Report No: CCIS12100020702

FCC REPORT

Applicant:	GUANGDONG STEELMATE SECURITY CO., LTD.
Address of Applicant:	Renan Street, Dong Fu Road, Dongfeng Town, Zhongshan City, Guangdong, China.

Equipment Under Test (EUT)

Product Name:	Tire pressure monitor system
Model No.:	TPMS8886
Trade mark:	Steelmate
FCC ID:	Q6WBTP07801
Applicable standards:	FCC CFR Title 47 Part 15 Subpart B: 2011
Date of sample receipt:	22 Oct., 2012
Date of Test:	23 to 05 Nov., 2012
Date of report issued:	06 Nov., 2012
Test Result :	Pass *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Bruce Zhang
Laboratory Manager

2 Version

Version No.	Date	Description
00	06 Nov., 2012	*Original*

Prepared By:  ***Date:*** 06 Nov., 2012

Project Engineer

Check By:  ***Date:*** 06 Nov., 2012

Reviewer

3 Contents

Page

4 Test Summary

Test Item	Section in CFR 47	Result
Conducted Emission	Part15.107	N/A
Readiated Emissions	Part15.109	Pass

Pass: The EUT complies with the essential requirements in the standard.

N/A: Not applicant for product power by battery.

5 General Information

5.1 Client Information

Applicant:	GUANGDONG STEELMATE SECURITY CO., LTD.
Address of Applicant:	Renan Street, Dong Fu Road, Dongfeng Town, Zhongshan City, Guangdong , China.
Manufacturer/ Factory:	GUANGDONG STEELMATE SECURITY CO., LTD.
Address of Manufacturer/ Factory:	Renan Street, Dong Fu Road, Dongfeng Town, Zhongshan City, Guangdong , China.

5.2 General Description of E.U.T.

Product Name:	Tire pressure monitor system
Model No.:	TPMS8886
Power supply:	DC12V
Receiver Frequency:	433.92MHz

5.3 Operating Modes

Operating mode	Detail description
Receiving mode	Keep the EUT in 433.92 MHz receiving mode

5.4 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
Steelmate	Tire pressure moniter system-sensor	TPMS8886	N/A	ID

5.5 Deviation from Standards

None

5.6 Abnormalities from Standard Conditions

None.

5.7 Other Information Requested by the Customer

None.

5.8 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC —Registration No.:** 817957

China Certification & Inspection Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in out files. Registration 817957, February 27, 2012

● **Industry Canada (IC)**

The 3m Semi-anechoic chamber of China Certification & Inspection Services Co., Ltd.has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

5.9 Test Location

All tests were performed at:

China Certification & Inspection Services Co., Ltd.
Address: 1st Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen, China
Tel: 0755-23118282
Fax: 0755-23116366

6 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (dd-mm-yy)**	**Cal.Due date (dd-mm-yy)**
1	3m Semi- Anechoic Chamber	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	June 09 2012	June 09 2013
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS202	N/A	N/A
3	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	June 04 2012	June 04 2013
4	Double –ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	May 30 2012	May 30 2013
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
6	Coaxial Cable	CCIS	N/A	CCIS0016	Apr. 01 2012	Apr. 01 2013
7	Coaxial Cable	CCIS	N/A	CCIS0017	Apr. 01 2012	Apr. 01 2013
8	Coaxial cable	CCIS	N/A	CCIS0018	Apr. 01 2012	Apr. 01 2013
9	Coaxial Cable	CCIS	N/A	CCIS0019	Apr. 01 2012	Apr. 01 2013
10	Coaxial Cable	CCIS	N/A	CCIS0087	Apr. 01 2012	Apr. 01 2013
11	Amplifier(10KHz-1.3GHz)	HP	8447D	CCIS0003	Apr. 01 2012	Apr. 01 2013
12	Amplifier(1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	June 09 2012	June 09 2013
13	Printer	Hp	HP LaserJet P1007	N/A	N/A	N/A
14	Positioning Controller	UC	UC3000	CCIS0015	N/A	N/A

7 Test results and Measurement Data

7.1 Radiated Emission

Test Requirement:	FCC Part15 B Section 15.109
Test Method:	ANSI C63.4:2003
Test Frequency Range:	30MHz to 6000MHz
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)

Receiver setup:

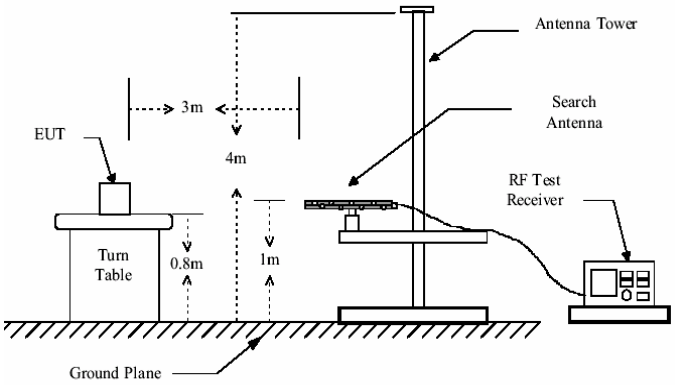
Frequency	Detector	RBW	VBW	Remark
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
Above 1GHz	Peak	1MHz	3MHz	Peak Value
	Peak	1MHz	10Hz	Average Value

Limit:

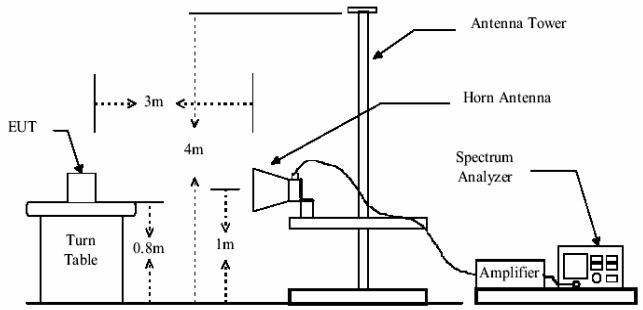
Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
	74.0	Peak Value

Test setup:

Below 1GHz



Above 1GHz

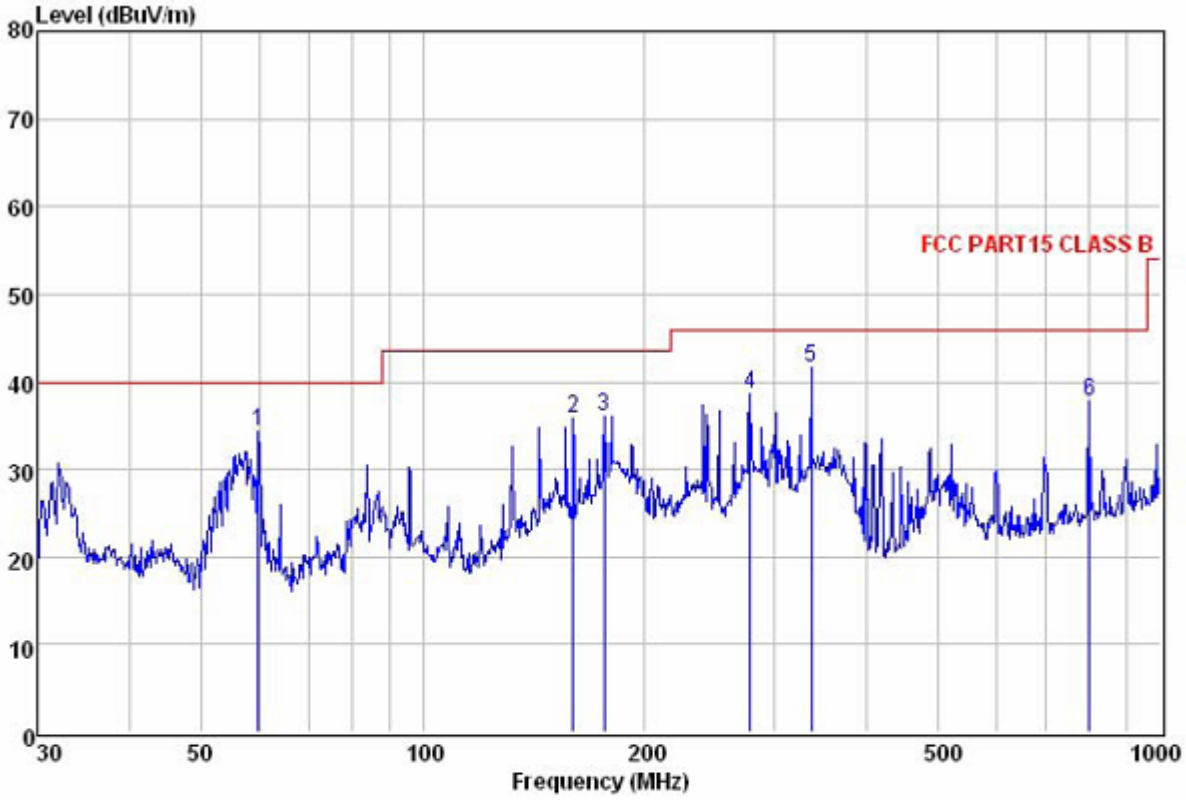


Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test environment:	Temp.: 25 °C Humid.: 52% Press.: 1 012mbar
Measurement Record:	Uncertainty: 4.88dB
Test Instruments:	Refer to section 6 for details
Test mode:	Pre-scan all test mode in the section 5.3, and found the bleow mode which it is worse case mode.
Test results:	Passed

Measurement Data

Below 1GHz

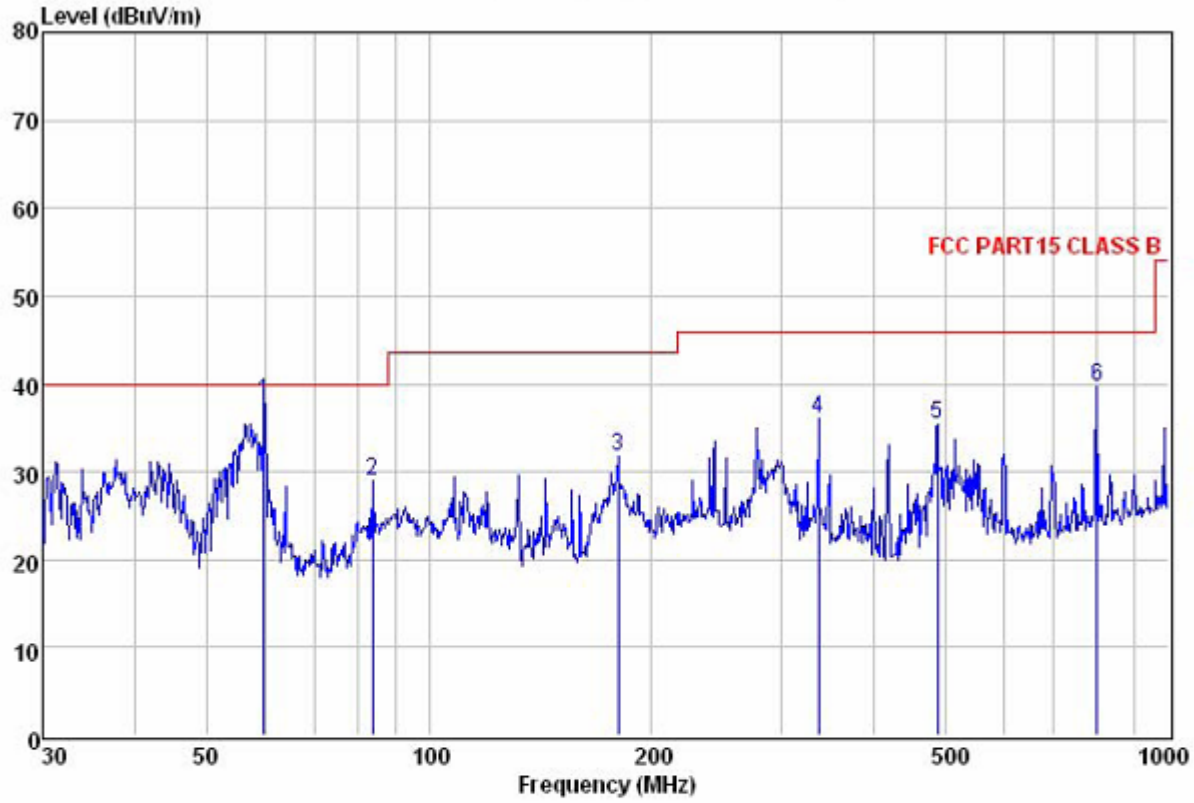
Horizontal:



Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163(2012.4.1) HORIZONTAL
Job No. : 207RF
Test mode : RX mode
Test Engineer: Vincent

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	59.859	49.37	12.71	1.38	29.19	34.27	40.00	-5.73	QP
2	159.784	54.40	8.64	2.59	29.91	35.72	43.50	-7.78	QP
3	176.269	51.37	9.42	2.70	27.42	36.07	43.50	-7.43	QP
4	278.067	52.55	12.63	2.88	29.50	38.56	46.00	-7.44	QP
5	336.035	54.28	13.99	3.05	29.61	41.71	46.00	-4.29	QP
6	801.786	43.74	20.06	4.34	30.40	37.74	46.00	-8.26	QP

Vertical:

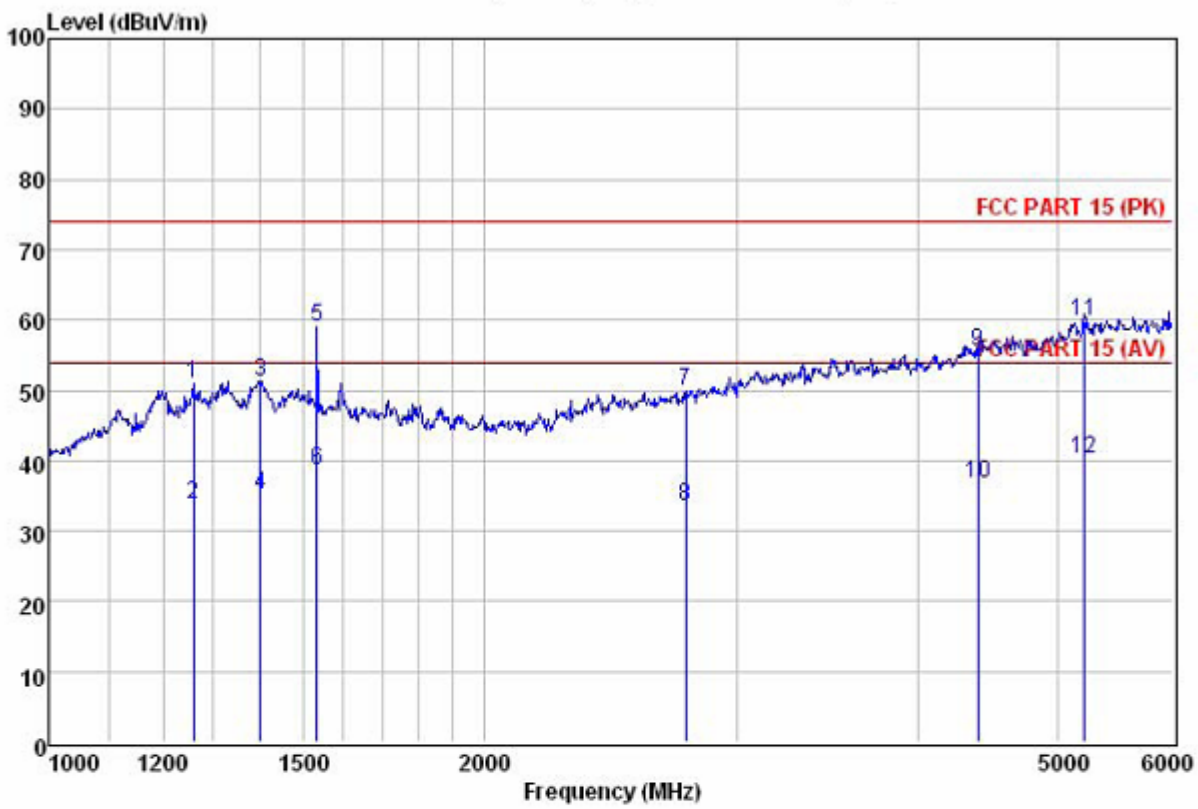


Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163(2012.4.1) VERTICAL
Job No. : 207RF
Test mode : RX mode
Test Engineer: Vincent

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	59.859	53.00	12.71	1.38	29.19	37.90	40.00	-2.10	QP
2	83.816	47.45	9.87	1.79	30.11	29.00	40.00	-11.00	QP
3	180.017	45.83	9.68	2.73	26.51	31.73	43.50	-11.77	QP
4	336.035	48.53	13.99	3.05	29.61	35.96	46.00	-10.04	QP
5	487.315	46.05	16.26	3.51	30.52	35.30	46.00	-10.70	QP
6	801.786	45.74	20.06	4.34	30.40	39.74	46.00	-6.26	QP

Above 1GHz

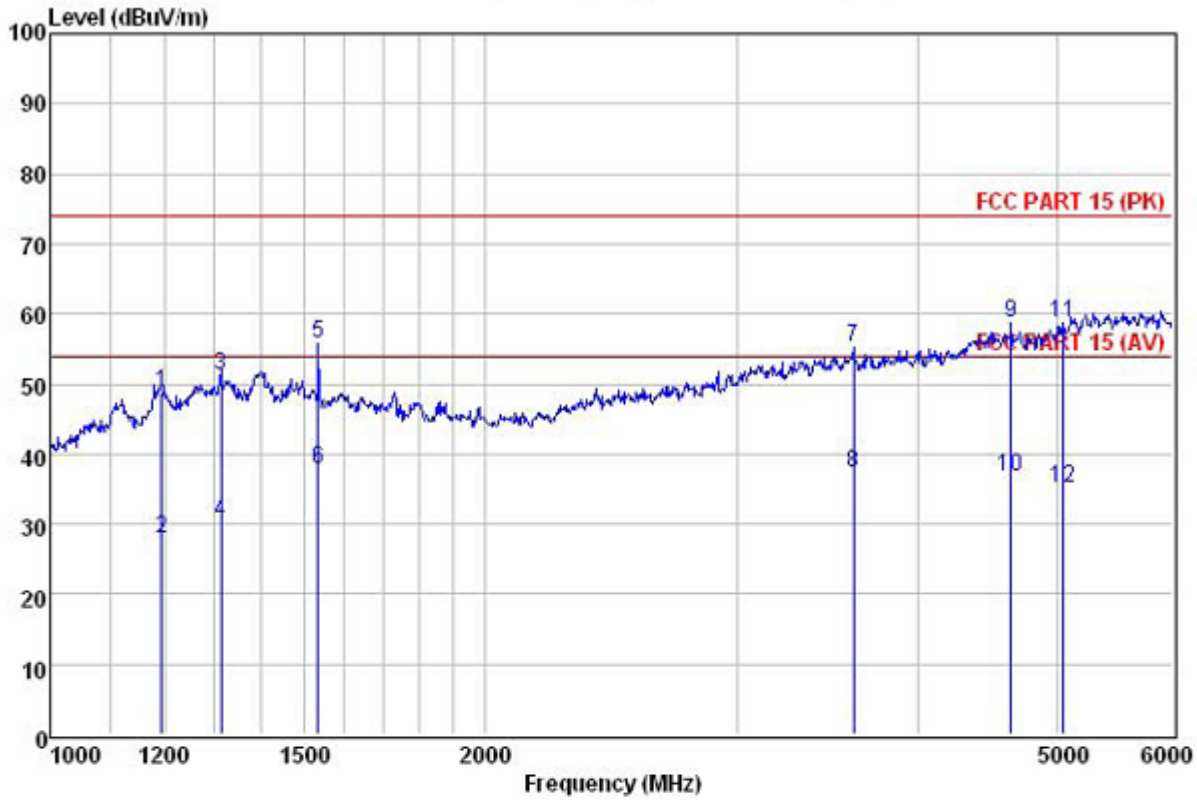
Horizontal:



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(>1GHZ) HORIZONTAL
Job No. : 207RF
Test mode : RX mode
Test Engineer: Vincent

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1260.032	42.30	25.50	2.69	19.42	51.07	74.00	-22.93	Peak
2	1260.032	25.04	25.50	2.69	19.42	33.81	54.00	-20.19	Average
3	1400.530	44.67	25.40	2.88	21.66	51.29	74.00	-22.71	Peak
4	1400.530	28.51	25.40	2.88	21.66	35.13	54.00	-18.87	Average
5	1534.540	55.10	25.17	3.04	24.43	58.88	74.00	-15.12	Peak
6	1534.540	34.72	25.17	3.04	24.43	38.50	54.00	-15.50	Average
7	2761.924	47.81	28.31	4.10	30.26	49.96	74.00	-24.04	Peak
8	2761.924	31.40	28.31	4.10	30.26	33.55	54.00	-20.45	Average
9	4400.794	44.08	30.54	5.60	24.83	55.39	74.00	-18.61	Peak
10	4400.794	25.40	30.54	5.60	24.83	36.71	54.00	-17.29	Average
11	5208.076	45.76	31.90	6.12	23.86	59.92	74.00	-14.08	Peak
12	5208.076	25.97	31.90	6.12	23.86	40.13	54.00	-13.87	Average

Vertical:



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(>1GHZ) VERTICAL
Job No. : 207RF
Test mode : RX mode
Test Engineer: Vincent

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1194.090	40.01	24.88	2.59	18.65	48.83	74.00	-25.17	Peak
2	1194.090	19.06	24.88	2.59	18.65	27.88	54.00	-26.12	Average
3	1313.043	43.00	25.58	2.76	20.04	51.30	74.00	-22.70	Peak
4	1313.043	21.87	25.58	2.76	20.04	30.17	54.00	-23.83	Average
5	1534.540	51.96	25.17	3.04	24.43	55.74	74.00	-18.26	Peak
6	1534.540	33.96	25.17	3.04	24.43	37.74	54.00	-16.26	Average
7	3607.084	48.83	29.18	4.97	27.72	55.26	74.00	-18.74	Peak
8	3607.084	30.83	29.18	4.97	27.72	37.26	54.00	-16.74	Average
9	4635.509	46.05	31.13	5.77	24.35	58.60	74.00	-15.40	Peak
10	4635.509	24.05	31.13	5.77	24.35	36.60	54.00	-17.40	Average
11	5033.759	44.62	31.90	6.02	23.89	58.65	74.00	-15.35	Peak
12	5033.759	21.00	31.90	6.02	23.89	35.03	54.00	-18.97	Average