47 CFR PART 15 SUBPART B

TEST REPORT

of

GPS TRACKER

Model Name: GV100
Brand Name: Quectel
Report No.: SH09070021DE01
FCC ID: XMR-16182009004

prepared for

Quectel Wireless Solutions Co.,Ltd
Room 801, Building E, No 1618 Yishan Road, Shanghai,China,201103

prepared by

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1. TEST CERTIFICATION

Equipment under Test:	GPS TRACKER
Brand Name:	Quectel
Model Name:	GV100
FCC ID:	XMR-16182009004
Applicant:	Quectel Wireless Solutions Co.,Ltd Room 801,Building E,No 1618 Yishan Road, Shanghai,China,201103
Manufacturer:	Quectel Wireless Solutions Co.,Ltd Room 801,Building E,No 1618 Yishan Road, Shanghai,China,201103
Test Standards:	47 CFR Part 15 Subpart B
Test Date(s):	Nov 23, 2009 –Dec 7, 2009
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: Huang yun long Dated: 2009.12.9
Huang yunlong

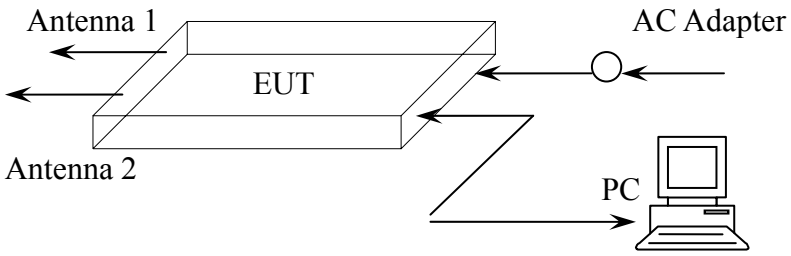
Reviewed by: Zhang Jun Dated: 2009.12.9
Zhang Jun

Approved by: Su Feng Dated: 09.12.9
Su Feng

2. GENERAL INFORMATION

2.1. EUT Description

EUT Type.....:	GPS TRACKER
Model Name .....:	GV100
Serial No.....:	(n.a., marked #1 by test site)
Hardware Version .....:	V1.02
Software Version .....:	B01
Modulation Type.....:	GMSK
Ancillary Equipment 1 .....:	AC Adapter
	Model Name: P12-120100
	Brand Name: SOMETHING
	Serial No.: (n.a. marked #1 by test site)
	Rated Input: AC 100-240V ,200mA, 50/60Hz
	Rated Output: DC 12V, 1A
	Manufacturer: Something High Electric (Xiamen) Co. Ltd.
	Wire Length: (n.a.)
Test Sample Sketch.....:	The EUT is powered by AC Adapter and PC can send AT commands to control EUT by Data Line (see the figure below)



During the tests, a special program, supplied by applicant, installed in a Personal Computer (PC) is employed to control the Test Sample to work appropriately through their serial ports.

Note 1: A communication link between the EUT and a System Simulator (SS) are established at the start of the test,and open the GPS fuction ,keep continuous receive the signal. 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. IC registration number is 7183A

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. GSM and GPS Test Mode

1. During the measurement, the GSM radio is working and open the GPS fuction. The test modes of the EUT are showed as below:
   (1) Traffic operating mode
   The EUT configuration of the emission tests is MS+Adapter+PC
   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). The GPS keep continuous receive the signal
   (2) Idle operating mode
   The EUT configuration of the emission tests is MS+Adapter+PC
   The EUT was registered to the base station simulator but no call or receive were set up.

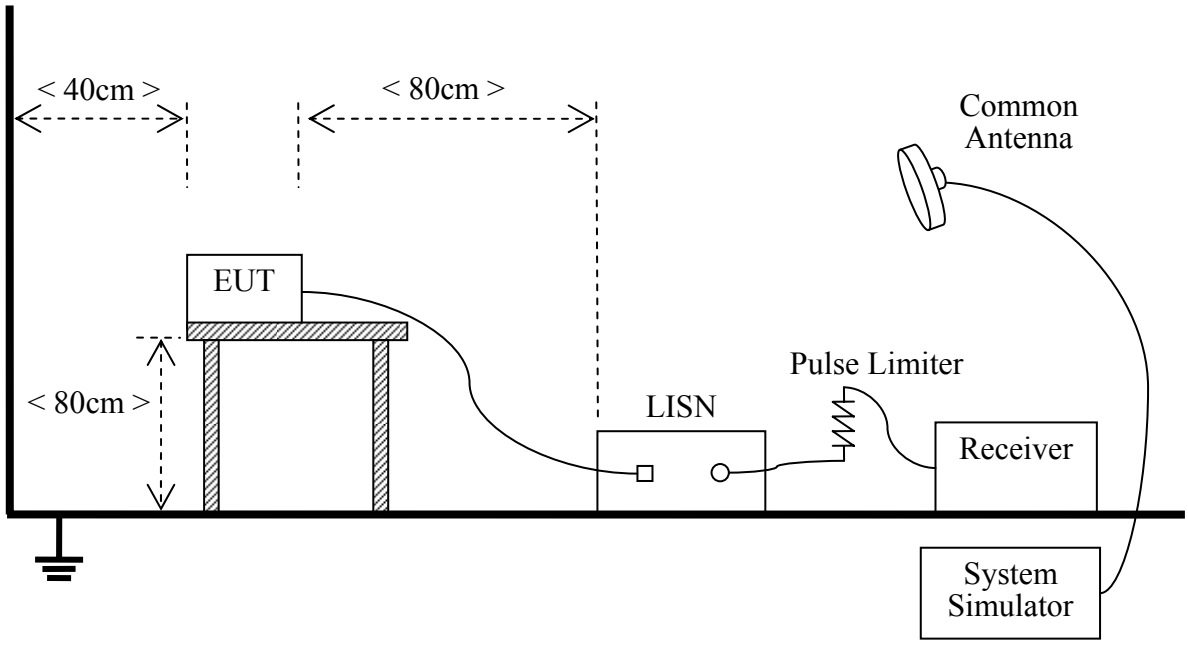
NOTE:

All test modes are performed, only the worst cases are recorded in this report.

3.2. Test Setup and Equipments List

3.2.1. Conducted Emission

A. Test Setup:



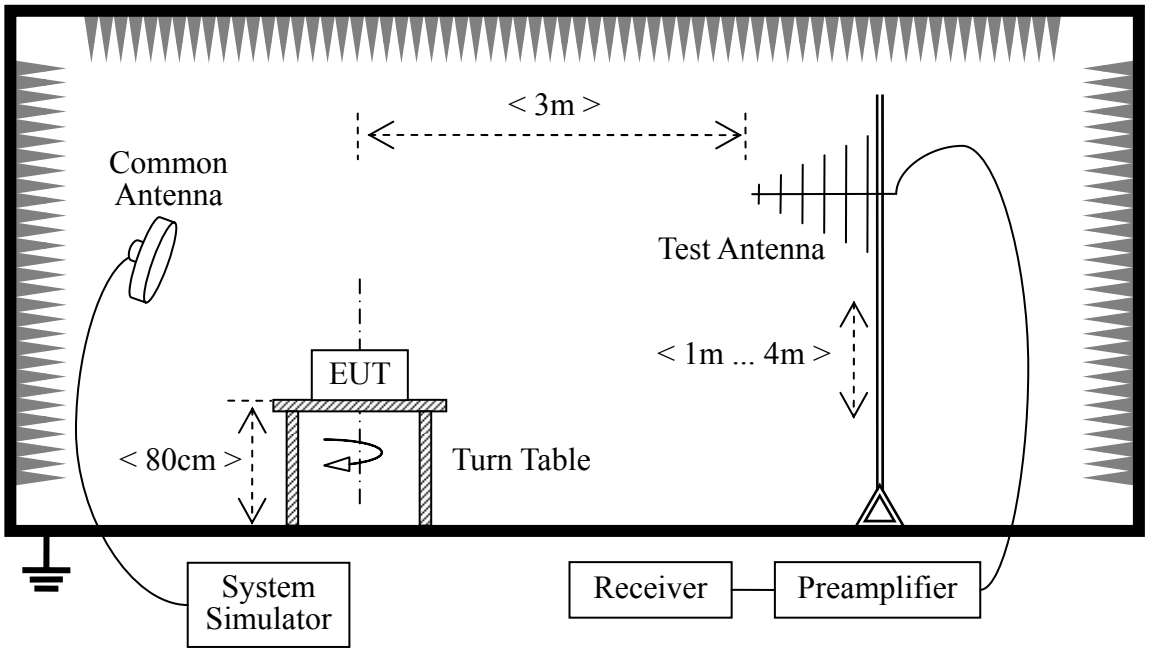
The EUT is placed on a 0.8m high insulating table, which stands on the grounded conducting floor, and keeps 0.4m away from the grounded conducting wall. The EUT is connected to the power mains through a LISN which provides 50Ω/50μH of coupling impedance for the measuring instrument. The Common Antenna is used for the call between the EUT and the System Simulator (SS). The GPS keep continuous receive the signal . 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
Signal Generator	Agilent	E4438C	MY45094360	2009.10	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). The GPS keep continuous receive the signal

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.)	(n.a.)	(n.a.)
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.)
Signal Generator	Agilent	E4438C	MY45094360	2009.10	1year

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 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.

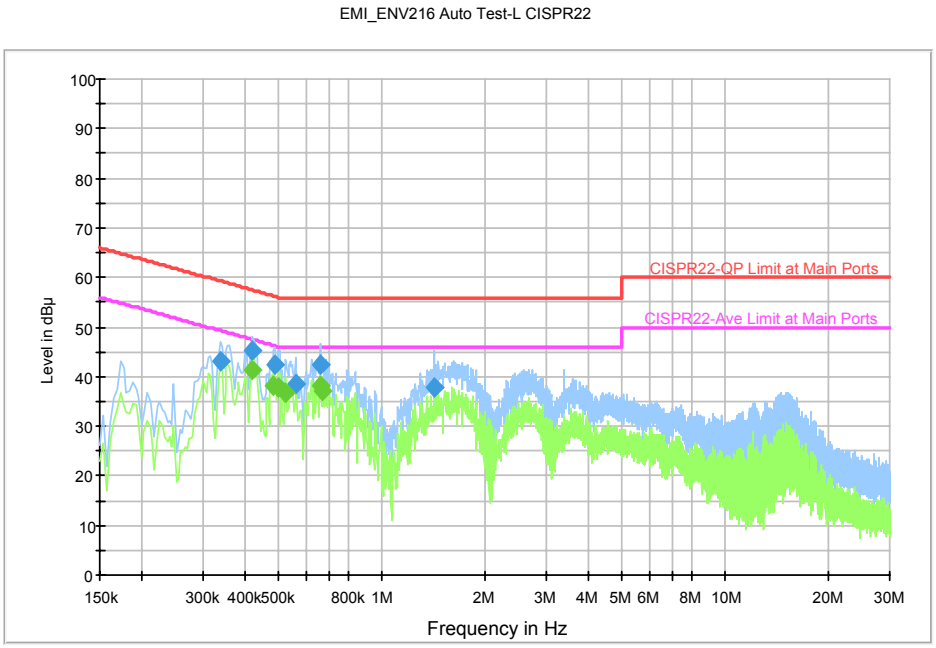
GSM and GPS Test mode

The EUT configuration of the emission tests is MS+Adapter+PC

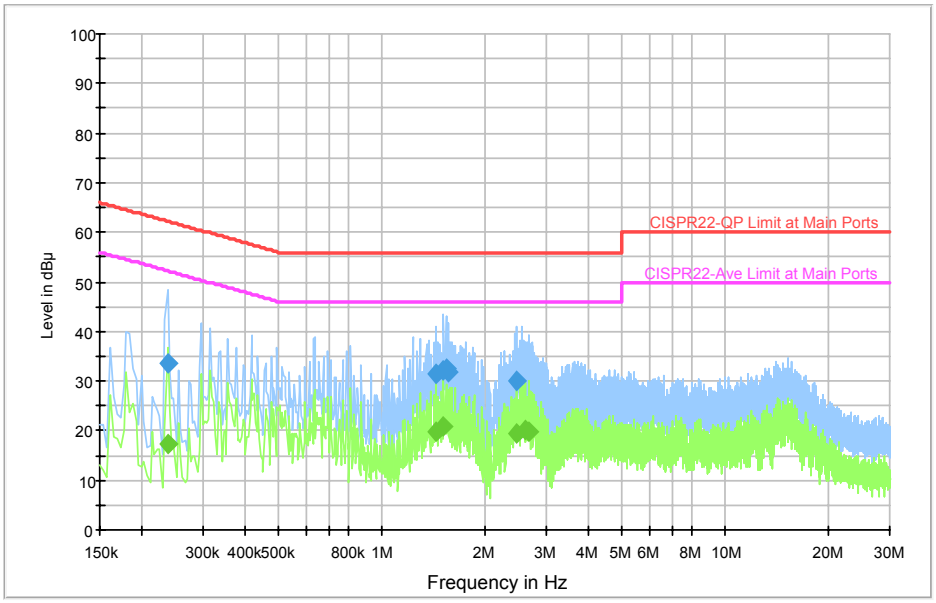
A. Test Verdict Recorded for Suspicious Points:

No.	@Frequency (MHz)	Measured Emission Level (dBμV)				Limit (dBμV)		Verdict
		PK	QP	AV	Phase	QP	AV	
1	0.336562	46.1	43.1	42	L	59.3	47.5	PASS
2	0.418650	46.5	45.2	41.2	L	57.5	46.3	PASS
3	0.485812	45.1	42.3	38.3	L	56.2	46.0	PASS
4	0.556706	44.3	38.5	36.8	L	56.0	46.0	PASS
5	0.661181	45.9	42.3	37	L	56.0	46.0	PASS
6	1.418625	45.1	37.9	35	L	56.0	46.0	PASS
7	0.235819	48	33.5	17.4	N	62.2	52.2	PASS
8	1.429819	42	31.4	19.9	N	56.0	46.0	PASS
9	1.508175	47.2	32.2	20.8	N	56.0	46.0	PASS
10	1.526831	46.5	32.4	20.9	N	56.0	46.0	PASS
11	1.549219	44.3	31.7	20.4	N	56.0	46.0	PASS
12	2.459644	41.3	30.0	19.4	N	56.0	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 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.

GSM and GPS test mode

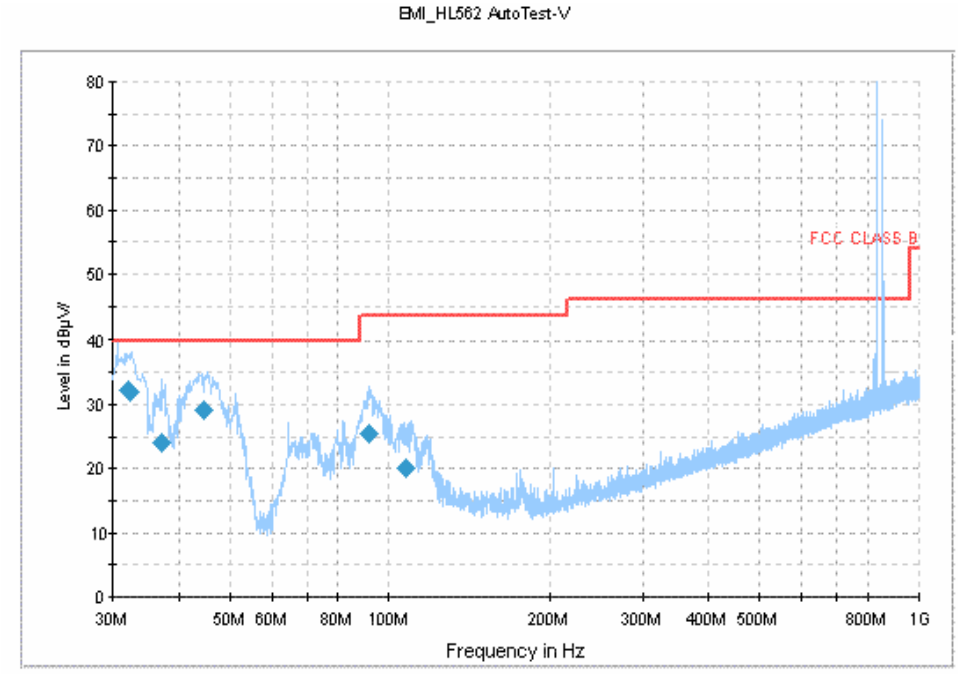
The EUT configuration of the emission tests is MS+Adapter+PC

A. Test Verdict Recorded for Suspicious Points:

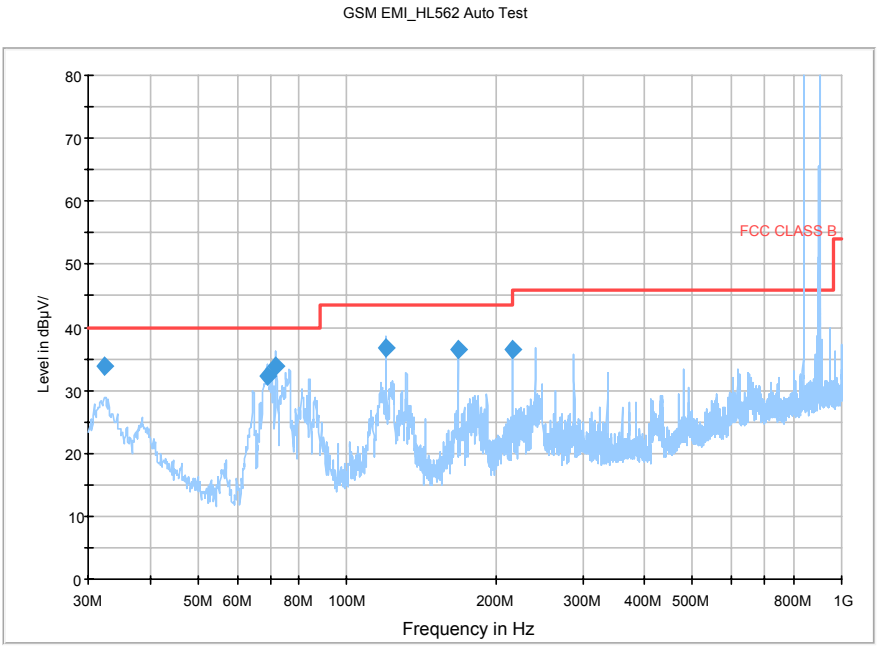
No.	@Frequency (MHz)	Emission Level (dBμV/m)			Quasi-Peak Limit (dBμV/m)	Result
		PK	QP	Antenna Polarization		
1	32.084294	36.6	32.3	Vertical	40	PASS
2	32.292500	36.6	31.9	Vertical	40	PASS
3	37.266875	34.7	24.1	Vertical	40	PASS
4	44.586250	35	29.0	Vertical	40	PASS
5	91.975000	33.5	25.4	Vertical	43.5	PASS
6	108.093125	26.7	20.2	Vertical	43.5	PASS
7	32.303750	29	33.8	Horizontal	40	PASS
8	68.921250	33.2	32.2	Horizontal	40	PASS
9	71.952500	36.4	33.8	Horizontal	40	PASS
10	119.967500	37.3	36.6	Horizontal	43.5	PASS
11	167.982500	37	36.6	Horizontal	43.5	PASS
12	215.997500	37	36.6	Horizontal	43.5	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.



(Plot A: Test Antenna Vertical)

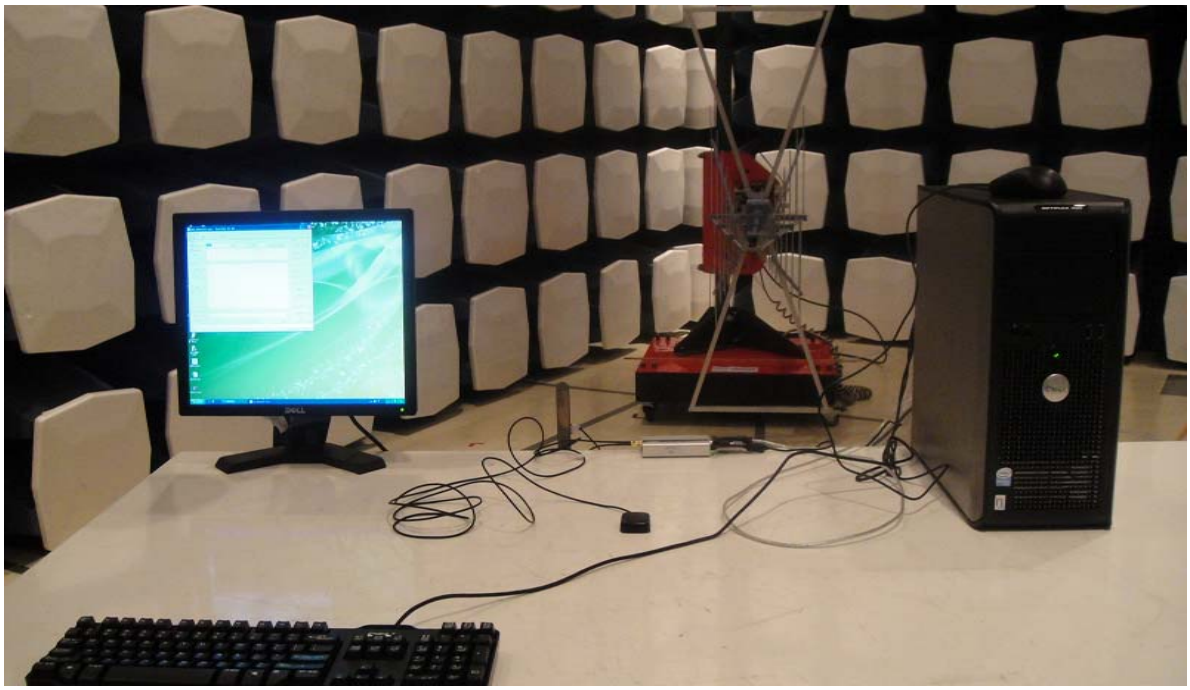


(Plot B: Test Antenna Horizontal)

I. PHOTOGRAPH OF THE TEST SETUP

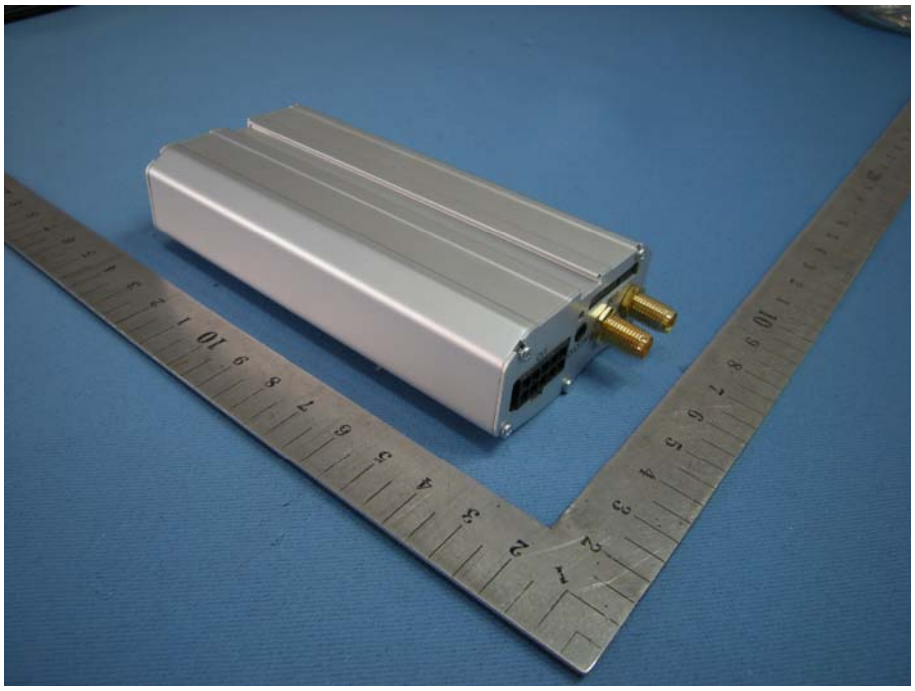
1. CONDUCTED EMISSION TEST

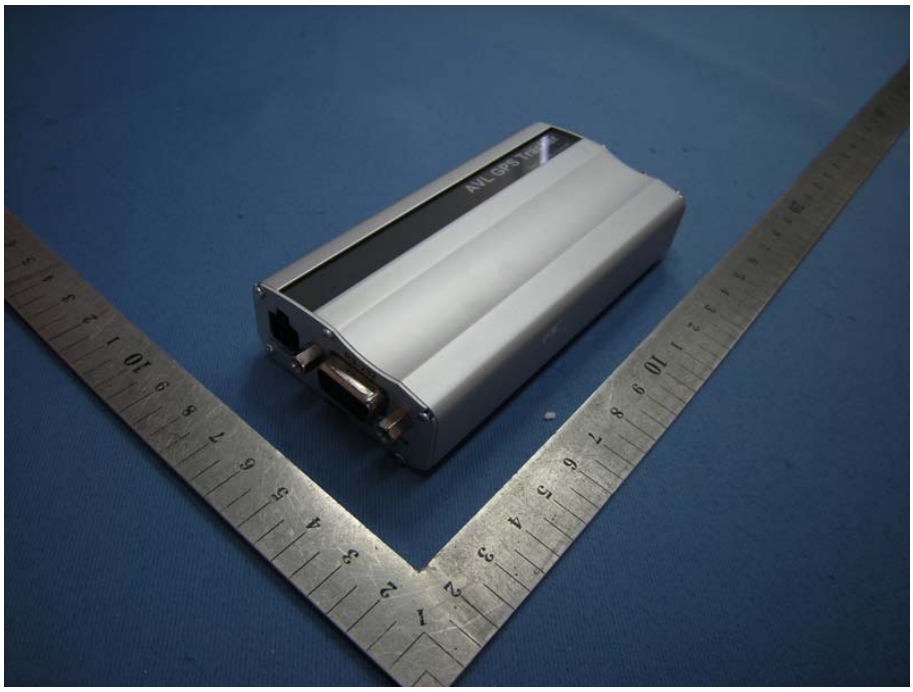
2. RADIATED EMISSION TEST



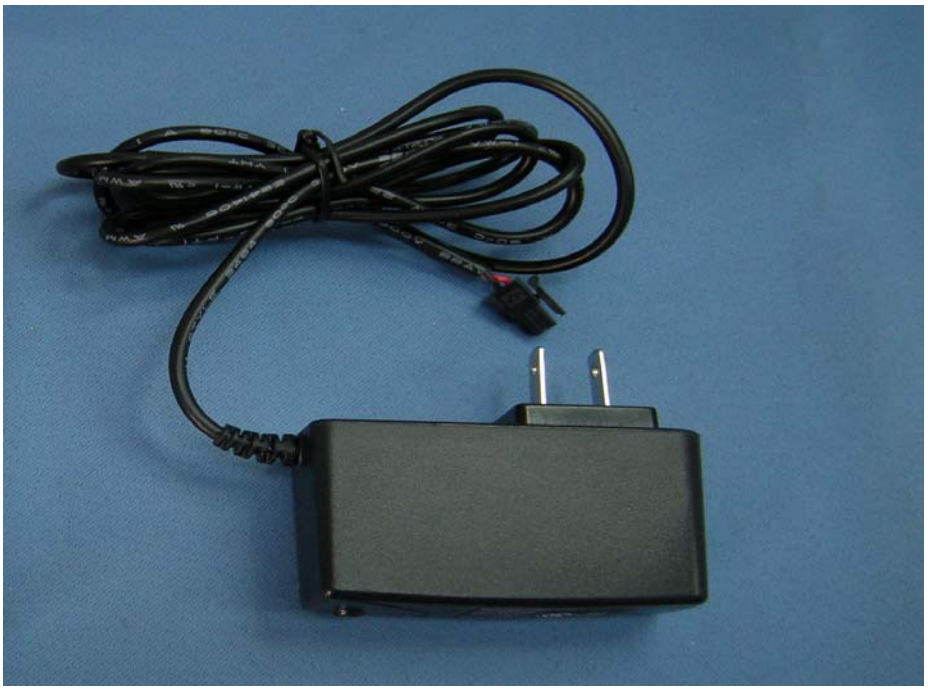
II. PHOTOGRAPH OF THE EUT

1. Appearance of the GPS TRACKER





2. Accessory Equipment



** END OF REPORT **