Lab Code: 200707-0

FCC PART 15B

MEASUREMENT AND TEST REPORT

For

Wellgain Auto Technology Co., Ltd.

Dongcheng Science & Technology Industrial Area, Dongke Road,

Dong Cheng District, Dongguan City, Guangdong Province, P.R.C

FCC ID: YASRX003

Report Type:	**Product Type:**
Original Report	Tire Pressure Monitoring Systems (Receiver)

Test Engineer:	Jimmy Xiao
Report Number:	RSZ11021652
Report Date:	2011-03-21
Reviewed By:	Merry Zhao EMC Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Wellgain Auto Technology Co., Ltd's* product, model number: *WTRX003 (FCC ID: YASRX003)* or the "EUT" as referred to in this report is a *Tire Pressure Monitoring Systems (Receiver)*, which measures approximately: 7.5 cm (L) x 6.2 cm (W) x 4.8 cm (H), rated input voltage: DC 3.7V battery or DC 5 V for charging.The hightest operating frequency is 433.92 MHz.

All measurement and test data in this report was gathered from production sample serial number: 1102004 (Assigned by BACL, Shenzhen). The EUT was received on 2011-02-16

Objective

This Type approval report is prepared on behalf of *Wellgain Auto Technology Co.,Ltd* in accordance with Part 2, Subpart J, Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective of the manufacturer is to determine compliance with FCC Part 15 Class B.

Related Submittal(s)/Grant(s)

Submitted with the Part of a system FCC ID: YASTX201

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2009. American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0).

The current scope of accreditations can be found at http://ts.nist.gov/Standards/scopes/2007070.htm

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a manufacturer testing fashion.

EUT Exercise Software

N/A

Equipment Modifications

No modification was made to the unit tested.

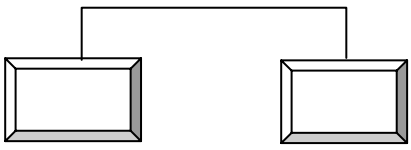
Local Support Equipment List and Details

Manufacturer	Device Name	Model	Serial Number	FCC ID
Wellstar	DC Power Supply	PS-303	9901449	N/A

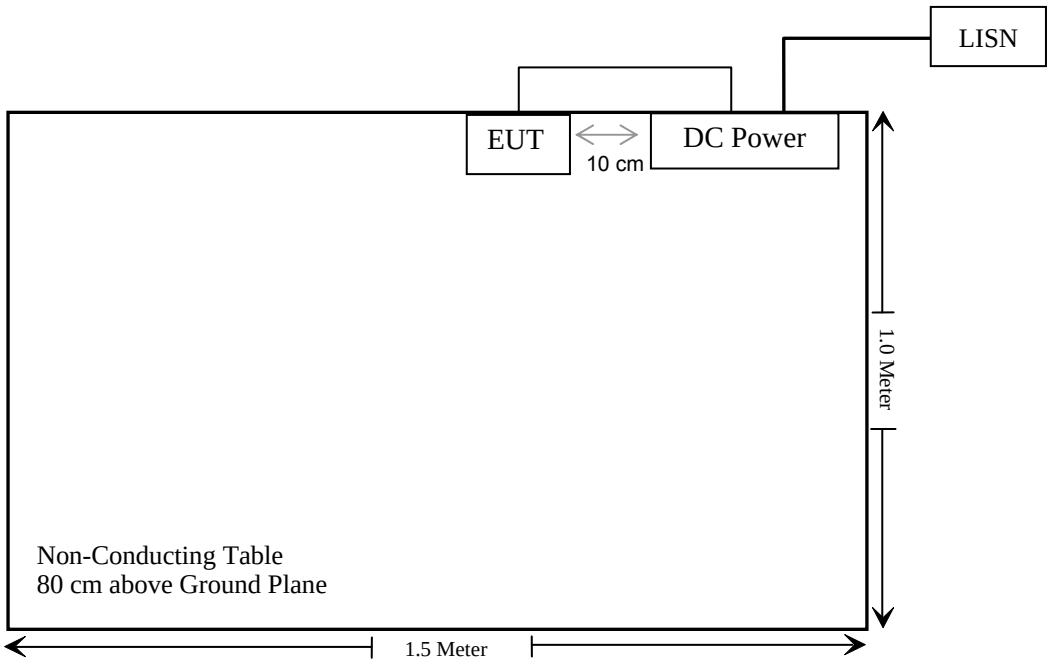
External I/O Cable

Cable Description	Length (m)	From Port	To
Unshielded detachable Power Line	1.5	Power source	EUT

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§15.107	AC Line Conducted Emissions	N/A
§15.109	Radiated Emissions	Compliance

Note: EUT is battery operation only.

FCC §15.109 - RADIATED EMISSIONS

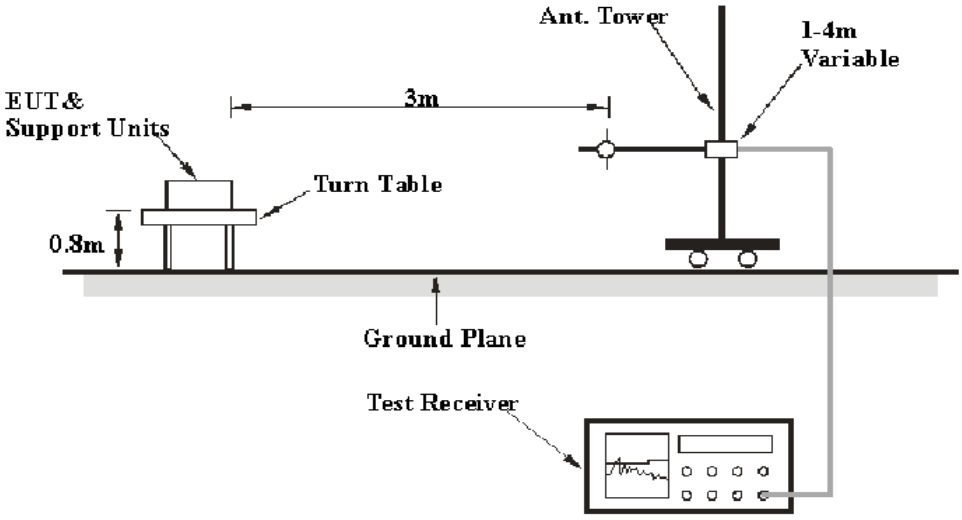
Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

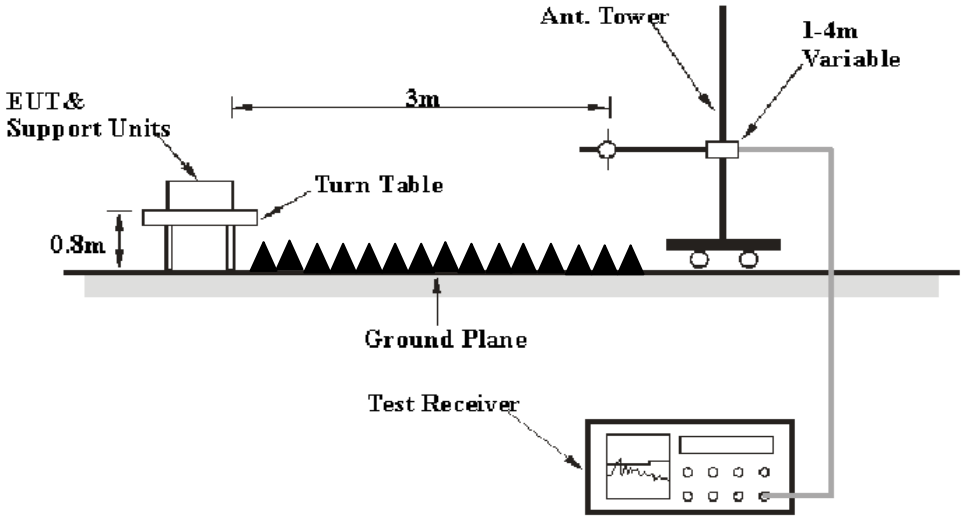
Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is ±4.0 dB.

EUT Setup

Below 1 GHz:



Above 1 GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC Part 15.109 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 2 GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	*RBW*	*Video B/W*	*Detector*
30MHz – 1000 MHz	100 kHz	300 kHz	QP
Above 1 GHz	1MHz	3 MHz	Peak
Above 1 GHz	1MHz	10Hz	Average

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2010-11-24	2011-11-23
HP	Amplifier	HP8447E	1937A01046	2010-08-02	2011-08-02
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2010-05-04	2011-05-04
Sunol Sciences	Horn Antenna	DRH-118	A052604	2010-05-05	2011-05-04
Mini-circuits	Preamplifier	ZVA-213+	T-E27H	2010-03-08	2011-03-08
HP	Spectrum Analyzer	8593A	2919A00242	2010-07-08	2011-07-07

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

During the radiated emissions test, the DC Power was connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All data was recorded in the Quasi-peak detection mode from 30 MHz to 1 GHz, Peak and average detection mode above 1 GHz.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Loss and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Loss + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15.109 Class B, with the worst margin reading of:

15.30 dB at **1178.34 MHz** in the **Horizontal** polarization

Test Data

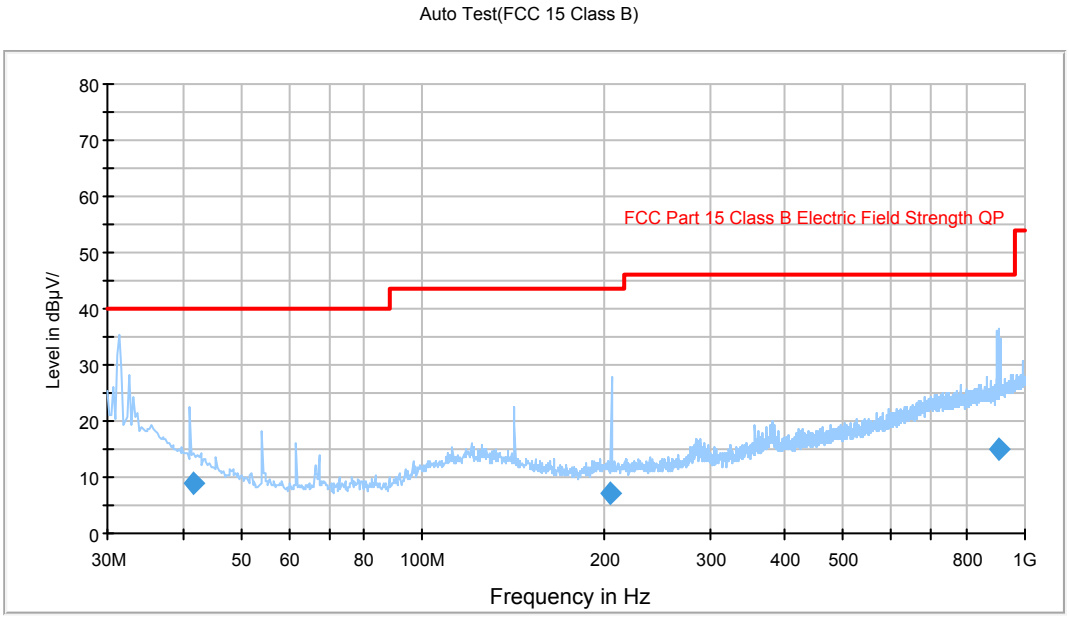
Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

The testing was performed by Jimmy Xiao on 2011-03-08.

Test Mode: Receiving

Below 1 GHz:



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Position (Degree)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
907.261250	15.1	401.0	H	178.0	-0.6	46.0	30.9
41.644750	9.0	260.0	V	310.0	-13.1	40.0	31.0
205.563500	7.2	141.0	H	244.0	-14.2	43.5	36.3

Note: The data which below the limite 20dB was not recorded

Above 1 GHz:

Frequency (MHz)	S.A. Reading (dBµV)	Detector (PK/QP/Ave.)	Turntable Position (Degree)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
				Height (m)	Polar (H/V)	Factor (dB/m)					
1178.34	37.69	Ave.	210	1.3	H	25.5	2.02	26.51	38.70	54	15.30
1178.34	35.46	Ave.	335	1.5	V	24.4	2.02	26.51	35.37	54	18.63
1178.34	51.36	PK	210	1.3	H	25.5	2.02	26.51	52.37	74	21.63
1178.34	49.38	PK	335	1.5	V	24.4	2.02	26.51	49.29	74	24.71

******* END OF REPORT *******