PASS
2	45.035000	34.3	V	40.0	5.7	PASS
3	132.941250	19.6	V	43.5	23.9	PASS
4	397.872500	38.0	V	46.0	8.0	PASS
5	497.903750	21.8	V	46.0	24.2	PASS
6	530.156250	33.9	V	46.0	12.1	PASS
7	41.276250	33.4	H	40.0	6.6	PASS
8	44.428750	34.2	H	40.0	5.8	PASS
9	397.751250	37.7	H	46.0	8.3	PASS
10	532.460000	30.2	H	46.0	15.8	PASS
11	665.350000	26.2	H	46.0	19.8	PASS
12	795.815000	29.2	H	46.0	16.8	PASS

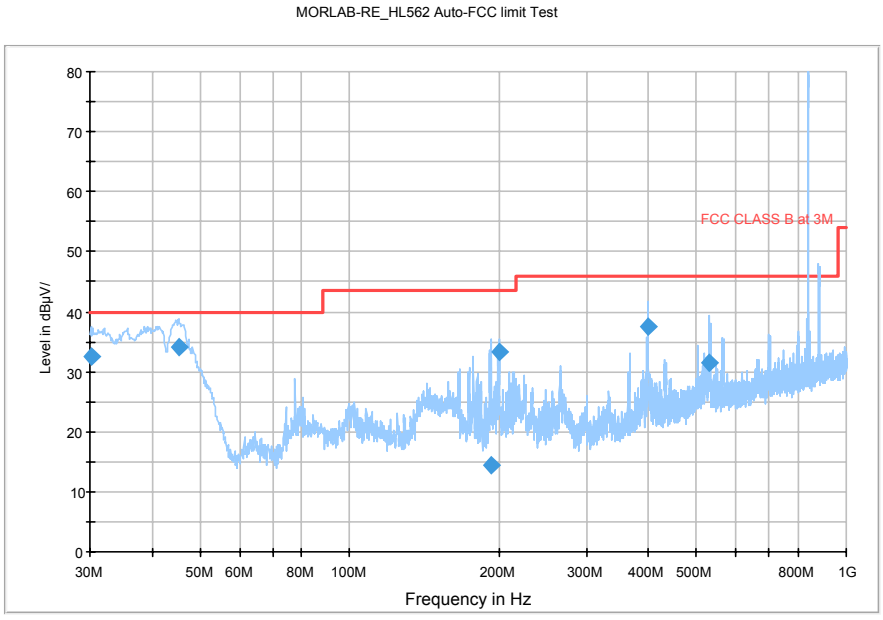
B. Test Plot:

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.

1. CDMA 800

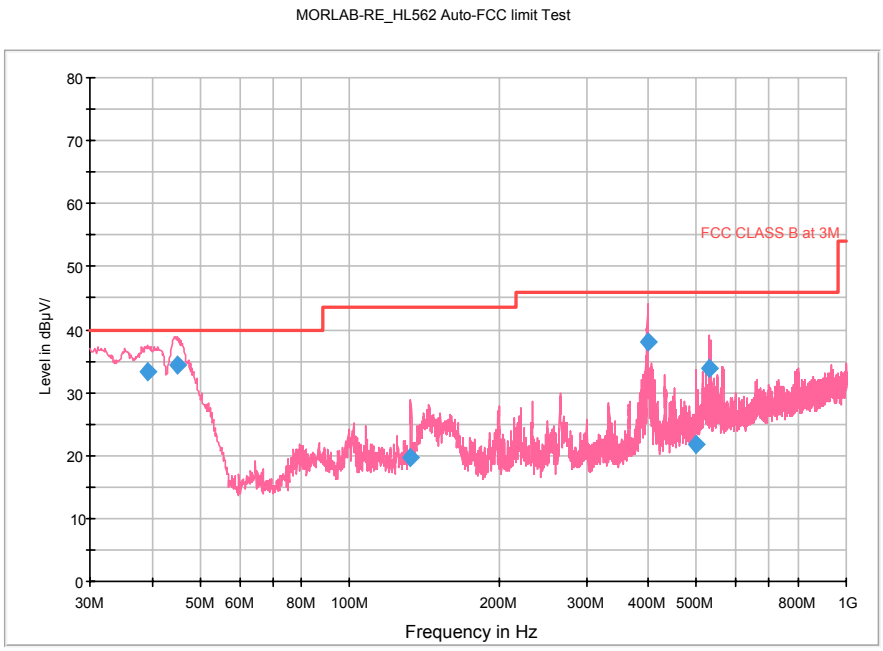


(Plot A: Test Antenna Vertical)

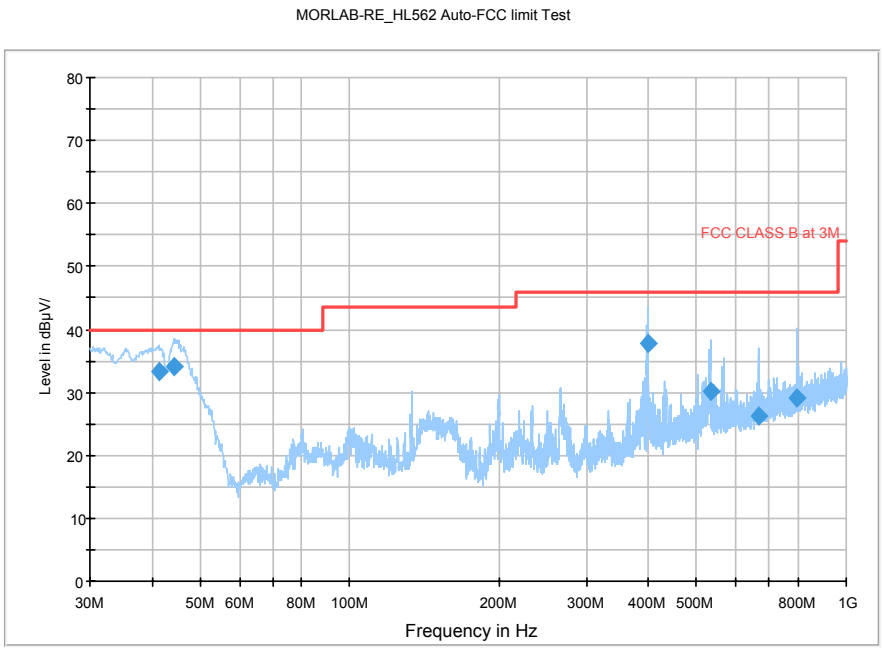


(Plot B: Test Antenna Horizontal)

2. CDMA 1900



(Plot A: Test Antenna Vertical)



(Plot B: Test Antenna Horizontal)

** END OF REPORT **